ADDENDUM NO. 4
REQUEST FOR SEALED PROPOSALS
27DJ-00415

PURPOSE: The purpose of this Addendum is to clarify, revise, modify, supplement, and, where applicable, supersede certain terms, conditions, requirements, specifications, drawings, attachments, and other provisions of the Request for Sealed Proposals ("RFP"), as amended, and related procurement documents. This Addendum is issued by the Puerto Rico Medical Services Administration ("ASEM") to provide all Proposers with uniform, accurate, complete, and current information regarding this procurement.

This Addendum shall be read and construed together with the RFP, as amended, and all solicitation documents previously issued in connection with this procurement. All information, requirements, specifications, conditions, revisions, clarifications, instructions, and other provisions contained herein are incorporated into and made an integral part of the RFP and shall be binding upon all Proposers.

Each Proposer is solely responsible for reviewing this Addendum in its entirety and incorporating its contents into its proposal. By submitting a proposal, the Proposer represents and certifies that it has received, reviewed, understood, and fully considered this Addendum and all other addenda issued for this procurement and has relied solely upon the information contained in the official procurement documents issued by ASEM. No Proposer shall be entitled to rely upon any oral statement, informal communication, interpretation, representation, or clarification not expressly set forth in the RFP or a written addendum issued by ASEM. Any failure by a Proposer to acknowledge, review, or incorporate the requirements of this Addendum shall be at the Proposer's sole risk and shall not relieve the Proposer of any obligation arising under this Addendum or the RFP, as amended.

This Addendum is incorporated into and forms an integral part of the RFP, as amended, for the Design-Build of Puerto Rico's New Trauma Hospital and shall be fully considered by all Proposers in the preparation and submission of their proposals. Except as expressly modified by this Addendum, all terms, conditions, requirements, provisions, specifications, and obligations contained in the RFP and any previously issued addenda shall remain unchanged and in full force and effect.

In the event of any conflict, inconsistency, ambiguity, discrepancy, omission, or differing interpretation between this Addendum and any previously issued document, response, clarification, communication, or procurement-related information, whether written or oral, this Addendum shall govern, control, and prevail. No modification to the RFP, as amended, shall be effective unless set forth in a written addendum duly issued by ASEM.

1. **The Proposal Submission Deadline is January 15, 2027, at 2:00 p.m. (AST). Proposal** must be submitted in the following two (2) formats:

    a. **Physically,** at ASEM's Procurement Division Office, First Floor, Services and Supply Building, Puerto Rico's Medical Center, located in the Bo. Monacillos, San Juan, Puerto Rico.

    b. **Electronically,** using the link https://jedi.asg.pr.gov/#/Repository?Identifier=27DJ-00415 and uploading your Proposal in the section identified as "Suplidor or Supplier"

2. **The Proposals Opening will be on January 15, 2027, at 2:30 p.m. (AST)** in Puerto Rico's Medical Center, **ASEM's Central Laundry Conference Room**, located in the Bo. Monacillos, San Juan, Puerto Rico. The Proposal Opening will also be streamed live via Microsoft Teams, as posted on the website https://www.asem.pr.gov/administrativo#Avisos

3. **Item 37 of Section 1.0** of the RFP is amended to read as follows:

    37. Functional Operation: refers to the condition achieved when the Project has been designed, constructed, installed, tested, commissioned, inspected, certified, and turned over in a manner that allows the ASEM to use and operate the applicable facilities, systems, equipment, spaces, utilities, life-safety components, clinical support areas, and related infrastructure for their intended purpose, in accordance with the RFP Documents, Attachment 1 [Scope of Work], Contract Documents, applicable permits, codes, healthcare facility requirements, regulatory approvals, and all federal, state, local, HUD, PRDOH, CDBG-MIT, and ASEM requirements. Functional Operation does not necessarily constitute Final Completion, but requires that all work necessary for safety, compliance, coordination, and effective use of the applicable facility area has been completed, accepted, and made available for ASEM occupancy, activation, operations, training, and use.

4. Section VII (Deliverables) of Attachment 1 (Scope of Work) is deleted in its entirety.

5. Section 7.2 (Deliverables) of the RFP is replaced by the following text, which shall prevail over any provision, requirement, or reference previously included in said section.

    7.2 Deliverables

    The Project shall be delivered using an integrated Design-Build approach under which the Design-Builder is responsible for coordinating and delivering all design,

BIM, construction, commissioning, activation, operational readiness, and project closeout.

The Design-Builder shall be responsible for coordinating all disciplines, consultants, subcontractors, specialty consultants, equipment vendors, and suppliers necessary to deliver a complete Project.

General Coordination Considered in the Scope of Works, as amended:

- *Architectural design*
- *Medical planning*
- *Civil engineering*
- *Structural engineering*
- *Mechanical engineering*
- *Electrical engineering*
- *Plumbing engineering*
- *Fire protection and life safety*
- *Medical gas systems*
- *Information technology infrastructure*
- *Security systems*
- *Building automation*
- *Hospitaller and medical equipment furnishing, installation, and coordination*
- *Site development*
- *Utility infrastructure*
- *Construction*
- *Testing and inspections*
- *Commissioning*
- *Regulatory approvals*
- *Licensing support*
- *Staff training*
- *Activation and operational readiness*

The deliverables shall include all design, construction, commissioning, activation, operational readiness, closeout, record documentation, training, warranties, turnover materials, and regulatory approval support necessary to place the Project into functional operation in accordance with the RFP Documents, Attachment 1 (Scope of Work), the Contract Documents, applicable permits, codes, standards, healthcare facility requirements, and all federal, state, local, HUD, PRDOH, CDBG-MIT, and ASEM requirements.

<u>BIM and Design Coordination Approach</u>

The Design-Builder shall implement a coordinated BIM and design management process to support interdisciplinary coordination, constructability, phasing, code compliance, commissioning, facility turnover, and integration of hospital systems. The BIM process shall be used as a project delivery and coordination tool and shall not relieve the Design-Builder, Designer, Builder, consultants, subcontractors, or specialty consultants from their professional, contractual, code, permitting, quality control, and coordination responsibilities.

At a minimum, the Design-Builder shall prepare and maintain a BIM Execution Plan that identifies the proposed software platforms, model uses, level of development or level of information need, modeling responsibilities, coordination schedule, model exchange procedures, naming conventions, quality control procedures, clash detection process, issue tracking workflow, approval responsibilities, and requirements for model updates at each design, construction, commissioning, and closeout milestone.

The Design-Builder shall develop, coordinate, and maintain discipline-specific and federated BIM models for architectural, structural, civil, mechanical, electrical, plumbing, fire protection, medical gas, information technology, security, building automation, hospitaller and medical equipment, site, utility, and other systems necessary for the Project. The federated model shall be used to identify, track, resolve, and document spatial, functional, access, clearance, maintenance, constructability, and interdisciplinary coordination issues before the affected work is released for fabrication, procurement, or construction.

The Design-Builder shall conduct regular design coordination and BIM coordination meetings with the Designer, Builder, consultants, subcontractors, specialty consultants, equipment vendors, and other required parties.

Coordination meetings shall include review of design progress, owner requirements, phasing, construction sequencing, logistics, utility interfaces, hospitaller and medical equipment requirements, infection control and operational impacts, permit and regulatory requirements, clash detection results, unresolved design issues, decision logs, assigned action items, and schedule impacts.

BIM deliverables shall include, as applicable, the BIM Execution Plan, discipline models, federated coordination models, clash detection reports, issue logs, coordination meeting records, model-based design review materials, model extracts or documents required to support permitting and regulatory approvals, as-built or record models, and model information necessary to support ASEM's operation, maintenance, training, asset management, commissioning, and turnover requirements. The final BIM and record deliverables shall be consistent

with the Contract Documents and shall be submitted in the formats and at the milestones required by ASEM.

Execution Period

The Proposal for the Project shall consist of delivery of the Project in accordance with the Scope of Work and the RFP Documents, ***within an overall execution period not to exceed fifty-four (54) months from the Notice to Proceed ("Period of Performance")***.

Period of Performance and Completion Milestones
The Period of Performance is fifty-four (54) consecutive calendar months, commencing on the effective date stated in the Notice to Proceed issued by ASEM. The issuance of any limited Notice to Proceed for early procurement shall not commence, extend, or otherwise modify the Period of Performance. The Period of Performance includes all studies, investigations, design, permits and endorsements, procurement, construction, testing, start-up, commissioning, training, activation support and close-out required by the RFP Documents.
For purposes of the RFP Documents and the Contract Documents, the terms "Period of Performance", "Contract Time", "Contract Times", "execution period" and "Delivery Schedule" have the same meaning and refer to the fifty-four (54) consecutive calendar month period established in this Section.

Within the Period of Performance, the Design-Builder shall achieve, for the entire Project, each of the following:

(a) Functional Operation, as defined in Item 37 of Section 1.0 of the RFP, as amended;

(b) Substantial Completion, which shall not be deemed achieved until: (i) Functional Operation of the entire Project has been achieved; (ii) all commissioning activities required by Part XII (Commissioning) of Attachment 1, as amended, including functional performance tests and integrated systems tests, have been completed, verified by the CxA and accepted by ASEM, except deferred or seasonal tests that Part XII expressly allows to be performed after Substantial Completion, which shall be completed before Final Completion; and (iii) all inspections, certifications, permits and approvals that are the Design-Builder's responsibility for the lawful occupancy and use of the facility have been obtained; and

(c) Final Completion, which shall require, in addition to Substantial Completion, the completion of all punch-list items; the delivery and acceptance of all close-out documentation, final record drawings and record BIM models, final operation and maintenance manuals, the final compiled warranty

documentation, the Final Commissioning Report, and the completion of any remaining training; and ASEM's written acceptance of the Work.

Functional Operation, Substantial Completion and Final Completion shall be achieved only for the Project as a whole. Beneficial occupancy, partial operation, phased use, or the completion of individual components, systems, floors or areas shall not constitute achievement of any of these milestones. No interim, phase or partial milestone is established in the Contract.

In the event of any inconsistency between this Section 7.2 and Part XII (Commissioning) of Attachment 1, as amended (Exhibit XV), regarding the conditions for Substantial Completion or Final Completion, this Section 7.2 shall govern. Consistent with Part XII, the owner training, the operation and maintenance manuals, preliminary as-built documents, the warranties and service agreements (which commence at Substantial Completion, as stated in the answer to Question 503), and the spare parts and attic stock shall be delivered before Substantial Completion; the final record drawings and record BIM models, the final operation and maintenance manuals, the Final Commissioning Report, the completion of the Reliability Demonstration Period and the remaining close-out documentation are conditions of Final Completion. The commissioning process phases (Phase 1 through Phase 6) described in Part XII are process stages and do not create contractual phases or milestones.

Any reference in the RFP Documents, prior addenda or answers to questions to the completion of the Project, "Final Completion", "full commissioning", "Functional Operation" or "Substantial Completion" within fifty-four (54) months shall be read in accordance with this Section. The Period of Performance may be adjusted only through a duly executed Change Order or written time extension issued in accordance with the Contract Documents.

6. Any prior reference to a separate contractual **Phase I completion period of twenty-one (21) months** is hereby **deleted** and superseded by the overall fifty-four (54) month execution period established herein.

   Any reference in the RFP Documents, prior addenda, answers to questions, exhibits, attachments, forms, Bridging Documents or other procurement documents to "Phase I", "Phase II", "First Phase", "Second Phase", "Phases 1 and 2", a twenty-one (21) month period, a thirty-three (33) month period, or any phase-specific completion, milestone, turnover, Functional Operation, Substantial Completion, warranty commencement, retainage release or liquidated damages, is hereby deleted and shall have no force or effect. The Project shall be executed and completed under a single Contract within the fifty-four (54) month Period of Performance established in RFP Section 7.2, as amended. Proposers may propose a sequencing or phasing of the Work as part of their execution strategy

and schedule under RFP Section 10.1.2.4.3, as amended; however, any such sequencing or phasing shall be for planning and coordination purposes only and shall not create contractual milestones, partial acceptance or partial Substantial Completion. The scope previously associated with any phase (including the Basement and First Level, the Second through Tenth Levels and the heliport) remains part of the Work and shall be completed within the fifty-four (54) month Period of Performance. This Item does not apply to the commissioning process phases (Phase 1 through Phase 6) of Part XII (Commissioning) of Attachment 1, as amended (Exhibit XV), which are process stages and not contractual phases.

7. Section 9.2.5.1 (Organizational Chart of Proposer's Team Member) of the RFP is replaced by the following text, which shall prevail over any provision, requirement, or reference previously included in said section.

9.2.5.1 Organizational Chart of Proposer's Team Members

The Proposer shall submit an Organizational Chart through a simple graphic presentation that clearly and easily depicts the structure of the Proposer's team organization, including:

1. *Design-Build Project Manager*
2. *Safety Manager*
3. *Scheduler*
4. *Cost Estimator*
5. *Design-Builder Commissioning Manager (DB-Cx)*
6. *Design Lead*
7. *Civil Engineer, P.E.*
8. *Civil Engineer, P.E. – "Structural Engineer"*
9. *Environmental Engineer, P.E. or Registered Environmental Manager*
10. *Electrical Engineer, P.E.*
11. *Mechanical Engineer, P.E.*
12. *Technology / IT/ System Engineer (P.E., only for engineers)*
13. *Construction Manager or Superintendent*
14. *BIM Manager / BIM Coordinator*
15. *Quality Control Manager*
16. *Healthcare Facilities Subject Matter Expert*
17. *Designer's Staff*

18. Builder's Staff

19. Subcontractors

20. Consultants

The chart must depict the levels of authority and relationship between the different roles, departments or positions, for the execution of the activities on the Design Build project.

8. Section 9.2.5.10 of the RFP is replaced by the following text, which shall prevail over any provision, requirement, or reference previously included in said section.

9.2.5.10 Letter of Credit Line Available and/or Liquidity Assets Available Letter

The Proposer shall demonstrate that it has an available credit line and/or liquid assets for the Project in an amount of not less than sixteen million dollars (US $16,000,000.00). To satisfy this requirement, the Proposal shall include an original letter issued by a duly authorized banking or financial institution confirming that the Proposer has either: (i) available liquidity assets in an amount not less than US$16,000,000.00; or (ii) an available line of credit in an amount not less than US$16,000,000.00 that may be used for the Project; or (iii) a combination of available liquidity assets and an available line of credit in an amount not less than US$16,000,000.00 that may be used for the Project.

The letter from the banking or financial institution, issued on the institution's official letterhead, shall also contain the following:

1. *Contact information (name, surname, telephone number, and email address) of the authorized representative of the banking or financial institution issuing the document;*

2. *A statement that, to the best of the institution's knowledge, the liquidity assets and/or line of credit certified for the Proposer are free of encumbrances;*

3. *Be dated within thirty (30) calendar days prior to the Proposal Submission Deadline;*

4. *Be duly signed by the authorized representative of the banking or financial institution issuing the document;*

5. *The amount must be expressed in figures (numbers) and words.*

6. *Confirmation that the liquidity assets and/or credit capacity are currently available and not subject to conditions that would prevent their use for the Project.*

The available liquidity assets and/or available lines of credit requirement applies to the Proposer. It does not apply individually to each member of the Design-Build team, and the resources of subcontractors or subconsultants shall not be counted.

If the Proposer is a Joint Venture or Partnership, the requirement may be satisfied by the Joint Venture or Partnership itself or by the aggregate of the available liquidity assets and/or available lines of credit of its members, provided that:

1. *a separate letter complying with all requirements of this section, is submitted for each member whose resources are counted, issued in the name of that member;*

2. *the Joint Venture or Partnership Agreement submitted with the Proposal provides that all members are jointly and severally liable for the performance of the Contract and that the resources counted will be made available for the Project;*

3. *the sum of the amounts certified is not less than sixteen million dollars (US$16,000,000.00); and*

4. *the same funds or line of credit are not counted more than once.*

No minimum percentage contribution is required from any individual member, including the lead member. Resources of parent companies, affiliates or other entities that are not members of the Joint Venture or Partnership shall not be counted unless such entity submits with the Proposal a written guarantee in favor of ASEM, jointly and severally with the Proposer, of the Design-Builder's obligations under the Contract, together with a letter complying with this section, issued in its name.

9. The "Water Storage Reservoir" Alternate (Fire Cistern and Potable Water Cistern) is hereby deleted. The scope of work associated with this Alternate shall be incorporated into the Base Bid. Accordingly, all costs for labor, materials, equipment, infrastructure, supervision, testing, commissioning, and all other incidental expenses necessary for the complete installation and operation of the potable water cistern and fire cistern shall be included in the Base Bid amount.

10. The minimum required storage capacities for the building cisterns are fifty thousand (50,000) gallons for the Potable Water Cistern and thirty-six thousand

(36,000) gallons for the Fire Cistern. These capacities supersede and replace any other storage capacity stated in the RFP Documents, prior addenda or answers to questions, including, without limitation, the 150,000-gallon potable water cistern referenced in Attachment 1 (Scope of Work) and the 30,000-gallon potable water cistern referenced in Attachment A (Plans) and Attachment B (Specifications). The Design-Builder shall verify these capacities against the Project demands, NFPA 13, 14, 20 and 22, PRASA requirements and the other applicable codes, and shall design and provide any greater capacity so required, together with all associated equipment and ancillary elements, as part of the Base Bid and at no additional cost to ASEM. The building cisterns are separate from the "Casa de Agua" central cistern, which is a project by others.

11. Section 9.2.18.4 (Key Personnel Minimum Qualifications and Commitments) of the RFP is replaced by the following text, which shall prevail over any provision, requirement, or reference previously included in said section.

Section 9.2.18.4 Key Personnel Minimum Qualifications and Commitments

The Proposal shall identify and commit the Key Personnel proposed for the Project. At a minimum, the Proposer shall identify the following Key Personnel:

1. *Design-Build Project Manager*
2. *Safety Manager*
3. *Scheduler*
4. *Cost Estimator*
5. *Design-Builder Commissioning Manager (DB-Cx)*
6. *Design Lead*
7. *Civil Engineer, P.E.*
8. *Civil Engineer, P.E. – "Structural Engineer"*
9. *Environmental Engineer, P.E. or Registered Environmental Manager*
10. *Electrical Engineer, P.E.*
11. *Mechanical Engineer, P.E.*
12. *Technology / IT/ System Engineer (P.E., only for engineers)*
13. *Construction Manager or Superintendent*
14. *BIM Manager / BIM Coordinator*
15. *Quality Control Manager*

16. Healthcare Facilities Subject Matter Expert

The Proposer must certify these personnel as committed to the project.

For each Key Personnel position, the Proposer shall provide the following information in Annex I (Key Personnel Qualifications and Commitment Form), as amended:

- *Qualification statement demonstrating relevant education;*
- *Professional registration or certification, as applicable;*
- *Years of experience;*
- *Hospital or mission-critical project experience, as applicable;*
- *Design-Build experience, as applicable;*
- *Role on comparable projects, as applicable;*
- *Availability for the Project; and*
- *Proposed percentage of time to be committed to the Project.*

At a minimum, Key Personnel shall demonstrate qualifications appropriate to the proposed role and shall possess the required professional licenses, registrations, or certifications under applicable federal and Puerto Rico law.

The Healthcare Facilities Subject Matter Expert shall demonstrate experience in planning, design, construction, commissioning, activation, or operation of acute care hospitals or critical healthcare facilities.

The Design Lead and discipline professionals responsible for professional design services shall be duly licensed or otherwise authorized to practice in accordance with applicable Puerto Rico professional practice requirements.

The Proposal shall include resumes, qualifications, licenses, certifications, relevant healthcare and Design-Build experience, role descriptions, proposed level of effort, and availability for each Key Personnel.

KEY PERSONNEL'S MINIMUM QUALIFICATIONS	
HUMAN RESOURCE	***MINIMUM QUALIFICATIONS***
Design-Build Project Manager (DBPM)	***Academic Preparation***
	Bachelor's Degree of Engineering Science or Bachelor's Degree in Engineering; or *Bachelor's Degree in Architecture or Bachelor's Degree in Landscape Architecture or Master's Degree in Architecture; or* *Master's Degree in Construction Management or Master's Degree in Project Management.*
	Professional License
	Professional Engineer; or *Professional Architect, as applicable.*
	Membership
	Active CIAPR or CAAPPR, as applicable
	Years of experience
	7+ years in vertical construction projects; *7+ years in hospital projects; and* *5+ years in Design-Build projects.*
Safety Manager	***Academic Preparation***

	Bachelor's Degree in Occupational Safety and Health; or *Bachelor's Degree of Engineering Science; or* *Bachelor's Degree in Engineering; or* *Bachelor's Degree in Architecture; or* *Bachelor's Degree in Landscape Architecture; or* *Master's Degree in Architecture; or* *Bachelor's Degree in Environmental Science or Management; or* *Bachelor's Degree in Business Administration with a concentration in Safety; or* *Associate's Degree in Occupational Safety; or* *Master's Degree in Occupational Safety and Health / Occupational Risk Prevention.*
	Professional Certification
	OSHA 30 Construction; and *ICRA (Infection Control Risk Assessment).*
	Years of experience
	5+ years as a construction safety officer; *2+ years of specific experience in construction projects for hospitals, laboratories, or critical facilities; and* *2+ years of specific experience in implementing ICRA and ILSM (Interim Life Safety Measures) for health projects.*
	Academic Preparation

Scheduler	*Bachelor's Degree of Engineering Science or Bachelor's Degree in Engineering; or* *Bachelor's Degree in Architecture or Bachelor's Degree in Landscape Architecture or Master's Degree in Architecture.*
	Professional Certification
	Primavera Certification; or *Microsoft Project Advanced Certification.*
	Years of experience
	5+ years scheduling vertical construction projects; and *5+ years in Design-Build projects.*
Cost Estimator	***Academic Preparation***
	Bachelor's Degree of Engineering Science; or *Bachelor's Degree in Engineering; or* *Bachelor's Degree in Architecture; or* *Bachelor's Degree in Landscape Architecture; or* *Master's Degree in Architecture; or* *Bachelor's Degree in Finance; or* *Bachelor's degree in Economics; or* *Bachelor's degree in Business Administration with a concentration in Accounting or Finance; or* *Bachelor's Degree in Business Administration with a concentration or minor in Construction Management; or*

	Master's Degree in Construction Management.
	Professional Certification
	None
	Years of experience
	5+ years in vertical construction estimation; and *3+ years in healthcare projects, hospitals, or laboratories.*
Design-Builder Commissioning Manager (DB-Cx)	***Academic Preparation***
	Bachelor's Degree of Engineering Science or Bachelor's Degree in Engineering.
	Professional Certification
	Certified Commissioning Authority certification issued by the AABC Commissioning Group (ACG); or *BCxP – Building Commissioning Professional (ASHRAE); or* *NEBB Certified Professional in Building Systems Commissioning.*
	Years of experience
	5+ years (MEP systems); and *3+ years (healthcare facilities).*
Design Lead (Licensed Architect or Professional Engineer)	***Academic Preparation***
	Bachelor's Degree of Engineering Science or Bachelor's Degree in Engineering; or *Bachelor's Degree in Architecture or Bachelor's Degree in Landscape Architecture or Master's Degree in Architecture.*
	Professional License
	Professional Engineer; or *Professional Architect.*

	Membership
	Active CIAPR or CAAPPR, as
	Years of experience
	7+ years in architectural or engineering design, after obtaining a license as a professional engineer or architect; *5+ years as Design Lead on Design-Build projects, after obtaining a license as a professional engineer or architect;* *3+ years of specific experience in hospitals or health facilities, including interdisciplinary coordination (MEP, structural, clinical, commissioning), after obtaining a license as a professional engineer or architect.*
Civil Engineer, P.E.	***Academic Preparation***
	Bachelor's Degree of Science in Civil Engineering or Bachelor's Degree in Civil Engineering.
	Professional License
	Professional Engineer
	Membership
	Active CIAPR
	Years of experience
	5+ years of professional experience after obtaining the license as a professional engineer.
Civil Engineer, P.E. ("Structural Engineer")	***Academic Preparation***
	Master's Degree of Science in Civil Engineering or Master's Degree in Civil Engineering, specializing in the area of structures.
	Professional License
	Professional Engineer
	Membership
	Active CIAPR

	Years of experience
	10+ years of professional experience after obtaining a license as a professional engineer.
Environmental Engineer, P.E. or Registered Environmental Manager (REM)	***Academic Preparation***
	Bachelor's Degree of Science in Environmental Engineering; or Bachelor's degree in Environmental Engineering; or Bachelor's Degree of Science in Environmental Science.
	Professional License
	Professional Engineer, only for engineer
	Membership
	Active CIAPR, only for Environmental Engineer P.E. *Registered Environmental Manager (REM) issued by National Registry of Environmental Professionals (NREP), only for REM.*
	Years of experience
	5+ years in environmental engineering matters, only for engineer, after obtaining a license as a professional engineer; *3+ years in EPA, PRDNER, OGPe, and SHPO compliance;* *2+ years in environmental assessment, permitting, mitigation, waste management, or emissions control.*
Healthcare Facilities Subject Matter Expert (SME)	***Academic Preparation***
	Bachelor's degree in architecture, engineering, healthcare administration, public health, clinical healthcare, construction management, facilities management, or another relevant discipline; or

	Master's degree in architecture, engineering, healthcare administration, public health, clinical healthcare, construction management, facilities management, or another relevant discipline.
	Years of experience
	10+ years of progressively responsible experience in healthcare facility planning, design, construction, operations, commissioning, activation, regulatory compliance, or facilities management, including at least five (5) years involving critical healthcare, including emergency departments, operating rooms, intensive care units, or hospitals.
Electrical Engineer, P.E.	***Academic Preparation***
	Bachelor's Degree of Science in Electrical Engineering or Bachelor's Degree in Electrical Engineering.
	Professional License
	Professional Engineer
	Membership
	Active CIAPR
	Years of experience
	10+ years of professional experience after obtaining a license as a professional engineer.
Mechanical Engineer, P.E.	***Academic Preparation***
	Bachelor's Degree of Science in Mechanical Engineering or Bachelor's Degree in Mechanical Engineering.
	Professional License
	Professional Engineer
	Membership
	Active CIAPR
	Years of experience

	10+ years of professional experience after obtaining a license as a professional engineer.
Technology / IT / System Engineer (P.E., only for engineers)	***Academic Preparation***
	Bachelor's Degree of Science in Electrical Engineering with a specialization in systems or telecommunications; or *Bachelor's Degree of Science in Information Systems Engineering; or* *Bachelor's Degree of Science in Computer Engineering; or* *Bachelor's Degree of Science in Telecommunications Engineering; or* *Bachelor's Degree of Science in Information Technology (IT); or* *Bachelor's Degree of Science in Computer Science.*
	Professional License
	Professional Engineer, only for engineer
	Membership
	Active CIAPR, only for engineer
	Years of experience
	10+ years of professional experience after obtaining a license as a professional engineer, only for engineer; or 10+ years of professional experience in the design, implementation, integration or management of information technology, telecommunications or building systems, for non-engineer professionals or technicians.
	Academic Preparation

Construction Manager / Superintendent	*Bachelor's Degree of Science in Civil Engineering or Bachelor's Degree in civil engineering; or* *Bachelor's Degree of Science in Electrical Engineering or Bachelor's Degree in electrical engineering; or* *Bachelor's Degree of Science in Mechanical Engineering or Bachelor's Degree in Mechanical Engineering; or* *Bachelor's Degree of Science in Industrial Engineering or Bachelor's Degree in Industrial Engineering; or* *Bachelor's Degree in Architecture or Bachelor's Degree in Landscape Architecture or Master's Degree in Architecture.*
	Years of experience
	10+ years as Construction Manager / Superintendent in vertical construction projects.
BIM Manager / BIM Coordinator	***Academic Preparation***
	Bachelor's Degree of Science in Civil Engineering; or *Bachelor's Degree in Civil Engineering or Bachelor's Degree in Mechanical Engineering; or* *Bachelor's Degree in Electrical Engineering or Bachelor's Degree in Industrial Engineering; or* *Bachelor's Degree in Architecture or Bachelor's Degree in Landscape Architecture or Master's Degree in Architecture; or*

	Master's Degree in Construction Management or Master's Degree in Project Management.
	Professional Certification
	BIM Management Professional Certificate (AGC or equivalent); or *CM-BIM (AGC); or* *Navisworks Manage Certified User/Professional.*
	Years of experience
	5+ years working with BIM in construction projects.
Quality Control Manager	***Academic Preparation***
	Bachelor's Degree of Science in Civil Engineering or Bachelor's Degree of Science in Mechanical Engineering or Bachelor's Degree of Science in Electrical Engineering or Bachelor's Degree of Science in Industrial Engineering; or *Bachelor's Degree in Civil Engineering or Bachelor's Degree in Mechanical Engineering or Bachelor's Degree in Electrical Engineering or Bachelor's Degree in Industrial Engineering; or* *Bachelor's Degree in Architecture or Bachelor's Degree in Landscape Architecture or Master's Degree in Architecture; or* *Master of Business Administration or Master of Science in Quality Management; or* *Master's Degree in Construction Management or Master's Degree in Project Management.*
	Years of experience

	10+ years of professional experience as Quality Control Manager in construction project.

12. Section 9.2.18.1 (Design-Builder Experience and Past Performance) of the RFP is replaced by the following text, which shall prevail over any provision, requirement, or reference previously included in said section.

Section 9.2.18.1 Design-Builder Experience and Past Performance

The Proposer shall provide detailed information demonstrating the Design-Builder's experience and past performance of projects of similar size, scope, complexity, delivery method, and operational risk. At a minimum, the Proposer shall identify and describe projects that demonstrate compliance with the minimum experience.

In addition, for each submitted project, the Proposer shall describe its safety, quality, schedule, regulatory compliance, stakeholder coordination, and risk management performance.

As a minimum the Proposer shall meet the following requirements:

1. *At least one (1) completed hospital construction project within the last twenty (20) years;*

2. *At least one (1) completed Design-Build healthcare or hospital project by the designer or builder (can be the hospital construction project required in the first item herein or an additional project);*

3. *At least one (1) experience involving critical healthcare environments, including emergency departments, operating rooms, and intensive care units;*

4. *At least one (1) experience delivering projects within active healthcare campuses, mission-critical facilities, or operational environments requiring strict coordination of access, safety, logistics, utilities, and continuity of operations;*

5. *At least one (1) project with vertical construction; and*

6. *At least one (1) federally funded project.*

For each submitted project, the Proposer shall include, at a minimum: project name and location; owner/client; contract value; delivery method; project size

and relevant scope; completion date; role of the Proposer and major team members; description of hospital or mission-critical components; schedule and budget performance; change order history, if applicable; safety record; quality performance; and owner reference contact information. ***Refer to Minimum Healthcare / Hospital Projects Experience Form (Annex III, as amended)***.

13. Section 9.2.18.2 (Design Firm Experience and Past Performance) of the RFP is replaced by the following text, which shall prevail over any provision, requirement, or reference previously included in said section:

Section 9.2.18.2 (Design Firm Experience and Past Performance)

The Proposer shall provide information demonstrating the Design Firm's relevant experience and past performance on healthcare or hospital facility planning, programming, design, permitting, regulatory coordination, construction document development, and design support during construction. The Technical Proposal shall specifically address experience with:

1. *Acute care hospitals, including emergency department, operating room, intensive care; or comparable critical healthcare environments;*
2. *Hospital facility planning, programming, and clinical workflow coordination;*
3. *Resilient and mission-critical building systems, including structural, electrical, mechanical, plumbing, medical gas, IT, communications, life safety, and utility infrastructure;*
4. *Design-Build delivery, fast-track design packages, multidisciplinary coordination, constructability reviews, and support of phased construction;*
5. *Knowledge of American College of Surgeons (ACS) trauma center standards and verification requirements;*
6. *Compliance with applicable healthcare codes, standards, licensing requirements, accessibility requirements, environmental requirements, and Federal Aviation Administration (FAA) requirements applicable to the heliport; and*
7. *Puerto Rico professional practice requirements.*

Refer to Exhibit 16, as amended, item 3.0, and Annex IV (Design Firm's Qualifications).

14. Section 9.2.19 (Price Proposal Form) of the RFP is replaced by the following text, which shall prevail over any provision, requirement, or reference previously included in said section.

9.2.19 Price Proposal Form

The Proposer shall submit a Price Proposal Form on a stipulated price (lump sum) basis as set forth in the Price Proposal Form ***Exhibit 17,*** *as amended.*

*The Design-Builder will be required to provide a Cost Breakdown (****Exhibit 18,*** *as amended) for each of the line items included.*

Every offer submitted will include a detailed Cost Breakdown of the offered price, encompassing the price per unit of the good, service or work, transportation costs, delivery, assembly, warranty, training, maintenance or services, replacements, among others.

15. Section 9.2.20 (Bid Bond and related documents) of the RFP is replaced by the following text, which shall prevail over any provision, requirement, or reference previously included in said section.

9.2.20 Bid Bond and related documents

For this Request for Sealed Proposal process, a Bid Bond of five percent (5%) of the total price of the proposal (Base Bid + Allowances) submitted by the Proposer is required. The Procurement Division will not accept a Bid Bond for an amount less than required in this section or in the name of any entity other than the Puerto Rico Medical Services Administration (ASEM). Failure to comply with this requirement will result in the disqualification or rejection of the proposal.

The Bid Bond shall be submitted through an entity authorized by the Insurance Commissioner of Puerto Rico and through the document provided in Exhibit 19, as amended. The Bid Bond shall be accompanied by:

1. *Acknowledgement of Surety (Exhibit 20);*
2. *Certificate of Appointment of Attorney-in-Fact, as copy;*
3. *Attorney-in-Fact Licensed, as copy;*
4. *Certification of the Surety Company, issued by Insurance Commissioner of Puerto Rico, as copy; and*

5. *Contact information of the Attorney-in-Fact.*

The Bid Bond must be submitted in original form. If it includes the Attorney-in-Fact's electronic signature, it must be accompanied by a certification from the Surety Company confirming that the signature belongs to an authorized representative. With such certification, the electronic signature will be deemed valid and binding, with the same legal effect as a handwritten signature. The Proposer assumes full responsibility if the Surety Company indicates that the signature is not that of an authorized representative or if the certification is not provided, which will result in the disqualification or rejection of the proposal.

If the RFP process is canceled by the Procurement Manager, all Bid Bonds will be returned within three (3) business days following the date of notification of the cancellation. If the contract resulting from this RFP process is executed, as applicable, the Procurement Division will return all Bid Bonds submitted, including the Bid Bond of the Proposer to whom the contract was awarded.

16. Section 9.2.21 (Bond Capacity Letter) of the RFP is replaced by the following text, which shall prevail over any provision, requirement, or reference previously included in said section.

9.2.21 Bond Capacity Letter

The Proposer shall submit a Bond Capacity Letter stating in dollars and cents, Proposer's available bonding capacity for the individual project (single) and in the aggregate. The bonding capacity letter shall meet the following requirements:

1. *Must be issued by an entity authorized by the Insurance Commissioner of Puerto Rico;*
2. *Must be dated and duly signed by authorized representative of the issuing entity; and*
3. *Be dated within thirty (30) calendar days prior to the Proposal Submission Deadline.*

The Proposer must demonstrate sufficient bonding capacity, both for the individual project (single) and in aggregate, as of the proposal submission date.

For this procurement, the Proposer's single project Bond Capacity must be equal to or greater than Total Price of the Proposal (Base Bid + Allowances). If

the Proposer's single project Bond Capacity is less than Total Price of the Proposal (Base Bid + Allowances), the Proposal will be disqualified or rejected.

17. The Bid Bond submitted with the Proposal shall remain valid and enforceable for a period of one hundred eighty (180) calendar days following the Proposal Submission Deadline and shall not expire, be canceled, or otherwise be rendered ineffective during such period.

18. The document contained in **Exhibit 2 (Checklist)** of the RFP is hereby replaced in its entirety by the document attached as **Exhibit I** to this Addendum.

19. The document contained in **Exhibit 3 (Statement of Proposer)** of the RFP is hereby replaced in its entirety by the document attached as **Exhibit II** to this Addendum.

20. The document contained in **Exhibit 16 (Technical Proposal)** of the RFP is hereby replaced in its entirety by the document attached as **Exhibit III** to this Addendum.

21. Proposers shall include in their Technical Proposal a complete resiliency strategy identifying, at a minimum, the proposed microgrid configuration, BESS/ESS rated power capacity (kW), usable energy capacity (kWh), minimum autonomy duration, UPS capacities, islanding capability, black-start functionality, and generator-to-battery coordination strategy. Refer to **Exhibit 16 (Technical Proposal)**, as amended.

22. The document contained in **Exhibit 17 (Price Proposal Form)** of the RFP is hereby replaced in its entirety by the document attached as **Exhibit IV** to this Addendum.

23. The document contained in **Exhibit 18 (Cost Breakdown)** of the RFP is hereby replaced in its entirety by the document attached as **Exhibit V** to this Addendum. The amended **Exhibit 18, as amended, in Excel format**, is available for access and download by the Proposers through ASEM's website at **https://www.asem.pr.gov/administrativo#Avisos**

24. The document contained in **Exhibit 19 (Bid Bond Form)** of the RFP is hereby replaced in its entirety by the document attached as **Exhibit VI** to this Addendum.

25. The document contained in **Attachment 5 (Insurance Requirements and Bonding Specifications)** of the RFP is hereby replaced in its entirety by the document attached as **Exhibit VII** to this Addendum.

26. Section 10.1.1.7 (Proposal Documents) of the RFP is replaced by the following text, which shall prevail over any provision, requirement, or reference previously included in said section.

10.1.1.7 Proposal Documents

1. *The Proposer submitted only one (1) offer or proposal.*

2. *The proposal contains the following duly completed, signed, and initialed documents, as applicable:*

   a. *Certification of Commitment for all Key Personnel. Refer to **Annex I**, as amended;*

   b. *Certification of Commitment for Major Subcontractors identified in the Proposal. Refer to **Annex II**, as amended;*

   c. *Non-Conflict of Interest Certification (**Exhibit 4**)*

   d. *Non-Conflict of Interest Certification on Existing or Pending Contracts (**Exhibit 5**)*

   e. *Limited Denial of Participation (LDP) / Suspension or Debarment Status Affidavit (**Exhibit 6**)*

   f. *Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion (**Exhibit 7**)*

   g. *Non-Collusive Affidavit (**Exhibit 8**)*

   h. *Sworn Statement (Act 2-2018, Anti-Corruption Code for New Puerto Rico) (**Exhibit 9**)*

   i. *Anti-Lobbying Certification (**Exhibit 10**) or Disclosure of Lobbying Activities, (**Exhibit 11**), as applicable*

   j. *Price Proposal Form (**Exhibit 17)**, as amended*

   k. *Cost Breakdown (**Exhibit 18)**, as amended*

   l. *Bid Bond (**Exhibit 19),** as amended. If the Bid Bond includes Attorney-in-Fact's electronic signature, it is accompanied by a certification from the Surety Company confirming that the signature belongs to an authorized representative.*

m. *Bid Bond is five percent (5%) of the total price of the proposal (Base Bid + Allowances).*

n. *Acknowledgement of Surety (**Exhibit 20**).*

o. *Letter of Credit Line Available and/or Liquidity Assets Available Letter, according to section 9.2.5.10, amended, of the RFP.*

p. *The Proposer must demonstrate and have: (i) available liquidity assets in an amount not less than US$16,000,000.00 that may be used for the Project; or (ii) an available line of credit in an amount not less than US$16,000,000.00 that may be used for the Project; or (iii) a combination of available liquidity assets and an available line of credit in an amount not less than US$16,000,000.00 that may be used for the Project.*

q. *Bond Capacity Letter, according to section 9.2.21, amended, of the RFP.*

r. *Bond Capacity per project (single) is equal or greater than the amount of the total price of the proposal (Base Bid + Allowances).*

Exhibit 3 (Statement of Proposer), as amended and Exhibit 16 (Technical Proposal), as amended, are not Mandatory Requirements under this Section. Their content is evaluated under Section 10.1.2 (Technical Evaluation) as amended, and any required section that is not submitted shall receive zero (0) points in the corresponding evaluation criteria. Annex IV (Design Firm's Qualifications), required by Section 9.2.5.7, as amended, is likewise not a Mandatory Requirement under this Section; its content is evaluated under Section 10.1.2.2, as amended, and, if not submitted, the Design Firm Experience and Past Performance criterion shall receive zero (0) points.

27. As part of the evaluation process the Procurement Division, Bid Board or Evaluation Committee may verify the amount of the Bid Bond with Surety Company or other related matters of the Bid Bond.

28. Section 9.2 (Content of the Proposal) of the RFP is replaced by the following text, which shall prevail over any provision, requirement, or reference previously included in said section:

9.2 Content of Proposal

The Proposer must submit their proposal in the following two (2) formats:

a. *Physically (in printed format).*

i. *One (1) sealed envelope or package, identified in accordance with the provisions of Section 9.2.1 and containing:*

1. *One (1) printed original of the proposal, which <u>includes an optional separate sealed envelope</u> (identified in accordance with the provisions of Section 9.2.1,) containing the Price Proposal (Exhibit 17, as amended) and the Cost Breakdown (Exhibit 18, as amended);*

2. *One (1) printed copy, which must be a true and exact reproduction of the printed original of the proposal documents; and*

3. *One (1) USB drive, without passwords or access restrictions, containing:*

a. *One (1) digital copy (scanned PDF), which must be a true and exact reproduction of the printed original of the proposal documents;*

b. *One (1) redacted copy (scanned PDF) of the printed original of the proposal documents with sole exception of those portions duly redacted to protect confidential information or information exempt from disclosure; and*

c. *Cost Breakdown (Exhibit 18, as amended) in Excel format.*

b. *<u>Electronically</u>*

i. *One (1) copy (scanned PDF), which must be a true and exact reproduction of the printed original of the proposal documents, uploaded via the applicable file-upload fields on the J.E.D.I. platform, including Exhibit 17, as amended, and Exhibit 18, as amended.*

29. Each form or page of the proposal (printed original of the proposal) that contains a signature field must be signed by the Proposer's authorized representative in that field. In addition, <u>each page of the proposal must be duly initialed by the Proposer's authorized representative</u>. The Proposer's authorized representative must be identified in the RUL's Eligibility Certificate.

The digital copy must be a true and exact reproduction of the printed original proposal in PDF format.

The redacted copy must be a true and exact reproduction of the printed original proposal in PDF format, with the sole exception of those portions duly redacted to protect confidential information or information exempt from disclosure.

30. On the documents of the printed original proposal, the Proposer's authorized representative must handwrite their initials and signature using a blue-ink pen (electronic, digital, or scanned signatures will not be accepted), as applicable. This requirement applies to the Proposer's authorized representative; the electronic signature of the Attorney-in-Fact on the Bid Bond is governed by the following paragraph and by Section 9.2.20, as amended.

    The Bid Bond must be submitted in original form. If it includes the Attorney-in-Fact's electronic signature, it must be accompanied by a certification from the Surety Company confirming that the signature belongs to an authorized representative. With such certification, the electronic signature will be deemed valid and binding, with the same legal effect as a handwritten signature. The Proposer assumes full responsibility if the Surety Company indicates that the signature is not that of an authorized representative or if the certification is not provided, which will result in the disqualification or rejection of the proposal.

31. In the event of any discrepancy, inconsistency, or conflict between versions of the same proposal, the original proposal submitted in physical printed format shall prevail for all legal, contractual, and administrative purposes and shall constitute the official record of the proposal. Furthermore, the official date and time of the submission and receipt of the proposal shall be recorded by ASEM at the time of its physical receipt.

32. Section 10.1.1 (Mandatory Requirements) of the RFP is replaced by the following text, which shall prevail over any provision, requirements, or reference previously included in said section.

    Section 10.1.1 Mandatory Requirements

    The Evaluation Committee or Bid Board shall review each Proposal to determine compliance with all Mandatory Requirements established in this RFP (section 10.1.1.1 (amended), 10.1.1.2, 10.1.1.3 (amended), 10.1.1.4, 10.1.1.5, 10.1.1.6, 10.1.1.7 (amended), 10.1.1.8 (amended), and 10.1.1.9 (amended)). Mandatory Requirements shall be evaluated on a Pass/Fail basis.

If the Proposer is constituted as a Joint Venture or Partnership, the evaluation will be in accordance with what is established in the Joint Venture Agreement or Partnership Agreement.

Any Proposal failing to satisfy one (1) or more Mandatory Requirements of this RFP will result in the disqualification of the Proposer or rejection of the proposal. However, the Bid Board reserves its right to request additional information to address minor irregularities and minor instances of noncompliance.

If the proposal meets all the mandatory requirements of RFP, it will "pass" the mandatory requirements evaluation, and the Evaluation Committee or Bid Board will conduct a Technical Evaluation process of the proposal.

33. Section 10.1.1.1 (Proposal Submission) of the RFP is replaced by the following text, which shall prevail over any provision, requirement, or reference previously included in said section:

10.1.1.1 Proposal Submission

The proposal must be submitted before the deadline, and submission shall include both Physically and Electronically formats.

34. Section 10.1.1.3 (Active or Eligible Status) of the RFP is replaced by the following text, which shall prevail over any provision, requirement, or reference previously included in said section:

10.1.1.3 Active or Eligible Status

1. *Proposers must be registered and have eligible status in the RUL.*

   However, if a Proposer: 1) is not registered in the Single Registry of Bidders (RUL); or 2) is not eligible in the RUL at the time of the Proposals Opening, it will have a non-extendable period of five (5) business days, beginning on the date of the Proposals Opening, to comply with the requirements established by the ASG's Registry Office and be registered in the RUL. It is the Proposer's sole responsibility to update its information and submit the corresponding documentation within the established timeframe. Failure to do so will be sufficient basis for disqualification or rejection of the proposal. If the Proposer fails to update its records in the RUL within the specified timeframe, it will be disqualified, or its bid or proposal will be rejected.

2. *The Designer must be registered in the General Services Administration's Single Registry of Professional Service Providers (RUP).*

3. *The Proposer and Designer must submit evidence demonstrating that, as of the deadline for the proposal submission, it has an active and eligible status or has initiated registration in the System for Award Management (SAM).*

35. Section 10.1.1.9 (Key Personnel Requirements) of the RFP is replaced by the following text, which shall prevail over any provision, requirement, or reference previously included in said section:

10.1.1.9 Key Personnel Requirements

The Proposer shall identify and commit the following Key Personnel to the Project:

1. *Design-Build Project Manager*
2. *Safety Manager*
3. *Scheduler*
4. *Cost Estimator*
5. *Design-Builder Commissioning Manager (DB-Cx)*
6. *Design Lead*
7. *Civil Engineer, P.E.*
8. *Civil Engineer, P.E. – "Structural Engineer"*
9. *Environmental Engineer, P.E. or Registered Environmental Manager*
10. *Electrical Engineer, P.E.*
11. *Mechanical Engineer, P.E.*
12. *Technology / IT/ System Engineer (P.E., only for engineers)*
13. *Construction Manager or Superintendent*
14. *BIM Manager / BIM Coordinator*
15. *Quality Control Manager*

16. Healthcare Facilities Subject Matter Expert

Refer to Annex I (Key Personnel Qualifications and Commitment Form), as amended, and Exhibit 3 (Statement of Proposer), as amended.

The Healthcare Facilities Subject Matter Expert shall possess demonstrated experience in the planning, design, construction, commissioning, activation, or operation of acute care hospitals or critical healthcare facilities.

All Key Personnel shall satisfy the minimum qualifications established in this RFP.

As part of the Mandatory Requirements Review, Evaluation Committee or Bid Board shall verify that the Proposer submitted signed ***Certification of Commitment for all Key Personnel and Major Subcontractors identified in the Proposal (Refer to Annex I and Annex II, as amended)****. Failure to submit complete and signed Certifications of Commitment may result in a finding that the Proposal is non-responsive or does not satisfy the Mandatory Requirements of the RFP, as amended.*

The availability, qualifications, experience, licenses, certifications, and proposed level of effort of Key Personnel and Major Subcontractors are material elements of the Proposal and may be evaluated under the Technical Evaluation criteria, including Past Performance and Experience, Technical Capacity, Organizational Experience and Key Personnel, and Work Approach / Technical Proposal.

If Evaluation Committee or Bid Board determines that the Proposer knowingly or negligently misrepresented the availability, commitment, qualifications, experience, role, or proposed level of effort of any Key Personnel or Major Subcontractor, Bid Board may disqualify the Proposer, reject the Proposal, adversely evaluate the Technical Proposal, refuse to award the Contract, or pursue any other remedy available under the RFP Documents, Contract Documents, or applicable law.

36. Section 10.1.2.2 (Design Firm Experience and Past Performance) of the RFP is replaced by the following text, which shall prevail over any provision, requirement, or reference previously included in said section.

Section 10.1.2.2 (Design Firm Experience and Past Performance)

The Evaluation Committee or Bid Board shall evaluate the qualifications and experience of the Design Firm.

Evaluation factors may include:

- *Hospital facility planning and programming;*
- *Hospital design experience;*
- *Emergency department facilities;*
- *Operating Room and Intensive care environments;*
- *Critical infrastructure and resilient systems;*
- *Design-Build delivery experience;*
- *Multidisciplinary coordination;*
- *Regulatory compliance;*
- *Projects of similar complexity; and*
- *Experience with resilient and mission-critical healthcare facilities*

Refer to Exhibit XX (Annex IV - Design Firm's Qualifications).

37. Section 10.1.2.3 (Organizational Experience and Key Personnel) of the RFP is replaced by the following text, which shall prevail over any provision, requirement, or reference previously included in said section.

Section 10.1.2.3 (Organizational Experience and Key Personnel)

The Evaluation Committee or Bid Board shall evaluate the organizational resources and project team proposed for the Project.

Evaluation factors may include:

- *Organizational structure;*
- *Availability of dedicated resources;*
- *Qualifications and healthcare experience of Key Personnel;*
- *Qualifications of the Healthcare Facilities SME;*
- *Previous collaboration between Design-Build team members;*
- *Quality management capabilities;*
- *Safety management capabilities;*
- *BIM and digital delivery capabilities;*
- *Commissioning experience; and*
- *Facility activation and operational readiness experience.*

38. Section 10.1.2.4.3 (Accelerated Delivery Strategy) of the RFP is replaced by the following text, which shall prevail over any provision, requirement, or reference previously included in said section.

10.1.2.4.3 Accelerated Delivery Strategy

The Proposer shall provide a detailed execution strategy and schedule demonstrating its approach to achieving Functional Operation, Substantial Completion (including the completion of all commissioning activities) and Final

Completion of the entire Project within the fifty-four (54) month Period of Performance established in RFP Section 7.2, as amended. This Section is an evaluation criterion and does not establish any additional or interim contractual milestone.

The Evaluation Committee or Bid Board may consider:

- *Design acceleration methodologies;*
- *Fast-track delivery techniques;*
- *Early procurement packages;*
- *Long-lead equipment strategies;*
- *Construction sequencing;*
- *Critical path management;*
- *Resource loading methodologies; and*
- *Recovery planning measures*

39. Section 10.1.2.4.5 (Procurement, Materials, Equipment, and Delivery Management) of the RFP is replaced by the following text, which shall prevail over any provision, requirement, or reference previously included in said section.

10.1.2.4.5 Procurement, Materials, Equipment, and Delivery Management

The Design-Builder shall describe the approach for procurement, delivery, receipt, inspection, storage, security, protection, installation, start-up, and turnover of materials and equipment in accordance with the Project Schedule. Address long-lead and healthcare-critical equipment, hospital and medical equipment, delivery coordination, temporary storage, submittals, vendor participation, testing, warranties, spare parts, and measures to avoid disruption to adjacent medical and support operations.

40. Section 10.1.4 (Oral Presentation) of the RFP is replaced by the following text, which shall prevail over any provision, requirement, or reference previously included in said section.

10.1.4 Oral Presentation

The Procurement Division shall invite only those Proposers that have achieved the Minimum Technical Qualification Threshold to participate in an Oral Presentation.

The purpose of the Oral Presentation is to validate the Evaluation Committee's or Bid Board's understanding of the Proposal, assess the integration of the Design-Build Team, evaluate the qualifications of Key Personnel, and confirm the Proposer's ability to successfully execute the Project.

The maximum Oral Presentation Evaluation Score shall be twenty-five (25) points.

Failure of required personnel to participate may adversely affect the Oral Presentation score.

The Oral Presentation shall not be used to modify, revise, supplement, or materially alter the Proposal. No statement, clarification, response, presentation material, or discussion made during the Oral Presentation shall change the terms, conditions, commitments, technical approach, price, schedule, or other material contents of the submitted Proposal, unless expressly permitted in writing by Procurement Division, Evaluation Committee or Bid Board through the applicable procurement process.

Procurement Division may establish the date, time, format, agenda, duration, presentation requirements, attendees required, and any limitations applicable to the Oral Presentation. At a minimum, the Design-Build Project Manager, Design Lead, Construction Manager, Healthcare Facilities SME, Quality Control Manager, Safety Manager, Design-Builder Commissioning Manager (DB-Cx), the Proposer's Project Executive (if one is proposed), and other Key Personnel identified by ASEM in the invitation shall attend and actively participate. The Oral Presentation will be conducted in a virtual format.

The Evaluation Committee or Bid Board will consider the Oral Presentation as part of its evaluation to the extent permitted by the evaluation criteria established in this RFP. Participation in an Oral Presentation does not guarantee award, selection for negotiations, or any other procurement outcome.

41. Section 10.1.6 (Price Proposal Evaluation) of the RFP is replaced by the following text, which shall prevail over any provision, requirement, or reference previously included in said section.

Section 10.1.6 Price Proposal Evaluation

Only Proposers that: (1) Successfully satisfy all Mandatory Requirements; (2) Achieve the Minimum Technical Qualification Threshold; and (3) Participate in the Oral Presentation; shall be eligible for Price Proposal Evaluation.

The maximum Price Proposal Score shall be twenty-five (25) points.

The Price Proposal shall be evaluated using the following formula:

Price Score = (Lowest Responsive Price Proposal ÷ Proposer's Price Proposal) × 25

The lowest responsive Price Proposal shall receive the maximum score of twenty-five (25) points.

All results are rounded to the nearest hundredth, meaning up to two (2) digits after the decimal point (hundredth).

For evaluation purposes, the "Proposer's Price Proposal" and the "Lowest Responsive Price Proposal" shall mean the Total (Item 1, Design, plus Item 2, Construction) stated in Exhibit 17, as amended, excluding the Allowances, which are fixed amounts established by ASEM and are identical for all Proposers. The Total Price of the Proposal (Base Bid + Allowances) shall be used only to determine the Bid Bond and the single project bonding capacity required by Sections 9.2.20 and 9.2.21, as amended.

42. Section 10.1.1.8 (Minimum Healthcare/Hospital Experience) of the RFP is replaced by the following text, which shall prevail over any provision, requirement, or reference previously included in said section.

Section 10.1.1.8 (Minimum Healthcare/Hospital Experience)

The Proposer shall demonstrate successful experience in the delivery of healthcare facilities of similar complexity and scope.

At a minimum, the Proposer shall demonstrate:

1. *At least one (1) completed hospital construction project within the last twenty (20) years;*

2. *At least one (1) completed Design-Build healthcare or hospital project by the designer or builder (can be the hospital construction project required in the first item herein or an additional project);*

3. *At least one (1) experience involving critical healthcare environments, including emergency departments, operating rooms, and intensive care units;*

4. *At least one (1) experience delivering projects within active healthcare campuses, mission-critical facilities, or operational environments requiring strict coordination of access, safety, logistics, utilities, and continuity of operations;*

5. *At least one (1) project with vertical construction; and*

6. *At least one (1) federally funded project.*

Refer to the Minimum Healthcare / Hospital Projects Experience Form (Annex III, as amended).

In the event that the Proposer is constituted as a Joint Venture or Partnership, the evaluation of Past Performance and Experience will be carried out considering the expertise, role and responsibilities assumed by each of the entities that comprise it, in accordance with the considerations established in the corresponding Joint Venture Agreement or Partnership Agreement.

43. Section 12.4.4 (Liquidated Damages) of the RFP is replaced by the following text, which shall prevail over any provision, requirement, or reference previously included in said section.

12.4.4 Liquidated Damages

Time is of the essence in the performance of the Work. The Design-Builder acknowledges that failure to achieve Substantial Completion or Final Completion within the required time may cause ASEM, PRDOH, the Government of Puerto Rico, HUD, patients, healthcare providers, emergency services, and the public to incur substantial damages, including, but not limited to, administrative costs, extended oversight and inspection costs, delayed availability of critical healthcare services, disruption to campus operations, extended project management costs, and other impacts that are difficult or impracticable to determine with precision at the time of contract execution.

Accordingly, if the Design-Builder fails to achieve Substantial Completion or Final Completion by the applicable date established in the Contract Documents, as such date may be adjusted only by an approved Change Order or written time extension issued in accordance with the Contract Documents, the Design-Builder shall be liable to ASEM for liquidated damages in the amounts set forth below. The parties agree that these amounts represent a reasonable estimate of damages likely to be incurred as a result of delay and are not intended as a penalty.

The Contract Time and the completion milestones are established in RFP Section 7.2, as amended. The Design-Builder shall pay ASEM liquidated damages as follows: (a) if Substantial Completion is not achieved within the Contract Time, twenty thousand dollars (US$20,000.00) per calendar day for each day of delay until Substantial Completion is achieved; and (b) once Substantial Completion has been achieved, if Final Completion is not achieved within the Contract Time, five thousand dollars (US$5,000.00) per calendar day for each day of delay until Final Completion is achieved.

Liquidated damages under items (a) and (b) above shall not accrue for the same calendar day. No interim, phase or partial milestone is established in the Contract; accordingly, no liquidated damages shall be assessed for any interim milestone.

ASEM may deduct liquidated damages from any amounts due or to become due to the Design-Builder, including progress payments, retainage, final payment, or any other compensation payable under the Contract. Assessment or deduction of liquidated damages shall not constitute a waiver of ASEM's right to pursue any other remedy available under the Contract Documents or applicable law for separate breaches, defective work, noncompliance, fraud, misrepresentation, abandonment, default, or other damages not compensated by the liquidated damages.

The Design-Builder shall not be liable for liquidated damages to the extent the delay is caused by an excusable delay for which the Design-Builder is entitled to a time extension under the Contract Documents, provided that the Design-Builder gives timely notice, demonstrates the impact on the critical path, and obtains written approval of the time extension in accordance with the Contract Documents. No oral statement, field discussion, meeting note, schedule update, pay application, or informal communication shall modify a milestone date or waive liquidated damages unless expressly approved in writing by ASEM through a duly executed Change Order or other authorized written contract modification.

In addition to the provisions of Article 9.5 of Regulation No. 7998, Uniform General Conditions for Public Works, if the Contractor fails to comply with federal statutes and regulations, ASEM may take one or more of the following actions:

1. *Temporarily withhold cash payments pending correction of the deficiency by the Contractor.*
2. *Disallow all or part of the cost of the activity or action not in compliance.*
3. *Initiate suspension or debarment proceedings as authorized under 2 C.F.R. part 180.*
4. *Withhold further Federal awards for the project or program.*
5. *Take other remedies that may be legally available.*

44. **DBIA Document No. 540** (Standard Form of Agreement Between Design-Builder and Design Consultant) is provided with this Addendum as **Exhibit VIII** and is hereby incorporated into Attachment 6 (Model Contract) of the RFP as the minimum form of agreement that the Design-Builder shall execute with its Designer of Record. The Design-Builder shall conform such agreement to the Contract

Documents and flow down to the Designer all applicable requirements. ASEM is not a party to such agreement, and DBIA Document No. 540 shall not create any obligation of ASEM to the Designer or any other third party.

45. For the Proposers' consideration, the **Existing Fire Alarm System Topology** is hereby provided for reference purposes only. Refer to **Exhibit IX.**

46. For the Proposers' consideration, the **Annex O: Hearing Conservation Program ("Programa de Conservación Auditiva") of the ASEM's current safety management plan, in its original Spanish-language version,** for the safety and health of its patients, visitors, and employees is hereby provided for reference purposes only. Refer to **Exhibit X.**

    Annex O, "Hearing Conservation Program" ("Programa de Conservación Auditiva"), of ASEM's current safety management plan, referred to in Attachment E as "Appendix O: Noise Conservation Program," is hereby provided in its original Spanish-language version as Exhibit X. It is an informational document for the safety and health of ASEM's patients, visitors and employees, to be considered by the Design-Builder as stated in the answer to Questions 74, 234 and 235 (Item 62).

47. The document contained in **Annex I (Key Personnel Qualifications and Commitment Form)** of the RFP is hereby replaced in its entirety by the document attached as **Exhibit XI** to this Addendum.

48. The document contained in **Annex II (Major Subcontractor Experience, Past Performance and Commitment Form)** of the RFP is hereby replaced in its entirety by the document attached as **Exhibit XII** to this Addendum.

49. The document contained in **Annex III (Minimum Healthcare / Hospital Projects Experience Form)** of the RFP is hereby replaced in its entirety by the document attached as Exhibit XIII to this Addendum.

50. **Important Notice**

    The ASEM publishes the Addendum of this bidding process, RFP 27DJ-00415, through the J.E.D.I. system, official website of the ASEM, https://www.asem.pr.gov/administrativo#Avisos and the RUS. When the ASEM Procurement Division sends the Addendum to the Proposer through the J.E.D.I. system, due to a system error, a document in Spanish identified as "*Enmienda Núm.*", which includes the logos of the Puerto Rico General Services Administration (ASG), is automatically generated. Refer to **Exhibit XIV (Documents generated automatically by the J.E.D.I. system)**.

ASEM hereby notifies all Proposers that such documents are administrative records generated automatically by the J.E.D.I. system and do not constitute official Addenda to the RFP. Accordingly, such documents are not part of the RFP Documents or Contract Documents; have no legal or contractual force or effect; and shall not be relied upon, cited, or used for purposes of interpreting, supplementing, clarifying, modifying, or establishing any requirement, condition, obligation, right, scope, or term of the RFP or any official Addendum thereto.

The only valid, binding, and enforceable modifications, revisions, clarifications, or interpretations of RFP No. 27DJ-00415 are those formally issued by ASEM in the English language as official Addenda to the RFP and include the logos of the CDBG-MIT Program, Puerto Rico Medical Services Administration (ASEM), Infrastructure Mitigation Program, and Federal Funds.

The foregoing requirement that official Addenda be issued in the English language does not apply to documents that ASEM has expressly incorporated into, or furnished with, the RFP or an official Addendum in their original Spanish-language version, including Annex O, "Hearing Conservation Program" ("Programa de Conservación Auditiva"), provided as Exhibit X to this Addendum. In the event of any conflict between a Spanish-language document and the English text of the RFP or of any official Addendum, the English text shall prevail.

No rights, claims, expectations, interpretations, adjustments, or entitlements shall arise from or be based upon any system-generated document.

As of the date of issuance of this Addendum, the official Addenda are available on ASEM's website, https://www.asem.pr.gov/administrativo#Avisos and consist of:

- *Addendum No. 1* (The PDF document consists of 1 page, which forms an integral part of the document and must be considered in their entirety).
- *Addendum No. 2* (The PDF document consists of 124 pages, which form an integral part of the document and must be considered in their entirety).
- *Addendum No. 3* (The PDF document consists of 238 pages, which form an integral part of the document and must be considered in their entirety).
- *Addendum No. 4* (The PDF document consists of 889 pages, which form an integral part of the document and must be considered in their entirety).

Each Proposer shall bear sole responsibility for obtaining, reviewing, and relying upon the RFP, all official Addenda, the Contract Documents, and any other document expressly identified by ASEM as part of the procurement process.

No Proposer may rely upon, invoke, or claim to have relied upon documents automatically generated by the J.E.D.I. system for the purpose of interpreting, supplementing, modifying, or establishing any requirement of the RFP or the official Addenda. Furthermore, no right, benefit, expectation, compensation, price adjustment, time extension, contractual modification, claim, dispute, or cause of action may arise from, or be predicated upon, the use, interpretation, or reliance on such documents.

The risk associated with obtaining, reviewing, interpreting, and using the documentation applicable to the procurement process shall rest exclusively with each Proposer. ASEM shall assume no liability whatsoever for errors, omissions, discrepancies, or interpretations resulting from documents that do not constitute official Addenda issued by ASEM.

51. **Part XII (Commissioning)** of Attachment 1 (Scope of Work) is hereby replaced in its entirety by the document attached as **Exhibit XV** to this Addendum.

52. The Independent Commissioning Authority (CxA) must be contracted and compensated by the ASEM. The Design-Builder Commissioning Manager (DB-Cx) must be contracted and compensated by the Design-Builder.

53. References in the Bridging Documents, including the Advanced Architectural Design Development Plans, to drawing sheets or details not included in the issued RFP package shall be deemed inapplicable and disregarded, unless expressly reinstated or superseded by an RFP addendum. This clarification includes the referenced skylight and freezer enclosure details. Disregarding such references does not eliminate the associated scope or performance requirements established elsewhere in the RFP documents. The selected Design-Build Entity shall develop and coordinate the corresponding design solutions and details during preparation of the final design and construction documents, consistent with the RFP requirements and applicable codes.

54. The value "≤ 0.36 gal/kWh" in Section 16900, §2.02.A.4 is in error and is deleted.

55. Additional drawings are provided with this Addendum and are hereby incorporated into Attachment G (Utilities Plans) of the RFP, as **Exhibit XVI**, as reference information, where they shall form part of the documents and purposes contemplated therein.

a. ASEM Stormwater System
b. Architectural Design – A.S.E.M Main Building
c. Plumbing Design – A.S.E.M Main Building
d. Structural Design – A.S.E.M Main Building
e. Construction of Liquid Oxygen Bulk Field
f. Potable Water Lines
g. Location Plan of Structures
h. Existing Electric Primary
i. Utilities plan – Plaza
j. Site Plan - Plaza
k. Electric Manhole
l. Potable Water Site
m. Site Improvement and Utilities
n. Sewer System Line
o. Basement – A.S.E.M Main Building
p. Fire Protection – A.S.E.M Main Building and Gamma Knife Basement

Due to limitations in the resolution and quality of the scanned plans included as part of the RFP documents, as amended, Proposers are hereby notified that hard copies of said plans will be available for inspection at the ASEM Engineering and Conservation Office.

Proposers interested in conducting such an inspection must schedule an appointment in advance by sending an email request to subastascompras@asem.pr.gov

Inspections will take place on business days, Monday through Friday, between the hours of 8:00 a.m. and 3:00 p.m., subject to the availability of the facilities and personnel designated by ASEM.

The availability of hard copies is intended solely to facilitate the review of plans whose legibility may have been affected by the digitization process. No information obtained during an inspection shall constitute an official modification or interpretation of the RFP documents, as amended. Any clarification, interpretation, or modification of said documents shall be valid only if issued by ASEM via a written Addendum.

56. Geotechnical report.

a. The geotechnical report includes the soil profile determined, based on the soil information found with the borings down to depths of 50 to 60 ft (no sound rock was found with the borings performed at the site for the geotechnical evaluation of the project).

b. The geotechnical evaluation of the project includes recommendations for the Site Class of the project, but the evaluation does not include the performance of a Seismic Site-Specific Study of the site.

c. The geotechnical report includes geotechnical recommendations for two alternatives of foundation for the building.

d. Refer to **Exhibit XVII** (Geotechnical Report)

e. The report was prepared on the basis of a nine-story building with basement and two 30,000-gallon cisterns. Those assumptions do not reflect the RFP Documents, as amended, including the Tenth Level (see answer to Question 18) and the cistern capacities established in Item 10 of this Addendum. The Design-Builder shall verify the foundation, excavation, and cistern design parameters for the actual building configuration, loads, and excavation depths as part of the supplemental geotechnical investigations required by the answer to Question 12, at no additional cost to ASEM.

57. Contractual order of precedence.

The Contract Documents shall consist of the documents listed in this Item 57, as amended by the Addenda. The order of precedence established herein is the single and definitive order of precedence applicable to the Contract, and it supersedes and replaces in their entirety the orders of precedence set forth in Clause 7 of Attachment 6 (Model Contract), Section 2.2.1 of Attachment 9 (Supplementary Conditions), and Section 3.2 of DBIA Document No. 525. Any provision of the RFP Documents establishing a different order of precedence shall be disregarded.

In the event of any inconsistency, conflict, ambiguity, discrepancy, or omission among the Contract Documents, the following order of precedence shall govern, with the document having higher precedence controlling over documents of lower precedence:

1. **Applicable federal statutes, regulations, grant requirements, and mandatory governmental requirements**, including without limitation HUD requirements, CDBG-MIT requirements, the applicable CDBG-MIT Action Plan and Substantial Amendments, 2 C.F.R. Part 200, environmental review requirements, Section 106 requirements, Davis-Bacon and Related Acts requirements, Section 3 requirements, Uniform Relocation Assistance requirements, and all other applicable federal and territorial laws and regulations.

2. Any duly executed **Contract Amendment**, with the most recent amendment taking precedence over all prior amendments.

3. Any executed **Change Order**, with later-issued Change Orders taking precedence over earlier Change Orders to the extent of any conflict.

4. The **Agreement** between ASEM and the Design-Builder (Attachment 6, Model Contract, as amended by the Addenda), including all attachments expressly incorporated therein, except the DBIA standard forms, which shall rank as provided in item 9 below;

5. The **Notice to Proceed**.

6. **Bonds and Insurances** (Performance Bonds, Payment Bonds, Builder's Risk, required insurance instruments, and associated endorsements).

7. **Addenda** issued prior to the Proposal Submission Deadline, with later Addenda taking precedence over earlier Addenda, including their Exhibits, Attachments, Annexes and responses to questions;

8. **Supplementary Conditions**, and Project-Specific Conditions.

9. **General Conditions**, in the following order of precedence among themselves:

    a. Uniform General Conditions for Public Works (No. 7998);

    b. DBIA standard forms incorporated into the Contract, including DBIA Document No. 525 (Standard Form of Agreement Between Owner and Design-Builder – Lump Sum) and DBIA Document No. 535 (Standard Form of General Conditions of Contract Between Owner and Design-Builder);

10. **Scope of Work**, including without limitation General Requirements, as follows:

    a. Basis of Design

    b. SARPS (Auxiliary Secretariat for Public Health Regulation) recommendations

    c. Owner's Project Requirements (OPR),

    d. Project Program,

e. Functional and Space Program Requirements,

f. Clinical and Operational Requirements,

g. Performance Requirements,

h. Sustainability Criteria

i. Equipment Planning Criteria

j. Commissioning Requirements

k. Any Owner-furnished studies, geotechnical reports, existing-condition information or criteria expressly incorporated into the Contract Documents

11. **Permits, governmental endorsements, agency determinations, and regulatory approvals** issued for the Project.

12. **Bridging Documents**, including Bridging Design Reports, Reference Design Documents, and technical specifications included in the Procurement Documents.

13. The **Design-Builder's accepted Proposal**, including commitments, representations, clarifications, and approved deviations accepted by ASEM.
14. **Design documents**, plans, drawings, BIM models, calculations, narratives, shop drawings, and other submittals, and other design deliverables prepared by the Design-Builder and accepted by ASEM.

15. **Technical specifications** prepared by the Design-Builder.

16. **Notice of Award**.

17. **Instructions to Proposers** and procurement-related documents not otherwise incorporated into the Agreement.

18. **Minutes of the pre-proposal meeting and site visit**.

Notwithstanding the foregoing, no document of lower precedence shall be construed to reduce, eliminate, or relax any requirement contained in a document of higher precedence. Where two or more provisions can reasonably be interpreted as complementary, the Design-Builder shall comply with the more

stringent requirement. The Design-Builder remains responsible for delivering a complete and fully functional facility that satisfies all applicable codes, permits, Owner requirements, performance criteria, and Contract requirements, regardless of whether a particular requirement is specifically identified in every Contract Document.

The Bridging Documents establish minimum design intent and performance requirements and are not intended to define every aspect of the Work. The Design-Builder shall be responsible for developing and completing the design necessary to satisfy the Contract Documents in their entirety. Any inconsistency between the Bridging Documents and the Owner's Project Requirements, Scope of Work or Program Requirements shall be resolved in accordance with the order of precedence established above. Where such provisions can reasonably be read as complementary, or where the inconsistency concerns applicable codes, the Design-Builder shall comply with the more stringent requirement; provided, however, that a more stringent requirement contained in a document of lower precedence shall not apply to the extent that it cannot be performed together with a requirement of a document of higher precedence.

Consistent with the foregoing order, no DBIA standard form, including DBIA Documents No. 525 and 535, shall prevail over Attachment 9 (Supplementary Conditions), Regulation No. 7998, or the answers issued in the Addenda, to the extent of any inconsistency.

Within the Bridging Documents (item 12 above), including Attachment A (Plans), Attachment B (Specifications) and Attachment C (Bridging Report), and within any other group of documents of the same rank, no document shall prevail over another solely by reason of its type.

58. It is clarified that the code, guidelines, and standards identified in the procurement documents are not intended to constitute an exhaustive list of all applicable codes and standards. The Design-Build Contractor shall be responsible for complying with all codes, standards, regulations, and requirements applicable to the Project, including NFPA 418 and any other specific criteria governing heliport facilities, fire protection systems, and the requirements of the authorities having jurisdiction (AHJ).

    The omission of an express reference to a particular code or standard shall not be construed as relieving the Proposer or the Design-Build Contractor of its obligation to comply with all applicable technical, regulatory, and code requirements necessary for the proper design, construction, operation, and safety of the Project.

59. The applicable Davis-Bacon wage determination(s) are issued as **Exhibit XVIII (Wage Determination, amended)**, which hereby replaces and supersedes

Attachment 3 in its entirety. A Building construction wage determination shall apply to the hospital building work and, where applicable, a Heavy construction wage determination shall apply to the substation and off-site utility work. The wage determination(s), in effect as provided in 29 CFR 1.6 (including modifications published at least ten (10) days before the proposal opening), shall apply. It shall be the responsibility of each Proposer to verify the corresponding wage rates and any subsequent modifications through the official website at **www.sam.gov**. In the event of any inconsistency between prior procurement documents and Exhibit XVIII, Exhibit XVIII shall govern and control**.**

60. ASEM will furnish the Design-Builder with the documentation required to apply the IVU exemption available to ASEM. Proposers shall exclude the IVU from the prices of the items eligible for such exemption only and shall include all other applicable taxes. The Design-Builder bears the risk of any tax assessed as a result of its failure to properly use the exemption documentation.

61. **Base Bid Item B-24 and Allowance Item 2 (FF&E).** For purposes of Exhibit 17 (Price Proposal Form, as amended) and Exhibit 18 (Cost Breakdown, as amended), the scope of Base Bid Item B-24 and the scope of Allowance Item 2 (Furniture, Fixtures and Equipment) are mutually exclusive, as follows:
    (a) **Base Bid Item B-24** includes all fixed and built-in elements, which are permanently attached to the building or connected to its utilities, including: fixed casework and millwork, nurse stations, reception and work counters, built-in shelving and storage; wall-mounted and ceiling-mounted fixtures that are part of the building construction; blocking, backing, anchorage and supports; and all power, data, plumbing, medical gas and other utility rough-ins and connections required for furniture and equipment.

    These costs shall be priced in the Base Bid and shall not be charged to any Allowance.

    (b) **Allowance Item 2 (FF&E)** covers only loose and movable furniture, furnishings and equipment that are not permanently attached to the building, such as seating, desks, tables, beds and stretchers not listed in Attachment F, movable storage, waiting-area furniture, window treatments not included in the building construction, and accessories. It includes their purchase, taxes, freight, delivery, receipt, storage, assembly, placement, warranty and related services.

    (c) Hospital and medical equipment listed in Attachment F is covered exclusively by Allowance Item 1 and shall not be charged to Allowance

Item 2 or to Base Bid Item B-24, except for the interfaces, supports and utility connections included in Base Bid Item B-23.

(d) Furniture layouts shown in the Bridging Documents are diagrammatic (see answer to Question 201 of Addendum No. 3). The Design-Builder shall develop the FF&E schedule and layouts during design for ASEM's approval. Use of Allowance Item 2 is subject to the Request for Approval (RFA) procedure and the three (3) quotations required by Exhibit 17, as amended.

(e) No cost shall be included in, or paid from, both Base Bid Item B-24 and Allowance Item 2. Where an element could be classified under either, it shall be treated as Base Bid Item B-24 if it is permanently attached to the building or connected to its utilities, and as Allowance Item 2 otherwise.

62. The responses to the following questions, which were previously addressed via Addendum No. 3, are hereby replaced:

Unless otherwise indicated, references in the answers below to the answer to a numbered question refer to the question bearing that number in Addendum No. 3, as amended by this Item 62, and references to Items refer to the Items of this Addendum No. 4.

4. Reference: Request for Sealed Proposals, Section 10

Question: Can the Owner confirm whether the Build America, Buy America (BABA) Act requirements apply to this project? If BABA applies, will the Owner support and process, through PRDOH and HUD, BABA waiver requests (public interest, nonavailability, or unreasonable cost) for equipment and materials whose domestic lead times would prevent the Design-Builder from meeting the required phase milestones, including the 21-month Emergency Department milestone? Certain critical equipment currently has domestic lead times exceeding 24 months. A waiver would allow the Design-Builder to procure from compliant alternative sources while protecting the project schedule?

Answer: *The Build America, Buy America (BABA) Act does not apply to CDBG-DR or CDBG-MIT projects. HUD's Office of Disaster Recovery states that the BABA preference does not apply to CDBG-DR, CDBG-NDR, or CDBG-MIT grants. Its reasoning is that the Act excludes pre and post disaster or emergency response expenditures from covered funds, per CPD Notice 2023-12, issued on November 2, 2023. See, https://www.hud.gov/sites/dfiles/OCHCO/documents/2023-12cpdn.pdf. Any request for relief arising from equipment lead times, material availability,*

or regulatory requirements shall be governed by the notice, documentation, scheduling, and claims provisions of the Contract Documents. Given that the Project is to be completed within fifty-four (54) months from the Notice to Proceed, the Design-Builder shall be responsible for developing and implementing procurement strategies sufficient to satisfy the Contract requirements and schedule obligations. The Design-Builder assumes all procurement, logistics, manufacturing, shipping, customs-clearance, storage, installation, and coordination risks associated with equipment and materials, except as expressly provided otherwise in the Contract Documents.

5. Reference: Section 10.1.4 Oral Presentation

Question: May some team members participate in the oral presentation virtually? If so, will virtual participation, or the absence of any team member from the in-person session, affect the Proposer's evaluation score?

Answer: The Oral Presentation shall be conducted exclusively in a virtual format, in accordance with RFP Section 10.1.4, as amended by Item 40 of this Addendum. No in-person session will be held. Accordingly, all participants shall attend remotely through the virtual platform designated by the Procurement Division, and virtual participation shall neither confer any advantage nor impose any disadvantage on any Proposer.

The Procurement Division shall invite only those Proposers that have achieved the Minimum Technical Qualification Threshold. The invitation will be sent by email to the address provided by each Proposer in its Proposal. It will include the date, time, virtual platform, agenda, duration, presentation requirements, required attendees, and any other applicable instructions or limitations.

At a minimum, the following personnel shall attend and actively participate in the Oral Presentation: the Design-Build Project Manager, Design Lead, Construction Manager, Healthcare Facilities Subject Matter Expert, Quality Control Manager, Safety Manager, Design-Builder Commissioning Manager (DB-Cx), the Proposer's Project Executive (if one is proposed), and any other Key Personnel identified by ASEM in the invitation.
The format itself is not an evaluation criterion. However, the absence or non-participation of any required personnel may adversely affect the Proposer's Oral Presentation score, because the Evaluation Committee or Bid Board will evaluate, among other factors, the integration of the Design-Build Team, the qualifications of Key Personnel, the team's

knowledge of the Project, its preparedness for execution, and its ability to respond effectively to the questions posed. The maximum Oral Presentation score shall be twenty-five (25) points.

Oral Presentation Evaluation Criteria (Maximum 25 Points)

Criterion	Description	Maximum Points
Project Mastery and Understanding of the ASEM's Objectives	The team's ability to respond to technical, operational, and managerial questions in a clear, precise manner that is consistent with the submitted proposal. The level of demonstrated knowledge regarding the project's specific challenges, its operational constraints, and ASEM's objectives will be evaluated.	8
Integration and Cohesion of the Proposed Team	Evidence of coordination, communication, and complementarity among key team members during the presentation. The effective participation of the various disciplines and the demonstration of a functional leadership structure for the execution of the project will be evaluated.	5
Problem Solving and Decision Making	Proven ability to analyze hypothetical scenarios presented by the Evaluation Committee, identify risks, and propose practical, timely, and results-oriented solutions without compromising the hospital's quality, safety, or operations.	7

Executive Communication and Stakeholder Management	Clarity, organization, professionalism, and effectiveness of the presentation. The ability to convey complex information in a way that is understandable to the project's various stakeholders will be evaluated.	5

6. Reference: Bridging Documents Final Report, Page 77

Question: As per the structural design narrative included in the Bridging Documents Final Report, reinforced concrete is proposed for the superstructure and heliport. Please confirm that structural steel can be proposed for the primary superstructure and heliport to support compliance with the specified First Phase project schedule.

Answer: The Bridging Documents constitute the Project's Design Basis and establish the minimum requirements for performance, functionality, operation, resilience, durability, life safety, and regulatory compliance that the proposed solution must meet; furthermore, the solution must be consistent with the purpose, requirements, and objectives stipulated in the RFP, as amended, and the Bridging Documents. Alternative systems meeting or exceeding the performance requirements may be proposed as a deviation in accordance with the answer to Question 251; ASEM shall have the sole and absolute discretion to accept or reject any proposed deviation. They are not part of the Contract unless expressly accepted in writing by ASEM, and the submission of a deviation shall not create any entitlement to compensation, schedule adjustment, preferential evaluation, or modification of the Contract Documents and shall not relieve the Design-Builder of responsibility for achieving Functional Operation, Substantial Completion and Final Completion of the entire Project within the fifty-four (54) month Period of Performance established in RFP Section 7.2, as amended. No adjustment to the Contract Price or Contract Time shall arise solely from the Design-Builder's selection, proposal, review, evaluation, acceptance, or rejection of an alternative structural system.

7. Reference: Section 7.2 Deliverables, Page 16

Question: As per the RFP documents, the Delivery Schedule is 21 months for the First Phase and 33 months for the Second Phase. Please clarify the

duration allocated for the work to be performed prior to the commencement of the First Phase. This pre-First Phase work includes the Schematic Design Phase, Design Development, preparation of Construction Documents, permits, required studies, agency reviews / approvals, among others.

Answer: There is no separate pre-phase period. The Project shall be completed within fifty-four (54) months from the Notice to Proceed and includes studies, investigations, design, permits and endorsement, and construction through Functional Operation, Substantial Completion and Final Completion of the entire Project, as defined in RFP Section 7.2, as amended.

8. Reference: Advanced Architectural Design Development Drawings

Question: As indicated in the Design Intent Drawings, the exterior façade is specified as an EIFS system. To support compliance with the First Phase project schedule, please confirm whether architectural precast concrete panels will be considered an acceptable alternative exterior façade system in lieu of EIFS.

Answer: The Bridging Documents constitute the Project's Design Basis and establish the minimum requirements for performance, functionality, operation, resilience, durability, life safety, and regulatory compliance that the proposed solution must meet; furthermore, the solution must be consistent with the purpose, requirements, and objectives stipulated in the RFP, as amended, and the Bridging Documents. An alternative façade system meeting or exceeding the performance requirements may be proposed as a deviation in accordance with the answer to Question 251; they are not part of the Contract unless expressly accepted in writing by ASEM, and shall not relieve the Design-Builder of responsibility for achieving Functional Operation, Substantial Completion and Final Completion of the entire Project within the fifty-four (54) month Contract Time established in RFP Section 7.2, as amended. No adjustment to the Contract Price or Contract Time shall arise solely from the Design-Builder's selection, proposal, review, evaluation, acceptance, or rejection of an alternative façade system.

10. Reference: Request for Sealed Proposals

Question: We respectfully request an extension of the deadline for the submission of questions and of the Proposal. Will the Owner issue an addendum confirming the revised dates?

Answer: The Procurement Office has granted an extension to the deadline for submitting Requests for Clarification, via Addendum No. 1 to Request for Sealed Proposals 27DJ-00415. Please Refer to Addendum No. 1 of this RFP.

The deadline for the submission of Proposals has been changed, as indicated in items 1 and 2 of this Addendum.

12. Reference: Bridging Documents, Attachment 1, II.b, Page 2

Question: Please, provide the Owner-furnished Geotechnical Report referenced as a basis for design and pricing, and confirm that this report constitutes the "technical data" upon which the Design-Builder may rely under Supplementary Conditions 4.2.3. If no such report is available, will the Owner accept: (a) an allowance in the Price Proposal for the geotechnical investigation, with the foundation design and price adjusted to the findings; and (b) the treatment of subsurface conditions differing from those assumed in the Proposal as a differing site condition under Section 4.3?

Answer: The Geotechnical Report (GEO-Engineering, Report No. SB72-26-BD-SJU, dated November 3, 2026) is provided as Exhibit XVII. Only the following portions of that report constitute the "technical data" upon which the Design-Builder may rely under Attachment 9, Section 4.2.3: (a) the boring logs; (b) the location and ground-surface elevation of each boring; (c) the results of the field and laboratory tests; and (d) the groundwater levels measured at the time of the investigation. All other information in the report, including interpretations, soil profiles between borings, opinions and recommendations (including foundation, excavation, shoring, dewatering, liquefaction and Site Class recommendations), is provided for information only. The Design-Builder shall perform the supplemental geotechnical investigations, analyses and seismic studies required by its design, at no additional cost to ASEM. This answer supersedes any inconsistent statement in Attachment C, Section 6.6.1, and in Appendix B, Section 31 20 10.

17. Reference: RFP Section 7.2; Attachment 1, VII.1; Exhibit 16 – Schedule Strategy, Page 18; 39; 5

Question: Please confirm whether all Phase I work listed in Attachment 1, Section VII.1, must be completed within the 21-month Phase I period.

Answer: The Project shall be completed within fifty-four (54) months from issuance of the Notice to Proceed. Therefore, the Design-Builder shall be responsible for developing and implementing a design and construction approach that achieves all Contract requirements within the fifty-four (54) month Period of Performance established in the RFP. The Design-Builder

assumes all risks associated with procurement, labor availability, market conditions, supply-chain disruptions, shipping delays, material shortages, equipment lead times, manufacturer delays, and coordination with subcontractors and suppliers, except as expressly provided otherwise in the Contract Documents.

18. Reference: RFP Section 7.2; Attachment 1, VII.2; Attachment A, Page 18; 40; Sheet A-1.11

Question: Please confirm that the Tenth Level shown in Attachment A is included in Phase II.

Answer: The Tenth Level identified in Attachment A shall be considered part of required Project scope and shall be designed, permitted, procured, constructed, tested, commissioned, and completed within the fifty-four (54) month Period of Performance. Proposers are responsible for reviewing all RFP Documents and developing their proposed sequencing, schedule and phasing plan consistent with the requirements established in the RFP.

21. Reference: Attachment 1 – Potable Water Storage; Exhibit 17 – Alternate, Page 16; 4 - 5

Question: Please confirm whether the minimum 150,000-gallon potable-water cistern required by Attachment 1 is included in the Base Bid rather than the Water Storage Reservoir Alternate.

Answer: The cistern system (potable water and fire-protection water) is included in the Base Bid and its cost shall be included in Item B-34 (Potable-water and fire-protection cistern system) of the Cost Breakdown (Exhibit 18, as amended). The minimum required storage capacities are 50,000 gallons for potable water and 36,000 gallons for fire-protection water, as established in Item 10 of this Addendum.

22. Reference: Exhibit 17 – Alternate; Attachment 1 – Potable Water Storage; Page 4 – 5; 16

Question: Please define the scope and required capacity of the Water Storage Reservoir Alternate and state whether it supplements or replaces the 150,000-gallon potable-water cistern.

Answer: The Water Storage Reservoir Alternate is deleted and its scope (the Fire Cistern and the Potable Water Cistern of the building) is incorporated into the Base Bid; it neither supplements nor replaces a separate cistern. The minimum required storage capacities are 50,000 gallons for potable

water and 36,000 gallons for fire-protection water, as established in Item 10 of this Addendum, which supersedes the 150,000-gallon capacity referenced in Attachment 1. The Design-Builder shall verify these capacities against the Project demands, NFPA 13, 14, 20 and 22, PRASA requirements and the other applicable codes, and shall provide any greater capacity so required, at no additional cost to ASEM.

35. Reference: Attachment C, Section 5.9.4.8 – Utility Capacity and Points of Connection, Page 50

Question: Please provide current available-capacity and approved-connection data for potable water, sanitary sewer, and storm drainage.

Answer: ASEM is providing the available record information regarding the existing sanitary sewer system through Exhibit XVI of this document. No additional record drawings of the existing sanitary sewer system are available. The connection-point plan of the campus water-ring project (by others), referenced during the site visit, will not be furnished. Coordination of connection points shall be performed in accordance with the response to Question 268. All information provided is furnished for reference purposes only and without representation or warranty as to its completeness, accuracy, current condition, or available capacity. The Design-Builder shall verify field conditions and determine the suitability of the information for its intended use.

42. Reference: DBIA 535, Section 3.2.1.5; Attachment C, Section 8.9, Page 8; 144

Question: Please provide all available record drawings for the existing ASEM Central Services Building at the required connection and tie-in locations.

Answer: Record drawings available to ASEM for the existing Main Building at or related to the identified connection and tie-in areas are being provided as part of Addendum No. 4. These documents include available architectural, structural, plumbing, electrical, and basement drawings of the existing ASEM Main Building.

Proposers shall review the drawings provided in Addendum No. 4 and independently verify existing field conditions, dimensions, utilities, connection points, capacities, and any conditions affecting the design and construction of the Work. The information provided is for reference purposes and does not relieve the Design-Builder of its responsibility to investigate, validate, and confirm all existing conditions relevant to the Project prior to design, construction, and tie-in activities.

46. Reference: Attachment C, Section 5.2.1; Attachment A – Heliport Notes, Page 24; Sheet A-1.12

Question: Please provide the existing ASEM heliport FAA determinations, current operating status, and approved approach/departure paths.

Answer: ASEM does not have, for distribution during this procurement, FAA determinations or approved approach and departure paths for the existing heliport other than those included in the RFP Documents. Any additional information in ASEM's possession will be furnished to the selected Design-Builder after award, for reference only and without representation or warranty. The Design-Builder shall obtain all FAA determinations required for the new heliport, including the airspace review under FAA Form 7480-1, and shall independently verify all operational, airspace and flight-path requirements, at no additional cost to ASEM (see answer to Question 141).

54. Reference: Attachment F; Exhibit 17, Article 3.1, various; 5

Question: Please provide a procurement and installation responsibility matrix for all items listed in Attachment F, identifying OFOI, OFCI, and Contractor-furnished items.

Answer: The Design-Builder is responsible for procurement, taxes, freight (FOB/CIF ASEM), packaging, delivery, receipt, storage, installation (including all materials, accessories, anchorage, and utility/IT connections), testing, commissioning coordination, training, manuals, warranty, and spare parts. ASEM's role includes, without limitation, approving pre-installation drawings, confirming utility requirements, certification by the Biomedical Instrumentation Division, CxA, and ASEM's final acceptance. The Design-Builder remains responsible for coordination, receiving, installation, and utility readiness of such items. All items listed in Attachment F are CFCI (Contractor-Furnished, Contractor-Installed). Items designated "Not in Contract" (N.I.C.) in the Bridging Documents and not listed in Attachment F are outside the Contract (see answers to Questions 159 and 387).

a) Procurement and installation responsibility matrix for all items listed in Attachment F

Activity	Design-Builder	ASEM
Quote, literature, and demonstration unit	Provides	Evaluate and approve
Purchase, taxes, freight (FOB/CIF ASEM), packaging, insurance	Yes	No

Delivery, receipt, storage, protection	Yes	No
Preparation drawings (structural, mechanical, electrical, HVAC), 3 weeks prior to installation	Submits	Approves
Installation including all materials, accessories, anchors, and signage/lettering	Yes, with certified staff	No
Electrical, network, UPS, and cabling connections	Integrate and verify	Confirm requirements with Engineering and IT
Testing and commissioning	Yes	Biomedical Presence and CxA
Certification	Delivery of components, tests, and certificates	Issue
Operational training during the two-year warranty period and technical training (2 technicians)	Yes	Designate participants
Manuals (2 sets for operation and 2 for service)	Yes	Receive
Minimum two-year warranty, starting at Substantial Completion of the Project, including spare parts and 24-hour response time. Manufacturers' warranties shall be extended or supplemented by the Design-Builder as necessary so that they do not expire before the end of the Design-	Yes	No

Builder's warranty period under the answer to Question 503.		
Non-compliant equipment	Total cost, with no claims for time or cost	May withhold payments
Final acceptance	No	Yes

b) Items designated N.I.C. are not included in the project scope.

58. Reference: Attachment 1, XV; Attachment D, Item; Attachment 9, Section 2.1.7, Page 65; 1; 5 – 6

Question: Please establish the code and technical-standard edition freeze date applicable to proposal pricing and final design, including the governing FGI edition.

Answer: The Design-Builder shall identify, validate, and comply with all federal, state (Commonwealth), local, licensing, healthcare, FAA, life safety, and regulatory requirements applicable to the Project. The Project shall be based on the codes, standards, regulations, and healthcare guidelines reasonably applicable as of the date of the proposal's submission. The Design-Builder shall apply the codes legally in effect in Puerto Rico, as well as the edition of the FGI Guidelines required by the Puerto Rico Department of Health as of that date.

Following the award, the Design-Builder shall be responsible for tracking and incorporating the regulatory requirements necessary to obtain permits, approvals, licenses, and authorization for occupancy, unless otherwise directed by the ASEM through a written contractual modification. New or amended Laws that are adopted and become mandatory for the Project after the proposal submission date, that could not reasonably have been anticipated on that date, and that materially affect cost or schedule will be addressed under Attachment 1, Section XVI.35 and the Contract change provisions. Laws and code editions published or adopted on or before the proposal submission date, even if their effective date is later, are the Design-Builder's responsibility.

60. Reference: Attachment B, Mechanical General Requirements Section 1.04; Attachment 9, Section 2.21, Page 794; 6 – 7

Question: Does the "better quality, greater quantity, or more costly work" requirement in Attachment B apply only after the contractual order of precedence in Attachment 9 has been applied?

Answer: *Yes. Any conflict among Contract Documents of different rank shall first be resolved by the "Contractual order of precedence" established in Item 57 of this Addendum. Section 23 05 13, Article 1.04 applies only to discrepancies between drawings and specifications within the Bridging Documents, which are documents of the same rank. In such cases, the more stringent requirement, the better quality, the greater quantity or the more costly work shall govern and shall be included in the Proposal (see answers to Questions 186 and 200). The reference in Article 1.04.A to the "Engineer" deciding disagreements shall be read as a reference to ASEM, acting through the Contract procedures. The Design-Builder's Engineer of Record has no authority to resolve conflicts or discrepancies in the Contract Documents*.

74. Reference: Attachment 1, Section II.e and Section VII PDF file pages: 233 – 234; 268 – 269

Question: Please identify any ASEM-specific operational restrictions applicable to Phase II construction while the basement and first floor are in service, particularly permitted work hours, noise and vibration limits, and allowable utility shutdowns.

Answer: The Project shall be completed within fifty-four (54) months from issuance of the Notice to Proceed. The Design-Builder shall plan and execute all work in a manner that protects patient care, public safety, hospital operations, emergency response capability, regulatory compliance, and continuity of services during the continuous operation of the adjacent ASEM and Centro Médico healthcare facilities.

The Design-Builder shall be responsible for developing and implementing all required infection-control measures, Interim Life Safety Measures (ILSM), noise and vibration controls, utility-transition plans, shutdown procedures, work-hour restrictions, logistics plans, and mitigation measures necessary to prevent disruption of healthcare operations. Any required shutdowns, interruptions, or operational impacts shall be subject to prior Owner review, coordination, and approval.

The work shall be in accordance with the approved ICRA/ILSM plans and the Operational Continuity Plan.

Environmental Controls, Safety Measures, and Operational Coordination During Construction

Depending on the nature of the work, its location within the Project, and its proximity to active hospital and administrative facilities, the Design-Builder shall consider and implement, at a minimum, the following requirements:

1. *Noise Control and Work Hour Restrictions*

   Where construction activities may generate noise levels capable of adversely affecting patient care, patient rest periods, or the operations of adjacent hospital and administrative facilities, appropriate administrative and operational controls shall be implemented to mitigate such impacts.

   When noise-generating activities are determined to pose a significant risk of disruption to occupied healthcare areas, such activities may be restricted to the hours of 8:00 a.m. through 5:00 p.m., seven (7) days per week, or to such other hours as may be established or approved by the ASEM to protect the health, safety, and well-being of patients, visitors, and facility personnel.

2. *Noise Monitoring and Regulatory Compliance*

   The Design-Builder shall be responsible for performing all necessary noise assessments, measurements, and monitoring activities required to verify compliance with applicable regulatory requirements and to protect workers and occupants of nearby facilities.

   At a minimum, compliance with the following standards shall be considered:

   - *OSHA 29 CFR 1910.95, Occupational Noise Exposure (General Industry);*
   - *OSHA 29 CFR 1926.52, Occupational Noise Exposure (Construction Industry);*

- *OSHA 29 CFR 1926.101, Hearing Protection (Construction Industry); and Puerto Rico Regulation for the Control of Noise Pollution (Regulation 8019, DRNA), as stated in the answers to Questions 234 and 235.*

Noise evaluations shall be conducted whenever construction activities may result in the exposure of employees, patients, visitors, or other occupants to elevated noise levels.

3. Vibration Control

Where construction activities have the potential to generate vibrations that may impact adjacent buildings, structures, sensitive equipment, or occupied facilities, the Design-Builder shall employ construction methods, procedures, and equipment designed to minimize such effects.

The Design-Builder shall also implement all necessary preventive and corrective measures to avoid damage to existing infrastructure and to minimize adverse effects on the health, safety, and comfort of patients, visitors, and facility personnel.

4. Interim Safety Measures

Prior to the commencement of each area or stage of work, applicable Interim Safety Measures (ISM) and/or Interim Life Safety Measures (ILSM) shall be developed and implemented based on a project-specific risk assessment.

Such measures should be established sufficiently in advance of each construction area or stage and shall address a comprehensive evaluation of construction-related risks, including, but not limited to, noise, vibration, access control, circulation routes, operational safety, occupant protection, and infection prevention and control requirements.

5. Institutional Coordination

The Design-Builder's designated Health and Safety Officer shall maintain continuous coordination with ASEM's Health and Safety Officer, Engineering Service and Infection Control Department. Coordination with adjacent institutions not administered by ASEM shall be conducted exclusively through ASEM, which will issue any resulting instructions in writing (see answers to Questions 235(h) and 236).

ASEM Reservation of Rights

The ASEM reserves the right to impose additional restrictions regarding work hours, construction sequencing, noise control, environmental monitoring, vibration mitigation, operational safety measures, or other requirements deemed necessary to protect patients, staff, visitors, ongoing healthcare operations, and existing facilities. Compliance with requirements consistent with the Contract Documents and the approved ICRA/ILSM and Operational Continuity plans shall not constitute a compensable change to the Contract. Restrictions materially more stringent than those established in the Contract Documents and the approved plans, imposed for reasons not attributable to the Design-Builder, shall be addressed as stated in the answer to Question 237.

In addition, the Design-Builder shall comply with the Puerto Rico Regulation for the Control of Noise Pollution (Regulation 8019, administered by DRNA), under which the adjacent hospitals and clinics are Zone IV (tranquility zones), including its noise limits, its prohibition of the operation of construction equipment during the nighttime period, and its vibration provisions, and shall obtain, at its own cost and risk, any compliance plan or variance required for its means and methods (see answer to Question 235).

87. Reference: Attachment 1, Section II.i.2-3; Attachment C, Section 5.9.2 PDF file pages: 236 – 237; 1885 – 1886, Page 7 – 8; 44 – 45

Question: Please provide the current Environmental Review Record, environmental and Section 106 determinations, mitigation commitments, and AUGF status. Identify outstanding approvals, anticipated release dates, and restrictions affecting investigations, early work, or construction.

Answer: As of the date of this Addendum, PRDOH, as Responsible Entity under 24 CFR Part 58, has not released the Environmental Review Record (ERR), the Section 106 determinations or the associated mitigation commitments, and

the Authority to Use Grant Funds (AUGF) has not been issued. If released before the Proposal Submission Deadline, they will be issued by Addendum. If released after that date, any mitigation measure that materially changes the Work and could not reasonably have been anticipated from the RFP Documents will be addressed in accordance with the Contract change provisions. ASEM does not guarantee any release date. In accordance with 24 CFR 58.22, no choice-limiting action shall be undertaken, and no Notice to Proceed for such actions will be issued, until the AUGF has been issued (see answer to Question 231(b)).

95. Reference: Section 9.2.1, Page 40

Question: Section 9.2.1 states that the sealed proposal package shall contain the "original document and copies (printed and PDF)," but does not specify the number of printed copies required. Please confirm the total number of physical hard-copy proposal sets that the Proposer must submit, including the original.

Answer: Refer to item 28 of this document.

131. Reference: General Project History

Question: Was a contractor previously engaged for planning, preconstruction, design assistance, or related services for this project?

Answer: Yes. As identified in Attachments A, B, and C, De La Torre & Estévez Architects and the subconsultants identified on the applicable title sheets and cover pages previously participated in the preparation of the Bridging Documents and related planning, preconstruction, design-assistance, and project-development activities.

Pursuant to 2 CFR 200.319(b) and the RFP requirements, De La Torre & Estévez Architects, its affiliates, participating subconsultants, and any personnel involved in the preparation, development or draft of specifications, requirements, statements of work, or invitations for bids must be excluded from competing directly or indirectly, in this procurement as a Proposer, joint-venture member, subcontractor, consultant, or member of any Proposer's team.

This restriction is intended to eliminate actual or perceived organizational conflicts of interest and to ensure a fair and open competitive procurement process. Proposers are responsible for verifying that no prohibited firm, affiliate, subconsultant, or individual participates in their proposed team. Any

participation inconsistent with these requirements may result in disqualification of the proposal.

136. Reference: Not specified

Question: Will the Owner provide a geotechnical report for the project site, including recommendations for shallow and deep foundations? In addition, have any supplemental geotechnical investigations been completed regarding liquefaction potential, differential settlement, slope stability, seismic site response, or other subsurface conditions that should be incorporated into the design?

Answer: See the Geotechnical Report (Exhibit XVII) and the answer to Question 12. The report includes recommendations for two foundation alternatives, a mat/raft foundation (Section 3.1.2) and drilled shafts/CFA piles (Section 3.1.3); a liquefaction evaluation (Sections 2.3.1 and 3.1.1); estimated settlements (Section 3.1.2); and a Site Class recommendation. No site-specific seismic response study, slope-stability study or other supplemental geotechnical investigation has been performed. The Design-Builder shall perform any such investigation or study required by its design.

152. Reference: 7.2 Deliverables, Page 18 of 98 PDF 30

Question: Execution period for first phase as indicated in project documents is 21 months. That can't be achieved due to estimated deliveries of major equipment required for this area to be operational such as emergency generators, transformers, panelboards, chillers, cooling towers, etc.

Answer: The RFP documents require the Design-Builder to achieve Functional Operation, Substantial Completion (including the completion of all commissioning activities) and Final Completion of the entire Project within the fifty-four (54) month Period of Performance established in RFP Section 7.2, as amended. The Design-Builder is responsible for developing a detailed execution strategy and schedule demonstrating its approach to achieving the required completion date. The procurement strategy, construction sequencing, commissioning activities, and management of long-lead equipment are responsibilities assigned to the Design-Builder. The documents specifically contemplate the need for early procurement packages, long-lead equipment management, critical path control, and recovery planning. Proposers are expected to incorporate appropriate procurement and scheduling strategies to meet the required milestone.

154. Reference: Attachment No. 1 Scope of Works, Pages 13 – 85

Question: Please clarify the following; in the scope of work (attachment # 1), item # 18 of electrical scope section B, there is a statement that mention an existing substation #1359 (38KV @ 4,160V) in which we will have to tap via an automatic transfer switch (ATS) the new substation which is @ 13. 2KV. They are different voltages and their location is opposite sides as per drawing GL-1.0 and existing utilities drawing E-4.

Answer: *The secondary underground feed from Substation 1359 required by Attachment 1, Section II.i.18.b is part of the Project's redundancy strategy. Because Substation 1359 is subject to a separate modernization project by others, the Design-Builder's scope for this feed is limited to: (a) a spare medium-voltage bay and the medium-voltage automatic transfer provisions in the new 13.2 kV switchgear; (b) a complete underground duct bank, with spare conduits and manholes, from the new switchgear to the boundary of Substation 1359 indicated by ASEM; and (c) protection, controls and interface provisions for future connection. Conductors, voltage transformation and the termination at Substation 1359 will be performed by others. The Design-Builder shall coordinate the interface with ASEM and LUMA and shall not assume that this feed is available to achieve Functional Operation or Substantial Completion*.

158. Reference: Section 8.18, 48/1892 of 2173

Question: Please identify all studies available to proposers, including geotechnical investigations, tie-in utility studies, preliminary utility and infrastructure agency approvals or consultations, environmental reports, traffic analyses, drainage analyses, resiliency studies, airspace studies, and previous design-phase reports.

Answer: The studies and reports available to Proposers are those included in the RFP Documents and Addendum, namely: the Bridging Documents (Attachments A, B and C) and the Bridging Documents Final Report; Attachment D (SARPS Recommendations); Attachment E (ASEM's Requirements); Attachment G (Utilities Plans, historical record information); the Micro Grid Project Assessment (informational only, see answer to Question 31); and, when issued the Environmental Review Record documents (see answers to Questions 87 and 136). No other geotechnical, utility, agency-consultation, traffic, drainage, resiliency, airspace or design-phase studies will be furnished. Information furnished for reference does not relieve the Design-Builder of its obligation to perform the investigations, studies and analyses assigned to it by the RFP Documents.

Refer to Exhibit XVII (Geotechnical Report) of this document.

159. Reference: Section 7.2

Question: The Scope of Work references hospital and medical equipment coordination as part of the Design-Builder's responsibilities. Please clarify the intended medical equipment delivery model for the Project. Specifically:

a. Which medical equipment categories are anticipated to be procured directly by ASEM versus procured by the Design-Builder?

b. Are any Owner-Furnished/Contractor-Installed (OFCI) or Owner-Furnished/Owner-Installed (OFOI) equipment packages anticipated?

c. Is the Design-Builder responsible only for coordination and integration of medical equipment, or also for procurement, installation, commissioning, startup, and turnover of selected equipment?

d. Is a medical equipment planning consultant expected to be provided by the Design-Builder team?

Answer: (a) All hospital and medical equipment listed in Attachment F is furnished and installed by the Design-Builder under Allowance Item 1 (Hospitaller and Medical Equipment). ASEM does not anticipate procuring Attachment F equipment directly.

(b) No. The Project does not include Owner-Furnished/Contractor-Installed (OFCI) or Owner-Furnished/Owner-Installed (OFOI) equipment. Items designated "Not in Contract" (N.I.C.) in the Bridging Documents and not listed in Attachment F are outside the Contract (see answer to Question 387).

(c) For Attachment F equipment, the Design-Builder is responsible for selection (subject to ASEM approval), procurement, delivery, installation, testing, commissioning coordination, start-up, training and turnover.

(d) Yes. The Design-Builder's team shall include a qualified medical equipment planner.

161. Reference: Section 7.2, 30 of 2173

Question: Are the Execution Periods identified inclusive of design, permits, procurement, construction, commissioning, activation, operational-readiness, etc?

Answer: Yes. As stated in the answer to Question 7, the Period of Performance is all-inclusive. The fifty-four (54) month Period of Performance runs from the Notice to Proceed and includes studies, investigations, design, permits and endorsements, procurement, construction, testing, commissioning and the activities required to achieve Functional Operation, Substantial Completion and Final Completion of the entire Project (see RFP Section 7.2, as amended, and the answer to Question 229).

163. Reference: Attachment: Scope of Works, 268 of 2173

Question: Does building envelope expected as deliverable for First Phase execution period (basement and first floor) include building envelope for Second Phase scope (second through ninth floors, including helipad)?

Answer: See answer to Question 229, which defines the scope required for the Substantial Completion.

164. Reference: Attachment 1: Scope of Works, 268 – 2173

Question: Are the elevators and vertical transportation expected as deliverable for First Phase execution period (basement and first floor) include the Second Phase scope (second through ninth floors, including helipad)?

Answer: See answers to Questions 163 and 229.

174. Reference: Related to Article 7.2, 30 of 2173

Question: May Phase II activities overlap with Phase I activities, and if so, what limitations apply?

Answer: The entire Project shall be completed within the fifty-four (54) months overall Period of Performance from the Notice to Proceed established in RFP Section 7.2, as amended.

175. Reference: Attachment F, 2039 of 2173

Question: Please provide a definitive responsibility matrix identifying Design-Builder Furnished/Installed, Owner Furnished Contractor Installed, and Owner Furnished Owner Installed equipment.

Answer: See the matrices in the answer to Question 54 and the rules in the answer to Question 159, which govern the responsibility for all equipment.

183. Reference: Article 9.2.5.10, 58 of 2173

Question: Does the liquidity requirement apply collectively to the Design-Build team, individually to each joint venture member, or both?

Answer: Refer to item 8 of this document.

204. Reference: General; not related to any Section.

Question: Please clarify the extent to which the Design-Builder may rely upon the Bridging Documents, Owner Requirements, surveys, geotechnical reports, utility information, and reference documents furnished by ASEM for pricing and design purposes.

Answer: The Design-Builder may rely on:

(a) the requirements expressly designated as mandatory in the RFP Documents, subject to the answer to Question 195; and

(b) the factual technical data identified in the answer to Question 12, as amended by this Addendum.

All other documents and information furnished by ASEM, including the conceptual drawings, narratives, existing-condition drawings, Attachment G, and record information, are furnished for reference only, without warranty, and the Design-Builder shall verify them.

206. Reference: General; not related to any Section

Question: Please confirm that utility rough-ins, supports, controls, commissioning, and infrastructure associated with Owner-furnished equipment are limited to the currently identified planning assumptions.

Answer: The Project does not include Owner-furnished equipment (OFCI, OFOI or SOC); see answers to Questions 159 and 387. All equipment listed in Attachment F is furnished and installed by the Design-Builder under Allowance Item 1, and the building infrastructure required for that equipment (rough-ins, utilities, supports and backing) is included in the Base Bid. The Design-Builder shall obtain the manufacturer cut sheets and utility requirements of the equipment it selects. For pricing purposes, Proposers shall base that infrastructure on the typical requirements of leading manufacturers for each type of equipment.

214. Reference: Bridging Documents Section 5.10.2; Attachment D Section 18 – 19; Attachment E; 57; 8; 6 – 12

Question: Trauma Stabilization / Resuscitation / Observation. Please reconcile 8 stabilization positions plus 8 observation positions and an isolation room with the stated 4-8 resuscitation rooms. Confirm required rooms versus patient positions and whether multipatient rooms are mandatory. Provide trauma volumes, peak simultaneous arrivals, occupancy times and mass-casualty assumptions.

Answer: The Space Program governs: eight (8) trauma stabilization (resuscitation) positions, eight (8) observation positions and one (1) isolation room. The reference to 4–8 resuscitation rooms is a planning range and is superseded by this answer. Multi-patient configurations are permitted where shown in the Bridging Documents and allowed by the FGI Guidelines and the applicable licensing requirements. ASEM will not provide trauma volume data.

215. Reference: Bridging Documents Section 5.10.3; Mechanical Section 8.2.2; Attachment E; 61; 118; 7; 12

Question: ICU Bed Count / Critical-Care Program. Please reconcile the architectural 30-bed ICU program with the mechanical description of 28 private plus 4 isolation rooms. Confirm governing bed/room counts, isolation allocation and acuity criteria. Provide ICU admissions, census, occupancy, length of stay, peak demand, growth and staffing assumptions supporting the requirement.

Answer: The Trauma ICU shall provide a total of thirty (30) ICU beds, as established in the Space Program, of which not fewer than four (4) shall be Airborne Infection Isolation (AII) rooms with anterooms. The mechanical narrative reference to "28 private plus 4 isolation rooms" is superseded by this answer. ASEM will not provide utilization data during this procurement phase.

218. Reference: Bridging Documents Section 5.9.4.3-6; Section 6.4 – 6.5; Section 6.12.1, 48 – 50; 67 – 69; 79 – 80

Question: Geotechnical / Shoring / Dewatering Basis. Please provide available geotechnical reports, borings, groundwater data and adjacent foundation records, with their status and permitted reliance. Confirm required supplemental investigations, governing excavation/shoring and dewatering criteria, adjacent-building monitoring limits, discharge requirements and allocation of differing subsurface-condition risk.

Answer: See the Geotechnical Report (Exhibit XVII), including Sections 3.1.4 (Basement Walls), 3.1.5 (Required Excavation) and 3.3 (Construction Considerations), and the answer to Question 12 regarding reliance. ASEM does not have foundation records of the adjacent buildings other than the record drawings included in Exhibit XVI. The design of excavation support, dewatering and discharge (including the permits required by DRNA and EPA), the monitoring limits for adjacent buildings, and the pre-construction condition surveys are the Design-Builder's responsibility, subject to ASEM's acceptance before excavation begins (see answer to Question 78). The allocation of differing subsurface-condition risks is stated in the answers to Questions 12, 15 and 127.

221. Reference: Attachment 1 Scope Section XII – Commissioning, 47 – 57

Question: Commissioning Responsibility. Please confirm the commissioning scope and systems, who retains/pays the independent CxA, and the role of any Owner commissioning representative. Define responsibilities for plans, testing, integrated systems tests, seasonal/deferred tests, training and records; provide acceptance criteria and identify final acceptance authority and required milestones.

Answer: Refer to Exhibit XV of this document.

224. Reference: III.e, 254

Question: Please provide as-built drawings for all adjacent buildings underground basement and service tunnel.

Answer: The record drawings in ASEM's possession of the underground basements and service tunnel of the adjacent ASEM buildings are included in Exhibit XVI of this Addendum. Such drawings are furnished for reference only, without representation or warranty. The Design-Builder shall perform the surveys and subsurface utility engineering (SUE) investigations required by the RFP Documents and shall verify all existing conditions.

226. Reference: RFP Section 8.1 (Schedule), 37

Question: Given the scale and complexity of this design-build project, and so that proposers can fully incorporate ASEM'S responses to the requests for clarification, would ASEM consider a reasonable extension of the proposal due date? We believe this would benefit the quality and completeness of the proposals received.

Answer: See answer to Question 10.

228. Reference: RFP Section 7.2, RFP Section 8.19, RFP Exhibit 17, Attachment 1 Section XVI.38, RFP: 28, RFP: 49, RFP: 295, RFP: 203 – 212

Question: RFP Section 7.2 establishes a maximum execution period of 54 months, with a Phase I Of no more than 21 months, and Exhibit 17 requires the Proposer to certify that period. Per the RFP and Attachment I, Phase I comprises studies, investigations, design, permits and endorsements, and construction of the Basement and First Level through Functional Operation, including the building envelope. Attachment 1 (SII.e) also provides ASEM review periods of at least 30 days per milestone. Phase I further includes design to the FGI Guidelines, the seismic-isolation peer review and manufacturer testing of the isolators, foundations for a deep excavation adjacent to operating hospitals, and interconnection to existing and off-site infrastructure. Considering the magnitude of this scope: (a) Would ASEM consider additional time for Phase I, or an alternative schedule proposed by the Proposer? (b) If so, would such a proposal be considered responsive, notwithstanding the certification required in Exhibit 17 and RFP §8.19, if presented in the deviations matrix required by Attachment I §XVL38, and how would it be evaluated under Section 10.1.2.4? (c) If not, please confirm that the 21-month period was established taking into account the review periods of ASEM and of the agencies with jurisdiction.

Answer: (a) The entire Project shall be completed within the fifty-four (54) months overall Period of Performance from the Notice to Proceed established in RFP Section 7.2, as amended.

(b) No. The fifty-four (54) month Period of Performance is a mandatory requirement of the RFP and is not subject to deviation. A Proposal that offers a Period of Performance longer than fifty-four (54) months, or that conditions its schedule on additional time, whether presented in the deviations matrix of Attachment 1, Section XVI.38, or otherwise, will be considered non-responsive. Within that period, the Proposer's execution strategy and schedule will be evaluated under RFP Section 10.1.2.4.3, as amended. The Period of Performance commences on the effective date stated in the Notice to Proceed issued by ASEM. ASEM reserves the right, but shall have no obligation, to issue a limited Notice to Proceed after Contract award for the procurement of approved long-lead equipment and materials; any such authorization, if issued, shall be at ASEM's sole discretion, shall be subject to the terms and conditions of the Contract, and shall not commence, extend, or otherwise modify the fifty-four (54) month Period of Performance.

(c) Proposers are responsible for preparing schedules that account for ASEM's review periods (see answer to Question 89) and the review periods of the

agencies with jurisdiction. The Design-Builder assumes all risks associated with obtaining permits, approvals, certifications, reviews, endorsements, and governmental authorizations required for performance of the Work.

229. Reference: RFP Section 7.2; RFP Section 10.1.2.4.3, RFP Section 1.0, Attachment 1 Section VII.1, RFP: 28, RFP: 90, RFP: 13, RFP: 268

Question: The documents define the scope of Phase I differently: (i) RFP §7.2 and Attachment 1 §VII.1 limit it to the Basement and First Level through Functional Operation, including the envelope and excluding the heliport; (ii) Attachment I includes in that phase the nine-level superstructure, the envelope, heliport access and the elevator cores; and (iii) RFP §10.1.2.4.3 requires completion of the entire hospital structure and operability Of the Emergency level Within 21 months. Please clarify: (a) What scope must be completed to achieve "Substantial Completion of Phase I", which is subject to liquidated damages of $25,000 per day? (b) Considering the definition of "Functional Operation" in RFP §1.0 (item 37), Which requires the phase to be "certified" and available for "occupancy, activation", Which third-party approvals (e.g., use permit, Department of Health license) are a condition to achieving the Phase I milestone? (c) Is the requirement in RFP §10.1.2.4.3 a contractual milestone subject to liquidated damages, or only an evaluation criterion?

Answer: (a) Substantial Completion, which is the milestone subject to liquidated damages, is achieved only as a whole, and not by completion of individual components, systems, floors or portions of the Work.

(b) Achievement of the milestone requires all inspections, tests, commissioning activities, certifications, permits and approvals that are the Design-Builder's responsibility under the Contract Documents for the lawful occupancy and use of the facilities, including the Department of Health plan reviews and facility inspections applicable to the design and construction of the facility. The issuance of ASEM's operating license, accreditations and ACS verification is not a condition of the milestone. However, the Design-Builder shall support those processes and shall correct, at its cost, any facility deficiency identified in them that results from non-compliance with the Contract Documents (see answer to Question 72).

(c) The Contract does not establish interim or phase milestones. The milestones subject to liquidated damages are Substantial Completion and Final Completion of the entire Project, both of which shall be achieved within the fifty-four (54) month Contract Time established in RFP Section 7.2, as amended. RFP Section 10.1.2.4.3, as amended, is an evaluation criterion for the Proposer's execution strategy and schedule and does not create an

additional milestone. In accordance with RFP Section 12.4.4, as amended, liquidated damages shall apply as follows: (i) twenty thousand dollars (US$20,000.00) per calendar day for each day after the expiration of the Contract Time until Substantial Completion is achieved; and (ii) once Substantial Completion has been achieved, five thousand dollars (US$5,000.00) per calendar day for each day after the expiration of the Contract Time until Final Completion is achieved. Liquidated damages under items (i) and (ii) shall not accrue for the same calendar day. Liquidated damages shall accrue from the day following the expiration of the Contract Time, as adjusted only by a duly executed Change Order or written time extension, until ASEM determines in writing that all requirements of the applicable milestone have been satisfied, on the basis of the Design-Builder's written certification and supporting documentation. Beneficial occupancy, partial operation, phased use or the completion of individual systems or floors shall not constitute achievement of either milestone or limit ASEM's right to assess liquidated damages.

234. Reference: Attachment C Section 5.9.4.9, Attachment 8 Section 6.2.2, Attachment C Section 6.5.3, Attachment E Regulation 7998 (Attachment 8) Appendix B Section 31 21 60, RFP: 706 – 827 Appendix B: 292 – 293, Attachment C: 72, 91

Question: The documents require the proposer to describe noise and vibration controls and an "Operational Impact Mitigation Plan" and require the internal traffic plan to include "Permitted hours". Attachment C §5.9.4.9 States that monitoring thresholds "shall be established when appropriate to the identified risk". Regulation 7998 (Attachment 8, §6.22 and §9.1.2.2.1) only provides that work be performed during "regular working hours" and requires Written consent for work on Saturdays, Sundays and holidays. However, we have not identified in the RFP or its attachments: the regular working hours applicable to this project; measurable noise (dBA) or vibration limits (e.g., peak particle velocity); the alert and action threshold values for the required monitoring programs (Appendix B, Section 31 21 60; Attachment C §6.5.3); or coordination protocols with the adjacent operating facilities (ASEM Central Services Building, Oncology Hospital and San Juan Municipal Hospital). In addition, Attachment E refers to an "Appendix O: Noise Conservation program" that is not included. Please indicate whether such requirements exist and, if so, provide them by addendum. If they do not exist, please indicate who will establish them, at what stage, and Who Will approve them (ASEM, the adjacent facilities or another entity).

Answer: The applicable requirements are those of the Puerto Rico Regulation for the Control of Noise Pollution (Regulation 8019, administered by DRNA), under which the adjacent hospitals and clinics are Zone IV (tranquility zones),

and those stated in the answers to Questions 74 and 235. The measurable limits are:

- *those of Regulation 8019, Table 1 for Zone IV receptors (L10 of 55 dBA daytime and 50 dBA nighttime, with the corrections of Rule 37);*
- *the nighttime prohibition of construction equipment of Rule 21(A)(4); and*
- *the prohibition of perceptible vibration at or beyond the property line of Rule 21(A)(13);*
- *unless a DRNA compliance plan or variance provides otherwise.*

The Design-Builder shall establish, in its Noise and Vibration Control and Monitoring Plan and its excavation-monitoring program, alert and action thresholds that do not exceed those limits. These thresholds shall be based on its pre-construction surveys and equipment sensitivity evaluations and are subject to ASEM's approval before the start of the activities concerned. ASEM will coordinate with the adjacent facilities not administered by ASEM; their requests shall be channeled exclusively through ASEM (see answer to Question 236).

The document referred to in Attachment E as "Appendix O: Noise Conservation Program" corresponds to Annex O, "Hearing Conservation Program" ("Programa de Conservación Auditiva"), of ASEM's current safety management plan. It is provided in its original Spanish-language version as Exhibit X to Addendum No. 4 (see Item 46). It is an informational document. The Design-Builder shall take it into consideration in preparing its Noise and Vibration Control and Monitoring Plan, to the extent applicable to ASEM's patients, visitors and employees. It does not replace or reduce the requirements of Regulation 8019, OSHA (29 C.F.R. 1926.52 and 1926.101), or the other Contract Documents, which shall govern in the event of any conflict.

235. Reference: Attachment 9 §9.4.3 Regulation 7998 (Attachment 8), RFP: 861

Question: Did the execution period established in Section 7.2 (54 months, with a 21-month Phase I) consider work-hour, noise and vibration restrictions arising from the continuous operation of the adjacent hospital facilities? If so, please indicate the assumptions used (working hours and days per week, restricted or prohibited activities, and availability of night or weekend work). Please also confirm the hours ASEM Will consider "regular working hours" under Regulation 7998 §6.2.2, and the criteria for authorizing extended- hours, night or weekend work (§9.1.2.2). Further, if the Recovery Measures in Attachment

g §9-4.3 (six-day weeks, extended shifts or double shifts) are incompatible with such restrictions, how would the Contractor's obligation be adjusted?

Answer: (a) Contract Times and scheduling assumptions. The Contract Times established in RFP Section 7.2, as amended (fifty-four (54) months), are mandatory. ASEM does not provide, and Proposers shall not rely on any Owner assumption regarding crew sizes, shifts, work hours or means and methods. Each Proposer shall develop its schedule, staffing, sequencing and pricing, incorporating the restrictions stated in this answer and in the other RFP Documents. Restrictions stated in the RFP Documents or in this Addendum, and those arising from Laws in effect on the proposal submission date, shall not constitute grounds for an extension of the Contract Time or an increase in the Contract Price.

(b) Regular working hours. For purposes of Regulation 7998, Section 6.2.2, regular working hours are Monday through Friday, 8:00 a.m. to 5:00 p.m., excluding Puerto Rico and federal holidays.

(c) Noise-Sensitive Areas and work hours. The adjacent hospitals and clinics are Zone IV – Zones of Tranquility under the Puerto Rico Regulation for the Control of Noise Pollution (Regulation 8019, administered by the Department of Natural and Environmental Resources, DRNA). "Noise-Sensitive Areas" means the occupied patient-care, sleeping, procedural, diagnostic-imaging and laboratory areas of ASEM and of the adjacent healthcare facilities, including the ASEM Central Services Building and the other institutions that comprise the Centro Médico complex (among them the Oncology Hospital and the San Juan Municipal Hospital). The Centro Médico complex is composed of eleven (11) institutions; each institution other than ASEM constitutes a separate property for purposes of Regulation 8019. (i) In accordance with Rule 21(A)(4) of Regulation 8019, construction, repair and demolition equipment shall not be operated during the nighttime period (10:01 p.m. to 6:59 a.m.), except for emergency work as defined in that Regulation or as authorized in a compliance plan or variance (exemption) approved by DRNA; vehicles and auxiliary equipment shall not idle within 150 feet of a tranquility zone during the nighttime period. (ii) In addition, activities that may transmit noise or vibration to Noise-Sensitive Areas, including demolition, impact or hydraulic hammering, saw-cutting, coring and drilling into existing structures, sheet-pile or soldier-pile installation, mass excavation and compaction, shall be performed only between 8:00 a.m. and 5:00 p.m., on any day, unless ASEM approves otherwise in writing within the daytime period of Regulation 8019. (iii) Blasting and impact pile driving are not permitted.

(d) Noise and vibration limits and monitoring. Noise received at the property line of each adjacent institution containing Noise-Sensitive Areas shall not exceed the limits of Table 1 of Regulation 8019 (Rule 26) for Zone IV (Tranquility) receptors, regardless of the zone of the emitting source (L10 of 55 dBA during the daytime period and 50 dBA during the nighttime period, with the background-noise corrections of Rule 37), and vibration shall not be perceptible at or beyond the property line of the source, as required by Rule 21(A)(13). If the Design-Builder's means and methods cannot comply with these limits, the Design-Builder shall obtain from DRNA, at its sole cost and risk and before beginning the activities concerned, a compliance plan or variance under Rules 44 and 45 of Regulation 8019 and shall include in its schedule the public-notice, hearing, and review periods required by Rules 44 through 46. The Design-Builder shall submit any such request to ASEM for review before filing it and shall comply with the limits and conditions imposed by DRNA.

Before mobilization, the Design-Builder shall submit for ASEM's approval a Noise and Vibration Control and Monitoring Plan that includes pre-construction condition surveys and baseline noise and vibration measurements at the adjacent buildings; sensitivity evaluations of medical and laboratory equipment; continuous monitoring with real-time alarms at representative locations; and alert and action levels that shall not exceed the regulatory limits or those of any approved DRNA compliance plan or variance, and that shall protect adjacent structures and sensitive equipment on the basis of recognized criteria (including the FTA Transit Noise and Vibration Impact Assessment Manual and the equipment manufacturers' criteria). ASEM may establish in the approved plan internal alert levels more stringent than the regulatory limits. When a regulatory or approved limit is exceeded, or a patient-care impact is verified and notified by ASEM, the Design-Builder shall immediately stop the activity, implement corrective measures and resume only with ASEM's authorization, at its own cost and without any extension of the Contract Time. Approval of the plan shall not relieve the Design-Builder of its responsibility for any damage to adjacent structures, equipment or operations, and the Design-Builder shall indemnify and hold ASEM harmless from any penalty, order or claim issued under Act 416-2004 (Environmental Public Policy Act) or Regulation 8019 as a result of its activities.

(e) Extended hours and weekends (Regulation 7998, Section 9.1.2.2). Work outside regular working hours may be authorized only within the daytime period of Regulation 8019 (7:00 a.m. to 10:00 p.m., any day). Work during the nighttime period that requires the operation of construction equipment is permitted only for emergency work or under an approved DRNA compliance plan or variance. Any work outside regular working hours requires a written

request submitted at least five (5) business days in advance describing the activities, location, equipment, crew size, expected noise and vibration levels, mitigation measures and coordination with ASEM's operations. ASEM will evaluate each request considering its potential impact on patient care and hospital operations, compliance with items (c) and (d), safety, and the availability of ASEM supervision and inspection; approval will not be unreasonably withheld for activities that comply with those items, may be subject to conditions, and may be suspended at any time if patient care is affected. The cost of work outside regular working hours, including overtime under the Contract Work Hours and Safety Standards Act (40 U.S.C. § 3702), the Davis-Bacon requirements and Puerto Rico labor laws (including Act 379 of May 15, 1948 and Act 289 of April 9, 1946, as amended), and the cost of any supervision required by ASEM, is included in the Contract Price.

(f) Recovery Measures. The Recovery Measures of Attachment 9, Section 9.4.3 shall be implemented within the daytime period of Regulation 8019 and the restrictions of this answer; night shifts operating construction equipment are permitted only under an approved DRNA variance. Where six-day weeks, extended shifts or double shifts cannot be used for a given activity, the Design-Builder shall implement, at its own cost, other measures such as additional crew or equipment, resequencing, prefabrication, off-site work and the shifting of quiet work to permitted hours. Because these restrictions arise from the RFP Documents and from Laws in effect on the proposal submission date, they do not relieve the Design-Builder of its obligation to meet the Contract Times and do not entitle it to an extension of the Contract Time or an increase in the Contract Price. Only restrictions imposed by ASEM in writing that are materially more stringent than those established in the Contract Documents, the applicable Laws and the approved plans, for reasons not attributable to the Design-Builder, shall be evaluated as provided in the answer to Question 237.

(g) Regulatory compliance. The Design-Builder shall comply with all applicable requirements, including: Regulation 8019 (DRNA) and Act 416-2004; applicable municipal ordinances; the Puerto Rico Occupational Safety and Health Act (Act 16 of 1975) and the PR OSHA standards, including 29 CFR 1926.52 and 1926.101 with respect to its workers; NFPA 101 (edition adopted by CMS) and NFPA 241; the pre-construction risk assessment, infection control risk assessment (ICRA) and Interim Life Safety Measures (ILSM) requirements of The Joint Commission, CMS (42 CFR 482.41 and 482.42) and the FGI Guidelines; and any noise or vibration mitigation commitments contained in the Project's Environmental Review Record. These requirements are without prejudice to ASEM's own obligations as an employer under 29 CFR 1910.95.

(h) Interim measures and coordination. For each area of work, the Design-Builder shall prepare its ICRA, Pre-Construction Risk Assessment and ILSM plans and submit them to ASEM at least twenty-one (21) calendar days before the start of the work concerned. ASEM will review them within ten (10) business days after receipt of a complete submittal, and the work may not begin without ASEM's written approval. The Design-Builder's Health and Safety Officer shall coordinate continuously with ASEM's Health and Safety Officer, Engineering Service and Infection Control Department. Coordination with adjacent facilities not administered by ASEM shall be conducted exclusively through ASEM, which will issue any resulting instructions in writing (see answer to Question 236).

242. Reference: RFP §10.1.6, RFP Exhibit 17, RFP: 94, RFP: 203 – 212

Question: Exhibit 17 includes a contingency for unforeseen conditions (soils, concealed interferences, conflicts with unidentified utilities, archaeological findings) and minor variations, in addition to the medical equipment and FF&E allowances. Please clarify: (a) Whether differing site conditions Will be paid first from this contingency, and through change orders only once it is exhausted; (b) whether use of the contingency will carry a corresponding adjustment of contract time; (c) the procedure and approval period of ASEM and PRDOH for its use, including the three-quote requirement; (d) the treatment of any unused balance; and (e) whether the three allowances form part of the evaluated price under the formula in RFP §10.1.6.

Answer: (a) Costs arising from conditions that qualify as Differing Site Conditions under Attachment 9, Sections 4.2 and 4.3, which prevail over DBIA 535 and Regulation 7998 to the extent of any inconsistency, and for which the Design-Builder has complied with the applicable notice and documentation requirements, shall be addressed in accordance with the Contract Documents. The Contingency is intended to fund eligible changes approved by ASEM and PRDOH within the limits established in the Contract and does not create any rights, remedies, or compensation beyond those expressly provided in the Contract Documents. Any use of the Contingency shall be subject to prior written authorization by ASEM and the availability of funds. Once the contingency is exhausted, such costs are addressed via change order, contingent upon the certification of available funds required by Puerto Rico law before the Change Order is executed.

(b) The use of contingency funds does not, by itself, constitute grounds for a schedule extension. If the condition necessitating the use of these funds affects the project's critical path, the Design-Builder must request a schedule adjustment within the same approval request, providing a critical path method (CPM) analysis that demonstrates the impact. Any request to utilize

contingency funds must be supported by the documentation required by the ASEM, including a detailed cost proposal.

ASEM will evaluate the request and, if appropriate, issue a determination via a change order.

(c) Use of the Contingency requires a written request from the Design-Builder describing the condition, its cause, the scope of work, a detailed cost proposal supported by at least three (3) quotations for subcontracted work or materials (or by the unit prices and labor rates of the Cost Breakdown, where quotations are not practicable), and any schedule impact supported by a CPM analysis. ASEM will review the complete request and will submit it to PRDOH. Work charged to the Contingency may not begin without prior written authorization, except for emergency measures needed to protect life, property or hospital operations, which shall be notified to ASEM immediately.

(d) Any unused balance is returned to ASEM via a deductive change order and does not constitute profit for the Design-Builder. Reconciliation is performed prior to substantial completion, with a monthly report provided on the balance and projected expenditures.

If the change order is a credit, the amount credited will be the net amount due to the ASEM.

(e) Refer to item 41 of this document.

244. Reference: RFP §12.4.2, Attachment 6 (DBIA 525), Regulation 7998, RFP: 104

Question: RFP §12.4.2(3) and Model contract 55(b) establish a retainage on each construction invoice, without indicating when it is released. Regulation 7998 §13.2.2.1.2 provides for release of 50% upon certification of substantial completion, and DBIA 525 §7.2 contains its own provisions with blank fields. Please clarify: (a) the timing and conditions for release of retainage; (b) Whether retainage corresponding to Phase I Will be released upon its Substantial Completion; and (c) the payment period for approved invoices and whether interest will apply to late payments.

Answer: (a) Retainage shall be withheld and released in accordance with RFP Section 12.4.2 and Regulation 7998, Section 13.2.2.1.2: fifty percent (50%) of the retained amount will be released upon ASEM's certification of Substantial Completion of the entire Project, and the balance upon Final Completion and acceptance, delivery of all close-out documentation,

warranties and as-built records, and satisfaction of any outstanding obligations.

(b) See answer (a) above.

(c) Approved invoices will be paid within the period established in the Contract and the applicable Puerto Rico law; interest on late payments will apply only as required by applicable law. The blank fields of DBIA 525 Section 7.2 are superseded by these provisions.

251. Reference: Attachment 1 §XVI.38, RFP: 295

Question: Provided that the Space Program per Level is maintained, may proposers determine, adjust or modify the structural, mechanical (HVAC, plumbing and fire protection), electrical and architectural design criteria established in the Bridging Documents, based on their own engineering analysis? If so, please indicate how such changes are to be presented in the proposal (e.g., in the deviations matrix of Attachment I §XVI.38) and how they will be evaluated.

Answer: Yes, within the limits stated in the answers to Questions 132 and 157. The criteria in the Bridging Documents are minimum requirements: the Design-Builder may refine them based on its engineering analysis, provided that the resulting design meets or exceeds the required performance, capacity, redundancy, resilience, quality and code compliance, and preserves the elements listed in Attachment C, Section 5.8.1. Proposed changes shall be presented in the deviations matrix of Attachment 1, Section XVI.38, with their technical justification, and will be evaluated under the technical evaluation criteria of the RFP. A deviation is part of the Contract only if ASEM accepts it expressly and in writing; if not accepted, the Design-Builder shall comply with the original requirement without any change in the Contract Price or Contract Time. Deviations offered solely for cost reduction or construction convenience will not be accepted. Reductions of capacities stated in the Bridging Documents are not permitted without ASEM's express written acceptance.

264. Reference: RFP Exhibit 18, Attachment C §6.4.1, Attachment G, Attachment C §5.9.4.3, Attachment 9 §1.1.1.14, Attachment C §6.6.1, Attachment 9 § 4.2.3, Attachment 1, Appendix B Sec. 31 20 10, RFP: 829, RFP: 835, RFP: 213 – 226, Att. C: 70 – 89, 91

Question: Attachment C §6.4.1 indicates that the Owner will provide a site-specific Geotechnical Investigation and Report ("PROVIDED"), also referenced in the RFP Scope of Works and Exhibit 18 (Item A- I), but the report

is not included in the published documents, and the only published boring data (Attachment G) date from 1960. Attachment C §5.9.4.3 requires the Design-Builder to perform its own geotechnical investigation. Attachment 9 §1.1.1.14 provides that subsurface condition reports are not Contract Documents, and Appendix B (Section 31 20 10 •13.07-3.09) treats the report as reference data Without warranty, While Attachment C §6-6.1 allows reliance on the report "for foundation design purposes" and Attachment 9 §4.23 allows reliance on the "technical data" "identified in the Scope of Work", which Attachment 1 does not identify. Please: (a) issue the geotechnical report, including boring logs, groundwater elevation, bearing capacity, liquefaction assessment and lateral earth pressure parameters or, if it Will not be issued before the proposal date, State the geotechnical basis proposers shall use for pricing; (b) clarify which provision governs and identify the technical data on which the Contractor may rely, including whether such reliance extends to the design of excavation support and dewatering, and not only to foundations; and (c) confirm that subsurface and groundwater conditions materially different from those reported will be treated as differing site conditions, With entitlement to an adjustment of time and cost.

Answer: The Geotechnical Report has been issued as Exhibit XVII. Reliance on it is governed exclusively by the answer to Question 12, as amended by this Addendum, which supersedes any inconsistent statement in Attachment C (Sections 5.9.4.3, 6.4.1 and 6.6.1), Attachment 9 (Sections 1.1.1.14 and 4.2.3) and Appendix B (Section 31 20 10). The Design-Builder remains responsible for the supplemental investigations required by Attachment C, Section 5.9.4.3.

266. Reference: Attachment C §6.4.1, Appendix B Sec. 31 22 05, App. B: 294 – 297, Att. C: 89

Question: Attachment B, Section 31 22 05 provides for both unclassified excavation (q3.44) and classified excavation ('13.45) and prohibits blasting except under an approved plan. Considering that the geotechnical report referenced in Attachment C §6.4.1 is not included in the published documents, please clarify: (a) which of the two methods Will apply to this project; (b) if classified excavation applies, the definition of rock, the method Of measurement and the payment mechanism, and how it Will be integrated with the lump- sum price; (c) if unclassified excavation applies, Whether rock or Other materials not anticipated in the reference data Will be treated as a differing site condition With entitlement to an adjustment of time and cost; and (d) the criteria ASEM Will use to approve a blasting plan, considering the proximity of operating hospital facilities, and Whether any rock removal method (e.g., hydraulic hammer) would be prohibited or restricted due to noise or vibration.

Answer: *(a) Unclassified excavation applies. All excavation, including rock or any other material encountered, is included in the Lump Sum.*

(b) Not applicable.

(c) Materials encountered are not differing site conditions unless they are materially different from the factual technical data identified in the answer to Question 12, as amended by this Addendum, and from the conditions reasonably inferable from such data and from the Design-Builder's own investigations. In that case, the answer to Question 127 applies.

(d) Blasting is not permitted. The Design-Builder shall select and implement alternative excavation methods necessary to complete the Work while maintaining continuous hospital operations and protecting existing facilities. Mechanical methods, including hydraulic hammers and rock splitting, are permitted subject to Regulation 8019 (DRNA), any DRNA compliance plan or variance, and the noise and vibration limits, work hours and monitoring program approved by ASEM (see answers to Questions 74, 234 and 235).

268. Reference: RFP §8.6 (Site Inspection), Appendix A: GL-1.0, Attachment G, RFP: 40, App. 10

Question: During the site visit of September 24, 2026, it was indicated that the utility connections (potable water, fire-protection water, sanitary sewer, etc.) will be made to systems surrounding the project or outside the contract limit, which are existing or Will be built under separate projects. Please indicate (a) which Off-site systems will be built by others and their expected completion dates, and (b) how time and cost will be addressed if they are not available when required for the Phase I and Phase II milestones.

Answer: (a) The off-site and campus systems being developed by others are those identified in Attachment 2, including the modernization of Substations 1359 and 1327, the campus water ring and the central cistern ("Casa de Agua"); ASEM does not guarantee their completion dates. ASEM makes no representation or warranty regarding the timing, sequencing, availability, operational readiness, or completion date of any project, utility, infrastructure improvement, or facility being developed by others. The Design-Builder acknowledges that third-party projects may experience delay, resequencing, modification, suspension, or cancellation and has incorporated such uncertainty into its Proposal Price and Schedule.

(b) The Design-Builder shall design the Project's utility connections so that the milestones do not depend on those projects, connecting to the existing

campus systems (including temporary connections, where necessary) and providing for future connection to the new systems.

Only where the RFP Documents expressly require a connection to a system being built by others, and that system is not available when required for reasons not attributable to the Design-Builder, will the event be treated as a Delay Event under Attachment 9, Section 9.3, subject to the notice requirements.

274. Reference: Attachment A (Plans): ED-1.1, EX-1.0, Attachment B (Specs); Sec. 02 41 00, Attachment C §6.12, App. A: 11, 13, Att. C: 101

Question: Please provide the number of stories, floor-to-roof height, structural system and slab/roof construction of the existing ASEM Emergency Department expansion to be demolished (ED-1.1 note 5; approx. 5,428 SF footprint and 7,041 SF of roof including canopies), or record drawings of this structure.

Answer: The record drawings in ASEM's possession of the existing Emergency Department expansion identified in Note 5 of Sheet ED-1.1 are included in Exhibit XVI of this Addendum. Such drawings are furnished for reference only. The Design-Builder shall verify existing conditions and determine all demolition, protection and interface requirements as part of its scope.

276. Reference: Attachment A (Plans): ED-1.1, App. A: 13

Question: Sheet ED-1.1 uses keynotes 26 and 30, but the keynote legend ends at note 24. Please provide the text for keynotes 26 and 30 (and confirm Whether 25, 27, 28 and 29 exist).

Answer: Keynotes 25 through 30 referenced on Sheet ED-1.1 are not included in the keynote legend and shall be disregarded. Disregarding them does not eliminate the demolition, protection or interface scope in the areas where those keynotes appear; such scope shall be determined by the Design-Builder from its own survey and the other RFP Documents and is included in the Base Bid.

287. Reference: Attachment C

Question: In addition to cast-in-place reinforced concrete, may proposers use alternative structural systems, such as structural steel, precast concrete, or pre-tensioned or post-tensioned concrete, provided they meet the performance criteria of Attachment C (including Risk Category IV and seismic isolation)?

Answer: The Bridging Documents constitute the Project's Design Basis and establish the minimum requirements for performance, functionality, operation, resilience, durability, life safety, and regulatory compliance that the proposed solution must meet; furthermore, the solution must be consistent with the purpose, requirements, and objectives stipulated in RFP, as amended, and the Bridging Documents. Alternative systems meeting or exceeding the performance requirements may be proposed as a deviation in accordance with the answer to Question 251; they are not part of the Contract unless expressly accepted in writing by ASEM and shall not relieve the Design-Builder of responsibility for achieving Functional Operation, Substantial Completion and Final Completion of the entire Project within the fifty-four (54) month Contract Time established in RFP Section 7.2, as amended. No adjustment to the Contract Price or Contract Time shall arise solely from the Design-Builder's selection, proposal, review, evaluation, acceptance, or rejection of an alternative structural system.

290. Reference: Attachment A: A-1.2B, A-2.1, Attachment B Sec. 13 48 13, App. A: 24, 36, App. B: 537 – 545

Question: The documents locate the seismic isolation plane between the First and Second Levels (Interstitial Isolation Level). Please confirm Whether the structural engineer of record may instead locate the isolation plane below the Basement (base isolation of the entire building), if its analysis determines this to be the more appropriate solution for this essential facility, and how such an alternative would be evaluated.

Answer: The location of the isolation plane between the First and Second Levels is the basis of design. An alternative location, including base isolation below the Basement, may be proposed as a deviation under the conditions stated in the answer to Question 251, provided that it does not reduce the program, scope or schedule, or the performance objectives, and that the Proposal includes all associated work (such as moat, flexible utility connections and excavation). No feasibility study for alternative isolation-plane locations is available.

363. Reference: Attachment A (Plans): GL-1.0, A-1.1, A-3.5, Attachment B (Specs): Sec. 22 0513, 22 11, 00, 211313, RFP Exhibit 18, App. A:10, 21, 44, App. B:792, 788-789, RFP Exhibit 18:77

Question: Please define the scope of the additive Alternate 'Design- Build of the Water Storage Reservoir' (capacity, location, type, connections), and clarify its relationship to the 'Casa de Agua' central cistern on GL-I_O and to the 30,000-gal potable and 36,000- gal fire cisterns specified for the building.

Please confirm that both building cisterns are located Within the basement/cistern level of the new building.

Answer: The building water storage is separate from the "Casa de Agua" central cistern (a project by others).

The minimum required capacities are 36,000 gallons for Fire Cistern and 50,000 gallons for Potable Water Cistern. The Design-Builder shall verify, design, and provide the full storage capacity, equipment, and ancillary elements necessary to meet project demands, regulatory requirements, and the performance criteria established in the contract. Any additional capacity or related modifications required to ensure compliance and functionality shall be included in the Base Bid. The Design-Builder shall verify these capacities against the Project demands, NFPA 13, 14, 20 and 22, PRASA requirements and the other applicable codes, and shall provide any greater capacity so required, at no additional cost to ASEM.

The "Water Storage Reservoir" Alternate (Fire Cistern and Potable Water Cistern) is hereby deleted. The scope of work associated with this Alternate shall be incorporated into the Base Bid. Accordingly, all costs for labor, materials, equipment, infrastructure, supervision, testing, commissioning, and all other incidental expenses necessary for the complete installation and operation of the potable water cistern and fire cistern shall be included in the Base Bid amount.

387. Reference: Attachment A (Plans): A-1.2A, RFP Exhibit17, App.A:23

Question: Please provide a responsibility matrix for every item shown on sheet A-1.2A (items 1 through 22, the untagged utility service double booms, the untagged procedure tables in the Minor Procedure Rooms and the untagged stretchers in the Stabilization Cubicles), stating for each item whether it is (a) Owner-furnished/Owner-installed (N.1.C.), (b) Owner-furnished/Contractor-installed (SOC), (c) Contractor-furnished/Contractor-installed in the base bid, or (d) procured under the Hospitaller and Medical Equipment Allowance (Attachment F). Where the legend description (SOC) conflicts with the blue 'not in contract' symbol (items 2, 3A, 38), please confirm which governs.

Answer: The rules in the answers to Questions 54 and 159 govern. For the items on sheet A-1.2A: (a) items designated N.I.C. are outside the Contract; (b) items designated SOC are not in the contract; (c) items not designated and not listed in Attachment F (such as the untagged procedure tables and stretchers) are not in the Contract unless they are fixed building equipment, which is in the Base Bid; and (d) items listed in Attachment F are procured under Allowance Item 1, even if designated SOC or N.I.C. on the

drawings. Where the legend description (SOC) conflicts with the blue "not in contract" symbol (items 2, 3A and 3B), the item shall be treated as SOC.

404. Reference: Attachment A (Plans): A-1.2A, RFP Exhibit17, App. A: 23

Question: Please (1) provide manufacturer cut sheets and utility requirements (power, data, medical gases, water and drain, structural loads for allowance value to be carried for SOC installation; and (2) confirm whether the vendor services required by Supplementary Notes 3 and 4 (biomedical support, calibration, start0up, validation) for SOC equipment are to be included in the base proposal or in the Hospitaller and Medical equipment Allowance.

Answer: The Project does not include Owner-furnished equipment (OFCI, OFOI or SOC); see answers to Questions 159 and 387. All equipment listed in Attachment F is furnished and installed by the Design-Builder under Allowance Item 1, and the building infrastructure required for that equipment (rough-ins, utilities, supports and backing) is included in the Base Bid. The Design-Builder shall obtain the manufacturer cut sheets and utility requirements of the equipment it selects. For pricing purposes, Proposers shall base that infrastructure on the typical requirements of leading manufacturers for each type of equipment.

408. Reference: None

Question: We respectfully request an extension of the bid submission deadline to allow our team additional time to thoroughly review the RFP requirements and prepare a complete and responsive proposal.

Answer: See answer to Question 10 and 226.

424. Reference: Structural Narrative Section 6.1, 1913 of 2173

Question: Can other structural systems be proposed if they meet the MC-IO seismic performance objective?

Answer: The Bridging Documents constitute the Project's Design Basis and establish the minimum requirements for performance, functionality, operation, resilience, durability, life safety, and regulatory compliance that the proposed solution must meet; furthermore, the solution must be consistent with the purpose, requirements, and objectives stipulated in the RFP, as amended, and the Bridging Documents. Alternative systems meeting or exceeding the performance requirements may be proposed as a deviation in accordance with the answer to Question 251; they are not part of the Contract unless expressly accepted in writing by ASEM and shall not relieve

the Design-Builder of responsibility for achieving Functional Operation, Substantial Completion and Final Completion of the entire Project within the fifty-four (54) month Contract Time established in RFP Section 7.2, as amended. No adjustment to the Contract Price or Contract Time shall arise solely from the Design-Builder's selection, proposal, review, evaluation, acceptance, or rejection of an alternative structural system.

426. Reference: Exhibit 18: Cost Breakdown Structural Narrative Section 6.7.1, Pages: 213, 231, 1401, and 1541 of 2173 and 1911 of 2173

Question: A project geotechnical report is mentioned on RFP pdf Pages 213, 231, 1401, and 1541 of 2173. Can it be made available? Were soil borings performed? Were site-specific response spectra developed? Have earthquake acceleration time histories been generated? If so, please provide report. We understand that even if that is the case, RFP pdf Page 1911 of 2173 (Structural Narrative Section 6.7.1) says "The Design-Build Entity's Structural Engineer of Record shall confirm and finalize the site-specific MCER/DBE ground motion hazard analysis (or perform an independent site-specific analysis per ASCE 7 Sections 11.4.8 and 17.3) at Schematic Design phase."

Answer: Yes. Standard penetration test borings were performed to depths of approximately 50 to 60 feet (see Exhibit XVII and Figure 15 of the report). No site-specific response spectra or acceleration time histories have been developed. The Design-Builder's Structural Engineer of Record shall perform the site-specific ground-motion hazard analysis and develop the ground motions required for the seismically isolated structure in accordance with ASCE/SEI 7-22, including Sections 11.4.8 and 17.3, at no additional cost to ASEM (see answer to Question 418).

428. Reference: Attachment 9 – Supplementary Conditions, Sections 6.22.1 and 6.22.2; Attachment A – Drawing GL-1.0, General Utility Location & Connection Plan, Attachment 9: pp. 22–23; Attachment A: p. 11

Question: During the pre-proposal meeting, it was indicated that existing underground utility drawings would be provided to the Proposers. Please confirm when the available record drawings, as-built plans, surveys, and related documentation identifying existing underground utilities within and adjacent to the project limits will be issued.

Answer: ASEM is providing the available record information regarding the existing sanitary sewer system through Exhibit XVI of this document. The connection-point plan of the campus water-ring project (by others), referred to during the site visit, will not be furnished; connection points shall be

coordinated as stated in the answer to Question 268. All such information is furnished for reference only, without representation or warranty as to completeness, accuracy, current condition or available capacity.

433. Reference: Attachment 2 (Annex A); Attachment 1, Spec. 01 50 50; RFP §10.1.2.4.2

Question: Please confirm the availability, location, and approximate dimensions of the Staging Area, construction access, and truck logistics provisions for Phases 1 and 2.

Answer: The staging area available to the Design-Builder is shown in Attachment 2. Its approximate dimensions shall be verified by the Design-Builder in the field. Construction access and truck logistics shall be developed by the Design-Builder in its logistics plan, subject to ASEM's approval (see answers to Questions 86 and 239).

440. Reference: Attachment 2 (Annex A); Attachment 1, Spec. 01 50 50; RFP §10.1.2.4.2

Question: Because the design and schedule are not final, may the Phase I target delivery date be adjusted based on the actual design, submittal, procurement, installation, and commissioning durations, or is that date fixed?

Answer: The fifty-four (54) month period may only be adjusted through the Contract change and delay provisions (see answers to Questions 152, 196 and 228).

442. Reference: Att. 1 PDF p.13, §II.i.17 and §II.i.18.b; Att. A Plans PDF p.11, GL-1.0, Att. 1 p.13; Att. A p.11, GL-1.0

Question: Att. 1 §II.i.18.b requires a secondary underground feed from Substation 1359 through an MV ATS, but GL-1.0 does not show this feed. Is it required?

Answer: See answer to Question 154.

465. Reference: Att F GC Medical items 6, 12, 13, 24 (PDF pp.42-45); Att. 8 Reg. 7998 Art. 6.18.5.7.11 (OCR PDF p.57); RFP §10.1.2.4.5 (PDF p.88), Att. F (PDF pp.42-45); Att. 8 (OCR PDF p.57); RFP §10.1.2.4.5 (PDF p.88)

Question: Are receiving, setting, final electrical connections and start-up support for Owner-furnished equipment included in the Base Bid?

Answer: *The Project does not include Owner-furnished equipment (OFCI, OFOI or SOC); see answers to Questions 159 and 387. All equipment listed in Attachment F is furnished and installed by the Design-Builder under Allowance Item 1, and the building infrastructure required for that equipment (rough-ins, utilities, supports and backing) is included in the Base Bid. The Design-Builder shall obtain the manufacturer cut sheets and utility requirements of the equipment it selects. For pricing purposes, Proposers shall base that infrastructure on the typical requirements of leading manufacturers for each type of equipment.*

473. Reference: Att 8 Reg. 7998 Art. 6.3.1 and Art. 13.4.1.5 (OCR PDF pp.36, 92), Att 8 (OCR PDF pp.36, 92)

Question: Is the cost of electricity and fuel used for testing, start-up and commissioning before Substantial Completion carried by the Design-Builder?

Answer: Yes. The cost of electricity and fuel used for testing, start-up and commissioning before Substantial Completion is the Design-Builder's responsibility.

496. Reference: Att 3 Wage Determination PR20260035 (PDF pp.1-2); Att. 4 HUD-4010 A.1.iii (PDF p.2), Att 3 (PDF pp.1-2); Att. 4 (PDF p.2)

Question: Wage determination PR20260035 is a 'Heavy' construction type. Will a 'Building' wage determination apply to the hospital building work?

Answer: The applicable Davis-Bacon wage determinations are attached as Exhibit XVIII: General Decision No. PR20260001 (Building) for the hospital building work, and General Decision No. PR20260035 (Heavy) for the substation and off-site utility work. In accordance with 29 CFR 1.6, any modification to these wage determinations published on SAM.gov at least ten (10) days before the proposal opening shall apply. Proposers are responsible for verifying the current wage determinations on SAM.gov before submitting their proposals.

498. Reference: RFP §7.4.4 (PDF p.32); Att. 7 App. II item 13 (PDF pp.42-43); Att. 9 §17.19 (PDF p.50), RFP §7.4.4 (PDF p.32); Att. 7 (PDF pp.42-43); Att. 9 (PDF p.50)

Question: Which Build America, Buy America categories apply to electrical equipment and materials (switchgear, generators, transformers, conduit, wire, fiber)?

Answer: See answer to Question 4.

499. Reference: Att B Notice of Document Use Art. C (PDF p.8), Att B Art. C (PDF p.8)

Question: Which electrical and low-voltage products are Owner-standard, sole-source or required for compatibility with existing ASEM systems (fire alarm, nurse call, security, BAS, generators/switchgear, communications).

Answer: There are no sole-source or Owner-standard electrical or low-voltage products. Named products are the basis of design, and equal products are accepted subject to the compatibility requirements with existing ASEM systems stated in the answers to Questions 84, 118, 478 and 492. For hospital and medical equipment furnished under Allowance Item 1, where a manufacturer holds exclusive distribution rights in Puerto Rico, the Design-Builder shall obtain and submit written evidence of such exclusivity from the manufacturer with the corresponding submittal; such exclusivity does not constitute an Owner-standard or sole-source requirement imposed by ASEM.

501. Reference: Att B 16100 §1.10 (PDF p.564); 16550 §1.06 (PDF p.685); 16600 §1.07 (PDF p.704); 16800 §1.08 (PDF p.742); 16900 §1.07 (PDF p.766), Att B (PDF p.564); (PDF p.685); (PDF p.704); (PDF p.742); (PDF p.766)

Question: Do electrical equipment warranties start at Substantial Completion (16100 §1.10), or at shipment or energization as stated in 16550, 16600, 16800 and 16900?

Answer: See answer to Question 503: the Design-Builder's general warranty and its warranty obligations for equipment start at Substantial Completion of the Project, not at shipment or energization; manufacturers' warranties are governed by the answer to Question 503.

503. Reference: RFP §7.2 (PDF p.25); Att. 1 §XIV.1.d (PDF p.60), RFP §7.2 (PDF p.25); Att. 1 (PDF p.60)

Question: Do warranties for Phase I systems start at Phase I turnover or at Final Completion of the Project?

Answer: The general warranty (correction) period is two (2) years. For all systems, areas and Work, the Design-Builder's general warranty and the Design-Builder's warranty obligations for equipment start at Substantial Completion of the Project, regardless of the date of shipment, energization or start-up. Manufacturers' warranties shall be extended or supplemented by

the Design-Builder, as necessary, so that they do not expire before the end of the Design-Builder's warranty period. Longer warranties required by the specifications, Attachment F or the answers in this Addendum (including the roofing warranty) govern the items concerned.

The Design-Builder's contractual warranty obligations and manufacturers' warranties are separate, independent, and cumulative obligations. The Design-Builder's warranty period shall commence upon Substantial Completion of the Project, as specified in the Contract Documents. Manufacturers' warranty periods shall commence in accordance with their respective warranty terms. The expiration of any manufacturer's warranty shall not limit, reduce, replace, or extinguish any obligation of the Design-Builder under the Contract Documents. The Design-Builder shall assign to ASEM all manufacturers' warranties customarily available for the equipment, materials, and systems furnished under the Contract and shall remain responsible for correcting defective Work in accordance with the Contract Documents. Nothing herein shall be construed to limit or replace any contractual warranty obligations of the Design-Builder or any rights and remedies available to ASEM under the Contract or applicable law.

504. Reference: RFP Exhibit17 RFP Exhibit18 Attachment H, Attachment F, Attachment 1 §XIII.8, RFP:287 RFP: 203-212, RFP: 213-226

Question: The text of the $25,000,000 Hospitaller and Medical Equipment Allowance in Exhibit 17 refers to 'Attachment H (Hospitaller and Medical Equipment)'. The attachments issued are A through G, and the equipment list is Attachment F. In addition, Attachment 1 §XIII.8 and Exhibit 18 (item B-23) refer to 'Owner-Furnished, Contractor-Installed' equipment. Please confirm (a) that Attachment F is the equipment list that governs the allowance; (b) whether the medical equipment will be furnished by the Contractor under the allowance or by ASEM; and (c) who bears the schedule risk for delivery of the equipment required for Functional Operation of Phase I.

Answer: Among the documents for the Request for Sealed Proposals, there is no attachment identified as Attachment H. Accordingly, any reference in Exhibit 17 (Price Proposal Form), Exhibit 18 (Cost Breakdown) or any other RFP Document to "Attachment H (Hospitaller and Medical Equipment)" shall be read as a reference to Attachment F, which is the equipment list that governs Allowance Item 1.

(a) Item 1 under the heading "Allowances" shall cover all costs related to the purchase, taxes, levies, fees, transport, delivery, installation, testing, commissioning, warranty, biomedical support, calibration, start-up, utilities hookups, technical support and guidance,

assembly, validation, and any other incidental or supplementary expenses required for the operational supply of the Hospital and Medical Equipment identified in Attachment F. The Design-Builder shall bear all schedule risks associated with procurement and delivery of equipment required to achieve Functional Operation, Substantial Completion, and Final Completion.

(b) The Hospitaller and Medical equipment will be furnished by the Contractor under the Item 1 of the Allowance.

(c) *The schedule risk regarding the delivery of equipment required for the Functional Operation of the Project lies with the Contractor, not with ASEM.*

63. The document contained in **Exhibit 15 (Certification of Compliance with the Prevailing Federal Wage Rule Davis Bacon Act 40 USC § 3141-3148)** of the RFP is hereby replaced in its entirety by the document attached as **Exhibit XIX** to this Addendum.

64. Section 9.2.5.7 of the RFP is replaced by the following text, which shall prevail over any provision, requirement, or reference previously included in said section.

Section 9.2.5.7 Design Firm's Qualifications

The Proposer must submit the Design Firm's Qualifications using the form provided as **Exhibit XX (Annex IV: Design Firm's Qualifications)** to this document.

65. Section 9.2.17 (Certification of Compliance with the Prevailing Federal Wage Rule Davis Bacon Act 40 USC § 3141 - 3148) of the RFP is replaced by the following text, which shall prevail over any provision, requirement, or reference previously included in said section.

Section 9.2.17 Certification of Compliance with the Prevailing Federal Wage Rule Davis Bacon Act 40 USC § 3141 – 3148

The Proposer shall use Exhibit 15, as amended, to submit the Certification of Compliance with the Prevailing Federal Wage Rule Davis Bacon Act 40 USC § 3141 - 3148.

66. Section 10.1.2 (Technical Evaluation) of the RFP is replaced by the following text, which shall prevail over any provision, requirement, or reference previously included in said section.

Section 10.1.2 (Technical Evaluation)

The Technical Evaluation shall assess the qualifications, experience, organizational capability, financial strength, and proposed delivery approach of the Proposer.

The maximum Technical Evaluation Score shall be one hundred (100) points.

Evaluation Criteria	Maximum Points
Design-Builder Experience and Past Performance	25
Design Firm Experience and Past Performance	20
Organizational Experience and Key Personnel	20
Work Approach / Technical Proposal	25
Financial Capacity	10
Total Technical Evaluation Score	**100**

Table 2: Scoring Table – Technical Evaluation

NOTE: If the Proposer is constituted as a Joint Venture or Partnership, the evaluation will be in accordance with what is established in the Joint Venture Agreement or Partnership Agreement regarding the experience. If the Proposer is constituted as a Joint Venture or Partnership, the evaluation of Financial Capacity will be in accordance with what is established in the Joint Venture Agreement or Partnership Agreement regarding the contribution of capital.

All results are rounded to the nearest hundredth, meaning up to two (2) digits after the decimal point (hundredth).

67. **Annex IV (Design Firm's Qualifications)** is added to the RFP documents. Refer to Exhibit XX of this document.

68. Section 10.1.2.1 (Design-Builder Experience and Past Performance) of the RFP is replaced by the following text, which shall prevail over any provision, requirement, or reference previously included in said section.

Section 10.1.2.1 (Design-Builder Experience and Past Performance)

The Evaluation Committee or Bid Board shall evaluate the qualifications and past performance of the Design-Builder with emphasis on healthcare and mission-critical facilities.

Evaluation factors may include:

- *Experience in hospital construction;*
- *Design-Build healthcare or hospital project experience;*
- *Experience with projects of similar size, scope and complexity;*
- *Experience involving critical healthcare infrastructure;*
- *Safety performance;*
- *Quality performance;*
- *Schedule performance;*
- *Regulatory compliance;*
- *Risk management capability; and*
- *Stakeholder coordination.*

Consideration may be given to firms demonstrating successful execution of projects within active medical campuses requiring extensive traffic management, logistics coordination, and operational interface management.

In San Juan, Puerto Rico, today November 17, 2026.

Celeste Robles Bartolomei
Procurement Manager
Puerto Rico Medical Services Administration

Exhibits:

I: Exhibit 2 – Checklist (amended)

II: Exhibit 3 – Statement of Proposer (amended)

III: Exhibit 16 – Technical Proposal (amended)

IV: Exhibit 17 – Price Proposal Form (amended)

V: Exhibit 18 – Cost Breakdown (amended)

VI: Exhibit 19 – Bid Bond Form (amended)

VII: Attachment 5 – Insurance Requirements and Bonding Specifications (amended)

VIII: DBIA Document No. 540

IX: Existing Fire Alarm System Topology

X: Annex O – Hearing Conservation Program (Spanish-language original)

XI: Annex I - Key Personnel Qualifications and Commitment Form (amended)

XII: Annex II - Major Subcontractor Experience, Past Performance and Commitment Form (amended)

XIII: Annex III – Minimum Healthcare / Hospital Projects Experience Form (amended)

XIV: Documents generated automatically by the J.E.D.I. system

XV: Part XII (Commissioning) of the Attachment 1 (Scope of Works) (amended)

XVI: Additional drawings related to the information of the existing utilities and Main Building

XVII: Geotechnical Report

XVIII: Attachment 3 – Wage Determination (amended)

XIX: Exhibit 15 – Certification of Compliance with Prevailing Federal Wage Rule Davis-Bacon Act 40 USC § 3141-3148 (amended)

XX: Annex IV - Design Firm's Qualifications

Exhibit I: Exhibit 2 - Checklist (amended)

Exhibit 2: Checklist (amended)

Submitted proposals shall incorporate the following documents, including the annexes. The forms, as amended, included as part of the RFP Documents, as amended, must be completed and incorporated as part of the proposal. The Proposer's Authorized Representative shall mark their initials in the space provided below to indicate compliance with the Checklist.

Proposer:		**Date:**	

Initials	**Documents Description**
	Proposal's Sealed Envelope or Package, identified as Section 9.2.1 of this RFP and containing: 1. One (1) printed original of the proposal, which <u>includes an optional separate sealed envelope</u> (identified in accordance with the provisions of Section 9.2.1), containing the Price Proposal (Exhibit 17, as amended) and the Cost Breakdown (Exhibit 18, as amended). 2. One (1) printed copy, which must be a true and exact reproduction of the printed original of the proposal documents. 3. One (1) USB drive, without passwords or access restrictions, containing: a. One (1) *digital copy (scanned PDF), which must be a true and exact reproduction of the printed original of the proposal documents*; b. One (1) *redacted copy (scanned PDF) of the printed original of the proposal documents with sole exception of those portions duly redacted to protect confidential information or information exempt from disclosure*; and c. Cost Breakdown (Exhibit 18, as amended) in Excel format.
	<u>Submission of the proposal in electronic format</u> One (1) copy (scanned PDF), which must be a true and exact reproduction of the printed original of the proposal documents, uploaded via the applicable file-upload fields on the J.E.D.I. platform, including Exhibit 17, as amended, and Exhibit 18, as amended.
	Front Page, identified as Section 9.2.2 of this RFP
	Exhibit 2: Checklist, as amended, as Section 9.2.3 of this RFP
	Table of Contents, as Section 9.2.4 of this RFP
	Exhibit 3: Statement of Proposer, as amended, as Section 9.2.5 of this RFP

Proposer's Initials: _____

Exhibit 2: Checklist (amended)

Initials	Documents Description
	▪ Organizational Chart of the Proposer's Team Members, as Section 9.2.5.1, as amended, of this RFP
	▪ Proposer's Good Standing, issued by the Puerto Rico's Department of State, if applicable, as Section 9.2.5.2 of this RFP
	▪ Proposer's Certificate of Compliance, issued by the Puerto Rico's Department of State, if applicable, as Section 9.2.5.2 of this RFP
	▪ Proposer's Partnership Agreement, if applicable, as Section 9.2.5.2 of this RFP
	▪ Proposer's Joint Venture Agreement, if applicable, as Section 9.2.5.2 of this RFP
	▪ Designer's Good Standing, issued by the Puerto Rico's Department of State, if applicable, as Section 9.2.5.3 of this RFP
	▪ Designer's Certificate of Compliance, issued by the Puerto Rico's Department of State, if applicable, as Section 9.2.5.3 of this RFP
	▪ Evidence that all shareholders of the Designer (professional corporation of architecture, engineering or surveying) are licensed professionals, as applicable
	▪ Professional Certification of Key Personnel, as applicable
	▪ Professional License of Key Personnel, as applicable
	Annex I: Key Personnel Qualifications and Commitment Form, as amended, for Design-Build Project Manager
	Annex I: Key Personnel Qualifications and Commitment Form, as amended, for Safety Manager
	Annex I: Key Personnel Qualifications and Commitment Form, as amended, for Scheduler
	Annex I: Key Personnel Qualifications and Commitment Form, as amended, for Cost Estimator
	Annex I: Key Personnel Qualifications and Commitment Form, as amended, for Design-Builder Commissioning Manager (DB-Cx)
	Annex I: Key Personnel Qualifications and Commitment Form, as amended, for Design Lead
	Annex I: Key Personnel Qualifications and Commitment Form, as amended, for Civil Engineer, P.E.

Proposer's Initials: _____

Exhibit 2: Checklist (amended)

Initials	Documents Description
	Annex I: Key Personnel Qualifications and Commitment Form, as amended, for Civil Engineer, P.E. – "Structural Engineer"
	Annex I: Key Personnel Qualifications and Commitment Form, as amended, for Environmental Engineer, P.E. or Registered Environmental Manager
	Annex I: Key Personnel Qualifications and Commitment Form, as amended, for Electrical Engineer, P.E.
	Annex I: Key Personnel Qualifications and Commitment Form, as amended, for Mechanical Engineer, P.E.
	Annex I: Key Personnel Qualifications and Commitment Form, as amended, for Technology / IT / System Engineer (P.E., only for engineers)
	Annex I: Key Personnel Qualifications and Commitment Form, as amended, for Construction Manager or Superintendent
	Annex I: Key Personnel Qualifications and Commitment Form, as amended, for BIM Manager / BIM Coordinator
	Annex I: Key Personnel Qualifications and Commitment Form, as amended, for Quality Control Manager
	Annex I: Key Personnel Qualifications and Commitment Form, as amended, for Healthcare Facilities Subject Matter Expert
	Annex II: Major Subcontractor Experience, Past Performance, and Commitment Form, as amended, (one form per Major Subcontractor)
	Proposer's Eligibility Certificate of the RUL, issued by ASG, as Section 9.2.5.4 of this RFP
	Designer's Single Provider Certificate (eligible status) of the RUP, issued by ASG
	SAM (active and eligible status or has initiated registration) of the Proposer and Designer
	Annex IV: Design Firm's Qualifications, as Section 9.2.5.7, as amended, of this RFP
	Proposer's Financial Statements for the last two (2) tax years, as Section 9.2.5.9 of this RFP
	Proposer's Letter of Credit Line Available and/or Liquidity Assets Available Letter, as Section 9.2.5.10, as amended, of this RFP (not less than US$16,000,000.00), for Joint Ventures, see Section 9.2.5.10, as amended.
	Exhibit 4: Non-Conflict of Interest Certification
	Exhibit 5: Non-Conflict of Interest Certification on Existing or Pending Contracts

Proposer's Initials: _____

Exhibit 2: Checklist (amended)

Initials	Documents Description
	Exhibit 6: Limited Denial of Participation (LDP) / Suspension or Debarment Status Affidavit
	Exhibit 7: Certification Regarding Debarment, Suspension, Ineligibility, and Voluntary Exclusion
	Exhibit 8: Non-Collusive Affidavit
	Exhibit 9: Sworn Statement (Act 2-2018, as amended, Anticorruption Code for New Puerto Rico)
	Exhibit 10: Anti-Lobbying Certification or Exhibit 11: Disclosure of Lobbying Activities, as applicable
	Exhibit 12: Authorization Background and/or Other Information
	Exhibit 13: Entities Prior Performance Certifications
	Exhibit 14: Certification Regarding Compliance of Act 173-1988
	Exhibit 15: Certification of Compliance with the Prevailing Federal Wage Rule Davis Bacon Act 40 USC § 3141 – 3148, as amended
	Exhibit 16: Technical Proposal (amended)
	Design-Builder Experience and Past Performance, as Section 9.2.18.1, as amended, and Exhibit 16, as amended, item 2.0 of this RFP
	Annex III: Minimum Healthcare / Hospital Projects Experience Form, as amended
	Design Firm Experience and Past Performance, as Section 9.2.18.2, as amended, and Exhibit 16, as amended, item 3.0 of this RFP, supported by Annex IV (Design Firm's Qualifications)
	Organizational Structure and Design-Build Team Integration, as Exhibit 16, as amended item 4.0 (Organizational Chart as Section 9.2.5.1, as amended, of this RFP) and Section 9.2.18.3 of this RFP
	Describe lines of authority, decision-making responsibilities, communication protocols, issue-escalation procedures, design-construction coordination, and the method for managing scope, schedule, quality, safety, cost, risk, commissioning, activation, and operational readiness, as Exhibit 16, as amended.
	Identify any prior collaboration among major Design-Build team members and describe how such prior collaboration supports efficient project delivery, risk reduction, and accountability, as Exhibit 16, as amended.

Proposer's Initials: _____

Exhibit 2: Checklist (amended)

Initials	Documents Description
	Minimum Technical Qualification Crosswalk, as Section 9.2.18.6 of this RFP, identifying where the Proposal demonstrates compliance with the minimum healthcare experience, Key Personnel, bonding, technical capacity, past performance, and technical approach requirements established in Sections 10.1.1, as amended and 10.1.2 of this RFP (Exhibit 16, as amended, item 5.0). The crosswalk shall reference the applicable Proposal section, page number, and supporting documentation.
	Work Approach / Technical Proposal, as Sections 9.2.18.7 and 10.1.2.4 of this RFP (Exhibit 16, as amended, item 6.0)
	Project Delivery Strategy (Exhibit 16, as amended, item 6.1; Section 9.2.18.7 and 10.1.2.4.1 of this RFP), including Accelerated Delivery Strategy, as Section 10.1.2.4.3, as amended.
	Schedule Strategy (Project Schedule, Resource Loaded Schedule, and Monthly cash flow projections) (Exhibit 16, as amended, item 6.2), as Section 9.2.18.7 and 10.1.2.4.3, as amended, of this RFP, demonstrating Functional Operation, Substantial Completion and Final Completion of the entire Project within fifty-four (54) months from the Notice to Proceed (Exhibit 16, as amended, item 6.2)
	Campus Logistics, Maintenance of Traffic, and Site Utilization (Exhibit 16, as amended, item 6.3; Section 9.2.18.7, and 10.1.2.4.2 of this RFP)
	Safety, Site Security, Infection Control, and Environmental Protection (Exhibit 16, as amended, item 6.4; Section 9.2.18.7, and 10.1.2.4.4 of this RFP)
	Procurement, Materials, Equipment, and Delivery Management (Exhibit 16, as amended, item 6.5; Section 9.2.18.7, and 10.1.2.4.5, as amended, of this RFP)
	Quality Assurance and Quality Control (Exhibit 16, as amended, item 6.6; Section 9.2.18.7, and 10.1.2.4.6 of this RFP)
	Risk Management and Operational Continuity (Exhibit 16, as amended, item 6.7; Section 9.2.18.7, and 10.1.2.4.7 of this RFP)
	Commissioning, Activation, Training, Turnover, and Closeout (Exhibit 16, as amended, item 6.8; Section 9.2.18.7, and 10.1.2.4.8 of this RFP)
	Regulatory Compliance (Exhibit 16, as amended, item 6.9; Section 9.2.18.7, and 10.1.2.4.9 of this RFP)
	Resiliency Strategy, as Exhibit 16, as amended, item 7.0 (microgrid configuration, BESS/ESS rated power (kW) and usable energy (kWh), minimum autonomy, UPS capacities, islanding, black-start, and generator-to-battery coordination)
	Exhibit 17: Price Proposal Form, as amended

Proposer's Initials: _____

Exhibit 2: Checklist (amended)

Initials	Documents Description
	Exhibit 18: Cost Breakdown, as amended
	Exhibit 19: Bid Bond, as amended, as Section 9.2.20, as amended, of this RFP, for five percent (5%) of the Total Price of the Proposal (Base Bid + Allowances) and valid for one hundred eighty (180) calendar days following the Proposal Submission Deadline. The Bid Bond must be submitted in original form.
	Certificate of Appointment of Attorney-in-Fact, copy
	Attorney-in-Fact Licensed, copy
	Certification of the Surety Company, issued by the Insurance Commissioner of Puerto Rico, copy
	Contact information of the Attorney-in-Fact
	If it includes the Attorney-in-Fact's electronic signature, it must be accompanied by a certification from the Surety Company confirming that the signature belongs to an authorized representative.
	Exhibit 20: Acknowledgment of Surety
	Proposer's Bond Capacity Letter, as Section 9.2.21, as amended, of this RFP
	Single project bonding capacity equal to or greater than the Total Price of the Proposal (Base Bid + Allowances); Bond Capacity Letter dated within thirty (30) calendar days prior to the Proposal Submission Deadline, as Section 9.2.21, as amended, of this RFP
	Evidence of Section 3 or M/W/VBE, if applicable, as Section 9.2.22 of this RFP
	Proposer's authorized representative must handwrite all required initials and signature in blue ink pen (**electronic, digital or scanned signatures will not be allowed**) in the space provided. This requirement applies to the Proposer's authorized representative and does not apply to the Attorney-in-Fact's signature on the Bid Bond, which is governed by Section 9.2.20, as amended.
	Any cross-out or revision made to the proposal documents must be initialed by the Proposer's authorized representative next to the change. **The use of "correction tape", correction fluid, "liquid paper" or similar products is not permitted**.

Proposer's Initials: _____

Exhibit 2: Checklist (amended)

Initials	Documents Description
	If the information is not applicable, "n/a" must be entered in the designated field

Printed Name of the Proposer's Authorized Representative

Signature of the Proposer's Authorized Representative

END OF CHECKLIST

Exhibit II: Exhibit 3 - Statement of Proposer (amended)

Exhibit 3: Statement of Proposer (amended)

The undersigned, having familiarized himself/herself with the specifications, terms and conditions (including the RFP documents, as amended), the Addenda and the Notices issued by the Procurement Division, if any, understands that he/she has the qualifications and capacity to execute the project under this RFP process.

1.0 Proposer Identification

Legal Name

Year of Establishment

2.0 The Proposer is a:

☐ Individual ☐ Corporation ☐ Other (Specify): _____

☐ Partnership ☐ Joint Venture

If a corporation, indicate all that apply:

☐ Publicly Held ☐ Privately Held ☐ Subsidiary

☐ Good Standing or Certificate of Compliance

☐ SAM Registry

☐ RUL Certificate

If the Proposer is a partnership, it shall submit the Partnership Agreement with its Proposal; if the Proposer is a Joint Venture, it shall submit the Joint Venture Agreement. ☐ Agreement

3.0 Officers and Directors: Detail the name, telephone number, and email address of the officers, directors, members, and any partner of the Proposer's entity

Name	Telephone	E-mail Address	Mark your selection with an **X**			
			Officer	Director	Member	Partner

Proposer's Initials: _____

Exhibit 3: Statement of Proposer (amended)

Name	Telephone	E-mail Address	Officer	Director	Member	Partner

Proposer must submit additional sheets of this document for Officers and Directors, if the field provided in this document is not sufficient. ☐ Annex ____

4.0 Proposer's Physical Address

Address Line 1

Proposer's Initials: _____

Address Line 2		
City	State	Zip Code
5.0 Proposer's Mailing Address		
Address Line 1		
Address Line 2		
City	State	Zip Code
6.0 Proposer's Contact Information		
Name		Email Address
7.0 Proposer's history and executive summary		

8.0 Organizational Chart of Proposer's Team Members, a simple graphic presentation that clearly and easily depicts the structure of the Proposer's team organization (including the Design Team and Key Personnel), as required by Section 9.2.5.1, as amended, including the levels of authority and relationship between the different roles, departments or positions, for the execution of the activities on the Design-Build project.	Annex _____
9.0 Financial Statements for the last two (2) tax years, according to its circumstances (volume of business), as established in Section 1061.15 of the "Internal Revenue Code for a New Puerto Rico," or "Puerto Rico Internal Revenue Code of 2011," Act 1 of January 31, 2011, as amended, as required by Section 9.2.5.9.	Annex ____
10.0 Letter of Credit Line Available and/or Liquidity Assets Available Letter from a bank or financial institution, as applicable, issued by a duly authorized banking or financial institution, as required by Section 9.2.5.10, as amended.	Annex ____
11.0 Designer's Identification	
Legal Name **12.0 The Designer is a:** ☐ Individual ☐ Professional Corporation ☐ Other (Specify): _____ ☐ Partnership ☐ Joint Venture If a corporation or professional corporation, indicate all that apply: ☐ Publicly Held ☐ Privately Held ☐ Subsidiary	Year of Establishment ☐ Good Standing or Certificate of Compliance ☐ RUP Certificate
If the Designer is a partnership, it shall submit the Partnership Agreement with its Proposal; if the Designer is a Joint Venture, it shall submit the Joint Venture Agreement.	☐ Agreement
If the Design Firm is a professional corporation of architecture, engineering or surveying, it must submit evidence that all its shareholders are licensed professionals	☐ Licensed Professional

13.0 Officers and Directors: Detail the name, telephone number, and email address of the officers, directors, members, and any partner of the Design Firm's entity

Name	Telephone	E-mail Address	Mark your selection with an **X**			
			Officer	Director	Member	Partner

Exhibit 3: Statement of Proposer (amended)

Name	Telephone	E-mail Address	Officer	Director	Member	Partner

Proposer must submit additional sheets of this document for Officers and Directors, if the field provided in this document is not sufficient. ☐ Annex ____

14.0 Key Personnel. Identify each of the sixteen (16) Key Personnel positions required by Section 10.1.1.9, as amended. A completed and signed Annex I (amended) is required for each Key Personnel.

Proposed Position / Role	Resource Name
Design-Build Project Manager	
Safety Manager	
Scheduler	
Cost Estimator	
Design-Builder Commissioning Manager (DB-Cx)	
Design Lead	
Civil Engineer, P.E.	
Civil Engineer, P.E. – "Structural Engineer"	

Proposer's Initials: _____

Exhibit 3: Statement of Proposer (amended)

Proposed Position / Role	Resource Name
Environmental Engineer, P.E. or Registered Environmental Manager	
Electrical Engineer, P.E.	
Mechanical Engineer, P.E.	
Technology / IT / System Engineer (P.E., only for engineers)	
Construction Manager or Superintendent	
BIM Manager / BIM Coordinator	
Quality Control Manager	
Healthcare Facilities Subject Matter Expert	

15.0 Major Subcontractors, Subcontractors and Consultants. Detail the names, telephone numbers, and email addresses of each Major Subcontractor, Subcontractor and Consultant of the Proposer. A completed and signed Annex II, as amended is required for each Major Subcontractor.

Name	Role	Authorized Representative	Mark your selection with an **X**		
			Subcontractor	Consultant	Major Subcontractor
		Name: Telephone Number: Email Address:			
		Name: Telephone Number: Email Address:			

Proposer's Initials: _____

Exhibit 3: Statement of Proposer (amended)

Name	Role	Authorized Representative	Subcontractor	Consultant	Major Subcontractor
		Name: Telephone Number: Email Address:			
		Name: Telephone Number: Email Address:			
		Name: Telephone Number: Email Address:			
		Name: Telephone Number: Email Address:			
		Name: Telephone Number: Email Address:			
Proposer must submit additional sheets of this document for Major Subcontractors, Subcontractors and Consultants, if the field provided in this document is not sufficient. ☐ Annex ____					

Proposer's Initials: _____

Exhibit 3: Statement of Proposer (amended)

16.0 Understanding of the scope of work, as amended, contained in this RFP.
Proposer must submit additional sheets of this document for Understanding of the scope of work, if the field provided in this document is not sufficient. ☐ Annex ____

Proposer's Initials: _____

17.0 Project execution method
Proposer must submit additional sheets of this document for Project execution method, if the field provided in this document is not sufficient. ☐ Annex ____

Proposer's Initials: _____

18.0 Expected results and benefits
Proposer must submit additional sheets of this document for Expected results and benefits, if the field provided in this document is not sufficient. ☐ Annex ____

19.0 Statement of Bankruptcy

The Proposer represents he/she/they:

1. (___ has/have) (___ has/have not) filed, within the sixty (60) days prior to the Proposal Submission Deadline, in any court of jurisdiction a voluntary petition for bankruptcy or any petition or other pleading seeking as a remedy a readjustment and/or liquidation (under any title provided by law) with regard to its assets; and
2. (___ has/have) (___ has/have not) been notified of any claim filed against it related to a bankruptcy adjudication, reorganization, composition, readjustment, liquidation or similar remedy under any current legal provision that in any way compromises its assets.

20.0 Has the Proposer been involved in any criminal, civil, or administrative suits, actions, investigations, litigations, sanctions and/or administrative complaints or proceedings that were commenced, pending, settled, threatened, resolved, or conducted during the five (5) year period prior to the Proposal Submission Deadline?

☐ No ☐ Yes (See Annex _____)

If the answer to this question is "Yes", state for each such suit, action, investigation or proceeding the: (a) date of the suit, action, investigation or proceeding (or time period involved); (b) the specific nature of the suit, action, investigation or proceeding; (c) the amount of funds involved, if any; (d) the names of the parties; (e) the names and complete addresses of the courts and law enforcement agencies involved; (f) the title and file number of the suit, action, investigation or proceeding; (g) the disposition or current status; and (h) any sentence, fine or other penalty imposed on additional sheets attached to this Statement of Proposer. Also include an opinion from an attorney discussing whether the Proposer's work will be impacted by the litigation.

21.0 The Proposer represents he/she/they (___ has/have) (___ has/have not) participated in a previous contract or subcontract subject to the Equal Opportunity Clause (41 C.F.R. § 60-1.4) or the clause originally contained in Section 310 of Executive Order Number 10925 or the clause in Section 201 of Executive Order Number 11114; that he/she/they (___ has/have) (___ has/have not) filed all required compliance reports; and that representations indicating submission of required reports, signed by subcontractors, will be obtained prior to subcontract awards. The Proposer further represents that it will, if required, submit, and require its subcontractors to submit a compliance report prior to the award of the contract or subcontract.

22.0 Workload Statement. Describe the current workload of the Key Personnel, staff and Major Subcontractors, how the workload of this Project will be accommodated, and the priority that will be given to this Project.

Proposer must submit additional sheets of this document for Workload Statement, if the field provided in this document is not sufficient. ☐ Annex ____

Exhibit 3: Statement of Proposer (amended)

23.0 Undersigned oath certification:

The undersigned represents, warrants, and certifies on behalf of the Proposer that:

1. The information contained in the Statement of Proposer is true and complete;
2. The Proposal has been duly and properly authorized for submission by the Proposer, and
3. In its preparation and development of the proposal, the Proposer has not, directly or indirectly, solicited or received any advice, assistance, or information concerning the proposal from any representative of the ASEM or PRDOH, or its agents or contractors, which was not equally available to other Proposers, and which might contribute to an actual or potential competitive advantage for the Proposer.

In witness whereof, the Proposer has executed this Statement of Proposer this ____ day of _____, 20 _____.

If Proposer's Entity is an individual:

_____
Signature of Individual

_____
Name and Title of Individual

If Proposer's Entity is a sole proprietorship or operates under a trade name:

_____
Name of Proposer

_____
By: Authorized Representative's Signature

If Proposer's Entity is a partnership or joint venture

_____
Name of Proposer

_____
By: Authorized Representative's Signature

Exhibit 3: Statement of Proposer (amended)

If Proposer's Entity is a corporation

Name of Corporation

By:

Signature of Officer

Name of Officer

Title of Officer

Attest:

Secretary

Corporate Seal

Jurisdiction of Incorporation

END OF EXHIBIT 3

Exhibit III: Exhibit 16 – Technical Proposal (amended)

Exhibit 16: Technical Proposal (amended)

The undersigned, having familiarized himself/herself with the specifications, terms and conditions (including the RFP documents), the Addenda and the Notices issued by the Procurement Division, if any, understands that he/she has the qualifications and capacity to execute the project under this RFP process.

1.0 Proposer Identification

_____

Proposer's Name

2.0 Design-Builder Experience and Past Performance. Detailed information demonstrating the Design-Builder's experience and past performance on projects of similar size, scope, complexity, delivery method, and operational risk. At a minimum, the Proposer shall identify and describe projects that demonstrate compliance with the minimum experience.

In addition, for each submitted project, the Proposer shall describe its safety, quality, schedule, regulatory compliance, stakeholder coordination, and risk management performance.

As a minimum the Proposer shall meet the following requirements:

1. *At least one (1) completed hospital construction project within the last twenty (20) years*;
2. *At least one (1) completed Design-Build healthcare or hospital project by the designer or builder (can be the hospital construction project required in the first item herein or an additional project)*;
3. *At least one (1) experience involving critical healthcare environments, including emergency departments, operating rooms, and intensive care units;*
4. *At least one (1) experience delivering projects within active healthcare campuses, mission-critical facilities, or operational environments requiring strict coordination of access, safety, logistics, utilities, and continuity of operations*;
5. *At least one (1) project with vertical construction*; and
6. *At least one (1) federally funded project*.

For each submitted project, the Proposer shall include, at a minimum: project name and location; owner/client; contract value; delivery method; project size and relevant scope; completion date; role of the Proposer and major team members; description of hospital or mission-critical components; schedule and budget performance; change order history, if applicable; safety record; quality performance; and owner reference contact information. Refer to Section 9.2.18.1, as amended, and the Minimum Healthcare / Hospital Projects Experience Form (Annex III, as amended).

Proposer should submit additional sheets if the space provided is insufficient. Identify each continuation clearly and reference it here. ☐ Annex ____

Proposer's Initials: _____

3.0 Design Firm Experience and Past Performance (Section 9.2.18.2, as amended). Demonstrate the Design Firm's experience in hospital planning, programming, design, permitting, regulatory coordination, construction-document development, and design support during construction, specifically including: (i) Acute care hospitals, including emergency department, operating room, intensive care; or comparable critical healthcare environments; (ii) Hospital facility planning, programming, and clinical workflow coordination; (iii) Resilient and mission-critical building systems, including structural, electrical, mechanical, plumbing, medical gas, IT, communications, life safety, and utility infrastructure; (iv) Design-Build delivery, fast-track design packages, multidisciplinary coordination, constructability reviews, and support of phased construction; (v) Knowledge of American College of Surgeons (ACS) trauma center standards and verification requirements; (vi) Compliance with applicable healthcare codes, standards, licensing requirements, accessibility requirements, environmental requirements, and Federal Aviation Administration (FAA) requirements applicable to the heliport; and (vii) Puerto Rico professional practice requirements. **In addition, complete Annex IV (Design Firm's Qualifications), as required by Section 9.2.5.7, as amended.**

Proposer should submit additional sheets if the space provided is insufficient. Identify each continuation clearly and reference it here. ☐ Annex ____

4.0 Organizational Structure and Design-Build Team Integration. Provide the Design-Build organizational structure and explanation of how the Design-Builder, Designer, Builder, subcontractors, specialty consultants, suppliers, vendors, and Key Personnel will be integrated to deliver the Project. The Proposal shall include an organizational chart consistent with Section 9.2.5.1 and shall describe lines of authority, decision-making responsibilities, communication protocols, issue-escalation procedures, design-construction coordination, and the method for managing scope, schedule, quality, safety, cost, risk, commissioning, activation, and operational readiness. The Proposer shall identify any prior collaboration among major Design-Build team members and describe how such prior collaboration supports efficient project delivery, risk reduction, and accountability.

Proposer should submit additional sheets if the space provided is insufficient. Identify each continuation clearly and reference it here. ☐ Annex ____

5.0 Minimum Technical Qualification Crosswalk. Provide a concise crosswalk or matrix identifying where the Proposal demonstrates compliance with the minimum healthcare experience, Key Personnel, bonding, technical capacity, past performance, and technical approach requirements established in Sections 10.1.1 and 10.1.2 of the RFP, as amended. The crosswalk shall reference the applicable Proposal section, page number, and supporting documentation.

Proposer should submit additional sheets if the space provided is insufficient. Identify each continuation clearly and reference it here. ☐ Annex ____

6.0 Work Approach / Technical Proposal. Provide a detailed Work Approach demonstrating a comprehensive understanding of the Project, the Design-Build delivery requirements, and the active Medical Center Campus environment. The Work Approach shall describe the Proposer's integrated strategy for delivering the Project from design through close-out and shall address, at a minimum, the following:

6.1 Project Delivery Strategy (Section 10.1.2.4.1). Describe the integrated approach for design, permitting, procurement, construction, commissioning, activation, and closeout, including Accelerated Delivery Strategy. Provide a detailed execution strategy and schedule demonstrating its approach to achieving Functional Operation, Substantial Completion (including the completion of all commissioning activities) and Final Completion of the entire Project within the fifty-four (54) month Period of Performance established in RFP Section 7.2, as amended, indicating:

- *Design acceleration methodologies;*
- *Fast-track delivery techniques;*
- *Early procurement packages;*
- *Long-lead equipment strategies;*
- *Construction sequencing;*
- *Critical path management;*
- *Resource loading methodologies; and*
- *Recovery planning measures.*

Proposer should submit additional sheets if the space provided is insufficient. Identify each continuation clearly and reference it here. ☐ Annex ____

6.2 Schedule Strategy (Project Schedule, Resource Loading, and Monthly Cash Flow Projections) (Sections 9.2.18.7 and 10.1.2.4.3, as amended). Submit a computer-produced Critical Path Method (CPM) Project Schedule and a resource-loaded schedule with monthly cash-flow projections. Show activity logic, sequence, interdependencies, whole-day durations, subcontracted work, critical path, design reviews, endorsements and permits, early-work packages, procurement and long-lead equipment, construction, inspections, testing, commissioning, activation, approvals, Substantial Completion, Final Completion, and closeout. Provide a detailed execution strategy and schedule demonstrating the approach to achieving Functional Operation, Substantial Completion (including the completion of all commissioning activities) and Final Completion of the entire Project within the fifty-four (54) month Period of Performance from the Notice to Proceed, in accordance with Sections 7.2 and 10.1.2.4.3, as amended. Any sequencing or phasing shown is for planning purposes only and shall not create interim milestones or partial acceptance. Include recovery planning and schedule-risk controls.

Proposer should submit additional sheets if the space provided is insufficient. Identify each continuation clearly and reference it here. ☐ Annex ____

6.3 Campus Logistics, Maintenance of Traffic, and Site Utilization (Section 10.1.2.4.2). Provide an integrated logistics and site-utilization plan for work within the active Medical Center Campus. Identify construction access points, traffic control, ambulance and emergency-vehicle routes and access, public and worker access, pedestrian and vehicular circulation, haul and delivery routes, staging and laydown areas, material storage, temporary facilities, contractor parking, equipment and crane/hoisting zones, waste-removal routes, fencing, barriers, utility protection, and coordination with adjacent medical, clinical, administrative, parking, utility, and support facilities. Explain how continuous safe access and campus operations will be maintained.

Proposer should submit additional sheets if the space provided is insufficient. Identify each continuation clearly and reference it here. ☐ Annex ____

6.4 Safety, Site Security, Infection Control, and Environmental Protection (Section 10.1.2.4.4). Describe the safety-management approach for design and construction, including worker safety, public protection, pedestrian and vehicular safety, emergency access, high-risk work, site security, incident response, coordination with ASEM and continuity of healthcare operations throughout design and construction. Describe infection-control measures appropriate to an active medical campus and controls for dust, noise, vibration, air quality, erosion and sedimentation, stormwater, hazardous materials, construction and demolition waste, and protection of patients, staff, visitors, adjacent facilities, and ongoing healthcare operations.

Proposer should submit additional sheets if the space provided is insufficient. Identify each continuation clearly and reference it here. ☐ Annex ____

6.5 Procurement, Materials, Equipment, and Delivery Management (Section 10.1.2.4.5, as amended). Describe the approach for procurement, delivery, receipt, inspection, storage, security, protection, installation, start-up, and turnover of materials and equipment in accordance with the Project Schedule. Address long-lead and healthcare-critical equipment, hospital and medical equipment, delivery coordination, temporary storage, submittals, vendor participation, testing, warranties, spare parts, and measures to avoid disruption to adjacent medical and support operations.

Proposer should submit additional sheets if the space provided is insufficient. Identify each continuation clearly and reference it here. ☐ Annex ____

6.6 Quality Assurance and Quality Control (Section 10.1.2.4.6). Describe the proposed quality assurance and quality control program for design and construction, including design reviews, constructability reviews, multidisciplinary coordination, code reviews, inspections, testing, commissioning coordination, document control, submittals, RFIs, nonconformance and corrective-action processes, operational continuity planning, records, and verification of compliance with the RFP and Contract Documents. Describe the BIM Execution Plan, model uses, Level of Development by phase, clash detection, issue tracking, healthcare-system coordination, record-model requirements, and integration of BIM information with commissioning, operations, and maintenance.

Proposer should submit additional sheets if the space provided is insufficient. Identify each continuation clearly and reference it here. ☐ Annex ____

6.7 Risk Management and Operational Continuity (Section 10.1.2.4.7). Describe the methodology for identifying, assessing, assigning, mitigating, monitoring, and controlling risks throughout design and construction. Include schedule, cost, permitting, design coordination, procurement, safety, environmental, utility, campus-interface, clinical-operations, commissioning, and activation risks. Provide measures to minimize impacts to emergency response, existing medical services, utilities, traffic, parking, wayfinding, and adjacent clinical, administrative, public, and support operations, including contingency and recovery procedures.

Proposer should submit additional sheets if the space provided is insufficient. Identify each continuation clearly and reference it here. ☐ Annex ____

6.8 Commissioning, Activation, Training, Turnover, and Closeout (Section 10.1.2.4.8). Describe the integrated approach for commissioning and operational readiness, including commissioning planning; pre-functional and functional testing; integrated systems testing; deficiency tracking and retesting; regulatory inspections and approvals; facility activation; staff training; O&M manuals; warranties; as-built and record drawings; record BIM model; asset and equipment information; final permits; occupancy and life-safety documentation; punch list; turnover, and final closeout. Address the Design-Builder Commissioning Manager (DB-Cx) role and its interface with the Independent Commissioning Authority (CxA) under Part XII (Commissioning) of Attachment 1, as amended. Address HVAC, electrical, emergency power, plumbing, fire protection, medical gas, BAS, IT/low-voltage, security, nurse-call, and other hospital-critical systems identified in Attachment 1.

Proposer should submit additional sheets if the space provided is insufficient. Identify each continuation clearly and reference it here. ☐ Annex ____

6.9 Regulatory Compliance (Section 10.1.2.4.9). Describe the approach for compliance with all applicable federal, Puerto Rico, CDBG-MIT, HUD, PRDOH, ASEM, healthcare, environmental, labor, safety, accessibility, professional licensing, permitting, and Design-Build requirements.

Proposer should submit additional sheets if the space provided is insufficient. Identify each continuation clearly and reference it here. ☐ Annex ____

7.0 Proposers shall include in their Technical Proposal a complete resiliency strategy identifying, at a minimum, the proposed microgrid configuration, BESS/ESS rated power capacity (kW), usable energy capacity (kWh), minimum autonomy duration, UPS capacities, islanding capability, black-start functionality, and generator-to-battery coordination strategy (Addendum No. 4, Item 21).

Proposer should submit additional sheets if the space provided is insufficient. Identify each continuation clearly and reference it here. ☐ Annex ____

Exhibit 16: Technical Proposal (amended)

In witness thereof, the Proposer has executed this Technical Proposal this ____ day of _____, 20 _____.

If Proposer's Entity is an individual:

_____
Signature of Individual

_____
Name and Title of Individual

If Proposer's Entity is a sole proprietorship or operates under a trade name:

_____
Name and Title of the Proposer Entity

By: _____
Signature of the Proposer's Authorized Representative

If Proposer's Entity is a Partnership or Joint Venture

_____
Name and Title of the Proposer Entity

By: _____
Signature of the Proposer's Authorized Representative

If Proposer's Entity is a corporation

_____
Name of Corporation

By: _____
Signature of Officer

_____
Name of Officer

_____
Title of Officer

Attest: _____
Secretary

_____
Corporate Seal

_____
Jurisdiction of Incorporation

END OF EXHIBIT 16

Exhibit IV: Exhibit 17 – Price Proposal Form (amended)

Exhibit 17: Price Proposal Form (amended)

Name of Proposer:	**Date:**

ARTICLE 1 – PROPOSER'S ACKNOWLEDGEMENTS

Proposer accepts all the terms, specifications, and conditions of the Request for Sealed Proposals (RFP), as amended, including without limitation those dealing with the disposition of the Bid Bond. This Price Proposal and all prices stated herein shall remain valid and subject to acceptance for one hundred eighty **(180) calendar days** from the Proposal Submission Deadline.

ARTICLE 2 – PROPOSER'S REPRESENTATIONS

In submitting this Price Proposal, Proposer represents that:

1. The Proposer has carefully examined and studied the RFP documents, as amended, as well as all data and reference items identified in the RFP documents, as amended, and hereby acknowledges receipt of the following Addenda:

Addendum No.	**Addendum Date**

2. Proposer has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
3. Proposer is familiar with all Laws and Regulations that may affect cost, progress, and performance of the Work and its compliance with CDBG-MIT requirements.
4. Proposer has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site, and all drawings (if any) of physical conditions relating to existing surface or subsurface structures at the Site, that ASEM has identified or made available to Proposer, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that ASEM has identified or made available to Proposer, especially with respect to Technical Data in such reports and drawings.
5. Proposer has considered the information known to Proposer itself, and to members of Proposer's design-build team; information commonly known to design professionals, design-builders, and contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the RFP Documents, as amended; and the Site-related reports and drawings (if any) identified in the RFP Documents, as amended, or otherwise made available to Proposer, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the project design; (3) the means, methods, techniques, sequences, and procedures of construction to be employed by Proposer; and (4) Proposer's safety precautions and programs.
6. Proposer agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the preparation of its Proposal for performance of the Work at the prices stated and within the times required, and in accordance with the other terms and conditions of the RFP Documents, as amended.
7. Proposer is aware of the general nature of work to be performed by ASEM and others at the Site that relates to the Work as indicated in the RFP Documents, as amended.
8. Proposer has given ASEM written notice of all conflicts, errors, ambiguities, and discrepancies that Proposer has discovered in the RFP Documents and confirms that the written response from ASEM is acceptable to Proposer.

9. The RFP Documents, as amended, are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.

10. The submission of this Price Proposal constitutes an incontrovertible representation by Proposer that Proposer has complied with every requirement of this Article, and that without exception the Price Proposal and all prices in the Price Proposal are premised upon performing and furnishing the Work required by the RFP Documents, as amended.

ARTICLE 3 – PROPOSER'S UNDERSTANDING

1. The undersigned, having familiarized himself/herself with the specifications, terms and conditions of the RFP Documents, as amended, submits this proposal in response to the RFP No. 27DJ-00415, whose price proposal includes all related costs, including but not limited to all labor, materials, studies, reports, installation, equipment, professional services, non-professional services, and construction works; as well as having fully understood the scope of the work, specifications, terms and conditions, amendments to the RFP documents, as amended, and notifications issued for this RFP.

2. The Proposer acknowledges and accepts that the prices of the proposal, as stated above, may not be changed after the selection or award has been issued and that these will remain fixed during the execution of the contract and until the contracted service is completed.

3. The Proposer acknowledges and accepts that as part of this RFP process and in accordance with 2 C.F.R. § 200.321, it is the policy of the Government of Puerto Rico and ASEM to take all necessary affirmative steps to assure that small businesses, minority businesses, and women's business enterprises are used when possible, and to encourage their participation in this RFP process.

BASE BID: <u>Design-Build for Puerto Rico's New Trauma Hospital</u>

A. <u>Delivery Schedule</u>: The Proposer will achieve Functional Operation, Substantial Completion and Final Completion of the entire Project within fifty-four (54) months from the Notice to Proceed (Period of Performance), in accordance with RFP Section 7.2, as amended, and the schedule presented as part of the Proposal.

   By submitting this proposal, I accept and certify that the execution of all activities identified in the Scope of Work, as amended, will be carried out within an execution period of no more than fifty-four (54) months from the Notice to Proceed, as established in the RFP documents, as amended.

B. Price Proposal:

Base Bid: The Proposer hereby submits the following Price Proposal for the Project as per the terms, specifications, and conditions of the RFP, as amended, and Scope of Work, as amended, the details and corresponding cost breakdown which are provided in **Exhibit 18** (Cost Breakdown, as amended). Prices shall exclude the IVU only for the items eligible for ASEM's exemption and shall include all other applicable taxes (Addendum No. 4, Item 60).

Item	Description	Quantity	Unit	Amount
1.	Design	1	LS	
2.	Construction	1	LS	
			Base Bid	

ALLOWANCE:

The Proposer acknowledges that the allowance items do not constitute a transfer of contractual risk to ASEM and accepts that the allowance amounts will be reconciled against actual costs and that any unused balance shall revert to ASEM through a deductive Change Order.

The Proposer confirms it has evaluated the project conditions and acknowledges that the administration of allowance items constitutes an integral part of its obligations as the Design-Builder, including coordination with suppliers, logistics management, and compliance with regulatory requirements.

Specific cases may require the Proposer to provide additional services to those stated above. For such services, the contract shall include an allowance, and the Proposer shall provide ASEM and PRDOH with unit prices and/or tariffs for the additional services to be performed. A Request for Approval (RFA) is required from the Proposer prior to the use of the allowance and at least three (3) quotations shall be obtained and submitted for the approval of the use of the funds on any given service or item. Where a manufacturer holds exclusive distribution rights in Puerto Rico for an item of Allowance Item 1, as documented in accordance with the answer to Question 499 of Addendum No. 3, as amended by Item 62 of Addendum No. 4, one (1) quotation accompanied by the manufacturer's written evidence

of exclusivity and a price-reasonableness analysis shall satisfy this requirement. No additional task or service may be performed by the Proposer without prior authorization of the ASEM and PRDOH.

1. **Supply and Install Hospitaller and Medical Equipment for Puerto Rico's New Trauma Hospital**

   The Proposer acknowledges and accepts that, as part of the items contemplated in the award, an allowance item is included in the amount of $25,000,000.00, which shall cover all costs related to the purchase, taxes, levies, fees, transport, delivery, installation, testing, commissioning, warranty, biomedical support, calibration, start-up, utilities hookups, technical support and guidance, assembly, validation, and any other incidental or supplementary expenses required for the operational supply of the Hospital and Medical Equipment identified in Attachment F. The Design-Builder shall bear all schedule risks associated with procurement and delivery of equipment required to achieve Functional Operation, Substantial Completion, and Final Completion. Refer to **Attachment F** (Hospitaller and Medical Equipment).

2. **Supply and Install the Furniture, Fixtures and Equipment (FF&E) for Design-Build for Puerto Rico's New Trauma Hospital**

   The Proposer acknowledges and accepts that, as part of the items contemplated in the award, an allowance item is included in the amount of $4,500,000.00 for the supply of loose and movable Furniture, Fixtures and Equipment (FF&E) not permanently attached to the building. It shall cover all costs related to their purchase, taxes, levies, fees, transport, delivery, receipt, storage, assembly, placement, warranty, technical support and guidance, and any other incidental or supplementary expenses required. Fixed and built-in elements and all supports and utility connections are included in Base Bid Item B-24, and hospital and medical equipment listed in Attachment F is covered by Allowance Item 1 (Addendum No. 4, Item 61). The Design-Builder shall bear all schedule risks associated with procurement and delivery of FF&E required to achieve Functional Operation, Substantial Completion, and Final Completion.

3. **Contingency**

   The Proposer acknowledges and accepts that, as part of the items contemplated in the award, an allowance item is included in the amount of $10,300,000.00 which is an Owner-controlled allowance that may be used only upon ASEM's prior written authorization, through a Change Order or written allowance authorization, for: (a) differing site conditions that qualify as such under Attachment 9, Section 4.3, as limited by the answers to Questions 12 and

266(c) of Addendum No. 3, as amended by Item 62 of Addendum No. 4; (b) concealed conditions in existing structures or utilities that could not reasonably have been discovered through the investigations required by the RFP Documents; (c) archaeological or cultural-resource discoveries under Section 106 requirements not attributable to the Design-Builder; and (d) Owner-directed changes. The Contingency shall not be used for risks assigned to the Design-Builder, including, without limitation, unclassified excavation and subsurface materials consistent with the technical data identified in the answer to Question 12, utility connections and conflicts assigned to the Design-Builder in the answer to Question 268, design errors or omissions, means and methods, schedule recovery, escalation, or delays attributable to the Design-Builder. Any unused balance of the Contingency shall revert to ASEM.

Item	Description	Quantity	Unit	Amount
1.	Supply and Install Hospitaller and Medical Equipment for Puerto Rico's New Trauma Hospital	1	LS	$25,000,000.00
2.	Supply and Install the Furniture, Fixtures and Equipment (FF&E) for Design-Build for Puerto Rico's New Trauma Hospital	1	LS	$4,500,000.00
3.	Contingency	1	LS	$10,300,000.00

Total Allowances: US$ 39,800,000.00

TOTAL PRICE OF THE PROPOSAL (Base Bid + Allowances): US$ _____ (amount in words: _____). This amount shall be used to determine the Bid Bond required by Section 9.2.20, as amended, and the single project bonding capacity required by Section 9.2.21, as amended.

ARTICLE 4 – PROPOSER'S CERTIFICATION

Proposer certifies that:

1. This Price Proposal is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;

2. Proposer has not directly or indirectly induced or solicited any other Proposer to submit a false or sham Price Proposal;
3. Proposer has not solicited or induced any individual or entity to refrain from submitting a Price Proposal; and
4. Proposer has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract:
    a. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the RFP process;
    b. "fraudulent practice" means an intentional misrepresentation of facts made (i) to influence the proposal process to the detriment of ASEM, (ii) to establish prices at artificial non-competitive levels, or (iii) to deprive ASEM of the benefits of free and open competition;
    c. "collusive practice" means a scheme or arrangement between two or more Proposers, with or without the knowledge of ASEM, a purpose of which is to establish prices at artificial, non-competitive levels; and
    d. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the proposal process or affect the execution of the Contract.
5. As part of the documents of its Proposal, Proposer submitted a sworn statement (Non-Collusive Affidavit, Exhibit 8) proving that the undersigned has not participated in any collusion with any person with respect to this RFP.

The undersigned represents, warrants, and certifies on behalf of the Proposer that:

1. The information contained in the Proposal is true and complete,
2. The Proposal has been duly and properly authorized for submission by the Proposer, and
3. In its preparation and development of the Proposal, the Proposer has not, directly or indirectly, solicited or received any advice, assistance, or information concerning the Proposal from any representative of the ASEM or PRDOH, or its agents or contractors, which was not equally available to other Proposers, and which might contribute to an actual or potential competitive advantage for the Proposer.

Exhibit 17: Price Proposal Form (amended)

CERTIFICATION

I, _____, hereby AFFIRM AND CERTIFY that I am authorized to sign this Proposal, and that my name and signature are duly registered in the Single Registry of Bidders (RUL, for Spanish acronym) of the Puerto Rico's General Services Administration (ASG, for Spanish acronym) or will be registered within five (5) business days from the Proposals Opening. Furthermore, I CERTIFY that I RECOGNIZE AND ACCEPT the statements detailed above, as well as my obligation to comply with all requirements, specifications, terms, and conditions during the RFP process, and during the term of the contract that may be awarded.

In witness whereof, the Proposer has executed this Price Proposal Form this _____ day of _____, 20_____.

If Entity is an individual:

_____
(Signature of Individual)

_____
(Printed Name and Title of Individual)

_____
(Address Line 1)

_____
(Address Line 2)

_____ _____ _____
(City) *(State)* *(Zip Code)*

[Remainder of Page Left Blank Intentionally]

Exhibit 17: Price Proposal Form (amended)

If Entity is a sole proprietorship or operates under a trade name:

_____
(Printed Name of Firm)

By: _____
(Authorized Representative's Signature)

_____
(Printed Name and Title of Authorized Representative)

_____
(Address Line 1)

_____
(Address Line 2)

_____ _____ _____
(City) *(State)* *(Zip Code)*

If Entity is a partnership or joint venture:

_____
(Printed Name of Partnership or Joint Venture)

By: _____
(Signature of General Partner)

_____
(Printed Name and Title of General Partner)

_____
(Address Line 1)

_____
(Address Line 2)

_____ _____ _____
(City) *(State)* *(Zip Code)*

[Remainder of Page Left Blank Intentionally]

Exhibit 17: Price Proposal Form (amended)

If Entity is a corporation:

_____
(Printed Name of Corporation)

_____
(Corporate Address Line 1)

_____
(Corporate Address Line 2)

_____ _____ _____
(City) *(State)* *(Zip Code)*

By: _____
(Signature of Officer)

_____
(Printed Name of Officer)

_____
(Title of Officer)

Attest: _____
(Secretary)

[CORPORATE SEAL]

_____
(Jurisdiction of Incorporation)

END OF EXHIBIT 17

Exhibit V: Exhibit 18 – Cost Breakdown (amended)

Exhibit 18: Cost Breakdown (amended)

Name of Proposer:	**Date:**

This Cost Breakdown Form is provided solely to support the analysis and evaluation of the Proposal. It shall not be used as a payment application, schedule of values, basis for payment, Notice of Award, contract award, or authorization to proceed. Any award, payment, or contractual obligation shall be governed exclusively by the final procurement and contract documents approved by the ASEM.

The Proposer hereby submits the following Cost Breakdown of the Price Proposal for the Project. The Proposer shall complete every applicable cost line, and include all costs required to provide a complete, functional, code-compliant, permitted, commissioned, and operational facility.

A - DESIGN

DESIGN				
Item	**Description**	**Qty**	**Unit**	**Amount ($)**
1	Design and preconstruction mobilization, project understanding, review of ASEM requirements, and integration of the Bridging Documents, Geotechnical Report, and recommendations of the Auxiliary Secretariat for Public Health Regulation (SARPS) (Attachment D).	1	LS	
2	Required studies and site investigations, including topographic survey; existing infrastructure and subsurface-utility investigation using ground-penetrating radar, underground penetrating sonar, or other appropriate non-destructive methods; traffic and accessibility studies; site-access, easement, and restriction analysis; risk and safety assessment; hydrologic and hydraulic study; scour study, if applicable; applicable-regulations report; methodologies; findings; maps; models; laboratory results; georeferenced photographs; risk matrix; recommendations; and technical conclusions.	1	LS	
3	Hazardous-material identification, observation,	1	LS	

Exhibit 18: Cost Breakdown (amended)

DESIGN				
Item	**Description**	**Qty**	**Unit**	**Amount ($)**
	sampling, analysis, inspection report, negative certifications, mitigation recommendations, and mitigation Work Plan, as applicable.			
4	Schematic Design deliverables for all required disciplines, including architecture, landscape, civil, geotechnical, structural, fire protection, electrical, communications, mechanical, plumbing, life safety, interior design, furniture, fixtures and equipment, site plans, functional and circulation analysis, preliminary systems integration, code-compliance report, studies report, submittal log, technical specifications, calculations, Building Information Modeling coordination, cost estimate, and updated design and construction schedules.	1	LS	
5	Design Development deliverables, including advanced 30%-60% drawings, coordinated Building Information Modeling models, complete structural and mechanical, electrical, and plumbing criteria, updated technical specifications, analysis and calculation booklets, bill of quantities, updated cost estimate, updated schedules, regulatory-compliance review, pre-consultations, permitting support, and updated submittal log.	1	LS	
6	Construction Documents deliverables, including final signed and sealed discipline drawings, final technical specifications, fully coordinated Building Information Modeling model, final cost estimate, updated schedules and submittal log, Quality Plan, Design Professional Certification, and construction-permit application and support through the Puerto Rico Permit Management Office.	1	LS	
7	Technical specifications, calculations, analyses, design narratives, bill of quantities by discipline, Functional Area Matrix, space calculations, hazard and risk narratives, equipment and product data, installation and operating instructions, maintenance requirements, and warranty information.	1	LS	
8	Cost estimates at each design phase, broken down by discipline and by materials, equipment,	1	LS	

Exhibit 18: Cost Breakdown (amended)

DESIGN				
Item	**Description**	**Qty**	**Unit**	**Amount ($)**
	labor, direct construction costs, soft costs, administrative costs, inflation, and contingency, with a dated cost narrative identifying the source and methodology and bearing the preparer's name and signature; include required original and copy submissions.			
9	Design and construction schedules during design and preconstruction, including critical-path-method schedule, design, permit, construction, commissioning, and turnover milestones, monthly updates, risk analysis, schedule narrative, cash flow, long-lead procurement, operational-continuity sequencing, temporary-facility and utility shutdown coordination, and corrective-action narratives for deviations.	1	LS	
10	Submittal Log identifying specification sections, titles, required submittal types, material and equipment data, test results, calculations, submission deadlines, and status updates during design and preconstruction.	1	LS	
11	Environmental-compliance support, including Environmental Review Record and Authority to Use Grant Funds documentation, compliance with choice-limiting-action restrictions, and reevaluation documentation and coordination for Design-Builder-initiated changes, at no additional cost unless otherwise approved in writing.	1	LS	
12	All required endorsements, permits, consultations, plans, calculations, certifications, fees, and agency coordination, including environmental recommendations and determinations, tree-mitigation consultation, construction consultation, reforestation plan, environmental assessment, construction permit, and coordination with applicable utilities and Puerto Rico agencies.	1	LS	
13	Design management and multidisciplinary coordination, including Building Information Modeling Execution Plan, model authorship and responsibilities, software and exchange protocols, model-federation procedures, clash detection, issue tracking, critical clinical-area coordination, constructability review, model review and revision	1	LS	

Exhibit 18: Cost Breakdown (amended)

DESIGN				
Item	**Description**	**Qty**	**Unit**	**Amount ($)**
	controls, and coordination reports.			
14	Design quality control and compliance, interdisciplinary review, coordination of drawings and specifications, completeness reviews, correction of comments, and correction of design errors, omissions, conflicts, or deficiencies at no additional cost.	1	LS	
15	Construction-phase design services and supervision, including requests for information, submittal and shop-drawing review, technical meetings, weekly field observations, field-observation reports, deficiency tracking, design updates, recommendations on proposed changes, code and permit impact reviews, monthly as-built review, record-set drawings, updated Building Information Modeling models, and project close-out certifications.	1	LS	
16	Commissioning planning support during design and preconstruction, including commissioning strategy, plan, schedule, system requirements, review of commissioning documentation, and coordination of integrated systems testing.	1	LS	
17	Professional liability and other design-related insurance required for Design-Build professional services.	1	LS	
18	Medical equipment planning by a qualified medical equipment planner (answer to Question 159(d)), including equipment selection support, room data sheets, and utility, structural and space requirements for the equipment listed in Attachment F.	1	LS	
			Total A – Design	

B - CONSTRUCTION

Exhibit 18: Cost Breakdown (amended)

CONSTRUCTION				
Item	**Description**	**Qty**	**Unit**	**Amount ($)**
1	Mobilization and remobilization for construction, including all required startup and close-out activities (not to exceed five percent (5%) of the Base Bid).	1	LS	
2	Temporary facilities, field office, sanitation, temporary utilities, storage, communications, logistics, staging, temporary controls, fencing, barriers, field support, and removal of temporary facilities at close-out.	1	LS	
3	Project management, construction supervision, coordination meetings, reporting, cost control, budget and cash-flow management, schedule control, document control, risk management, stakeholder coordination, and project execution planning.	1	LS	
4	Operational continuity and infection-control measures, including work zones, temporary partitions and barriers, patient and staff circulation, emergency and trauma access, critical-care and sterile-workflow protection, utility shutdown coordination, pressure controls, dust mitigation, and coordination with ASEM operations.	1	LS	
5	Quality control and compliance management, including the Quality Control Manager, written procedures, inspection and testing plans, laboratory testing, mockups, documentation, corrective actions, and coordination of regulatory inspections.	1	LS	
6	Safety management and Safety Manager services, including daily and weekly inspections, toolbox talks, training, high-risk-work permits, incident and near-miss management, emergency preparedness, subcontractor compliance, safety logs, monthly reports, and applicable OSHA, PROSHA, EPA, and local-code compliance.	1	LS	
7	Submittals, requests for information, shop drawings, material samples, and submittal log management during construction, commissioning and close-out.	1	LS	
8	Project scheduling during construction,	1	LS	

Exhibit 18: Cost Breakdown (amended)

CONSTRUCTION				
Item	**Description**	**Qty**	**Unit**	**Amount ($)**
	commissioning and close-out, including maintained critical-path-method schedule, design, permit, construction, commissioning and turnover milestones, monthly updates, schedule narratives, cash flow and S-curves, risk analysis, long-lead procurement, correction plans, and final turnover milestone.			
9	Construction and demolition waste management, including a compliant Waste Management Plan, daily cleanup, debris containers, disposal tickets, recycling and salvage, tracking of at least five diversion materials, and diversion of at least 75% of construction and demolition waste by weight.	1	LS	
10	MOT, pedestrian and temporary access, emergency-access protection, advance closure notifications, traffic notices, sequencing controls, and coordination with ASEM and Medical Center users.	1	LS	
11	Erosion and sediment control plan design and implementation, stormwater controls, inspections, corrective measures, documentation, and related permitting support.	1	LS	
12	Utility connections and interruptions, including PREPA or LUMA Energy, PRASA, telecommunications and other utilities, temporary and permanent tie-ins, shutdown planning, approvals, testing, and applicable fees.	1	LS	
13	Existing conditions, demolition, removals, excavation, trenching, drilling and below-grade disturbance, including documented subsurface investigation before work, shoring, excavation support, dewatering, monitoring, and coordination of findings with the Building Information Modeling model and construction plans.	1	LS	
14	Site work, excavation, backfill, grading, drainage, paving, sidewalks, curbs, ramps, landscaping, fencing, roads, site utilities, flood-protection systems, restoration, campus interfaces, and environmental or archaeological protection measures required by the approved design.	1	LS	
15	Concrete work, including foundations, footings,	1	LS	

Exhibit 18: Cost Breakdown (amended)

CONSTRUCTION				
Item	**Description**	**Qty**	**Unit**	**Amount ($)**
	mat and basement slabs, basement walls, structural frames, slabs, columns, shear walls, roof structure, and helipad or heliport structural support.			
16	Masonry, concrete masonry unit walls, shafts, and fire-rated separations throughout the building.	1	LS	
17	Metals, embeds, stairs, railings, roof and equipment support, helipad metals, and miscellaneous supports.	1	LS	
18	Wood, plastics, and composites, including backing, blocking, millwork support, and related work.	1	LS	
19	Thermal and moisture protection, including below-grade waterproofing, roofing, insulation, firestopping, vapor barriers, drainage, joints, and complete building-enclosure work.	1	LS	
20	Doors, windows, openings, and hardware throughout the complete facility.	1	LS	
21	Finishes, partitions, ceilings, flooring, wall protection, coatings, and clinical finishes throughout the complete facility.	1	LS	
22	Specialties, signage, wayfinding, project signage, life-safety accessories, and related accessories throughout the complete facility.	1	LS	
23	Medical and general equipment interfaces, fixed-equipment supports, clinical-support infrastructure, medical-equipment clearances, utility and mechanical, electrical and plumbing tie-ins, and verification. All equipment listed in Attachment F is Contractor-furnished and Contractor-installed under Allowance Item 1; the Project does not include Owner-furnished equipment (see answers to Questions 159, 206, 404 and 465).	1	LS	
24	Fixed and built-in furnishings, including fixed casework and millwork, nurse stations, reception and work counters, built-in shelving and storage, wall-mounted and ceiling-mounted fixtures that are part of the building construction, blocking, backing, anchorage and supports, and all power, data, plumbing, medical gas and other utility rough-ins and connections required for furniture	1	LS	

Exhibit 18: Cost Breakdown (amended)

CONSTRUCTION				
Item	**Description**	**Qty**	**Unit**	**Amount ($)**
	and equipment. Loose and movable furniture is excluded and is covered by Allowance Item 2 (Addendum No. 4, Item 61).			
25	Special construction, including seismic-isolation systems and interfaces, joint coordination and covers, flexible mechanical, electrical, and plumbing crossings, and helipad or heliport systems, including heliport lighting, controls and operations systems.	1	LS	
26	Conveying systems, including elevators and vertical transportation for the complete building, and the helipad interface, and the Pneumatic Tube System (PTS), including stations, blowers, diverters, controls, testing and transit-time validation.	1	LS	
27	Heating, ventilation, and air-conditioning systems, including central-plant interfaces, air-handling units, chillers, boilers, variable-air-volume boxes, critical ventilation, pressure control for clinical spaces, controls, smoke control, testing, adjusting and balancing, start-up, and functional testing.	1	LS	
28	Plumbing systems, including domestic hot and cold water, sanitary, stormwater, pumps, water heaters, specialty systems, backflow prevention, insulation, testing, certification, and complete distribution throughout the facility.	1	LS	
29	Medical-gas systems, including sources, distribution, outlets, valves, alarms, testing, certifications, operating documentation, and staff training.	1	LS	
30	Fire-suppression systems, including fire pumps, sprinklers, standpipes, helipad or heliport support, interfaces, testing, certification, and authority acceptance.	1	LS	
31	Electrical power and lighting, including service entrance, normal and emergency distribution, grounding, panels, lighting, controls, sensors, emergency branches, testing, labeling, and thermographic scanning when required.	1	LS	

Exhibit 18: Cost Breakdown (amended)

CONSTRUCTION				
Item	**Description**	**Qty**	**Unit**	**Amount ($)**
32	Electrical substations and emergency-power systems, including switchgear, generators, automatic transfer switches, uninterruptible power supplies, critical power, microgrid, battery energy storage system (BESS/ESS), islanding and black-start capability (Exhibit 16, as amended, item 7.0), load-bank testing, and integrated systems testing.	1	LS	
33	Fire-alarm and life-safety systems, including smoke-control interfaces, alarms, controls, programming, testing, certification, and authority acceptance.	1	LS	
34	Potable-water and fire-protection cistern system, including storage tanks, pumps, controls, piping, appurtenances, testing and commissioning, with minimum capacities of 50,000 gallons (potable water) and 36,000 gallons (fire protection), in accordance with Addendum No. 4, Items 9 and 10.	1	LS	
35	Nurse-call and patient and staff communication systems, including complete infrastructure, programming, testing, integration, training, and turnover.	1	LS	
36	Telecommunications, data networks, information technology, security, closed-circuit television, access control, door card readers, disaster monitoring, structured cabling, system programming, testing, credentials, passwords, configuration data, and turnover, coordinated with ASEM's information technology requirements.	1	LS	
37	Building Automation System and Energy Management System, including controls, sensors, actuators, sequences, alarms, interlocks, dashboards, trend logs, system integration, testing, configuration records, and ASEM operations training.	1	LS	
38	Complete commissioning for heating, ventilation and air conditioning, electrical, plumbing, fire protection, medical gas, low-voltage, Building Automation System, life-safety and other required systems, including commissioning plan and schedule, prefunctional checklists, startup,	1	LS	

Exhibit 18: Cost Breakdown (amended)

CONSTRUCTION				
Item	**Description**	**Qty**	**Unit**	**Amount ($)**
	functional performance testing, integrated systems testing, calibration, balancing, deficiency resolution, retesting, reports, and final acceptance documentation.			
39	Building Information Modeling implementation during construction and close-out, including model coordination, clash detection, issue tracking, constructability and logistics review, installed-condition updates, record model, native and interoperable file delivery, and structured asset data.	1	LS	
40	Training and operational transition for ASEM staff, including heating, ventilation and air conditioning and Building Automation System operations, medical gas, emergency power, nurse call, security, access control, information technology, fire alarm, emergency procedures, manuals, videos, certifications, keys, access cards, credentials, passwords, and configuration data.	1	LS	
41	Project close-out and turnover, including punch lists, final inspections, final permits and certificates, regulatory approvals, as-built and record-set drawings, redlines, record Building Information Modeling model, final specifications, operations and maintenance manuals, warranties, commissioning records, environmental and infection-control close-out, safety reports, lien waivers, affidavits, final cleaning and restoration, final walk-through, and complete digital and printed close-out package.	1	LS	

Exhibit 18: Cost Breakdown (amended)

CONSTRUCTION				
Item	**Description**	**Qty**	**Unit**	**Amount ($)**
42	If applicable, any other item contemplated in Attachment 1 (SOW) and RFP Documents, which has not been previously identified or described in the items included in this project (design-construction), cost breakdown (explain):	1	LS	
43	Bonds, insurances (other than the professional liability insurance included in Design Item 17), overhead/profit, fees, freight and logistics, refunds, travel, additional benefits, taxes (excluding the IVU on items eligible for ASEM's exemption, Addendum No. 4, Item 60), as well as any other additional expenses and administrative costs applicable to the project.	1	LS	
			Total B – Construction	

C - ALLOWANCES

ALLOWANCES				
Item	**Description**	**Qty**	**Unit**	**Amount ($)**
1	Supply and Install Hospitaller and Medical Equipment for Puerto Rico's New Trauma Hospital.	1	LS	$25,000,000.00

Exhibit 18: Cost Breakdown (amended)

ALLOWANCES				
Item	**Description**	**Qty**	**Unit**	**Amount ($)**
2	Supply and Install the Furniture, Fixtures and Equipment (FF&E) for Design-Build for Puerto Rico's New Trauma Hospital – loose and movable items only (Addendum No. 4, Item 61).	1	LS	$4,500,000.00
3	Contingency	1	LS	$10,300,000.00
			Total C – Allowances	**$39,800,000.00**

TOTALS

Total A – Design: US$ _____ (shall equal Item 1, Design, of the Base Bid in Exhibit 17, as amended)

Total B – Construction: US$ _____ (shall equal Item 2, Construction, of the Base Bid in Exhibit 17, as amended)

Base Bid (A + B): US$ _____

Total C – Allowances: US$ 39,800,000.00

TOTAL PRICE OF THE PROPOSAL (Base Bid + Allowances): US$ _____

Mathematical Error (RFP Section 10.5). In case of a mathematical discrepancy between the total cost indicated on the Price Proposal Form (**Exhibit 17, as amended**) and the actual sum of the prices per item contained in the Cost Breakdown (**Exhibit 18, as amended**), the cost per item will prevail if the difference between the two amounts is not greater than zero-point five percent (0.5%). The application of the above rule will only be made if, regardless of which of the two amounts is used, the offer remains the best value.

CERTIFICATION

I, _____, hereby AFFIRM AND CERTIFY that I am authorized to sign this proposal, and that my name and signature are duly registered in the Single Registry of Bidders (RUL, for Spanish acronym) of the Puerto Rico's General Services Administration (ASG, for Spanish acronym) or will be registered within five (5) business days from the Proposals Opening. Furthermore, I CERTIFY that I RECOGNIZE AND ACCEPT the statements detailed above, as well as my obligation to comply with all

requirements, specifications, terms, and conditions during the RFP process, and during the term of the contract that may be awarded.

This document is intended as a guide for the Bid Board or Evaluation Committee for the evaluation of the cost analysis of proposals, in compliance with the requirements of 2 CFR 200.324. To this end, it is the Proposer's responsibility to study and analyze the information contained in the scope of work, drawings, specifications, terms, and other documents that are an integral part of the RFP process, ensuring that the information contained therein is included in the prices of their proposal. It is the Proposer's responsibility to verify the itemized details and report any discrepancies before submitting their proposal.

In witness whereof, the Proposer has executed this Cost Breakdown Form this _____ day of _____, 20_____.

If Entity is an individual:

_____
(Signature of Individual)

_____
(Printed Name and Title of Individual)

_____
(Address Line 1)

_____
(Address Line 2)

_____ _____ _____
(City) *(State)* *(Zip Code)*

[Remainder of Page Left Blank Intentionally]

Exhibit 18: Cost Breakdown (amended)

If Entity is a sole proprietorship or operates under a trade name:

_____
(Printed Name of Firm)

By: _____
(Authorized Representative's Signature)

_____
(Printed Name and Title of Authorized Representative)

_____
(Address Line 1)

_____
(Address Line 2)

_____ _____ _____
(City) *(State)* *(Zip Code)*

If Entity is a partnership or joint venture:

_____
(Printed Name of Partnership or Joint Venture)

By: _____
(Signature of General Partner)

_____
(Printed Name and Title of General Partner)

_____
(Address Line 1)

_____
(Address Line 2)

_____ _____ _____
(City) *(State)* *(Zip Code)*

[Remainder of Page Left Blank Intentionally]

Exhibit 18: Cost Breakdown (amended)

If Entity is a corporation:

_____
(Printed Name of Corporation)

_____
(Corporate Address Line 1)

_____
(Corporate Address Line 2)

_____ _____ _____
(City) *(State)* *(Zip Code)*

By: _____
(Signature of Officer)

_____
(Printed Name of Officer)

_____
(Title of Officer)

Attest: _____
(Secretary)

[CORPORATE SEAL]

_____
(Jurisdiction of Incorporation)

END OF EXHIBIT 18

Exhibit VI: Exhibit 19 – Bid Bond Form (amended)

Exhibit 19: Bid Bond (amended)

KNOW ALL PERSONS BY THESE PRESENTS:

That we, as Principal, and _____ as Surety (collectively with the Principal, the "Obligors"), are held and firmly bound unto the Puerto Rico Medical Services Administration, a governmental instrumentality of the Government of Puerto Rico, its successors and assigns, as Obligee, in the full and just amount of _____ equal to **5% of the total price of the proposal (Base Bid + Allowances)** for the payment in lawful money of the United States, of which sum well and truly to be made, the Obligors bind ourselves, our heirs, administrators, and successors, jointly and severally, firmly by these presents.

WHEREAS, the Proposer has submitted the accompanying Proposal dated _____ for **Design Build of Puerto Rico's New Trauma Hospital** under the procurement process (27DJ-00415).

NOW, THEREFORE, the conditions of this obligation are such that if the aforesaid Principal is awarded the contract and, the said Principal, within the time required enters into a formal contract and secures the performance of the terms and conditions of the contract, then this obligation will be void. If otherwise, the Principal withdraws his Proposal or fails to enter into a formal contract after award, the Principal and Surety will pay unto the Obligee the difference in money between the amount of the Proposal of the said Principal and the amount for which the Obligee legally contracts with another party to perform the work if the latter amount be in excess of the former, but in no event shall liability hereunder

exceed the penal sum hereof. These conditions shall remain in full force and effect for a period of one hundred and eighty (180) days after the Proposal Submission Deadline.

IN WITNESS WHEREOF, the above-bound parties have executed this instrument under their several seals this _____ day of _____, the name and corporate seal of each corporation party being hereto affixed and these presents duly signed by the undersigned representative pursuant to authority of its governing body.

Attest: _____

Principal: _____
(Proposer Name)

By: _____
(Signature of Proposer's Authorized Representative)

[CORPORATE SEAL]

_____
(Printed Name and Title of Proposer's Authorized Representative)

_____
(Title of Proposer's Authorized Representative)

Surety: _____
(Name of Surety)

By: _____
(Signature of Surety's Authorized Representative)

[SURETY'S SEAL]

_____
(Name of Surety's Authorized Representative)

_____
(Title of Surety's Authorized Representative)

END OF EXHIBIT 19

Exhibit VII: Attachment 5 – Insurance Requirements and Bonding Specifications (amended)

A. In General

The **DESIGN-BUILD CONTRACTOR** shall obtain and maintain, at its own expense and for the duration of the Contract and until all obligations under the Contract, including any warranty periods, are satisfied, the insurance coverages set forth below.

These insurance requirements are minimum requirements for the Contract and in no way limit any indemnity covenants in the Contract. **ASEM** and the Puerto Rico Department of Housing (**PRDOH**) do not warrant that these minimum limits are sufficient to protect the **DESIGN-BUILD CONTRACTOR** from liabilities that might arise out of the performance of the work under the Contract by the **DESIGN-BUILD CONTRACTOR**, its agents, representatives, employees, or subcontractors.

The insurance required hereunder shall not be interpreted to relieve the **DESIGN-BUILD CONTRACTOR** of any obligations under the Contract. The **DESIGN-BUILD CONTRACTOR** shall remain fully liable for all deductibles and amounts in excess of the coverage actually realized.

B. Minimum scope and limit of insurance:

Coverage shall be at least as broad as the coverage and limits set forth below:

1. **Surety Bonds:** The **DESIGN-BUILD CONTRACTOR** must provide or cause those conducting the work to provide and maintain bonds covering the faithful performance of the contract and payment of all obligations in the following amounts:
   a) **Bid Bond**: five percent (5%) of the total price of the proposal (Base Bid + Allowances), in accordance with Section 9.2.20 of the RFP, as amended, valid for one hundred eighty (180) calendar days following the Proposal Submission Deadline.
   b) **Performance Bond**: 100% of the contract value, including change orders.
   c) **Payment Bond**: 100% of the contract value, including change orders.
   d) **Wage Payment Bond:** At least twenty percent (20%) of the contract value, guaranteeing payment of wages to the **DESIGN-BUILD CONTRACTOR's** laborers and employees, as required under Puerto Rico Law 111-1961. This bond is in addition to the **Payment Bond** and must meet all applicable statutory and regulatory requirements.
   e) **All bonds shall be issued by sureties authorized to do business in Puerto Rico by the Office of the Commissioner of Insurance of Puerto Rico and listed in the U.S. Department of the Treasury Circular 570 (31 C.F.R. Part 223), in accordance with 2 C.F.R. § 200.326. The Performance Bond and Payment Bond shall remain in effect until Final Completion and, for warranty obligations, through the end of the Design-Builder's warranty period.**

2. Commercial General Liability Insurance

The **DESIGN-BUILD CONTRACTOR** must provide or cause those conducting the work to provide and maintain Commercial General Liability Insurance (broad form coverage) insuring against claims for bodily injury, property damage, personal injury and advertising injury that shall be no less comprehensive and no more restrictive than the coverage provided by Insurance Services Office (**ISO**) form for Commercial General Liability (**CG 00-01**). By its terms or appropriate endorsements such insurance shall include the following coverage, to wit: Bodily Injury, Property Damage, Fire Legal Liability, Personal Injury, Blanket Contractual, Independent Contractors, Premises Operations, Products and Completed Operations. The policy cannot be endorsed to exclude the perils of explosion (**x**), collapse (**c**) and underground (**u**) exposures without the specific written approval of ASEM.

If Commercial General Liability Insurance or other form with a general aggregate limit and products and completed operations aggregate limit is used, then the aggregate limits shall apply separately to the Project, or the **DESIGN-BUILD CONTRACTOR** may obtain separate insurance to provide the required limit which shall not be subject to depletion because of claims arising out of any other project or activity of the **DESIGN-BUILD CONTRACTOR.**

Type of Coverage:	Occurrence Basis
Amount of Coverage	
• General Aggregate	$2,000,000
• Each Occurrence	$1,000,000
• Products – Completed Operations Aggregate	$1,000,000
• Personal and Advertising Injury	$1,000,000
• Contractual Liability	$1,000,000
• Fire Legal Liability	$ 50,000
• Medical Expense	$ 5,000

a) Policy will include the following additional insured language: Puerto Rico Department of Housing (**PRDOH**), Puerto Rico Government, US Department of Housing and Urban Development **(HUD)**, **ASEM**, its officers, officials, agents, and employees, will be named as additional insureds with respect to liability arising out of the activities performed by or on behalf of the **DESIGN-BUILD CONTRACTOR**.

b) Policy will contain a waiver of subrogation against Puerto Rico Department of Housing (**PRDOH**), Puerto Rico Government, US Department of Housing and Urban Development **(HUD)**, **ASEM**, its officers, officials, agents, and employees, for losses arising from work performed by or on behalf of the **DESIGN-BUILD CONTRACTOR**.

c) Duration of Coverage: liability policies shall continue coverage for a minimum of five (**5**) years for Completed Operations liability coverage. Such Insurance must be maintained, and evidence of insurance must be provided for at least five (**5**) years after completion of the Work.

3. Automobile Liability Insurance

The **DESIGN-BUILD CONTRACTOR** must provide or cause those conducting the work to provide and maintain Business Automobile Liability Insurance insuring against claims for bodily injury and property damage and covering the ownership, maintenance or use of any auto or all owned/leased and non-owned and hired vehicles (Symbols 2, 8 and 9) used in the performance of the Work, both on and off the Project Site, including loading and unloading. The coverage shall be provided by Insurance Services Office form for Commercial Auto Coverage (**CA-00-01**) or equivalent.

Type of Coverage: Occurrence Basis
Amount of Coverage: $1,000,000 combined single limit

a) Policy will include the following additional insured language: Puerto Rico Department of Housing (**PRDOH**), Puerto Rico Government, US Department of Housing and Urban Development **(HUD)**, **ASEM,** its officers, officials, agents, and employees, will be named as additional insureds with respect to liability arising out of the activities performed by or on behalf of the **DESIGN-BUILD CONTRACTOR**.

b) Policy will contain a waiver of subrogation against: Puerto Rico Department of Housing (**PRDOH**), Puerto Rico Government, US Department of Housing and Urban Development **(HUD)**, **ASEM,** its officers, officials, agents, and employees, for losses arising from work performed by or on behalf of the **DESIGN-BUILD CONTRACTOR**.

c) Endorsements CA 99 48 and MCS-90 are required on the Automobile Liability Coverage if the DESIGN-BUILD CONTRACTOR or its Subcontractors transport any type of hazardous materials.

4. Workers' Compensation and Employer's Liability Insurance

The **DESIGN-BUILD CONTRACTOR** must provide or cause those conducting the work to provide Workers' Compensation Insurance with "Statutory Limits" as required by Act 45 of April 18, 1935, as amended, known as "The Workmen's Accident Compensation Act" (*Ley del Sistema de Compensaciones por Accidentes del Trabajo*).

The **DESIGN-BUILD CONTRACTOR** must provide or cause those conducting the work to provide Employer's Liability Insurance covering its legal obligation to pay damages because of bodily injury or occupational disease (including resulting death) sustained by an employee.

Amount of Coverage: $1,000,000 bodily injury by accident
$1,000,000 bodily injury by disease
$1,000,000 policy limit

5. Umbrella/Excess Liability

The **DESIGN-BUILD CONTRACTOR** must provide or cause those conducting the work to provide Umbrella/Excess Liability insurance limits as follows:

Coverage: Written on a following form basis over the primary policies: Commercial General Liability, Employers' Liability and Automobile Liability Insurance.

Limits		
	Each occurrence	$50,000,000
	General Aggregate	$50,000,000
	SIR	$10,000

a) Any such excess insurance shall be at least as broad as the **DESIGN-BUILD CONTRACTOR's** primary insurance.

b) Policy will include the following additional insured language: Puerto Rico Department of Housing (**PRDOH**), Puerto Rico Government, US Department of Housing and Urban Development **(HUD), ASEM,** its officers, officials, agents, and employees, will be named as additional insureds with respect to liability arising out of the activities performed by or on behalf of the **DESIGN-BUILD CONTRACTOR**.

c) Duration of Coverage: umbrella/excess liability policies shall continue coverage for a minimum of five (**5**) years for Completed Operations liability coverage. Such Insurance must be maintained, and evidence of insurance must be provided for at least five (**5**) years after completion of the Work.

6. Contractors Pollution Liability to indemnify for bodily injury, property damage, or amounts which the **DESIGN-BUILD CONTRACTOR**, its employees, its agents, or its Subcontractors are legally obligated to pay for cleanup/remediation work arising out of or related to the services to be provided under the Contract. Pollution Liability policy must include contractual liability coverage.

Amount of Coverage:		
	Per Loss	$5,000,000
	Aggregate	$5,000,000

a) Coverage shall apply to sudden and gradual pollution conditions resulting from the escape or release of smoke, vapors, fumes, acids, alkalis, toxic chemicals, liquids, or gases, natural gas, waste materials, or other irritants, contaminants, or pollutants (including asbestos). Policy shall cover the **DESIGN-BUILD CONTRACTOR**'s completed operations.

b) If the coverage is written on a **claims-made basis**, the **DESIGN-BUILD CONTRACTOR** warrants that any retroactive date applicable to coverage under the policy precedes the effective date of this Contract; and that continuous coverage will be maintained, or an extended discovery period will be exercised for a period of five (**5**) years beginning from the time that work under this contract is completed.

c) The policy shall be endorsed to include the following as Additional Insureds: Puerto Rico Department of Housing (**PRDOH**), Puerto Rico Government, US Department of Housing and Urban Development **(HUD)**, **ASEM,** its officers, officials, agents, and employees, as additional insureds with respect to liability and defense of suits arising out of the activities performed by, or on behalf of the **DESIGN-BUILD CONTRACTOR**, including completed operations.

7. Professional Liability Insurance – Project-Specific Policy

The **DESIGN-BUILD CONTRACTOR** shall procure and maintain **Project-Specific Professional Liability Insurance** covering negligent or wrongful acts, errors or omissions, or failure to render professional services arising out of or in connection with the **Design-Build of Puerto Rico's New Trauma Hospital Project**.

Coverage shall apply to professional services performed by or on behalf of the **DESIGN-BUILD CONTRACTOR** in connection with its turn-key responsibilities for the **Project**, including **design, engineering, architectural services, professional supervision, project and construction administration, and other professional services** required for the design and construction of the Project.

The policy shall be specifically written for the **Design-Build of Puerto Rico's New Trauma Hospital Project**, and the required limits shall be dedicated exclusively to the Project. Such limits shall not be shared with, reduced, impaired, or eroded by claims, payments, settlements, judgments, defense costs, claim expenses, or any other amounts, expenditures, or disbursements arising from any other project, operation, or professional services of the **DESIGN-BUILD CONTRACTOR** or any other insured.

Amount of Coverage:	Per Claim	$10,000,000
	Aggregate	$10,000,000

a) If coverage is written on a **claims-made basis**, the retroactive date shall precede the commencement of any professional services performed in connection with the Project. Continuous coverage shall be maintained, or an **Extended Reporting Period** shall be provided, for a minimum of **five (5) years** following completion of the professional services under the Project.

8. Builders' Risk Insurance

Unless otherwise provided, **DESIGN-BUILD CONTRACTOR** will procure, pay for, and maintain, Builders' risk in the amount of the initial Contract Sum, plus value of subsequent Contract modifications and cost of materials supplied or installed by others, comprising total value for the entire Project at the site on a replacement cost basis, as provided below.

a) Such Builders' Risk insurance shall end when the first of the following occurs:

   i. ASEM's insurable interest in the Work ceases;
   ii. the policy expires or is cancelled; or
   iii. the Work is accepted by **ASEM**.

b) **DESIGN-BUILD CONTRACTOR** is responsible for the deductible for any claim made against the policy. A separate certificate of insurance evidencing the coverage required herein shall be provided to **ASEM** and **PRDOH.**

c) **ASEM** and **PRDOH** shall be added as Additional Named Insured and Loss Payee.

d) Policy must provide coverage from the time any covered property becomes the responsibility of the **DESIGN-BUILD CONTRACTOR**, and continue without interruption during construction, renovation, or installation, including any time during which the covered property is being transported to the construction installation site, or awaiting installation, whether on or off site.

e) Builders' Risk Coverage shall be written on an "**All Risk"** basis, including, but not limited to, fire, windstorm/hurricane, flood (including water damage), earthquake, theft, vandalism, malicious mischief, collapse, false-work, temporary buildings, and debris removal, including demolition, increased cost of construction, and architect's fees and expenses, and, if applicable, all below- and above-ground structures, piping, foundations, including underground water and sewer mains, piling, including the ground on which the structure rests, and excavation, backfilling, filling, and grading. Equipment Breakdown Coverage (a.k.a. Boiler & Machinery) shall be included as required by the Contract Documents or by law, and shall specifically cover insured equipment during installation and testing (including hot testing, where applicable).

f) The Builders' Risk shall be written for 100% of the completed value (replacement cost basis) of the work being performed. The Builders' Risk shall include the following provisions:

i. Replacement Cost Basis - including modification of the valuation clause to cover all costs needed to repair the structure or work (including overhead and profits) and will pay based on the values figured at the time of rebuilding or repairing, not at the time of loss.

g) **Catastrophe Deductibles and Sublimits.** All deductibles and sublimits applicable to windstorm/hurricane, earthquake, flood, and other catastrophic perils shall be disclosed to ASEM and PRDOH for review and approval. Such review shall take into consideration the provisions of Section 3.7.1.10 of Regulation No. 7998, to the extent applicable, and the specific risk exposures and insurance requirements of the Project. The **DESIGN-BUILD CONTRACTOR** shall remain solely responsible for all applicable deductibles.

9. Other Coverages:

ASEM and **PRDOH** reserve the right to require the **DESIGN-BUILD CONTRACTOR** to obtain and maintain additional insurance coverages, provided that such requests are reasonable and consistent with industry standards. The **DESIGN-BUILD CONTRACTOR** shall secure these additional coverages within a reasonable time frame following ASEM's or PRDOH's request, ensuring continuous compliance with contractual obligations.

C. Other Provisions

1. Acceptability of Insurers

The insurance company providing any of the insurance coverage required herein shall be an Insurance Company duly authorized to do business in Puerto Rico and approved by the Office of the Commissioner of Insurance of Puerto Rico and classified by A.M. Best Co. with a financial strength rating of no less than A and a Financial Size Category of IV or better.

If at any time an insurer issuing any such policy does not meet the minimum A. M. Best rating, the **DESIGN-BUILD CONTRACTOR** shall obtain a policy with an insurer that meets the A. M. Best rating and shall submit another certificate of insurance as required in the contract.

2. Premiums, Deductibles and Self-Insured Retentions

The **DESIGN-BUILD CONTRACTOR** shall be responsible for payment of premiums for all of the insurance coverages required under this Section. The **DESIGN-BUILD CONTRACTOR** further agrees that for each claim, suit or action made against insurance provided hereunder, with respect to all matters for which the **DESIGN-BUILD CONTRACTOR** is responsible hereunder, the **DESIGN-BUILD CONTRACTOR** shall be solely responsible for all deductibles and self-insured retentions.

Any deductible or self-insured retentions over **$50,000.00** in the **DESIGN-BUILD CONTRACTOR's** insurance must be declared and approved in writing by **ASEM** and **PRDOH**.

Builder's Risk catastrophe deductibles and sublimits shall be governed by the "Catastrophe Deductibles and Sublimits" provision of the Builders' Risk Insurance section above.

3. **Claims Made Policies**

If any coverage required is written on a claims-made coverage form:

a) The retroactive date must be shown, and this date must be before the execution date of the contract or the beginning of contract work.
b) Insurance must be maintained, and evidence of insurance must be provided for at least five (**5**) years after completion of contract work.
c) If coverage is canceled or non-renewed, and not replaced with another claims-made policy form with a retroactive date prior to the contract effective date or start of work date, the **DESIGN-BUILD CONTRACTOR** must purchase extended reporting period coverage for a minimum of five (**5**) years after completion of contract work.
d) A copy of the claims reporting requirements must be submitted to ASEM and PRDOH for review.

4. **Proof of Insurance**

The **DESIGN-BUILD CONTRACTOR** shall submit proof of the Commercial General Liability (**CGL**) insurance and Workers' Compensation insurance policies to **ASEM** and **PRDOH** before the execution of the Contract. The **DESIGN-BUILD CONTRACTOR** shall also ensure that its subcontractors secure the insurance policies and bonds required of them under the Contract. The **DESIGN-BUILD CONTRACTOR** is responsible for providing to **ASEM** and **PRDOH** evidence of these additional insurance policies and bonds within five (**5**) days after the execution of each individual subcontract agreement.

5. **Verification of Coverage**

The **DESIGN-BUILD CONTRACTOR** shall provide a Certificate or Certificates of Insurance, in a form satisfactory to **ASEM** and Puerto Rico Department of Housing **(PRDOH)** (i.e., an ACORD Certificate), before commencing any work under the contract or agreement.

Certificates of Insurance shall:

a) Be in the form acceptable to **ASEM** and **PRDOH** (i.e.: an ACORD Certificate);

b) Disclose any Deductible, Self-Insured Retention, Aggregate Limit or any exclusion to the policy that materially changes the coverage required by the contract;
c) Note the project/contract number and project description;
d) Be signed by an authorized representative of the Insurance carriers; and
e) Contain the following language in the Description of Operations/Locations/Vehicles section:

"Additional Insured protection afforded is on a primary and non-contributory basis. A waiver of subrogation is granted in favor of the Additional Insureds."

Only original documents (Certificate(s) and any Endorsements or other attachments) or electronic versions of the same that can be directly traced back to the Insurer, Agent or Broker via e-mail distribution or similar means will be accepted.

ASEM and **PRDOH** reserve the right to require complete, certified copies of all required insurance policies, including endorsements, required by these specifications, at any time.

All certificates required by this Agreement shall be sent directly to:

Puerto Rico Medical Services Administration (ASEM), Puerto Rico's Medical Center, Bo. Monacillos, San Juan, Puerto Rico 00922-2129

6. Renewal Policies

DESIGN-BUILD CONTRACTOR shall promptly deliver to **ASEM** and **PRDOH** a certificate of insurance with respect to each renewal policy, as necessary to demonstrate the maintenance of the required insurance coverage for the terms specified herein. Such certificate shall be delivered to **ASEM** not less than thirty (30) days prior to the expiration date of any policy and bear a notation evidencing payment of the premium thereof.

7. Cancellation and Modification of Insurance Coverages

DESIGN-BUILD CONTRACTOR shall be responsible for immediately notifying **ASEM** and **PRDOH** in writing of any changes or cancellations of its insurance or may be found in breach of the contract and the contract could be terminated. This notice requirement does not waive the insurance requirements contained herein.

8. Policies Primary and Non-Contributory

All policies required above are to be primary and noncontributory with any insurance programs carried by **ASEM** and **PRDOH**.

9. Waiver of Subrogation

DESIGN-BUILD CONTRACTOR hereby grants to **ASEM** and **PRDOH** a waiver of any right to subrogation which any insurer of said **DESIGN-BUILD CONTRACTOR** may acquire against **ASEM** and **PRDOH** by virtue of the payment of any loss under such insurance. **DESIGN-BUILD CONTRACTOR** agrees to obtain any endorsement that may be necessary to effect this waiver of subrogation, but this provision applies regardless of whether or not **ASEM** or **PRDOH** has received a waiver of subrogation endorsement from the insurer.

10. Special Risks or Circumstances

ASEM and PRDOH reserve the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other circumstances.

11. Subcontractors

The **DESIGN-BUILD CONTRACTOR** shall include all Subcontractors as insured under its policies or shall be responsible for verifying and maintaining the certificates provided by each Subcontractor. Subcontractors shall be subject to all of the requirements stated herein. ASEM and PRDOH reserve the right to request copies of Subcontractors' certificates at any time.

12. No Recourse

There shall be no recourse against **ASEM** for the payment of premiums or other amounts with respect to the insurance required from the **DESIGN-BUILD CONTRACTOR** under this Section.

13. Limits of Coverage

If the **DESIGN-BUILD CONTRACTOR** maintains higher limits than the minimums shown above, **ASEM** and **PRDOH** require and shall be entitled to coverage for the higher limits maintained by the **DESIGN-BUILD CONTRACTOR**. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to **ASEM** and **PRDOH**.

14. Indemnification/Hold Harmless Agreement

DESIGN-BUILD CONTRACTOR agrees to protect, defend, indemnify, save, and hold harmless, Puerto Rico Department of Housing (**PRDOH**), Puerto Rico Government, US Department of Housing and Urban Development (**HUD**), **ASEM,** its officers, officials, agents, employees, and volunteers, from and against any and all claims, damages, expenses, and liability arising out of injury or death to any person or the damage, loss, or destruction of any property which may occur, or in any way grow

out of, any act or omission of **DESIGN-BUILD CONTRACTOR**, its Subcontractors, agents, servants, and employees, or any and all costs, expenses and/or attorney fees incurred by **any of the indemnified parties** as a result of any claims, demands, suits or causes of action, except those claims, demands, suits, or causes of action arising out of the negligence of Puerto Rico Department of Housing (**PRDOH**), Puerto Rico Government, US Department of Housing and Urban Development (**HUD**), **ASEM**, its officers, officials, agents, employees, and volunteers. **DESIGN-BUILD CONTRACTOR** agrees to investigate, handle, respond to, provide defense for and defend any such claims, demands, suits, or causes of action at its sole expense and agrees to bear all other costs and expenses related thereto, even if the claims, demands, suits, or causes of action are groundless, false or fraudulent.

15. Conflict or Difference between the Insurance and Bonding Specifications

In the event of any conflict or difference in the description of coverage or in amounts or limits, etc., with respect to insurance requirements, the conditions of insurance and bonds established in these Insurance Requirements and Bonding Specifications shall prevail over any other insurance specifications, subject to the order of precedence established in Item 57 of Addendum No. 4.

Exhibit VIII: DBIA Document No. 540

Standard Form of Agreement Between Design-Builder and Design Consultant

Document No. 540
Third Edition, 2022

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Washington, D.C.



Design-Build Institute of America - Contract Documents

LICENSE AGREEMENT

By using the DBIA Contract Documents, you agree to and are bound by the terms of this License Agreement.

1. **License.** The Design-Build Institute of America ("DBIA") provides DBIA Contract Documents and licenses their use worldwide. You acknowledge that DBIA Contract Documents are protected by the copyright laws of the United States. You have a limited nonexclusive license to: (a) Use DBIA Contract Documents on any number of machines owned, leased or rented by your company or organization; (b) Use DBIA Contract Documents in printed form for bona fide contract purposes; and (c) Copy DBIA Contract Documents into any machine-readable or printed form for backup or modification purposes in support of your permitted use.
2. **User Responsibility.** You assume sole responsibility for the selection of specific documents or portions thereof to achieve your intended results, and for the installation, use, and results obtained from the DBIA Contract Documents. You acknowledge that you understand that the text of the DBIA Contract Documents has important legal consequences and that consultation with an attorney is recommended with respect to use or modification of the text. You will not represent that any of the contract documents you generate from DBIA Contract Documents are DBIA documents unless (a) the document text is used without alteration or (b) all additions and changes to, and deletions from, the text are clearly shown.
3. **Copies.** You may not use, copy, modify, or transfer DBIA Contract Documents, or any copy, modification or merged portion, in whole or in part, except as expressly provided for in this license. Reproduction of DBIA Contract Documents in printed or machine-readable format for resale or educational purposes is expressly prohibited. You will reproduce and include DBIA's copyright notice on any printed or machine-readable copy, modification, or portion merged into another document or program.
4. **Transfers.** You may not transfer possession of any copy, modification or merged portion of DBIA Contract Documents to another party, except that a party with whom you are contracting may receive and use such transferred material solely for purposes of its contract with you. You may not sublicense, assign, or transfer this license except as expressly provided in this Agreement, and any attempt to do so is void.
5. **Term.** The license is effective for one year from the date of purchase. DBIA may elect to terminate it earlier, by written notice to you, if you fail to comply with any term or condition of this Agreement.
6. **Limited Warranty.** DBIA warrants the electronic files or other media by which DBIA Contract Documents are furnished to be free from defects in materials and workmanship under normal use during the Term. There is no other warranty of any kind, expressed or implied, including, but not limited to the implied warranties of merchantability and fitness for a particular purpose. Some states do not allow the exclusion of implied warranties, so the above exclusion may not apply to you. This warranty gives you specific legal rights and you may also have other rights which vary from state to state. DBIA does not warrant that the DBIA Contract Documents will meet your requirements or that the operation of DBIA Contract Documents will be uninterrupted or error free.
7. **Limitations of Remedies.** DBIA's entire liability and your exclusive remedy shall be: the replacement of any document not meeting DBIA's "Limited Warranty" which is returned to DBIA with a copy of your receipt, or at DBIA's election, your money will be refunded. In no event will DBIA be liable to you for any damages, including any lost profits, lost savings or other incidental or consequential damages arising out of the use or inability to use DBIA Contract Documents even if DBIA has been advised of the possibility of such damages, or for any claim by any other party. Some states do not allow the limitation or exclusion of liability for incidental or consequential damages, so the above limitation or exclusion may not apply to you.
8. **Acknowledgment.** You acknowledge that you have read this agreement, understand it and agree to be bound by its terms and conditions and that it will be governed by the laws of the District of Columbia. You further agree that it is the complete and exclusive statement of your agreement with DBIA which supersedes any proposal or prior agreement, oral or written, and any other communications between the parties relating to the subject matter of this agreement.

INSTRUCTIONS

For DBIA Document No. 540 Standard Form of Agreement Between Design-Builder and Design Consultant (2022 Edition)

Checklist

Use this Checklist to ensure that the Agreement is fully completed and all exhibits are attached.

_____	Page 1	Enter date of the Agreement
_____	Page 1	Design-Builder's name, address and form of business
_____	Page 1	Design Consultant's name, address and form of business
_____	Page 1	Project name, location and general description
_____	Page 1	Owner's name, address and form of business
_____	Section 2.4.1	Attach list of primary personnel
_____	Section 2.5.1	Attach permit list (optional)
_____	Section 2.7.6	Attach requirements for frequency of site visits (optional)
_____	Section 2.8.1	Attach Additional Services list (optional)
_____	Section 4.4.1.2	Insert additional compensation the Design Consultant is due for the use of its work Product under the circumstances described in this section.
_____	Section 6.1.2	Attach basis for compensation for Design Phase Services, Construction Phase Services, Additional Services, if any, and list of Reimbursable Costs
_____	Section 6.2.1	Complete blanks for day of month
_____	Section 6.7.1	Complete blanks for interest rate
_____	Section 8.1.1	Insert Design-Builder's Senior Representative's name, etc.
_____	Section 8.1.2	Insert Design-Builder's Representative's name, etc.
_____	Section 8.2.1	Insert Design Consultant's Senior Representative's name, etc.
_____	Section 8.2.2	Insert Design Consultant's Representative's name, etc.
_____	Section 9.1.1	Attach Insurance Exhibit
_____	Section 15.1	Insert any other provisions (optional)
_____	Last Page	Design-Builder's and Design Consultant's execution of the Agreement

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General Instructions

No.	Subject	Instruction
1.	Standard Forms	Standard form contracts have long served an important function in the United States and international construction markets. The common purpose of these forms is to provide an economical and convenient way for parties to contract for design and construction services. As standard forms gain acceptance and are used with increased frequency, parties are able to enter into contracts with greater certainty as to their rights and responsibilities.
2.	DBIA Standard Form Contract Documents	Since its formation in 1993, the Design-Build Institute of America ("DBIA") has regularly evaluated the needs of owners, design-builders, and other parties to the design-build process in preparation for developing its own contract forms. Consistent with DBIA's mission of promulgating best design-build practices, DBIA believes that the design-build contract should reflect a balanced approach to risk that considers the legitimate interests of all parties to the design-build process. DBIA's Standard Form Contract Documents reflect a modern risk allocation approach, allocating each risk to the party best equipped to manage and minimize that risk, with the goal of promoting best design-build practices.
3.	Use of Non-DBIA Documents	To avoid inconsistencies among documents used for the same project, DBIA's Standard Form Contract Documents should not be used in conjunction with non-DBIA documents unless the non-DBIA documents are appropriately modified on the advice of legal counsel. Moreover, care should also be taken when using different editions of the DBIA Standard Form Documents on the same project to ensure consistency.
4.	Legal Consequences	DBIA Standard Form Contract Documents are legally binding contracts with important legal consequences. Contracting parties are advised and encouraged to seek legal counsel in completing or modifying these Documents.
5.	Reproduction	DBIA hereby grants to purchasers a limited license to reproduce its Documents consistent with the License Agreement accompanying these Documents. At least two original versions of the Agreement should be signed by the parties. Any other reproduction of DBIA Documents is strictly prohibited.
6.	Modifications	Effective contracting is accomplished when the parties give specific thought to their contracting goals and then tailor the contract to meet the unique needs of the project and the design-build team. For that reason, these Documents may require modification for various purposes including, for example, to comply with local codes and laws, or to add special terms. DBIA'S latest revisions to its Documents provide the parties an opportunity to customize their contractual relationship by selecting various optional contract clauses that may better reflect the unique needs and risks associated with the project. Any modifications to these Documents should be initialed by the parties. At no time should a document be re-typed in its entirety. Re-creating the document violates copyright laws and destroys one of the advantages of standard forms – familiarity with the terms.
7.	Execution	It is good practice to execute two original copies of the Agreement. Only persons authorized to sign for the contracting parties may execute the Agreement.

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Specific Instructions

Section	Title	Instruction
General	Purpose of This Agreement	DBIA Document No. 540, *Standard Form of Agreement Between Design-Builder and Design Consultant* (2022 Edition) ("Agreement") sets forth the terms and conditions under which the design for the Project and other design services during the construction phase of the Project will be performed. This Agreement envisions that Design Consultant and Design-Builder have cooperated with each other in the procurement of the Design-Build Agreement between Design-Builder and Owner (either DBIA Document No. 525, *Standard Form of Agreement Between Owner and Design-Builder – Lump Sum* (2022 Edition), DBIA Document No. 530, *Standard Form of Agreement Between Owner and Design-Builder – Cost Plus Fee with an Option for a Guaranteed Maximum Price* (2022 Edition), or DBIA Document No. 544, *Standard Form of Progressive Design-Build Agreement* (2022 Edition), and including DBIA Document No. 535, *Standard Form of General Conditions of Contract Between Owner and Design-Builder* (2022 Edition), and requires Design Consultant to design the Project consistent with the Contract Documents.
General	Purpose of These Instructions	These Instructions are not part of this Agreement, but are provided to aid the parties in their understanding of the Agreement and in completing the Agreement.
General	Date	On Page 1, enter the date when both parties reach a final understanding. It is possible, due to logistical reasons, that the dates when the parties execute the Agreement may be different. Once both parties execute the Agreement, the effective date of the Agreement will be the date recorded on Page 1. This date does not, however, determine the Date of Commencement, which is measured according to the terms of Section 5.1.1.
General	Parties: Design-Builder and Design Consultant	On Page 1 enter the legal name and full address of Design-Builder, Design Consultant, and Owner, as well as the legal form of each entity, e.g., corporation, partnership, limited partnership, limited liability company, or other.
1.1.1	Pass Through	The section recognizes that Design Consultant has the same rights, responsibilities and obligations as to Design-Builder as Design-Builder by the Design-Build Agreement has against and to Owner. However, because the Design-Build Agreement also affords Design-Builder and Owner many opportunities to customize their contractual relationship by the selection of optional provisions, DBIA does not believe that these optional provisions should automatically pass through to Design Consultant. Accordingly, if Design-Builder and Design Consultant believe it is appropriate to afford Design Consultant the same rights, responsibilities and obligations as it relates to these optional provisions, the parties should make that clear by adding the necessary and appropriate provisions at Article 15 of this Agreement.
1.2	Definitions	Terms, words and phrases used in the Agreement shall have the same meanings used in the Design-Build Agreement between Owner and Design-Builder except to the extent set forth in Section 1.2.
1.3.1	Contract Documents	This section identifies the Contract Documents, which include the Basis of Design Documents defined in Section 1.2.1.3.
1.4.2	Order of Precedence	The Contract Documents are listed in Section 1.3 in the order of their precedence.
1.4.3	Design Specifications	If Owner has provided design specifications to Design-Builder, Design Consultant is entitled to rely on the information provided to the same extent as Design-Builder. If said information is not accurate, Design Consultant may be entitled to an adjustment of costs and/or time to the extent Design-Builder recovers from Owner.
1.5.2	Mutual Obligations and Acknowledgments	This Agreement contemplates that Design-Builder and Design Consultant have cooperated in the procurement of the Design-Build Agreement and that Design Consultant has familiarized itself with the Design-Build Agreement, including Owner's Project Criteria and the Basis of Design Documents.

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Section	Title	Instruction
2.1.1	Professional Services	The parties should be aware that in addition to requiring compliance with state licensing laws for design professionals, some states also require that the design professional have a corporate professional license.
2.1.2	Design Sub-Consultants	Design Consultant must obtain Design-Builder's approval to engage Design Sub-Consultants and to substitute any approved Design Sub-Consultants. Design-Builder's approval cannot be unreasonably withheld.
2.2.1	Standard of Care for Professional Services	Design Consultant's obligation is to deliver a design that meets prevailing industry standards.
2.4.1	Primary Personnel	Attach a list of Design Consultant's primary personnel for the Project.
2.5.1	Government Approvals and Permits	Design Consultant is responsible for obtaining the specific permits, approvals, and licenses set forth in an exhibit to the Agreement.
2.6.1	Design Development Services	In accordance with the Design Schedule, the parties will hold design monitoring meetings during the development of the Project design so that the final design shall be consistent with the requirements of the Contract Documents, including Owner's Project Criteria and the Basis of Design Documents, as the Basis of Design Documents may have been modified.
2.6.3	Deviations from the Basis of Design Documents	Under the Design-Build Agreement, Design-Builder is obligated to provide notice to Owner of the evolution of the design or if there are any changes or deviations from the Contract Documents. Design-Builder is obligated to incorporate Owner's Comments to Design Submissions; however, if incorporation of Owner's Comments results in a design that is inconsistent with or otherwise gives rise to a change for which Design-Builder would be entitled to a change under the Design-Build Agreement, Design-Builder must provide notice to Owner of such change. Design Consultant has the same obligation to review the Design Submissions and to identify and provide notice to Design-Builder of such changes. If Design Consultant fails to identify changes to the Contract Documents, including the Basis of Design Documents, or fails to produce Construction Documents consistent with approved changes, Design Consultant is responsible for any additional costs incurred by Design-Builder.
2.7.6	Site Visits	If the parties agree to a specific frequency of Design Consultant site visits, attach an exhibit setting forth such requirements.
2.8	Additional Services	If the parties agree that Design Consultant shall provide any services beyond those contained in the Agreement, such Additional Services shall be set forth in an exhibit attached to the Agreement.
3.3.1	Furnishing of Information	Design-Builder shall furnish Design Consultant with the listed Owner-provided information. Design Consultant is entitled to rely on the Owner-provided information to the same extent Design-Builder is entitled to pursuant to the Design-Build Agreement.
4.1	Work Product	This Agreement provides that Design Consultant shall retain ownership of the Work Product. However, if the Design-Build Agreement conflicts with the above, then Design Consultant grants Design-Builder the same rights that Design-Builder has provided Owner.
4.2	Agreement to Grant Rights to Owner	Design Consultant has reviewed the Design-Build Agreement and understands that it is required to grant Owner the rights to the Work Product according to the terms and circumstances described in the Design-Build Agreement.
4.3	Indemnification for Use of Work Product	If either Design-Builder or Design Consultant uses the Work Product on any other project, that party shall defend, indemnify and hold harmless the other party and Owner.

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Section	Title	Instruction
4.4.1	Design-Builder's Use of Work Product Upon Termination for Convenience or Design-Builder's Default	If Design-Builder terminates this Agreement for convenience or if Design Consultant terminates this Agreement due to Design-Builder's default, Design Consultant grants Design-Builder and Owner the right to use the Work Product as set forth in Section 4.1.1. The granting of these rights is conditioned on (i) paying Design Consultant all amounts due under the Agreement, including paying Design Consultant an additional sum (to be negotiated) under Section 4.4.1.2 for the use of the Work Product; and (ii) Design-Builder using the Work Product at its sole risk.
4.4.2	Design-Builder's Use of Work Product Upon Design Consultant's Default	If Design Consultant is properly terminated for default, Design-Builder shall have the same rights to use the Work Product as set forth in Section 4.1.1.
5.1	Date of Commencement	Design Consultant's obligation to commence work is triggered by its receipt of a Notice to Proceed unless the parties mutually agree otherwise.
5.2.1	Design Schedule	Design Consultant is responsible for providing a schedule for Design Phase Services. In providing the Design Schedule, Design Consultant must take into account review times and approvals from Design-Builder and Owner. The Design-Build Agreements include an option for Owner and Design-Builder to establish minimum and/or maximum time frames within which Owner reviews Design Submissions. The Design Schedule should take into account the time frames established in the Design-Build Agreement.
6.1.2	Design Consultant's Fee	Attach an exhibit setting forth the basis for compensating Design Consultant for its Design Phase Services, Construction Phase Services, Additional Services, if any, and Reimbursable Costs.
6.2.1	Applications for Payment	Enter the day of the month when Design Consultant shall submit its Application for Payment.
6.7	Interest	The parties should enter the rate at which interest will accrue on Design Consultant's payments if unpaid five (5) days after due. Late payment creates a hardship for Design Consultant and its Design Sub-Consultants.
6.9	Record Keeping	Design-Builder is provided access to, and the right to audit Design Consultant's records. However, if the parties have agreed to fees (that are either a lump sum or percentage of construction costs), multipliers or markups, the time to challenge and negotiate those percentages is at the time the parties execute the Agreement and not during the Project or after it has been completed. Accordingly, Design-Builder can at any time audit these percentages only to confirm that such percentage has been properly charged and not to challenge the composition of such percentage.
7.1	Design-Builder's Right to Terminate for Convenience	Design-Builder shall only have the right to terminate Design Consultant without cause if Owner elects to terminate Design-Builder for any reason.
Article 8	Representatives of the Parties	Enter the name, title, address and telephone number of Design-Builder's Senior Representative and Design-Builder's Representative at Sections 8.1.1 and 8.1.2, respectively. Enter the name, title, address and telephone number of Design Consultant's Senior Representative and Design Consultant's Representative at Sections 8.2.1 and 8.2.2, respectively.
9.1.1	Design Consultant's Insurance Requirements	Attach an Insurance Exhibit setting forth in detail the insurance coverages Design Consultant is required to provide for the Project. Parties are advised to consult their insurance advisors.

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Section	Title	Instruction
9.1.2	Design Consultant's Insurance Requirements	Design Consultant is obligated to require its Design Sub-Consultants to provide the insurance coverage set forth in the Insurance Exhibit to the Agreement. Parties are advised to consult their insurance advisors.
9.1.3	Exclusions to Design-Build	Parties are advised that standard liability insurance policies may contain exclusions for the design-build delivery method. This Section 9.1.3 requires that any such exclusions be deleted from the policy.
9.1.4	Errors and Omissions Insurance	Should Design-Builder, after its analysis of the risk factors involved, require this insurance, the coverage required shall be as set forth in the Insurance Exhibit.
11.3	Disputes Involving Owner	Disputes for which Owner is responsible will be resolved in accordance with the dispute resolution clause in the Design-Build Agreement.
11.4	Disputes Not Involving Owner	DBIA endorses the use of partnering, negotiation, mediation and arbitration for the prevention and resolution of disputes. The Agreement provides for the parties' Representatives and Senior Representatives to attempt to negotiate the dispute or disagreement. If this attempt fails, the dispute shall be submitted to mandatory, non-binding mediation. Any dispute that cannot be resolved by mediation shall then be submitted to binding arbitration pursuant to Section 11.5 unless the parties elect the option in Section 15.1 of the Agreement to submit their dispute to a court of competent jurisdiction.
11.5.4	Arbitration	The prevailing party in any arbitration shall receive reasonable attorneys' fees from the other party. DBIA supports this "loser pays" provision to encourage parties to negotiate or mediate their differences and to minimize the number of frivolous disputes.
11.6	Duty to Continue Performance	Pending the resolution of any dispute or disagreement, both Design-Builder and Design Consultant shall continue to perform their respective duties under the Contract Documents, unless the parties provide otherwise in the Contract Documents.
11.7	Consequential Damages	DBIA believes that it is inappropriate for either Design-Builder or Design Consultant to be responsible to the other for consequential damages arising from the Project. This limitation on consequential damages in no way restricts, however, Design-Builder's entitlement to recover against Design Consultant liquidated damages assessed by Owner against Design-Builder which are attributable to Design Consultant, and which may include damages that might otherwise be deemed consequential.
Article 13	Electronic Data	Design-Builder will determine, after consultation with Design Consultant, the software and format for the transmission of Electronic Data. Ownership of Work Product in electronic form is governed by Article 4 of the Agreement. The transmitting party disclaims all warranties with respect to the media transmitting the Electronic Data, but nothing in this Article is intended to negate duties with respect to the standard of care in creating the Electronic Data. In the event the Design-Build Agreement contains a conflicting provision governing Electronic Data, the provision in the Design-Build Agreement takes precedence.
Article 15	Other Provisions	Insert any other provisions. For example, the parties may elect to have disputes resolved through litigation rather than arbitration, in which case the optional language in this Section should be included. Also, the parties may want to incorporate specific optional provisions from the Design-Build Agreement in which case those provisions should be expressly incorporated in Article 15.

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Standard Form of Agreement Between Design-Builder and Design Consultant

This document has important legal consequences. Consultation with an attorney is recommended with respect to its completion or modification.

This **AGREEMENT** is made as of the _____ day of _____ in the year of 20_____, by and between the following parties, for services in connection with the Project identified below:

DESIGN-BUILDER:
(Name and address)

DESIGN CONSULTANT:
(Name and address)

PROJECT:
(Include Project name and location as it will appear in the Contract Documents)

OWNER:
(Name and address)

In consideration of the mutual covenants and obligations contained herein, Design-Builder and Design Consultant agree as set forth herein.

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Article 1

General

1.1 Basic Purpose.

1.1.1 Design-Builder has contracted with Owner to provide the services of a licensed design professional to perform all necessary design services for the Project as set forth in the Design-Build Agreement between Owner and Design-Builder. Design Consultant, through itself and its Design Sub-Consultants, has agreed to provide such architectural, engineering, and other services required by this Agreement and the other Contract Documents. Design-Builder and Design Consultant further agree that to the extent applicable to the performance of the Services hereunder, Design Consultant shall have the same rights, responsibilities, and obligations as to Design-Builder as Design-Builder by the Design-Build Agreement has against and to Owner, except as may be modified herein. Notwithstanding the foregoing, if the Design-Builder and Owner have checked boxes indicating the selection of optional provisions from the Design-Build Agreement, those optional provisions are only passed through to the Design Consultant to the extent those provisions have been expressly set forth in Article 15.

1.2 Basic Definitions.

1.2.1 Terms used in this Agreement shall have the meanings set forth in the Design-Build Agreement between Owner and Design-Builder unless otherwise provided herein, with the following specific terms defined as follows:

1.2.1.1 *Additional Services* are those services identified in Section 2.8 hereof.

1.2.1.2 *Agreement* refers to this executed contract between Design-Builder and Design Consultant under DBIA Document 540, *Standard Form of Agreement Between Design-Builder and Design Consultant* (2022 Edition).

1.2.1.3 *Basis of Design Documents* are as follows: For DBIA Document No. 530, *Standard Form of Agreement Between Owner and Design-Builder – Cost Plus Fee With an Option for a Guaranteed Maximum Price*, and for DBIA Document No. 544, *Standard Form of Progressive Design-Build Agreement*, the Basis of Design Documents are those documents specifically listed in, as applicable, the GMP Exhibit or GMP Proposal as being the "Basis of Design Documents." For DBIA Document No. 525, *Standard Form of Agreement Between Owner and Design-Builder – Lump Sum*, the Basis of Design Documents are the Owner's Project Criteria, Design-Builder's Proposal and the Deviation List, if any.

1.2.1.4 *Construction Documents* are the documents, consisting of Drawings and Specifications, to be prepared or assembled by Design Consultant consistent with the Basis of Design Documents, unless a deviation from the Basis of Design Documents is specifically set forth in a Change Order.

1.2.1.5 *Construction Phase Services* refers to those services identified in Section 2.7 hereof.

1.2.1.6 *Day* or *Days* shall mean calendar days unless otherwise specifically noted in the Contract Documents.

1.2.1.7 *Design-Build Agreement* refers to the contract between Design-Builder and Owner for the design and construction of the Project under either DBIA Document No. 525, *Standard Form of Agreement Between Owner and Design-Builder – Lump Sum* (2022 Edition), DBIA Document No. 530, *Standard Form of Agreement Between Owner and*

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Design-Builder – Cost Plus Fee with an Option for a Guaranteed Maximum Price (2022 Edition), or DBIA Document No. 544, *Standard Form of Progressive Design-Build Agreement* (2022 Edition), including the DBIA Document No. 535, *Standard Form of General Conditions of Contract Between Owner and Design-Builder* (2022 Edition), and all exhibits, attachments, and other Contract Documents enumerated and incorporated therein.

1.2.1.8 *Design Consultant's Fee* shall refer to the compensation due Design Consultant for the performance of the Services as set forth herein.

1.2.1.9 *Design Phase Services* refers to those services set forth in Sections 2.5 and 2.6 hereof.

1.2.1.10 *Design Schedule* refers to the schedule setting forth the dates by which Design Consultant must perform the various Services required herein, consistent with the Project Schedule.

1.2.1.11 *Design Sub-Consultant* is a qualified, licensed design professional who is not an employee of Design Consultant, but is retained by Design Consultant or employed or retained by anyone under contract with Design Consultant, to furnish design services required under the Contract Documents.

1.2.1.12 *Design Submission* means any and all documents, shop drawings, electronic information, including computer programs and computer generated materials, data, plans, drawings, sketches, illustrations, specifications, descriptions, models, and other information developed, prepared, furnished, delivered or required to be delivered by, or for, Design-Builder or Design Consultant.

1.2.1.13 *Final Completion* is the date on which all Work is complete in accordance with the Contract Documents, including but not limited to any items identified in the punch list prepared under Section 6.6.1 of the General Conditions of Contract and the submission of all documents set forth in Section 6.7.2 of the General Conditions of Contract.

1.2.1.14 *Hazardous Conditions* are any materials, wastes, substances and chemicals deemed to be hazardous under applicable Legal Requirements, or the handling, storage, remediation, or disposal of which are regulated by applicable Legal Requirements.

1.2.1.15 *Legal Requirements* are all applicable federal, state and local laws, codes, ordinances, rules, regulations, orders and decrees of any government or quasi-government entity having jurisdiction over the parties, the Project or Site, the practices involved in the Project or Site, or any Services.

1.2.1.16 *Owner's Project Criteria* are developed by or for Owner to describe Owner's program requirements and objectives for the Project, including use, space, price, time, site and expandability requirements, as well as submittal requirements and other requirements governing Design-Builder's performance of the Work. Owner's Project Criteria may include conceptual documents, design criteria, design performance specifications, design specifications, and LEED ® or other sustainable design criteria and other Project-specific technical materials and requirements.

1.2.1.17 *Project Schedule* refers to the schedule setting forth the dates by which the various stages of both the design and construction of the Project must be performed so as to satisfy Design-Builder's obligations to Owner.

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1.2.1.18 *Services* shall include all Design Phase Services, Construction Phase Services and Additional Services required by the Contract Documents or as may be authorized in writing by Design-Builder except for those design services provided by others under Section 1.5.3 or by Owner's design consultants.

1.2.1.19 *Site* is the land or premises on which the Project is located.

1.2.1.20 Subcontractor is any person or entity retained by Design-Builder as an independent contractor to perform a portion of the construction work for the Project and shall include materialmen and suppliers.

1.2.1.21 *Sub-Subcontractor* is any person or entity retained by a Subcontractor as an independent contractor to perform any portion of the Subcontractor's work and shall include materialmen and suppliers.

1.2.1.22 *Substantial Completion* or *Substantially Complete* is the date on which the Project, or an agreed upon portion of the Project, is sufficiently complete so that Owner can occupy and use the Project or a portion thereof for its intended purposes.

1.3 Contract Documents.

1.3.1 The Contract Documents are comprised of the following:

1.3.1.1 All written modifications, amendments, minor changes and Change Orders to this Agreement;

1.3.1.2 The Basis of Design Documents;

1.3.1.3 This Agreement, including all exhibits and attachments, executed by Design-Builder and Design Consultant;

1.3.1.4 Construction Documents; and

1.3.1.5 The Design-Build Agreement (excluding the Basis of Design Documents), but only to the extent the Design-Build Agreement relates to the Services and the terms and conditions under which the Services shall be performed.

1.4 Interpretation and Intent.

1.4.1 Design-Builder and Design Consultant, prior to execution of the Agreement, shall carefully review all the Contract Documents, including the various documents comprising the Basis of Design Documents, for any conflicts or ambiguities. Design-Builder and Design Consultant will discuss and resolve any identified conflicts or ambiguities prior to execution of the Agreement.

1.4.2 The Contract Documents are intended to be complementary and interpreted in harmony so as to avoid conflict, with words and phrases interpreted consistent with construction and design industry standards. In the event inconsistencies, conflicts, or ambiguities between or among the Contract Documents are discovered after execution of the Agreement, the parties shall attempt to resolve such ambiguities, conflicts or inconsistencies informally, recognizing that the Contract Documents shall take precedence in the order in which they are listed in Section 1.3 hereof.

1.4.3 If Owner's Project Criteria contain design specifications, Design Consultant shall be entitled to reasonably rely on the accuracy of the information represented in such design specifications and their compatibility with other information set forth in Owner's Project Criteria, including any performance specifications, to the same extent as Design-Builder is entitled to so rely on the Design-Build Agreement. If Design Consultant contends that its costs and/or time of performance

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have been adversely impacted by such inaccurate design specifications, then it shall proceed in accordance with Section 11.3.

1.5 Mutual Obligations and Acknowledgments.

1.5.1 Design-Builder and Design Consultant commit at all times to cooperate fully with each other, and proceed on the basis of trust and good faith, to permit each party to realize the benefits afforded under the Contract Documents. Design-Builder and Design Consultant shall perform their respective responsibilities, obligations and services in a timely manner to facilitate the other's timely and efficient performance and so as not to delay or interfere with the other's performance of its obligations under the Contract Documents.

1.5.2 Design-Builder and Design Consultant acknowledge that they have cooperated with each other in the procurement of the Design-Build Agreement, and that Design-Builder and Design Consultant have met to review, discuss, and familiarize themselves with the Design-Build Agreement, including the Owner's Project Criteria and the Basis of Design Documents.

1.5.3 Design-Builder may choose to have portions of the overall design (e.g., structural and MEP) undertaken by design professionals directly employed by or contracting with Design-Builder. Design-Builder and Design Consultant acknowledge the importance of integrating all of the designs into the Project's overall design concept. The parties commit to working with each other, and with any other design professionals working on the Project with Design-Builder to facilitate the coordination and integration of Design Consultant's Services with the Project's overall design concept. Design-Builder is responsible for the services performed by design professionals under contract with Design-Builder, but nothing herein is intended to relieve Design Consultant of its obligation to coordinate its Services with the services performed by other design professionals.

1.5.4 Design-Builder and Design Consultant mutually agree that time is of the essence with respect to the dates and times set forth in the Design Schedule, Project Schedule and Contract Documents. Each party agrees to provide the other party with information in a timely fashion and in the form and manner as reasonably required.

1.6 Entire Agreement.

1.6.1 Subject to the limitations in Section 1.3.1, the Contract Documents, all of which are incorporated by reference into this Agreement, form the entire agreement between Design-Builder and Design Consultant and are as fully binding on the parties as if repeated herein. No oral representations or other agreements have been made by the parties except as specifically stated in the Contract Documents.

Article 2

Design Consultant's Services and Responsibilities

2.1 General.

2.1.1 Design Consultant shall, consistent with applicable state licensing laws, provide the Services, including architectural, engineering and other professional services, required by the Contract Documents. Design Consultant agrees that such Services shall be provided through qualified, licensed professionals who are either (i) employed by Design Consultant or (ii) procured by Design Consultant from qualified, licensed Design Sub-Consultants.

2.1.2 Design Consultant shall not engage the services of any Design Sub-Consultant without first obtaining the approval of Design-Builder, which approval shall not be unreasonably withheld. Design Consultant agrees that each Design Sub-Consultant shall be fully bound to Design Consultant in the same manner as Design Consultant is bound to Design-Builder for all the

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requirements of the Contract Documents to the extent applicable to the Design Sub-Consultant's scope of services. Design Consultant shall at all times be responsible for the services performed by its Design Sub-Consultants, and shall coordinate the services of its Design Sub-Consultants to satisfy Design Consultant's obligations under the Contract Documents. Nothing in this Agreement shall relieve Design Consultant from responsibility for the services performed by its Design Sub-Consultants, or create any legal or contractual relationship between Design-Builder and any Design Sub-Consultant. Design Consultant may not substitute approved Design Sub-Consultants without Design-Builder's written consent, and such consent shall not be unreasonably withheld. Nothing in the Contract Documents is intended or deemed to create any legal or contractual relationship between Design-Builder and any Design Sub-Consultant, including but not limited to any third-party beneficiary rights.

2.1.3 If Design-Builder or Owner performs other work on the Project with separate design professionals under Design-Builder's or Owner's control, Design Consultant agrees to reasonably cooperate and coordinate its activities with those of such separate design professionals so that the Project can be completed in an orderly and coordinated manner and without disruption.

2.1.4 Design Consultant shall only communicate with Owner, Subcontractors, or Sub-Subcontractors through Design-Builder unless the parties agree otherwise. Notwithstanding the preceding sentence, Design Consultant may communicate directly with Owner (with written copy to Design-Builder) on matters of public health, safety, and welfare when required by applicable Legal Requirements or professional codes of ethics.

2.1.5 Within seven (7) days after execution of this Agreement, Design-Builder and Design Consultant will meet to discuss issues affecting the administration of the Services and to implement the necessary procedures, including but not limited to those relating to the schedule for the Services, schedule updates, review of submittals, and payment, to facilitate the ability of the parties to perform their obligations under the Contract Documents and allow Design Consultant to meet its obligations to design the Project consistent with the Contract Documents, without compromising any professional obligations of Design Consultant.

2.2 Standard of Care.

2.2.1 The standard of care for all professional services performed by Design Consultant and its Design Sub-Consultants pursuant to this Agreement shall be the care and skill ordinarily used by members of the applicable profession practicing under similar conditions at the same time and locality of the Project.

2.3 Legal Requirements.

2.3.1 Design Consultant agrees to perform the Services in accordance with all applicable Legal Requirements.

2.3.2 Design Consultant's Fee and/or the Design Schedule shall be adjusted to compensate Design Consultant for the effects, if any, of any changes in the Legal Requirements enacted after the date of the Agreement affecting the performance of the Services. Such effects may include, without limitation, revisions Design Consultant is required to make to the Construction Documents because of changes in Legal Requirements.

2.4 Design Consultant's Personnel.

2.4.1 Design Consultant agrees that the primary personnel assigned to perform the Services shall be as listed in Exhibit _____. Design Consultant shall not change such personnel without Design-Builder's prior written approval.

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2.4.2 Design Consultant's Representative shall be reasonably available to Design-Builder and shall have the necessary expertise and experience required to supervise the Services. Design Consultant's Representative shall communicate regularly with Design-Builder and shall be vested with the authority to act on behalf of Design Consultant. Design Consultant shall replace its Representative upon the reasonable request of Design-Builder.

2.5 Government Approvals and Permits.

2.5.1 Design Consultant shall obtain and pay for the permits, approvals, and licenses, if any, set forth in Exhibit _____.

2.5.2 Design Consultant shall provide reasonable assistance to Design-Builder and Owner in obtaining any permits, approvals, and licenses which are not Design Consultant's obligation to obtain, but which are required for the construction of the Project.

2.5.3 Design Consultant shall make any revisions to the Construction Documents necessary to secure permits, approvals, and licenses, including those which have been denied for failure of the Construction Documents to meet Legal Requirements. If such revisions are necessary for reasons beyond the control of Design Consultant or its Design Sub-Consultants, Design Consultant shall be compensated for such revisions as a change to this Agreement.

2.6 Design Development Services.

2.6.1 In accordance with the times set forth in the Design Schedule, Design Consultant shall submit to Design-Builder all interim Design Submissions and revisions as required by the Contract Documents. Interim Design Submissions shall be consistent with Owner's Project Criteria as well as the Basis of Design Documents, as the Basis of Design Documents may have been modified in accordance with the Contract Documents. Such interim Design Submissions shall be in the form and quantity called for in the Contract Documents and may include design criteria, drawings, diagrams and specifications setting forth the Project requirements. Design-Builder and Design Consultant agree that prior to the scheduled date for submitting all interim Design Submissions to Owner, Design-Builder and Design Consultant will hold meetings for the purpose of discussing and monitoring the design for consistency with the requirements of the Contract Documents.

2.6.2 In accordance with the Contract Documents and within the times set forth in the Design Schedule, Design Consultant shall submit to Design-Builder Construction Documents setting forth in detail drawings and specifications describing the requirements for construction of the Work. The Construction Documents shall be consistent with the latest set of interim Design Submissions, as such submissions may have been modified in a design review meeting. Design Consultant shall provide the Construction Documents in the form and quantity called for in the Contract Documents. Design Consultant shall perform agreed-upon revisions and submit revised Construction Documents to Design-Builder for Design-Builder's and Owner's approval.

2.6.3 Design Consultant shall attend and participate in such meetings as are held between Owner and Design-Builder to discuss interim Design Submissions and the Construction Documents. Design Consultant shall identify during each such meeting, among other things, the evolution of the design and any changes or deviations from the Contract Documents, including the Basis of Design Documents, Owner's comments on the Design Submissions, or, if applicable, previously submitted Design Submissions. If incorporation of Owner's comments results in a design that is inconsistent with or otherwise gives rise to a change in Owner's Project Criteria, the Basis of Design Documents, the Contract Price established in the Design-Build Agreement and/or the Contract Time established in the Design-Build Agreement, Design Consultant shall provide written notice thereof to Design-Builder in sufficient time for Design-Builder to provide timely notice to Owner pursuant to the Design-Build Agreement. To the extent that Design Consultant fails to identify such changes or fails to produce Construction Documents consistent with the Basis of Design Documents and identified and approved changes and Design-Builder incurs additional

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uncompensated costs as a result, Design Consultant shall be responsible for such costs. Minutes of the meetings between Design-Builder and Design Consultant, and Design-Builder and Owner, including a full listing of all changes, will be maintained by Design-Builder and provided to all attendees for review. Design Consultant shall review such minutes and provide notice of any objections thereto.

2.6.4 In addition to the interim Design Submissions and Construction Documents, Design Consultant shall, if requested by Design-Builder, prepare (i) those design documents necessary for the establishment of a GMP Exhibit or GMP Proposal and (ii) interim Design Submissions and Construction Documents required to permit commencement of construction on a portion of the Project before the entire Construction Documents for the Project are completed.

2.6.5 Design-Builder's and Owner's review and/or approval of interim Design Submissions and the Construction Documents are for the purpose of mutually establishing a conformed set of Construction Documents compatible with the requirements of the Contract Documents. The review and/or approval by either Design-Builder or Owner of any interim Design Submission or the Construction Documents shall not be deemed to transfer any design liability from Design Consultant to Design-Builder or Owner.

2.6.6 Design Consultant will, at its own cost, revise any interim Design Submission or the Construction Documents to correct any of its errors, mistakes or omissions. Such revisions shall be performed timely and so as not to jeopardize the Design Schedule and/or the Project Schedule.

2.6.7 Design Consultant shall be responsible for paying all royalties and licensing fees for patented or copyrighted materials, methods or systems specified by Design Consultant and incorporated into the Project.

2.7 Construction Phase Services.

2.7.1 Design Consultant shall assist Design-Builder in preparing bidding documents for specified portions of the Project's construction, and clarifying and responding to questions involving the bidding documents.

2.7.2 Design Consultant shall timely provide requested clarifications and interpretations of the Construction Documents, which shall be consistent with the intent of, and reasonably inferable from, the Contract Documents. Design Consultant shall make all revisions to the Construction Documents necessary for the proper construction of the Project.

2.7.3 Design Consultant shall review and approve such submittals, including shop drawings, product data and samples, as may be required by the Design-Build Agreement or Design-Builder. Design Consultant shall expeditiously inform Design-Builder of any revisions that are necessary as a condition to Design Consultant's approval of submittals. The time within which Design Consultant shall review and respond to submittals will be as established at the meeting required by Section 2.1.5 hereof. Design Consultant's review and approval shall not relieve Design-Builder or Subcontractors of responsibility for construction means and methods or safety precautions.

2.7.4 Design Consultant shall review, and if acceptable approve, any substitutions for materials or equipment proposed by Design-Builder.

2.7.5 Design Consultant shall, if requested by Design-Builder, review any inspection reports or tests involving the construction of the Project and provide its comments to Design-Builder. Design Consultant is not responsible for the accuracy or completeness of the tests or inspections performed by others.

2.7.6 Unless otherwise provided, Design Consultant is not providing full-time resident services.

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Nevertheless, Design Consultant shall at appropriate intervals visit the Site to determine if the construction is proceeding in accordance with the Construction Documents. If Design-Builder and Design Consultant have agreed to a specific frequency of Design Consultant's Site visits, such frequency shall be set forth as an exhibit to this Agreement. Design Consultant shall promptly notify Design-Builder of any defects, deficiencies, deviations, omissions, or violations observed by Design Consultant in the construction of the Project, and make recommendations to Design-Builder on how to proceed.

2.7.7 At the request of Design-Builder, Design Consultant shall attend meetings with Design-Builder and Owner and/or Subcontractors and Sub-Subcontractors to discuss design issues which may arise during construction.

2.7.8 Design Consultant shall, if requested by Design-Builder, provide such certifications as may be necessary relative to Substantial Completion, and if required by the Design-Build Agreement, Final Completion, with the understanding that such certification shall be reasonably consistent with Design Consultant's scope of services.

2.7.9 Design Consultant's provision of the Construction Phase Services shall not be construed to make Design Consultant responsible for (i) the acts or omissions of Design-Builder, any Subcontractors, or any Sub-Subcontractors; (ii) the means, methods, sequences, and techniques of construction of the Project; or (iii) safety precautions and programs in connection with the construction of the Project. Nothing in this Agreement shall create any legal or contractual relationship between Design Consultant and any Subcontractor or Sub-Subcontractor.

2.8 Additional Services.

2.8.1 Additional Services, if any, agreed upon by the parties shall be set forth in Exhibit _____ _____, and may include by way of example only, site visits in excess of those agreed upon by the parties, evaluating changes, including the preparation or revision of the Construction Documents, providing record drawings, and providing consultation concerning replacement of Work damaged by fire or other causes during construction.

Article 3

Design-Builder's Services and Responsibilities

3.1 Timely Reviews, Approvals and Submittals.

3.1.1 Design-Builder shall provide timely reviews and approvals of all interim Design Submissions and Construction Documents consistent with the turnaround times set forth in the Design Schedule, or as agreed to by the parties at the meeting required under Section 2.1.5 hereof.

3.1.2 Design-Builder shall timely submit to Design Consultant all submittals, including shop drawings, product data and samples, for Design Consultant's review and approval consistent with the Project Schedule, or as agreed to by the parties at the meeting required under Section 2.1.5 hereof.

3.1.3 Design-Builder shall provide timely notice to Design Consultant of any delays to the Project caused by Design Consultant.

3.2 Design-Builder's Representative.

3.2.1 Design-Builder's Representative shall be responsible for providing Design-Builder-supplied information and approvals in a timely manner to permit Design Consultant to fulfill its obligations

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under the Contract Documents.

3.3 Furnishing of Services and Information.

3.3.1 Unless expressly stated to the contrary in the Contract Documents, and to the extent Design-Builder has received such items from Owner, Design-Builder shall provide for Design Consultant's information the items listed below. Design-Builder does not warrant the accuracy or completeness of such items, provided, however, that Design Consultant is entitled to rely upon such items to the same extent Design-Builder is entitled to rely upon such items in the Design-Build Agreement:

3.3.1.1 Surveys describing the property, boundaries, topography and reference points for use during construction, including existing service and utility lines;

3.3.1.2 Geotechnical studies describing subsurface conditions, and other surveys describing other latent or concealed physical conditions at the Site;

3.3.1.3 Temporary and permanent easements, zoning and other requirements and encumbrances affecting land use, or necessary to permit the proper design and construction of the Project and enable Design Consultant to perform the Services;

3.3.1.4 A legal description of the Site;

3.3.1.5 Record drawings of any existing structures at the Site;

3.3.1.6 Environmental studies, reports and impact statements describing the environmental conditions, including Hazardous Conditions, in existence at the Site;

3.3.1.7 Owner's Project Criteria;

3.3.1.8 All permits, approvals and licenses set forth in the Owner's Permit List attached as an exhibit to the Design-Build Agreement; and

3.3.1.9 Test and inspection reports.

3.3.2 Design-Builder shall provide Design Consultant with a copy of the Design-Build Agreement, including all exhibits, attachments, and other Contract Documents enumerated and incorporated therein.

3.3.3 Design-Builder shall provide all cost estimating and scheduling services related to the construction of the Project and shall be responsible for mistakes or miscalculations of market conditions that result in construction costs that are contrary to Design-Builder's budget and pricing assumptions. Nothing herein shall relieve Design Consultant from its obligation to prepare a design for the Project that is consistent with the Contract Documents.

3.3.4 Upon Design Consultant's reasonable request, Design-Builder shall provide Design Consultant with information in Design-Builder's possession regarding Owner's financial ability to pay for the Services set forth in this Agreement.

3.3.5 Design-Builder shall provide Design Consultant with the Project Schedule and appropriate updates thereto.

3.3.6 Design-Builder shall provide administration of the Design-Build Agreement, and promptly forward any communications to Owner from Design Consultant that may impact the Services.

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3.3.7 Design-Builder shall provide Design Consultant reasonable access to the Project and the Site.

3.4 Notification of Errors.

3.4.1 Design-Builder shall notify Design Consultant of any errors, inconsistencies, or omissions Design-Builder discovers in the Services, including any interim Design Submissions, Construction Documents or other Services. Notwithstanding anything to the contrary in this Agreement, nothing in this Agreement shall relieve Design Consultant of responsibility for errors, inconsistencies, or omissions in the Services.

3.5 Attendance at Design Meetings.

3.5.1 Design-Builder shall afford Design Consultant and its Design Sub-Consultants the opportunity to attend all necessary design meetings with Owner, Subcontractors and/or Sub-Subcontractors.

Article 4

Ownership of Work Product

4.1 Work Product.

4.1.1 All drawings, specifications and other documents and electronic data furnished by Design Consultant to Design-Builder under this Agreement ("Work Product") are deemed to be instruments of service and Design Consultant shall retain ownership and property interests therein provided, however, that Design Consultant hereby grants Design-Builder (for the purpose of allowing Design-Builder to grant to Owner), upon Design-Builder's payment to Design Consultant of amounts properly due under this Agreement, a limited license to use the Work Product in connection with completing this Project. Notwithstanding the preceding sentence, if the Design-Build Agreement grants ownership and/or property rights to Owner that conflict with the above, then Design Consultant hereby grants such rights to Design-Builder (for the purpose of allowing Design-Builder to grant to Owner) under the same terms and conditions that Design-Builder grants such rights to Owner.

4.2 Agreement to Grant Rights to Owner.

4.2.1 Design Consultant has reviewed the Design-Build Agreement and is fully aware of the ownership and property rights to use the Work Product which may be granted to Owner therein. Design Consultant accepts and agrees to Owner's ownership and property rights with respect to the Work Product contained in the Design-Build Agreement.

4.3 Indemnification for Use of Work Product.

4.3.1 If either Design-Builder or Design Consultant uses the Work Product on any other project, such party agrees that it shall do so at its sole risk and without liability or legal exposure to the other party, Owner, or anyone working through them. Such party further agrees that it shall defend, indemnify and hold harmless the other party and Owner from and against any and all claims, damages, liabilities, losses and expenses, including attorneys' fees, arising out of or resulting from such use of the Work Product on another project.

4.4 Use of Work Product On Termination or Default.

4.4.1 If Design-Builder terminates this Agreement for its convenience as set forth in Section 7.1 hereof, or if Design Consultant elects to terminate this Agreement in accordance with Section 7.4 of this Agreement, Design Consultant, upon Design-Builder's payment in full of the amounts due Design Consultant under the Contract Documents, grants Design-Builder and Owner the same

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rights as set forth in Section 4.1.1 above to use the Work Product to complete the Project and subsequently occupy the Project, conditioned on the following:

4.4.1.1 Use of the Work Product is at Design-Builder's sole risk without liability or legal exposure to Design Consultant or anyone working by or through Design Consultant, and on Design-Builder's obligation to provide the indemnity set forth in Section 4.3 herein, and

4.4.1.2 Design-Builder agrees to pay Design Consultant the additional sum of _____ _____Dollars ($_____) as compensation for the right to use the Work Product to complete the Project and subsequently use the Work Product in accordance with Section 4.1.1 if Design-Builder resumes the Project through its employees, agents, or third parties.

4.4.2 If this Agreement is terminated due to Design Consultant's default pursuant to Section 7.2 of this Agreement, then Design-Builder shall have the same rights as set forth in Section 4.1.1 above to use the Work Product to complete the Project and subsequently occupy the Project, and Design-Builder and Owner shall thereafter have the same rights and obligations as set forth in Section 4.1.1 above. Notwithstanding the preceding sentence, if it is ultimately determined that Design Consultant was not in default, Design-Builder shall be deemed to have terminated the Agreement for convenience, and Design Consultant shall be entitled to the rights and remedies set forth in Section 4.4.1 above.

Article 5

Time of Performance

5.1 Date of Commencement.

5.1.1 The Services shall commence five (5) days after Design Consultant's receipt of Design-Builder's Notice to Proceed ("Date of Commencement") unless the parties mutually agree otherwise in writing.

5.2 Design Schedule.

5.2.1 Unless a schedule for the execution of the Work has been attached to the Agreement as an exhibit at the time this Agreement is executed, Design Consultant shall prepare and submit for Design-Builder's review and acceptance, at least three (3) days prior to the meeting required by Section 2.1.5 hereof, a schedule for the execution of the Design Phase Services in accordance with the Contract Documents. The schedule shall indicate the dates for the start and completion of the various stages of the Design Phase Services, including the dates for the design monitoring and review meetings required herein, and the dates when Design-Builder and Owner information and approvals are required, and shall take into account Design-Builder's obligations to Owner under the Design-Build Agreement, including but not limited to, any minimum and/or maximum time limits for Owner to review Design Submissions. Design-Builder and Design Consultant will jointly review Design Consultant's schedule to determine whether it permits Design-Builder to satisfy its obligations under the Project Schedule and the Design-Build Agreement. The accepted schedule (the "Design Schedule") shall be revised as required by conditions and progress of the Project, but such revisions shall not relieve Design Consultant of its obligations to perform the Services in accordance with the Contract Documents, subject to its rights under this Agreement. Design-Builder shall incorporate the Design Schedule into the Project Schedule.

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5.3 Status Reports.

5.3.1 Design Consultant shall provide Design-Builder on a regular basis a status report detailing the progress of the Design Phase Services, including whether (i) the Design Phase Services are proceeding according to the Design Schedule, and (ii) items exist which require resolution so as not to jeopardize Design Consultant's ability to meet the dates set forth in the Design Schedule and Design-Builder's ability to meet the Project Schedule. The frequency of the status reports shall be established at the meeting required by Section 2.1.5 hereof.

5.4 Delays.

5.4.1 If Design Consultant's performance of the Services is delayed for any reason so as to impact the Design Schedule or the Project Schedule, Design Consultant shall promptly notify Design-Builder in writing of the cause(s) of such delay within sufficient time to permit Design-Builder to provide timely notice to Owner in accordance with the Design-Build Agreement. If the delay is due to any act, neglect, or omission on the part of Design Consultant, Design Sub-Consultants, or anyone for whom they are responsible, Design Consultant shall, subject to any limitations contained herein, compensate and indemnify Design-Builder for all costs, damages, and expenses arising from such delay. If the delay is caused by Design-Builder, the Design Consultant's Fee and the Design Schedule shall be adjusted to compensate Design Consultant for the effects, if any, of the delay, subject to any limitations contained herein.

5.4.2 Notwithstanding any other provision to the contrary, any delays and resulting damages that arise out of, or relate to, problems caused by Owner or for which Owner is responsible shall be resolved pursuant to Section 11.3 hereof.

Article 6

Design Consultant's Compensation

6.1 Design Consultant's Fee.

6.1.1 Design Consultant's Fee shall be the compensation due Design Consultant for the performance of the Services, including all Design Phase Services, Construction Phase Services, and Additional Services, and for Reimbursable Costs, all as set forth in this Agreement. Unless otherwise provided in the Contract Documents, the Design Consultant's Fee is deemed to include all sales, use, consumer and other taxes mandated by applicable Legal Requirements.

6.1.2 Design Consultant will be compensated for the Design Phase Services, Construction Phase Services, Additional Services, if any, and Reimbursable Costs as set forth in Exhibit _____ _____. *(Provide for a fixed lump sum amount, hourly rates, percentage fees, or some other basis of compensation for the Services.)*

6.2 Applications for Payment.

6.2.1 Beginning with the first month after the Date of Commencement, Design Consultant shall submit on the _____ (_____) day of each month for Design-Builder's review and approval, Design Consultant's certified Application for Payment requesting payment for all Services performed as of the date of the Application for Payment. The Application for Payment shall be accompanied by all supporting documentation required by the Contract Documents and/or established at the meeting required by Section 2.1.5 hereof. Once approved, Design-Builder will submit Design Consultant's Application for Payment to Owner with Design-Builder's application.

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6.2.2 The Application for Payment shall constitute Design Consultant's representation that (i) the Services have been performed consistent with the Contract Documents, (ii) the Services have progressed to the point indicated in the Application for Payment, (iii) Design Sub-Consultants have been paid all amounts previously received by Design Consultant on account of their services, and (iv) there are no claims, obligations or liens outstanding or unsatisfied for labor, services, taxes, or other items performed, furnished, or incurred for or in connection with the Services.

6.2.3 Design-Builder shall make payment on Design Consultant's properly submitted and accurate Application for Payment within three (3) days after Design-Builder's receipt of payment from Owner on account of Design Consultant's monthly Application for Payment, but in each case less the total of payments previously made, and less amounts properly withheld hereunder.

6.3 Retainage on Applications for Payment.

6.3.1 Design-Builder will not retain any funds from Design Consultant's Applications for Payment unless Owner is retaining funds from Design-Builder's progress payments for the Services, and then only in the same amount or percentage retained from Design-Builder's progress payments as set forth in the Design-Build Agreement. Unless mutually agreed otherwise between the parties, retainage (if applicable) will be released to Design Consultant within three (3) days after Design-Builder's receipt of such retained amounts from Owner.

6.4 Withholding of Payments.

6.4.1 If Design-Builder determines that Design Consultant is not entitled to all or part of an Application for Payment, it will notify Design Consultant in writing at least five (5) days prior to the date payment is due. The notice shall indicate the specific amounts Design-Builder intends to withhold, the reasons and contractual basis for the withholding, and the specific measures Design Consultant must take to rectify Design-Builder's concerns. Design-Builder and Design Consultant will attempt to resolve Design-Builder's concerns prior to the date payment is due. If the parties cannot resolve such concerns, Design-Builder shall pay Design Consultant the uncontested amount of the Application for Payment, and Design Consultant may pursue its rights under the Contract Documents, including those under Article 11 hereof.

6.5 Final Payment.

6.5.1 At the time Design Consultant submits its final Application for Payment to Design-Builder, Design Consultant shall provide (i) all deliverables required by the Contract Documents; (ii) an affidavit that there are no claims, obligations or liens outstanding or unsatisfied for or in connection with the Services which will in any way affect Design-Builder's or Owner's interests; (iii) a general release executed by Design Consultant waiving, upon receipt of final payment by Design Consultant, all claims, except those claims previously made in writing to Design-Builder and remaining unsettled at the time of final payment; and (iv) certificates of insurance confirming that required coverages will remain in effect consistent with the requirements of the Contract Documents. Design-Builder shall make payment on Design Consultant's properly submitted and accurate final Application for Payment within ten (10) days after Design-Builder's receipt of final payment from Owner on account of Design Consultant's final Application for Payment, provided also that Design Consultant has satisfied the requirements for final payment set forth herein.

6.6 Pay When Paid.

6.6.1 Design Consultant agrees that all payments to Design Consultant hereunder, whether progress or final payment, or for changes or delays to the Services, shall not be due until after Design-Builder actually receives payment on account of same from Owner. Notwithstanding the preceding sentence, Design-Builder shall pay Design-Consultant within a reasonable time if it has

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not been paid by Owner unless Owner's failure to pay the Design-Builder is caused by Design Consultant's failure to perform in accordance with this Agreement.

6.7 Interest.

6.7.1 Payments due and unpaid under this Agreement shall bear interest commencing five (5) days after payment is due at the rate of _____ percent (_____%) per annum.

6.8 Design Consultant's Payment Obligations.

6.8.1 Design Consultant will pay Design Sub-Consultants, in accordance with its contractual obligations to such parties, all the amounts Design Consultant has received from Design-Builder on account of their services. Design Consultant will impose similar requirements on Design Sub-Consultants to pay those parties with whom they have contracted. Design Consultant will indemnify and defend Owner and Design-Builder against any claims for payment and mechanic's liens, provided Design-Builder is not in breach of its contractual obligations to make payments to Design Consultant for its Services.

6.9 Record Keeping and Finance Controls.

6.9.1 Design Consultant shall keep full and detailed accounts and exercise such controls as may be necessary for proper financial management, using accounting and control systems in accordance with generally accepted accounting principles and as may be provided in the Contract Documents. During the performance of the Services and for a period of three (3) years after final payment of the Services or such longer period as set forth in the Design-Build Agreement for the review of Design-Builder's records, Design-Builder and Design-Builder's accountants shall be afforded access to and the right to audit from time-to-time, upon reasonable notice, Design Consultant's records, books, correspondence, receipts, subcontracts, purchase orders, vouchers, memoranda and other data relating to the cost of performing the Services, including changes in the Services, and reimbursable expenses all of which Design Consultant shall preserve for a period of three (3) years after final payment. Such inspection shall take place at Design Consultant's offices during normal business hours unless another location and time is agreed by the parties. Any fee (that is either a lump sum or percentage of construction cost), multipliers or markups agreed to by Design-Builder and Design Consultant as part of this Agreement are only subject to audit to confirm that such fee, multiplier or markup has been charged in accordance with this Agreement, with the composition of such fee, multiplier or markup not being subject to audit, unless the Design-Build Agreement grants Owner greater audit rights, in which case Owner's audit rights shall govern.

Article 7

Termination and Design Consultant's Right to Stop Services

7.1 Design-Builder's Right to Terminate for Convenience.

7.1.1 If Owner terminates Design-Builder for any reason, then Design-Builder may terminate this Agreement. In such event, Design-Builder shall pay Design Consultant only those amounts Design-Builder actually receives from Owner on behalf of Design Consultant. Notwithstanding the preceding sentence, in the event Design-Builder does not receive any compensation from Owner because Design-Builder was terminated for default, Design-Builder is obligated to pay Design Consultant for all services properly performed by Design Consultant prior to receiving notice of the termination, to the extent that Design-Builder's default was not caused by Design Consultant's failure to perform in accordance with its obligations.

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7.2 Design-Builder's Right to Terminate for Cause.

7.2.1 If Design Consultant persistently fails to (i) comply with applicable Legal Requirements, (ii) timely pay, without cause, its Design Sub-Consultants, (iii) prosecute the Services with promptness and diligence so that the Services are completed by the times set forth in the Design Schedule or the Project Schedule, (iv) provide qualified, licensed design professionals, or (v) perform material obligations under the Contract Documents, then Design-Builder shall have the rights, in addition to any other rights and remedies provided in the Contract Documents or by law, set forth in Sections 7.2.2 and 7.2.3 below.

7.2.2 Upon the occurrence of an event set forth in Section 7.2.1 above, Design-Builder may provide written notice to Design Consultant that it intends to terminate the Agreement unless the problem cited is cured, or commenced to be cured, within seven (7) days of Design Consultant's receipt of such notice. If Design Consultant fails to cure, or reasonably commence to cure, such problem, then Design-Builder may give a second written notice to Design Consultant of its intent to terminate within an additional seven (7) day period. If Design Consultant, within such second seven (7) day period, fails to cure, or reasonably commence to cure, such problem, then Design-Builder may declare the Agreement terminated for default by providing written notice to Design Consultant of such declaration.

7.2.3 Upon declaring the Agreement terminated pursuant to Section 7.2.2 above, Design-Builder may complete the Services in whatever fashion it deems most efficient, and shall have the right to use the existing Work Product for purposes of completing the Project, subject to Section 4.4 above. To the extent Design-Builder has been adversely impacted by Design Consultant's default and termination, Design-Builder shall be entitled to recover against Design Consultant all of Design-Builder's costs. Such costs and expense shall include not only the cost of completing the Services, but also losses, damages, costs and expense, including attorneys' fees and expenses, incurred by Design-Builder in connection with the reprocurement and defense of claims arising from Design Consultant's default, subject to the waiver of consequential damages set forth in Section 11.7 hereof.

7.3 Design Consultant's Right To Stop Services.

7.3.1 If (i) Owner fails to pay undisputed amounts due Design-Builder under the Design-Build Agreement for Services performed by Design Consultant, such failure is not due to the fault of Design Consultant, and Design Consultant has not been paid such amounts due, or (ii) Design-Builder fails to pay any undisputed amounts due Design Consultant under this Agreement, Design Consultant may, in addition to any other rights afforded under the Contract Documents or at law, stop work in accordance with Section 7.3.2 below.

7.3.2 Should either of the events set forth in Section 7.3.1 above occur, Design Consultant has the right to provide Design-Builder with written notice that Design Consultant will stop work unless said failure to pay is cured within seven (7) days from Design-Builder's receipt of Design Consultant's notice. Design Consultant shall not stop work unless it provides such written notice and the Design-Builder has failed to cure the reason for default within the seven (7) day cure period. If Design-Builder does not cure the problem within such seven (7) day period, Design Consultant may stop work. In such case, Design Consultant shall be entitled to make a claim for adjustment to the Design Consultant's Fee and the Design Schedule to the extent it has been adversely impacted by such stoppage. To the extent Design-Builder's failure to pay is related to a dispute between the parties, the dispute will be resolved in accordance with Article 11, and the parties will continue performance in accordance with Section 11.6.

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7.4 Design Consultant's Right to Terminate for Cause.

7.4.1 Design Consultant in addition to any other rights and remedies afforded under the Contract Documents or at law, may terminate the Agreement for cause in accordance with Section 7.4.2 if Design-Builder has failed to cure the problems set forth in Section 7.3.2 within thirty (30) days after Design Consultant has stopped work.

7.4.2 Upon the occurrence of the event set forth in Section 7.4.1 above, Design Consultant may provide written notice to Design-Builder that it intends to terminate the Agreement unless the problem cited is cured, or commenced to be cured, within seven (7) days of Design-Builder's receipt of such notice. If Design-Builder fails to cure, or reasonably commence to cure, such problem, then Design Consultant may give a second written notice to Design-Builder of its intent to terminate within an additional seven (7) day period. If Design-Builder, within such second seven (7) day period, fails to cure, or reasonably commence to cure, such problem, then Design Consultant may declare the Agreement terminated for default by providing written notice to Design-Builder of such declaration.

7.5 Bankruptcy of Design-Builder or Design Consultant.

7.5.1 If either Design-Builder or Design Consultant institutes or has instituted against it a case under the United States Bankruptcy Code (such party being referred to as the "Bankrupt Party"), such event may impair or frustrate the Bankrupt Party's ability to perform its obligations under the Contract Documents. Accordingly, should such event occur:

7.5.1.1 The Bankrupt Party, its trustee or other successor, shall furnish, upon request of the non-Bankrupt Party, adequate assurance of the ability of the Bankrupt Party to perform all future material obligations under the Contract Documents, which assurances shall be provided within ten (10) days after receiving notice of the request; and

7.5.1.2 The Bankrupt Party shall file an appropriate action within the bankruptcy court to seek assumption or rejection of the Agreement within sixty (60) days of the institution of the bankruptcy filing and shall diligently prosecute such action.

If the Bankrupt Party fails to comply with its foregoing obligations, the non-Bankrupt Party shall be entitled to request the bankruptcy court to reject the Agreement, declare the Agreement terminated, and pursue any other recourse available to the non-Bankrupt Party under this Article 7.

7.5.2 The rights and remedies under Section 7.5.1 above shall not be deemed to limit the ability of the non-Bankrupt Party to seek any other rights and remedies provided by the Contract Documents or by law, including its ability to seek relief from any automatic stays under the United States Bankruptcy Code.

Article 8

Representatives of the Parties

8.1 Design-Builder's Representatives.

8.1.1 Design-Builder designates the individual listed below as its Senior Representative ("Design-Builder's Senior Representative"), which individual has the authority and responsibility for avoiding and resolving disputes under Section 11.4 hereof: *(Identify individual's name, title, address and telephone numbers.)*

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8.1.2 Design-Builder designates the individual listed below as its Design-Builder's Representative, which individual has the authority and responsibility set forth in Section 3.2 hereof: *(Identify individual's name, title, address and telephone numbers.)*

8.2 Design Consultant's Representatives.

8.2.1 Design Consultant designates the individual listed below as its Senior Representative ("Design Consultant's Senior Representative"), which individual has the authority and responsibility for avoiding and resolving disputes under Section 11.4 hereof: *(Identify individual's name, title, address and telephone numbers.)*

8.2.2 Design Consultant designates the individual listed below as its Design Consultant's Representative, which individual has the authority and responsibility set forth in Section 2.4.2 hereof: *(Identify individual's name, title, address and telephone numbers.)*

Article 9

Insurance

9.1 Design Consultant's Insurance Requirements.

9.1.1 Design Consultant is responsible for procuring and maintaining, from insurance companies authorized to do business in the state in which the Project is located, the insurance coverages set forth in the Insurance Exhibit, with the minimum ratings set forth in said exhibit, for certain claims which may arise from or out of the performance of this Agreement and the obligations under the Contract Documents.

9.1.2 Design Consultant shall require its Design Sub-Consultants to procure and maintain, from insurance companies authorized to do business in the state in which the Project is located, the insurance coverages set forth in the Insurance Exhibit.

9.1.3 Design Consultant's and its Design Sub-Consultants' insurance coverage set forth in the Insurance Exhibit shall specifically delete any design-build or similar exclusions that could compromise coverages because of the design-build delivery of the Project.

9.1.4 To the extent Design-Builder requires Design Consultant to provide professional liability insurance for claims arising from the negligent performance of design services by Design Consultant or Design Sub-Consultants, the coverage limits, duration and other specifics of such insurance shall be set forth in the Insurance Exhibit. Such policies shall be provided prior to the commencement of any design services hereunder.

9.1.5 Prior to commencing any services hereunder, Design Consultant shall provide Design-Builder with certificates evidencing that (i) all insurance obligations required by the Contract Documents are in full force and in effect and will remain in effect for the duration required by the Contract Documents and (ii) no insurance coverage will be canceled, renewal refused, or materially changed unless at least thirty (30) days' prior written notice is given to Design-Builder.

9.1.6 Except as otherwise stated in the Insurance Exhibit, the insurance policies required herein shall list Design-Builder, and all other entities required by the Contract Documents, if any, as an additional insured.

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9.1.7 If any of the foregoing insurance coverages are required to remain in force after final payment, an additional certificate evidencing continuation of such coverage shall be submitted with the final Application for Payment.

9.2 Waiver of Subrogation.

9.2.1 Design-Builder and Design Consultant waive against each other and Owner, Design Sub-Consultants, Owner's separate contractors, Subcontractors, Sub-Subcontractors, agents and employees of each and all of them, all damages covered by property insurance provided herein, except such rights as they may have to the proceeds of such insurance. Design-Builder and Design Consultant shall, where appropriate, require similar waivers of subrogation from Design Sub-Consultants and Subcontractors and shall require each of them to include similar waivers in their contracts. These waivers of subrogation shall not contain any restriction or limitation that will impair the full and complete extent of its applicability to any person or entity unless agreed to in writing prior to the execution of this Agreement.

Article 10

Indemnification

10.1 Patent and Copyright Infringement.

10.1.1 Design Consultant shall defend any action or proceeding brought against Owner or Design-Builder based on any claim that the Project, or any part thereof, or the operation or use of the Project or any part thereof, constitutes infringement of any United States patent or copyright, now or hereafter issued. Design-Builder shall give prompt written notice to Design Consultant of any such action or proceeding and will reasonably provide authority, information and assistance in the defense of same. Design Consultant shall indemnify and hold harmless Owner and Design-Builder from and against all damages and costs, including but not limited to attorneys' fees and expenses awarded against Owner or Design-Builder in any such action or proceeding. Design Consultant agrees to keep Design-Builder informed of all developments in the defense of such actions.

10.1.2 If Owner is enjoined from the operation or use of the Project, or any part thereof, as the result of any patent or copyright suit, claim, or proceeding, Design Consultant shall at its sole expense take reasonable steps to procure the right to operate or use the Project, or applicable part thereof. If Design Consultant cannot so procure such right within a reasonable time, Design Consultant shall promptly, at Design Consultant's option and at Design Consultant's expense, (i) modify the Project, or applicable part thereof, so as to avoid infringement of any patents or copyrights, or (ii) replace said work with work that does not infringe or violate any such patent or copyright, and is consistent with the Contract Documents.

10.1.3 Sections 10.1.1 and 10.1.2 above shall not be applicable to any suit, claim or proceeding based on infringement or violation of a patent or copyright (i) relating solely to a particular process or product of a particular manufacturer specified by Owner or Design-Builder and not offered or recommended by Design Consultant to Owner or Design-Builder; or (ii) arising from modifications to the Project by Owner or Design-Builder after acceptance of the Project. If the suit, claim or proceeding is based upon events set forth in the preceding sentence, Design-Builder shall defend, indemnify and hold harmless Design Consultant to the same extent Design Consultant is obligated to defend, indemnify and hold harmless Design-Builder in Section 10.1.1 above.

10.1.4 The obligations set forth in this Section 10.1 shall constitute the sole agreement between the parties relating to liability for infringement or violation of any patent or copyright.

10.2 Design Consultant's General Indemnification.

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10.2.1 Design Consultant, to the fullest extent permitted by law, shall indemnify and hold harmless Owner, Design-Builder, and their officers, directors, employees and agents from and against claims, losses, and damages, including attorneys' fees and expenses, for non-party bodily injury, sickness or death, and non-party property damage or destruction (other than to the Work itself) but only to the extent resulting from the negligent acts or omissions of Design Consultant, Design Sub-consultants, and anyone employed directly or indirectly by any of them or anyone for whose acts any of them may be liable.

10.2.2 If an employee of Design Consultant, anyone employed directly or indirectly by Design Consultant or anyone for whose acts any of them may be liable has a claim against any party indemnified pursuant to Section 10.2.1 above, Design Consultant's indemnity obligation set forth in Section 10.2.1 above shall not be limited by any limitation on the amount of damages, compensation or benefits payable by or for Design Consultant, or other entity under any employee benefit acts, including workers' compensation or disability acts.

10.3 Design-Builder's General Indemnification.

10.3.1 Design-Builder, to the fullest extent permitted by law, shall indemnify and hold harmless Design Consultant and its officers, directors, employees and agents from and against losses and damages, including attorneys' fees and expenses, for bodily injury, sickness or death, and property damage or destruction (other than to the Work itself) to the extent resulting from the negligent acts or omissions of Design-Builder, anyone employed directly or indirectly by Design-Builder or anyone for whose acts Design-Builder may be liable.

10.3.2 If an employee of Design-Builder, anyone employed directly or indirectly by Design-Builder or anyone for whose acts Design-Builder may be liable has a claim against any party indemnified pursuant to Section 10.3.1 above, Design-Builder's indemnity obligation set forth in Section 10.3.1 above shall not be limited by any limitation on the amount of damages, compensation or benefits payable by or for Design-Builder or other entity under any employee benefit acts, including workers' compensation or disability acts.

10.4 Limited Recourse

10.4.1 None of the obligations set forth in this Agreement (on behalf of any Party) constitute personal obligations of any natural persons who are the officers, shareholders, members, partners, employees, or agents of any Party unless the natural person is expressly identified as a contracting party. All Parties to this Agreement shall not seek recourse against any natural person described herein. This provision, however, shall not protect such natural persons from liability for willful misconduct, illegal acts or intentional violation of any duty of corporate loyalty.

Article 11

Contract Adjustments and Disputes

11.1 Requests for Contract Adjustments and Relief.

11.1.1 If either Design Consultant or Design-Builder believes that it is entitled to relief against the other for any event arising out of or related to the Services or the Project, such party shall provide written notice to the other party of the basis for its claim for relief. Such notice shall be in accordance with specific notice requirements contained in applicable sections of the Contract Documents and, if possible, be made prior to incurring any cost or expense. Design Consultant shall provide Design-Builder written notice of claims for which Owner may be responsible, including but not limited to changes in the Basis of Design Documents, in sufficient time for Design-Builder to meet its notice

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requirements to Owner set forth in the Contract Documents. In the absence of any specific notice requirement, written notice shall be given within a reasonable time, not to exceed ten (10) days, after the occurrence giving rise to the claim for relief or after the claiming party reasonably should have recognized the event or condition giving rise to the request, whichever is later. The claimant shall provide more complete information with respect to the claim within ten (10) days of the initial notice. The more complete information shall be in accordance with the Contract Documents and shall include sufficient information to advise the other party of the circumstances giving rise to the claim for relief, the specific contractual adjustment or relief requested and the basis of such request. Design Consultant shall comply with all documentation requirements set forth in the Design-Build Agreement when submitting its claim to Design-Builder.

11.2 Dispute Avoidance and Resolution.

11.2.1 The parties are fully committed to working with each other throughout the Project and agree to communicate regularly with each other at all times so as to avoid or minimize disputes or disagreements. If disputes or disagreements do arise, Design Consultant and Design-Builder each commit to resolving such disputes or disagreements in an amicable, professional and expeditious manner so as to avoid unnecessary losses, delays and disruptions to the Services.

11.3 Disputes Involving Owner.

11.3.1 To the extent a claim, dispute or controversy arises out of, or relates to, problems caused by Owner or for which Owner is responsible ("Owner Disputes"), such Owner Disputes shall be resolved pursuant to the dispute resolution clause set forth in the Design-Build Agreement. Both Design-Builder and Design Consultant agree to cooperate in the presentation and prosecution or defense of Owner Disputes. If, after a request for an extension of time or additional compensation from Design Consultant, Design-Builder believes that the event causing the delay or additional compensation is the responsibility of Owner, then Design-Builder will cooperate with and assist Design Consultant in presenting a request for an extension of time or additional compensation to Owner. Notwithstanding the above, Design-Builder reserves the right not to submit a claim to Owner. In such cases, the claim shall be resolved pursuant to Section 11.4.

11.3.2 Notwithstanding any other provisions herein to the contrary, Design-Builder and Design Consultant each agree to accept the relief as to a time extension or additional compensation obtained from Owner, if any, as well as all other aspects of the final decision following appeal or the expiration of the time for appeal, as full and final resolution of any Owner Dispute.

11.3.3 If Design-Builder asserts a claim against Owner involving Design Consultant, each party shall bear its own costs for outside counsel and third-party consultants retained to prosecute claims against Owner and for any other litigation costs. Each party shall present its portion of the claim to Owner.

11.3.4 If Owner contends that the Contract Documents have been breached, or otherwise asserts a claim or set-off against Design-Builder, the party determined to be responsible for the breach either by settlement or by the trier of fact shall be responsible for all costs occasioned by the breach, including counsel and litigation costs. If the trier of fact fails to determine the relative degrees of fault of Design-Builder and Design Consultant in connection with any claim by Owner, then Design-Builder and Design Consultant agree that the allocation of fault shall be determined pursuant to Section 11.4.

11.4 Disputes Not Involving Owner.

11.4.1 For any claim, dispute or controversy not arising out of, or relating to, problems caused by Owner or for which Owner is responsible, Design Consultant and Design-Builder will first attempt

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to resolve such claim, dispute or controversy at the field level through discussions between Design-Builder's Representative and Design Consultant's Representative.

11.4.2 If a claim, dispute or controversy cannot be resolved through Section 11.4.1, Design-Builder's Senior Representative and Design Consultant's Senior Representative, upon the request of either party, shall meet as soon as conveniently possible, but in no case later than thirty (30) days after such a request is made, to attempt to resolve such claim, dispute or controversy. Five (5) days prior to any meetings between the Senior Representatives, the parties will exchange relevant information that will assist the parties in resolving the claim, dispute or controversy.

11.4.3 If, after meeting, the Senior Representatives determine that the claim, dispute or controversy cannot be resolved on terms satisfactory to both parties, the parties shall submit within thirty (30) days of the conclusion of the meeting by Senior Representatives the claim, dispute or controversy to non-binding mediation. The mediation shall be conducted by a mutually agreeable impartial mediator, or if the parties cannot so agree, a mediator designated by the American Arbitration Association ("AAA") pursuant to its Construction Industry Mediation Rules. The mediation will be governed by and conducted pursuant to a mediation agreement negotiated by the parties or, if the parties cannot so agree, by procedures established by the mediator. Unless otherwise mutually agreed by Design-Builder and Design Consultant and consistent with the mediator's schedule, the mediation shall commence within ninety (90) days of the submission of the dispute for mediation. Representatives of the parties with authority to resolve the dispute shall be present at the mediation.

11.5 Arbitration

11.5.1 Any claims, disputes or controversies between the parties arising out of or relating to the Agreement, or the breach thereof, which have not been resolved in accordance with the procedures set forth in Section 11.4 above, shall be decided by arbitration in accordance with the Construction Industry Arbitration Rules of the AAA then in effect, unless the parties mutually agree otherwise.

11.5.2 The award of the arbitrator(s) shall be final and binding upon the parties without the right of appeal to the courts. Judgment may be entered upon it in accordance with applicable law by any court having jurisdiction thereof.

11.5.3 Design Consultant and Design-Builder expressly agree that any arbitration pursuant to this Section 11.5 may be joined or consolidated with any arbitration involving any other person or entity (i) necessary to resolve the claim, dispute or controversy, or (ii) substantially involved in or affected by such claim, dispute or controversy. Both Design-Builder and Design Consultant will include appropriate provisions in all contracts they execute with other parties in connection with the Project to require such joinder or consolidation.

11.5.4 The prevailing party in any arbitration, or any other final, binding dispute proceeding upon which the parties may agree, shall be entitled to recover from the other party reasonable attorneys' fees and expenses incurred by the prevailing party. The prevailing party, if any, shall be determined by the applicable binding dispute tribunal.

11.6 Duty to Continue Performance.

11.6.1 Unless provided to the contrary in the Contract Documents, Design Consultant shall continue to perform the Services and Design-Builder shall continue to satisfy its payment obligations for undisputed amounts to Design Consultant, pending the final resolution of any dispute or disagreement between Design-Builder and Design Consultant.

11.7 CONSEQUENTIAL DAMAGES.

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11.7.1 NOTWITHSTANDING ANYTHING HEREIN TO THE CONTRARY (EXCEPT AS SET FORTH IN SECTION 11.7.2 BELOW), NEITHER DESIGN-BUILDER NOR DESIGN CONSULTANT SHALL BE LIABLE TO THE OTHER FOR ANY CONSEQUENTIAL LOSSES OR DAMAGES, WHETHER ARISING IN CONTRACT, WARRANTY, TORT (INCLUDING NEGLIGENCE), STRICT LIABILITY OR OTHERWISE, INCLUDING BUT NOT LIMITED TO LOSSES OF USE, PROFITS, BUSINESS, REPUTATION OR FINANCING.

11.7.2 Notwithstanding Section 11.7.1 above, Design-Builder shall be entitled to recover against Design Consultant (i) any liquidated damages that Owner may assess against Design-Builder to the extent they are attributable to Design Consultant, even though both parties recognize that such liquidated damages may include some damages that might otherwise be deemed to be consequential and (ii) consequential damages that may be imposed upon Design-Builder by the Design-Build Agreement to the extent they are attributable to Design Consultant.

Article 12

Miscellaneous

12.1 Assignment.

12.1.1 Neither Design Consultant nor Design-Builder shall, without the written consent of the other, assign, transfer or sublet any portion or part of the Services or the obligations required by the Contract Documents.

12.2 Successorship.

12.2.1 Design-Builder and Design Consultant intend that the provisions of the Contract Documents are binding upon the parties, their employees, agents, heirs, successors and assigns.

12.3 Governing Law.

12.3.1 The Agreement and all Contract Documents shall be governed by the laws of the location of the Project, without giving effect to its conflict of law principles.

12.4 Severability.

12.4.1 If any provision or any part of a provision of the Contract Documents shall be finally determined to be superseded, invalid, illegal, or otherwise unenforceable pursuant to any applicable Legal Requirements or court order, such determination shall not impair or otherwise affect the validity, legality, or enforceability of the remaining provision or parts of the provision of the Contract Documents, which shall remain in full force and effect as if the unenforceable provision or part were deleted.

12.5 No Waiver.

12.5.1 The failure of either Design-Builder or Design Consultant to insist, in any one or more instances, on the performance of any of the obligations required by the other under the Contract Documents shall not be construed as a waiver or relinquishment of such obligation or right with respect to future performance.

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12.6 Headings.

12.6.1 The headings used in this Agreement, or any other Contract Document, are for ease of reference only and shall not in any way be construed to limit or alter the meaning of any provision.

12.7 Notice.

12.7.1 Whenever the Contract Documents require that notice be provided to the other party, notice will be deemed to have been validly given (i) if delivered in person to the individual intended to receive such notice, (ii) four (4) days after being sent by registered or certified mail, postage prepaid to the address indicated in the Agreement, (iii) if transmitted by facsimile, by the time stated in a machine generated confirmation that notice was received at the number of the intended recipient, or (iv) by electronic mail, by the time frame stated in the email generated confirmation that notice was received by the email of the intended recipient.

12.8 Amendments.

12.8.1 The Contract Documents may not be changed, altered, or amended in any way except in writing signed by a duly authorized representative of each party.

12.9 Survival.

12.9.1 Design Consultant's obligations under this Agreement shall not be released, and shall specifically survive, the completion of all Services hereunder, final payment to Design Consultant, and the termination of this Agreement for any reason.

Article 13

Electronic Data

13.1 Electronic Data.

13.1.1 The parties recognize that Contract Documents, including drawings, specifications and three-dimensional modeling (such as Building Information Models) and other Work Product may be transmitted among Design-Builder, Design Consultant and others in electronic media as an alternative to paper hard copies (collectively "Electronic Data").

13.2 Transmission of Electronic Data.

13.2.1 Design-Builder shall determine, after consultation with Design Consultant, the software and the format for the transmission of Electronic Data. Each party shall be responsible for securing the legal rights to access the agreed-upon format, including, if necessary, obtaining appropriately licensed copies of the applicable software or electronic program to display, interpret and/or generate the Electronic Data.

13.2.2 Neither party makes any representations or warranties to the other with respect to the functionality of the software or computer program associated with the electronic transmission of Work Product. Unless specifically set forth in this Agreement, ownership of the Electronic Data does not include ownership of the software or computer program with which it is associated, transmitted, generated or interpreted.

13.2.3 By transmitting Work Product in electronic form, the transmitting party does not transfer or assign its rights in the Work Product. The rights in the Electronic Data shall be as set forth in Article 4 above. Under no circumstances shall the transfer of ownership of Electronic Data be deemed to be a sale by the transmitting party of tangible goods.

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13.3 Electronic Data Protocol.

13.3.1 The parties acknowledge that Electronic Data may be altered or corrupted, intentionally or otherwise, due to occurrences beyond their reasonable control or knowledge, including but not limited to compatibility issues with user software, manipulation by the recipient, errors in transcription or transmission, machine error, environmental factors, and operator error. Consequently, the parties understand that there is some level of increased risk in the use of Electronic Data for the communication of design and construction information and, in consideration of this, agree, and shall require their independent contractors, Subcontractors and Design Sub-Consultants to agree, to the following protocols, terms and conditions set forth in this Section 13.3.

13.3.2 Electronic Data will be transmitted in the format determined in Section 13.2.1 above, including file conventions and document properties, unless prior arrangements are made in advance in writing.

13.3.3 The Electronic Data represents the information at a particular point in time and is subject to change. Therefore, the parties shall agree upon protocols for notification by the author to the recipient of any changes which may thereafter be made to the Electronic Data, which protocol shall also address the duty, if any, to update such information if such information changes prior to Final Completion of the Project.

13.3.4 The transmitting party specifically disclaims all warranties, expressed or implied, including, but not limited to, implied warranties of merchantability and fitness for a particular purpose, with respect to the media transmitting the Electronic Data. However, transmission of the Electronic Data via electronic means shall not invalidate or negate any duties pursuant to the applicable standard of care with respect to the creation of the Electronic Data, unless such data is materially changed or altered after it is transmitted to the receiving party, and the transmitting party did not participate in such change or alteration.

13.4 In the event the Design-Build Agreement contains a provision governing Electronic Data, and there is a conflict between the provision in the Design-Build Agreement and this Article 13, the provision in the Design-Build Agreement takes precedence notwithstanding the order of precedence set forth in Section 1.4.2.

Article 14

Confidential Information

14.1 Confidential and/or Proprietary Information.

14.1.1 Confidential Information is defined as information which is determined by the transmitting party to be of a confidential or proprietary nature and: (i) the transmitting party identifies as either confidential or proprietary; (ii) the transmitting party takes steps to maintain the confidential or proprietary nature of the information; and (iii) the document is not otherwise available in or considered to be in the public domain. The receiving party agrees to maintain the confidentiality of the Confidential Information and agrees to use the Confidential Information solely in connection with the Project.

14.1.2 Design Consultant may receive information from Design-Builder that is either confidential or proprietary to either Design-Builder or to Owner. Such information shall be labeled as confidential and/or proprietary. Design Consultant agrees to maintain the confidential nature of such information and to execute any such additional agreements as may be required by Owner or Design-Builder with respect to such information.

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14.1.3 In the event the Design-Build Agreement contains a provision governing Confidential Information, and there is a conflict between the provision in the Design-Build Agreement and this Article 14, the provision in the Design-Build Agreement takes precedence notwithstanding the order of precedence set forth in Section 1.4.2.

Article 15

Other Provisions

15.1 Other provisions, if any, are as follows:

(Insert any additional provisions such as incentives or other provisions from the Design-Build Agreement that the parties believe are appropriate to be passed through to the Design Consultant.)

[In lieu of Sections 11.5.1 through 11.5.3 of the Agreement, the parties may want to delete such sections and include the following alternative dispute resolution clause.]

☐ Any claims, disputes, or controversies between the parties arising out of or related to the Agreement, or the breach thereof, which have not been resolved in accordance with the procedures set forth in Section 11.4 herein shall be resolved in a court of competent jurisdiction in the state in which the Project is located.

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In executing this Agreement, Design-Builder and Design Consultant each individually represents that it has the necessary financial resources to fulfill its obligations under this Agreement, and each has the necessary corporate approvals to execute this Agreement, and perform the Services described herein.

DESIGN-BUILDER:	**DESIGN CONSULTANT:**
_____	_____
(Name of Design-Builder)	*(Name of Design Consultant)*
_____	_____
(Signature)	*(Signature)*
_____	_____
(Printed Name)	*(Printed Name)*
_____	_____
(Title)	*(Title)*
Date: _____	Date: _____

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Exhibit IX: Existing Fire Alarm System Topology

Exhibit IX: Existing Fire Alarm System Topology

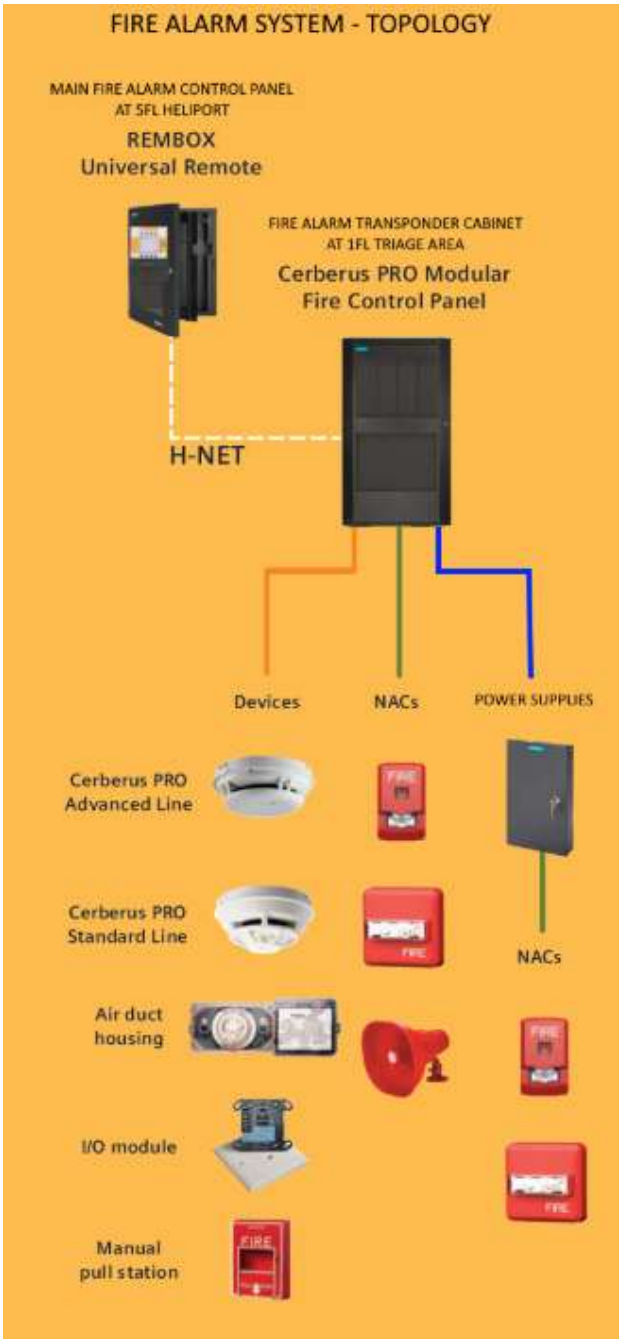

Exhibit X: Appendix O – Noise Conservation Program

ANEJO O

PROGRAMA DE CONSERVACION AUDITIVA

I- INTRODUCCION

La Administración de Servicios Médicos diseñará un programa de conservación auditivo para prevenir la pérdida del sistema auditivo de sus empleados. Debido a que los problemas de ruidos son extremadamente complejos no hay un programa estándar que pueda ser efectivo para toda situación. Cada problema será analizado y se tomarán las medidas correctivas correspondientes.

El estándar de OSHA, Código de Regulación Federal (CFR) 29, 1910.95 Exposición al Ruido Ocupacional, indica que el patrono debe establecer un programa de conservación auditiva efectivo cuando el empleado tiene una exposición a ruido igual o mayor a 85 decibeles en un periodo de 8 horas. La norma también establece que cuando los trabajadores están expuestos a niveles de ruido por encima del PEL[46] de OSHA de 90 dBA (TWA[47] de 8 horas), se aplicaran controles de ingeniería o controles administrativos para reducir los niveles de exposición de los trabajadores. La norma tiene un nivel de acción de 85 dBA, que estipula que el empleador deberá administrar un programa continuo de conservación auditiva cuando el TWA de 8 horas es igual o superior al nivel de acción. También la OSHA dice que el nivel de ruido continúo intermitente e impulsivo a partir de 80 dB a 130 dB, deben ser integrados a las mediciones de ruido. El programa debe incluir monitoreo de exposición, la notificación de los empleados, la observación, un programa de pruebas audiométricas, protección auditiva, programas de capacitación y el mantenimiento de registros.

II- PROPÓSITO

Este programa tiene la intención de prevenir, controlar, evaluar, orientar y vigilar la exposición de ruidos que se pueden presentar en la Administración de Servicios Médicos y que puedan resultar en condiciones inseguras o afectar el bienestar, la estabilidad, la salud y seguridad de los empleados. Se deberá cumplir con lo establecido en el Código de Regulación Federal (CFR) 29, 1910.95 Exposición al Ruido Ocupacional.

III- OBJETIVOS

Para garantizar un programa que sea adaptable para el área de trabajo tenemos como meta cumplir con los siguientes objetivos:

[46] Nivel de Exposición Permitido
[47] Promedio Ponderado en Tiempo

- Hay que asegurar que los empleados que estén expuesto al ruido cuenten con el equipo de protección auditivo adecuado en todo momento.
- Vigilar continuamente la audición de los empleados que estén expuestos por medios de pruebas de audición e implantar controles administrativos y de ingeniería para reducir la exposición al ruido.
- Revisar y actualizar el programa en caso de ser necesario.
- Ofrecer los adiestramientos para la conservación auditiva, cuando sea necesario.

IV- DEFINICIONES

1. **Audiometría**- prueba que se realiza para identificar o examinar el nivel auditivo de un empleado o su capacidad para escuchar sonidos.

2. **Audiograma**- es una gráfica o tabla que resulta de una prueba audio métrica.

3. **Decibel (dBA)-** es una unidad del nivel sonoro que quita parte de las bajas y muy altas frecuencias. Después de la medición, se filtra el sonido para conservar solamente las frecuencias más dañinas para el oído.

4. **Decibel-** es la unidad utilizada para expresar la relación entre dos magnitudes; la magnitud que se estudia y una magnitud de referencia en un nivel sonoro o señal física, eléctrica o electromagnética. La misma es diez veces el logaritmo decimal de su relación numérica.

5. **Dosímetro de ruido-** es un aparato pequeño que se coloca en el cinturón del trabajador y un micrófono pequeño que se coloca cerca del oído para registrar lecturas. Este instrumento integra una función de presión de sonido durante un periodo de tiempo, de tal manera, que indica directamente la dosis de ruido a la que está expuesto en su turno de trabajo.

6. **Nivel de Exposición Permitido (PEL)-** el nivel de ruido al que puede estar expuesto un empleado en ocho horas de trabajo, sin que sufra efectos adversos a su salud.

7. **Promedio Ponderado en Tiempo (TWA)-** el equivalente de un nivel de exposición de ruido de 8 horas que resulta en la misma dosis del ruido medido en un periodo determinado de tiempo.

8. **Sonómetro-** Instrumento utilizado para medir ruido directamente.

9. **Valor de Atenuación-** ***Noise Reduction Rating*** **(NRR)-** es la capacidad que tiene el equipo de protección personal para reducir la exposición a ruido.

V- ALCANCE O APLICABILIDAD

Aplica a todos los empleados de la Administración de Servicios Médicos que estén expuestos a niveles de ruido igual o mayor a 85 dBA en un periodo de 8 horas.

VI- RESPONSABILIDADES

A. Director Ejecutivo

1. Implantar y vigilar el cumplimiento del programa en conjunto con el Oficial de Salud y Seguridad y otras personas calificadas para el cumplimiento de este.

2. Proveerá a los empleados el equipo de protección auditivo correspondiente sin costo alguno.

B. Oficial de Salud y Seguridad

1. Implantar, revisar y vigilar el cumplimiento del programa en conjunto con otras personas o agencias calificadas para el cumplimiento de este.

2. Se asegurará que los registros de los empleados que estén expuestos se mantengan en un lugar seguro para proteger la confidencialidad.

3. Referirá a la Corporación del Fondo del Seguro del Estado cualquier caso de empleado afectado.

4. Primero se coordinará primero un muestreo de ruido ambiental con una persona calificada y certificada. Si las pruebas salen sobre los parámetros establecidos se coordinará un muestreo de ruido ocupacional.

5. Coordinará la medición de ruido ocupacional con una persona calificada y certificada cuando identifique que algún empleado podría estar expuesto sobre los niveles permisibles de ruido. Los niveles de exposición serán vigilados por un periodo de ocho (8) horas de trabajo del empleado y no deberán exceder los niveles permisibles de 85 decibeles (dBA). El empleado será notificado de los resultados obtenidos. El instrumento utilizado por esta persona será calibrado según las recomendaciones del manufacturero y el método utilizado debe ser aprobado por OSHA.

6. Recomendará controles de ingeniería o administrativos y hasta un equipo de protección auditiva si fuera necesario luego de un análisis de riesgo y que se identifique que el ruido excede los niveles permisibles.

7. Se asegurará que se le realice los exámenes audiométricos a todos los empleados de ser necesario y haber exposición. Los resultados serán mantenidos en los expedientes médicos de los empleados por el periodo que el empleado labore en ASEM.

8. Coordinará los adiestramientos para los empleados en conjunto con Programa de Mejoramiento y Desarrollo Organizacional.

9. Coordinará pruebas de ruido ambiental con una persona calificada en las diferentes áreas de la localidad cada vez que ocurra cualquier cambio que pueda aumentar el nivel de ruido y que pueda afectar la conservación auditiva de los empleados (Instalación de máquinas nuevas, deficiencias en la estructura, otros).

10. Mantendrán un registro de todos los empleados que estuvieran expuestos y que se le realizan las pruebas de audiometría. Coordinar audiometrías a los empleados anualmente de ser necesario.

11. Estará pendiente de la vida útil del equipo de protección personal de los empleados y avisará al gerente y/o supervisor para el reemplazo de este de ser necesario.

C. Director, Gerente y/o supervisor

1. Colaborará con el Oficial de Salud y Seguridad en la administración del Programa de Conservación Auditiva.

2. Será responsable de vigilar que todos los empleados utilicen el equipo de protección auditiva cuando entren a las áreas de exposición. No permitirá la entrada de los empleados a estas áreas si no tienen el equipo de protección auditiva y vigilará que este puesto de forma correcta.

3. Informará al Oficial de Salud y Seguridad cualquier condición que empeore o aumente los niveles de ruido en el área de trabajo.

D. Empleados

1. Cumplirán con lo establecido en este Programa.

2. Utilizarán protección auditiva (orejeras y tapones de oídos) antes de entrar a la cancha de tiro.

3. Inspeccionarán y le darán mantenimiento y buen uso al equipo suministrado.

4. Serán responsables de cuidar de su equipo de protección.

5. Si el equipo ya está deficiente informarán inmediatamente a su Director, Gerente y Supervisor para su reemplazo.

6. Asistirán a los adiestramientos que le sea ofrecidos.

7. Asistirán a las audiometrías si fuera requerido.

8. Si tienen alguna duda se comunicarán inmediatamente con su Director, Gerente y Supervisor u Oficial de Salud y Seguridad para aclarar estas.

VII- IMPLANTACIÓN DE CONTROLES DE INGENIERÍA Y CONTROLES ADMINISTRATIVOS

En ASEM implantamos controles de Ingeniería y Administrativos y/o equipo de protección personal para reducir la exposición al ruido. Entre los controles de ingeniería que podríamos establecer se encuentra el material aislante con el que se revisten las paredes u otra barrera que separe el trabajador de la fuente de ruido. De igual manera los equipos utilizados para generar ventilación y extracción deberán generar el menor ruido posible.

Entre los controles administrativos que estaríamos implantando, serían los siguientes, pero no se limitarían a; pruebas de audición si fuera necesario, suministrar equipo de protección auditiva (orejeras y tapones de oído) y adiestramientos.

VIII- EQUIPO DE PROTECCION PERSONAL

Para determinar el equipo de protección auditivo correcto que necesitan los empleados se seguirán los siguientes pasos:

1. Se coordinarán las pruebas de dosimetría y monitoreo de ruido con un profesional calificado.

2. Al resultado mayor de la dosimetría y monitoreo de ruido se le restará 85 decibeles.

3. A ese nuevo resultado obtenido se le sumara 7 (factor de seguridad) y ese será el valor de atenuación (NRR) menor que debe tener el protector auditivo que se utilice en el área.

4. Los empleados serán responsables del uso correcto y el mantenimiento de este equipo.

5. Las orejeras serán reemplazadas según el manufacturero o cuando la almohadilla este muy blanda o dura.

6. Los protectores de oídos desechables de tener que utilizarse se descartarán en cada uso.

IX- ADIESTRAMIENTO

Se adiestrará anualmente a los empleados que lo requieran en el uso del equipo de protección auditiva. Este adiestramiento incluirá, pero no se limitará a:

1. El uso correcto y mantenimiento del equipo.
2. Los efectos del ruido en la salud.
3. Como protegerse.
4. Que son las audiometrías y dosimetrías.

X- AUDIOMETRIAS

De ser necesario en el caso de que los empleados hayan sido expuestos a niveles de ruido por sobre los límites permisibles, se realizaran audiogramas de acuerdo con los requerimientos de OSHA establecidos en el 29 CFR 1910.95. Los resultados se mantendrán en los expedientes de los empleados y se le proveerá una copia al empleado. Se le notificará a cada empleado por individual los resultados de las pruebas.

Se realizará un audiograma base a todo empleado nuevo que entre a trabajar a un área que este expuesto al ruido. Junto con el audiograma base, el audiólogo cumplimentará un cuestionario que contenga información de condiciones previas existentes. Antes de realizar la prueba el empleado pasara un mínimo de 14 horas sin exposición a ruido.

Las audiometrías para los empleados que la requieran estarán disponibles sin costo alguno y se realizará una vez al año por el audiólogo o personal calificado. Las audiometrías deben compararse con audiometrías previas para identificar cualquier irregularidad.

Si el resultado de la audiometría demuestra un cambio de umbral auditivo (STS) de más de 10 dBA en cualquiera de sus oídos, se deberá realizar otra prueba en un plazo de 30 días. Los resultados de la última prueba será la prueba anual. Si la prueba se sostiene con un cambio de más de 10 dBA y está relacionado con el trabajo, se referirá el empleado inmediatamente a la Corporación del Fondo de Seguro del Estado para evaluación y atención medica correspondiente.

XI- NOTIFICACION A LOS EMPLEADOS

Todo empleado que se le ha hecho la prueba de audiometría será notificado en un término de 21 días o menos de los resultados de esta.

XII- ARCHIVO DE REGISTROS

Se mantendrán en archivo los siguientes documentos:

- Pruebas audio métricas de los empleados, si aplicara.

- Registros de adiestramientos.
- Pruebas de dosímetros.
- Medidas de exposición al ruido.
- Planes de Acción.

XIII- PROBLEMAS DE SALUD

La exposición de altos niveles de ruido por encima de los límites permitidos puede afectar la salud de un empleado si no tiene el equipo de protección auditivo necesario para protegerse. Entre los problemas de salud que pueden tener son:

- Pérdida de audición
- Tinnitus (zumbido en el oído)
- Estrés
- Ansiedad / Fatiga crónica
- Presión arterial alta
- Problemas Gastro-intestinal

Exhibit XI: Annex I – Key Personnel Qualifications and Commitment Form (amended)

Annex I: Key Personnel Qualifications and Commitment Form (amended)

KEY PERSONNEL QUALIFICATIONS AND COMMITMENT FORM	SUBMIT ONE FORM PER KEY PERSONNEL

INSTRUCTIONS TO PROPOSERS

Complete one (1) form for each proposed Key Personnel member. All fields are required. Fields and sections marked "As applicable to the individual" shall be completed with "N/A" when they do not apply. Forms must be submitted as part of the Proposal. Incomplete or unsigned forms may result in disqualification. Information provided is subject to verification. The form shall demonstrate compliance with the minimum qualifications of Section 9.2.18.4 of the RFP, as amended by Addendum No. 4 (Item 11), and Sections 9.2.18.5, 10.1.1.7 and 10.1.1.9, as amended. The Proposed Role shall be one of the sixteen (16) Key Personnel positions listed in Section 10.1.1.9, as amended, and the Certification of Commitment below is a Mandatory Requirement (Section 10.1.1.7(2)(a), as amended by Item 26). Attach the resume and copies of the degrees, professional licenses, certifications and evidence of active CIAPR, CAAPPR or NREP membership, as applicable to the role.

1. PERSONAL INFORMATION

Full Name (Last, First, Middle Initial)

Proposed Role / Position Title

Direct Phone Number

Firm / Organization Name

Email Address

Proposed Level of Effort

2. EDUCATION & QUALIFICATIONS

Provide a concise qualification statement demonstrating relevant education.

Degree / Diploma	Field of Study	Year	Institution

3. PROFESSIONAL REGISTRATION & CERTIFICATION

List all active professional licenses, registrations, and certifications relevant to the proposed role. Attach copies of current license certificates as required.

License / Certification Type	Issuing Authority / State	License No.	Issue Date	Expiration Date

4. YEARS OF EXPERIENCE

Total Years of Professional Experience _____years	**Years in Current Firm / Organization** _____years
Years of Healthcare / Hospital Project Experience _____years	**Years of Design-Build Project Experience** _____years

5. HEALTHCARE / HOSPITAL PROJECT EXPERIENCE

List up to five (5) representative healthcare or hospital projects. Include only projects in which this individual had a direct, substantive role. Owner references may be contacted. As applicable to the individual.

Project Name & Location	Owner / Client	Completion Year	Project Value (Approx.)	Individual's Role & Scope	Point of contact (email)

6. MISSION-CRITICAL PROJECT EXPERIENCE

List up to five (5) representative mission-critical projects. Include only projects in which this individual had a direct, substantive role. Owner references may be contacted. As applicable to the individual.

Project Name & Location	Owner / Client	Completion Year	Project Value (Approx.)	Individual's Role & Scope	Point of contact (email)

7. DESIGN-BUILD EXPERIENCE

List up to five (5) Design-Build projects in which this individual held a key role. Include only projects in which this individual had a direct, substantive role. Owner references may be contacted. As applicable to the individual.

Project Name & Location	Owner / Client	Completion Year	Project Value (Approx.)	Individual's Role & Scope	Point of contact (email)

8. PREVIOUS COLLABORATION BETWEEN DESIGN-BUILD TEAM MEMBERS

List up to three (3) projects in which this individual has previously collaborated with other Design-Build Team Members. Owner references may be contacted.

Project Name & Location	Owner / Client	Completion Year	Project Value (Approx.)	Individual's Role & Scope	Point of contact (email)

9. QUALIFICATIONS OF THIS INDIVIDUAL

Summarize this individual's education, licenses and experience that qualify him or her for the proposed role.

Narrative Description (attach additional pages if needed):

10. HEALTHCARE FACILITIES SME

Provide the qualifications of the Healthcare Facilities SME, if applicable.

Narrative Description (attach additional pages if needed):

11. QUALITY MANAGEMENT CAPABILITIES

Provide the Quality Management Capabilities, if applicable.

Narrative Description (attach additional pages if needed):

12. SAFETY MANAGEMENT CAPABILITIES, AS APPLICABLE

Provide Safety Management Capabilities, if applicable.

Narrative Description (attach additional pages if needed):

13. BIM AND DIGITAL DELIVERY CAPABILITIES

Provide BIM and Digital Delivery Capabilities, if applicable.

Narrative Description (attach additional pages if needed):

14. COMMISSIONING EXPERIENCE, AS APPLICABLE

List up to five (5) commissioning projects. Include only projects in which this individual had a direct, substantive role. Owner references may be contacted. As applicable to the individual.

Project Name & Location	Owner / Client	Completion Year	Project Value (Approx.)	Individual's Role & Scope	Point of contact (email)

15. FACILITY ACTIVATION AND OPERATIONAL READINESS EXPERIENCE

List up to five (5) facility activation and operational readiness projects. Include only projects in which this individual had a direct, substantive role. Owner references may be contacted. As applicable to the individual.

Project Name & Location	Owner / Client	Completion Year	Project Value (Approx.)	Individual's Role & Scope	Point of contact (email)

16. OTHER RELEVANT EXPERIENCE

List up to three (3) other projects relevant to the proposed role and not listed above (e.g., vertical construction, federally funded, critical-facility or commissioning projects). Indicate the individual's role and scope in each.

Project Name & Location	Owner / Client	Completion Year	Project Value (Approx.)	Individual's Role & Scope	Point of contact (email)

17. ROLE ON COMPARABLE PROJECTS

Describe the specific leadership or functional roles this individual has held on projects comparable in type, scale, and complexity to this Project. Focus on decision-making authority, team oversight, and client interface responsibilities. As applicable to the individual.

Narrative Description (attach additional pages if needed):

18. ABILITY TO EXECUTE AN ACCELERATED HEALTHCARE DESIGN-BUILD PROJECT

Explain (attach additional pages if needed):

19. AVAILABILITY & TIME COMMITMENT

Confirm this individual's availability for the Project and identify any known commitments or conflicts. Proposers must ensure that Key Personnel are available for the duration stated below.

Availability for This Project	**Proposed Percentage of Time Committed**
Available Start Date:	**Design Phase:** _____%
Full-Time on Project? (circle one): Yes / No	**Construction Phase:** _____%
Current Other Project Commitments:	**Commissioning / Closeout Phase:** _____%
	Note: Personnel substitutions after award are subject to ASEM's prior written approval.

NOTE: The Healthcare Facilities Subject Matter Expert shall possess demonstrated experience in the planning, design, construction, commissioning, activation, or operation of acute care hospitals or critical healthcare facilities.

20. CERTIFICATION & SIGNATURE

A. Certification of Commitment

I, the undersigned, hereby certify my unequivocal and unconditional commitment during the period _____(commitment dates, covering the Period of Performance through Final Completion) to participate in the project, Puerto Rico's New Trauma Hospital with _____,
(Proposer's Name)

To perform the functions described in the proposal and in accordance with the requirements, terms, and conditions established in the Request for Sealed Proposals (27DJ-00415). If I have signed Annex I with more than one (1) Proposer, I confirm my availability to perform if any of those Proposers is awarded the Contract, and I will be dedicated to the Project as stated in the Proposal (answers to Questions 411 and 412 of Addendum No. 3).

1. Specific role within project: _____
2. Reporting relationship (position to which this individual reports): _____
3. Deliverables: _____

B. Certification Statement

I, the undersigned, hereby certify that the information provided in this Key Personnel Qualifications and Commitment Form is true, accurate, and complete to the best of my knowledge. I understand that any misrepresentation or omission of material facts may result in disqualification of the Proposal and/or termination of any contract awarded. I further acknowledge that I have read and understood my proposed role on this Project and confirm my commitment to dedicating the stated percentage of time as described herein.

Printed Name: _____

Title: _____ Date: _____

Signature: _____

Acknowledged by the Proposer's Authorized Representative:

Printed Name: _____

Title: _____

Date: _____

Signature: _____

— END OF KEY PERSONNEL QUALIFICATIONS AND COMMITMENT FORM —

Exhibit XII: Annex II – Major Subcontractor Experience, Past Performance, and Commitment Form (amended)

Annex II (amended)

MAJOR SUBCONTRACTOR EXPERIENCE, PAST PERFORMANCE AND COMMITMENT FORM

One form per Major Subcontractor

INSTRUCTIONS

Proposers must complete this form to demonstrate compliance with the Major Subcontractor experience, past performance and commitment requirements of the RFP, as amended, including Sections 9.2.18.5, 10.1.1.7 (Mandatory Requirements) and 10.1.2.3 (Organizational Experience and Key Personnel), as amended. One (1) form shall be submitted for each Major Subcontractor identified in Exhibit 3 (Statement of Proposer), as amended, item 15.0. Read all instructions carefully before completing the form. A "Major Subcontractor" is any subcontractor or subconsultant whose subcontract is estimated at five percent (5%) or more of the Base Bid, or that performs, as designer of record, any design discipline, or that performs the curtain wall/glazing, elevators, seismic isolation, medical gases, electrical, mechanical (HVAC) or fire-protection work (answer to Question 413 of Addendum No. 3).

- Attach supplemental sheets as needed using the same format.
- All information is subject to verification. The Evaluation Committee or Bid Board reserves the right to contact all listed references.
- Incomplete submissions may be deemed non-responsive. Ensure all fields are completed.

PART I – MAJOR SUBCONTRACTOR'S INFORMATION

Entity Name:	
Authorized Representative:	
Title:	
Address:	
Phone:	
Email:	
Description of the scope to be performed:	

MAJOR SUBCONTRACTOR EXPERIENCE, PAST PERFORMANCE AND COMMITMENT FORM

PART II – EXPERIENCE AND PAST PERFORMANCE

List projects in reverse chronological order (most recent first). Copy the Project table for each additional project (Project 2, Project 3, etc.).

PROJECT 1					
Project Name:					
Owner / Client:					
City / State:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Project Delivery Method:	☐ Design-Build ☐ Design-Bid-Build ☐ CM at Risk ☐ Other: _____				
Funds:	☐ FEMA (PA / HMGP) ☐ CDBG-DR/MIT ☐ American Rescue Plan Act ☐ Other: _____				
Role in Design-Build:	☐ Designer (Architect / Engineer of Record) ☐ Builder (General Contractor / Construction Manager) ☐ Consultant ☐ Other: _____				
Please provide details of your participation:					
Critical Care Environment(s) Involved:	☐ Emergency Department (ED) ☐ Operating Rooms (OR) ☐ Intensive Care Unit (ICU) ☐ Other: _____				
Complexity:					
Scope of Work / Project Description:					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

MAJOR SUBCONTRACTOR EXPERIENCE, PAST PERFORMANCE AND COMMITMENT FORM

PART III – PROFESSIONAL LICENSE OR CERTIFICATIONS

License / Certification Type	Issuing Authority / State	License No.	Issue Date	Expiration Date

MAJOR SUBCONTRACTOR EXPERIENCE, PAST PERFORMANCE AND COMMITMENT FORM

PART IV – CERTIFICATION AND SIGNATURE

Certification of Commitment

The undersigned, on behalf of the Major Subcontractor, hereby certifies its unequivocal and unconditional commitment during the period _____(commitment dates, covering the full duration of the Major Subcontractor's scope within the Period of Performance) to participate in the project, Puerto Rico's New Trauma Hospital with _____,
(Proposer's Name)

To perform the functions described in the proposal and in accordance with the requirements, terms, and conditions established in the Request for Sealed Proposals (27DJ-00415). If the Major Subcontractor has signed Annex II with more than one (1) Proposer, it confirms its availability to perform if any of those Proposers is awarded the Contract (answers to Questions 411 and 412 of Addendum No. 3).

1. Specific role within project: _____
2. Equipment and resources to be committed: _____
3. Deliverables: _____

Certification Statement

The undersigned authorized representatives of the Major Subcontractor and of the Proposer hereby certify, under penalty of disqualification, that:

- All information provided in this form is true, accurate, and complete to the best of the representative's knowledge and belief;
- The Proposer and the Major Subcontractor understand that the Evaluation Committee and Bid Board reserve the right to verify all submitted information and to contact listed references;
- Any material misrepresentation in this submission may result in disqualification from this procurement and may be grounds for contract termination if discovered after award.

Proposer's Authorized Representative:

Printed Name: _____

Title: _____ Date: _____

Signature: _____

Major Subcontractor's Authorized Representative: _____

Printed Name: _____

Title:_____ Date: _____

Signature: _____

— END OF MAJOR SUBCONTRACTOR EXPERIENCE, PAST PERFORMANCE AND COMMITMENT FORM —

Exhibit XIII: Annex III – Minimum Healthcare / Hospital Projects Experience Form (amended)

Annex III (amended)

MINIMUM HEALTHCARE / HOSPITAL PROJECTS EXPERIENCE

INSTRUCTIONS

Proposers must complete this form to demonstrate compliance with the Minimum Healthcare/Hospital Projects Experience requirements of the RFP. Read all instructions carefully before completing the form.

- The project(s) submitted under Requirement A must have been completed within the last twenty (20) years prior to the Proposal Submission Deadline, as required by Section 9.2.18.1, as amended. Projects submitted under Requirements B through G are not subject to this time limit unless they are also used to satisfy Requirement A.
- Requirements A through E and G correspond to items 1 through 6 of Section 10.1.1.8, as amended by Item 42 of Addendum No. 4 (A = 1, B = 2, C = 3, D = 4, E = 5 and G = 6). Requirement F provides performance information and is not a minimum requirement.
- Proposers may list additional projects beyond the stated minimum for each requirement. Attach supplemental sheets as needed using the same format.
- A single project may satisfy more than one (1) requirement (e.g., a completed Design-Build hospital project may count toward both Requirement A and Requirement B of this document).
- All information is subject to verification. The Evaluation Committee or Bid Board reserves the right to contact all listed references.
- Incomplete submissions may be deemed non-responsive. Ensure all fields are completed for every project listed.

PART I – PROPOSER INFORMATION

Proposer / Firm Name:	
Authorized Representative:	
Title:	
Address:	
Phone:	
Email:	
Date of Submission:	

REQUIREMENT A: COMPLETED HOSPITAL CONSTRUCTION PROJECTS

Completed hospital construction project within the last twenty (20) years. Proposers may submit more projects. Each project must meet the twenty-year threshold. List projects in reverse chronological order (most recent first).

PROJECT 1: Completed Hospital Construction Project					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Proposer's Role / % of Participation:		**Gross Square Footage:**		**No. of Stories:**	
Project Delivery Method:	Design-Build Design-Bid-Build CM at Risk Other: _____				
Scope of Work / Project Description:					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

PROJECT 2: Completed Hospital Construction Project					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Proposer's Role / % of Participation:		**Gross Square Footage:**		**No. of Stories:**	
Project Delivery Method:	Design-Build Design-Bid-Build CM at Risk Other: _____				
Scope of Work / Project Description:					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

PROJECT 3: Completed Hospital Construction Project					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Proposer's Role / % of Participation:		**Gross Square Footage:**		**No. of Stories:**	
Project Delivery Method:	Design-Build Design-Bid-Build CM at Risk Other: _____				
Scope of Work / Project Description:					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

PROJECT 4: Completed Hospital Construction Project					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Proposer's Role / % of Participation:		**Gross Square Footage:**		**No. of Stories:**	
Project Delivery Method:	Design-Build Design-Bid-Build CM at Risk Other: _____				
Scope of Work / Project Description:					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Minimum required: One (1) project. Use the same format to attach additional project sheets.

REQUIREMENT B: COMPLETED DESIGN-BUILD HEALTHCARE OR HOSPITAL PROJECT

Completed Design-Build healthcare or hospital project by the designer or builder (can be the hospital construction project required in Requirement A of this document). List the primary project first; additional projects may be submitted to further demonstrate experience.

Project 1 – Completed Design-Build Healthcare or Hospital Project					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Design-Build Entity Name:					
Role in Design-Build:	☐ Designer (Architect / Engineer of Record) ☐ Builder (General Contractor / Construction Manager) ☐ Lead Design-Builder (Prime) ☐ Other: _____				
Please provide details of your participation:					
Scope of Work / Project Description:					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Project 2 – Completed Design-Build Healthcare or Hospital Project					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Design-Build Entity Name:					
Role in Design-Build:	☐ Designer (Architect / Engineer of Record) ☐ Builder (General Contractor / Construction Manager) ☐ Lead Design-Builder (Prime) ☐ Other: _____				
Please provide details of your participation:					
Scope of Work / Project Description:					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Minimum required: One (1) project. Cross-reference to Requirement A of this document project number where applicable.

REQUIREMENT C: CRITICAL HEALTHCARE ENVIRONMENT EXPERIENCE

At least one (1) experience involving critical healthcare environments, including emergency departments, operating rooms, and intensive care units. Additional applicable projects may be submitted. Projects listed under Requirements A or B of this document may be cross-referenced.

Project 1: Critical Healthcare Environment Experience					
Project Name:					
Owner / Client:					
City / State:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Project Delivery Method:	Design-Build Design-Bid-Build CM at Risk Other: _____				
Role in Design-Build:	☐ Designer (Architect / Engineer of Record) ☐ Builder (General Contractor / Construction Manager) ☐ Lead Design-Builder (Prime) ☐ Other: _____				
Please provide details of your participation:					
Critical Healthcare Environment(s) Involved:	☐ Emergency Department (ED) ☐ Operating Rooms (OR) ☐ Intensive Care Unit (ICU) ☐ Other: _____				
Scope of Work / Project Description:					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Project 2: Critical Healthcare Environment Experience					
Project Name:					
Owner / Client:					
City / State:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Project Delivery Method:	Design-Build Design-Bid-Build CM at Risk Other: _____				
Role in Design-Build:	☐ Designer (Architect / Engineer of Record) ☐ Builder (General Contractor / Construction Manager) ☐ Lead Design-Builder (Prime) ☐ Other: _____				
Please provide details of your participation:					
Critical Healthcare Environment(s) Involved:	☐ Emergency Department (ED) ☐ Operating Rooms (OR) ☐ Intensive Care Unit (ICU) ☐ Other: _____				
Scope of Work / Project Description:					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Cross-reference to earlier requirements where applicable.

REQUIREMENT D: ACTIVE HEALTHCARE CAMPUS / OPERATIONAL ENVIRONMENT EXPERIENCE

At least one (1) experience delivering projects within active healthcare campuses, mission-critical facilities, or operational environments requiring strict coordination of access, safety, logistics, utilities, and continuity of operations.

Project 1: Active Healthcare Campus / Operational Environment Experience					
Project Name:					
Owner / Client:					
City / State:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Please provide details of your participation:					
Active Campus / Operational Constraints:	☐ Active Healthcare Campus ☐ Operational Environment (Phased Access) ☐ Utility Coordination / Continuity of Operations		☐ Mission-Critical Facility ☐ Infection Control (ICRA) ☐ Other: _____		
Scope of Work / Project Description:					
Describe the management of coordination of access:					
Describe the management of safety:					
Describe the management of logistics:					
Describe the management of utilities:					
Describe the management of continuity of operations:					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Project 2: Active Healthcare Campus / Operational Environment Experience					
Project Name:					
Owner / Client:					
City / State:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Please provide details of your participation:					
Active Campus / Operational Constraints:	☐ Active Healthcare Campus ☐ Operational Environment (Phased Access) ☐ Utility Coordination / Continuity of Operations		☐ Mission-Critical Facility ☐ Infection Control (ICRA) ☐ Other: _____		
Scope of Work / Project Description:					
Describe the management of coordination of access:					
Describe the management of safety:					
Describe the management of logistics:					
Describe the management of utilities:					
Describe the management of continuity of operations:					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Project 3: Active Healthcare Campus / Operational Environment Experience					
Project Name:					
Owner / Client:					
City / State:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Please provide details of your participation:					
Active Campus / Operational Constraints:	☐ Active Healthcare Campus ☐ Operational Environment (Phased Access) ☐ Utility Coordination / Continuity of Operations		☐ Mission-Critical Facility ☐ Infection Control (ICRA) ☐ Other: _____		
Scope of Work / Project Description:					
Describe the management of coordination of access:					
Describe the management of safety:					
Describe the management of logistics:					
Describe the management of utilities:					
Describe the management of continuity of operations:					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Cross-reference to Requirements A, B, or C of this document where the same project applies.

REQUIREMENT E: VERTICAL CONSTRUCTION PROJECTS

At least one (1) project with vertical construction. Projects previously listed under Requirements A through D may be cross-referenced. Additional vertical construction projects, whether healthcare or non-healthcare, may be listed.

Project 1: Vertical Construction Project					
Project Name:					
Owner / Client:					
City / State:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Project Delivery Method:	Design-Build Design-Bid-Build CM at Risk Other: _____				
Role in Design-Build:	☐ Designer (Architect / Engineer of Record) ☐ Builder (General Contractor / Construction Manager) ☐ Lead Design-Builder (Prime) ☐ Other: _____				
Please provide details of your participation:					
Type of Vertical Construction:	☐ Hospital or Healthcare ☐ Institutional Buildings ☐ Parking ☐ Residential buildings ☐ Hotels ☐ Other: _____				
Constraints:	☐ Site ☐ Structural ☐ Logistics and Operations ☐ Other: _____				
	Explain:				
Strategies and measures to address the constraints:					
Scope of Work / Project Description:					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Project 2: Vertical Construction Project					
Project Name:					
Owner / Client:					
City / State:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Project Delivery Method:	Design-Build Design-Bid-Build CM at Risk Other: _____				
Role in Design-Build:	☐ Designer (Architect / Engineer of Record) ☐ Builder (General Contractor / Construction Manager) ☐ Lead Design-Builder (Prime) ☐ Other: _____				
Please provide details of your participation:					
Type of Vertical Construction:	☐ Hospital or Healthcare ☐ Institutional Buildings ☐ Parking ☐ Residential buildings ☐ Hotels ☐ Other: _____				
Constraints:	☐ Site ☐ Structural ☐ Logistics and Operations ☐ Other: _____				
	Explain:				
Strategies and measures to address the constraints:					
Scope of Work / Project Description:					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Cross-reference to prior requirements where the same project applies.

REQUIREMENT F: SAFETY, QUALITY, SCHEDULE & COMPLIANCE PERFORMANCE (PERFORMANCE INFORMATION – NOT A MINIMUM REQUIREMENT)

Demonstrated safety, quality, schedule, regulatory compliance, stakeholder coordination, and risk management performance. Provide the project-level performance data below for each project submitted under Requirements A through G, as required by Section 9.2.18.1, as amended, using additional sheets in the same format as needed. Projects cross-referenced from earlier requirements are acceptable.

A. Firm-Wide Safety Record (Last 3 Years)

Metric	Year 1	Year 2	Year 3 (Most Recent)
OSHA Total Recordable Incident Rate (TRIR)			
Days Away, Restricted, or Transferred (DART) Rate			
Lost-Time Incident Rate (LTIR)			
OSHA 300 / 300A			
Fatalities			

B. Project-Level Performance — Representative Projects

Project 1: Project-Level Performance — Representative Projects					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Proposer's Role / % of Participation:		**Gross Square Footage:**		**No. of Stories:**	
Project Delivery Method:	Design-Build Design-Bid-Build CM at Risk Other: _____				
OSHA TRIR (this project):		**Lost-Time Incident Rate:**		**On Schedule?**	Y / N
Schedule Variance (days):		**Budget Variance:**		**Regulatory Citations?**	Y / N
Scope of Work / Project Description:					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Project 2: Project-Level Performance — Representative Projects					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Proposer's Role / % of Participation:		**Gross Square Footage:**		**No. of Stories:**	
Project Delivery Method:	Design-Build Design-Bid-Build CM at Risk Other: _____				
OSHA TRIR (this project):		**Lost-Time Incident Rate:**		**On Schedule?**	Y / N
Schedule Variance (days):		**Budget Variance:**		**Regulatory Citations?**	Y / N
Scope of Work / Project Description:					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Project 3: Project-Level Performance — Representative Projects					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Proposer's Role / % of Participation:		**Gross Square Footage:**		**No. of Stories:**	
Project Delivery Method:	Design-Build Design-Bid-Build CM at Risk Other: _____				
OSHA TRIR (this project):		**Lost-Time Incident Rate:**		**On Schedule?**	Y / N
Schedule Variance (days):		**Budget Variance:**		**Regulatory Citations?**	Y / N
Scope of Work / Project Description:					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

C. Narrative — Risk Management, Regulatory Compliance and Stakeholder Coordination

Provide a brief narrative (500 words or fewer) describing your firm's approach to risk management, regulatory compliance (e.g., Puerto Rico Department of Health, The Joint Commission, CMS, OSHA), and stakeholder coordination on healthcare or hospital construction projects. For each representative project, also indicate the change order history (number and value of change orders) and quality performance (e.g., nonconformance reports, rework and final inspection results), as required by Section 9.2.18.1, as amended:

REQUIREMENT G: FEDERALLY FUNDED PROJECT EXPERIENCE

At least one (1) federally funded project. Additional applicable projects may be listed below. Cross-reference to projects already submitted under Requirements A through F where applicable. Include the relevant federal agency, funding program, and any applicable federal contracting requirements (e.g., Davis-Bacon Act, Buy America provisions).

Project 1: Federally Funded Project					
Project Name:					
Owner / Client:					
City / State:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Project Delivery Method:	Design-Build Design-Bid-Build CM at Risk Other: _____				
Role in Design-Build:	☐ Designer (Architect / Engineer of Record) ☐ Builder (General Contractor / Construction Manager) ☐ Lead Design-Builder (Prime) ☐ Other: _____				
Please provide details of your participation:					
Federal Funds Program:	☐ FEMA (PA/ HMGP) ☐ CDBG-DR/MIT ☐ American Rescue Plan Act ☐ Other: _____				
Compliance:	☐ 2 C.F.R. §§ 200.317–200.327 ☐ Davis-Bacon Act ☐ Build America, Buy America Act ☐ Section 3 ☐ Minority Business Enterprise ☐ Women Business Enterprise ☐ Veterans Business Enterprise ☐ Non-Discrimination and Equal Opportunity ☐ Environmental Review, NEPA compliant ☐ Debarment and suspension regulations ☐ Reporting and recordkeeping, in accordance with federal transparency and audit standards ☐ Lobbying Restrictions (31 U.S.C. §1352) ☐ Occupational safety in accordance with OSHA ☐ Accessibility and design according to ADA				
Scope of Work / Project Description:					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Project 2: Federally Funded Project					
Project Name:					
Owner / Client:					
City / State:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Project Delivery Method:	Design-Build Design-Bid-Build CM at Risk Other: _____				
Role in Design-Build:	☐ Designer (Architect / Engineer of Record) ☐ Builder (General Contractor / Construction Manager) ☐ Lead Design-Builder (Prime) ☐ Other: _____				
Please provide details of your participation:					
Federal Funds Program:	☐ FEMA (PA/ HMGP) ☐ CDBG-DR/MIT ☐ American Rescue Plan Act ☐ Other: _____				
Compliance:	☐ 2 C.F.R. §§ 200.317–200.327 ☐ Davis-Bacon Act ☐ ☐ Build America, Buy America Act ☐ Section 3 ☐ Minority Business Enterprise ☐ Women Business Enterprise ☐ Veterans Business Enterprise ☐ Non-Discrimination and Equal Opportunity ☐ Environmental Review, NEPA compliant ☐ Debarment and suspension regulations ☐ Reporting and recordkeeping, in accordance with federal transparency and audit standards ☐ Lobbying Restrictions (31 U.S.C. §1352) ☐ Occupational safety in accordance with OSHA ☐ Accessibility and design according to ADA				
Scope of Work / Project Description:					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Project 3: Federally Funded Project					
Project Name:					
Owner / Client:					
City / State:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Project Delivery Method:	Design-Build Design-Bid-Build CM at Risk Other: _____				
Role in Design-Build:	☐ Designer (Architect / Engineer of Record) ☐ Builder (General Contractor / Construction Manager) ☐ Lead Design-Builder (Prime) ☐ Other: _____				
Please provide details of your participation:					
Federal Funds Program:	☐ FEMA (PA/ HMGP) ☐ CDBG-DR/MIT ☐ American Rescue Plan Act ☐ Other: _____				
Compliance:	☐ 2 C.F.R. §§ 200.317–200.327 ☐ Davis-Bacon Act ☐ ☐ Build America, Buy America Act ☐ Section 3 ☐ Minority Business Enterprise ☐ Women Business Enterprise ☐ Veterans Business Enterprise ☐ Non-Discrimination and Equal Opportunity ☐ Environmental Review, NEPA compliant ☐ Debarment and suspension regulations ☐ Reporting and recordkeeping, in accordance with federal transparency and audit standards ☐ Lobbying Restrictions (31 U.S.C. §1352) ☐ Occupational safety in accordance with OSHA ☐ Accessibility and design according to ADA				
Scope of Work / Project Description:					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Cross-reference to Requirements A–F of this document where the same federally funded project was already listed.

PART II – PROJECT CROSS-REFERENCE SUMMARY

Complete the table below to identify which projects satisfy multiple requirements. Enter the Project Name and mark (X) each requirement it satisfies. This summary assists the reviewing committee in efficiently evaluating your submission.

PROJECT NAME	REQUIREMENTS						
	A (Hospital)	B (Design-Build)	C (Critical Care)	D (Active Campus)	E (Vertical)	F (Performance)	G (Federal)

PART III – CERTIFICATION AND SIGNATURE

The undersigned authorized representative of the Proposer hereby certifies, under penalty of disqualification, that:

- All information provided in this form is true, accurate, and complete to the best of the representative's knowledge and belief;
- All projects listed were completed by the Proposer, by a member of the Proposer's joint venture or partnership, or by the Proposer's designer or builder, as permitted by Section 9.2.18.1, as amended, and the project(s) used to satisfy Requirement A were completed within the last twenty (20) years;
- The Proposer understands that the Evaluation Committee and Bid Board reserve the right to verify all submitted information and to contact listed references;
- Any material misrepresentation in this submission may result in disqualification from this procurement and may be grounds for contract termination if discovered after award;
- The Proposer meets all Minimum Healthcare/Hospital Projects Experience requirements set forth in Section 9.2.18.1, as amended, and Section 10.1.1.8 of the RFP, as amended by Item 42 of Addendum No. 4, as demonstrated by the projects listed herein.

Proposer's Name:	
Authorized Signature:	
Printed Name:	
Title:	
Date:	

— END OF MINIMUM HEALTHCARE/HOSPITAL PROJECTS EXPERIENCE FORM —

Exhibit XIV: Documents generated automatically by J.E.D.I

ENMIENDA NUM. 1
SOLICITUD DE PROPUESTAS (RFP) - SELLADA 27DJ-00415
Design-Build of Puerto Rico's New Trauma Hospital

ASUNTO: VARIOS

Se notifica a los licitadores interesados en participar en la Subasta de referencia, las siguientes enmiendas:

I. Todo aquel licitador que tenga preguntas o dudas sobre el Pliego o las especificaciones de la Subasta en referencia tiene para enviar las mismas hasta el próximo **viernes, 16 de octubre de 2026 hasta las 2:00 PM (AST)**, según las disposiciones del Pliego

Esta Enmienda forma parte del Pliego de Subasta y quienes interesen licitar, tendrán que considerarla al presentar su Oferta. Todos los demás términos, condiciones y especificaciones permanecen sin alterar.

Celeste Robles Bartolomei
Gerente de Compras

Emitida hoy, 8 de octubre de 2026
En San Juan P.R.

ENMIENDA NUM. 2
SOLICITUD DE PROPUESTAS (RFP) - SELLADA 27DJ-00415
Design-Build of Puerto Rico's New Trauma Hospital

ASUNTO: VARIOS

Se notifica a los licitadores interesados en participar en la Subasta de referencia, las siguientes enmiendas:

I. Se adjunta **Addendum No. 2**, el cual tendrá que ser utilizado por los licitadores para presentar su oferta.

Esta Enmienda forma parte del Pliego de Subasta y quienes interesen licitar, tendrán que considerarla al presentar su Oferta. Todos los demás términos, condiciones y especificaciones permanecen sin alterar.

Celeste Robles Bartolomei
Gerente de Compras

Emitida hoy, 16 de octubre de 2026
En San Juan P.R.

ENMIENDA NUM. 3
SOLICITUD DE PROPUESTAS (RFP) - SELLADA 27DJ-00415
Design-Build of Puerto Rico's New Trauma Hospital

ASUNTO: VARIOS

Se notifica a los licitadores interesados en participar en la Subasta de referencia, las siguientes enmiendas:

I.

Esta Enmienda forma parte del Pliego de Subasta y quienes interesen licitar, tendrán que considerarla al presentar su Oferta. Todos los demás términos, condiciones y especificaciones permanecen sin alterar.

Celeste Robles Bartolomei
Gerente de Compras

Emitida hoy, 29 de octubre de 2026
En San Juan P.R.

Exhibit XV: Attachment 1 – Part XII (Commissioning) (amended)

Attachment 1: Scope of Works

XII. COMMISSIONING (amended)

1. Purpose, Standards, and Scope

1.1 The Design-Builder will develop and execute a comprehensive Total Building Commissioning (Cx) field validation and inspection process, in accordance with ASHRAE Guideline 0-2019 and ASHRAE Guideline 1.1-2007 (HVAC&R Technical Requirements for the Commissioning Process), applied to the HVAC systems of this health care facility. The purpose of this phase is to subject all systems to physical stress testing and to certify that they operate in strict compliance with the Owner's Project Requirements Form (OPR Checklist) prior to Substantial Completion, except for the deferred tests expressly approved in writing by ASEM, which shall be completed prior to Final Completion (RFP Section 7.2, as amended by Addendum No. 4, Item 5).

1.2 The Commissioning phase encompasses all activities required to verify that the project's systems, equipment, and components are installed, tested, and operating in accordance with the design intent, contractual requirements, and applicable codes and standards. The Design-Builder shall perform all commissioning tasks necessary to ensure the project's operational readiness prior to Substantial Completion, subject to the deferred tests permitted under Section 1.1.

1.3 The Design-Builder shall plan, manage, and execute commissioning activities in coordination with ASEM, the design professionals, subcontractors, Manufacturers / Vendors, and other relevant stakeholders, through the organization defined in Section 2.

1.4 For systems subject to NFPA 99 requirements, including essential electrical systems, medical gas systems, critical care support systems, and associated infrastructure serving patient care functions, commissioning activities shall verify compliance with the performance, reliability, redundancy, testing, and operational requirements established by NFPA 99, as applicable to the system classification and risk category identified in the approved design documents.

1.5 Applicable Codes and Standards. In addition to the standards identified above, commissioning shall verify compliance with the applicable requirements of the following, in the edition adopted by

the authority having jurisdiction or otherwise required by the Contract Documents, with the most stringent requirement governing: NFPA 101 (Life Safety Code); NFPA 72 (National Fire Alarm and Signaling Code); NFPA 13 (Installation of Sprinkler Systems); NFPA 25 (Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems); NFPA 110 (Emergency and Standby Power Systems); ASHRAE Standard 170 (Ventilation of Health Care Facilities); the FGI Guidelines for Design and Construction of Hospitals; the standards of The Joint Commission applicable to the environment of care; the requirements of the Puerto Rico Department of Health (Departamento de Salud) for the licensing of the facility; and the Puerto Rico Building Code (Código de Construcción de Puerto Rico) and other applicable laws and regulations of the Commonwealth of Puerto Rico.

1.6 **Definitions and Acronyms.** Capitalized terms and acronyms used in this Attachment have the meanings given in the Design-Build Agreement. Where the Design-Build Agreement does not define a term, the following definitions apply. Unless stated otherwise, all periods are measured in calendar days.

"ASEM" or "Owner" means the Puerto Rico Medical Services Administration (Administración de Servicios Médicos de Puerto Rico).

"CxA" means the Owner's independent Commissioning Authority, retained and paid directly by ASEM. "DB-Cx" means the Design-Builder's Commissioning Manager, retained and paid by the Design-Builder. The CxA is not a subcontractor or consultant of the Design-Builder, and the DB-Cx is not a representative of ASEM.

"BOD" means the Basis of Design; "OPR" means the Owner's Project Requirements; "EOR" means the Engineer of Record; "TAB" means testing, adjusting, and balancing; "PFC" means Pre-Functional Checklist; "FAT" means Factory Acceptance Test.

"FPT" means Functional Performance Testing of a system or subsystem; "IST" means Integrated Systems Testing of two or more systems operating together; "FCOST" means the Full Clinical Operations Simulation Testing described in Section 6; and "CTAR" means the Commissioning Traceability and Acceptance Register.

"RDP" means the Reliability Demonstration Period, being the period of not less than thirty (30) consecutive calendar days, or

such longer period as a System-Specific Matrix establishes for a system, that begins only after all FPT, IST, and corrections of Level 1 and Level 2 Deficiencies for that system have been completed and accepted by ASEM, and during which the system must meet the criteria stated in its matrix. A Level 1 Deficiency or Unplanned Service Interruption affecting an essential hospital function during the RDP stops the period, and a new full period begins after correction and retest.

"Level 1 Deficiency" or "Critical Deficiency", "Level 2 Deficiency" or "Major Deficiency", "Level 3 Deficiency" or "Minor Deficiency", and "Level 4 Deficiency" or "Observation" have the meanings and classification criteria stated in the Deficiency Classification Matrix. ASEM, acting on the recommendation of the CxA, makes the final determination of classification, and the Design-Builder may not downgrade a classification without ASEM's written approval.

"Deficiency Notice" and "Non-Conformance Notice" mean the notices issued by the CxA on behalf of ASEM under Section 8. "Corrective Action Plan" means the written plan prepared by the Design-Builder, in consultation with the DB-Cx, that identifies the root cause, the corrective measure, the responsible party, and the schedule for correction.

"MCER" means the Risk-Targeted Maximum Considered Earthquake; "MCER-IO" means the MCER Immediate Occupancy validation described in the Seismic Isolation System matrix.
"Beneficial Occupancy" means any occupancy or use of the Project, or of any portion of it, by ASEM before Substantial Completion that ASEM may authorize in writing at its sole discretion. Beneficial Occupancy and any "milestone approval" referred to in this Part XII are not contractual milestones and do not constitute Functional Operation, Substantial Completion or Final Completion, which are achieved only for the Project as a whole (RFP Section 7.2, as amended).

"Project Commissioning Specification" and "Commissioning Specifications" mean Sections 1 through 9 of this Part XII (Commissioning), as distinguished from the System-Specific Matrices.

"Witness" means to be physically present to observe a test or activity as it is performed; "Verify" means to confirm, by review of records, observation, or independent sampling, that a requirement has been met; "Validate" means to confirm, on the

basis of the Verification and the CxA's professional judgment, that the result satisfies the OPR, the BOD, and the Contract Documents. None of these terms transfers to the CxA any responsibility of the Design-Builder.

"Substantial Completion" and "Final Completion" have the meanings given in RFP Section 7.2, as amended by Addendum No. 4, and in the Design-Build Agreement. Satisfaction of the commissioning requirements of this Attachment is a condition precedent to each of them, as stated in Sections 7 and 9 and in each System-Specific Matrix, and only ASEM may grant them.

"Milestone," "milestone approval," and "milestone payment," as used in this Attachment and in the System-Specific Matrices, refer to commissioning process milestones and to payment events under the approved schedule of values; they do not create contractual completion milestones, partial acceptance, or partial Substantial Completion, which are not permitted under RFP Section 7.2 and Item 6 of Addendum No. 4. The commissioning phases (Phase 1 through Phase 6) described in this Attachment are process stages and not contractual phases.

1.7 **Order of Precedence and Conflicts.** This Attachment, the System-Specific Matrices, and the standards referenced in them are complementary, and the Design-Builder shall comply with all of them. If they conflict or overlap: (i) the Design-Build Agreement governs over this Attachment, in accordance with the order of precedence established in Item 57 of Addendum No. 4, and RFP Section 7.2, as amended, governs over this Attachment regarding the conditions for Substantial Completion and Final Completion; (ii) for the technical acceptance criteria of a particular system, the System-Specific Matrix for that system governs over the general provisions of this Attachment; (iii) in all other cases, and between any two requirements that can both be performed, the more stringent requirement, the longer testing or demonstration period, and the shorter response period governs; and (iv) the Design-Builder shall not rely on any interpretation by the DB-Cx, the CxA, a Manufacturer, or a vendor that reduces a requirement. A bidder that identifies an ambiguity or conflict shall raise it through the procedure for questions during the proposal period. After award, the Design-Builder shall seek ASEM's written direction before proceeding and shall in the meantime follow the more stringent requirement, without adjustment of price or time.

Response and correction periods. The periods in Section 8.6 apply to every Deficiency Notice and Non-Conformance Notice, including those arising from a failed FPT or IST. The periods in Sections 8.8 and 8.9

(failed FPT and failed IST) are additional obligations that apply to the retest cycle; where more than one period applies to the same action, the shorter period governs, and no period in Section 8.8 or 8.9 extends a period in Section 8.6 or any period in the System-Specific Matrices. All periods run from the date of the CxA's notice.

2. Commissioning Organization and Responsibilities

Five parties participate in the commissioning process. Their roles are defined below and summarized in the responsibility matrix in Section 2.6.

"Verification" means the independent review, validation, assessment, witnessing, or confirmation of compliance with the Contract Documents, Owner's Project Requirements ("OPR"), Basis of Design ("BOD"), and Project acceptance criteria. Verification authority shall not constitute approval authority, acceptance authority, decision-making authority, or authority to direct the Design-Builder's Work. Final approval and acceptance authority shall remain solely with ASEM.

Global Reservation of Design-Builder Responsibility

Notwithstanding any review, observation, testing witness activity, inspection, validation, recommendation, milestone approval, payment certification, occupancy authorization, deficiency review, acceptance recommendation, or other activity performed by the Owner's Independent Commissioning Authority or by ASEM, the Design-Builder shall remain solely responsible for:

- design adequacy;
- code compliance;
- construction quality;
- system performance;
- reliability;
- resiliency;
- maintainability;
- operational readiness;
- commissioning completion;
- deficiency correction;

- warranty obligations; and
- compliance with the Contract Documents.

References throughout this Commissioning Specification to limitations of CxA responsibility shall be interpreted consistently with this provision.

Successful completion of this System-Specific Matrix shall not relieve the Design-Builder from participation in the Whole-Building Integrated Systems Testing Program, including IST-MASTER-01 – Hospital Integrated Resiliency Scenario, as required by the Project Commissioning Specification.

2.1 ASEM (Owner)

- Owns the Owner's Project Requirements (OPR Checklist), which is the basis for all commissioning acceptance criteria.
- Engages the Owner's Independent Commissioning Authority directly, under a separate contract with ASEM, and is responsible for its compensation (Section 2.4).
- Receives the findings and validation logs of the Owner's Independent Commissioning Authority directly and simultaneously with the Design-Builder.
- Participates in and witnesses the tests that require ASEM presence, upon advance notice from the Design-Builder, and provides access to the existing ASEM Main Building systems, as coordinated by the Design-Builder, for integration testing.
- Provides a pathologist certified by the ASEM laboratory to audit the Pneumatic Tube Logistics System test samples (Section 4.1).
- Reviews and approves all required commissioning documentation, deliverables, and the Final Commissioning Report.
- Reviews the recommendations issued by the Owner's Independent Commissioning Authority (CxA) and retains sole authority for approval of deficiency closures, payment releases, Substantial Completion, Beneficial Occupancy, Final Completion, and acceptance of all commissioning deliverables.

2.2 Design-Builder

1. The Design-Builder shall retain sole responsibility for planning, coordinating, executing, documenting, and successfully completing all commissioning activities required under the Contract. The Owner's Independent Commissioning Authority ("CxA"), retained directly by ASEM under a separate agreement, shall serve solely in an independent review, verification,

validation, and recommendation capacity. Neither the CxA's reviews, observations, test witnessing, deficiency identification, validation activities, recommendations, nor any recommendation regarding Substantial Completion, Beneficial Occupancy, or Final Completion shall relieve the Design-Builder of any responsibility relating to design compliance, construction quality, system performance, functionality, reliability, maintainability, code compliance, operational readiness, commissioning completion, deficiency resolution, or achievement of the Owner's Project Requirements (OPR). Final Completion shall remain the sole prerogative of ASEM.

The Design-Builder:

- Holds overall contractual responsibility to ASEM for all commissioning activities and deliverables required under the Contract.
- Shall designate a qualified Design-Builder Commissioning Manager (DB-Cx) as part of its Key Personnel and shall cooperate fully with the Owner's Independent Commissioning Authority (CxA). The Design-Builder shall provide the CxA timely access to the Work, systems, documentation, testing records, and schedules and shall not direct, restrict, delay, or otherwise interfere with the CxA's activities or reporting.
- Shall ensure that all Contract Documents, subcontracts, purchase orders, and supplier agreements incorporate applicable commissioning requirements, testing requirements, documentation requirements, and Manufacturer/Vendor obligations.
- Shall coordinate commissioning activities with all trades, design professionals, Manufacturers/Vendors, ASEM, utilities, and third parties required to support testing and validation activities.
- Shall investigate, correct, document, and resolve deficiencies and shall coordinate and fund all required corrective actions, retesting, reinspection, recommissioning, and follow-up activities.
- Shall bear all costs associated with deficiencies, failed tests, retesting, reinspection, recommissioning, corrective actions, manufacturer remobilization, additional commissioning services, schedule recovery efforts, and any other measures required to demonstrate compliance with the Contract Documents.
- Shall prepare and deliver the Cx Turnover Package and all commissioning documentation required for Substantial

Completion and Final Completion.

The Design-Builder shall be fully responsible for securing the participation of all required Manufacturers, Vendors, Suppliers, Factory Authorized Representatives, System Integrators, and Technical Specialists throughout the commissioning process, regardless of whether such participation is expressly identified in individual equipment specifications, manufacturer requirements, or Contract Documents.

Any testing, investigation, troubleshooting, corrective work, recommissioning, retesting, repair, replacement, reprogramming, recalibration, or other corrective measures required as a result of equipment malfunctions, control system deficiencies, integration failures, startup failures, incomplete installation, failed acceptance criteria, non-conforming Work, or other deficiencies shall be performed at no additional cost to ASEM.

The Design-Builder shall bear sole responsibility for coordinating and funding such activities and shall not be entitled to any additional compensation, contract adjustment, schedule extension, or equitable adjustment arising from the correction of deficiencies or the achievement of the commissioning and acceptance requirements established by the Contract Documents.

The Design-Builder acknowledges that commissioning constitutes a material obligation under the Contract. The Design-Builder shall remain solely responsible for planning, coordinating, executing, documenting, and successfully completing all commissioning activities required under the Contract. Neither the participation of the CxA, nor any review, validation, recommendation, payment, milestone approval, Beneficial Occupancy, Substantial Completion, or Final Completion shall relieve the Design-Builder of responsibility for achieving compliance with the Contract Documents, the Owner's Project Requirements (OPR), and the Basis of Design (BOD).

2.3 Design-Builder Commissioning Manager (DB-Cx)

The Design-Builder shall designate a qualified Commissioning Manager (DB-Cx) as part of its Key Personnel. The DB-Cx shall be retained and compensated by the Design-Builder and shall serve as the Design-Builder's commissioning lead and primary point of contact for all commissioning-related activities throughout the Project.

Appointment and Replacement. The Design-Builder shall submit the name, qualifications, and experience of the proposed DB-Cx to ASEM for written approval before the DB-Cx begins work on the Project. The Design-Builder shall not replace or reassign the DB-Cx without ASEM's prior written approval of the replacement. If the DB-Cx becomes unavailable through death, disability, resignation, or termination of employment, the Design-Builder shall propose a qualified replacement to ASEM within ten (10) calendar days for ASEM's written approval.

Reporting Line. The DB-Cx shall report directly to the Design-Builder's Design-Build Project Manager (DBPM) (or the senior executive with overall responsibility for the Project) and shall not report to, or be subordinate to, the Design-Builder's construction manager, superintendent, or any subcontractor whose work is subject to commissioning. The DB-Cx shall have direct access to the DBPM to report test results, deficiencies, and schedule risks, and the Design-Builder shall not restrict, modify, or delay that reporting.

The DB-Cx shall be responsible for the planning, management, coordination, execution, documentation, and administration of the commissioning process on behalf of the Design-Builder, including:

- Developing, maintaining, and implementing the Commissioning Plan and commissioning schedule.
- Leading design-phase commissioning reviews and coordinating commissioning requirements with the design team.
- Developing and administering pre-functional checklists, startup procedures, Functional Performance Tests (FPT), Integrated Systems Tests (IST), and other commissioning protocols required by the Contract Documents.
- Coordinating commissioning activities with subcontractors, Manufacturers/Vendors, ASEM, and the Owner's Independent Commissioning Authority (CxA).

- Managing and documenting installation verification, startup activities, system testing, calibration, adjustment, and performance validation of all commissioned systems.
- Managing the Commissioning Deficiency Log, monitoring corrective actions, tracking resolution of deficiencies, and coordinating retesting activities.
- Maintaining commissioning records and supporting documentation.
- Preparing the Final Commissioning Report and assembling the Cx Turnover Package.
- Supporting occupancy readiness, Substantial Completion, and Final Completion activities.

2.4 Owner's Independent Commissioning Authority

Engagement and Independence. ASEM shall retain, under a separate contract, an Independent Commissioning Authority ("CxA") qualified and certified by the Building Commissioning Association (BCA), the AABC Commissioning Group (ACG), or an equivalent nationally recognized commissioning organization. The CxA shall act exclusively on behalf of ASEM and shall remain organizationally, contractually, and financially independent from the Design-Builder, its consultants, subcontractors, suppliers, vendors, manufacturers, and commissioning personnel. The CxA shall report directly to ASEM and simultaneously provide its findings and recommendations to the Design-Builder. The Design-Builder shall have no authority to direct, restrict, modify, delay, or otherwise influence the CxA's activities, findings, recommendations, reports, or determinations.

Role and Responsibilities. The CxA shall perform independent review, verification, validation, witnessing, and acceptance-readiness services throughout the Project, including:

- Reviewing the Commissioning Plan, commissioning procedures, and design documents during schematic, preliminary, and final design phases.
- Witnessing and verifying pre-functional inspections, equipment startup activities, Functional Performance Testing (FPT), Integrated Systems Testing (IST), and other commissioning activities required by the Contract Documents.
- Reviewing, validating, and documenting system performance against the Owner's Project Requirements (OPR), Basis of Design (BOD), Contract Documents, and

applicable acceptance criteria.

- Reviewing deficiency classifications, verifying corrective actions, validating deficiency resolution, and recommending deficiency closure to ASEM.
- Reviewing commissioning documentation, deficiency logs, testing records, and turnover deliverables.
- Reviewing the Final Commissioning Report and providing recommendations regarding Substantial Completion, Beneficial Occupancy, and Final Completion.
- Signing and sealing commissioning records and testing documentation when required by the Contract Documents.
- Issuing, on behalf of ASEM, Deficiency Notices and Non-Conformance Notices in accordance with Section 8.
- Requiring the repetition of any test that was not conducted in accordance with the approved procedures, whose results are inconclusive or disputed, or that did not demonstrate compliance, and requiring additional tests where results indicate a systemic problem.
- Directing the suspension or stoppage of any test, start-up, or demonstration that the CxA reasonably determines endangers people, patients, equipment, or hospital operations, is not being conducted in accordance with the approved procedure, or lacks the required prerequisites. The Design-Builder shall comply immediately, and the suspension shall not entitle the Design-Builder to any increase in Contract Price or Contract Time.
- Performing independent sampling and spot verification by selecting, at its discretion, a representative sample of installed equipment, pre-functional checklist items, test points, and previously reported test results, and requiring the DB-Cx to re-execute them in the CxA's presence. Any failure in a sample shall require expansion of the sample at the Design-Builder's cost.
- Conducting, together with the DB-Cx, an end-of-warranty review of each commissioned system not later than sixty (60) calendar days before the applicable warranty period expires, and recommending to ASEM the deficiencies that the Design-Builder must correct under its warranty obligations.

Limitations of Authority. The CxA shall not perform design services, construction activities, startup activities, testing execution, balancing, controls programming, troubleshooting, corrective work, equipment operation, or any other activity that would transfer responsibility for system performance from the Design-Builder to ASEM or the CxA.

Effect of CxA Participation. The participation of the CxA, including any review, observation, verification, validation, recommendation, deficiency closure recommendation, testing witness, report, or acceptance recommendation, shall not relieve the Design-Builder of responsibility for design adequacy, construction quality, system performance, code compliance, commissioning, deficiency resolution, warranty obligations, or any other obligation arising under the Contract Documents.

2.5 Manufacturers / Vendors

The Design-Builder shall retain, coordinate, schedule, and compensate all Manufacturers, Vendors, Suppliers, Factory Authorized Representatives, System Integrators, and Technical Specialists required to support commissioning activities for their respective systems and equipment. All costs associated with such participation, including labor, travel, testing support, factory services, startup services, software configuration, calibration, troubleshooting, corrective actions, retesting, training, documentation, warranty support, and other commissioning-related services, shall be included in the Contract Price. No additional compensation shall be provided by ASEM for such services.

Manufacturers and Vendors shall provide the personnel, technical expertise, documentation, certifications, and support necessary to verify and demonstrate compliance of their respective systems and equipment with the Contract Documents, including:

- Factory Acceptance Testing (FAT) and Factory Witness Testing, where applicable.
- Verification of installation requirements and operational readiness.
- Equipment startup, commissioning support, calibration, software configuration, programming, and control system integration.
- Participation in Functional Performance Testing (FPT), Integrated Systems Testing (IST), System-Specific Validation Protocols, troubleshooting, corrective actions, and retesting activities.
- Preparation and submission of startup reports, calibration certificates, testing records, O&M documentation, warranty documentation, and other required commissioning deliverables.
- Operations and Maintenance (O&M) training and warranty support during commissioning, turnover, Substantial

Completion, and Final Completion activities.

Manufacturers and Vendors shall execute or certify those activities that, by warranty, licensing, certification, or proprietary requirements, must be performed by factory-authorized personnel. The Design-Builder shall remain solely responsible for coordinating such participation and for ensuring successful completion of all commissioning, testing, documentation, corrective action, and acceptance requirements under the Contract.

2.6 Commissioning Matrix

Legend: **(A)** Approve (ultimate authority and responsibility); **(R)** Responsible (performs the work); **(C)** Consulted; **(I)** Informed; **(V)** Verify / Validate (independent review and confirmation); **(W)** Witness

Project Roles:

Abbreviation	Role
Owner	ASEM
DB	Design-Builder
DB-Cx	Design-Builder Commissioning Manager (DB-Cx) retained by the Design-Builder
Owner's CxA	Independent Commissioning Authority retained directly by ASEM
M/V	Manufacturer / Vendor / System Integrator

2.6.1 Commissioning Responsibility Matrix

Activity	Owner	DB	DB-Cx	Owner's CxA	M / V
Establish ASEM's Project Requirements (OPR)	A/R	C	I	C/V	I
Basis of Design (BOD) Development	C	A/R	C	V	C
Commissioning Plan Development	A	R	R	V	I
Design Reviews for Commissionability	I	A	R	V	C
Commissioning Specifications Development	A	R	R	V	C
Submittal Reviews for Commissioning Requirements	I	A	R	V	C

Factory Acceptance Testing (FAT) Procedures	A	R	R	V	R
Factory Acceptance Testing (FAT) Execution	I	A	R	V	R
Equipment Start-Up Procedures	A	R	R	V	C
Equipment Start-Up Execution	I	A	R	V	R
Pre-Functional Checklists (PFCs) Preparation	I	A	R	V	C
Pre-Functional Checklists (PFCs) Execution	I	A	R	V	C
Functional Performance Testing (FPT) Procedures	A	R	R	V	C
Functional Performance Testing (FPT) Execution	I	A	R	V	R
Integrated Systems Testing (IST) Procedures	A	R	R	V	C
Integrated Systems Testing (IST) Execution	I	A	R	V	R
Training Program Development	A	R	R	V	C
Training Delivery	I	A	R	V	R
O&M Manuals Preparation	A	R	R	V	R
Deficiency Log Creation and Management	I	A	R	V	I
Identification of Deficiencies	C	R	R	R	C
Corrective Action Plan Development	I	A/R	C	V	C
Corrective Actions Plan Implementation	I	A/R	I	V	R
Re-testing Following Corrective Actions	I	A	R	V	R
Preparation of Final Commissioning Report	A	R	R	V	I
Validation of Final Commissioning Report	A	C	C	R	I
Recommendation of Acceptance	I	I	I	R	I
Final Completion	A/R	I	I	C	I

a. Phase 1 – Planning & Design

During the Planning and Design Phase, the Design-Builder shall be solely responsible for incorporating the Owner's Project Requirements (OPR) into the Basis of Design (BOD), Contract

Documents, Commissioning Plan, and Commissioning Specifications. Reviews, comments, recommendations, observations, or validations performed by the Owner's Independent Commissioning Authority shall be advisory in nature and shall not relieve the Design-Builder of responsibility for the adequacy, completeness, coordination, constructability, commissionability, or performance of the design. The Design-Builder shall remain fully accountable for ensuring that the completed Project can successfully satisfy all commissioning, operational, resiliency, and acceptance requirements established by ASEM.

Activity	Owner	Design-Builder	DB-Cx	Owner's CxA	M / V
Develop and Approve Owner's Project Requirements (OPR)	A/R	C	I	C/V	I
Define Project Performance Goals and Resiliency Requirements	A/R	C	I	C/V	I
Define Energy, Sustainability, Maintainability and Reliability Objectives	A/R	C	I	C/V	I
Establish Commissioning Scope and Systems to be Commissioned	C	A	R	V	I
Develop Preliminary Commissioning Strategy	I	A	R	V	I
Develop Commissioning Plan	C	A	R	V	I
Update Commissioning Plan Throughout Design	I	A	R	V	I
Develop Basis of Design (BOD)	C	A/R	C	V	C
Develop Design Narratives	I	A/R	C	V	C
Develop Sequences of Operation	I	A/R	C	V	C
Incorporate OPR Requirements into Design	C	A/R	C	V	I

Design Phase Commissionability Review	A	C	C	R	I
Design Review – Concept Design	I	A/R	C	V	C
Design Review – Schematic Design	I	A/R	C	V	C
Design Review – Design Development	I	A/R	C	V	C
Design Review – Construction Documents	I	A/R	C	V	C
Review of System Integration Requirements	I	A	R	V	C
Review of Control System Architecture	I	A	R	V	C
Review of Redundancy and Reliability Features	I	A	R	V	C
Review of Maintainability and Accessibility Requirements	C	A/R	C	V	C
Development of Commissioning Specifications	I	A/R	C	V	C
Incorporation of Commissioning Requirements into Technical Specifications	I	A	R	V	C
Development of Preliminary Functional Test Requirements	I	A	R	V	C
Development of Preliminary Integrated Systems Test Requirements	I	A	R	V	C
Identification of Factory Acceptance Test (FAT) Requirements	I	A	R	V	C

Identification of Training Requirements	C	A	R	V	C
Identification of O&M Documentation Requirements	I	A	R	V	C
Commissioning Design Issue Log Management	I	A	R	V	I
Resolution of Commissioning Design Comments	I	A/R	R	V	C
Design Readiness Assessment for Construction Phase	A	C	C	R	I

Narrative Responsibilities

1. ASEM. During the Planning and Design Phase, ASEM is responsible for establishing and approving the:

    - Owner's Project Requirements (OPR).
    - Clinical operational requirements.
    - Resiliency objectives.
    - Reliability criteria.
    - Maintainability requirements.
    - Disaster recovery and continuity of operations requirements.
    - Acceptance criteria for critical systems.

    ASEM retains decision-making authority regarding project objectives and approves all major design criteria.

2. Design-Builder. The Design-Builder is responsible for transforming the OPR into a complete and coordinated design. The Design-Builder shall:

    - Develop the Basis of Design (BOD).
    - Prepare design narratives.
    - Prepare sequences of operation.
    - Integrate commissioning requirements into the design.
    - Develop commissioning specifications.
    - Coordinate design reviews.
    - Resolve all design-related commissioning comments.
    - Ensure that the design can be commissioned, tested, operated, maintained, and expanded.

3. DB-Cx. The DB-Cx serves as the Design-Builder's commissioning lead and shall:
    - Develop the Commissioning Plan.
    - Establish commissioning procedures and workflows.
    - Review the design for commissionability.
    - Assist in integrating testing requirements into the design documents.
    - Develop preliminary testing strategies.
    - Coordinate design reviews among disciplines.
    - Maintain commissioning-related design issue logs.

4. Owner's CxA. The Owner's CxA acts as an independent verification authority and shall:

    - Review the OPR and BOD for alignment.
    - Review commissioning specifications.
    - Review system integration requirements.
    - Review design documents at each design milestone.
    - Evaluate commissionability, maintainability, redundancy, accessibility, and testability.
    - Verify that proposed systems can achieve the Owner's operational objectives.
    - Document findings and recommendations.

    The Owner's CxA shall not perform design services or assume responsibility for design adequacy.

    Verification Authority means the entity responsible for independently reviewing, validating, and making recommendations regarding the applicable deliverable. Verification Authority does not imply approval authority, acceptance authority, or decision-making authority.

5. Manufacturers / Vendors. Manufacturers and vendors may be consulted during design development and shall:

    - Provide technical data.
    - Provide performance criteria.
    - Confirm installation requirements.
    - Provide factory testing requirements.
    - Confirm startup procedures.
    - Recommend testing methodologies.
    - Identify warranty-related commissioning requirements.
    - Identify training requirements and specialized operational considerations.

    They remain advisory participants during the Planning and Design Phase unless specifically engaged for design-assist services.

b. Phase 2 – Procurement & Equipment Commissioning Responsibility Matrix

The Design-Builder shall retain sole responsibility for procuring, coordinating, integrating, commissioning, testing, documenting, and demonstrating the performance of all Project systems and equipment. The participation of manufacturers, vendors, the DB-Cx, or the Owner's Independent Commissioning Authority shall not transfer responsibility for system performance, compliance with the Owner's Project Requirements, or achievement of Project acceptance criteria from the Design-Builder. The Owner's Independent Commissioning Authority shall function solely as an independent verification and validation agent acting on behalf of ASEM.

Activity	Owner	Design-Builder	DB-Cx	Owner's CxA	M / V
Equipment Selection and Specification Compliance	I	A/R	C	V	C
Review of Commissioning Requirements in Equipment Procurement Packages	I	A	R	V	C
Identification of Manufacturer Commissioning Requirements	I	A	R	V	R
Coordination of Factory Testing Requirements	I	A	R	V	R
Development of Factory Acceptance Test (FAT) Procedures	A	R	R	V	R
Review of FAT Procedures	A	C	C	R	C
Factory Acceptance Testing (FAT) Execution	I	A	R	V/W	R
Factory Witness Testing	I	A	R	V/W	R
Review of FAT Reports	I	A	R	V	C
Resolution of FAT Deficiencies	I	A/R	I	V	R

Re-Testing of Failed FAT Components	I	A	R	V/W	R
Review of Equipment Submittals	I	A	R	V	C
Verification of Compliance with OPR and BOD	I	A	R	V	C
Controls Integration Review	I	A	R	V	C
Review of Sequences of Operation for Major Equipment	I	A	R	V	C
Review of Equipment Redundancy Requirements	C	A/R	C	V	C
Review of Equipment Maintainability Requirements	I	A/R	C	V	C
Review of Spare Parts Requirements	I	A	R	V	C
Review of Warranty Requirements	I	A	R	V	R
Delivery Coordination	I	A/R	C	I	C
Equipment Receipt and Inspection	I	A/R	R	V	C
Storage and Protection of Equipment	I	A/R	R	I	C
Development of Startup Procedures	A	R	R	V	R
Review of Startup Procedures	A	C	C	R	C
Installation Verification Requirements Development	I	A	R	V	C
Development of Pre-Functional Checklists (PFCs)	I	A	R	V	C
Commissioning Documentation Requirements Definition	I	A	R	V	C
Development of Preliminary Functional	I	A	R	V	C

Performance Tests (FPTs)					
Development of Preliminary Integrated Systems Tests (ISTs)	I	A	R	V	C
Training Requirements Identification	C	A	R	V	C
O&M Documentation Requirements Definition	I	A	R	V	C
Equipment Readiness Assessment for Installation and Startup	A	C	C	R	C

Narrative Responsibilities

1. ASEM. During the Equipment Procurement and Factory Testing Phase, ASEM shall provide oversight of the commissioning process and monitor compliance with the Owner's Project Requirements (OPR). ASEM shall review major equipment procurement status, participate in key milestone meetings, and evaluate recommendations provided by the Owner's Independent Commissioning Authority (CxA).

   ASEM shall not be responsible for the preparation of commissioning documents, execution of testing, startup activities, balancing activities, troubleshooting, deficiency correction, or demonstration of compliance with Contract Requirements.

2. Design-Builder. The Design-Builder shall bear sole responsibility for the procurement, coordination, integration, commissioning readiness, and performance of equipment incorporated into the Project.

   The Design-Builder shall ensure that all equipment complies with the Contract Documents, Basis of Design (BOD), Owner's Project Requirements (OPR), resiliency objectives, redundancy requirements, maintainability requirements, and applicable codes and standards.

   Specific responsibilities shall include:

   - Procurement and delivery of equipment.
   - Coordination of equipment submittals.
   - Verification of equipment compatibility and interoperability.
   - Incorporation of commissioning requirements into procurement documents.
   - Coordination of factory testing activities.

- Scheduling and execution of Factory Acceptance Testing (FAT).
- Resolution of equipment-related deficiencies identified during FAT.
- Coordination of equipment delivery, storage, and protection.
- Development of startup procedures.
- Integration of equipment into the Commissioning Plan.
- Demonstration that procured equipment can satisfy the Project performance criteria.

The Design-Builder shall remain solely accountable for successful integration and operation of all Project systems regardless of equipment procurement source.

3. DB-Cx. The DB-Cx shall serve as the Design-Builder's commissioning manager throughout the procurement and factory testing phase.

   Responsibilities shall include:

   - Developing and maintaining commissioning requirements applicable to equipment procurement.
   - Reviewing equipment submittals for commissioning impacts.
   - Verifying inclusion of startup, testing, training, warranty, and operational requirements.
   - Developing Factory Acceptance Test protocols.
   - Coordinating FAT schedules.
   - Coordinating participation of manufacturers and vendors.
   - Maintaining commissioning issue logs.
   - Developing Pre-Functional Checklists (PFCs).
   - Developing preliminary Functional Performance Test (FPT) procedures.
   - Developing preliminary Integrated Systems Testing (IST) procedures.
   - Reviewing equipment interoperability and controls integration requirements.
   - Coordinating documentation associated with factory testing and commissioning readiness.

   The DB-Cx shall manage the commissioning process on behalf of the Design-Builder but shall not assume any responsibilities assigned to the Owner's Independent CxA.

4. Owner's CxA. The Owner's Independent CxA shall provide independent review, verification, and validation services on behalf of ASEM.

   Responsibilities shall include:

   - Reviewing major equipment submittals for consistency with the OPR and BOD.

- Reviewing Factory Acceptance Test procedures.
- Reviewing startup procedures.
- Reviewing commissioning specifications and requirements.
- Witnessing selected Factory Acceptance Tests.
- Verifying that procurement documents include required commissioning provisions.
- Verifying that testing procedures adequately demonstrate system performance.
- Reviewing FAT reports and deficiency reports.
- Evaluating readiness of equipment to proceed into installation and startup activities.
- Providing recommendations to ASEM regarding equipment compliance and commissioning readiness.

The Owner's CxA shall not procure equipment, direct manufacturers, execute testing, perform startup activities, correct deficiencies, or assume responsibility for equipment performance.

All reviews and observations performed by the Owner's CxA shall be advisory and shall not relieve the Design-Builder of any contractual responsibility.

5. Manufacturers / Vendors. Manufacturers, vendors, suppliers, and factory-authorized representatives shall provide the specialized technical support required to verify that equipment is manufactured, tested, configured, and delivered in accordance with project requirements.

   Responsibilities shall include:

   - Providing technical product data and certified performance information.
   - Supporting equipment submittals.
   - Assisting with procurement-related technical clarifications.
   - Developing and executing Factory Acceptance Tests when required.
   - Providing FAT reports and supporting documentation.
   - Identifying factory startup requirements.
   - Identifying calibration requirements.
   - Identifying maintenance requirements.
   - Identifying warranty-related restrictions and requirements.
   - Providing preliminary training materials.
   - Supporting controls integration and interoperability requirements.
   - Participating in deficiency resolution associated with manufacturing, configuration, or equipment performance issues.

c. Phase 3 - Construction, Installation, Start-Up, Pre-Functional Testing & Integrated Systems Testing (IST)

The Design-Builder shall be solely responsible for planning, coordinating, executing, documenting, and successfully completing all startup, Functional Performance Testing (FPT), and Integrated Systems Testing (IST) activities. The participation of manufacturers, vendors, subcontractors, the DB-Cx, or the Owner's Independent Commissioning Authority shall not relieve the Design-Builder of responsibility for system performance, interoperability, reliability, resiliency, maintainability, life-safety functionality, achievement of the Owner's Project Requirements, or compliance with the Contract Documents. The Owner's Independent CxA shall function solely as an independent verification and validation agent acting on behalf of ASEM.

Activity	Owner	Design-Builder	DB-Cx	Owner's CxA	M / V
Construction Phase Commissioning Management	I	A	R	V	I
Commissioning Coordination Meetings	I	A	R	V	C
Update Commissioning Plan	I	A	R	V	I
Installation Verification	I	A	R	V/W	C
Field Quality Control Inspections	I	A/R	C	V	C
Verification of Equipment Accessibility and Maintainability	I	A	R	V	C
Equipment Receiving and Inspection	I	A	R	V	C
Equipment Storage and Protection	I	A/R	C	I	C
Mechanical Systems Installation	I	A/R	C	V	C
Electrical Systems Installation	I	A/R	C	V	C
Plumbing Systems Installation	I	A/R	C	V	C

Medical Gas Systems Installation	I	A/R	C	V	C
Fire Protection Systems Installation	I	A/R	C	V	C
BAS Installation and Integration	I	A/R	C	V	C
Low Voltage and Communications Systems Installation	I	A/R	C	V	C
Controls Network Installation and Integration	I	A	C	V	C
Development of Pre-Functional Checklists (PFCs)	I	A	R	V	C
Completion of Pre-Functional Checklists	I	A	R	V	C
Installation Verification Testing	I	A	R	V/W	C
Point-to-Point Controls Verification	I	A	R	V/W	R
Sensor and Device Calibration	I	A	R	V	R
Sequence of Operation Verification	I	A	R	V	C
TAB Coordination	I	A	R	V	C
TAB Execution	I	A	R	V/W	C
Review of TAB Reports	I	A	R	V	C
Start-Up Procedure Development	I	A	R	V	C
Start-Up Readiness Review	A	C	C	R	C
Equipment Start-Up Execution	I	A	R	V/W	R
Start-Up Documentation	I	A	R	V	R
Development of Functional Performance Test Procedures	A	R	R	V	C
Functional Performance Testing (FPT) Execution	I	A	R	V/W	R

Development of Integrated Systems Test Procedures	A	R	R	V	C
Integrated Systems Testing (IST) Coordination	I	A	R	V	C

1. ASEM. During the Construction, Start-Up, and Integrated Systems Testing Phase, ASEM shall maintain executive oversight of the commissioning process and evaluate reports, recommendations, and findings submitted by the Owner's Independent CxA.

   ASEM shall:

   - Monitor progress toward commissioning milestones.
   - Review unresolved commissioning issues.
   - Participate in major readiness reviews.
   - Review recommendations regarding readiness for acceptance.

   ASEM shall not perform construction, testing, balancing, startup, troubleshooting, programming, calibration, or corrective activities.

2. Design-Builder. The Design-Builder shall have sole contractual responsibility for construction quality, system installation, startup, testing, integration, commissioning execution, deficiency correction, and achievement of all Contract Requirements.

   The Design-Builder shall:

   - Coordinate all trades involved in commissioning.
   - Install all systems in accordance with the Contract Documents.
   - Coordinate startup activities.
   - Execute and document Pre-Functional Checklists.
   - Coordinate and complete TAB activities.
   - Execute Functional Performance Testing.
   - Execute Integrated Systems Testing.
   - Demonstrate interoperability among all building systems.
   - Demonstrate compliance with the Basis of Design (BOD) and Owner's Project Requirements (OPR).
   - Resolve all deficiencies and failed tests.
   - Schedule and coordinate participation of manufacturers, vendors, subcontractors, and specialty consultants.

   The Design-Builder remains solely responsible for overall system performance regardless of reviews, comments, observations, or

recommendations issued by the Owner's CxA.

3. DB-Cx. The DB-Cx shall manage and administer the commissioning process on behalf of the Design-Builder and serve as the primary coordinator of all commissioning activities.

   Responsibilities include:

   - Maintaining and updating the Commissioning Plan.
   - Coordinating commissioning meetings.
   - Developing Pre-Functional Checklists.
   - Managing startup activities.
   - Preparing Functional Performance Test procedures.
   - Preparing Integrated Systems Test procedures.
   - Coordinating participation of manufacturers and subcontractors.
   - Managing commissioning documentation.
   - Maintaining deficiency logs.
   - Tracking corrective actions.
   - Coordinating re-testing activities.
   - Supporting preparation for Final Completion.

   The DB-Cx is responsible for managing execution but does not replace the Design-Builder's contractual accountability.

4. Owner's CxA. The Owner's CxA shall serve as an independent verification and validation authority acting exclusively on behalf of ASEM.

   Responsibilities include:
   - Reviewing startup procedures.
   - Reviewing TAB reports.
   - Reviewing Functional Performance Test procedures.
   - Reviewing Integrated Systems Test procedures.
   - Conducting field observations.
   - Witnessing startup activities.
   - Witnessing Functional Performance Tests.
   - Witnessing Integrated Systems Tests.
   - Verifying test results.
   - Verifying corrective actions.
   - Assessing readiness for substantial completion and occupancy.
   - Issuing recommendations regarding acceptance.

   The Owner's CxA shall not:
   - Perform construction work.
   - Perform startup activities.
   - Execute testing.

- Program control systems.
- Balance systems.
- Troubleshoot equipment.
- Correct deficiencies.
- Operate the facility.

All findings and recommendations issued by the Owner's CxA are advisory as to design, acceptance, and payment decisions, which remain with ASEM, and do not transfer risk, liability, or performance responsibility from the Design-Builder. Deficiency Notices and Non-Conformance Notices issued by the CxA on behalf of ASEM are not advisory; they establish the response and resolution timeframes under Section 8.

5. Manufacturers / Vendors

Manufacturers and Vendors shall provide specialized technical support necessary to demonstrate proper operation of the equipment and systems furnished under the Project.

Responsibilities include:

- Supporting equipment installation verification.
- Providing factory-authorized startup services.
- Calibrating specialized equipment.
- Assisting with control system integration.
- Supporting Functional Performance Testing.
- Supporting Integrated Systems Testing.
- Supporting emergency operation testing.
- Supporting warranty-required testing.
- Participating in troubleshooting and corrective actions.
- Supporting re-testing following failed tests.
- Providing certified startup reports when required by manufacturer warranties.

d. Phase 4 – Training & Documentation

The Design-Builder shall be solely responsible for developing, coordinating, delivering, documenting, and completing all training and turnover documentation required by the Contract Documents. The participation of manufacturers, vendors, subcontractors, the DB-Cx, or the Owner's Independent Commissioning Authority shall not relieve the Design-Builder of responsibility for preparing complete, accurate, and operationally effective training materials, O&M manuals, as-built documentation, warranties, preventive maintenance procedures, or commissioning records. The Owner's Independent Commissioning Authority shall serve exclusively as an

independent verification and validation entity acting on behalf of ASEM and shall not assume responsibility for the adequacy, completeness, or accuracy of Design-Builder deliverables.

Activity	Owner	Design-Builder	DB-Cx	Owner's CxA	M / V
Development of Training Program	A	R	R	V	C
Preparation of Training Plan and Schedule	I	A	R	V	C
Identification of Required Trainees	A/R	C	I	I	I
Development of System-Specific Training Materials	I	A	R	V	R
Development of Emergency Operations Training	C	A	R	V	C
Development of Resiliency and Continuity of Operations Training	C	A	R	V	C
Development of Maintenance Training Program	A	R	R	V	C
Development of BAS Training Program	A	R	R	V	R
Development of Medical Gas Training Program	A	R	R	V	R
Development of Emergency Power Training Program	A	R	R	V	R
Preparation of Training Manuals	I	A	R	V	R
Preparation of Electronic Training Materials	I	A	R	V	R
Preparation of Video Training Materials	I	A	R	V	R

Classroom Training Delivery	I	A	R	V/W	R
Hands-On Operational Training	I	A	R	V/W	R
Operations Staff Training	A (Participation)	A	R	V/W	R
Maintenance Staff Training	A (Participation)	A	R	V/W	R
Building Automation System Training	A (Participation)	A	R	V/W	R
Medical Gas Systems Training	A (Participation)	A	R	V/W	R
Emergency Power Systems Training	A (Participation)	A	R	V/W	R
Integrated Systems Operations Training	A (Participation)	A	R	V/W	R
Verification of Training Completion	I	A	R	V	I
Preparation of O&M Manuals	A	R	R	V	R
Preparation of Preventive Maintenance Procedures	A	R	R	V	R
Preparation of Warranty Documentation	I	A	R	V	R
Preparation of Spare Parts Lists	I	A	R	V	R
Preparation of Manufacturer Certifications	I	A	R	V	R
Preparation of As-Built Documentation	I	A	R	V	C
Compilation of Final Commissioning Documentation	I	A	R	V	I

Review of O&M Manuals	A	C	C	R	C
Review of Training Records	A	C	C	R	I
Deficiency Log Closure Verification	A	C	C	R	I
Documentation Readiness Assessment	A	C	C	R	I
Submission of Final Documentation Package	I	A	R	V	C
Recommendation for Training and Documentation Acceptance	I	I	I	R	I
Final Completion of Training Deliverables	A/R	C	I	C	I

a. ASEM. During the Training and Documentation Phase, ASEM shall identify personnel required to participate in operational and maintenance training activities and ensure the availability of staff necessary to complete the training program.

ASEM shall:

- Identify operations personnel.
- Identify maintenance personnel.
- Identify facility management personnel.
- Participate in training sessions.
- Review training effectiveness.
- Review final documentation packages.
- Evaluate recommendations provided by the Owner's Independent CxA.
- Determine Final Completion of training and documentation deliverables.

ASEM shall not be responsible for developing training materials, conducting training, preparing O&M manuals, compiling as-built documentation, or producing commissioning records.

b. Design-Builder. The Design-Builder shall bear sole responsibility for planning, developing, coordinating, conducting, documenting, and successfully

completing all training and documentation requirements specified in the Contract Documents.

The Design-Builder shall:

- Develop the comprehensive Training Program.
- Prepare training schedules.
- Coordinate all training participants.
- Prepare training materials.
- Conduct classroom instruction.
- Conduct field-based practical training.
- Coordinate manufacturer-led training activities.
- Prepare O&M manuals.
- Prepare preventive maintenance procedures.
- Prepare equipment documentation.
- Compile warranties.
- Compile spare parts information.
- Compile as-built documents.
- Compile commissioning documentation.
- Maintain training attendance records.
- Demonstrate operator competency and readiness.

The Design-Builder shall remain fully responsible for the completeness, accuracy, quality, and usability of all project documentation.

c. DB-Cx. The DB-Cx shall manage and coordinate all commissioning-related training and documentation activities on behalf of the Design-Builder.

Responsibilities include:

- Development of the Training Plan.
- Coordination of training events.
- Verification that all commissioned systems are represented within the training curriculum.
- Coordination of manufacturer participation.
- Development of training verification forms.
- Maintenance of training records.
- Compilation of commissioning documentation.
- Coordination of final turnover deliverables.
- Verification of completion of documentation requirements.
- Coordination of corrective actions identified during documentation reviews.

The DB-Cx shall ensure that training and documentation requirements remain aligned with the OPR, Basis of Design, and commissioning objectives.

d. Owner's CxA. The Owner's CxA shall perform independent verification and validation activities related to training and project turnover.

   Responsibilities include:

   - Reviewing Training Plans.
   - Reviewing training materials.
   - Reviewing O&M manuals.
   - Reviewing maintenance procedures.
   - Reviewing warranty documentation.
   - Reviewing system turnover documentation.
   - Witnessing selected training sessions.
   - Verifying completeness of commissioning documentation.
   - Verifying closure of commissioning deficiencies.
   - Assessing readiness for owner occupancy and operational turnover.
   - Providing recommendations regarding acceptance of training and documentation deliverables.

   The Owner's CxA shall not prepare training materials, conduct training, prepare O&M manuals, or assume responsibility for the adequacy of Design-Builder-prepared documentation.

e. Manufacturers / Vendors. Manufacturers and Vendors shall provide specialized training and documentation associated with their equipment, systems, and technologies.

   Responsibilities include:

   - Equipment-specific operational training.
   - Preventive maintenance training.
   - Troubleshooting training.
   - Emergency response procedures.
   - Warranty requirements training.
   - Specialized software training.
   - BAS training.
   - Medical gas system training.
   - Power generation system training.
   - Specialized equipment certification where required.
   - Preparation of manufacturer manuals.
   - Preparation of maintenance instructions.
   - Preparation of spare parts lists.
   - Delivery of warranty documentation.

e. Phase 5 – Substantial Completion

During this phase, the Design-Builder must demonstrate that all building systems are operational, integrated, safe, maintainable, and capable of supporting the intended hospital operations, while only minor punch list items remain.

Substantial Completion shall not be achieved solely by completion of construction activities. The Design-Builder shall demonstrate that all commissioned systems have been properly installed, started, tested, integrated, documented, and prepared for safe and reliable operation in accordance with the Contract Documents, Basis of Design (BOD), and Owner's Project Requirements (OPR). The Owner's Independent Commissioning Authority shall independently assess readiness for occupancy and provide a recommendation to ASEM; however, the authority to determine and declare Substantial Completion, authorize Beneficial Occupancy, and accept transfer of operational control shall remain solely with ASEM. Neither occupancy nor issuance of a Certificate of Substantial Completion shall relieve the Design-Builder of any obligation related to corrective work, warranty services, deferred testing, latent defects, or final completion requirements.

Activity	Owner	Design-Builder	DB-Cx	Owner's CxA	M / V
Request for Substantial Completion Inspection	I	A/R	C	C	I
Verification of Construction Completion	I	A	R	V	I
Verification of Commissioning Completion Status	I	A	R	V	I
Verification of Functional Performance Testing Completion	I	A	R	V	C
Verification of Integrated Systems Testing Completion	I	A	R	V	C
Verification of Life Safety Systems Readiness	I	A	R	V	C

Verification of Emergency Systems Readiness	I	A	R	V	C
Verification of Operational Readiness	I	A	R	V	C
Occupancy Readiness Assessment	A	C	C	R	C
Deficiency/Punch List Development	C	R	R	V/W	C
Deficiency Log Management	I	A	R	V	I
Punch List Management	I	A	R	V	I
Correction of Deficiencies	I	A/R	I	V	R
Re-Testing Following Corrective Actions	I	A	R	V/W	R
Verification of Training Completion	I	A	R	V	I
Verification of O&M Documentation Completion	I	A	R	V	C
Verification of As-Built Documentation Completion	I	A	R	V	C
Verification of Warranty Documentation	I	A	R	V	R
Verification of Spare Parts Delivery	I	A	R	V	R
Verification of Attic Stock Delivery	I	A	R	V	R
Verification of Owner Personnel Readiness	A/R	C	I	V	I
Recommendation of Substantial Completion	I	I	I	R	I
Issuance of Certificate of Substantial Completion	A/R	C	I	C	I
Beneficial Occupancy Authorization	A/R	I	I	C	I
Transfer of Custody and Operational Control	A/R	C	I	C	I

Commencement of Warranty Period (as applicable)	A	R	I	C	R
Post-Occupancy Commissioning Plan Development	A	R	R	V	C

Beneficial Occupancy shall not constitute:

- Final Completion;
- acceptance of defective Work;
- waiver of latent defects;
- acceptance of incomplete systems;
- acceptance of unresolved deficiencies;
- transfer of commissioning responsibilities;
- approval of testing deficiencies;
- commencement of warranties unless specifically established by the Contract Documents.

The Design-Builder shall remain fully responsible for all Contract obligations following Beneficial Occupancy.

a. ASEM. During the Substantial Completion and Occupancy Readiness Phase, ASEM shall retain exclusive authority to determine whether the facility is suitable for beneficial occupancy and operational use.

ASEM shall:

- Review recommendations issued by the Owner's Independent CxA.
- Review occupancy readiness assessments.
- Evaluate unresolved deficiencies and associated risks.
- Determine whether remaining deficiencies materially impact patient care, life safety, facility operations, regulatory compliance, or system reliability.
- Issue the Certificate of Substantial Completion.
- Authorize Beneficial Occupancy.
- Accept transfer of operational control of the facility.
- Establish operational staffing and activation plans.

ASEM's acceptance of Substantial Completion shall not constitute Final Completion of the Project nor release the Design-Builder from responsibility

for incomplete work, latent defects, warranty obligations, or unresolved deficiencies.

b. Design-Builder. The Design-Builder shall bear sole responsibility for demonstrating that the Project has achieved Substantial Completion.

The Design-Builder shall:

- Certify completion of construction activities.
- Demonstrate operational readiness of all commissioned systems.
- Demonstrate successful completion of startup, TAB, Functional Performance Testing (FPT), and Integrated Systems Testing (IST).
- Complete owner training requirements.
- Submit complete turnover documentation.
- Deliver O&M manuals.
- Deliver preliminary as-built documents (the final record drawings and record BIM models are a condition of Final Completion).
- Deliver warranties and service agreements.
- Deliver spare parts and attic stock.
- Correct identified deficiencies.
- Support occupancy readiness reviews.
- Complete all requirements necessary for safe occupancy and operation.

The Design-Builder remains responsible for overall system performance regardless of whether ASEM occupies the facility between Substantial Completion and Final Completion.

c. DB-Cx. The DB-Cx shall coordinate and document all commissioning activities necessary to support the determination of Substantial Completion.

Responsibilities include:

- Maintaining the commissioning completion status report.
- Verifying completion of commissioning activities.
- Coordinating closure of commissioning deficiencies.
- Updating deficiency and issue logs.
- Coordinating re-testing activities.
- Confirming completion of training requirements.
- Confirming completion of documentation deliverables.
- Supporting turnover and occupancy readiness activities.
- Preparing commissioning turnover records.
- Coordinating post-occupancy commissioning requirements.

The DB-Cx shall serve as Design-Builder's primary point of contact for all

commissioning-related turnover activities.

d. Owner's CxA. The Owner's CxA shall function as ASEM's independent verification and validation representative for determining readiness for Substantial Completion and occupancy.

Responsibilities include:

- Verifying completion of commissioning activities.
- Reviewing Functional Performance Testing results.
- Reviewing Integrated Systems Testing results.
- Reviewing unresolved deficiencies.
- Evaluating deficiency impacts on facility operations.
- Assessing operational readiness.
- Reviewing training completion records.
- Reviewing turnover documentation.
- Reviewing warranty documentation.
- Reviewing system performance records.
- Conducting occupancy readiness assessments.
- Preparing a Substantial Completion Readiness Report.
- Recommending whether the Project is suitable for Substantial Completion.

The Owner's CxA may recommend acceptance or non-acceptance but shall have no authority to declare Substantial Completion on behalf of ASEM.

The Owner's CxA shall not assume responsibility for construction quality, system performance, deficiency correction, or regulatory approvals.

e. Manufacturers / Vendors.

Manufacturers and Vendors shall support Substantial Completion activities associated with the systems and equipment they supplied.

Responsibilities include:

- Supporting resolution of outstanding deficiencies.
- Providing warranty activation documentation.
- Providing final startup certifications.
- Providing factory-authorized operational certifications where required.
- Delivering final maintenance recommendations.
- Confirming spare parts requirements.
- Confirming warranty conditions.
- Supporting re-testing activities.
- Supporting occupancy readiness demonstrations.

- Providing technical support during facility activation.

f. Phase 6 – Final Completion

Final Completion shall be granted solely at the discretion of ASEM and shall not be construed as a waiver of warranty obligations, latent defects, fraud, gross negligence, or other contractual remedies available to ASEM.

Final Completion shall occur only after the Design-Builder has demonstrated full compliance with the Contract Documents, Owner's Project Requirements (OPR), Basis of Design (BOD), commissioning requirements, training requirements, documentation requirements, and all other Project closeout obligations. The Owner's Independent Commissioning Authority shall independently verify completion of commissioning-related requirements and provide a recommendation to ASEM regarding Final Completion. The authority to grant or deny Final Completion shall remain exclusively with ASEM. Neither issuance of Final Completion nor final payment shall release the Design-Builder from warranty obligations, latent defects, corrective work obligations, regulatory compliance requirements, or responsibilities that expressly survive Project closeout under the Contract Documents.

Activity	Owner	Design-Builder	DB-Cx	Owner's CxA	M / V
Request for Final Completion	I	A	C	C	I
Verification of Contract Completion	I	A	R	V	I
Verification of Punch List Completion	I	A	R	V	C
Verification of Deficiency Log Closure	I	A	R	V	C
Verification of Corrective Actions	I	A	R	V	R
Verification of Re-Testing Requirements	I	A	R	V/W	R
Deferred Testing Completion	I	A	R	V	R

Verification of Functional Performance Testing Completion	I	A	R	V	C
Verification of Integrated Systems Testing Completion	I	A	R	V	C
Verification of Training Completion	I	A	R	V	C
Verification of O&M Documentation Acceptance	I	A	R	V	C
Verification of As-Built Documentation Acceptance	I	A	R	V	C
Verification of Warranty Documentation	I	A	R	V	R
Verification of Spare Parts, Special Tools and Attic Stock	I	A	R	V	R
Completion of Final Commissioning Report	A	R	R	V	I
Review of Final Commissioning Report	I	C	C	V	I
Preparation of Final Closeout Package	I	A	R	V	C
Verification of Regulatory Approvals and Certifications	I	A	R	V	C
Warranty Transition Planning	C	A	R	V	R

Warranty Service Provider Identification	I	A	R	V	R
Post-Occupancy Support Planning	C	A	R	V	C
Final Facility Readiness Assessment	A	C	C	R	C
Recommendation of Final Completion	I	I	I	R	I
Approval of Final Completion	A/R	I	I	C	I
Release of Retainage (if applicable)	A/R	I	I	C	I
Transfer to Warranty Phase	A	R	C	C	R
Completion of Design-Builder Closeout Obligations	I	A/R	C	V	I

The Final Commissioning Report shall be prepared and submitted by the Design-Builder through the DB-Cx. The Owner's Independent Commissioning Authority shall independently review, verify, validate, and provide recommendations regarding the report but shall not prepare, author, certify, or assume responsibility for its contents.

a. ASEM. During the Final Completion Phase, ASEM shall retain sole authority to determine whether the Project has achieved Final Completion and satisfies all contractual requirements.

   ASEM shall:

   - Review recommendations issued by the Owner's Independent CxA.
   - Evaluate outstanding deficiencies and unresolved claims.
   - Verify receipt of all required turnover documentation.
   - Confirm readiness for warranty administration.
   - Determine whether all Contract Requirements have been fulfilled.
   - Authorize Final Completion.
   - Release retainage, if applicable and otherwise due.
   - Transition the facility into full operational status.

   Neither Substantial Completion nor Beneficial Occupancy shall obligate ASEM to grant Final Completion.

ASEM reserves the right to withhold Final Completion whenever unresolved deficiencies, incomplete commissioning activities, missing documentation, regulatory issues, warranty concerns, or operational deficiencies remain outstanding.

b. Design-Builder. The Design-Builder shall bear sole responsibility for demonstrating that all Contract Requirements have been fully satisfied before requesting Final Completion.

The Design-Builder shall:

- Complete all punch list work.
- Resolve all commissioning deficiencies.
- Complete all corrective actions.
- Complete all documentation requirements.
- Submit final as-built drawings.
- Submit final O&M manuals.
- Submit warranties and service agreements.
- Deliver spare parts, attic stock, and specialized tools.
- Complete required training activities.
- Assemble and submit the final closeout package.
- Support final inspections and verification activities.
- Transition the Project into the warranty period.

The Design-Builder remains fully responsible for system performance, latent defects, incomplete work, and warranty obligations that survive Final Completion.

The Final Commissioning Report shall be prepared and submitted by the Design-Builder through the DB-Cx. The Owner's Independent Commissioning Authority shall independently review, verify, validate, and provide recommendations regarding the report but shall not prepare, author, or assume responsibility for its contents.

c. DB-Cx. The DB-Cx shall coordinate and document the final completion of all commissioning activities.

Responsibilities include:

- Maintaining the final deficiency log.
- Coordinating closure of all outstanding commissioning issues.
- Updating commissioning records.
- Preparing the Final Commissioning Report.
- Supporting final inspections.
- Coordinating final re-testing where required.

- Verifying completion of training and turnover activities.
- Supporting warranty transition planning.
- Assisting with assembly of the final project closeout package.

The DB-Cx shall certify completion of required commissioning activities to the Design-Builder but shall not have authority to grant acceptance on behalf of ASEM.

d. Owner's CxA. The Owner's CxA shall act as ASEM's independent verification and validation representative during final project closeout.

Responsibilities include:

- Verifying closure of commissioning deficiencies.
- Reviewing deferred testing results.
- Reviewing corrective action implementation.
- Reviewing warranty deliverables.
- Reviewing final turnover documentation.
- Reviewing final commissioning documentation.
- Reviewing final system performance records.
- Conducting final operational readiness assessments.
- Preparing a Final Commissioning Assessment Report.
- Recommending whether Final Completion should be granted.

The Owner's CxA may recommend acceptance or rejection but shall not possess authority to grant Final Completion.

The Owner's CxA shall not assume responsibility for construction, design, installation, startup, commissioning execution, corrective work, or system performance.

e. Manufacturers / Vendors. Manufacturers and Vendors shall support final project closeout activities associated with their respective equipment and systems.

Responsibilities include:

- Completing outstanding corrective actions.
- Providing final startup certifications.
- Providing warranty certificates.
- Providing warranty contact information.
- Providing spare parts inventories.
- Providing specialized tools and software required for operations.
- Providing final technical documentation.
- Supporting warranty transition activities.
- Participating in final re-testing when required.

2.7 Commissioning Costs and Price Inclusions

The Design-Builder's proposal price shall include, without separate payment, all costs of performing and supporting commissioning under this Attachment, including: the DB-Cx and its staff; all labor, supervision, trade and subcontractor support, and Manufacturer, vendor, and system-integrator participation for pre-functional checklists, start-up, TAB, FAT, FPT, IST, FCOST, and the Hurricane Resiliency Validation Program; all test instruments, data loggers, load banks, calibration, and temporary power, fuel, water, medical gases, and other utilities and consumables used for testing; preparation of procedures, reports, the CTAR, the Final Commissioning Report, and the Cx Turnover Package; commissioning training of ASEM personnel; and all repetition of tests and corrective work needed to achieve acceptance.

The Design-Builder shall not receive additional compensation or an extension of time for: failed tests or retests; the need to re-sequence or repeat work to accommodate commissioning; tests deferred or repeated because systems, utilities, or prerequisites were not ready; the Design-Builder's failure to coordinate Manufacturers, vendors, or trades; or any requirement that a bidder could reasonably have identified from the Contract Documents. ASEM pays the CxA directly, except for the additional CxA services reimbursable by the Design-Builder under Section 8.16.

Where a System-Specific Matrix, test, or standard prescribes a minimum quantity, duration, or load (for example, test dispatches, run-times, load-bank durations, or sampling rates), that minimum is a contract requirement and is included in the proposal price. ASEM may increase the quantity of retests or sampling after a failure or at the CxA's recommendation, at the Design-Builder's cost, as provided in Sections 8.8, 8.9, and 8.16.

3. Commissioning Activities

3.1 General

Commissioning activities include, but are not limited to, the design-phase activities in Section 3.2; the installation, start-up, and testing activities in Section 3.3; and the integration activities in Section 3.4.

3.2 Design Phase

The DB-Cx shall carry out the following activities in coordination with the

designer and the general contractor, with review by the CxA:

1. Verify that the project's functional, operational, and performance objectives are clearly established.
2. Document any required adjustments or clarifications.
3. Ensure that the design criteria are adequately addressed.
4. Confirm technical consistency across disciplines.
5. Establish activities, responsibilities, sequence, and acceptance criteria for the commissioning process for all project phases, and coordinate this plan with the designer and the general contractor.
6. Conduct systematic reviews of design documents at their different stages: schematic, preliminary design, and final design.
7. Verify that the proposed systems meet the requirements for efficiency, indoor environmental quality, controls, maintainability, and operational safety.
8. Identify technical interdependencies among mechanical, electrical, control, architectural, structural, and special systems.
9. Coordinate solutions with the design team.
10. Prepare the preliminary identification of tests and verifications.
11. Define the types of functional tests expected in the acceptance phase.
12. Document access requirements, instrumentation, loads, and anticipated operating conditions.
13. Initiate the structure of system manuals, checklists, and commissioning responsibility matrices.
14. Identify technical risks related to performance.
15. Analyze risks that could affect the commissioning, early operation, or ongoing performance of the building.
16. Recommend mitigation measures.
17. Confirm that the project specifications include the required commissioning, testing, documentation, and deliverables.

3.3 Installation, Start-Up, and Testing Phase

The DB-Cx shall perform, with start-up support from Manufacturers / Vendors and witnessing and validation by the CxA:

1. Verification of correct installation of all systems and equipment.
2. Execution of testing and start-up procedures as specified in the contract documents.
3. Functional performance tests to confirm compliance with design intent and manufacturer requirements.
4. Calibration and adjustment of systems to achieve specified performance.
5. Documentation of findings, test results, and corrective actions.

6. Coordination of retesting as necessary to demonstrate full compliance.

3.4 Integration with the ASEM Main Building

Commissioning tests must verify and document full compatibility with existing operational systems in ASEM's Main Building, ensuring proper integration with communications subsystems, required voltage levels, network and data infrastructure, information exchange protocols, and any other associated critical interfaces. The DB-Cx shall perform these tests, the CxA shall validate them, and ASEM shall provide access as described in Section 2.1.

3.5 Review Periods and Test Notices

The following review periods apply to submissions made by the Design-Builder through the DB-Cx. All periods are in calendar days and shall be included in the Commissioning schedule and the Project schedule.

Submission or activity	CxA review period	ASEM review and approval period
Commissioning Plan, commissioning specifications, and conformance with the OPR and BOD	14 calendar days	21 calendar days
Design documents at each stage (schematic, preliminary, and final): commissionability review	14 calendar days	As provided in the Design-Build Agreement
FAT, start-up, and pre-functional checklist procedures	10 calendar days	14 calendar days
FPT and IST procedures, including the FCOST and the Hurricane Resiliency Validation Program	14 calendar days	21 calendar days
TAB reports, start-up reports, and test reports and records	10 calendar days	14 calendar days
Corrective Action Plans (Level 1 / Level 2 / Level 3 and Observations)	1 / 4 / 7 calendar days	2 / 7 / 14 calendar days
Verification of completed corrective action and retest results, after notice of readiness from the DB-Cx (Level 1 / Level 2 / Level 3 and Observations)	2 / 5 / 7 calendar days	3 / 7 / 10 calendar days
O&M manuals, training records, and turnover documentation	14 calendar days	21 calendar days
CTAR, Final Commissioning Report, Engineer of Record certification (Section 7.4), and Cx Turnover Package	21 calendar days	30 calendar days

Complete submissions. Each period begins on receipt by the CxA and ASEM of a complete submission delivered through the DB-Cx. An incomplete submission shall be returned without review, and no period shall begin to run.

Resubmittals. Each resubmittal following comments restarts the applicable review period. CxA services for the review of any submission after its second resubmittal are subject to Section 8.16.

No deemed approval. Failure of the CxA or ASEM to respond within a review period shall not constitute approval, acceptance, or waiver of any requirement of the Contract Documents. Any claim for delay attributable to a review period shall be governed exclusively by the notice and claim procedures of the Design-Build Agreement.

Test notices. The DB-Cx shall give ASEM and the CxA written notice of each test not fewer than: ten (10) calendar days for FPT; twenty-one (21) calendar days for IST, the FCOST, and the Hurricane Resiliency Validation Program; five (5) calendar days for retests; and forty-eight (48) hours for retests of Level 1 Critical Deficiencies. The CxA may postpone any test for which the approved procedures, completed pre-functional checklists, TAB reports, or safe testing conditions are not in place.

Tests without a witness. A test conducted without the CxA's witnessing and without ASEM's prior written authorization shall not be accepted and shall be repeated at the Design-Builder's cost.

3.6 Commissioning Schedule Requirements

The Design-Builder shall include the commissioning activities as a distinct, resource-loaded part of the Project Schedule, with logic ties for: submission and review periods (Section 3.5); pre-functional checklists; start-up; TAB; FAT; FPT; IST; FCOST; the Hurricane Resiliency Validation Program; retest and correction allowances; the RDP; training; and turnover. The schedule shall show the CxA review and ASEM approval periods in Section 3.5 as activities, and shall not assume shorter periods.

The Project Schedule shall provide, as a minimum: completion of all FPT and IST, and correction of all Level 1 and Level 2 Deficiencies, before the RDP begins; completion of the RDP before the date of Final Completion and before the release of the balance of the retainage under the answer to Question 244 of Addendum No. 4; and a retest allowance for each system in accordance with its System-Specific Matrix. The RDP and the correction of any deficiency found during it are within the Contract Time, and a failed RDP is not a ground for adjustment of time or price.

The Design-Builder shall give ASEM and the CxA a three-week look-ahead commissioning schedule at each commissioning meeting and shall promptly notify them of any change that affects a test date. Schedule recovery required because of failed tests or delays attributable to the Design-Builder's cost.

4. System-Specific Validation Protocols

For each protocol below, the DB-Cx performs the tests with support from the corresponding Manufacturers / Vendors, the CxA witnesses, reviews, verifies, and validates the results, and ASEM may witness upon advance notice.

The System-Specific Minimum Acceptance Criteria and Commissioning Matrices that form part of this Attachment 1 and are incorporated into this Section 4 by reference are those for the following systems: (1) Building Automation System (BAS), Integrated Controls, Monitoring, and Hospital Systems Integration Platform; (2) Dual-Coil HVAC Climate Control and Containment System; (3) Flood Protection, Plumbing, and Life-Safety Systems; (4) System Commissioning: HVAC, Electrical, and Plumbing Systems; (5) Hybrid Electrical Infrastructure, Emergency Power Plant, Microgrid (BESS), and Critical Electrical Distribution System; (6) Medical Gas Systems (MGS); (7) Pneumatic Tube System (PTS); (8) Heliport Operations System; (9) Ramp System; (10) Seismic Isolation System; and (11) Utility Interconnection with Existing Utilities and ASEM Main Building (UTL).

Unless expressly required elsewhere in the Contract Documents, all performance values, response times, operational thresholds, and testing criteria identified within the commissioning specifications shall be interpreted as minimum performance objectives. Final compliance shall be determined based upon the Contract Documents, approved Basis of Design (BOD), manufacturer-certified performance requirements, applicable codes and standards, and Owner-approved acceptance criteria.

Where specific performance values, response times, operational thresholds, or measurable criteria are identified within these commissioning specifications, compliance shall be evaluated using industry-recognized standards, manufacturer-certified performance data, the approved Basis of Design (BOD), and the Owner-approved commissioning procedures. In the event of any discrepancy, the most stringent requirement shall govern unless otherwise approved in writing by ASEM.

4.1 Pneumatic Tube Logistics System (PTS – Bionuclear / Swisslog / Pevco or approved equal)

1. **Speed and Transit Testing.** The DB-Cx shall execute physical tests of continuous carrier dispatch from the First Floor (Trauma) and Second Floor (ICU), through the Third-Floor connection, to the

ASEM Main Building's Central Laboratories, validating a transit time of 30 to 45 seconds under normal operating conditions and design loading conditions identified in the approved commissioning protocol, with the CxA witnessing the tests and validating the results.

2. **Anti-Hemolysis and RFID Certification.** A minimum of fifty (50) test dispatches shall be performed using vials with biological control samples. A pathologist certified by the ASEM laboratory shall audit the samples to verify that sample handling and transport do not produce clinically significant hemolysis and remain within the acceptance criteria established by the ASEM Laboratory and applicable laboratory standards. One hundred percent (100%) of RFID tag reads and PIN-code security lockout at the terminal stations shall be validated.

3. **Biological Spill Simulation.** A simulated vial breakage inside a carrier shall be triggered to certify activation of the automatic containment sequence, HEPA-filtered air purge, and isolation of the affected section of tubing without contaminating clinical ceiling plenums.

System-Specific Minimum Acceptance Criteria and Commissioning Matrix. The minimum acceptance criteria, Functional Performance Testing, Integrated Systems Testing, Reliability Demonstration Period, deliverables, and Critical Deficiency classifications for the Pneumatic Tube System (PTS) are established in the matrix titled "System-Specific Minimum Acceptance Criteria and Commissioning Matrix – Pneumatic Tube System (PTS)" in the System-Specific Matrices part of this Attachment 1, which is incorporated into this Section 4 by reference. The tests described above are in addition to, and do not replace or reduce, the requirements of that matrix; in case of conflict, the more stringent requirement governs, as provided in Section 1.7.

4.2 Dual-Coil HVAC Climate Control and Containment System

1. **Hygrothermal Stress Testing.** The AHUs serving the Hybrid Operating Rooms, ICU, Recovery, and Burn Unit shall undergo continuous 72-hour testing to certify that the automated BMS sustains temperature strictly between 65°F and 70°F and relative humidity between 20% and 55% RH.

2. **Chilled-Water Failure Simulation.** The CxA shall witness, verify, and validate that the BMS activates the exterior rooftop DX condensing units (Sheet A-1.12) and that emergency Direct Expansion mode assumes the building cooling load within the tolerance limits

established in ASHRAE Guideline 0, the approved BOD, and manufacturer-certified operating parameters, while maintaining design positive pressures and air change rates (ACH).

3. **Vibration and Noise Monitoring.** Using calibrated portable acoustic spectrum analyzers, the DB-Cx shall measure noise levels inside Second-Floor ICU rooms with the cooling towers and chillers operating at maximum capacity, with the CxA witnessing and validating the measurements. It shall be certified that the vibration sensors installed on the roof trigger the required alarm and shutdown sequences, as applicable to the equipment classification and operating condition established under ISO 10816 (or successor standard ISO 20816), in order to prevent structure-borne noise transmission.

System-Specific Minimum Acceptance Criteria and Commissioning Matrix. The minimum acceptance criteria, Functional Performance Testing, Integrated Systems Testing, Reliability Demonstration Period, deliverables, and Critical Deficiency classifications for the Dual-Coil HVAC Climate Control and Containment System are established in the matrix titled "System-Specific Minimum Acceptance Criteria and Commissioning Matrix – Dual-Coil HVAC Climate Control and Containment System" in the System-Specific Matrices part of this Attachment 1, which is incorporated into this Section 4 by reference. The tests described above are in addition to, and do not replace or reduce, the requirements of that matrix; in case of conflict, the more stringent requirement governs, as provided in Section 1.7.

4.3 Hybrid Electrical Infrastructure and Emergency Plant (N+1)

1. **General Blackout Test.** A full shutdown of the 38 kV street supply to the new substation shall be coordinated with LUMA Energy by the Design-Builder to evaluate the hospital's resiliency response.

2. **Generator Contingency and N+1 Redundancy Validation.** During operation of the emergency generator plant under the loading conditions established in the approved Basis of Design (BOD), the DB-Cx shall intentionally remove from service one generator unit that is designated as available redundancy within the N+1 configuration. The CxA shall witness, verify, and validate that the remaining generators automatically maintain synchronization, frequency stability, voltage regulation, and continuous operation of all life-safety, critical-care, and essential electrical loads without interruption, load shedding beyond the approved sequences of operation, or degradation of required system performance. The test shall demonstrate that the emergency power system continues to satisfy the Project's resiliency and redundancy requirements

following the loss of a single generator component and that all alarms, notifications, and supervisory functions operate in accordance with the approved BOD, NFPA 99, NFPA 110, and manufacturer requirements

3. **Microgrid (BESS) and Generator Validation.** The CxA shall witness, verify, and validate that the Battery Energy Storage System (BESS) provides uninterrupted continuity of service to life-safety, critical-care, and essential hospital loads during transfer events, in accordance with manufacturer-certified performance requirements and applicable IEEE, NFPA, and UL standards, without unacceptable voltage or frequency disturbances. The CxA shall further witness, verify, and validate that the emergency generator plant automatically starts, synchronizes, operates in parallel, and assumes the required hospital load in accordance with the approved Basis of Design (BOD), manufacturer requirements, and NFPA 110, while maintaining continuous operation of all critical systems throughout the transfer and recovery sequence.

4. **Fuel Autonomy.** The automated pumping and filtration system from the underground diesel tanks in the exterior service yard to the generators' day tanks shall be physically inspected and functionally validated. The Design-Builder shall demonstrate, through calculations, manufacturer-certified data, fuel storage inventories, and field verification, that the emergency power system possesses sufficient fuel storage, transfer capability, pumping capacity, filtration capacity, and operational reliability to support a minimum of ninety-six (96) continuous hours of operation while serving the design electrical demand, critical loads profile, and loading assumptions established in the approved Basis of Design (BOD). The CxA shall review, verify, and validate the supporting documentation and test results.

5. **BESS Failure and Resiliency Validation.** The DB-Cx shall perform a controlled simulation of the loss of the Battery Energy Storage System (BESS), including, where applicable, the loss of a power conversion system (PCS), inverter, battery string, or other critical BESS component identified in the approved commissioning procedures. The CxA shall witness, verify, and validate that the electrical infrastructure automatically transitions to the alternate emergency power source architecture established in the approved BOD, maintains service continuity to life-safety, critical-care, and essential hospital loads, and preserves required voltage and frequency parameters without unacceptable disturbances. The testing protocol shall demonstrate that no single failure within the BESS architecture results in the loss of required emergency electrical

service, and that all monitoring, alarming, protective, and recovery functions perform in accordance with manufacturer-certified requirements, NFPA 99, NFPA 110, IEEE standards, and the approved resiliency strategy for the facility.

System-Specific Minimum Acceptance Criteria and Commissioning Matrix. The minimum acceptance criteria, Functional Performance Testing, Integrated Systems Testing, Reliability Demonstration Period, deliverables, and Critical Deficiency classifications for the Hybrid Electrical Infrastructure and Emergency Plant are established in the matrix titled "System-Specific Minimum Acceptance Criteria and Commissioning Matrix – Hybrid Electrical Infrastructure, Emergency Power Plant, Microgrid (BESS), and Controls" in the System-Specific Matrices part of this Attachment 1, which is incorporated into this Section 4 by reference. The tests described above are in addition to, and do not replace or reduce, the requirements of that matrix; in case of conflict, the more stringent requirement governs, as provided in Section 1.7.

4.4 Flood Protection, Plumbing, and Life-Safety Systems

1. **Stormwater Surcharge Simulation.** High-pressure water shall be injected into the exterior street drainage lines to certify the automatic, hermetic closure of the stormwater backwater valve at the exterior manhole (Sheet AS-1.1), preventing backflow of runoff into the building.

2. **Basement Flood (Sump Pit) Test.** The basement storm sump pit (Sheet A-1.1) shall be intentionally filled to validate the automatic alternation of the duplex submersible pumps, start-up under emergency power, forced pumping capacity (GPM) discharged to the street, and activation of the critical-level alarm at the BMS and the ICU's 24/7 central annunciator panel.

3. **Fiber-Optic Ring Fire Alarm Interconnection.** Manual pull stations and sprinkler flow sensors in the new trauma tower shall be randomly activated by the DB-Cx. The CxA shall validate that the Fire Alarm Control Panel (FACP) transmits the signal to the ASEM Main Building in under 2 seconds via the Style 7 fiber-optic ring (NFPA 72), triggering closure of fire doors in the connecting corridors and zoned, pre-programmed voice-evacuation messages.

System-Specific Minimum Acceptance Criteria and Commissioning Matrix. The minimum acceptance criteria, Functional Performance Testing, Integrated Systems Testing, Reliability Demonstration Period, deliverables, and Critical Deficiency classifications for the Flood Protection, Plumbing, and Life-Safety Systems are established in the matrix titled "System-Specific Minimum Acceptance Criteria and Commissioning Matrix – Flood Protection, Plumbing,

and Life-Safety Systems" in the System-Specific Matrices part of this Attachment 1, which is incorporated into this Section 4 by reference. The tests described above are in addition to, and do not replace or reduce, the requirements of that matrix; in case of conflict, the more stringent requirement governs, as provided in Section 1.7.

5. System Commissioning: HVAC, Electrical, and Plumbing

The DB-Cx shall commission the systems below, with start-up and testing support from the corresponding Manufacturers / Vendors. The CxA shall witness the tests and validate the resulting documentation.

5.1 HVAC Systems

The Design-Builder shall commission all HVAC systems, including air-handling units, chillers, boilers, VAV boxes, control systems, heat pumps, ventilation systems, and associated components.

HVAC commissioning tasks

- Verification of correct installation, alignment, and anchorage.
- Start-up and testing of mechanical equipment per manufacturer specifications.
- Functional performance testing of cooling, heating, and ventilation modes.
- Calibration and programming of HVAC controls, sensors, and actuators.
- Testing of automation sequences (BAS/EMS), alarms, and interlocks.
- Airflow and waterflow balancing.
- Verification of indoor environmental quality (IEQ) targets.

HVAC documentation

- Pre-functional checklists for each piece of HVAC equipment.
- Air and hydronic balancing reports.
- Controls sequences verification reports.
- Start-up logs and test results.
- Final HVAC Commissioning Report.

5.2 Electrical Systems

The Design-Builder shall commission all electrical systems, including service entrance equipment, switchgear, panels, lighting systems, emergency power systems, UPS devices, grounding systems, and electrical controls.

Electrical commissioning tasks

- Verification of installation: wiring, conduit routing, labeling, and grounding.
- Energization procedures following safety protocols.
- Functional testing of distribution systems and circuits.
- Testing automatic transfer switches (ATS) and generator systems.
- Load testing of critical UPS equipment.
- Verification of lighting controls, sensors, and emergency lighting pathways.
- Infrared thermographic scanning (when required).

Electrical documentation

- Electrical checklists and panel schedules.
- ATS and generator test reports.
- UPS load test certifications.
- Lighting control commissioning results.
- Grounding system verification documentation.
- Final Electrical Commissioning Report.

5.3 Plumbing Systems

The Design-Builder shall commission all plumbing systems, including potable water distribution, sanitary sewer, stormwater drainage, pumps, water heaters, and specialty plumbing systems.

Plumbing commissioning tasks

- Verification of pipe installation, labeling, slopes, supports, and insulation.
- Pressure testing of domestic water systems.
- Testing functionality of valves, pumps, heaters, and fixtures.
- Verification of hot water delivery times and temperature stability.
- Testing sanitary and stormwater systems under flow conditions.
- Inspection of backflow prevention devices and certifications.
- Verification of water conservation features (as applicable).

Plumbing documentation

- Pressure test forms and certifications.
- Hot water system performance logs.
- Pump start-up and function test reports.
- Backflow test certificates.
- Final Plumbing Commissioning Report.

6. Whole-Building Commissioning

Whole-building commissioning ensures that building systems work together as an integrated and efficient whole. This includes coordination among HVAC, electrical, plumbing, fire protection, IT/low-voltage systems, building automation, and life-safety systems. The DB-Cx shall conduct these activities, with Manufacturers / Vendors supporting their systems and the CxA witnessing, reviewing, verifying, and validating the results.

Whole-building commissioning tasks

- Verification of system interoperability across all disciplines.
- Integrated Systems Testing (IST) covering alarms, controls, and sequencing.
- Validation of building automation dashboards, alarms, and trend logs.
- Energy performance verification against established baseline criteria.
- Confirming compliance with sustainability targets (LEED, ASHRAE, etc.).
- Occupancy-readiness testing (lighting, HVAC scheduling, emergency systems).

Whole-building documentation

- Integrated Systems Testing reports.
- Energy performance verification results.
- Building automation system (BAS) configuration logs.
- Comprehensive Whole-Building Commissioning Report summarizing all disciplines.

Full Clinical Operations Simulation Testing (FCOST)

As part of the Whole-Building Integrated Systems Testing Program, the Design-Builder, through the DB-Cx, shall conduct a Full Clinical Operations Simulation Test to demonstrate that all commissioned systems can support simultaneous hospital operations under peak operational demand conditions defined in a simulation plan approved by ASEM. The simulation shall include the simultaneous operation of:

- Operating Rooms (OR);
- Intensive Care Units (ICU);
- Emergency Department;
- Diagnostic Imaging;
- Central Sterile Processing Department (CSPD);
- Pharmacy;
- Laboratory;
- Helipad Operations;
- Medical Gas Systems;

- BAS;
- Emergency Power Systems;
- HVAC Systems; and
- Pneumatic Tube Systems.

The facility shall demonstrate:

- uninterrupted clinical operations;
- uninterrupted environmental control;
- uninterrupted critical power;
- uninterrupted medical gas service;
- uninterrupted BAS functionality;
- uninterrupted communications; and
- uninterrupted life safety functions.

The DB-Cx shall execute the simulation; the CxA shall witness, verify, and validate the results; and ASEM shall accept the results. Failure of any critical infrastructure supporting the above shall constitute a Level 1 Critical Deficiency.

Hurricane Resiliency Validation Program

The Design-Builder, through the DB-Cx, shall successfully complete a Hurricane Resiliency Validation Program for the Trauma Hospital simulating:

- prolonged utility failure;
- island mode operation;
- telecommunications failure;
- partial flooding conditions;
- emergency fuel replenishment activities;
- reduced staffing conditions; and
- simultaneous operation of critical clinical functions.

The facility shall demonstrate continued operation of:

- Emergency Department;
- Operating Rooms;
- ICU;
- Medical Gas Systems;
- BAS;
- Emergency Power Systems;
- Communication Systems; and
- Flood Protection Systems.

The CxA shall witness, verify, and validate the program, and ASEM shall accept the results. Failure shall constitute a Level 1 Critical Deficiency.

7. Commissioning Documentation and Turnover

7.1 Commissioning Documentation

The Design-Builder, through the DB-Cx, shall prepare and submit all commissioning-related documentation, for independent review and recommendation by the CxA and Final Completion by ASEM, including:

- Commissioning plan and schedule.
- Pre-functional checklists and functional performance test forms.
- Start-up reports, testing results, and inspection records.
- Documentation of deficiencies, resolutions, and retesting activities.
- Final Commissioning Report summarizing results, verification procedures, outstanding issues, and recommendations.

7.2 Turnover Documentation (Cx Turnover Package)

As a mandatory condition for execution of the Certificate of Substantial Completion and disbursement of the final retained payment, the Design-Builder shall deliver to ASEM three (3) hard copies in binders and an indexed digital file containing:

1. A complete field test log bearing original signatures and seals of the CxA, the inspecting engineers, and the authorized manufacturers' representatives (Bionuclear, Swisslog, etc.).

2. Current calibration certifications for all temperature, humidity, medical gas pressure, and vibration accelerometer sensors.

3. Customized Operation and Maintenance (O&M) manuals for the interconnection of both buildings, including BMS logic diagrams and contingency guides for automation-loop failures.

4. A Deficiency Closure Certification certifying actual closure of each deficiency, verifiable evidence, successful retesting, and no recurrence of deficiencies.

5. A Digital Twin of Commissioning, including trends, sequences, alarms, operating models, system relationships, and integrated system responses, in a format and level of detail approved by ASEM.

6. An Executive Acceptance Dashboard, including requirements satisfied, open requirements, risk items, acceptance restrictions, contingency items, and unresolved actions.

7. A Warranty Readiness Report, including warranty commencement date, warranty coverage, responsible entities, warranty exclusions, response times, and escalation procedures.

8. A sealed certification by the Engineer of Record (EOR) confirming the quantitative acceptance criteria, in accordance with Section 7.4.

7.3 Commissioning Traceability and Acceptance Register (CTAR)

The Design-Builder, through the DB-Cx, shall develop, maintain, update, and submit a Commissioning Traceability and Acceptance Register (CTAR) demonstrating complete traceability of every Owner's Project Requirement (OPR) through design, construction, testing, acceptance, and final turnover. The CTAR shall include, at minimum:

- OPR Requirement Identifier;
- Basis of Design Reference;
- Approved Design Reference;
- Approved Shop Drawings;
- Approved Submittals;
- Construction Verification;
- Pre-Functional Checklist Verification;
- Functional Performance Test (FPT) Reference;
- Integrated Systems Test (IST) Reference;
- Supporting Evidence;
- Test Result;
- Deficiency Identification Number;
- Acceptance Criterion;
- Verification by Owner's CxA;
- ASEM Acceptance Status; and
- Final Completion Date.

The Owner's CxA shall independently review, verify, and validate the CTAR entries. No system shall be eligible for Substantial Completion, Beneficial Occupancy, or Final Completion unless all requirements identified in the CTAR are demonstrated as fully compliant and accepted by ASEM.

7.4 Engineering Validation of Quantitative Acceptance Criteria

The quantitative performance criteria identified within this Section XII and the System-Specific Minimum Acceptance Criteria and Commissioning Matrices are intended to establish minimum commissioning and validation objectives. Prior to Final Completion, the Design-Builder shall

submit to ASEM and the Owner's CxA a sealed certification by the Engineer of Record (EOR) confirming that all specified acceptance thresholds, operating tolerances, response times, performance metrics, and reliability criteria are consistent with the approved Basis of Design (BOD), manufacturer-certified requirements, applicable codes and standards, and the final design documents. Where the EOR determines that an identified criterion is inconsistent with the approved design basis or applicable standards, the EOR shall recommend a revised criterion for review and approval by ASEM. In all cases, the more stringent requirement established by the Contract Documents, approved BOD, applicable codes, or manufacturer requirements shall govern.

Any numerical value identified herein shall be deemed a preliminary commissioning criterion unless expressly established in the approved Basis of Design. Prior to execution of Functional Performance Testing and Integrated Systems Testing, all quantitative acceptance thresholds shall be reviewed and certified by the Engineer of Record and approved by ASEM.

8. Communication, Scheduling, and Deficiency Management

8.1 The Design-Builder shall ensure ongoing communication with all stakeholders throughout the commissioning phase. This includes scheduling tests, facilitating inspections, coordinating access to systems, and providing advance notice of required participation by ASEM or the design team.

8.2 The Design-Builder shall:

- Coordinate scheduling with all involved trades and Manufacturers / Vendors.
- Provide advance notice for tests requiring ASEM or design team presence.
- Maintain continuous communication on deficiencies, retesting, and results.
- Ensure safe conditions during all testing activities.

8.3 Acceptance Criteria Matrix

Acceptance, review, observation, validation, recommendation, testing witness, deficiency review, or approval of commissioning activities by the Owner's Independent Commissioning Authority shall not relieve the Design-Builder of responsibility for design compliance, construction quality, system performance, integration, reliability, maintainability, resiliency, life-safety compliance, warranty obligations, or achievement of the Owner's Project Requirements (OPR). ASEM retains sole authority

to grant Substantial Completion and Final Completion.

The following matrix establishes the minimum acceptance criteria required for progression between commissioning phases and for issuance of Substantial Completion and Final Completion.

1. Phase 1 – Planning & Design Acceptance Criteria

Deliverable	Acceptance Criteria	Acceptance Authority	Verification Authority
Owner's Project Requirements (OPR)	OPR completed, reviewed and formally approved by ASEM	ASEM	Owner's CxA
Basis of Design (BOD)	Demonstrates compliance with OPR and Project performance requirements	ASEM	Owner's CxA
Design Narratives	Complete and coordinated for all commissioned systems	Design-Builder	Owner's CxA
Sequences of Operation	Developed for all commissioned systems and integrated systems	Design-Builder	Owner's CxA
Commissioning Plan	Complete and approved for implementation	Design-Builder	Owner's CxA
Commissioning Specifications	Incorporated into Contract Documents	Design-Builder	Owner's CxA
Design Reviews	All review comments	Design-Builder	Owner's CxA

	resolved or addressed		
Resiliency Requirements	Incorporated into design documents and BOD	ASEM	Owner's CxA

Phase Exit Criteria

- OPR approved.
- BOD accepted.
- Commissioning Plan approved.
- Design review comments resolved.

2. Phase 2 - Equipment Procurement & Factory Testing Acceptance Criteria

Deliverable	Acceptance Criteria	Acceptance Authority	Verification Authority
Equipment Submittals	Approved and compliant with Contract Documents	Design-Builder	Owner's CxA
Factory Acceptance Test (FAT) Procedures	Approved prior to testing	Design-Builder	Owner's CxA
FAT Execution	Successful completion of all required FATs	Design-Builder	Owner's CxA
FAT Reports	Submitted and accepted	Design-Builder	Owner's CxA
Startup Procedures	Submitted and accepted	Design-Builder	Owner's CxA
PFC Templates	Completed and approved	Design-Builder	Owner's CxA

Commissioning Documentation	Updated and complete	Design-Builder	Owner's CxA

Phase Exit Criteria

- FAT successfully completed.
- FAT deficiencies resolved.
- Startup procedures completed.
- Equipment released for installation.

3. Phase 3 - Construction, Start-Up, Functional Testing & Integrated Systems Testing

Deliverable	Acceptance Criteria	Acceptance Authority	Verification Authority
Installation Verification	Equipment installed in accordance with Contract Documents	Design-Builder	Owner's CxA
Pre-Functional Checklists (PFCs)	100% completed and signed	Design-Builder	Owner's CxA
TAB Reports	Accepted and within specified tolerances	Design-Builder	Owner's CxA
Startup Reports	All equipment successfully started	Design-Builder	Owner's CxA
Functional Performance Tests (FPTs)	Successful completion with no unresolved	Design-Builder	wner's CxA

	critical deficiencies		
Integrated Systems Tests (ISTs)	Successful completion of all scenarios	Design-Builder	Owner's CxA
BAS Integration Testing	Successful interoperability verification	Design-Builder	Owner's CxA
Emergency Power Testing	Successful operation under loss-of-power scenarios	Design-Builder	Owner's CxA
Medical Gas Testing	Compliance with applicable standards and performance criteria	Design-Builder	Owner's CxA
Life Safety Systems Testing	Successful operation under emergency conditions	Design-Builder	Owner's CxA

Phase Exit Criteria

- No unresolved life-safety deficiencies.
- No unresolved critical operational deficiencies.
- Successful completion of IST scenarios.
- Systems demonstrate compliance with OPR and BOD.

4. Phase 4 - Training & Documentation Acceptance Criteria

Deliverable	Acceptance Criteria	Acceptance Authority	Verification Authority

Training Program	Completed per approved Training Plan	Design-Builder	Owner's CxA
Operations Training	Attendance and competency records provided	Design-Builder	Owner's CxA
Maintenance Training	Attendance and competency records provided	Design-Builder	Owner's CxA
O&M Manuals	Complete and project-specific	Design-Builder	Owner's CxA
Preventive Maintenance Procedures	Submitted and accepted	Design-Builder	wner's CxA
Warranty Documentation	Complete and accurate	Design-Builder	Owner's CxA
Spare Parts Lists	Submitted and verified	Design-Builder	Owner's CxA
As-Built Drawings	Complete and updated	Design-Builder	Owner's CxA

Phase Exit Criteria

- Training completed.
- O&M manuals accepted.
- As-built drawings submitted.
- Warranty documentation accepted.

5. Phase 5 – Substantial Completion Acceptance Criteria

Deliverable	Acceptance Criteria	Acceptance Authority	Verification Authority

Occupancy Readiness Assessment	Facility suitable for intended occupancy	ASEM	Owner's CxA
Functional Testing Completion	100% complete	ASEM	Owner's CxA
Integrated Systems Testing Completion	100% complete	ASEM	Owner's CxA
Deficiency Log	No unresolved critical deficiencies	ASEM	Owner's CxA
Training Completion	Verified	ASEM	wner's CxA
Turnover Documents	Submitted and accepted	ASEM	Owner's CxA
Life Safety Certification	Systems operational and compliant	ASEM	Owner's CxA
Emergency Systems Readiness	Demonstrated	ASEM	Owner's CxA

Substantial Completion Criteria

Substantial Completion may be recommended only when:

- All commissioned systems are operational.
- All Functional Performance Testing and Integrated Systems Testing has been completed, verified by the CxA and accepted by ASEM. Only the deferred tests expressly approved in writing by ASEM may be performed after Substantial Completion, and they shall be completed before Final Completion.
- No unresolved deficiencies affecting life safety.
- No unresolved deficiencies affecting hospital operations.

- Owner training, the operation and maintenance manuals, preliminary as-built documents, the warranties and service agreements, and the spare parts and attic stock have been delivered and accepted (RFP Section 7.2, as amended).
- Temporary systems have been removed unless specifically approved.
- Functional Operation of the entire Project has been achieved (RFP Section 1.0, Item 37, and Section 7.2, as amended).
- Owner's CxA issues a recommendation for Substantial Completion.

Authority

- ASEM retains sole authority to declare Substantial Completion.
- Owner's CxA may only recommend Substantial Completion.

ASEM reserves the right, in its sole discretion, to deny Substantial Completion notwithstanding satisfaction of the minimum requirements identified herein whenever ASEM determines that operational readiness, patient safety, regulatory compliance, resiliency objectives, system integration requirements, emergency preparedness, or continuity-of-operations requirements have not been adequately demonstrated.

Notwithstanding any recommendation issued by the Owner's Independent Commissioning Authority, ASEM reserves the unrestricted right to reject, suspend, defer, condition, or withhold any recommendation for Beneficial Occupancy, Substantial Completion, Final Completion, payment release, retainage release, or milestone approval whenever ASEM determines that any commissioned system fails to satisfy the operational, clinical, resiliency, reliability, patient-safety, emergency preparedness, business continuity, or risk management objectives of the Hospital.

6. Phase 6 - Final Completion Criteria

Deliverable	Acceptance Criteria	Acceptance Authority	Verification Authority
Punch List	100% complete	ASEM	Owner's CxA
Commissioning Deficiencies	Closed or approved by ASEM	ASEM	Owner's CxA
Deferred Testing	Successfully completed	ASEM	Owner's CxA

Final Commissioning Report	Submitted and accepted	ASEM	wner's CxA
Regulatory Approvals	Obtained and current	ASEM	Owner's CxA
Warranty Deliverables	Warranties submitted before Substantial Completion; final compiled warranty documentation accepted	ASEM	Owner's CxA
Final Closeout Package	Complete	ASEM	Owner's CxA
Spare Parts and Special Tools	Delivered and accepted before Substantial Completion (RFP Section 7.2, as amended)	ASEM	Owner's CxA

Final Completion Criteria

Final Completion shall not be granted until:

- All Contract requirements have been satisfied.
- All commissioning activities have been completed.
- All deficiency logs have been closed.
- All punch list items have been completed.
- Final Commissioning Report has been accepted.
- The Reliability Demonstration Period has been successfully completed for every system, and the final record drawings, record BIM models and final operation and maintenance manuals have been accepted (RFP Section 7.2, as amended).
- All training and documentation requirements have been accepted.
- Regulatory approvals and certifications remain in effect.
- Warranty turnover activities have been completed.

8.4 Matrix Responsibility for Deficiency Resolution

Activity	Owner	Design-Builder	DB-Cx	Owner's CxA	Manufacturers / Vendors
Identify Deficiency	C	R	R	R	C
Issue Deficiency Notice	A	I	I	R	I
Issue Non-Conformance Notice	A	I	I	R	I
Deficiency Log Creation	I	A	R	V	I
Deficiency Log Maintenance	I	A	R	V	I
Deficiency Classification (Critical, Major, Minor)	C	A	R	V	C
Root Cause Investigation	I	A/R	C	V	R
Determine Corrective Action	I	A/R	C	V	C
Prepare Corrective Action Plan	I	A/R	C	V	C
Review Corrective Action Plan	A	C	C	R	I
Implement Corrective Action	I	A/R	I	V	R
Troubleshooting Activities	I	A/R	I	V	R
Controls Reprogramming	I	A/R	I	V	R
Equipment Repair	I	A/R	I	V	R
Equipment Replacement	I	A/R	I	V	R
System Reconfiguration	I	A/R	I	V	C
Retesting Following Corrections	I	A	R	V/W	R

Verification of Deficiency Resolution	A	C	C	R	C
Validation of Contract Compliance	A	C	C	R	I
Deficiency Closure Recommendation	I	I	I	R	I
Deficiency Closure Authorization	A/R	C	I	V	I
Escalation of Unresolved Deficiencies	A	R	R	C	C
Acceptance of Outstanding Deficiencies (if permitted)	A/R	I	I	V	I

Deficiency Closure means the formal administrative closure of a deficiency after:

(1) completion of all corrective actions;

(2) successful completion of all required retesting;

(3) verification and validation by the Owner's Independent Commissioning Authority;

(4) recommendation for closure by the Owner's Independent Commissioning Authority; and

(5) formal acceptance and closure approval by ASEM.

8.5 Deficiency Classification Matrix

vel	Classification	Description
Level 1	Critical	Deficiency affecting life safety, patient care, regulatory compliance, hospital operations, emergency systems, medical gas systems, fire protection systems, emergency power systems, security systems, or critical resiliency functions.
Level 2	Major	Deficiency affects functionality, reliability, redundancy, maintainability, interoperability, or achievement of the OPR without creating an immediate life-safety condition.

Level 3	Minor	eficiency with limited operational impact that does not affect safety, code compliance, occupancy, critical operations, or system performance.
Level 4	Observation	Non-conformance, documentation issue, housekeeping item, or recommendation for improvement or condition that does not constitute a contractual breach.

8.6 Response and Resolution Timeframes

Requirement	Critical	Major	Minor	Observations
Initial Acknowledgment	Within 4 hours	Within 1 Calendar Day	Within 3 Calendar Days	Within 7 Calendar Days
Root Cause Investigation Initiated	Within 24 hours	Within 3 Calendar Days	Within 7 Calendar Days	As Required
Corrective Action Plan Submission	Within 2 Calendar Days	Within 7 Calendar Days	Within 14 Calendar Days	As Required
Owner Review of Corrective Action Plan	Within 2 Calendar Days	Within 7 Calendar Days	Within 14 Calendar Days	As Required
Commencement of Corrective Action	Immediately upon approval	Within 7 Calendar Days	Within 14 Calendar Days	As Required
Required Physical Correction	Within 7 Calendar Days	Within 30 Calendar Days	Within 60 Calendar Days	Prior to Final Completion
Retesting Following Correction	Within 3 Calendar Days	Within 14 Calendar Days	Within 21 Calendar Days	Not Typically Required
Verification by CxA	Within 3 Calendar Days	Within 14 Calendar Days	Prior to Closure	Prior to Closure
Closure Approval by ASEM	Following Verification	Following Verification	Following Verification	Following Verification

Enhanced Requirements for Critical Systems

For the following systems, any deficiency shall automatically be classified as **Critical**

unless otherwise approved by ASEM:

- Emergency generators.
- Automatic transfer switches.
- Emergency power distribution.
- Medical gas systems.
- Fire alarm systems.
- Fire suppression systems.
- Smoke control systems.
- Emergency communications systems.
- BAS functions affecting patient care areas.
- Domestic water systems supporting clinical operation.
- Security and access control systems protecting critical areas.
- Nurse call systems.
- Data center infrastructure.
- Resiliency systems required for continuity of operations.

Any deficiency affecting interoperability between the Trauma Hospital and the existing ASEM Main Building shall automatically be classified as at least a Major Deficiency and may be elevated by ASEM to a Critical Deficiency whenever patient care, life safety, clinical operations, emergency response, communications, data exchange, medical logistics, medical gases, BAS integration, fire protection, or power resiliency are impacted.

8.7 Critical Deficiency Escalation Matrix

Elapsed Time Without Resolution	Required Action
24 Hours	Executive notification to Design-Builder Project Executive and ASEM.
72 Hours	Executive recovery meeting.
7 Days	Written recovery plan and resource augmentation.
14 Days	Formal corrective action review by ASEM.
30 Days	ASEM may pursue contractual remedies.

8.8 Failure of Functional Performance Tests (FPT)

Requirement	Timeframe
Failure Notification	Same Day
Root Cause Analysis	Within 48 Hours
Corrective Action Plan	Within 2 Calendar Days

Corrective Implementation	Within 7 Calendar Days
Re-Testing	Within 3 Calendar Days after correction

Any failed FPT shall remain open until:

- Root cause is identified.
- Corrective measures are implemented.
- Re-testing is completed.
- Results are verified by the Owner's CxA.
- Closure is approved by ASEM.

8.9 Failure of Integrated Systems Testing (IST)

Requirement	Timeframe
Failure Notification	Immediately
Root Cause Analysis	Within 24 Hours
Corrective Action Plan Corrective Measures Implemented	Within 2 Calendar Days Within 7 Calendar Days
Full Scenario Re-Test	Within 3 Calendar Days following correction
CxA Verification	Within 3 Calendar Days

Any failed IST affecting:

- Life safety,
- Emergency operations,
- Medical gas,
- Power resiliency,
- Fire protection,
- Security,
- Communications,

shall automatically prevent recommendation of Substantial Completion.

8.10 Deficiency Classification, Administration, and Closure Authority

Deficiencies identified during commissioning shall be classified as Critical, Major, Minor, or Observation. The DB-Cx shall maintain and administer the Commissioning Deficiency Log throughout the Project. The Design-Builder shall investigate, correct, document, and retest all deficiencies at its sole cost and expense. The CxA shall issue Deficiency Notices and Non-Conformance Notices, independently review deficiency classifications, verify corrective actions, validate resolution status, and recommend deficiency closure. Final authority to accept and close deficiencies shall remain solely with ASEM.

Notices Issued by the CxA. Deficiency Notices and Non-Conformance Notices are issued by the CxA on behalf of ASEM and shall have the same contractual effect as if issued by ASEM. Each notice shall be delivered in writing, simultaneously, to the DB-Cx and to the Design-Builder's Project Director, with a copy to ASEM, and the response and resolution timeframes in Section 8.6 shall begin to run on the date of delivery. The Design-Builder may dispute the classification of a deficiency or the content of a notice only by written submission to ASEM within three (3) calendar days after receipt (one (1) calendar day for a Level 1 Critical Deficiency). ASEM's determination shall be binding on the Design-Builder for purposes of the commissioning process, without prejudice to the dispute resolution procedures of the Design-Build Agreement. No dispute shall suspend or extend any timeframe, or relieve the Design-Builder from continuing the corrective work, unless ASEM expressly agrees in writing.

The existence of any unresolved Critical Deficiency shall automatically preclude recommendation or approval of Substantial Completion and Final Completion. Major Deficiencies may preclude Substantial Completion or Final Completion if determined by ASEM to materially affect safety, operations, performance, resiliency, reliability, maintainability, or regulatory compliance. Minor Deficiencies may be incorporated into an approved Punch List at ASEM's discretion.

8.11 Escalation Procedure

i. Step 1 – Deficiency Notice

The CxA shall issue a Deficiency Notice on behalf of ASEM identifying:

- Deficiency reference number.
- System affected.
- Deficiency classification.
- Description of the deficiency and the requirement not met.
- Required response date.
- Required correction date.

The deficiency shall be entered into the Commissioning Deficiency Log. The Design-Builder shall determine the corrective measure, in consultation with the DB-Cx, and shall execute the correction; ASEM shall approve the resolution of the deficiency.

ii. Step 2 – Non-Conformance Notice (NCN)

If the Design-Builder fails to:

- respond within the required timeframe;
- provide an acceptable corrective action plan; or
- complete corrective actions within the prescribed period,

The CxA may issue a Non-Conformance Notice on behalf of ASEM. Required actions:

- Executive-level meeting.
- Recovery plan.
- Updated corrective schedule.
- Identification of responsible parties.

iii. Step 3 – Cure Notice

ASEM may issue a Cure Notice when:

- Level 1 Deficiency remains unresolved;
- repeated failures occur on the same system;
- testing repeatedly fails; or
- the Design-Builder fails to comply with a Non-Conformance Notice.

The Cure Notice shall establish:

- Specific corrective actions.
- Required completion date.
- Additional reporting obligations.
- Potential contractual consequences.

iv. Step 4 – Executive Escalation

The matter shall be elevated to senior management when:

- Level 1 Deficiency exceeds 7 calendar days.
- Level 2 Deficiency exceeds 30 calendar days.
- Three or more failed retests occur.
- Deficiencies affect critical-path activities.
- Hospital operational readiness is jeopardized.

8.12 Payment Withholding

Any payment, retainage, milestone payment, or other amount withheld by ASEM pursuant to the Contract may be released, in whole or in part, upon the Design-Builder's demonstration that the condition giving rise to the withholding has been satisfactorily resolved.

As a condition precedent to the release of withheld amounts, the Design-Builder shall: (i) complete all required corrective actions; (ii) submit satisfactory evidence that the deficiency, non-conforming Work, or outstanding obligation has been resolved; (iii) successfully complete all required retesting, reinspection, recommissioning, or validation activities; and (iv) obtain verification from the Owner's Independent Commissioning Authority (CxA), when applicable, that the corrective measures have been successfully implemented.

ASEM reserves the right to withhold payments, milestone approvals, retainage release, Substantial Completion, Beneficial Occupancy, Final Completion, and any other compensation otherwise due under the Contract Documents whenever commissioning activities, deficiency resolution requirements, Reliability Demonstration Period requirements, testing obligations, documentation requirements, or acceptance requirements remain incomplete or unsatisfactory. The percentage of retainage associated with commissioning-dependent systems shall be established in the Design-Build Agreement or other Contract Documents.

Following receipt of the required documentation, ASEM shall review the submitted information and determine whether the basis for withholding has been removed. If ASEM determines that the applicable requirements have been satisfied, ASEM may authorize the release of all or a portion of the withheld amount corresponding to the corrected Work.

The release of any withheld payment shall not constitute acceptance of defective Work, waiver of any Contract requirement, approval of unresolved deficiencies, or limitation of ASEM's rights and remedies under the Contract. ASEM may continue to withhold amounts reasonably necessary to protect its interests until all remaining deficiencies, corrective actions, testing requirements, commissioning requirements, closeout obligations, and acceptance criteria have been fully satisfied.

ASEM may authorize the partial release of withheld amounts when specific deficiencies or non-conforming Work items have been fully

corrected and verified, provided that sufficient funds remain withheld to protect ASEM from the cost, risk, or impact associated with any remaining unresolved deficiencies or outstanding Contract obligations.

8.13 Cost Responsibility Matrix

The Design-Builder shall retain sole contractual responsibility for the identification, investigation, correction, documentation, retesting, and resolution of all deficiencies necessary to achieve compliance with the Contract Documents, Basis of Design (BOD), Owner's Project Requirements (OPR), and Project acceptance criteria. Neither the participation of the Owner's Independent Commissioning Authority, nor any review, observation, validation, recommendation, or acceptance-related activity performed by the CxA, shall transfer responsibility for deficiency resolution from the Design-Builder to ASEM. A deficiency shall not be considered closed until verified by the Owner's CxA and formally accepted by ASEM. The Design-Builder shall determine the corrective measure for each deficiency in consultation with the DB-Cx and shall execute the correction.

Cause of Deficiency	Cost Responsibility
Design error or omission	Design-Builder
Construction deficiency	Design-Builder
Improper installation	Design-Builder
Improper startup	Design-Builder
Failed Functional Performance Test	Design-Builder
Failed Integrated Systems Test	Design-Builder
Incomplete training	Design-Builder
Incomplete documentation	Design-Builder
Controls programming error	Design-Builder
Controls integration failure	Design-Builder
TAB deficiency	Design-Builder
Manufacturer equipment defect	Design-Builder*
Vendor configuration error	Design-Builder*
Warranty-related equipment failure prior to Acceptance	Design-Builder*

Failure caused by Owner operation after turnover	ASEM
Damage caused by Owner personnel	ASEM

* The Design-Builder remains contractually responsible to ASEM and shall pursue recovery from the manufacturer, vendor, supplier, or subcontractor without entitlement to additional compensation from ASEM.

1. ASEM shall maintain oversight authority regarding deficiency resolution and retain exclusive authority to:

    - Accept or reject proposed corrective actions.
    - Determine the impact of deficiencies on Substantial Completion.
    - Determine the impact of deficiencies on Final Completion.
    - Direct escalation of unresolved deficiencies.
    - Approve any exception allowing deficiencies to remain open.
    - Authorize formal closure of deficiencies.

    ASEM shall not be responsible for investigating, correcting, troubleshooting, repairing, replacing, or retesting deficient work.

2. The DB-Cx shall manage the deficiency resolution process on behalf of the Design-Builder by:

    - Maintaining the Deficiency Log.
    - Advising the Design-Builder, when consulted, on the corrective measure required to resolve each deficiency.
    - Tracking corrective actions.
    - Monitoring resolution status.
    - Coordinating retesting activities.
    - Documenting closure evidence.
    - Coordinating communications among stakeholders.
    - Preparing periodic deficiency status reports.

    The DB-Cx shall not have authority to unilaterally close deficiencies.

3. The Owner's CxA shall perform independent verification and validation activities associated with deficiency management.

The CxA shall:

- Review deficiencies.
- Validate classification.
- Review corrective action plans.
- Witness retesting activities.
- Verify successful corrective actions.
- Recommend closure.
- Issue Deficiency Notices and Non-Conformance Notices.
- Issue deficiency status reports to ASEM.
- Advise ASEM regarding acceptance implications.

The CxA shall not perform repairs, troubleshooting, programming, balancing, commissioning execution, or corrective work.

4. Manufacturers and vendors shall support deficiency resolution activities involving their equipment, systems, software, controls, or services.

   Responsibilities include:

   - Technical troubleshooting.
   - Warranty support.
   - Equipment repairs.
   - Firmware updates.
   - Software patches.
   - Factory-authorized corrections.
   - Equipment replacement where necessary.
   - Participation in retesting efforts.

8.14 Deficiency Management and Resolution

The Design-Builder's Commissioning Manager ("DB-Cx") shall maintain and administer the Commissioning Deficiency Log throughout the Project and shall be responsible for documenting, tracking, updating, and reporting the status of all commissioning-related deficiencies. The Owner's Independent Commissioning Authority ("CxA") shall independently review deficiency classifications, verify corrective actions, validate resolution status, and recommend closure of deficiency items to ASEM. Final authority for acceptance and closure of deficiencies shall remain solely with ASEM.

Upon identification of a deficiency, the Design-Builder shall promptly investigate the condition, determine the root cause, identify the corrective measure in consultation with the DB-Cx, prepare and implement a corrective action plan, and complete all corrective measures within the timeframes established in the Contract Documents. The Design-Builder shall bear sole responsibility for all costs associated with deficiency investigation, corrective actions, troubleshooting, repairs, replacement of defective equipment, reprogramming, balancing, recommissioning, retesting, reinspection, additional commissioning activities, schedule impacts, and any other work necessary to achieve compliance with the Contract Documents, Owner's Project Requirements (OPR), Basis of Design (BOD), and Project acceptance criteria.

The Design-Builder shall remain contractually responsible for deficiencies arising from the acts, omissions, errors, failures, defective workmanship, defective materials, equipment malfunctions, software deficiencies, controls integration issues, or performance failures of its subcontractors, suppliers, vendors, manufacturers, commissioning personnel, or other lower-tier entities.

The existence of any unresolved **Critical Deficiency**, including deficiencies affecting life safety, regulatory compliance, emergency power systems, fire protection systems, medical gas systems, security systems, critical infrastructure, hospital operational continuity, or other mission-critical functions, shall automatically preclude recommendation of Substantial Completion and shall constitute grounds for withholding Substantial Completion, Beneficial Occupancy, Final Completion, payment, or release of retainage.

Major deficiencies that materially affect system performance, reliability, interoperability, maintainability, resiliency, or achievement of the OPR shall be resolved unless ASEM expressly authorizes an exception in writing. Minor deficiencies may be incorporated into an approved Punch List at ASEM's discretion but shall be corrected prior to Final Completion unless otherwise approved by ASEM.

Neither review, observation, testing, validation, recommendation, deficiency identification, deficiency closure recommendation, nor any other action performed by the Owner's Independent CxA shall relieve the Design-Builder of responsibility for design adequacy, construction quality, system performance, integration, code compliance, warranty obligations, latent defects, or compliance with the Contract Documents.

A deficiency shall not be considered closed until: (i) the corrective action has been completed; (ii) all required retesting has been successfully performed; (iii) the Owner's Independent CxA has verified the effectiveness of the corrective action and recommended closure; and (iv) ASEM has formally accepted the closure of the deficiency.

ASEM reserves the right to withhold Substantial Completion, Beneficial Occupancy, Final Completion, progress payments, final payment, or release of retainage until all applicable commissioning requirements, deficiency resolution requirements, testing requirements, documentation requirements, and acceptance criteria have been satisfied.

8.15 Commissioning as a Material Obligation and Condition Precedent to Acceptance

The Design-Builder acknowledges that commissioning constitutes a material obligation under the Contract and that satisfaction of all applicable commissioning requirements, testing requirements, documentation requirements, performance criteria, and acceptance criteria is a condition precedent to Substantial Completion and Final Completion.

The Design-Builder shall be solely responsible for all costs arising from deficiencies, failed tests, retesting, reinspection, recommissioning, corrective actions, manufacturer or vendor remobilization, additional commissioning services, schedule recovery efforts, and any other measures required to achieve compliance with the Contract Documents, the Owner's Project Requirements (OPR), and the Basis of Design (BOD).

Failure to satisfy such requirements may result in the withholding of progress payments, milestone payments, final payment, retainage, milestone approvals, Substantial Completion, Beneficial Occupancy, or Final Completion, in accordance with the Contract Documents.

Nothing in the commissioning process, including any review, observation, verification, validation, recommendation, or deficiency closure recommendation issued by the Owner's Independent Commissioning Authority (CxA), nor any milestone approval, payment, release of retainage, Substantial Completion, Beneficial Occupancy, or Final Completion, shall relieve the Design-Builder of responsibility for latent defects, warranty obligations, code compliance, design deficiencies, construction deficiencies, system performance, or any other obligation arising under the Contract Documents.

8.16 Costs of Additional CxA Services

ASEM's agreement with the CxA includes the CxA's services for the initial review of each submission, the witnessing of the initial execution of each test, and one retest of each failed test. The Design-Builder shall reimburse ASEM for the cost of all other CxA services caused by the Design-Builder, calculated at the rates and expenses payable by ASEM under its agreement with the CxA, including services arising from: (i) the second and each subsequent retest of the same test; (ii) tests canceled, postponed, or not conducted because the prerequisites or notice periods in Section 3.5 were not met; (iii) the review of any submission after its second resubmittal; (iv) the extension of CxA services as a result of delays to the Commissioning schedule attributable to the Design-Builder; and (v) additional witnessing, verification, or validation required by repeated failures or by an executive escalation under Section 8.11.

ASEM may deduct the amounts due under this Section from any payment or retainage otherwise payable to the Design-Builder, upon written notice supported by the CxA's invoices or time records. The Design-Builder shall not recover these amounts from ASEM or include them in any claim. This Section does not limit the other rights and remedies of ASEM under the Contract Documents, including the Independent Validation Rights provisions of the System-Specific Matrices.

9. Completion and Final Completion

a. Substantial Completion Threshold

Deficiency Type	Permitted
Critical	No
Major affecting operations	No
Major affecting life safety	No
Regulatory deficiencies	No
Minor deficiencies	Limited Punch List only
Cosmetic deficiencies	Yes, subject to ASEM approval

b. Final Completion Threshold

At the time of Final Completion:

Deficiency Type	Permitted
Critical	No
Major	No
Minor	No
Observation	No unresolved observations affecting contract compliance

Commissioning shall not be considered complete until:

- All Functional Performance Tests (FPT) have been successfully completed.
- All Integrated Systems Tests (IST) have been successfully completed.
- All Critical and Major Deficiencies have been corrected, retested, verified by the CxA, and accepted by ASEM.
- Any remaining Minor Deficiencies have been incorporated into an approved Punch List.
- All commissioning, training, turnover, closeout, and acceptance documentation has been submitted, reviewed, and accepted.
- All commissioned systems have demonstrated compliance with the Owner's Project Requirements (OPR), Basis of Design (BOD), Contract Documents, and Project acceptance criteria.
- The CxA has submitted its recommendation regarding Substantial Completion and Final Completion.
- ASEM has determined that all applicable acceptance criteria have been satisfied.

Nothing in the commissioning process, including any review, observation, verification, validation, recommendation, deficiency closure recommendation, or acceptance recommendation issued by the CxA, nor any payment, release of retainage, milestone approval, Beneficial Occupancy, Substantial Completion, or Final Completion, shall relieve the Design-Builder of responsibility for design adequacy, construction quality, system performance, system integration, latent defects, warranty obligations, code compliance, or any other obligation arising under the Contract Documents.

Final Completion shall remain the sole prerogative of ASEM. The CxA may

recommend Substantial Completion and Final Completion; however, the authority to approve Substantial Completion, Beneficial Occupancy, Final Completion, deficiency closure, payment release, and retainage release shall remain solely with ASEM.

SYSTEM-SPECIFIC MINIMUM ACCEPTANCE CRITERIA AND COMMISSIONING MATRIX

Building Automation System (BAS), Integrated Controls, Monitoring, and Hospital Systems Integration Platform

1. General Requirements

The Design-Builder shall demonstrate through Commissioning, Functional Performance Testing (FPT), Integrated Systems Testing (IST), fault-tolerance testing, resiliency testing, interoperability validation, network performance testing, environmental testing, alarm validation, cybersecurity verification, and operational readiness testing that the Building Automation System (BAS) performs in accordance with the Contract Documents, Owner's Project Requirements (OPR), Basis of Design (BOD), sequences of operation, manufacturer-certified requirements, applicable codes and standards, and hospital operational requirements.

The BAS commissioning process shall verify:

- Monitoring functionality.
- Supervisory control capability.
- Alarm generation and notification.
- Trend logging and data retention.
- Integration with HVAC systems.
- Integration with Electrical Systems.
- Integration with Emergency Power Systems.
- Integration with Medical Gas Systems.
- Integration with Fire Alarm Systems.
- Integration with Pneumatic Tube Systems.
- Integration with Life Safety Systems.
- Chilled-water failure response.
- Environmental monitoring.
- Network resiliency.
- Server redundancy.
- Cybersecurity and access controls.
- Reliability under fault conditions.
- Recovery following failures.

- Continuous operation during emergency scenarios.

Failure of any Critical Acceptance Criterion identified herein shall constitute a Level 1 Critical Deficiency.

The Owner's Independent Commissioning Authority (CxA) shall witness, verify, and validate all testing activities. Final Completion authority shall remain solely with ASEM.

All commissioning administration, deficiency management, corrective actions, recommissioning, retesting, payment withholding, Substantial Completion, Beneficial Occupancy, Final Completion, warranty obligations, and Design-Builder responsibilities established within the Project Commissioning Specification are incorporated herein by reference. Deficiency Notices and Non-Conformance Notices shall be issued by the Owner's CxA. The Design-Builder shall determine the corrective measure, in consultation with the DB-Cx, and shall execute the correction. ASEM shall approve the resolution of each deficiency.

2. Minimum Acceptance Criteria Matrix

Commissioning Activity	Minimum Acceptance Criteria	Classification
BAS Network Validation	100% communication integrity across all controllers, servers and workstations	Critical
Point-to-Point Verification	100% successful verification of monitored and controlled points	Critical
Sequence of Operations Testing	100% execution of approved control sequences	Critical
Alarm and Notification Testing	100% successful generation, transmission, annunciation, and acknowledgement	Critical
Trend Logging Validation	Continuous collection and retention of required data	Major
HVAC Integration Validation	Full BAS control and monitoring functionality	Critical
Medical Gas Integration Validation	Successful monitoring, alarming and trending	Critical
Electrical System Integration	Successful monitoring and alarming of critical electrical infrastructure	Critical

Generator and ATS Integration	Full supervisory functionality and event logging	Critical
Hygrothermal Stress Testing	Environmental monitoring and controls remain fully operational	Critical
Chilled-Water Failure Simulation	Successful BAS response, alarming, trending, and recovery sequences	Critical
Redundant Server Failover Testing	Automatic transition without loss of data	Critical
Network Failure Recovery Testing	Successful recovery and restoration	Critical
Cybersecurity Validation	Compliance with approved cybersecurity requirements	Major
Vibration and Noise Monitoring Integration	Successful collection, alarming and trending of vibration data	Major
Integrated Systems Testing	Successful completion of all approved IST scenarios	Critical

3. Functional Performance Testing (FPT)

FPT-BAS-01 – Hygrothermal Stress Testing

Objective

Demonstrate the BAS ability to maintain full monitoring, control, alarming, and data acquisition functionality during extreme environmental operating conditions affecting critical HVAC and environmental control systems.

Test Procedure

Testing shall simulate:

- Peak cooling demand.
- Peak humidity conditions.
- High internal thermal loads.
- Simultaneous operation of all critical patient-care areas.
- Maximum BAS transaction load.
- Full trend logging operation.

Acceptance Criteria

The BAS shall demonstrate:

- Continuous communications.
- Accurate environmental monitoring.
- Accurate trend logging.

- Successful execution of control sequences.
- Successful alarm generation.
- No loss of controller functionality.
- No loss of server functionality.

Required Deliverable

BAS Hygrothermal Stress Testing Report.

FPT-BAS-02 – Chilled-Water Failure Simulation

Objective

Demonstrate BAS functionality, logic execution, monitoring capability, alarming, and recovery during loss of chilled-water service.

Test Procedure

The Design-Builder shall simulate:

- Chilled-water interruption.
- Pump failure.
- Chilled-water temperature excursions.
- Coil isolation events.
- Emergency DX operation.
- System restoration.

Acceptance Criteria

The BAS shall demonstrate:

- Immediate event detection.
- Automatic alarm generation.
- Successful supervisory response.
- Successful sequence execution.
- Successful trend logging.
- Successful event recording.
- Successful recovery after restoration.

Critical Acceptance Requirement

Failure to detect, record, alarm, trend, or execute recovery sequences shall constitute a Critical Deficiency.

Required Deliverable

BAS Chilled-Water Failure Simulation Report.

FPT-BAS-03 – Vibration and Noise Monitoring Validation

Objective

Demonstrate BAS integration with vibration sensors, noise monitoring systems, equipment protection logic, and alert management systems.

Test Procedure

Testing shall evaluate:

- Chiller vibration sensors.
- Cooling tower vibration sensors.
- Generator vibration sensors.
- Critical AHU vibration monitoring.
- Noise monitoring devices.
- Alarm activation logic.
- Shutdown sequences where applicable.

Acceptance Criteria

The BAS shall demonstrate:

- Successful data acquisition.
- Successful alarm generation.
- Successful event recording.
- Successful trend logging.
- Successful notification routing.
- Successful execution of associated control sequences.

Required Deliverable

BAS Vibration and Noise Monitoring Validation Report.

4. Integrated Systems Testing (IST)

IST-BAS-01 – Hospital Systems Integration Failure Scenario

Objective

Demonstrate BAS interoperability, resiliency, monitoring, supervisory control, alarm, and recovery functions during abnormal operating conditions.

Scenario

Testing shall include:

- Utility power loss.
- Generator startup.
- ATS transfer.
- Chilled-water failure.
- Environmental upset conditions.
- Medical Gas alarms.
- Fire Alarm activation.
- PTS alarm event.
- Server failure.
- Controller communication loss.
- Redundant server failover.
- Network recovery.
- Return to normal operation.

Acceptance Criteria

The BAS shall demonstrate:

- Continuous monitoring capability.
- Continuous alarm capability.
- Successful data retention.
- Successful event recording.
- Successful trend logging.
- Successful failover operation.
- Successful restoration of normal operation.

Required Deliverable

Integrated BAS Systems Validation Report.

5. Minimum Quantitative Acceptance Parameters

The following quantitative criteria are preliminary minimum acceptance objectives for the Building Automation System (BAS), subject to confirmation by the Engineer of Record (EOR) and approval by ASEM in accordance with the Engineering Validation of Quantitative Acceptance Criteria provision of this Matrix. Unless a more stringent value is established in the Contract Documents or the approved Basis of Design (BOD), they shall be demonstrated during Functional Performance Testing (FPT) and Integrated Systems Testing (IST). Failure to satisfy any criterion shall be classified in accordance with the Critical Deficiency Classification of this Matrix.

Parameter	Acceptance Criteria
Alarm Generation Time	≤ 5 seconds
Alarm Notification Time	≤ 15 seconds
Trend Logging Update Rate	≤ 60 seconds
Controller Communication Failure Detection	≤ 30 seconds
Server Failover	≤ 60 seconds

6. Critical Deficiency Classification

The following conditions shall automatically constitute Level 1 Critical Deficiencies:

BAS Infrastructure

- BAS server failure.
- BAS network failure.
- BAS historian failure.
- Database corruption.
- Loss of redundancy.

Monitoring and Controls

- Loss of environmental monitoring.
- Loss of critical equipment monitoring.
- Loss of control sequence execution.
- Failure of supervisory controls.

Alarming and Notification

- Failure of critical alarms.
- Failure of alarm transmission.
- Failure of event logging.
- Failure of trend logging.

Integrated System Failures

- Loss of HVAC integration.
- Loss of Medical Gas integration.
- Loss of Emergency Power integration.
- Loss of Fire Alarm integration.
- Loss of PTS integration.

- Failure affecting continuity of hospital operations.

7. Evidence, Deliverables, and Acceptance Documentation Matrix

Commissioning Activity	Required Verification Evidence	Required Deliverable	Acceptance Authority	Authority
Point-to-Point Verification	Test records	Point-to-Point Validation Report	ASEM	Owner's CxA
Network Validation	Communication logs	BAS Network Validation Report	ASEM	Owner's CxA
Alarm Validation	Alarm logs	BAS Alarm Validation Report	ASEM	Owner's CxA
Trend Logging Validation	Historical records	BAS Trending Validation Report	ASEM	Owner's CxA
HVAC Integration	Integration records	HVAC-BAS Validation Report	ASEM	Owner's CxA
Medical Gas Integration	Alarm and trend records	Medical Gas BAS Validation Report	ASEM	Owner's CxA
Electrical Integration	Event logs	Electrical Systems Integration Report	ASEM	Owner's CxA
Generator/ATS Integration	Operational records	Emergency Power Integration Report	ASEM	Owner's CxA
Hygrothermal Stress Testing	Trend records	BAS Hygrothermal Stress Report	ASEM	Owner's CxA
Chilled-Water Failure Simulation	Scenario records	BAS Failure Simulation Report	ASEM	Owner's CxA

Vibration Monitoring	Sensor records	BAS Vibration Validation Report	ASEM	Owner's CxA
Network Recovery Testing	Recovery records	BAS Recovery Validation Report	ASEM	Owner's CxA
Integrated Systems Testing	IST records	BAS IST Report	ASEM	Owner's CxA
Deficiency Resolution	Corrective action documentation	Deficiency Closure Report	ASEM	Owner's CxA
Final Completion	Consolidated commissioning package	Final BAS Commissioning Report	ASEM	Owner's CxA

8. Mandatory Deliverables

In addition to the deliverables identified in the Evidence, Deliverables, and Acceptance Documentation Matrix, the following deliverables are mandatory for the Building Automation System (BAS) and shall be reviewed by the Owner's CxA and accepted by ASEM:

Technical Documentation: as-built drawings; control diagrams and sequences of operation, as applicable; equipment inventory; manufacturer certifications; and warranty documentation.

Testing Documentation: the report of each Functional Performance Test and Integrated Systems Test of this System-Specific Matrix; the deficiency log; and retesting documentation.

Operational Documentation: standard operating procedures; emergency operating procedures; alarm and event response procedures, as applicable; and preventive maintenance procedures.

Training Documentation: training plan; training materials; attendance records; and operational competency evaluations.

9. Final Completion Documentation Package

The Design-Builder shall submit a Final BAS Commissioning Report containing, at minimum:

- Executive Summary.
- BAS Architecture Description.
- Network Architecture Diagrams.
- Server Configuration Documentation.
- Controller Inventory.
- Point-to-Point Validation Results.
- Network Validation Results.
- Alarm Validation Results.
- Trend Logging Validation Results.
- HVAC Integration Results.
- Medical Gas Integration Results.
- Electrical System Integration Results.
- Emergency Power Integration Results.
- Hygrothermal Stress Testing Results.
- Chilled-Water Failure Simulation Results.
- Vibration and Noise Monitoring Results.
- Redundant Server Failover Results.
- Network Recovery Results.

- Cybersecurity Validation Results.
- Integrated Systems Testing Results.
- Deficiency Log and Closure Documentation.
- Training Documentation.
- As-Built Documentation.
- Warranty Documentation.
- Manufacturer Certifications.
- Final Completion Recommendation.

10. Integrated Systems Testing Failure Threshold

Any failed Integrated Systems Test involving:

- BAS infrastructure;
- HVAC integration;
- Medical Gas integration;
- Emergency Power integration;
- Electrical system integration;
- Fire Alarm integration;
- PTS integration;
- alarm transmission;
- sequence execution;
- server redundancy;
- network resiliency; or
- continuity of hospital operations,

shall automatically constitute a **Level 1 Critical Deficiency** and shall require complete re-execution of the failed scenario before recommendation of Substantial Completion, Beneficial Occupancy, or Final Completion.

11. Substantial Completion Restriction

Notwithstanding any other provision of the Contract Documents, the existence of any unresolved:

- BAS Critical Deficiency;
- controller communication failure;
- server redundancy deficiency;
- alarm deficiency;
- trend logging deficiency;
- HVAC integration deficiency;
- Medical Gas integration deficiency;

- Emergency Power integration deficiency;
- cybersecurity deficiency affecting operations;
- network resiliency deficiency; or
- Integrated Systems Testing deficiency, shall automatically preclude recommendation of:
- Substantial Completion;
- Beneficial Occupancy; and
- Final Completion.

ASEM may withhold milestone approvals, progress payments, retainage release, Beneficial Occupancy, Substantial Completion, and Final Completion until all acceptance criteria, validation requirements, corrective actions, retesting requirements, and documentation requirements have been fully satisfied.

12. Express ASEM Authority

Notwithstanding any recommendation issued by the Owner's Independent Commissioning Authority, ASEM reserves the unrestricted right to reject, suspend, defer, condition, or withhold any recommendation for Beneficial Occupancy, Substantial Completion, Final Completion, payment release, retainage release, or milestone approval whenever ASEM determines that any commissioned system fails to satisfy the operational, clinical, resiliency, reliability, patient-safety, emergency preparedness, business continuity, or risk management objectives of the Hospital.

13. Engineering Validation of Quantitative Acceptance Criteria

The quantitative performance criteria identified within the Commissioning Specifications and this System-Specific Matrix are intended to establish minimum commissioning and validation objectives. Prior to Final Completion, the Design-Builder shall submit to ASEM and the Owner's CxA a sealed certification by the Engineer of Record (EOR) confirming that all specified acceptance thresholds, operating tolerances, response times, performance metrics, and reliability criteria are consistent with the approved Basis of Design (BOD), manufacturer-certified requirements, applicable codes and standards, and the final design documents. Where the EOR determines that an identified criterion is inconsistent with the approved design basis or applicable standards, the EOR shall recommend a revised criterion for review and approval by ASEM. In all cases, the more stringent requirement established by the Contract Documents, approved BOD, applicable codes, or manufacturer requirements shall govern.

Any numerical value identified herein shall be deemed a preliminary commissioning criterion unless expressly established in the approved Basis of Design. Prior to execution of Functional Performance Testing and Integrated Systems Testing, all

quantitative acceptance thresholds shall be reviewed and certified by the Engineer of Record and approved by ASEM.

14. Commissioning Traceability and Acceptance Register (CTAR)

Each acceptance criterion, test, evidence item, and deficiency associated with this System-Specific Matrix shall be recorded in the Commissioning Traceability and Acceptance Register (CTAR) required by the Project Commissioning Specification. No system covered by this Matrix shall be eligible for Substantial Completion, Beneficial Occupancy, or Final Completion unless all requirements identified in the CTAR are demonstrated as fully compliant and accepted by ASEM.

15. Whole-Building Validation Requirements

The Design-Builder shall demonstrate that this system satisfies the requirements of the Full Clinical Operations Simulation Testing (FCOST) and the Hurricane Resiliency Validation Program established in the Project Commissioning Specification.

16. Additional Acceptance Package Deliverables

In addition to the deliverables identified in this Matrix, the Design-Builder shall include the following in the acceptance package for this system:

- a Digital Twin of Commissioning, including trends, sequences, alarms, operating models, system relationships, and integrated system responses, in a format approved by ASEM;
- a Deficiency Closure Certification certifying actual closure, verifiable evidence, successful retesting, and no recurrence of deficiencies;
- an Executive Acceptance Dashboard, including requirements satisfied, open requirements, risk items, acceptance restrictions, contingency items, and unresolved actions; and
- a Warranty Readiness Report, including warranty commencement date, warranty coverage, responsible entities, warranty exclusions, response times, and escalation procedures.

17. Cost Responsibility

All costs associated with:

- BAS failures;
- server failures;
- communications failures;

- database failures;
- network failures;
- integration failures;
- controller failures;
- software defects;
- programming deficiencies;
- alarm deficiencies;
- trend logging deficiencies;
- cybersecurity deficiencies;
- HVAC integration deficiencies;
- Medical Gas integration deficiencies;
- Emergency Power integration deficiencies;
- recommissioning;
- retesting;
- manufacturer remobilization;
- software modifications;
- controls reprogramming;
- corrective actions;
- replacement equipment;
- schedule recovery efforts; and
- any action required to achieve compliance with the Contract Documents,

shall be borne solely by the Design-Builder and shall not entitle the Design-Builder to any increase in Contract Price or Contract Time.

18. Reliability Demonstration Period

Successful completion of Functional Performance Testing (FPT) and Integrated Systems Testing (IST) shall not, by itself, constitute acceptance of the BAS.

The BAS shall successfully complete a Reliability Demonstration Period of not less than thirty (30) consecutive calendar days following completion of all required testing.

In addition to the minimum duration established above, the Reliability Demonstration Period shall require:

- System availability meeting the targets established by the Engineer of Record in the approved BOD and Commissioning Plan, which shall be monitored and reported throughout the Reliability Demonstration Period;

- Zero Critical Deficiencies;
- Zero Unplanned Service Interruptions affecting life-safety, patient-care, critical-care, emergency response, resiliency, environmental control, medical gas distribution, emergency power, BAS operation, or other essential hospital functions;
- Not more than one (1) Major Deficiency, provided such deficiency does not affect patient care, life-safety systems, resiliency objectives, continuity of operations, required performance criteria, or regulatory compliance; and
- No recurring deficiencies.

The occurrence of any Critical Deficiency, any prohibited Major Deficiency, any recurring deficiency, any unplanned service interruption affecting essential hospital functions, or more than one (1) Major Deficiency shall constitute failure of the Reliability Demonstration Period and shall require corrective action, recommissioning, retesting, and restart of the Reliability Demonstration Period.

Any Critical Deficiency occurring during the Reliability Demonstration Period shall require:

- corrective action;
- retesting;
- recommissioning; and
- restart of the Reliability Demonstration Period.

19. Repeated Failure Escalation

Three (3) occurrences of the same failed:

- control sequence;
- communication pathway;
- alarm function;
- network component;
- integration interface;
- failover process;
- subsystem;
- Functional Performance Test; or
- Integrated Systems Test,

shall automatically result in classification as a **Level 1 Critical Deficiency**, regardless of its original classification.

An expanded version of the Consolidated Requirements and Acceptance Traceability Matrix is presented below, incorporating Responsible Parties, Target Due Dates, and the BAS, Medical Gas, and Electrical Infrastructure & Emergency Power Systems.

Attachment 1: Scope of Works

Consolidated Requirements and Acceptance Traceability Matrix

Attachment 1: Scope of Works

ID	System	Requirement	Responsible Party	Verification Authority	Acceptance Authority	Required Evidence	Target Due Date	Acceptance Milestone
TR-01	Project	Owner's Project Requirements (OPR) approved	ASEM	Owner's CxA	ASEM	Approved OPR	Design Phase Completion	Pre-Commissioning
TR-02	Project	Basis of Design (BOD) approved	Design-Builder	Owner's CxA	ASEM	Approved BOD	Design Phase Completion	Pre-Commissioning
TR-03	Project	Commissioning Plan Approved	DB-Cx	Owner's CxA	ASEM	Approved Commissioning Plan	Prior to Construction	FPT Readiness
TR-04	Project	Commissioning Specifications Complete	Design-Builder	Owner's CxA	ASEM	Specifications Package	Prior to Procurement	FPT Readiness
TR-05	Project	Pre-Functional Checklists Completed	DB-Cx / Trade Contractors	Owner's CxA	ASEM	Signed PFCs	Prior to Startup	FPT Authorization
TR-06	Project	Startup Completed Successfully	Manufacturers / Vendors	Owner's CxA	ASEM	Startup Reports	Prior to FPT	FPT Authorization
TR-07	HVAC	TAB Completed and Accepted	TAB Contractor	Owner's CxA	ASEM	TAB Reports	Prior to FPT	FPT Authorization
TR-08	HVAC	Temperature Validation	DB-Cx	Owner's CxA	ASEM	Temperature Validation Report	FPT Phase	FPT Completion
TR-09	HVAC	Humidity Validation	DB-Cx	Owner's CxA	ASEM	Humidity Validation Report	FPT Phase	FPT Completion
TR-10	HVAC	Pressure Relationship Validation	DB-Cx	Owner's CxA	ASEM	Pressurization Report	FPT Phase	FPT Completion
TR-11	HVAC	Hygrothermal Stress Testing	DB-Cx / HVAC Vendor	Owner's CxA	ASEM	Hygrothermal Stress Testing Report	FPT Phase	FPT Completion
TR-12	HVAC	Chilled Water Failure Simulation	DB-Cx / Controls Contractor	Owner's CxA	ASEM	Failure Simulation Report	FPT Phase	FPT Completion
TR-13	HVAC	Noise and Vibration Validation	DB-Cx	Owner's CxA	ASEM	Noise & Vibration Report	FPT Phase	FPT Completion
TR-14	BAS	BAS Point-to-Point Verification	Controls Contractor	Owner's CxA	ASEM	Point-to-Point Test Reports	Prior to FPT	FPT Authorization

Attachment 1: Scope of Works

ID	System	Requirement	Responsible Party	Verification Authority	Acceptance Authority	Required Evidence	Target Due Date	Acceptance Milestone
TR-15	BAS	Sequence of Operations Validation	Controls Contractor	Owner's CxA	ASEM	Sequence Validation Report	FPT Phase	FPT Completion
TR-16	BAS	Alarms, Trends and Monitoring Validation	Controls Contractor	Owner's CxA	ASEM	BAS Validation Report	FPT Phase	FPT Completion
TR-17	BAS	BAS Integration with Critical Systems	Controls Contractor	Owner's CxA	ASEM	Integrated BAS Testing Report	IST Phase	IST Completion
TR-18	PTS	Transit Time Validation	PTS Vendor	Owner's CxA	ASEM	Transit Time Report	FPT Phase	FPT Completion
TR-19	PTS	Anti-Hemolysis Certification	PTS Vendor / Lab	Owner's CxA	ASEM	Anti-Hemolysis Report	FPT Phase	FPT Completion
TR-20	PTS	RFID Certification	PTS Vendor	Owner's CxA	ASEM	RFID Certification Report	FPT Phase	FPT Completion
TR-21	PTS	Chain-of-Custody Validation	PTS Vendor	Owner's CxA	ASEM	Chain-of-Custody Report	FPT Phase	FPT Completion
TR-22	PTS	Biological Spill Simulation	PTS Vendor	Owner's CxA	ASEM	Spill Simulation Report	IST Phase	IST Completion
TR-23	Medical Gas	NFPA 99 Compliance Testing	Medical Gas Contractor	Owner's CxA	ASEM	NFPA 99 Certification	Prior to IST	FPT Completion
TR-24	Medical Gas	Pressure and Flow Validation	Medical Gas Contractor	Owner's CxA	ASEM	Pressure and Flow Reports	FPT Phase	FPT Completion
TR-25	Medical Gas	Alarm Validation	Medical Gas Contractor	Owner's CxA	ASEM	Alarm Test Reports	FPT Phase	FPT Completion
TR-26	Medical Gas	Emergency Operations Validation	Medical Gas Contractor	Owner's CxA	ASEM	Emergency Validation Report	IST Phase	IST Completion
TR-27	Electrical	Switchgear and Distribution Testing	Electrical Contractor	Owner's CxA	ASEM	Acceptance Test Reports	Prior to IST	FPT Completion
TR-28	Electrical	ATS Testing	Electrical Contractor	Owner's CxA	ASEM	ATS Test Reports	FPT Phase	FPT Completion
TR-29	Electrical	Generator Load Testing	Generator Manufacturer	Owner's CxA	ASEM	Generator Load Test Report	FPT Phase	FPT Completion

Attachment 1: Scope of Works

ID	System	Requirement	Responsible Party	Verification Authority	Acceptance Authority	Required Evidence	Target Due Date	Acceptance Milestone
TR-30	Electrical	Full Blackout Test	DB-Cx / Electrical Contractor	Owner's CxA	ASEM	Blackout Test Report	IST Phase	IST Completion
TR-31	Electrical	N+1 Redundancy Validation	DB-Cx	Owner's CxA	ASEM	N+1 Validation Report	IST Phase	IST Completion
TR-32	Electrical	BESS and Microgrid Validation	Electrical Contractor	Owner's CxA	ASEM	BESS Validation Report	IST Phase	IST Completion
TR-33	Electrical	Fuel Autonomy Demonstration (96 Hours)	Design-Builder	Owner's CxA	ASEM	Fuel Capacity & Endurance Report	IST Phase	IST Completion
TR-34	Project	Integrated Systems Testing Completed	DB-Cx	Owner's CxA	ASEM	IST Reports	Prior to Substantial Completion	Substantial Completion
TR-35	Project	Training Program Completed	DB-Cx / Vendors	Owner's CxA	ASEM	Attendance & Competency Records	Prior to Substantial Completion	Substantial Completion
TR-36	Project	O&M Manuals Submitted	Design-Builder	Owner's CxA	ASEM	O&M Manuals	Prior to Substantial Completion	Substantial Completion
TR-37	Project	As-Built Documentation Submitted	Design-Builder	Owner's CxA	ASEM	As-Built Drawings	Prior to Substantial Completion	Substantial Completion
TR-38	Project	Warranty Documentation Submitted	Manufacturers / Vendors	Owner's CxA	ASEM	Warranty Package	Prior to Substantial Completion	Substantial Completion
TR-39	Project	No Open Critical Deficiencies	Design-Builder	Owner's CxA	ASEM	Deficiency Log	Prior to Substantial Completion	Substantial Completion
TR-40	Project	Reliability Demonstration Period (30 Days)	Design-Builder	Owner's CxA	ASEM	Reliability Reports	After IST Completion	Final Completion

Attachment 1: Scope of Works

ID	System	Requirement	Responsible Party	Verification Authority	Acceptance Authority	Required Evidence	Target Due Date	Acceptance Milestone
TR-41	Project	Final Commissioning Report	DB-Cx	Owner's CxA	ASEM	Final Commissioning Report	Prior to Final Completion	Final Completion
TR-42	Project	Turnover Package Complete	Design-Builder	Owner's CxA	ASEM	Turnover Package	Prior to Final Completion	Final Completion
TR-43	Heliport	Heliport FPT Program Completed (FPT-HLP-01 to 09)	DB-Cx	Owner's CxA	ASEM	Heliport FPT Validation Reports	FPT Phase	FPT Completion
TR-44	Heliport	Heliport IST Program Completed (IST-HLP-01 to 05)	DB-Cx	Owner's CxA	ASEM	Heliport IST Validation Reports	IST Phase	IST Completion
TR-45	Heliport	Heliport Reliability Demonstration Period (30 Days)	Design-Builder	Owner's CxA	ASEM	Reliability Reports	After IST Completion	Final Completion
TR-46	Ramp	Ramp FPT Program Completed (FPT-RMP-01 to 09)	DB-Cx	Owner's CxA	ASEM	Ramp FPT Validation Reports	FPT Phase	FPT Completion
TR-47	Ramp	Ramp IST Program Completed (IST-RMP-01 to 05)	DB-Cx	Owner's CxA	ASEM	Ramp IST Validation Reports	IST Phase	IST Completion
TR-48	Ramp	Ramp Reliability Demonstration Period (30 Days)	Design-Builder	Owner's CxA	ASEM	Reliability Reports	After IST Completion	Final Completion
TR-49	Seismic	Seismic Isolation Plane, Instrumentation, Expansion Joint and Utility Flexibility Verification	DB-Cx	Owner's CxA	ASEM	Seismic Verification Reports	FPT Phase	FPT Completion

Attachment 1: Scope of Works

ID	System	Requirement	Responsible Party	Verification Authority	Acceptance Authority	Required Evidence	Target Due Date	Acceptance Milestone
TR-50	Seismic	MCER and Operational Immediate Occupancy Validation; Post-Event Recovery Validation	DB-Cx / Structural Engineer of Record	Owner's CxA	ASEM	Immediate Occupancy Validation Reports	IST Phase	IST Completion
TR-51	Seismic	Seismic Utility Continuity Scenario (IST-SIS-01)	DB-Cx	Owner's CxA	ASEM	Seismic Utility Continuity Report	IST Phase	IST Completion
TR-52	Utility	Utility Interconnection FPT Program Completed	DB-Cx	Owner's CxA	ASEM	Subsystem Commissioning Reports (Water, Storm, Sewer, Electrical, BAS, Oxygen, Telecom, Fire Alarm)	FPT Phase	FPT Completion
TR-53	Utility	Utility Interconnection IST Program Completed	DB-Cx	Owner's CxA	ASEM	Utility Failure, Full Campus Resiliency and MCER Utility Continuity Reports	IST Phase	IST Completion
TR-54	Utility	Cross-Campus Operational Continuity Certification	Design-Builder	Owner's CxA	ASEM	Cross-Campus Operational Continuity Certification Report	Prior to Final Completion	Final Completion

Attachment 1: Scope of Works
Suggested Acceptance Gates

Gate 1 – FPT Authorization

Required:

- Approved OPR.
- Approved BOD.
- Approved Commissioning Plan.
- Startup Completion.
- PFC Completion.
- TAB Completion.

Gate 2 – IST Authorization

Required:

- All FPTs Passed.
- BAS Validation Complete.
- HVAC Validation Complete.
- Medical Gas Validation Complete.
- Electrical Validation Complete.
- No Critical Deficiencies.

Gate 3 – Beneficial Occupancy

Required:

- Life Safety Systems Operational.
- Medical Gas Operational.
- Emergency Power Operational.
- BAS Operational.
- Staff Training Completed.
- Minimum Turnover Documentation Delivered.

Gate 4 – Substantial Completion

Required:

- All FPT and IST activities complete.
- No Critical Deficiencies.
- No Major Deficiencies affecting hospital operations.

- Training complete.
- O&M Documentation complete.
- As-Builts complete.
- CxA Recommendation issued.

Gate 5 – Final Completion

Required:

- 30-Day Reliability Demonstration completed.
- All deficiencies closed.
- Final Commissioning Report accepted.
- Turnover Package accepted.
- Formal ASEM Acceptance.

This matrix can serve as the project's **Acceptance Compliance Register**, with additional columns for *Status, Actual Completion Date, Risk Rating, Corrective Actions, CxA Comments,* and *ASEM Approval Date* to support auditability and acceptance decision-making.

20. Independent Validation Rights

ASEM reserves the right to perform, commission, or procure independent forensic investigations, engineering evaluations, commissioning reviews, reliability assessments, laboratory analyses, performance testing, or third-party validation whenever repeated failures, unresolved deficiencies, disputed results, operational concerns, life-safety concerns, resiliency concerns, or commissioning disputes exist.

Where such testing confirms a deficiency, nonconformance, or failure to achieve the Contract Documents, all associated costs shall be reimbursed by the Design-Builder. This right shall supplement and not replace the Design-Builder's commissioning obligations.

Attachment 1: Scope of Works

SYSTEM-SPECIFIC MINIMUM ACCEPTANCE CRITERIA AND COMMISSIONING MATRIX

Dual-Coil HVAC Climate Control and Containment System

1. General Requirements

The Design-Builder shall demonstrate through commissioning, Functional Performance Testing (FPT), Integrated Systems Testing (IST), resiliency testing, environmental validation, containment verification, and operational readiness testing that the Dual-Coil HVAC Climate Control and Containment System performs in accordance with the Contract Documents, Owner's Project Requirements (OPR), Basis of Design (BOD), sequences of operation, infection prevention requirements, pressurization requirements, energy efficiency requirements, and applicable codes and standards.

The commissioning process shall verify:

- Temperature control;
- Humidity control;
- Pressure relationships;
- Environmental stability;
- Redundancy and resiliency;
- Containment performance;
- Chilled-water failure response;
- BAS integration;
- Life-safety integration;
- Noise and vibration performance;
- Reliability under fault conditions; and
- Continuous operation during emergency scenarios.

Failure of any Critical Acceptance Criterion identified herein shall constitute a Level 1 Critical Deficiency.

The Owner's Independent Commissioning Authority (CxA) shall witness, verify, and validate all testing activities. Final Completion authority shall remain solely with ASEM.

This System-Specific Commissioning Matrix shall be read in conjunction with the

Project Commissioning Specification. In the event of any inconsistency, conflict, omission, duplication, or ambiguity between this System-Specific Matrix and the Project Commissioning Specification, the more stringent requirement shall govern, as determined by ASEM.

All provisions related to commissioning administration, authority, acceptance, deficiency management, corrective actions, retesting, payment withholding, Substantial Completion, Beneficial Occupancy, Final Completion, warranty obligations, and Design-Builder responsibility are incorporated herein by reference as though fully stated herein. Deficiency Notices and Non-Conformance Notices shall be issued by the Owner's CxA. The Design-Builder shall determine the corrective measure, in consultation with the DB-Cx, and shall execute the correction. ASEM shall approve the resolution of each deficiency.

2. Minimum Acceptance Criteria Matrix

Commissioning Activity	Acceptance Criteria	Classification	Minimum
Dual-Coil Sequencing Verification	Automatic and stable operation of primary and secondary coils		Critical
Temperature Control Validation	Maintains design temperatures within specified tolerances		Critical
Humidity Control Validation	Maintains design humidity range within specified tolerances		Critical
Pressurization Control	Maintains required pressure relationships		Critical
Airflow Verification	Design airflow achieved under all operating modes		Critical
Containment Verification	No loss of required containment performance		Critical
Hygrothermal Stress Testing	Environmental control maintained during stress conditions		Critical
Chilled-Water Failure Simulation	Successful automatic recovery and continuity of operation		Critical
Coil Isolation Testing	Successful operation with one coil unavailable		Critical
BAS Integration Validation	Full monitoring and control functionality		Major
Alarm and Notification Testing	100% successful alarm generation and reporting		Critical

Emergency Power Operation	Continuous operation during utility outage	Critical
Vibration and Noise Monitoring	Compliance with specified vibration and noise limits	Major
Recovery Testing	Successful restoration following fault conditions	Major
Integrated Systems Testing	Successful completion of all approved IST scenarios	Critical

Commissioning Failure Consequences

Failure to satisfy any requirement contained within this System-Specific Matrix shall constitute grounds for withholding progress payments, milestone payments, retainage release, milestone approvals, Substantial Completion, Beneficial Occupancy, Final Completion, or any combination thereof, in accordance with the Project Commissioning Specification and as determined by ASEM

3. Functional Performance Testing (FPT)

FPT-HVAC-01 – Hygrothermal Stress Testing

Objective

Demonstrate the ability of the HVAC system to maintain required environmental conditions during extreme operating conditions and fluctuating internal and external thermal loads.

Test Procedure

Testing shall simulate:

- peak cooling demand;
- peak humidity conditions;
- abrupt occupancy changes;
- high internal latent loads;
- high sensible heat loads;
- simultaneous operation of adjacent spaces.

Testing shall be performed continuously for a minimum duration established within the approved Commissioning Plan.

Acceptance Criteria

The HVAC system shall demonstrate:

- maintenance of space temperature within design tolerances;
- maintenance of space relative humidity within design tolerances;
- maintenance of required pressure differentials;
- stable operation without oscillation;
- proper BAS response;
- proper coil sequencing;
- no loss of containment performance.

Required Deliverable

Hygrothermal Stress Testing Report.

FPT-HVAC-02 – Chilled-Water Failure Simulation

Objective

Demonstrate the ability of the HVAC system to continue serving critical areas during loss of chilled-water service.

Test Procedure

The Design-Builder shall simulate:

- loss of chilled-water flow;
- loss of chilled-water pump operation;
- isolation of chilled-water supply;
- loss of primary cooling coil;
- abnormal chilled-water temperature conditions.

Testing shall verify automatic system response and recovery.

Acceptance Criteria

The system shall demonstrate:

- proper alarm generation;
- proper BAS response;
- automatic transition to backup operating mode;

- maintenance of required pressure relationships;
- maintenance of environmental control to the maximum extent established within the approved BOD;
- successful recovery following restoration of chilled-water service.

Critical Acceptance Requirement

Loss of required containment, loss of environmental control beyond approved limits, or failure to initiate appropriate recovery sequences shall constitute a Critical Deficiency.

Required Deliverable

Chilled-Water Failure Simulation Report.

FPT-HVAC-03 – Vibration and Noise Monitoring

Objective

Demonstrate that HVAC operation does not generate excessive vibration or noise capable of affecting occupant comfort, equipment reliability, sensitive medical equipment, or facility operations.

Test Procedure

Measurements shall be performed under:

- normal operation;
- peak cooling operation;
- coil changeover conditions;
- emergency operation;
- backup operational modes.

Testing shall evaluate:

- fan vibration;
- motor vibration;
- AHU vibration;
- piping vibration;
- duct vibration;
- airborne noise;
- mechanical room noise transmission.

Acceptance Criteria

The system shall demonstrate:

- compliance with approved project noise criteria;
- compliance with approved vibration criteria;
- no abnormal vibration conditions;
- no vibration-induced equipment instability;
- no objectionable noise transmission.

Required Deliverable

Noise and Vibration Validation Report.

4. Integrated Systems Testing (IST)

IST-HVAC-01 – Climate Control and Containment Failure Scenario

Objective

Demonstrate the ability of the HVAC system to maintain environmental control and containment during equipment failures and abnormal operating conditions.

Scenario

The Design-Builder shall execute an integrated operational scenario involving:

- Dual-coil HVAC system;
- BAS;
- Chilled-water system;
- Emergency power system;
- Containment monitoring systems;
- Differential pressure monitoring systems. The scenario shall include:

1. Normal operation.
2. Sudden loss of chilled-water supply.
3. Automatic alarm generation.
4. BAS intervention.
5. Coil isolation.
6. Alternate operating mode activation.
7. Environmental stabilization.
8. Verification of containment performance.

9. Chilled-water restoration.
10. Return to normal operation.

Acceptance Criteria

The integrated system shall demonstrate:

- uninterrupted monitoring capability;
- successful alarm generation;
- maintenance of required pressure relationships;
- successful containment performance;
- successful recovery and restoration;
- compliance with approved environmental criteria.

Required Deliverable

Integrated Climate Control and Containment Validation Report.

5. Minimum Quantitative Acceptance Parameters

The following quantitative criteria are preliminary minimum acceptance objectives for the HVAC systems, subject to confirmation by the Engineer of Record (EOR) and approval by ASEM in accordance with the Engineering Validation of Quantitative Acceptance Criteria provision of this Matrix. Unless a more stringent value is established in the Contract Documents or the approved Basis of Design (BOD), they shall be demonstrated during Functional Performance Testing (FPT) and Integrated Systems Testing (IST). Failure to satisfy any criterion shall be classified in accordance with the Critical Deficiency Classification of this Matrix.

Parameter	Acceptance Criteria
Temperature Control	±1°F from design setpoint
Relative Humidity	±5% RH
Pressure Relationship Control	Maintain the required pressure relationships and minimum differential pressures established in the approved BOD and applicable healthcare standards, with allowable deviations as certified by the Engineer of Record
Recovery Time Following Disturbance	≤ 15 minutes
Airflow	±10% of design value

6. Critical Deficiency Classification

The following conditions shall automatically constitute Level 1 Critical Deficiencies:

Environmental Control

- Failure to maintain required temperature ranges.
- Failure to maintain required humidity ranges.
- Environmental drift beyond approved limits.
- Failure affecting environmental stability.

Containment

- Loss of negative pressure relationships.
- Loss of positive pressure relationships.
- Loss of required containment.
- Containment breach.
- Failure of differential pressure monitoring.

Mechanical Reliability

- Failure of dual-coil operation.
- Failure of automatic coil sequencing.
- Failure of redundancy functions.
- Failure of fault recovery functions.

Chilled-Water Failure Response

- Failure to detect chilled-water interruption.
- Failure of alarm notification.
- Failure of automatic response.
- Failure to recover following restoration of service.

BAS Integration

- Loss of monitoring functionality.
- Loss of trending capability.
- Loss of sequence execution.
- Loss of alarm transmission.

Operational Impact

- Failure affecting environmental control reliability.
- Failure compromising containment performance.
- Failure resulting in interruption of HVAC-supported operations.
- Failure affecting continuity of operations supported by the HVAC system.
- Failure affecting compliance with approved operational performance criteria.

7. Evidence, Deliverables, and Acceptance Documentation Matrix

Commissioning Activity	Required Verification Evidence	Required Deliverable	Acceptance Authority	Acceptance Authority
Temperature Validation	Trend logs and measurement records	Temperature Validation Report	ASEM	Owner's CxA
Humidity Validation	Hygrometric records	Humidity Validation Report	ASEM	Owner's CxA
Pressurization Validation	Pressure monitoring records	Pressure Relationship Validation Report	ASEM	Owner's CxA
Airflow Validation	TAB data and airflow measurements	Airflow Validation Report	ASEM	Owner's CxA
Hygrothermal Stress Testing	Continuous trend records	Hygrothermal Stress Testing Report	ASEM	Owner's CxA
Chilled-Water Failure Testing	Scenario execution records	Chilled-Water Failure Simulation Report	ASEM	Owner's CxA
Noise Monitoring	Sound measurement records	Noise Compliance Report	ASEM	Owner's CxA
Vibration Monitoring	Vibration measurement records	Vibration Compliance Report	ASEM	Owner's CxA

BAS Validation	Control system records	BAS Validation Report	ASEM	Owner's CxA
Alarm Validation	Alarm logs	Alarm Validation Report	ASEM	Owner's CxA
Emergency Operation Testing	Transfer and runtime records	Emergency Operations Validation Report	ASEM	Owner's CxA
Integrated Systems Testing	IST records	Integrated Systems Testing Report	ASEM	Owner's CxA
Deficiency Resolution	Corrective action documentation	Deficiency Closure Report	ASEM	Owner's CxA
Final Completion	Consolidated commissioning package	Final HVAC Commissioning Report	ASEM	Owner's CxA

Notwithstanding any designation contained within this Matrix, final approval authority, acceptance authority, deficiency closure authority, Substantial Completion authority, Beneficial Occupancy authority, Final Completion authority, payment release authority, and retainage release authority shall remain solely with ASEM, as more particularly established in the Project Commissioning Specification. The Owner's Independent Commissioning Authority (CxA) shall serve solely in a verification, validation, witnessing, and recommendation capacity.

Commissioning Failure Consequences

Failure to satisfy any requirement contained within this System-Specific Matrix shall constitute grounds for withholding progress payments, milestone payments, retainage release, milestone approvals, Substantial Completion, Beneficial Occupancy, Final Completion, or any combination thereof, in accordance with the Project Commissioning Specification and as determined by ASEM

8. Mandatory Deliverables

Technical Documentation

- As-Built Drawings.

Attachment 1: Scope of Works

- HVAC Control Diagrams.
- Sequences of Operation.
- Coil Control Logic.
- Airflow Diagrams.
- Pressure Relationship Diagrams.
- Equipment Inventory.
- Manufacturer Certifications.
- Warranty Documentation.

Testing Documentation

- Temperature Validation Report.
- Humidity Validation Report.
- Pressure Relationship Validation Report.
- Airflow Validation Report.
- Hygrothermal Stress Testing Report.
- Chilled-Water Failure Simulation Report.
- Noise Compliance Report.
- Vibration Compliance Report.
- BAS Validation Report.
- Alarm Validation Report.
- Emergency Operations Validation Report.
- Integrated Systems Testing Report.
- Deficiency Log.
- Retesting Documentation.

Operational Documentation

- Standard Operating Procedures.
- Emergency Operating Procedures.
- Chilled-Water Failure Response Procedures.
- Business Continuity Procedures.
- Preventive Maintenance Procedures.
- Alarm Response Procedures.

Training Documentation

- Training Plan.
- Training Materials.

- Attendance Records.
- Operational Competency Evaluations.
- Emergency Response Training Records.

9. Final Completion Documentation Package

The Design-Builder shall submit a Final HVAC Commissioning Report containing, at a minimum:

1. Executive Summary.
2. System Description.
3. Equipment Inventory.
4. Temperature Validation Results.
5. Humidity Validation Results.
6. Airflow Validation Results.
7. Pressure Relationship Validation Results.
8. Hygrothermal Stress Testing Results.
9. Chilled-Water Failure Simulation Results.
10. Noise Monitoring Results.
11. Vibration Monitoring Results.
12. BAS Validation Results.
13. Alarm Validation Results.
14. Emergency Operations Validation Results.
15. Integrated Systems Testing Results.
16. Training Documentation.
17. Deficiency Log and Closure Documentation.
18. Corrective Action Documentation.
19. Manufacturer Certifications.
20. Warranty Documentation.
21. Final Completion Recommendation.

10. Integrated Systems Testing Failure Threshold

Any failed Integrated Systems Test involving:

- environmental control;
- temperature control;
- humidity control;

- pressure relationship control;
- containment functions;
- BAS integration;
- chilled-water failure response;
- emergency power operation; or
- continuity of operations supported by the HVAC system,

shall automatically constitute a Level 1 Critical Deficiency and shall require complete re-execution of the failed scenario prior to recommendation of Substantial Completion, Beneficial Occupancy, or Final Completion.

11. Substantial Completion Restriction

Notwithstanding any other provision of the Contract Documents, the existence of any unresolved HVAC Critical Deficiency, missing deliverable, incomplete validation report, unresolved containment deficiency, unresolved chilled-water failure deficiency, unresolved BAS deficiency, unresolved environmental control deficiency, unresolved vibration or noise compliance issue, or unresolved Integrated Systems Testing deficiency shall automatically preclude recommendation of Substantial Completion, Beneficial Occupancy, and Final Completion.

ASEM may withhold milestone approvals, progress payments, retainage release, Beneficial Occupancy, Substantial Completion, and Final Completion until all corrective actions, retesting requirements, validation requirements, documentation requirements, and acceptance criteria have been fully satisfied, verified by the Owner's Independent Commissioning Authority (CxA), and formally accepted by ASEM.

12. Express ASEM Authority

Notwithstanding any recommendation issued by the Owner's Independent Commissioning Authority, ASEM reserves the unrestricted right to reject, suspend, defer, condition, or withhold any recommendation for Beneficial Occupancy, Substantial Completion, Final Completion, payment release, retainage release, or milestone approval whenever ASEM determines that any commissioned system fails to satisfy the operational, clinical, resiliency, reliability, patient-safety, emergency preparedness, business continuity, or risk management objectives of the Hospital.

Attachment 1: Scope of Works

13. Engineering Validation of Quantitative Acceptance Criteria

The quantitative performance criteria identified within the Commissioning Specifications and this System-Specific Matrix are intended to establish minimum commissioning and validation objectives. Prior to Final Completion, the Design-Builder shall submit to ASEM and the Owner's CxA a sealed certification by the Engineer of Record (EOR) confirming that all specified acceptance thresholds, operating tolerances, response times, performance metrics, and reliability criteria are consistent with the approved Basis of Design (BOD), manufacturer-certified requirements, applicable codes and standards, and the final design documents. Where the EOR determines that an identified criterion is inconsistent with the approved design basis or applicable standards, the EOR shall recommend a revised criterion for review and approval by ASEM. In all cases, the more stringent requirement established by the Contract Documents, approved BOD, applicable codes, or manufacturer requirements shall govern.

Any numerical value identified herein shall be deemed a preliminary commissioning criterion unless expressly established in the approved Basis of Design. Prior to execution of Functional Performance Testing and Integrated Systems Testing, all quantitative acceptance thresholds shall be reviewed and certified by the Engineer of Record and approved by ASEM.

14. Commissioning Traceability and Acceptance Register (CTAR)

Each acceptance criterion, test, evidence item, and deficiency associated with this System-Specific Matrix shall be recorded in the Commissioning Traceability and Acceptance Register (CTAR) required by the Project Commissioning Specification. No system covered by this Matrix shall be eligible for Substantial Completion, Beneficial Occupancy, or Final Completion unless all requirements identified in the CTAR are demonstrated as fully compliant and accepted by ASEM.

15. Whole-Building Validation Requirements

The Design-Builder shall demonstrate that this system satisfies the requirements of the Full Clinical Operations Simulation Testing (FCOST) and the Hurricane Resiliency Validation Program established in the Project Commissioning Specification.

Attachment 1: Scope of Works

16. Additional Acceptance Package Deliverables

In addition to the deliverables identified in this Matrix, the Design-Builder shall include the following in the acceptance package for this system:

- a Digital Twin of Commissioning, including trends, sequences, alarms, operating models, system relationships, and integrated system responses, in a format approved by ASEM;
- a Deficiency Closure Certification certifying actual closure, verifiable evidence, successful retesting, and no recurrence of deficiencies;
- an Executive Acceptance Dashboard, including requirements satisfied, open requirements, risk items, acceptance restrictions, contingency items, and unresolved actions; and
- a Warranty Readiness Report, including warranty commencement date, warranty coverage, responsible entities, warranty exclusions, response times, and escalation procedures.

17. Cost Responsibility

All costs associated with failed tests, environmental control deficiencies, containment deficiencies, chilled-water failure deficiencies, BAS deficiencies, vibration deficiencies, noise deficiencies, recommissioning, retesting, manufacturer remobilization, corrective work, software modifications, controls reprogramming, replacement equipment, schedule recovery efforts, and any other action required to achieve compliance with the Contract Documents shall be borne solely by the Design-Builder and shall not entitle the Design-Builder to any increase in Contract Price or Contract Time.

18. Reliability Demonstration Period

Successful completion of Functional Performance Testing (FPT) and Integrated Systems Testing (IST) shall not, by itself, constitute acceptance of the System.

Each Critical System shall successfully complete a Reliability Demonstration Period of not less than thirty (30) consecutive calendar days following completion of all required testing.

In addition to the minimum duration established above, the Reliability Demonstration Period shall require:

- System availability meeting the targets established by the Engineer of Record in the approved BOD and Commissioning Plan, which shall be monitored and reported throughout the Reliability Demonstration Period;
- Zero Critical Deficiencies;

- Zero Unplanned Service Interruptions affecting life-safety, patient-care, critical-care, emergency response, resiliency, environmental control, medical gas distribution, emergency power, BAS operation, or other essential hospital functions;
- Not more than one (1) Major Deficiency, provided such deficiency does not affect patient care, life-safety systems, resiliency objectives, continuity of operations, required performance criteria, or regulatory compliance; and
- No recurring deficiencies.

The occurrence of any Critical Deficiency, any prohibited Major Deficiency, any recurring deficiency, any unplanned service interruption affecting essential hospital functions, or more than one (1) Major Deficiency shall constitute failure of the Reliability Demonstration Period and shall require corrective action, recommissioning, retesting, and restart of the Reliability Demonstration Period.

Any Critical Deficiency occurring during the Reliability Demonstration Period shall require corrective action, retesting, recommissioning, and restart of the Reliability Demonstration Period, as directed by ASEM.

19. Repeated Failure Escalation

Three (3) occurrences of the same failed Functional Performance Test, Integrated Systems Test, subsystem, control sequence, communication pathway, resiliency feature, emergency function, or acceptance criterion shall automatically result in classification of the condition as a Level 1 Critical Deficiency regardless of its original classification.

20. Independent Validation Rights

ASEM reserves the right to perform, commission, or procure independent forensic investigations, engineering evaluations, commissioning reviews, reliability assessments, laboratory analyses, performance testing, or third-party validation whenever repeated failures, unresolved deficiencies, disputed results, operational concerns, life-safety concerns, resiliency concerns, or commissioning disputes exist.

Where such testing confirms a deficiency, nonconformance, or failure to achieve the Contract Documents, all associated costs shall be reimbursed by the Design-Builder. This right shall supplement and not replace the Design-Builder's commissioning obligations.

Attachment 1: Scope of Works

SYSTEM-SPECIFIC MINIMUM ACCEPTANCE CRITERIA AND COMMISSIONING MATRIX

Flood Protection, Plumbing, and Life-Safety Systems

1. General Requirements

The Design-Builder shall demonstrate through Commissioning, Functional Performance Testing (FPT), Integrated Systems Testing (IST), resiliency testing, flood-event simulation testing, emergency operation testing, fire alarm testing, communications testing, life-safety system validation, and operational readiness testing that the Flood Protection, Plumbing, and Life-Safety Systems perform in accordance with the Contract Documents, Owner's Project Requirements (OPR), Basis of Design (BOD), approved sequences of operation, resiliency objectives, continuity of operations requirements, stormwater management requirements, flood mitigation requirements, and applicable codes and standards.

The commissioning process shall verify:

- stormwater management performance;
- surcharge and backflow protection;
- sump pit and dewatering performance;
- flood mitigation capability;
- plumbing system reliability;
- fire alarm system functionality;
- fiber-optic network resiliency;
- emergency communications performance;
- alarm monitoring and reporting;
- automatic notification functions;
- emergency power integration;
- continuity of life-safety operations;
- fault recovery and restoration capability.

The Design-Builder shall remain solely responsible for demonstrating compliance with all operational, resiliency, life-safety, reliability, performance, and acceptance requirements.

Attachment 1: Scope of Works

The Owner's Independent Commissioning Authority (CxA) shall witness, verify, and validate all testing activities.

Failure of any Critical Acceptance Criterion identified herein shall constitute a Level 1 Critical Deficiency.

This System-Specific Commissioning Matrix shall be read in conjunction with the Project Commissioning Specification. In the event of any inconsistency, conflict, omission, duplication, or ambiguity between this System-Specific Matrix and the Project Commissioning Specification, the more stringent requirement shall govern, as determined by ASEM.

All provisions related to commissioning administration, authority, acceptance, deficiency management, corrective actions, retesting, payment withholding, Substantial Completion, Beneficial Occupancy, Final Completion, warranty obligations, and Design-Builder responsibility are incorporated herein by reference as though fully stated herein. Deficiency Notices and Non-Conformance Notices shall be issued by the Owner's CxA. The Design-Builder shall determine the corrective measure, in consultation with the DB-Cx, and shall execute the correction. ASEM shall approve the resolution of each deficiency.

2. Minimum Acceptance Criteria Matrix

Commissioning Activity	Minimum Acceptance Criteria	Classification
Storm Drainage Validation	Successful drainage under design conditions	Critical
Stormwater Surcharge Simulation	No uncontrolled flooding or backflow	Critical
Backflow Prevention Validation	Successful protection against reverse flow	Critical
Basement Flood (Sump Pit) Test	Successful collection, pumping, discharge, and recovery	Critical
Sump Pump Redundancy Validation	Successful operation following loss of a primary pump	Critical
Plumbing System Reliability Testing	Continuous operation without leakage or failure	Critical
Domestic Water Emergency Validation	Continuous service during emergency operation conditions	Critical
Fiber-Optic Ring Interconnection Testing	Successful communications under all operating conditions	Critical

Fire Alarm Network Validation	100% device communications and reporting	Critical
Fiber-Optic Ring Failure Recovery	Successful operation following loss of a fiber segment	Critical
Life-Safety Alarm Validation	100% successful monitoring, reporting, and annunciation	Critical
Emergency Power Integration	Continuous operation during utility outage conditions	Critical
Alarm and Notification Validation	100% successful notification and event reporting	Critical
Recovery Testing	Successful restoration following fault conditions	Major
Integrated Systems Testing	Successful completion of all approved scenarios	Critical

Commissioning Failure Consequences

Failure to satisfy any requirement contained within this System-Specific Matrix shall constitute grounds for withholding progress payments, milestone payments, retainage release, milestone approvals, Substantial Completion, Beneficial Occupancy, Final Completion, or any combination thereof, in accordance with the Project Commissioning Specification and as determined by ASEM.

3. Functional Performance Testing (FPT)

FPT-FLS-01 – Stormwater Surcharge Simulation

Objective

Demonstrate that the stormwater collection, conveyance, detention, discharge, and flood protection systems can safely accommodate extreme stormwater surcharge conditions without adverse impacts to the facility.

Test Procedure

The Design-Builder shall simulate stormwater conditions representative of the approved design storm event.

Testing shall verify:

- stormwater collection capacity;
- pipe surcharge conditions;
- drainage system performance;

- backflow prevention operation;
- site drainage performance;
- flood control measures;
- monitoring and alarm functions.

Acceptance Criteria

The system shall demonstrate:

- no uncontrolled flooding;
- no reverse flow into protected areas;
- successful operation of all flood mitigation controls;
- successful alarm activation;
- successful drainage system recovery.

Critical Acceptance Requirement

Any uncontrolled flooding, backflow event, or failure of flood protection infrastructure shall constitute a Critical Deficiency.

Required Deliverable

Stormwater Surcharge Simulation Report.

FPT-FLS-02 – Basement Flood (Sump Pit) Test

Objective

Demonstrate the ability of the sump pit system and associated drainage infrastructure to protect below-grade spaces from flooding.

Test Procedure

The Design-Builder shall conduct a controlled flood simulation within the sump pit system.

Testing shall verify:

- water collection;
- level sensing;
- automatic pump initiation;
- pump sequencing;
- pump redundancy;
- discharge performance;
- alarm activation;

- return-to-normal operation.

Acceptance Criteria

The system shall demonstrate:

- successful water collection;
- automatic pump activation;
- successful water removal;
- successful operation of standby pumps;
- successful alarm generation;
- successful restoration following test completion.

Critical Acceptance Requirement

Failure of sump pump operation, pump redundancy, flood control, or alarm functionality shall constitute a Critical Deficiency.

Required Deliverable

Basement Flood (Sump Pit) Test Report.

FPT-FLS-03 – Fiber-Optic Ring Fire Alarm Interconnection

Objective

Demonstrate reliable communications and survivability of the fiber-optic fire alarm network.

Test Procedure

The Design-Builder shall verify:

- fiber-optic communications;
- panel-to-panel communications;
- network redundancy;
- fire alarm reporting;
- annunciator functionality;
- emergency communications;
- fault monitoring.

Testing shall include intentional isolation of fiber segments.

Acceptance Criteria

The system shall demonstrate:

- continuous communications;
- proper rerouting through alternate paths;
- successful alarm transmission;
- successful supervisory reporting;
- successful operation following network faults.

Critical Acceptance Requirement

Loss of fire alarm communications, loss of network integrity, or failure of redundancy functions shall constitute a Critical Deficiency.

Required Deliverable

Fiber-Optic Ring Fire Alarm Validation Report.

4. Integrated Systems Testing (IST)

IST-FLS-01 – Flood Protection and Life-Safety Resiliency Scenario

Scenario

The Design-Builder shall execute an integrated operational scenario including:

1. Simulated severe stormwater event.
2. Stormwater surcharge conditions.
3. Activation of flood-control systems.
4. Sump pit level escalation.
5. Automatic sump pump operation.
6. Failure of one sump pump.
7. Operation of redundant pumping equipment.
8. Utility power loss.
9. Emergency power activation.
10. Fiber-optic network interruption.
11. Automatic communication path recovery.
12. Continued fire alarm operation.
13. Return to normal operation.

Acceptance Criteria

The integrated systems shall demonstrate:

- successful flood protection performance;

- successful sump pit operation;
- successful pump redundancy operation;
- successful fire alarm communications;
- successful emergency power support;
- successful life-safety monitoring;
- successful recovery and restoration.

Required Deliverable

Integrated Flood Protection and Life-Safety Validation Report.

5. Minimum Quantitative Acceptance Parameters

The minimum quantitative acceptance parameters for the Flood Protection, Plumbing, and Life-Safety Systems are the numerical values, tolerances, response times, and performance metrics stated in the Minimum Acceptance Criteria Matrix, the Functional Performance Testing and Integrated Systems Testing procedures of this System-Specific Matrix, the approved Basis of Design (BOD), and the manufacturer requirements, with the more stringent value governing.

Where a parameter required to determine the acceptance of a test is not stated numerically, the Engineer of Record (EOR) shall establish it in the Commissioning Plan before the execution of Functional Performance Testing, for review by the Owner's CxA and approval by ASEM, in accordance with the Engineering Validation of Quantitative Acceptance Criteria provisions of this System-Specific Matrix.

6. Critical Deficiency Classification

The following conditions shall automatically constitute Level 1 Critical Deficiencies:

Flood Protection Systems

- Failure of stormwater surcharge protection.
- Uncontrolled flooding.
- Failure of flood mitigation systems.
- Failure of drainage system functionality.
- Failure of backflow prevention devices.

Sump Pit Systems

- Failure of sump pumps.

- Failure of pump redundancy.
- Failure of automatic pump initiation.
- Failure of pump controls.
- Failure of flood alarm systems.

Fire Alarm Systems

- Fire alarm communication failure.
- Fiber-optic network failure affecting system functionality.
- Loss of alarm reporting.
- Loss of alarm monitoring.
- Failure of supervisory functions.

Life-Safety Systems

- Failure of emergency notification.
- Failure of life-safety communications.
- Failure of emergency monitoring systems.
- Failure affecting code-required life-safety functions.

Emergency and Resiliency Functions

- Failure during utility outage.
- Failure of emergency power support.
- Failure of fault recovery functions.
- Failure of resiliency objectives.

Operational Impact

- Failure affecting flood protection reliability.
- Failure affecting life-safety reliability.
- Failure resulting in interruption of required emergency functions.
- Failure affecting continuity of operations.
- Failure affecting approved performance criteria.

Attachment 1: Scope of Works

7. Evidence, Deliverables, and Acceptance Documentation Matrix

Commissioning Activity	Required Verification Evidence	Required Deliverable	Acceptance Authority	Acceptance Authority
Stormwater Surcharge Testing	Simulation records, drainage data	Stormwater Surcharge Simulation Report	ASEM	Owner's CxA
Sump Pit Flood Testing	Water level and pump operation records	Basement Flood Validation Report	ASEM	Owner's CxA
Pump Redundancy Testing	Pump sequencing records	Pump Redundancy Validation Report	ASEM	Owner's CxA
Plumbing Reliability Testing	Performance records	Plumbing Validation Report	ASEM	Owner's CxA
Backflow Prevention Validation	Test records and certifications	Backflow Validation Report	ASEM	Owner's CxA
Fiber Ring Validation	Network performance logs	Fiber-Optic Ring Validation Report	ASEM	Owner's CxA
Fire Alarm Validation	Alarm and event logs	Fire Alarm Validation Report	ASEM	Owner's CxA
Life-Safety Validation	Device and network records	Life-Safety Validation Report	ASEM	Owner's CxA
Emergency Power Integration Testing	Transfer records	Emergency Operations Validation Report	ASEM	Owner's CxA
Integrated Systems Testing	Scenario execution records	Integrated Systems Validation Report	ASEM	Owner's CxA

Deficiency Resolution	Corrective action records	Deficiency Closure Report	ASEM	Owner's CxA
Final Completion	Consolidated commissioning package	Final Flood Protection and Life-Safety Commissioning Report	ASEM	Owner's CxA

Notwithstanding any designation contained within this Matrix, final approval authority, acceptance authority, deficiency closure authority, Substantial Completion authority, Beneficial Occupancy authority, Final Completion authority, payment release authority, and retainage release authority shall remain solely with ASEM, as more particularly established in the Project Commissioning Specification. The Owner's Independent Commissioning Authority (CxA) shall serve solely in a verification, validation, witnessing, and recommendation capacity.

Commissioning Failure Consequences

Failure to satisfy any requirement contained within this System-Specific Matrix shall constitute grounds for withholding progress payments, milestone payments, retainage release, milestone approvals, Substantial Completion, Beneficial Occupancy, Final Completion, or any combination thereof, in accordance with the Project Commissioning Specification and as determined by ASEM.

8. Mandatory Deliverables

In addition to the deliverables identified in the Evidence, Deliverables, and Acceptance Documentation Matrix, the following deliverables are mandatory for the Flood Protection, Plumbing, and Life-Safety Systems and shall be reviewed by the Owner's CxA and accepted by ASEM:

Technical Documentation: as-built drawings; control diagrams and sequences of operation, as applicable; equipment inventory; manufacturer certifications; and warranty documentation.

Testing Documentation: the report of each Functional Performance Test and Integrated Systems Test of this System-Specific Matrix; the deficiency log; and retesting documentation.

Operational Documentation: standard operating procedures; emergency

operating procedures; alarm and event response procedures, as applicable; and preventive maintenance procedures.

Training Documentation: training plan; training materials; attendance records; and operational competency evaluations.

9. Final Completion Documentation Package

The Design-Builder shall submit a Final Flood Protection, Plumbing, and Life-Safety Commissioning Report containing, at a minimum:

1. Executive Summary.
2. System Description.
3. Equipment Inventory.
4. Flood Protection System Validation Results.
5. Stormwater Surcharge Simulation Results.
6. Drainage System Validation Results.
7. Backflow Prevention Validation Results.
8. Basement Flood (Sump Pit) Test Results.
9. Pump Redundancy Validation Results.
10. Plumbing Validation Results.
11. Fiber-Optic Ring Validation Results.
12. Fire Alarm Validation Results.
13. Life-Safety Validation Results.
14. Emergency Operations Validation Results.
15. Integrated Systems Testing Results.
16. Training Documentation.
17. Deficiency Log and Closure Documentation.
18. Corrective Action Documentation.
19. Manufacturer Certifications.
20. Warranty Documentation.
21. Regulatory Certifications.
22. Final Completion Recommendation.

10. Integrated Systems Testing Failure Threshold

Any failed Integrated Systems Test involving:

- stormwater surcharge protection;
- flood mitigation systems;

- sump pit operation;
- pump redundancy;
- backflow protection;
- fire alarm communications;
- fiber-optic ring functionality;
- life-safety systems;
- emergency power support; or
- continuity of operations supported by the flood protection, plumbing, and life-safety infrastructure,

shall automatically constitute a Level 1 Critical Deficiency and shall require complete re-execution of the failed scenario prior to recommendation of Substantial Completion, Beneficial Occupancy, or Final Completion.

11. Substantial Completion Restriction

Notwithstanding any other provision of the Contract Documents, the existence of any unresolved flood protection deficiency, unresolved sump pit deficiency, unresolved backflow prevention deficiency, unresolved fire alarm deficiency, unresolved fiber-optic interconnection deficiency, unresolved life-safety system deficiency, unresolved emergency operations deficiency, unresolved Integrated Systems Testing deficiency, missing deliverable, incomplete validation report, or unresolved Critical Deficiency shall automatically preclude recommendation of Substantial Completion, Beneficial Occupancy, and Final Completion.

ASEM may withhold milestone approvals, progress payments, retainage release, Beneficial Occupancy, Substantial Completion, and Final Completion until all corrective actions, retesting requirements, validation requirements, documentation requirements, and acceptance criteria have been fully satisfied, verified by the Owner's Independent Commissioning Authority (CxA), and formally accepted by ASEM.

12. Express ASEM Authority

Notwithstanding any recommendation issued by the Owner's Independent Commissioning Authority, ASEM reserves the unrestricted right to reject, suspend, defer, condition, or withhold any recommendation for Beneficial Occupancy, Substantial Completion, Final Completion, payment release, retainage release, or milestone approval whenever ASEM determines that any commissioned system

fails to satisfy the operational, clinical, resiliency, reliability, patient-safety, emergency preparedness, business continuity, or risk management objectives of the Hospital.

13. Engineering Validation of Quantitative Acceptance Criteria

The quantitative performance criteria identified within the Commissioning Specifications and this System-Specific Matrix are intended to establish minimum commissioning and validation objectives. Prior to Final Completion, the Design-Builder shall submit to ASEM and the Owner's CxA a sealed certification by the Engineer of Record (EOR) confirming that all specified acceptance thresholds, operating tolerances, response times, performance metrics, and reliability criteria are consistent with the approved Basis of Design (BOD), manufacturer-certified requirements, applicable codes and standards, and the final design documents. Where the EOR determines that an identified criterion is inconsistent with the approved design basis or applicable standards, the EOR shall recommend a revised criterion for review and approval by ASEM. In all cases, the more stringent requirement established by the Contract Documents, approved BOD, applicable codes, or manufacturer requirements shall govern.

Any numerical value identified herein shall be deemed a preliminary commissioning criterion unless expressly established in the approved Basis of Design. Prior to execution of Functional Performance Testing and Integrated Systems Testing, all quantitative acceptance thresholds shall be reviewed and certified by the Engineer of Record and approved by ASEM.

14. Commissioning Traceability and Acceptance Register (CTAR)

Each acceptance criterion, test, evidence item, and deficiency associated with this System-Specific Matrix shall be recorded in the Commissioning Traceability and Acceptance Register (CTAR) required by the Project Commissioning Specification. No system covered by this Matrix shall be eligible for Substantial Completion, Beneficial Occupancy, or Final Completion unless all requirements identified in the CTAR are demonstrated as fully compliant and accepted by ASEM.

15. Whole-Building Validation Requirements

The Design-Builder shall demonstrate that this system satisfies the requirements of the Full Clinical Operations Simulation Testing (FCOST) and the Hurricane Resiliency Validation Program established in the Project Commissioning Specification.

Attachment 1: Scope of Works

16. Additional Acceptance Package Deliverables

In addition to the deliverables identified in this Matrix, the Design-Builder shall include the following in the acceptance package for this system:

- a Digital Twin of Commissioning, including trends, sequences, alarms, operating models, system relationships, and integrated system responses, in a format approved by ASEM;
- a Deficiency Closure Certification certifying actual closure, verifiable evidence, successful retesting, and no recurrence of deficiencies;
- an Executive Acceptance Dashboard, including requirements satisfied, open requirements, risk items, acceptance restrictions, contingency items, and unresolved actions; and
- a Warranty Readiness Report, including warranty commencement date, warranty coverage, responsible entities, warranty exclusions, response times, and escalation procedures.

17. Cost Responsibility

All costs associated with failed flood protection tests, stormwater surcharge deficiencies, sump pit deficiencies, pump failures, plumbing deficiencies, fire alarm deficiencies, fiber-optic network deficiencies, life-safety deficiencies, emergency power integration deficiencies, recommissioning, retesting, corrective work, controls modifications, communication network modifications, manufacturer remobilization, replacement equipment, schedule recovery efforts, and all other actions necessary to achieve compliance with the Contract Documents shall be borne solely by the Design-Builder and shall not entitle the Design-Builder to any increase in Contract Price or Contract Time.

18. Emergency Infrastructure Integration

Compliance with all flood protection, sump pump, drainage, fire alarm, communications, and emergency power integration requirements shall be demonstrated both independently and within the Whole-Building Integrated Systems Testing Program.

Attachment 1: Scope of Works

19. Reliability Demonstration Period

Successful completion of Functional Performance Testing (FPT) and Integrated Systems Testing (IST) shall not, by itself, constitute acceptance of the System.

Each Critical System shall successfully complete a Reliability Demonstration Period of not less than thirty (30) consecutive calendar days following completion of all required testing.

In addition to the minimum duration established above, the Reliability Demonstration Period shall require:

- System availability meeting the targets established by the Engineer of Record in the approved BOD and Commissioning Plan, which shall be monitored and reported throughout the Reliability Demonstration Period;
- Zero Critical Deficiencies;
- Zero Unplanned Service Interruptions affecting life-safety, patient-care, critical-care, emergency response, resiliency, environmental control, medical gas distribution, emergency power, BAS operation, or other essential hospital functions;
- Not more than one (1) Major Deficiency, provided such deficiency does not affect patient care, life-safety systems, resiliency objectives, continuity of operations, required performance criteria, or regulatory compliance; and
- No recurring deficiencies.

The occurrence of any Critical Deficiency, any prohibited Major Deficiency, any recurring deficiency, any unplanned service interruption affecting essential hospital functions, or more than one (1) Major Deficiency shall constitute failure of the Reliability Demonstration Period and shall require corrective action, recommissioning, retesting, and restart of the Reliability Demonstration Period.

Any Critical Deficiency occurring during the Reliability Demonstration Period shall require corrective action, retesting, recommissioning, and restart of the Reliability Demonstration Period, as directed by ASEM.

20. Repeated Failure Escalation

Three (3) occurrences of the same failed Functional Performance Test, Integrated Systems Test, subsystem, control sequence, communication pathway, resiliency feature, emergency function, or acceptance criterion shall automatically result in classification of the condition as a Level 1 Critical Deficiency regardless of its

original classification.

21. Independent Validation Rights

ASEM reserves the right to perform, commission, or procure independent forensic investigations, engineering evaluations, commissioning reviews, reliability assessments, laboratory analyses, performance testing, or third-party validation whenever repeated failures, unresolved deficiencies, disputed results, operational concerns, life-safety concerns, resiliency concerns, or commissioning disputes exist.

Where such testing confirms a deficiency, nonconformance, or failure to achieve the Contract Documents, all associated costs shall be reimbursed by the Design-Builder. This right shall supplement and not replace the Design-Builder's commissioning obligations.

Attachment 1: Scope of Works

SYSTEM-SPECIFIC MINIMUM ACCEPTANCE CRITERIA AND COMMISSIONING MATRIX

System Commissioning: HVAC, Electrical, and Plumbing Systems

1. General Requirements

The Design-Builder shall demonstrate through Commissioning, Functional Performance Testing (FPT), Integrated Systems Testing (IST), resiliency testing, emergency operations testing, failure mode testing, recovery testing, and operational validation that all HVAC, Electrical, Plumbing, and interconnected Building Infrastructure Systems operate as an integrated system capable of supporting continuous hospital operations in accordance with the Contract Documents, Owner's Project Requirements (OPR), Basis of Design (BOD), approved sequences of operation, continuity of operations requirements, resiliency objectives, and applicable codes and standards.

System commissioning shall validate:

- interoperability among HVAC, Electrical, Plumbing, BAS, EPMS, Fire Alarm, Medical Gas, and Life-Safety systems;
- operation during normal conditions;
- operation during emergency conditions;
- operation during utility failures;
- operation during equipment failures;
- operation during disaster recovery scenarios;
- recovery following abnormal conditions;
- required redundancy and resiliency functions; and
- achievement of all performance criteria established in the approved Basis of Design.

Failure of any Critical Acceptance Criterion identified herein shall constitute a Level 1 Critical Deficiency.

The Owner's Independent Commissioning Authority (CxA) shall independently witness, verify, and validate all testing activities. Final Completion authority shall remain solely with ASEM.

Attachment 1: Scope of Works

This System-Specific Commissioning Matrix shall be read in conjunction with the Project Commissioning Specification. In the event of any inconsistency, conflict, omission, duplication, or ambiguity between this System-Specific Matrix and the Project Commissioning Specification, the more stringent requirement shall govern, as determined by ASEM.

All provisions related to commissioning administration, authority, acceptance, deficiency management, corrective actions, retesting, payment withholding, Substantial Completion, Beneficial Occupancy, Final Completion, warranty obligations, and Design-Builder responsibility are incorporated herein by reference as though fully stated herein. Deficiency Notices and Non-Conformance Notices shall be issued by the Owner's CxA. The Design-Builder shall determine the corrective measure, in consultation with the DB-Cx, and shall execute the correction. ASEM shall approve the resolution of each deficiency.

2. Minimum Acceptance Criteria Matrix

Commissioning Activity Acceptance Criteria	Classification	Minimum
HVAC System Validation	Demonstrates required temperature, humidity, airflow and pressure control	Critical
Electrical System Validation	Demonstrates continuous support of required loads	Critical
Plumbing System Validation	Demonstrates uninterrupted operation and distribution	Critical
BAS Integration Validation	Successful control, monitoring and trending	Critical
EPMS Integration Validation	Successful electrical monitoring and reporting	Major
Emergency Power Validation	Successful utility-to-emergency transition	Critical
Generator N+1 Validation	Successful operation under generator contingency conditions	Critical
BESS Validation	Successful operation and resiliency response	Critical
Chilled Water Failure Validation	Successful response and recovery	Critical
Stormwater and Drainage Validation	Successful operation without flooding or backflow	Critical

Fire Alarm Network Validation	Successful communications and alarm operation	Critical
Life-Safety System Validation	Successful operation during emergency conditions	Critical
Integrated Utility Failure Testing	Successful operation during compound failures	Critical
Recovery Validation	Successful restoration following abnormal conditions	Major
Integrated Systems Testing	Successful completion of all approved IST scenarios	Critical

Commissioning Failure Consequences

Failure to satisfy any requirement contained within this System-Specific Matrix shall constitute grounds for withholding progress payments, milestone payments, retainage release, milestone approvals, Substantial Completion, Beneficial Occupancy, Final Completion, or any combination thereof, in accordance with the Project Commissioning Specification and as determined by ASEM.

3. Functional Performance Testing (FPT)

FPT-SYS-01 – Cross-System Interoperability Validation

Objective

Demonstrate successful interoperability among HVAC, Electrical, Plumbing, BAS, EPMS, Fire Alarm, Medical Gas, Emergency Power, and associated infrastructure systems.

Acceptance Criteria

The integrated systems shall demonstrate:

- proper command execution;
- proper status reporting;
- successful alarm generation;
- successful event logging;
- successful control interface functionality;

- successful sequence execution.

Required Deliverable

Cross-System Interoperability Validation Report.

FPT-SYS-02 – Utility Failure and Recovery Validation

Objective

Demonstrate proper operation of all interconnected systems during utility loss and restoration.

Test Procedure

The Design-Builder shall simulate:

- utility power loss;
- utility restoration;
- communication interruptions;
- critical equipment failures.

Acceptance Criteria

The integrated systems shall demonstrate:

- uninterrupted support of critical functions;
- successful recovery;
- proper alarm and notification operation;
- successful restoration of normal operating conditions.

Required Deliverable

Utility Failure and Recovery Validation Report.

FPT-SYS-03 – Facility-Wide Resiliency Validation

Objective

Demonstrate the ability of interconnected building systems to maintain operation during abnormal conditions.

Acceptance Criteria

The integrated building systems shall demonstrate:

- automatic fault response;
- operation of required redundancy;
- preservation of critical services;
- successful restoration following failure conditions.

Required Deliverable

Facility Resiliency Validation Report.

4. Integrated Systems Testing (IST)

IST-SYS-01 – Full Facility Emergency Resiliency Scenario

Objective

Demonstrate integrated operation of all major infrastructure systems during a compound emergency event.

Scenario

The Design-Builder shall execute an integrated operational scenario involving:

1. Normal operation.
2. Utility power outage.
3. Generator startup.
4. BESS response.
5. HVAC alternate operating modes.
6. Plumbing system emergency operation.
7. BAS and EPMS monitoring.
8. Fire alarm communications.
9. Emergency power operation.
10. Generator contingency simulation.
11. Chilled-water interruption.
12. Recovery and restoration.

Acceptance Criteria

The facility systems shall demonstrate:

- continuous support of critical functions;
  - uninterrupted monitoring;
  - successful emergency operation;

- successful fault recovery;
- successful restoration of normal operation;
- compliance with approved OPR and BOD requirements.

Required Deliverable

Integrated Facility Resiliency Validation Report.

5. Minimum Quantitative Acceptance Parameters

The minimum quantitative acceptance parameters for the HVAC, Electrical, and Plumbing Systems are the numerical values, tolerances, response times, and performance metrics stated in the Minimum Acceptance Criteria Matrix, the Functional Performance Testing and Integrated Systems Testing procedures of this System-Specific Matrix, the approved Basis of Design (BOD), and the manufacturer requirements, with the more stringent value governing.

Where a parameter required to determine the acceptance of a test is not stated numerically, the Engineer of Record (EOR) shall establish it in the Commissioning Plan before the execution of Functional Performance Testing, for review by the Owner's CxA and approval by ASEM, in accordance with the Engineering Validation of Quantitative Acceptance Criteria provisions of this System-Specific Matrix.

6. Critical Deficiency Classification

The following conditions shall automatically constitute Level 1 Critical Deficiencies:

HVAC Systems

- Failure of environmental control.
- Failure of containment requirements.
- Failure of pressure relationships.
- Failure of redundancy functions.

Electrical Systems

- Failure of emergency power systems.
- Failure of generator startup.
- Failure of BESS resiliency functions.
- Failure of critical load support.

Plumbing Systems

- Failure of critical water distribution systems.
- Failure of drainage systems.
- Failure of flood protection systems.
- Failure of backflow protection systems.

Building Controls

- BAS failure affecting required operations.
- EPMS failure affecting monitoring requirements.
- Failure of control sequences.

Life-Safety Systems

- Failure of fire alarm communications.
- Failure of emergency notification systems.
- Failure of required monitoring functions.

Operational Impact

- Failure affecting continuity of operations.
- Failure affecting approved resiliency objectives.
- Failure affecting approved performance criteria.
- Failure resulting in interruption of required hospital support systems.

7. Evidence, Deliverables, and Acceptance Documentation Matrix

Commissioning Activity	Required Evidence	Required Deliverable	Acceptance Authority	Verification Authority
HVAC Validation	Trend logs, control records	HVAC Validation Report	ASEM	Owner's CxA
Electrical Validation	Event logs and operational records	Electrical Validation Report	ASEM	Owner's CxA
Plumbing Validation	Performance and flow records	Plumbing Validation Report	ASEM	Owner's CxA
BAS Validation	Control system records	BAS Validation Report	ASEM	Owner's CxA

EPMS Validation	Monitoring records	EPMS Validation Report	ASEM	Owner's CxA
Emergency Power Validation	Runtime and transfer records	Emergency Power Validation Report	ASEM	Owner's CxA
Utility Failure Validation	Event and recovery logs	Utility Failure Validation Report	ASEM	Owner's CxA
Resiliency Validation	Scenario execution records	Resiliency Validation Report	ASEM	Owner's CxA
Integrated Systems Testing	IST execution records	Integrated Systems Testing Report	ASEM	Owner's CxA
Deficiency Resolution	Corrective action documentation	Deficiency Closure Report	ASEM	Owner's CxA
Final Completion	Consolidated commissioning package	Final System Commissioning Report	ASEM	Owner's CxA

Notwithstanding any designation contained within this Matrix, final approval authority, acceptance authority, deficiency closure authority, Substantial Completion authority, Beneficial Occupancy authority, Final Completion authority, payment release authority, and retainage release authority shall remain solely with ASEM, as more particularly established in the Project Commissioning Specification. The Owner's Independent Commissioning Authority (CxA) shall serve solely in a verification, validation, witnessing, and recommendation capacity.









Commissioning Failure Consequences

Failure to satisfy any requirement contained within this System-Specific Matrix shall constitute grounds for withholding progress payments, milestone payments, retainage release, milestone approvals, Substantial Completion, Beneficial Occupancy, Final Completion, or any combination thereof, in accordance with the Project Commissioning Specification and as determined by ASEM.

Attachment 1: Scope of Works

8. Mandatory Deliverables

Technical Documentation

- As-Built Drawings.
- System Architecture Diagrams.
- One-Line Diagrams.
- Control Diagrams.
- Sequences of Operation.
- Equipment Inventory.
- Manufacturer Certifications.
- Warranty Documentation.

Testing Documentation

- HVAC Validation Reports.
- Electrical Validation Reports.
- Plumbing Validation Reports.
- BAS Validation Reports.
- EPMS Validation Reports.
- Utility Failure Validation Reports.
- Facility Resiliency Validation Reports.
- Integrated Systems Testing Reports.
- Deficiency Logs.
- Retesting Documentation.

Operational Documentation

- Standard Operating Procedures.
- Emergency Operating Procedures.
- Business Continuity Procedures.
- Disaster Recovery Procedures.
- Alarm Response Procedures.
- Preventive Maintenance Procedures.

Training Documentation

- Training Plan.
- Training Materials.
- Attendance Records.
- Competency Evaluations.

- Emergency Response Training Documentation.

9. Final Completion Documentation Package

The Design-Builder shall submit a Final System Commissioning Report containing, at a minimum:

1. Executive Summary.
2. System Description.
3. Equipment Inventory.
4. HVAC Validation Results.
5. Electrical Validation Results.
6. Plumbing Validation Results.
7. BAS Validation Results.
8. EPMS Validation Results.
9. Utility Failure Validation Results.
10. Facility Resiliency Validation Results.
11. Integrated Systems Testing Results.
12. Training Documentation.
13. Deficiency Log and Closure Documentation.
14. Corrective Action Documentation.
15. Manufacturer Certifications.
16. Warranty Documentation.
17. Regulatory Certifications.
18. Final Completion Recommendation.

10. Integrated Systems Testing Failure Threshold

Any failed Integrated Systems Test involving:

- HVAC systems;
- Electrical systems;
- Plumbing systems;
- BAS;
- EPMS;
- emergency power systems;
- life-safety systems;
- flood protection systems;
- environmental control systems; or

- continuity of operations supported by critical building infrastructure,

shall automatically constitute a Level 1 Critical Deficiency and shall require complete re-execution of the failed scenario prior to recommendation of Substantial Completion, Beneficial Occupancy, or Final Completion.

11. Substantial Completion Restriction

Notwithstanding any other provision of the Contract Documents, the existence of any unresolved Critical Deficiency, unresolved HVAC deficiency, unresolved Electrical deficiency, unresolved Plumbing deficiency, unresolved BAS deficiency, unresolved EPMS deficiency, unresolved emergency power deficiency, unresolved life-safety deficiency, unresolved Integrated Systems Testing deficiency, missing deliverable, incomplete validation report, or unresolved resiliency deficiency shall automatically preclude recommendation of Substantial Completion, Beneficial Occupancy, and Final Completion.

ASEM may withhold milestone approvals, progress payments, retainage release, Beneficial Occupancy, Substantial Completion, and Final Completion until all corrective actions, retesting requirements, documentation requirements, validation requirements, and acceptance criteria have been fully satisfied, verified by the Owner's Independent Commissioning Authority (CxA), and formally accepted by ASEM.

12. Express ASEM Authority

Notwithstanding any recommendation issued by the Owner's Independent Commissioning Authority, ASEM reserves the unrestricted right to reject, suspend, defer, condition, or withhold any recommendation for Beneficial Occupancy, Substantial Completion, Final Completion, payment release, retainage release, or milestone approval whenever ASEM determines that any commissioned system fails to satisfy the operational, clinical, resiliency, reliability, patient-safety, emergency preparedness, business continuity, or risk management objectives of the Hospital.

13. Engineering Validation of Quantitative Acceptance Criteria

The quantitative performance criteria identified within the Commissioning Specifications and this System-Specific Matrix are intended to establish minimum commissioning and validation objectives. Prior to Final Completion, the Design-Builder shall submit to ASEM and the Owner's CxA a sealed certification by the Engineer of Record (EOR) confirming that all specified acceptance thresholds,

operating tolerances, response times, performance metrics, and reliability criteria are consistent with the approved Basis of Design (BOD), manufacturer-certified requirements, applicable codes and standards, and the final design documents. Where the EOR determines that an identified criterion is inconsistent with the approved design basis or applicable standards, the EOR shall recommend a revised criterion for review and approval by ASEM. In all cases, the more stringent requirement established by the Contract Documents, approved BOD, applicable codes, or manufacturer requirements shall govern.

Any numerical value identified herein shall be deemed a preliminary commissioning criterion unless expressly established in the approved Basis of Design. Prior to execution of Functional Performance Testing and Integrated Systems Testing, all quantitative acceptance thresholds shall be reviewed and certified by the Engineer of Record and approved by ASEM.

14. Commissioning Traceability and Acceptance Register (CTAR)

Each acceptance criterion, test, evidence item, and deficiency associated with this System-Specific Matrix shall be recorded in the Commissioning Traceability and Acceptance Register (CTAR) required by the Project Commissioning Specification. No system covered by this Matrix shall be eligible for Substantial Completion, Beneficial Occupancy, or Final Completion unless all requirements identified in the CTAR are demonstrated as fully compliant and accepted by ASEM.

15. Whole-Building Validation Requirements

The Design-Builder shall demonstrate that this system satisfies the requirements of the Full Clinical Operations Simulation Testing (FCOST) and the Hurricane Resiliency Validation Program established in the Project Commissioning Specification.

16. Additional Acceptance Package Deliverables

In addition to the deliverables identified in this Matrix, the Design-Builder shall include the following in the acceptance package for this system:

- a Digital Twin of Commissioning, including trends, sequences, alarms, operating models, system relationships, and integrated system responses, in a format approved by ASEM;
- a Deficiency Closure Certification certifying actual closure, verifiable evidence, successful retesting, and no recurrence of deficiencies;
- an Executive Acceptance Dashboard, including requirements satisfied, open

requirements, risk items, acceptance restrictions, contingency items, and unresolved actions; and

- a Warranty Readiness Report, including warranty commencement date, warranty coverage, responsible entities, warranty exclusions, response times, and escalation procedures.

17. Cost Responsibility

All costs associated with failed commissioning tests, interoperability deficiencies, HVAC deficiencies, Electrical deficiencies, Plumbing deficiencies, BAS deficiencies, EPMS deficiencies, resiliency deficiencies, recommissioning, retesting, corrective work, controls reprogramming, software modifications, replacement equipment, manufacturer remobilization, schedule recovery efforts, and any other action necessary to achieve compliance with the Contract Documents shall be borne solely by the Design-Builder and shall not entitle the Design-Builder to any increase in Contract Price or Contract Time.

18. Containment Recovery Validation

Reference is made to the Facility-Wide Resiliency Validation requirements contained within the System Commissioning Matrix.

Any failure affecting environmental control, containment performance, pressure relationships, or recovery following abnormal operating conditions shall be evaluated under both this System-Specific Matrix and the Whole-Building Integrated Systems Testing Program.

19. Reliability Demonstration Period

Successful completion of Functional Performance Testing (FPT) and Integrated Systems Testing (IST) shall not, by itself, constitute acceptance of the System. Each Critical System shall successfully complete a Reliability Demonstration Period of not less than thirty (30) consecutive calendar days following completion of all required testing.

In addition to the minimum duration established above, the Reliability Demonstration Period shall require: system availability meeting the targets established by the Engineer of Record in the approved BOD and Commissioning Plan, monitored and reported throughout the period; zero Critical Deficiencies; zero unplanned service interruptions affecting life-safety, patient-care, critical-care, emergency response, resiliency, environmental control, emergency power, BAS

operation, or other essential hospital functions; not more than one (1) Major Deficiency, provided such deficiency does not affect patient care, life-safety systems, resiliency objectives, continuity of operations, required performance criteria, or regulatory compliance; and no recurring deficiencies.

The occurrence of any Critical Deficiency, any prohibited Major Deficiency, any recurring deficiency, any unplanned service interruption affecting essential hospital functions, or more than one (1) Major Deficiency shall constitute failure of the Reliability Demonstration Period and shall require corrective action, recommissioning, retesting, and restart of the Reliability Demonstration Period, as directed by ASEM.

20. Repeated Failure Escalation

Three (3) occurrences of the same failed Functional Performance Test, Integrated Systems Test, subsystem, control sequence, communication pathway, resiliency feature, emergency function, or acceptance criterion shall automatically result in classification of the condition as a Level 1 Critical Deficiency regardless of its original classification.

21. Independent Validation Rights

ASEM reserves the right to perform, commission, or procure independent forensic investigations, engineering evaluations, commissioning reviews, reliability assessments, laboratory analyses, performance testing, or third-party validation whenever repeated failures, unresolved deficiencies, disputed results, operational concerns, life-safety concerns, resiliency concerns, or commissioning disputes exist.

Where such testing confirms a deficiency, nonconformance, or failure to achieve the Contract Documents, all associated costs shall be reimbursed by the Design-Builder. This right shall supplement and not replace the Design-Builder's commissioning obligations.

Attachment 1: Scope of Works

SYSTEM-SPECIFIC MINIMUM ACCEPTANCE CRITERIA AND COMMISSIONING MATRIX

Hybrid Electrical Infrastructure, Emergency Power Plant, Microgrid (BESS), and Critical Electrical Distribution System

1. General Requirements

The Design-Builder shall demonstrate through Commissioning, Functional Performance Testing (FPT), Integrated Systems Testing (IST), resiliency validation, electrical reliability testing, emergency operation testing, microgrid validation, black-start testing, generator redundancy testing, fuel autonomy demonstrations, vibration and noise monitoring, and operational readiness testing that the Electrical Infrastructure performs safely, reliably, continuously, and in accordance with the Contract Documents, Owner's Project Requirements (OPR), Basis of Design (BOD), NFPA 70, NFPA 99, NFPA 110, IEEE Standards, UL Standards, manufacturer-certified requirements, and all applicable healthcare facility requirements.

The commissioning process shall verify:

- Utility service reliability.
- Emergency power system performance.
- N+1 redundancy functionality.
- ATS operation.
- Generator synchronization.
- BESS functionality.
- Microgrid operation.
- Electrical distribution integrity.
- Critical power continuity.
- Life-safety power availability.
- Fuel autonomy.
- Resiliency under fault conditions.
- Vibration performance.
- Noise performance.
- Environmental operating conditions.
- BAS integration.

- System interoperability.
- Recovery following failures.

Failure of any Critical Acceptance Criterion identified herein shall constitute a Level 1 Critical Deficiency.

The Owner's Independent Commissioning Authority (CxA) shall independently witness, verify, validate, and document all testing activities. Final Completion authority shall remain solely with ASEM.

All provisions related to commissioning administration, authority, acceptance, deficiency management, corrective actions, retesting, payment withholding, Substantial Completion, Beneficial Occupancy, Final Completion, warranty obligations, and Design-Builder responsibility are incorporated herein by reference as though fully stated herein. Deficiency Notices and Non-Conformance Notices shall be issued by the Owner's CxA. The Design-Builder shall determine the corrective measure, in consultation with the DB-Cx, and shall execute the correction. ASEM shall approve the resolution of each deficiency.

2. Minimum Acceptance Criteria Matrix

Commissioning Activity	Acceptance Criteria	Minimum Classification
Utility Power Transfer Testing	No loss of critical loads	Critical
ATS Operation Testing	Successful automatic transfer and retransfer	Critical
Generator Start Testing	Generator start within approved criteria	Critical
Generator Synchronization	Stable synchronization under load	Critical
N+1 Redundancy Validation	Continuous operation following loss of one generator	Critical
BESS Validation	No interruption to critical loads	Critical
Microgrid Validation	Automatic transition and recovery	Critical
Fuel Autonomy Demonstration	96-hour capability verified	Critical
Load Bank Testing	Successful operation at design load	Critical
Harmonic Distortion Validation	Compliance with design criteria	Major
Electrical Distribution Validation	Successful operation of all critical feeders	Critical

BAS Integration Validation	Successful monitoring and alarm functionality	Major
Alarm and Notification Testing	100% alarm generation and reporting	Critical
Hygrothermal Stress Testing	Electrical equipment performs within approved environmental limits	Critical
Blackout Recovery Testing	Successful restoration and stabilization	Critical
Vibration and Noise Monitoring	Compliance with approved limits	Major
Integrated Systems Testing	Successful completion of all IST scenarios	Critical

3. Functional Performance Testing (FPT)

FPT-ELEC-01 – Hygrothermal Stress Testing

Objective

Demonstrate that electrical equipment remains operational and compliant when subjected to combinations of elevated temperature, humidity, equipment loading, and environmental stress conditions.

Test Procedure

Testing shall evaluate:

- Main switchgear.
- ATS equipment.
- Generator plant.
- BESS equipment.
- UPS systems.
- Critical distribution equipment.

Testing shall simulate:

- Peak ambient temperature.
- Peak humidity conditions.
- Maximum design electrical loading.
- Utility instability conditions.
- Simultaneous operation of critical systems.

Acceptance Criteria

The system shall demonstrate:

- No equipment trips.
- No overload conditions.
- No protective device nuisance operations.
- Thermal conditions maintained within manufacturer limits.
- Continuous support of critical hospital loads.

Required Deliverable

Hygrothermal Stress Testing Report.

FPT-ELEC-02 – Electrical Failure Simulation

Objective

Demonstrate system resiliency during total utility power loss.

Test Procedure

The Design-Builder shall simulate:

- Complete utility outage.
- ATS transfers.
- Generator startup.
- Generator synchronization.
- BESS operation.
- Return to utility service.

Acceptance Criteria

The system shall demonstrate:

- Automatic sequence execution.
- No unacceptable voltage disturbances.
- No interruption to life-safety loads.
- No interruption to critical care loads.
- Successful restoration and stabilization.

Required Deliverable

Electrical Failure Simulation Report.

FPT-ELEC-03 – Vibration and Noise Monitoring

Objective

Demonstrate that operation of electrical infrastructure does not create excessive vibration or noise capable of affecting hospital operations, sensitive medical equipment, occupants, or structural systems.

Test Procedure

Measurements shall be obtained during:

- Generator operation.
- Synchronization operation.
- Peak loading.
- Emergency operation.
- Blackout simulation.
- BESS charging and discharge cycles.

Testing shall evaluate:

- Generator vibration.
- Structural vibration.
- Transformer vibration.
- Switchgear vibration.
- Mechanical noise.
- Airborne noise.
- Structure-borne noise.

Acceptance Criteria

The system shall demonstrate:

- Compliance with approved project criteria.
- No abnormal vibration.
- No structural resonance.
- No objectionable noise transmission.

- No vibration-induced equipment instability.

Required Deliverable

Electrical Noise and Vibration Validation Report.

4. Integrated Systems Testing (IST)

IST-ELEC-01 – Total Utility Failure and Recovery Scenario

Objective

Demonstrate the ability of all integrated electrical systems to maintain support of critical hospital operations.

Scenario

The test shall include:

- Utility failure.
- ATS transfer.
- BESS operation.
- Generator startup.
- Generator synchronization.
- Critical load support.
- Generator failure simulation.
- N+1 redundancy validation.
- Fuel transfer validation.
- Utility restoration.
- Return to normal operation.

Acceptance Criteria

The integrated system shall demonstrate:

- Continuous support of life-safety systems.
- Continuous support of critical-care systems.
- Successful operation of emergency systems.
- Successful operation of BESS.
- Successful operation under N+1 conditions.
- Successful recovery and restoration.

Required Deliverable

Integrated Electrical Resiliency Validation Report.

5. Minimum Quantitative Acceptance Parameters

The following quantitative criteria are preliminary minimum acceptance objectives for the Electrical infrastructure, subject to confirmation by the Engineer of Record (EOR) and approval by ASEM in accordance with the Engineering Validation of Quantitative Acceptance Criteria provision of this Matrix. Unless a more stringent value is established in the Contract Documents or the approved Basis of Design (BOD), they shall be demonstrated during Functional Performance Testing (FPT) and Integrated Systems Testing (IST). Failure to satisfy any criterion shall be classified in accordance with the Critical Deficiency Classification of this Matrix.

Parameter	Acceptance Criteria
ATS Transfer Time	≤ 10 seconds
Critical Load Recovery	≤ 10 seconds
Generator Frequency Variation	±1 Hz
Voltage Variation	±5%
Total Harmonic Distortion (THD)	≤ 5%
BESS Response Time	≤ 100 milliseconds

6. Critical Deficiency Classification

The following shall automatically constitute Level 1 Critical Deficiencies:

Emergency Power

- Generator failure.
- ATS failure.
- Failure of synchronization.
- Failure of emergency distribution.
- Failure of fuel transfer systems.

Electrical Resiliency

- Failure of N+1 redundancy.
- Failure of BESS operation.
- Failure of microgrid operation.
- Failure of automatic transfer.

- Failure of blackout recovery.

Operational Impact

- Loss of life-safety power.
- Loss of critical care power.
- Loss of emergency communications.
- Loss of medical equipment support.
- Failure affecting continuity of operations.

7. Evidence, Deliverables, and Acceptance Documentation Matrix

Commissioning Activity	Required Evidence	Required Deliverable	Acceptance Authority	Verification Authority
Generator Testing	Generator logs	Generator Validation Report	ASEM	Owner's CxA
ATS Testing	Transfer records	ATS Validation Report	ASEM	Owner's CxA
N+1 Validation	Test records	N+1 Resiliency Report	ASEM	Owner's CxA
BESS Validation	Operational logs	BESS Validation Report	ASEM	Owner's CxA
Fuel Autonomy	Consumption data	Fuel Autonomy Report	ASEM	Owner's CxA
Hygrothermal Stress Testing	Thermal records	Hygrothermal Report	ASEM	Owner's CxA
Failure Simulation	Scenario records	Utility Failure Simulation Report	ASEM	Owner's CxA
Vibration Monitoring	Measurement records	Vibration Compliance Report	ASEM	Owner's CxA
Noise Monitoring	Measurement records	Noise Compliance Report	ASEM	Owner's CxA
BAS Integration	BAS logs	BAS Validation Report	ASEM	Owner's CxA
Integrated Systems Testing	IST logs	IST Report	ASEM	Owner's CxA
Deficiency Resolution	Corrective action records	Deficiency Closure Report	ASEM	Owner's CxA

Final Completion	Consolidated package	Final Electrical Commissioning Report	ASEM	Owner's CxA

8. Mandatory Deliverables

In addition to the deliverables identified in the Evidence, Deliverables, and Acceptance Documentation Matrix, the following deliverables are mandatory for the Hybrid Electrical Infrastructure, Emergency Power Plant, Microgrid (BESS), and Critical Electrical Distribution System and shall be reviewed by the Owner's CxA and accepted by ASEM:

Technical Documentation: as-built drawings; control diagrams and sequences of operation, as applicable; equipment inventory; manufacturer certifications; and warranty documentation.

Testing Documentation: the report of each Functional Performance Test and Integrated Systems Test of this System-Specific Matrix; the deficiency log; and retesting documentation.

Operational Documentation: standard operating procedures; emergency operating procedures; alarm and event response procedures, as applicable; and preventive maintenance procedures.

Training Documentation: training plan; training materials; attendance records; and operational competency evaluations.

9. Final Completion Documentation Package

The Design-Builder shall submit a Final Electrical Commissioning Report containing, at minimum:

- Executive Summary.
- System Description.
- Single-Line Diagrams.
- Generator Validation Results.
- ATS Validation Results.
- Load Bank Testing Results.
- Fuel Autonomy Results.
- N+1 Validation Results.
- BESS Validation Results.
- Microgrid Validation Results.
- Hygrothermal Stress Testing Results.

- Utility Failure Simulation Results.
- Blackout Recovery Results.
- Noise Monitoring Results.
- Vibration Monitoring Results.
- BAS Integration Results.
- Alarm Validation Results.
- IST Results.
- Training Documentation.
- Deficiency Log and Closure Documentation.
- Manufacturer Certifications.
- Warranty Documentation.
- Final Completion Recommendation.

10. Integrated Systems Testing Failure Threshold

Any failed Integrated Systems Test involving:

- Emergency power systems;
- Generator operation;
- ATS operation;
- N+1 redundancy;
- Critical-care power distribution;
- Life-safety power distribution;
- BESS functionality;
- Microgrid functionality;
- Utility failure response; or
- Continuity of hospital operations,

shall automatically constitute a **Level 1 Critical Deficiency** and require complete re-execution of the failed scenario before recommendation of Substantial Completion, Beneficial Occupancy, or Final Completion.

11. Substantial Completion Restriction

Notwithstanding any other provision of the Contract Documents, the existence of any unresolved:

- Emergency power deficiency;
- Generator deficiency;

- ATS deficiency;
- BESS deficiency;
- N+1 redundancy deficiency;
- Critical power deficiency;
- Fuel autonomy deficiency;
- BAS integration deficiency affecting electrical systems;
- Integrated Systems Testing deficiency; or
- Critical Deficiency,

shall automatically preclude recommendation of:

- Substantial Completion;
- Beneficial Occupancy; and
- Final Completion.

ASEM may withhold milestone approvals, progress payments, retainage release, Beneficial Occupancy, Substantial Completion, and Final Completion until all deficiencies, corrective actions, retesting requirements, documentation requirements, and acceptance criteria have been fully satisfied.

12. Express ASEM Authority

Notwithstanding any recommendation issued by the Owner's Independent Commissioning Authority, ASEM reserves the unrestricted right to reject, suspend, defer, condition, or withhold any recommendation for Beneficial Occupancy, Substantial Completion, Final Completion, payment release, retainage release, or milestone approval whenever ASEM determines that any commissioned system fails to satisfy the operational, clinical, resiliency, reliability, patient-safety, emergency preparedness, business continuity, or risk management objectives of the Hospital.

13. Engineering Validation of Quantitative Acceptance Criteria

The quantitative performance criteria identified within the Commissioning Specifications and this System-Specific Matrix are intended to establish minimum commissioning and validation objectives. Prior to Final Completion, the Design-Builder shall submit to ASEM and the Owner's CxA a sealed certification by the Engineer of Record (EOR) confirming that all specified acceptance thresholds, operating tolerances, response times, performance metrics, and reliability criteria are consistent with the approved Basis of Design (BOD), manufacturer-certified requirements, applicable codes and standards, and the final design documents. Where the EOR determines that an identified criterion is inconsistent with the approved design basis or applicable standards, the EOR shall recommend a revised criterion for review and

approval by ASEM. In all cases, the more stringent requirement established by the Contract Documents, approved BOD, applicable codes, or manufacturer requirements shall govern.

Any numerical value identified herein shall be deemed a preliminary commissioning criterion unless expressly established in the approved Basis of Design. Prior to execution of Functional Performance Testing and Integrated Systems Testing, all quantitative acceptance thresholds shall be reviewed and certified by the Engineer of Record and approved by ASEM.

14. Commissioning Traceability and Acceptance Register (CTAR)

Each acceptance criterion, test, evidence item, and deficiency associated with this System-Specific Matrix shall be recorded in the Commissioning Traceability and Acceptance Register (CTAR) required by the Project Commissioning Specification. No system covered by this Matrix shall be eligible for Substantial Completion, Beneficial Occupancy, or Final Completion unless all requirements identified in the CTAR are demonstrated as fully compliant and accepted by ASEM.

15. Whole-Building Validation Requirements

The Design-Builder shall demonstrate that this system satisfies the requirements of the Full Clinical Operations Simulation Testing (FCOST) and the Hurricane Resiliency Validation Program established in the Project Commissioning Specification.

16. Additional Acceptance Package Deliverables

In addition to the deliverables identified in this Matrix, the Design-Builder shall include the following in the acceptance package for this system:

- a Digital Twin of Commissioning, including trends, sequences, alarms, operating models, system relationships, and integrated system responses, in a format approved by ASEM;
- a Deficiency Closure Certification certifying actual closure, verifiable evidence, successful retesting, and no recurrence of deficiencies;
- an Executive Acceptance Dashboard, including requirements satisfied, open requirements, risk items, acceptance restrictions, contingency items, and unresolved actions; and
- a Warranty Readiness Report, including warranty commencement date, warranty coverage, responsible entities, warranty exclusions, response times, and escalation procedures.

Attachment 1: Scope of Works

17. Cost Responsibility

All costs associated with:

- Failed tests;
- Failed IST scenarios;
- Generator failures;
- BESS failures;
- ATS failures;
- Controls integration deficiencies;
- Electrical distribution deficiencies;
- Harmonic mitigation deficiencies;
- Utility failure response deficiencies;
- Fuel transfer deficiencies;
- Noise deficiencies;
- Vibration deficiencies;
- Recommissioning;
- Retesting;
- Manufacturer remobilization;
- Equipment replacement;
- Software modifications;
- Controls reprogramming;
- Schedule recovery efforts; and
- Any action required to achieve compliance with the Contract Documents,

shall be borne solely by the Design-Builder and shall not entitle the Design-Builder to any increase in Contract Price or Contract Time.

18. Reliability Demonstration Period

Successful completion of FPT and IST shall not constitute acceptance.

The Electrical Infrastructure shall successfully complete a Reliability Demonstration Period of not less than thirty (30) consecutive calendar days.

In addition to the minimum duration established above, the Reliability Demonstration Period shall require:

- System availability meeting the targets established by the Engineer of Record in the approved BOD and Commissioning Plan, which shall be monitored and reported throughout the Reliability Demonstration Period;
- Zero Critical Deficiencies;
- Zero Unplanned Service Interruptions affecting life-safety, patient-care, critical-care, emergency response, resiliency, environmental control, medical gas distribution, emergency power, BAS operation, or other essential hospital functions;
- Not more than one (1) Major Deficiency, provided such deficiency does not affect patient care, life-safety systems, resiliency objectives, continuity of operations, required performance criteria, or regulatory compliance; and
- No recurring deficiencies.

The occurrence of any Critical Deficiency, any prohibited Major Deficiency, any recurring deficiency, any unplanned service interruption affecting essential hospital functions, or more than one (1) Major Deficiency shall constitute failure of the Reliability Demonstration Period and shall require corrective action, recommissioning, retesting, and restart of the Reliability Demonstration Period.

Any Critical Deficiency occurring during the Reliability Demonstration Period shall require:

- Corrective actions.
- Retesting.
- Recommissioning.
- Restart of the Reliability Demonstration Period.

19. Repeated Failure Escalation

Three (3) occurrences of the same failed:

- Functional Performance Test;
- Integrated Systems Test;
- Generator subsystem;
- ATS subsystem;
- BESS subsystem;
- Fuel transfer subsystem;
- Control sequence; or
- Acceptance criterion,

shall automatically result in classification as a **Level 1 Critical Deficiency**, regardless of original classification.

20. Independent Validation Rights

ASEM reserves the right to perform, commission, or procure independent forensic investigations, engineering evaluations, commissioning reviews, reliability assessments, laboratory analyses, performance testing, or third-party validation whenever repeated failures, unresolved deficiencies, disputed results, operational concerns, life-safety concerns, resiliency concerns, or commissioning disputes exist.

Where such testing confirms a deficiency, nonconformance, or failure to achieve the Contract Documents, all associated costs shall be reimbursed by the Design-Builder. This right shall supplement and not replace the Design-Builder's commissioning obligations.

Attachment 1: Scope of Works

SYSTEM-SPECIFIC MINIMUM ACCEPTANCE CRITERIA AND COMMISSIONING MATRIX

Medical Gas Systems (MGS)

Oxygen, Medical Air, Instrument Air, Vacuum, WAGD, Nitrogen, Carbon Dioxide, Medical Gas Alarms, Monitoring, and Associated Infrastructure

1. General Requirements

The Design-Builder shall demonstrate through Commissioning, Functional Performance Testing (FPT), Integrated Systems Testing (IST), environmental validation, emergency operation testing, resiliency testing, alarm validation, source equipment testing, redundancy validation, pressure stability testing, medical gas quality verification, and operational readiness testing that the Medical Gas System (MGS) performs in accordance with the Contract Documents, Owner's Project Requirements (OPR), Basis of Design (BOD), NFPA 99, ASSE Standards, applicable healthcare regulations, manufacturer-certified requirements, and approved operational criteria.

The commissioning process shall verify:

- Medical gas production and storage systems.
- Medical air systems.
- Vacuum systems.
- WAGD systems.
- Medical gas alarm systems.
- BAS integration.
- Source equipment redundancy.
- Pressure stability.
- Purity compliance.
- Zone valve functionality.
- Critical-care area performance.
- Emergency operation capability.
- Environmental resiliency.
- Chilled-water failure resiliency (where applicable).
- Equipment vibration monitoring.

- Reliability under fault conditions.
- Continuity of patient-care operations.

Failure of any Critical Acceptance Criterion identified herein shall constitute a Level 1 Critical Deficiency.

The Owner's Independent Commissioning Authority (CxA) shall witness, verify, and validate all testing activities. Final Completion authority shall remain solely with ASEM.

All provisions related to commissioning administration, authority, acceptance, deficiency management, corrective actions, retesting, payment withholding, Substantial Completion, Beneficial Occupancy, Final Completion, warranty obligations, and Design-Builder responsibility are incorporated herein by reference as though fully stated herein. Deficiency Notices and Non-Conformance Notices shall be issued by the Owner's CxA. The Design-Builder shall determine the corrective measure, in consultation with the DB-Cx, and shall execute the correction. ASEM shall approve the resolution of each deficiency.

2. Minimum Acceptance Criteria Matrix

Commissioning Activity	Minimum Acceptance Criteria	Classification
Medical Air System Validation	Compliance with NFPA 99 purity and pressure requirements	Critical
Vacuum System Validation	Design vacuum levels maintained under all operating conditions	Critical
WAGD System Validation	Successful operation and evacuation capacity	Critical
Medical Gas Alarm Validation	100% alarm generation, transmission, and annunciation	Critical
Zone Valve Testing	100% successful operation and identification	Critical
Source Equipment Redundancy Testing	Continuous operation during source equipment failure	Critical
Pressure Stability Validation	Pressure remains within approved tolerances	Critical
Medical Gas Quality Testing	Compliance with applicable purity requirements	Critical
BAS Integration Validation	Successful monitoring, alarming, and trending functionality	Major

Hygrothermal Stress Testing	System performance maintained during environmental stress conditions	Critical
Chilled-Water Failure Simulation	No adverse impact on medical gas operations and alarms	Critical
Emergency Power Operation	Continuous operation during utility outage	Critical
Vibration and Noise Monitoring	Compliance with approved vibration and noise criteria	Major
Recovery Testing	Successful restoration following failure scenarios	Major
Integrated Systems Testing	Successful completion of all IST scenarios	Critical

3. Functional Performance Testing (FPT)

FPT-MGS-01 – Hygrothermal Stress Testing

Objective

Demonstrate that the Medical Gas Systems maintain operational integrity and performance during extreme environmental conditions.

Test Procedure

Testing shall simulate:

- Peak ambient temperature conditions.
- Peak humidity conditions.
- Maximum clinical demand.
- Simultaneous operation of multiple critical-care areas.
- Full operation of medical air compressors and vacuum systems.
- BAS monitoring under peak operational load.

Acceptance Criteria

The Medical Gas System shall demonstrate:

- Stabilized source equipment operation.
- Acceptable pressure ranges.
- Acceptable vacuum levels.

- Continuous alarm monitoring.
- Continuous BAS integration.
- No pressure instability.
- No interruption to clinical service.

Required Deliverable

Medical Gas Hygrothermal Stress Testing Report.

FPT-MGS-02 – Chilled-Water Failure Simulation

Objective

Demonstrate system functionality and resiliency during loss of chilled-water service affecting supporting mechanical systems or medical air equipment spaces.

Test Procedure

The Design-Builder shall simulate:

- Chilled-water interruption.
- HVAC degradation affecting equipment rooms.
- Medical air system operation during elevated room temperatures.
- BAS monitoring and alarming functions.
- System recovery after chilled-water restoration.

Acceptance Criteria

The system shall demonstrate:

- Continuous operation of medical gas source equipment.
- Proper alarm generation.
- Successful BAS monitoring.
- No loss of pressure stability.
- No loss of vacuum performance.
- Successful recovery and restoration.

Critical Acceptance Requirement

Any loss of medical gas supply reliability, alarm functionality, or pressure stability shall constitute a Critical Deficiency.

Required Deliverable

Medical Gas Chilled-Water Failure Simulation Report.

Attachment 1: Scope of Works

FPT-MGS-03 – Vibration and Noise Monitoring

Objective

Demonstrate that source equipment operation does not generate excessive vibration or noise capable of affecting system reliability, adjacent equipment, patient-care functions, or building operations.

Test Procedure

Measurements shall be performed during:

- Normal operation.
- Peak demand conditions.
- Compressor startup.
- Vacuum system startup.
- Emergency power operation.
- Redundant source equipment transition.

Testing shall evaluate:

- Compressor vibration.
- Vacuum pump vibration.
- Structural vibration.
- Mechanical noise.
- Equipment room noise.
- Alarm panel vibration effects.

Acceptance Criteria

The system shall demonstrate:

- Compliance with approved project vibration criteria.
- Compliance with approved noise criteria.
- No abnormal vibration conditions.
- No vibration-induced failures.
- No objectionable noise transmission.

Required Deliverable

Medical Gas Noise and Vibration Validation Report.

Attachment 1: Scope of Works

FPT-MGS-04 – Mass Casualty Demand Validation

Objective

Demonstrate that the Medical Gas Systems can sustain mass casualty demand conditions without loss of pressure stability, flow, service continuity, alarm monitoring, or BAS integration.

Test Procedure

The Design-Builder, through the DB-Cx, shall simulate:

- multiple critically injured patients;
- simultaneous operation of the ICU;
- simultaneous operation of Operating Rooms;
- Emergency Department surge conditions;
- maximum oxygen demand;
- maximum medical air demand; and
- maximum vacuum demand.

The Owner's CxA shall witness, verify, and validate the test.

Acceptance Criteria

The system shall demonstrate:

- stable pressure;
- adequate flow;
- uninterrupted service;
- successful alarm monitoring; and
- successful BAS integration.

Critical Acceptance Requirement

Failure shall constitute a Level 1 Critical Deficiency.

Required Deliverable

Mass Casualty Demand Validation Report.

Attachment 1: Scope of Works

4. Integrated Systems Testing (IST)

IST-MGS-01 – Medical Gas Emergency Operations Scenario

Objective

Demonstrate the ability of the Medical Gas Systems to support uninterrupted hospital operations during abnormal conditions.

Scenario

The Design-Builder shall execute an integrated operational scenario involving:

- Medical Gas Systems.
- BAS.
- Emergency Power Systems.
- HVAC Systems.
- Alarm Systems.
- Critical Care Areas.

The scenario shall include:

- Normal operation.
- Utility power loss.
- Emergency generator operation.
- Source equipment failure.
- Alarm activation.
- BAS response.
- Recovery and restoration.

Acceptance Criteria

The integrated system shall demonstrate:

- Continuous supply capability.
- Continuous alarm operation.
- Continuous BAS monitoring.
- Stable pressure performance.
- Successful redundancy operation.
- Successful recovery and restoration.

Required Deliverable

Integrated Medical Gas Validation Report.

5. Minimum Quantitative Acceptance Parameters

The following quantitative criteria are preliminary minimum acceptance objectives for the Medical gas systems, subject to confirmation by the Engineer of Record (EOR) and approval by ASEM in accordance with the Engineering Validation of Quantitative Acceptance Criteria provision of this Matrix. Unless a more stringent value is established in the Contract Documents or the approved Basis of Design (BOD), they shall be demonstrated during Functional Performance Testing (FPT) and Integrated Systems Testing (IST). Failure to satisfy any criterion shall be classified in accordance with the Critical Deficiency Classification of this Matrix.

Parameter	Acceptance Criteria
Oxygen Pressure	Within the approved NFPA 99 operating range
Medical Air Pressure	Within the approved NFPA 99 operating range
Vacuum Pressure	Within the approved NFPA 99 operating range
Alarm Response Time	≤ 10 seconds
Source Redundancy Recovery	≤ 30 seconds
BAS Alarm Transfer	≤ 15 seconds

6. Critical Deficiency Classification

The following conditions shall automatically constitute Level 1 Critical Deficiencies:

Medical Gas Supply

- Loss of oxygen supply.
- Loss of medical air supply.
- Loss of vacuum capability.
- Loss of WAGD capability.
- Loss of source equipment redundancy.
- Pressure instability beyond approved limits.

Alarm Systems

- Medical gas alarm failure.
- Alarm transmission failure.

- Zone alarm failure.
- BAS alarm integration failure.

Regulatory Compliance

- NFPA 99 noncompliance.
- Medical gas purity noncompliance.
- Source equipment certification failure.

Operational Impact

- Failure affecting patient care.
- Failure affecting critical procedures.
- Failure affecting operating rooms.
- Failure affecting ICU operations.
- Failure affecting continuity of hospital operations.

7. Evidence, Deliverables, and Acceptance Documentation Matrix

Commissioning Activity	Required Verification Evidence	Required Deliverable	Acceptance Authority	Acceptance Authority
Medical Gas Quality Testing	Certified laboratory records	Medical Gas Quality Report	ASEM	Owner's CxA
Pressure Validation	Pressure monitoring records	Pressure Validation Report	ASEM	Owner's CxA
Vacuum Validation	Vacuum monitoring records	Vacuum Validation Report	ASEM	Owner's CxA
Zone Valve Testing	Operational records	Zone Valve Validation Report	ASEM	Owner's CxA
Alarm Validation	Alarm logs	Medical Gas Alarm Validation Report	ASEM	Owner's CxA
BAS Integration	BAS records	BAS Integration Report	ASEM	Owner's CxA

Hygrothermal Stress Testing	Trend records	Hygrothermal Stress Testing Report	ASEM	Owner's CxA
Chilled-Water Failure Testing	Scenario records	Chilled-Water Failure Simulation Report	ASEM	Owner's CxA
Vibration Monitoring	Measurement records	Vibration Compliance Report	ASEM	Owner's CxA
Noise Monitoring	Measurement records	Noise Compliance Report	ASEM	Owner's CxA
Emergency Operations Testing	Operational records	Emergency Operation Validation Report	ASEM	Owner's CxA
Integrated Systems Testing	IST Records	Medical Gas IST Report	ASEM	Owner's CxA
Deficiency Resolution	Corrective Action Documentation	Deficiency Closure Report	ASEM	Owner's CxA
Final Completion	Consolidated Commissioning Package	Final Medical Gas Commissioning Report	ASEM	Owner's CxA

8. Mandatory Deliverables

In addition to the deliverables identified in the Evidence, Deliverables, and Acceptance Documentation Matrix, the following deliverables are mandatory for the Medical Gas Systems (MGS) and shall be reviewed by the Owner's CxA and accepted by ASEM:

Technical Documentation: as-built drawings; control diagrams and sequences of operation, as applicable; equipment inventory; manufacturer certifications; and warranty documentation.

Testing Documentation: the report of each Functional Performance Test and Integrated Systems Test of this System-Specific Matrix; the deficiency log; and retesting documentation.

Operational Documentation: standard operating procedures; emergency operating procedures; alarm and event response procedures, as applicable; and preventive maintenance procedures.

Training Documentation: training plan; training materials; attendance records; and operational competency evaluations.

9. Final Completion Documentation Package

The Design-Builder shall submit a Final Medical Gas Commissioning Report containing, at minimum:

- Executive Summary.
- System Description.
- Source Equipment Inventory.
- Medical Gas Quality Validation Results.
- Pressure Validation Results.
- Vacuum Validation Results.
- WAGD Validation Results.
- Zone Valve Validation Results.
- Alarm Validation Results.
- BAS Integration Results.
- Hygrothermal Stress Testing Results.
- Chilled-Water Failure Simulation Results.
- Noise Monitoring Results.
- Vibration Monitoring Results.
- Emergency Operations Validation Results.
- Integrated Systems Testing Results.
- Training Documentation.
- Deficiency Log and Closure Documentation.
- NFPA 99 Compliance Documentation.
- Manufacturer Certifications.
- Warranty Documentation.
- Final Completion Recommendation.

Attachment 1: Scope of Works

10. Integrated Systems Testing Failure Threshold

Any failed Integrated Systems Test involving:

- Oxygen systems;
- Medical air systems;
- Vacuum systems;
  WAGD systems;
- Medical gas alarms;
- Pressure monitoring systems;
- Emergency power operation;
- BAS integration;
- Source equipment redundancy; or
- Continuity of patient care operations,

shall automatically constitute a **Level 1 Critical Deficiency** and shall require complete re-execution of the failed scenario before recommendation of Substantial Completion, Beneficial Occupancy, or Final Completion.

11. Substantial Completion Restriction

Notwithstanding any other provision of the Contract Documents, the existence of any unresolved:

- Medical Gas Critical Deficiency;
- Pressure instability condition;
- Alarm deficiency;
- Medical gas purity deficiency;
- Source equipment deficiency;
- BAS integration deficiency;
- Emergency operations deficiency;
- Integrated Systems Testing deficiency; or
- NFPA 99 compliance deficiency,

shall automatically preclude recommendation of:

- Substantial Completion;
- Beneficial Occupancy; and
- Final Completion.

ASEM may withhold milestone approvals, progress payments, retainage release, Beneficial Occupancy, Substantial Completion, and Final Completion until all corrective actions, retesting requirements, validation requirements, documentation requirements, and acceptance criteria have been fully satisfied.

12. Express ASEM Authority

Notwithstanding any recommendation issued by the Owner's Independent Commissioning Authority, ASEM reserves the unrestricted right to reject, suspend, defer, condition, or withhold any recommendation for Beneficial Occupancy, Substantial Completion, Final Completion, payment release, retainage release, or milestone approval whenever ASEM determines that any commissioned system fails to satisfy the operational, clinical, resiliency, reliability, patient-safety, emergency preparedness, business continuity, or risk management objectives of the Hospital.

13. Engineering Validation of Quantitative Acceptance Criteria

The quantitative performance criteria identified within the Commissioning Specifications and this System-Specific Matrix are intended to establish minimum commissioning and validation objectives. Prior to Final Completion, the Design-Builder shall submit to ASEM and the Owner's CxA a sealed certification by the Engineer of Record (EOR) confirming that all specified acceptance thresholds, operating tolerances, response times, performance metrics, and reliability criteria are consistent with the approved Basis of Design (BOD), manufacturer-certified requirements, applicable codes and standards, and the final design documents. Where the EOR determines that an identified criterion is inconsistent with the approved design basis or applicable standards, the EOR shall recommend a revised criterion for review and approval by ASEM. In all cases, the more stringent requirement established by the Contract Documents, approved BOD, applicable codes, or manufacturer requirements shall govern.

Any numerical value identified herein shall be deemed a preliminary commissioning criterion unless expressly established in the approved Basis of Design. Prior to execution of Functional Performance Testing and Integrated Systems Testing, all quantitative acceptance thresholds shall be reviewed and certified by the Engineer of Record and approved by ASEM.

14. Commissioning Traceability and Acceptance Register (CTAR)

Each acceptance criterion, test, evidence item, and deficiency associated with this System-Specific Matrix shall be recorded in the Commissioning Traceability and Acceptance Register (CTAR) required by the Project Commissioning Specification. No system covered by this Matrix shall be eligible for Substantial Completion, Beneficial Occupancy, or Final Completion unless all requirements identified in the CTAR are

demonstrated as fully compliant and accepted by ASEM.

15. Whole-Building Validation Requirements

The Design-Builder shall demonstrate that this system satisfies the requirements of the Full Clinical Operations Simulation Testing (FCOST) and the Hurricane Resiliency Validation Program established in the Project Commissioning Specification.

16. Additional Acceptance Package Deliverables

In addition to the deliverables identified in this Matrix, the Design-Builder shall include the following in the acceptance package for this system:

- a Digital Twin of Commissioning, including trends, sequences, alarms, operating models, system relationships, and integrated system responses, in a format approved by ASEM;
- a Deficiency Closure Certification certifying actual closure, verifiable evidence, successful retesting, and no recurrence of deficiencies;
- an Executive Acceptance Dashboard, including requirements satisfied, open requirements, risk items, acceptance restrictions, contingency items, and unresolved actions; and
- a Warranty Readiness Report, including warranty commencement date, warranty coverage, responsible entities, warranty exclusions, response times, and escalation procedures.

17. Cost Responsibility

All costs associated with:

- Failed tests;
- Failed IST scenarios;
- Medical gas purity deficiencies;
- Pressure deficiencies;
- Alarm deficiencies;
- BAS integration deficiencies;
- Vacuum deficiencies;
- WAGD deficiencies;
- Source equipment deficiencies;
- Hygrothermal performance deficiencies;
- Chilled-water failure response deficiencies;

- Noise deficiencies;
- Vibration deficiencies;
- Recommissioning;
- Retesting;
- Manufacturer remobilization;
- Equipment replacement;
- Controls reprogramming;
- Corrective work;
- Schedule recovery efforts; and
- Any action required to achieve compliance with the Contract Documents,

shall be borne solely by the Design-Builder and shall not entitle the Design-Builder to any increase in Contract Price or Contract Time.

18. Reliability Demonstration Period

Successful completion of Functional Performance Testing (FPT) and Integrated Systems Testing (IST) shall not, by itself, constitute acceptance of the Medical Gas Systems.

Each Medical Gas System shall successfully complete a Reliability Demonstration Period of not less than thirty (30) consecutive calendar days following completion of all required testing.

In addition to the minimum duration established above, the Reliability Demonstration Period shall require:

- System availability meeting the targets established by the Engineer of Record in the approved BOD and Commissioning Plan, which shall be monitored and reported throughout the Reliability Demonstration Period;
- Zero Critical Deficiencies;
- Zero Unplanned Service Interruptions affecting life-safety, patient-care, critical-care, emergency response, resiliency, environmental control, medical gas distribution, emergency power, BAS operation, or other essential hospital functions;
- Not more than one (1) Major Deficiency, provided such deficiency does not affect patient care, life-safety systems, resiliency objectives, continuity of operations, required performance criteria, or regulatory compliance; and
- No recurring deficiencies.

The occurrence of any Critical Deficiency, any prohibited Major Deficiency, any recurring deficiency, any unplanned service interruption affecting essential hospital functions, or more than one (1) Major Deficiency shall constitute failure of the Reliability Demonstration Period and shall require corrective action, recommissioning, retesting, and restart of the Reliability Demonstration Period.

Any Critical Deficiency occurring during the Reliability Demonstration Period shall require:

- Corrective action;
  - Retesting;
  - Recommissioning; and
  - Restart of the Reliability Demonstration Period.

19. Repeated Failure Escalation

Three (3) occurrences of the same failed:

- Functional Performance Test;
- Integrated Systems Test;
- Source equipment component;
- Medical air subsystem;
- Vacuum subsystem;
- WAGD subsystem;
- Alarm function;
- BAS integration function; or
- Acceptance criterion,

shall automatically result in classification of the condition as a **Level 1 Critical Deficiency**, regardless of its original classification.

20. Independent Validation Rights

ASEM reserves the right to perform, commission, or procure independent:

- NFPA 99 compliance audits;
- Medical gas purity testing;
- Engineering evaluations;
- Commissioning reviews;
- Reliability assessments;
- Third-party laboratory analyses;

- Forensic investigations;
- Operational performance testing; and
- Independent validation activities,

whenever repeated failures, unresolved deficiencies, disputed test results, patient-safety concerns, operational concerns, resiliency concerns, or commissioning disputes exist.

Where such testing confirms a deficiency, nonconformance, or failure to achieve the Contract Documents, all associated costs shall be reimbursed by the Design-Builder. This right shall supplement and not replace the Design-Builder's commissioning obligations.

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SYSTEM-SPECIFIC MINIMUM ACCEPTANCE CRITERIA AND COMMISSIONING MATRIX

Pneumatic Tube System (PTS)

Bionuclear / Swisslog / Pevco / Approved Equal

1. General Requirements

The Design-Builder shall demonstrate through Commissioning, Functional Performance Testing (FPT), Integrated Systems Testing (IST), operational validation, RFID certification, chain-of-custody validation, anti-hemolysis certification, biological spill containment validation, and emergency operations testing that the Pneumatic Tube System (PTS) performs safely, reliably, accurately, and continuously in accordance with the Contract Documents, Owner's Project Requirements (OPR), Basis of Design (BOD), manufacturer-certified requirements, operational performance requirements, infection prevention requirements, and all applicable healthcare industry standards.

The commissioning process shall verify system functionality, transport reliability, routing accuracy, specimen integrity, blood-product integrity, traceability, operational readiness, emergency operation capability, resiliency, interoperability, and continuity of operations.

The Owner's Independent Commissioning Authority (CxA) shall independently witness, verify, and validate all testing activities. Final Completion authority shall remain solely with ASEM.

Failure of any Critical Acceptance Criterion identified herein shall constitute a Level 1 Critical Deficiency.

This System-Specific Commissioning Matrix shall be read in conjunction with the Project Commissioning Specification. In the event of any inconsistency, conflict, omission, duplication, or ambiguity between this System-Specific Matrix and the Project Commissioning Specification, the more stringent requirement shall govern, as determined by ASEM.

All provisions related to commissioning administration, authority, acceptance, deficiency management, corrective actions, retesting, payment withholding,

Substantial Completion, Beneficial Occupancy, Final Completion, warranty obligations, and Design-Builder responsibility are incorporated herein by reference as though fully stated herein. Deficiency Notices and Non-Conformance Notices shall be issued by the Owner's CxA. The Design-Builder shall determine the corrective measure, in consultation with the DB-Cx, and shall execute the correction. ASEM shall approve the resolution of each deficiency.

2. Minimum Acceptance Criteria Matrix

Commissioning Activity Acceptance Criteria	Classification	Minimum
Station Routing Verification	100% successful delivery to intended destination	Critical
Carrier Tracking Verification	100% carrier traceability	Critical
RFID Certification	100% successful identification, tracking and audit trail generation	Critical
Transit Time Validation	Compliance with approved performance requirements	Major
Peak Demand Testing	Successful operation under peak traffic conditions	Major
Anti-Hemolysis Certification	No clinically significant hemolysis attributable to transport	Critical
Specimen Integrity Validation	No leakage, contamination, breakage or specimen loss	Critical
Blood Product Transport Validation	No compromise to blood-product integrity or chain-of-custody	Critical
Biological Spill Simulation	Successful containment, isolation, decontamination and restoration	Critical
Alarm and Notification Testing	100% successful operation	Critical
Emergency Power Operation	Continuous operation during utility outage	Critical
Recovery Testing	Successful recovery following communication interruption	Major
Integrated Systems Testing	Successful completion of all approved IST scenarios	Critical

Commissioning Failure Consequences

Failure to satisfy any requirement contained within this System-Specific Matrix shall constitute grounds for withholding progress payments, milestone payments, retainage release, milestone approvals, Substantial Completion, Beneficial Occupancy, Final Completion, or any combination thereof, in accordance with the Project Commissioning Specification and as determined by ASEM

3. Functional Performance Testing (FPT)

FPT-PTS-01 – Speed and Transit Time Validation

Objective

Demonstrate that the Pneumatic Tube System can transport specimens, blood products, pharmacies, supplies, and other approved materials within the performance criteria established in the approved Basis of Design.

Test Procedure

The Design-Builder shall perform not less than fifty (50) representative carrier transfers under varying operating conditions.

Testing shall include:

- shortest routes;
- longest routes;
- horizontal routes;
- vertical routes;
- simultaneous carrier operation;
- peak demand conditions;
- emergency power conditions.

Acceptance Criteria

The system shall demonstrate:

- 100% routing accuracy;
- no carrier loss;
- no carrier collision;
- no misrouting events;
- no system interruptions;

- compliance with approved transit-time performance requirements.

Required Deliverable

Transit Time Validation Report.

FPT-PTS-02 – Anti-Hemolysis Certification

Objective

Demonstrate that pneumatic transport does not adversely affect blood specimens.

Test Procedure

The Design-Builder shall conduct comparative testing utilizing:

- manually transported specimens; and
- pneumatically transported specimens.

Testing shall evaluate:

- Hemolysis Index;
- Potassium;
- Lactate Dehydrogenase (LDH);
- analyte stability;
- specimen integrity indicators;
- any additional laboratory parameters required by ASEM.

Acceptance Criteria

The system shall demonstrate:

- no clinically significant hemolysis;
- no degradation affecting diagnostic reliability;
- compliance with approved laboratory acceptance criteria.

Critical Acceptance Requirement

Any clinically significant hemolysis attributable to pneumatic transport shall constitute a Critical Deficiency.

Required Deliverable

Anti-Hemolysis Certification Report.

Attachment 1: Scope of Works

FPT-PTS-03 – RFID Certification and Chain-of-Custody Validation

Objective

Demonstrate complete carrier accountability and transport traceability.

Test Procedure

The Design-Builder shall validate:

- RFID registration;
- RFID identification;
- route assignment;
- carrier tracking;
- destination confirmation;
- chain-of-custody logging;
- audit trail generation;
- historical transaction retention;
- exception reporting.

Acceptance Criteria

The system shall demonstrate:

- 100% RFID read accuracy;
- 100% carrier identification;
- 100% route traceability;
- 100% transaction capture;
- complete audit trail functionality;
- complete chain-of-custody functionality.

Critical Acceptance Requirement

Any loss of transaction history, RFID functionality, specimen traceability, or chain-of-custody records shall constitute a Critical Deficiency.

Required Deliverable

RFID Certification and Chain-of-Custody Validation Report.

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4. Integrated Systems Testing (IST)

IST-PTS-01 – Biological Spill Simulation

Objective

Demonstrate the ability of the Pneumatic Tube System to detect, isolate, contain, decontaminate, recover from, and document a biological contamination event.

Test Procedure

The Design-Builder shall conduct a controlled biological spill simulation.

Testing shall validate:

- spill detection;
- alarm generation;
- route isolation;
- station isolation;
- operator notification;
- containment procedures;
- decontamination procedures;
- documentation procedures;
- restoration procedures.

Acceptance Criteria

The system shall demonstrate:

- immediate alarm generation;
- successful route isolation;
- successful station isolation;
- successful containment;
- successful decontamination;
- preservation of traceability records;
- successful return to service.

Critical Acceptance Requirement

Failure of containment, isolation, decontamination, restoration, or documentation requirements shall constitute a Critical Deficiency.

Required Deliverable

Biological Spill Simulation Report.

5. Minimum Quantitative Acceptance Parameters

The minimum quantitative acceptance parameters for the Pneumatic Tube System (PTS) are the numerical values, tolerances, response times, and performance metrics stated in the Minimum Acceptance Criteria Matrix, the Functional Performance Testing and Integrated Systems Testing procedures of this System-Specific Matrix, the approved Basis of Design (BOD), and the manufacturer requirements, with the more stringent value governing.

Where a parameter required to determine the acceptance of a test is not stated numerically, the Engineer of Record (EOR) shall establish it in the Commissioning Plan before the execution of Functional Performance Testing, for review by the Owner's CxA and approval by ASEM, in accordance with the Engineering Validation of Quantitative Acceptance Criteria provisions of this System-Specific Matrix.

6. Critical Deficiency Classification

The following conditions shall automatically be classified as Level 1 Critical Deficiencies:

Specimen Integrity

- Clinically significant hemolysis.
- Specimen contamination.
- Specimen leakage.
- Loss of specimen integrity.
- Failure to meet approved laboratory acceptance criteria.

Blood Product Transportation

- Blood product loss.
- Blood product contamination.
- Damage to blood-product containers.
- Loss of blood-product chain-of-custody.

RFID and Chain-of-Custody

- RFID system failure.

- Carrier tracking failure.
- Audit trail failure.
- Loss of transaction records.
- Loss of chain-of-custody.
- Inability to reconstruct transport history.

Operational Reliability

- Carrier loss.
- Carrier misrouting.
- Priority routing failure.
- Emergency routing failure.
- Carrier collisions affecting operations.

Biological Spill Management

- Failure to detect a biological spill.
- Failure of alarm activation.
- Failure of route isolation.
- Failure of station isolation.
- Failure of containment.
- Failure of decontamination procedures.

Emergency and Resiliency Functions

- Failure during utility outage.
- Failure of transfer to emergency power.
- Failure of communication systems affecting accountability.
- Failure of resiliency functions supporting continuity of operations.

Operational Impact

- Failure affecting specimen transportation reliability.
- Failure affecting blood-product transportation reliability.
- Failure resulting in loss of specimen traceability.
- Failure resulting in loss of chain-of-custody integrity.
- Failure resulting in interruption of critical transport functions.
- Failure compromising continuity of operations supported by the Pneumatic Tube System.
- Failure affecting emergency transport operations.
- Failure affecting priority transport operations.

- Failure affecting the safe and reliable movement of time-sensitive materials.
- Failure affecting compliance with approved operational performance criteria.

7. Evidence, Deliverables, and Acceptance Documentation Matrix

Commissioning Activity	Required Verification Evidence	Required Deliverable	Acceptance Authority	Authority
Routing Verification	Routing logs and transfer records	Routing Validation Report	ASEM	Owner's CxA
Transit Time Testing	Time-stamped transfer logs	Transit Time Validation Report	ASEM	Owner's CxA
Peak Demand Testing	System performance records	Peak Demand Validation Report	ASEM	Owner's CxA
Anti-Hemolysis Certification	Laboratory testing data	Anti-Hemolysis Certification Report	ASEM	Owner's CxA
Blood Product Validation	Transport validation records	Blood Product Validation Report	ASEM	Owner's CxA
RFID Validation	RFID transaction logs	RFID Certification Report	ASEM	Owner's CxA
Chain-of-Custody Validation	Audit and tracking records	Chain-of-Custody Validation Report	ASEM	Owner's CxA
Biological Spill Simulation	Spill simulation records	Biological Spill Simulation Report	ASEM	Owner's CxA
Emergency Power Validation	Transfer and operational logs	Emergency Operation Validation Report	ASEM	Owner's CxA

Recovery Testing	Communication restoration records	Recovery Validation Report	ASEM	Owner's CxA
Integrated Systems Testing	IST records	Integrated Systems Testing Report	ASEM	Owner's CxA
Training Validation	Attendance and competency records	Training Completion Report	ASEM	Owner's CxA
Deficiency Resolution	Corrective action records	Deficiency Closure Report	ASEM	Owner's CxA
Final Completion	Consolidated commissioning package	Final PTS Commissioning Report	ASEM	Owner's CxA

Notwithstanding any designation contained within this Matrix, final approval authority, acceptance authority, deficiency closure authority, Substantial Completion authority, Beneficial Occupancy authority, Final Completion authority, payment release authority, and retainage release authority shall remain solely with ASEM, as more particularly established in the Project Commissioning Specification. The Owner's Independent Commissioning Authority (CxA) shall serve solely in a verification, validation, witnessing, and recommendation capacity.

Commissioning Failure Consequences

Failure to satisfy any requirement contained within this System-Specific Matrix shall constitute grounds for withholding progress payments, milestone payments, retainage release, milestone approvals, Substantial Completion, Beneficial Occupancy, Final Completion, or any combination thereof, in accordance with the Project Commissioning Specification and as determined by ASEM

Attachment 1: Scope of Works

8. Mandatory Deliverables

Technical Documentation

- As-Built Drawings.
- Routing Diagrams.
- Network Architecture Diagrams.
- Equipment Inventory.
- Carrier Inventory.
- Preventive Maintenance Requirements.
- Manufacturer Certifications.
- Warranty Documentation.

Testing Documentation

- Routing Validation Report.
- Transit Time Validation Report.
- Peak Demand Validation Report.
- Anti-Hemolysis Certification Report.
- Blood Product Validation Report.
- RFID Certification Report.
- Chain-of-Custody Validation Report.
- Biological Spill Simulation Report.
- Emergency Operations Validation Report.
- Integrated Systems Testing Report.
- Deficiency Log.
- Re-Testing Documentation.

Operational Documentation

- Standard Operating Procedures.
- Biological Spill Response Procedures.
- Decontamination Procedures.
- Downtime Procedures.
- Business Continuity Procedures.
- Disaster Recovery Procedures.
- Chain-of-Custody Procedures.

Training Documentation

- Training Plan.
- Training Materials.
- Attendance Records.
- Competency Evaluations.
- Emergency Response Training Documentation.

9. Anti-Hemolysis Deliverable Requirements

The Anti-Hemolysis Certification Report shall include:

- approved testing protocol;
- sample quantities;
- routes utilized;
- testing methodology;
- comparison of manually transported specimens versus pneumatically transported specimens;
- Hemolysis Index results;
- Potassium results;
- LDH results;
- statistical evaluation;
- corrective actions, if applicable;
- certification by the testing laboratory.

10. RFID Certification Deliverable Requirements

The RFID Certification Report shall include:

- RFID read accuracy results;
- carrier identification validation results;
- routing traceability results;
- destination confirmation records;
- chain-of-custody validation records;
- audit trail validation records;
- exception reporting validation results;
- historical data retention validation;
- supporting transaction logs.

Attachment 1: Scope of Works

11. Biological Spill Simulation Deliverable Requirements

The Biological Spill Simulation Report shall include:

- scenario description;
- spill simulation location;
- affected route identification;
- alarm activation logs;
- response timelines;
- route isolation verification;
- station isolation verification;
- containment verification;
- decontamination verification;
- restoration verification;
- corrective actions;
- lessons learned.

12. Final Completion Documentation Package

The Design-Builder shall submit a Final PTS Commissioning Report containing, at a minimum:

1. Executive Summary.
2. System Description.
3. Equipment Inventory.
4. Routing Validation Results.
5. Transit Time Validation Results.
6. Anti-Hemolysis Certification Results.
7. Blood Product Validation Results.
8. RFID Certification Results.
9. Chain-of-Custody Validation Results.
10. Biological Spill Simulation Results.
11. Emergency Operation Validation Results.
12. Integrated Systems Testing Results.
13. Training Documentation.
14. Deficiency Log and Closure Documentation.
15. Corrective Action Documentation.
16. Manufacturer Certifications.

17. Warranty Documentation.
18. Final Completion Recommendation.

13. Integrated Systems Testing Failure Threshold

Any failed Integrated Systems Test involving:

- specimen transportation;
- blood-product transportation;
- RFID functionality;
- chain-of-custody requirements;
- biological spill containment;
- emergency power operation; or
- continuity of operations supported by the Pneumatic Tube System,

shall automatically constitute a Level 1 Critical Deficiency and shall require complete re-execution of the failed scenario prior to recommendation of Substantial Completion, Beneficial Occupancy, or Final Completion.

14. Substantial Completion Restriction

Notwithstanding any other provision of the Contract Documents, the existence of any unresolved Pneumatic Tube System Critical Deficiency, missing deliverable, incomplete certification, unresolved validation, unresolved anti-hemolysis deficiency, unresolved RFID deficiency, unresolved chain-of-custody deficiency, unresolved biological spill deficiency, unresolved emergency operation deficiency, or unresolved Integrated Systems Testing deficiency shall automatically preclude recommendation of Substantial Completion, Beneficial Occupancy, and Final Completion.

ASEM may withhold milestone approvals, progress payments, retainage release, Beneficial Occupancy, Substantial Completion, and Final Completion until all corrective actions, retesting requirements, validation requirements, documentation requirements, and acceptance criteria have been fully satisfied, verified by the Owner's Independent Commissioning Authority (CxA), and formally accepted by ASEM.

15. Express ASEM Authority

Notwithstanding any recommendation issued by the Owner's Independent Commissioning Authority, ASEM reserves the unrestricted right to reject, suspend,

defer, condition, or withhold any recommendation for Beneficial Occupancy, Substantial Completion, Final Completion, payment release, retainage release, or milestone approval whenever ASEM determines that any commissioned system fails to satisfy the operational, clinical, resiliency, reliability, patient-safety, emergency preparedness, business continuity, or risk management objectives of the Hospital.

16. Engineering Validation of Quantitative Acceptance Criteria

The quantitative performance criteria identified within the Commissioning Specifications and this System-Specific Matrix are intended to establish minimum commissioning and validation objectives. Prior to Final Completion, the Design-Builder shall submit to ASEM and the Owner's CxA a sealed certification by the Engineer of Record (EOR) confirming that all specified acceptance thresholds, operating tolerances, response times, performance metrics, and reliability criteria are consistent with the approved Basis of Design (BOD), manufacturer-certified requirements, applicable codes and standards, and the final design documents. Where the EOR determines that an identified criterion is inconsistent with the approved design basis or applicable standards, the EOR shall recommend a revised criterion for review and approval by ASEM. In all cases, the more stringent requirement established by the Contract Documents, approved BOD, applicable codes, or manufacturer requirements shall govern.

Any numerical value identified herein shall be deemed a preliminary commissioning criterion unless expressly established in the approved Basis of Design. Prior to execution of Functional Performance Testing and Integrated Systems Testing, all quantitative acceptance thresholds shall be reviewed and certified by the Engineer of Record and approved by ASEM.

17. Commissioning Traceability and Acceptance Register (CTAR)

Each acceptance criterion, test, evidence item, and deficiency associated with this System-Specific Matrix shall be recorded in the Commissioning Traceability and Acceptance Register (CTAR) required by the Project Commissioning Specification. No system covered by this Matrix shall be eligible for Substantial Completion, Beneficial Occupancy, or Final Completion unless all requirements identified in the CTAR are demonstrated as fully compliant and accepted by ASEM.

18. Whole-Building Validation Requirements

The Design-Builder shall demonstrate that this system satisfies the requirements of the Full Clinical Operations Simulation Testing (FCOST) and the Hurricane Resiliency

Validation Program established in the Project Commissioning Specification.

19. Additional Acceptance Package Deliverables

In addition to the deliverables identified in this Matrix, the Design-Builder shall include the following in the acceptance package for this system:

- a Digital Twin of Commissioning, including trends, sequences, alarms, operating models, system relationships, and integrated system responses, in a format approved by ASEM;
- a Deficiency Closure Certification certifying actual closure, verifiable evidence, successful retesting, and no recurrence of deficiencies;
- an Executive Acceptance Dashboard, including requirements satisfied, open requirements, risk items, acceptance restrictions, contingency items, and unresolved actions; and
- a Warranty Readiness Report, including warranty commencement date, warranty coverage, responsible entities, warranty exclusions, response times, and escalation procedures.

20. Cost Responsibility

All costs associated with failed tests, anti-hemolysis deficiencies, RFID deficiencies, chain-of-custody deficiencies, specimen integrity failures, biological spill deficiencies, recommissioning, retesting, manufacturer remobilization, corrective work, software modifications, network modifications, replacement equipment, schedule recovery efforts, and any other action necessary to achieve compliance with the Contract Documents shall be borne solely by the Design-Builder and shall not entitle the Design-Builder to any increase in Contract Price or Contract Time.

21. Reliability Demonstration Period

Successful completion of Functional Performance Testing (FPT) and Integrated Systems Testing (IST) shall not, by itself, constitute acceptance of the System.

Each Critical System shall successfully complete a Reliability Demonstration Period of not less than thirty (30) consecutive calendar days following completion of all required testing.

In addition to the minimum duration established above, the Reliability Demonstration Period shall require:

- System availability meeting the targets established by the Engineer of Record in the approved BOD and Commissioning Plan, which shall be monitored and

reported throughout the Reliability Demonstration Period;

- Zero Critical Deficiencies;
- Zero Unplanned Service Interruptions affecting life-safety, patient-care, critical-care, emergency response, resiliency, environmental control, medical gas distribution, emergency power, BAS operation, or other essential hospital functions;
- Not more than one (1) Major Deficiency, provided such deficiency does not affect patient care, life-safety systems, resiliency objectives, continuity of operations, required performance criteria, or regulatory compliance; and
- No recurring deficiencies.

The occurrence of any Critical Deficiency, any prohibited Major Deficiency, any recurring deficiency, any unplanned service interruption affecting essential hospital functions, or more than one (1) Major Deficiency shall constitute failure of the Reliability Demonstration Period and shall require corrective action, recommissioning, retesting, and restart of the Reliability Demonstration Period.

Any Critical Deficiency occurring during the Reliability Demonstration Period shall require corrective action, retesting, recommissioning, and restart of the Reliability Demonstration Period, as directed by ASEM.

22. Repeated Failure Escalation

Three (3) occurrences of the same failed Functional Performance Test, Integrated Systems Test, subsystem, control sequence, communication pathway, resiliency feature, emergency function, or acceptance criterion shall automatically result in classification of the condition as a Level 1 Critical Deficiency regardless of its original classification

23. Independent Validation Rights

ASEM reserves the right to perform, commission, or procure independent forensic investigations, engineering evaluations, commissioning reviews, reliability assessments, laboratory analyses, performance testing, or third-party validation whenever repeated failures, unresolved deficiencies, disputed results, operational concerns, life-safety concerns, resiliency concerns, or commissioning disputes exist.

Where such testing confirms a deficiency, nonconformance, or failure to achieve the Contract Documents, all associated costs shall be reimbursed by the Design-Builder. This right shall supplement and not replace the Design-

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Builder's commissioning obligations.

Attachment 1: Scope of Works

SYSTEM-SPECIFIC MINIMUM ACCEPTANCE CRITERIA AND COMMISSIONING MATRIX

Heliport Operations System

Hospital Heliport, Associated Systems, and Patient Transfer Pathways

1. General Requirements

The Design-Builder shall demonstrate through Commissioning, Functional Performance Testing (FPT), Integrated Systems Testing (IST), emergency operation testing, resiliency testing, and operational readiness validation that the Heliport Operations System performs in accordance with the Contract Documents, the Owner's Project Requirements (OPR), the Basis of Design (BOD), and applicable codes and standards.

The Commissioning Program shall demonstrate that the Hospital Heliport, its associated systems, and patient transfer pathways satisfy the requirements for:

- Continuity of Hospital Operations
- Immediate Occupancy (IO)
- Mass Casualty Response
- Level I Trauma Operations
- Emergency Medical Transport
- Disaster Response Operations
- FAA Compliance
- NFPA 99 Critical Care Continuity

The system shall remain fully operational during normal conditions, emergency conditions, utility outages, emergency generator operation, and post-disaster scenarios.

The DB-Cx shall execute the tests described herein. The Owner's Independent Commissioning Authority (CxA) shall witness, verify, and validate all testing activities. Final Completion authority shall remain solely with ASEM.

Failure of any Critical Acceptance Criterion identified herein shall constitute a Level 1 Critical Deficiency.

All provisions related to commissioning administration, authority, acceptance,

deficiency management, corrective actions, retesting, payment withholding, Substantial Completion, Beneficial Occupancy, Final Completion, warranty obligations, and Design-Builder responsibility are incorporated herein by reference as though fully stated herein. Deficiency Notices and Non-Conformance Notices shall be issued by the Owner's CxA. The Design-Builder shall determine the corrective measure, in consultation with the DB-Cx, and shall execute the correction. ASEM shall approve the resolution of each deficiency.

2. Minimum Acceptance Criteria Matrix

Test ID	Commissioning Activity	Acceptance Criteria	Classification
FPT-HLP-01	FAA Marking Verification	100% compliance with approved heliport drawings and FAA standards	Critical
FPT-HLP-02	Heliport Lighting Verification	100% operational lighting system	Critical
FPT-HLP-03	Emergency Lighting Validation	Full illumination under emergency power	Critical
FPT-HLP-04	Elevator Transfer Sequence Testing	Automatic response within specified transfer time	Critical
FPT-HLP-05	Patient Transfer Route Validation	Unobstructed transfer pathway	Critical
FPT-HLP-06	Heliport Emergency Mode Testing	Successful activation of emergency sequence	Critical
FPT-HLP-07	Communications Validation	Fully operational redundant communications	Critical
FPT-HLP-08	Fire Protection Validation	Fully functional fire protection and alarm integration	Critical
FPT-HLP-09	BAS Integration Validation	Complete monitoring and alarm functionality	Major
IST-HLP-01	Normal Trauma Arrival Scenario	Successful patient transfer from heliport to treatment area	Critical
IST-HLP-02	Emergency Power Scenario	No operational interruption during loss of normal power	Critical
IST-HLP-03	MCER Immediate Occupancy Scenario	Full operational capability maintained	Critical
IST-HLP-04	Hurricane Recovery Scenario	Operational readiness successfully demonstrated	Critical
IST-HLP-05	Mass Casualty Surge Scenario	Simultaneous mission support successfully demonstrated	Critical

Attachment 1: Scope of Works

3. Functional Performance Testing (FPT)

FPT-HLP-01 – FAA Marking Verification

Objective

Verify that all heliport markings comply with applicable FAA requirements, approved design documents, and construction drawings.

Inspection Items

- Touchdown and Lift-Off Area (TLOF)
- Final Approach and Takeoff Area (FATO)
- Safety Area
- Heliport Identification Markings
- Perimeter Markings
- Directional Markings
- Obstruction Markings
- Wind Cone Visibility and Identification

Acceptance Criteria

- 100% compliance with approved drawings.
- No visible deterioration.
- Adequate reflectivity.
- Daytime and nighttime visibility verified.

Deliverable

FAA Marking Verification Report.

FPT-HLP-02 – Heliport Lighting System Verification

Objective

Verify proper operation of the entire heliport lighting system.

Test Procedure

Verify operation of:

- Perimeter Lights
- Flood Lighting
- TLOF Lights
- FATO Lights

- Wind Cone Lighting
- Obstruction Lights
- Approach Lighting
- Heliport Beacon

Acceptance Criteria

- 100% of lighting fixtures operational.
- No dark spots or dead zones.
- Lighting intensity within design requirements.
- Remote monitoring functional.

Deliverable

Heliport Lighting Validation Report.

FPT-HLP-03 – Emergency Lighting and Generator Operation

Objective

Demonstrate continuous heliport operation during a loss of normal electrical service.

Test Procedure

Simulate a complete utility power outage and verify:

- Automatic generator transfer.
- Emergency lighting operation.
- Control systems functionality.
- Communications system continuity.
- Monitoring system functionality.

Acceptance Criteria

- No interruption to heliport operations.
- Successful automatic transfer to emergency power.
- Continuous lighting operation throughout the test.

Deliverable

Emergency Power Validation Report.

FPT-HLP-04 – Elevator Transfer Sequence Testing

Attachment 1: Scope of Works

Objective

Validate immediate transport of critical patients from the heliport to designated clinical areas.

Areas Included

- Emergency Department
- Trauma Bays
- Operating Rooms
- Diagnostic Imaging Department
- Intensive Care Unit (ICU)

Test Procedure

Simulate arrival of an air-medical patient and verify:

- Automatic priority elevator operation.
- Elevator recall and dispatch functions.
- Dedicated trauma transport operation.
- Travel time compliance.
- Access control sequence.

Acceptance Criteria

- Elevators automatically respond to heliport activation.
- Sequence executes without fault.
- No conflict with routine building traffic.
- Response times meet design requirements.

Deliverable

Elevator Transfer Validation Report.

FPT-HLP-05 – Patient Transfer Route Validation

Objective

Verify the physical and operational integrity of the critical patient transfer pathway.

Validation Scope

From: Heliport Landing Area

To:

- Trauma Bay
- Operating Room
- CT Scan
- Intensive Care Unit

Inspection Requirements

Verify:

- Corridor width compliance
- Turning radius requirements
- Elevator accessibility
- Wayfinding signage
- Lighting levels
- Automatic door operation
- Access control systems
- Corridor pressurization
- CCTV coverage

Acceptance Criteria

- Route fully operational.
- No physical obstructions.
- Patient transfer time meets design requirements.
- Continuous access maintained.

Deliverable

Patient Transfer Route Validation Report.

FPT-HLP-06 – Heliport Emergency Mode Testing

Objective

Verify automatic and manual activation of heliport emergency operating modes.

Test Scenarios

- Scenario A – Aircraft Incident
- Scenario B – Fuel Spill Event
- Scenario C – Fire Emergency
- Scenario D – Mass Casualty Arrival

- Scenario E – Security Threat Event

Acceptance Criteria

- Emergency alarms activate correctly.
- Communications remain functional.
- Fire protection systems respond appropriately.
- Hospital Command Center receives notifications.
- Emergency procedures execute as designed.

Deliverable

Heliport Emergency Mode Validation Report.

FPT-HLP-07 – Communications System Validation

Objective

Verify interoperability and redundancy of all heliport communication systems.

Systems Included

- Hospital Command Center
- Security Operations Center
- Emergency Department
- Trauma Team
- Aviation Coordination Personnel
- Public Safety Agencies

Acceptance Criteria

- Redundant communication pathways operational.
- No loss of signal.
- Immediate communication capability.

Deliverable

Communications Integration Report.

FPT-HLP-08 – Heliport Fire Protection Validation

Objective

Demonstrate effective emergency response capabilities for heliport fire events.

Test Procedure

Verify:

- Fire Detection Systems
- Fire Alarm Systems
- Foam Suppression Systems (where applicable)
- Fire Alarm Integration
- Monitoring and Notification Systems

Acceptance Criteria

- Full coverage provided.
- Alarm signals transmitted successfully.
- Response times comply with design requirements.

Deliverable

Heliport Fire Protection Validation Report.

FPT-HLP-09 – BAS Integration Validation

Objective

Demonstrate full integration of heliport systems with the Building Automation System (BAS).

Verify

- Alarm Status
- Lighting Status
- Power Status
- Emergency Mode Status
- Event Logging and Trending

Acceptance Criteria

- Real-time monitoring available.
- Historical records maintained.
- Alarms accurately transmitted.

Deliverable

Heliport BAS Integration Report

4. Integrated Systems Testing (IST)

IST-HLP-01 – Normal Trauma Arrival Scenario

Scenario

Arrival of an air-medical helicopter transporting a critical trauma patient.

Sequence Verification

- Step 1 – Aircraft Arrival Notification
- Step 2 – Landing Authorization
- Step 3 – Automatic Lighting Activation
- Step 4 – Security System Activation
- Step 5 – Elevator Priority Mode Activation
- Step 6 – Trauma Team Notification
- Step 7 – Patient Transfer Movement
- Step 8 – Arrival at Trauma Bay

Acceptance Criteria

The complete patient transfer sequence shall be executed without interruption or delay.

Deliverable

Normal Trauma Operations Validation Report.

IST-HLP-02 – Emergency Power Loss Scenario

Objective

Demonstrate full heliport functionality during complete loss of normal utility power.

Acceptance Criteria

- Heliport remains operational.
- Lighting remains available.
- Communications remain functional.
- Elevators remain operational.
- Clinical transfer routes remain accessible.

Deliverable

Emergency Power Heliport Operations Report

IST-HLP-03 – MCER Immediate Occupancy Scenario

Objective

Demonstrate heliport operational capability following the Maximum Considered Earthquake (MCER) design event established in the approved BOD.

Method of Demonstration

The MCER design event shall not be physically reproduced. Compliance shall be demonstrated through the following, executed by the DB-Cx and witnessed, verified, and validated by the Owner's CxA:

- as-constructed conformance verification of the Seismic Isolation System and of the seismic anchorage, restraint, and flexibility provisions serving this system, in accordance with the Seismic Isolation System matrix;
- manufacturer and movement-capacity certifications for the applicable components; and
- an integrated post-event operational simulation of the post-seismic condition defined in the approved BOD, including loss of normal utilities, activation of emergency systems, and exercise of the post-event inspection, assessment, and recovery procedures.

ASEM shall accept the results.

Verify

- Structural integrity of the heliport.
- Accessibility of transfer routes.
- Elevator functionality.
- Electrical power availability.
- Communications functionality.
- Lighting system operability.

Acceptance Criteria

The heliport shall remain fully available for emergency medical operations immediately following the Maximum Considered Earthquake (MCER) design event established in the approved BOD without requiring repairs or operational restrictions.

Attachment 1: Scope of Works

Deliverable

MCER Immediate Occupancy Heliport Validation Report

IST-HLP-04 – Hurricane Recovery Operations Scenario

Objective

Demonstrate heliport readiness following a hurricane event.

Acceptance Criteria

- Post-event inspections completed.
- Systems fully functional.
- Operations successfully restored.
- Communications reestablished and verified.

Deliverable

Hurricane Recovery Validation Report.

IST-HLP-05 – Mass Casualty Surge Operations Scenario

Objective

Validate heliport operations during simultaneous arrival of multiple trauma patients under surge conditions.

Simulated Conditions

- Multiple helicopter arrivals.
- Simultaneous Emergency Department surge.
- High elevator demand.
- Deployment of emergency resources.

Acceptance Criteria

- No critical delays.
- Continuous patient flow maintained.
- Required resources remain operational.
- Trauma operations maintained throughout the scenario.

Deliverable

Mass Casualty Surge Operations Validation Report

Attachment 1: Scope of Works

5. Minimum Quantitative Acceptance Parameters

The minimum quantitative acceptance parameters for the Heliport Operations System are the numerical values, tolerances, response times, and performance metrics stated in the Minimum Acceptance Criteria Matrix, the Functional Performance Testing and Integrated Systems Testing procedures of this System-Specific Matrix, the approved Basis of Design (BOD), and the manufacturer requirements, with the more stringent value governing.

Where a parameter required to determine the acceptance of a test is not stated numerically, the Engineer of Record (EOR) shall establish it in the Commissioning Plan before the execution of Functional Performance Testing, for review by the Owner's CxA and approval by ASEM, in accordance with the Engineering Validation of Quantitative Acceptance Criteria provisions of this System-Specific Matrix.

6. Critical Deficiency Classification

The following conditions shall automatically be classified as a Level 1 Critical Deficiency:

- Failure of any required heliport lighting system.
- Loss of the critical patient transfer route.
- Failure of the designated trauma elevator system.
- Loss of communications capability.
- Failure of heliport emergency mode functionality.
- Inability to receive or transfer patients during generator operation.
- Failure to achieve Immediate Occupancy requirements following an MCER event.
- Failure of integration with the Hospital Command Center.
- Any condition that prevents immediate transport of critically injured patients.

7. Required Deliverables

- FAA Marking Verification Report
- Heliport Lighting Validation Report
- Emergency Power Validation Report
- Elevator Transfer Validation Report
- Patient Transfer Route Validation Report
- Heliport Emergency Mode Validation Report

- Communications Integration Report
- Heliport Fire Protection Validation Report
- BAS Integration Report
- Normal Trauma Operations Validation Report
- Emergency Power Operations Report
- MCER Immediate Occupancy Validation Report
- Hurricane Recovery Validation Report
- Mass Casualty Surge Operations Validation Report

8. Final Completion Documentation Package

The Design-Builder shall submit a Final Heliport Operations System Commissioning Report containing, at a minimum: executive summary; system description; equipment inventory; the results of each Functional Performance Test and Integrated Systems Test of this System-Specific Matrix; the Reliability Demonstration Period results; training documentation; deficiency log and closure documentation; corrective action documentation; manufacturer certifications; warranty documentation; and the Final Completion recommendation.

9. Integrated Systems Testing Failure Threshold

Any failed Integrated Systems Test involving the Heliport Operations System, or its interfaces with life-safety systems, emergency power, the Building Automation System, clinical operations, or continuity of operations, shall automatically constitute a Level 1 Critical Deficiency and shall require complete re-execution of the failed scenario prior to recommendation of Substantial Completion or Final Completion.

10. Substantial Completion Restriction

Notwithstanding any other provision of the Contract Documents, the existence of any unresolved Critical Deficiency of the Heliport Operations System, missing deliverable, incomplete validation report, or unresolved Integrated Systems Testing deficiency shall automatically preclude recommendation of Substantial Completion and Final Completion.

ASEM may withhold progress payments, retainage release, Substantial Completion, and Final Completion until all corrective actions, retesting requirements, validation requirements, documentation requirements, and acceptance criteria have been fully satisfied, verified by the Owner's

Independent Commissioning Authority (CxA), and formally accepted by ASEM.

11. Reliability Demonstration Period

Successful completion of all Functional Performance Tests (FPT) and Integrated Systems Tests (IST) shall not, by itself, constitute acceptance of the Heliport Operations System.

The Heliport Operations System shall successfully complete a Reliability Demonstration Period of not less than thirty (30) consecutive calendar days following completion of all required testing.

In addition to the minimum duration established above, the Reliability Demonstration Period shall require:

- System availability meeting the targets established by the Engineer of Record in the approved BOD and Commissioning Plan, which shall be monitored and reported throughout the Reliability Demonstration Period;
- Zero Critical Deficiencies;
- Zero Unplanned Service Interruptions affecting life-safety, patient-care, critical-care, emergency response, resiliency, environmental control, medical gas distribution, emergency power, BAS operation, or other essential hospital functions;
- Not more than one (1) Major Deficiency, provided such deficiency does not affect patient care, life-safety systems, resiliency objectives, continuity of operations, required performance criteria, or regulatory compliance; and
- No recurring deficiencies.

The occurrence of any Critical Deficiency, any prohibited Major Deficiency, any recurring deficiency, any unplanned service interruption affecting essential hospital functions, or more than one (1) Major Deficiency shall constitute failure of the Reliability Demonstration Period and shall require corrective action, recommissioning, retesting, and restart of the Reliability Demonstration Period.

12. Express ASEM Authority

Notwithstanding any recommendation issued by the Owner's Independent Commissioning Authority, ASEM reserves the unrestricted right to reject, suspend, defer, condition, or withhold any recommendation for Beneficial Occupancy, Substantial Completion, Final Completion, payment release, retainage release, or milestone approval whenever ASEM determines that any

commissioned system fails to satisfy the operational, clinical, resiliency, reliability, patient-safety, emergency preparedness, business continuity, or risk management objectives of the Hospital.

13. Engineering Validation of Quantitative Acceptance Criteria

The quantitative performance criteria identified within the Commissioning Specifications and this System-Specific Matrix are intended to establish minimum commissioning and validation objectives. Prior to Final Completion, the Design-Builder shall submit to ASEM and the Owner's CxA a sealed certification by the Engineer of Record (EOR) confirming that all specified acceptance thresholds, operating tolerances, response times, performance metrics, and reliability criteria are consistent with the approved Basis of Design (BOD), manufacturer-certified requirements, applicable codes and standards, and the final design documents. Where the EOR determines that an identified criterion is inconsistent with the approved design basis or applicable standards, the EOR shall recommend a revised criterion for review and approval by ASEM. In all cases, the more stringent requirement established by the Contract Documents, approved BOD, applicable codes, or manufacturer requirements shall govern.

Any numerical value identified herein shall be deemed a preliminary commissioning criterion unless expressly established in the approved Basis of Design. Prior to execution of Functional Performance Testing and Integrated Systems Testing, all quantitative acceptance thresholds shall be reviewed and certified by the Engineer of Record and approved by ASEM.

14. Commissioning Traceability and Acceptance Register (CTAR)

Each acceptance criterion, test, evidence item, and deficiency associated with this System-Specific Matrix shall be recorded in the Commissioning Traceability and Acceptance Register (CTAR) required by the Project Commissioning Specification. No system covered by this Matrix shall be eligible for Substantial Completion, Beneficial Occupancy, or Final Completion unless all requirements identified in the CTAR are demonstrated as fully compliant and accepted by ASEM.

15. Whole-Building Validation Requirements

The Design-Builder shall demonstrate that this system satisfies the requirements of the Full Clinical Operations Simulation Testing (FCOST) and the Hurricane Resiliency Validation Program established in the Project Commissioning

16. Additional Acceptance Package Deliverables

In addition to the deliverables identified in this Matrix, the Design-Builder shall include the following in the acceptance package for this system:

- a Digital Twin of Commissioning, including trends, sequences, alarms, operating models, system relationships, and integrated system responses, in a format approved by ASEM;
- a Deficiency Closure Certification certifying actual closure, verifiable evidence, successful retesting, and no recurrence of deficiencies;
- an Executive Acceptance Dashboard, including requirements satisfied, open requirements, risk items, acceptance restrictions, contingency items, and unresolved actions; and
- a Warranty Readiness Report, including warranty commencement date, warranty coverage, responsible entities, warranty exclusions, response times, and escalation procedures.

17. Cost Responsibility

All costs associated with failed tests, deficiencies of the Heliport Operations System, recommissioning, retesting, manufacturer remobilization, corrective work, software or controls modifications, replacement equipment, schedule recovery efforts, and any other action required to achieve compliance with the Contract Documents shall be borne solely by the Design-Builder and shall not entitle the Design-Builder to any increase in Contract Price or Contract Time.

18. Repeated Failure Escalation

Three (3) occurrences of the same failed Functional Performance Test, Integrated Systems Test, subsystem, control sequence, communication pathway, resiliency feature, emergency function, or acceptance criterion shall automatically result in classification of the condition as a Level 1 Critical Deficiency regardless of its original classification.

19. Independent Validation Rights

ASEM reserves the right to perform, commission, or procure independent forensic investigations, engineering evaluations, commissioning reviews, reliability assessments, laboratory analyses, performance testing, or third-party validation whenever repeated failures, unresolved deficiencies, disputed

results, operational concerns, life-safety concerns, resiliency concerns, or commissioning disputes exist.

Where such testing confirms a deficiency, nonconformance, or failure to achieve the Contract Documents, all associated costs shall be reimbursed by the Design-Builder. This right shall supplement and not replace the Design-Builder's commissioning obligations.

Attachment 1: Scope of Works

SYSTEM-SPECIFIC MINIMUM ACCEPTANCE CRITERIA AND COMMISSIONING MATRIX

Ramp System

Hospital Ramp System: Vertical Circulation, Emergency Egress, and Patient Transport

1. General Requirements

The Design-Builder shall demonstrate through Commissioning, Functional Performance Testing (FPT), Integrated Systems Testing (IST), emergency operation testing, resiliency testing, and operational readiness validation that the Ramp System performs in accordance with the Contract Documents, the Owner's Project Requirements (OPR), the Basis of Design (BOD), and applicable codes and standards.

The Commissioning Program shall demonstrate that the Hospital Ramp System functions as a critical component of the facility's resiliency, emergency circulation, patient transport, evacuation, and continuity-of-operations strategy.

The Ramp System shall provide uninterrupted vertical circulation for:

- Bed-bound patient transport.
- Trauma patient movement.
- Emergency evacuation operations.
- Mass casualty incidents.
- Non-ambulatory occupants.
- Medical equipment transport.
- Emergency vehicle access (where applicable).
- Post-disaster operations.

The ramp system shall remain operational during normal operations, utility failures, emergency power conditions, hurricane recovery operations, and post-seismic Immediate Occupancy conditions.

The DB-Cx shall execute the tests described herein. The Owner's Independent Commissioning Authority (CxA) shall witness, verify, and validate all testing

activities. Final Completion authority shall remain solely with ASEM.

Failure of any Critical Acceptance Criterion identified herein shall constitute a Level 1 Critical Deficiency.

All provisions related to commissioning administration, authority, acceptance, deficiency management, corrective actions, retesting, payment withholding, Substantial Completion, Beneficial Occupancy, Final Completion, warranty obligations, and Design-Builder responsibility are incorporated herein by reference as though fully stated herein. Deficiency Notices and Non-Conformance Notices shall be issued by the Owner's CxA. The Design-Builder shall determine the corrective measure, in consultation with the DB-Cx, and shall execute the correction. ASEM shall approve the resolution of each deficiency.

2. Minimum Acceptance Criteria Matrix

Test ID	Commissioning Activity	Acceptance Criteria	Classification
FPT-RMP-01	ADA Accessibility Verification	100% compliance with ADA and approved drawings	Critical
FPT-RMP-02	Ramp Geometry Verification	Slopes, widths, landings, clearances comply with design requirements	Critical
FPT-RMP-03	Emergency Lighting Validation	Continuous illumination under emergency power	Critical
FPT-RMP-04	Egress Signage Verification	All signage visible and operational	Major
FPT-RMP-05	Patient Stretcher Evacuation Validation	Safe and continuous stretcher movement	Critical
FPT-RMP-06	Wheelchair Accessibility Validation	Full wheelchair accessibility maintained	Critical
FPT-RMP-07	Pressurization System Validation	Required pressure relationships maintained	Critical
FPT-RMP-08	Smoke Control Integration Testing	Smoke migration prevented during fire events	Critical
FPT-RMP-09	BAS Integration Validation	Full monitoring and alarm capability	Major
IST-RMP-01	Emergency Evacuation Scenario	Successful evacuation of patients and occupants	Critical
IST-RMP-02	ICU Patient Evacuation Scenario	Critical-care transport successfully demonstrated	Critical

Test ID	Commissioning Activity	Acceptance Criteria	Classification
IST-RMP-03	Mass Casualty Surge Operations	Simultaneous patient movement demonstrated	Critical
IST-RMP-04	MCER Immediate Occupancy Scenario	Ramp remains fully accessible after seismic event	Critical
IST-RMP-05	Hurricane Recovery Operations Scenario	Ramp remains operational following hurricane event	Critical

3. Functional Performance Testing (FPT)

FPT-RMP-01 – ADA Accessibility Verification

Objective

Verify full compliance with accessibility requirements and approved design criteria.

Inspection Scope

Verify:

- Running slopes.
- Cross slopes.
- Landing dimensions.
- Handrails.
- Edge protection.
- Turning radii.
- Clear widths.
- Accessible routes.
- Walking surfaces.
- Transition areas.

Acceptance Criteria

- 100% ADA compliance.
- No accessibility barriers identified.
- All dimensions conform to approved design documents.

Deliverable

ADA Accessibility Compliance Report

FPT-RMP-02 – Ramp Geometry Verification

Attachment 1: Scope of Works

Objective

Verify physical characteristics of the ramp system.

Test Procedure

Confirm:

- Ramp slope.
- Ramp length.
- Intermediate landings.
- Vertical clearance.
- Horizontal clearance.
- Structural integrity.
- Surface conditions.

Acceptance Criteria

- Dimensions within approved tolerances.
- No trip hazards.
- Continuous circulation path maintained.

Deliverable

Ramp Geometry Verification Report

FPT-RMP-03 – Emergency Lighting Validation

Objective

Demonstrate adequate illumination during loss of normal power.

Test Procedure

Simulate complete power failure and verify operation of:

- Emergency lighting fixtures.
- Exit signs.
- Directional lighting.
- Battery backup systems.
- Generator-supported lighting circuits.

Acceptance Criteria

- Continuous illumination throughout the ramp.
- No dark areas.

- Successful transfer to emergency power.
- Light levels comply with life-safety requirements.

Deliverable

Ramp Emergency Lighting Validation Report

FPT-RMP-04 – Egress Signage Verification

Objective

Verify visibility and effectiveness of life-safety wayfinding systems.

Verify

- Exit signs.
- Directional signage.
- Emergency route identification.
- Evacuation instructions.

Acceptance Criteria

- Signs visible from all required locations.
- Emergency power provided where required.
- No missing or damaged signage.

Deliverable

Egress Signage Validation Report.

FPT-RMP-05 – Patient Stretcher Evacuation Validation

Objective

Demonstrate the ability to safely transport patients on stretchers throughout the entire ramp system.

Test Procedure

Simulate movement of:

- Standard stretchers.
- Bariatric stretchers.
- Critical care transport equipment.
- Emergency resuscitation carts.

Verify

- Turning radii.
- Maneuverability.
- Surface transitions.
- Handrail interference.
- Clearance requirements.

Acceptance Criteria

- Continuous movement without obstruction.
- No safety hazards.
- Transport completed within operational requirements.

Deliverable

Patient Stretcher Evacuation Validation Report.

FPT-RMP-06 – Wheelchair Accessibility Validation

Objective

Verify accessibility for wheelchair users under normal and emergency conditions.

Test Procedure

Validate:

- Manual wheelchair operation.
- Powered wheelchair operation.
- Accessible turning areas.
- Landing accessibility.

Acceptance Criteria

- Entire route accessible.
- No physical barriers.
- Compliance with accessibility requirements.

Deliverable

Wheelchair Accessibility Validation Report.

FPT-RMP-07 – Pressurization System Validation

Objective

Verify that pressurization systems maintain tenable conditions during emergency events.

Test Procedure

Simulate fire and smoke-control scenarios and verify:

- Differential pressure values.
- Airflow direction.
- Door operability.
- Smoke infiltration resistance.

Acceptance Criteria

- Design pressure differentials maintained.
- No uncontrolled smoke migration.
- Safe evacuation environment maintained.

Deliverable

Ramp Pressurization Validation Report.

FPT-RMP-08 – Smoke Control Integration Testing

Objective

Verify integration between smoke control systems and the ramp evacuation route.

Test Procedure

Verify coordinated operation of:

- Fire alarm system.
- Smoke control fans.
- Dampers.
- Pressurization systems.
- Building Automation System (BAS).

Acceptance Criteria

- Automatic activation upon alarm.
- Correct sequence of operation.
- Smoke containment maintained.

Deliverable

Smoke Control Integration Report.

FPT-RMP-09 – BAS Integration Validation

Objective

Validate integration of ramp-related systems with the Building Automation System.

Verify

- Pressurization status.
- Fan operation.
- Emergency lighting status.
- Alarm annunciation.
- System fault notifications.

Acceptance Criteria

- Real-time monitoring available.
- Alarms transmitted successfully.
- Historical trending operational.

Deliverable

Ramp BAS Integration Report.

4. Integrated Systems Testing (IST)

IST-RMP-01 – Emergency Evacuation Scenario

Objective

Demonstrate safe evacuation using the ramp system during a facility-wide emergency.

Scenario

Simulate evacuation of:

- Ambulatory occupants.
- Non-ambulatory patients.
- Visitors.
- Clinical staff.

Acceptance Criteria

- Evacuation routes remain accessible.
- Safe occupant movement maintained.
- No congestion preventing egress.

Deliverable

Emergency Evacuation Validation Report.

IST-RMP-02 – ICU Patient Evacuation Scenario

Objective

Demonstrate transport of critical-care patients utilizing the ramp system.

Verify

- Ventilator transport.
- IV infusion equipment transport.
- Monitoring equipment transport.
- Emergency response team mobility.

Acceptance Criteria

- Critical patients transported safely.
- Medical support equipment remains operational.
- Continuous patient monitoring maintained.

Deliverable

ICU Evacuation Validation Report.

IST-RMP-03 – Mass Casualty Surge Operations Scenario

Objective

Validate ramp capacity under emergency surge conditions.

Scenario

Simultaneous movement of:

- Trauma patients.
- Emergency response personnel.
- Medical equipment.
- Stretcher teams.

Acceptance Criteria

- Traffic flow remains functional.
- No operational bottlenecks occur.
- Emergency operations maintained.

Deliverable

Mass Casualty Surge Validation Report.

IST-RMP-04 – MCER Immediate Occupancy Scenario

Objective

Demonstrate operational readiness following the Maximum Considered Earthquake (MCER) design event established in the approved BOD.

Method of Demonstration

The MCER design event shall not be physically reproduced. Compliance shall be demonstrated through the following, executed by the DB-Cx and witnessed, verified, and validated by the Owner's CxA:

- as-constructed conformance verification of the Seismic Isolation System and of the seismic anchorage, restraint, and flexibility provisions serving this system, in accordance with the Seismic Isolation System matrix;
- manufacturer and movement-capacity certifications for the applicable components; and
- an integrated post-event operational simulation of the post-seismic condition defined in the approved BOD, including loss of normal utilities, activation of emergency systems, and exercise of the post-event inspection, assessment, and recovery procedures.

ASEM shall accept the results.

Verify:

- Structural condition of the ramp.
- Accessibility.
- Emergency lighting.
- Handrails.
- Pressurization systems.
- Egress routes.

Acceptance Criteria

- Ramp remains fully accessible.
- No structural damage affecting operation.
- Immediate Occupancy requirements achieved.

Deliverable

MCER Immediate Occupancy Ramp Report.

IST-RMP-05 – Hurricane Recovery Operations Scenario

Objective

Demonstrate continuation of ramp operations following a major hurricane event.

Verify:

- Structural integrity.
- Water infiltration resistance.
- Emergency lighting operation.
- Accessibility routes.
- Pressurization and life-safety systems.

Acceptance Criteria

- Ramp available for immediate use.
- No operational restrictions.
- Safe patient transport maintained.

Deliverable

Hurricane Recovery Ramp Validation Report.

5. Minimum Quantitative Acceptance Parameters

The minimum quantitative acceptance parameters for the Ramp System are the numerical values, tolerances, response times, and performance metrics stated in the Minimum Acceptance Criteria Matrix, the Functional Performance Testing and Integrated Systems Testing procedures of this System-Specific Matrix, the approved Basis of Design (BOD), and the manufacturer requirements, with the more stringent value governing.

Where a parameter required to determine the acceptance of a test is not stated numerically, the Engineer of Record (EOR) shall establish it in the

Commissioning Plan before the execution of Functional Performance Testing, for review by the Owner's CxA and approval by ASEM, in accordance with the Engineering Validation of Quantitative Acceptance Criteria provisions of this System-Specific Matrix.

6. Critical Deficiency Classification

The following conditions shall automatically be classified as a Level 1 Critical Deficiency:

- Failure to comply with ADA accessibility requirements.
- Loss of required emergency lighting.
- Failure of pressurization systems.
- Uncontrolled smoke migration into the ramp.
- Inability to transport stretchers through the entire route.
- Structural damage preventing full operation.
- Obstruction of evacuation pathways.
- Loss of Immediate Occupancy capability following an MCER event.
- Conditions that prevent patient evacuation or emergency response operations.

7. Required Deliverables

- ADA Accessibility Compliance Report.
- Ramp Geometry Verification Report.
- Emergency Lighting Validation Report.
- Egress Signage Validation Report.
- Patient Stretcher Evacuation Validation Report.
- Wheelchair Accessibility Validation Report.
- Pressurization Validation Report.
- Smoke Control Integration Report.
- BAS Integration Report.
- Emergency Evacuation Validation Report.
- ICU Evacuation Validation Report.
- Mass Casualty Surge Validation Report.
- MCER Immediate Occupancy Ramp Report.
- Hurricane Recovery Ramp Validation Report.

8. Final Completion Documentation Package

The Design-Builder shall submit a Final Ramp System Commissioning Report containing, at a minimum: executive summary; system description; equipment inventory; the results of each Functional Performance Test and Integrated Systems Test of this System-Specific Matrix; the Reliability Demonstration Period results; training documentation; deficiency log and closure documentation; corrective action documentation; manufacturer certifications; warranty documentation; and the Final Completion recommendation.

9. Integrated Systems Testing Failure Threshold

Any failed Integrated Systems Test involving the Ramp System, or its interfaces with life-safety systems, emergency power, the Building Automation System, clinical operations, or continuity of operations, shall automatically constitute a Level 1 Critical Deficiency and shall require complete re-execution of the failed scenario prior to recommendation of Substantial Completion or Final Completion.

10. Substantial Completion Restriction

Notwithstanding any other provision of the Contract Documents, the existence of any unresolved Critical Deficiency of the Ramp System, missing deliverable, incomplete validation report, or unresolved Integrated Systems Testing deficiency shall automatically preclude recommendation of Substantial Completion and Final Completion.

ASEM may withhold progress payments, retainage release, Substantial Completion, and Final Completion until all corrective actions, retesting requirements, validation requirements, documentation requirements, and acceptance criteria have been fully satisfied, verified by the Owner's Independent Commissioning Authority (CxA), and formally accepted by ASEM.

11. Reliability Demonstration Period

Successful completion of all Functional Performance Tests (FPT) and Integrated Systems Tests (IST) shall not, by itself, constitute acceptance of the Ramp System.

The Ramp System shall successfully complete a Reliability Demonstration

Period of not less than thirty (30) consecutive calendar days following completion of all required testing.

In addition to the minimum duration established above, the Reliability Demonstration Period shall require:

- System availability meeting the targets established by the Engineer of Record in the approved BOD and Commissioning Plan, which shall be monitored and reported throughout the Reliability Demonstration Period;
- Zero Critical Deficiencies;
- Zero Unplanned Service Interruptions affecting life-safety, patient-care, critical-care, emergency response, resiliency, environmental control, medical gas distribution, emergency power, BAS operation, or other essential hospital functions;
- Not more than one (1) Major Deficiency, provided such deficiency does not affect patient care, life-safety systems, resiliency objectives, continuity of operations, required performance criteria, or regulatory compliance; and
- No recurring deficiencies.

The occurrence of any Critical Deficiency, any prohibited Major Deficiency, any recurring deficiency, any unplanned service interruption affecting essential hospital functions, or more than one (1) Major Deficiency shall constitute failure of the Reliability Demonstration Period and shall require corrective action, recommissioning, retesting, and restart of the Reliability Demonstration Period.

12. Express ASEM Authority

Notwithstanding any recommendation issued by the Owner's Independent Commissioning Authority, ASEM reserves the unrestricted right to reject, suspend, defer, condition, or withhold any recommendation for Beneficial Occupancy, Substantial Completion, Final Completion, payment release, retainage release, or milestone approval whenever ASEM determines that any commissioned system fails to satisfy the operational, clinical, resiliency, reliability, patient-safety, emergency preparedness, business continuity, or risk management objectives of the Hospital.

13. Engineering Validation of Quantitative Acceptance Criteria

The quantitative performance criteria identified within the Commissioning Specifications and this System-Specific Matrix are intended to establish minimum commissioning and validation objectives. Prior to Final Completion,

the Design-Builder shall submit to ASEM and the Owner's CxA a sealed certification by the Engineer of Record (EOR) confirming that all specified acceptance thresholds, operating tolerances, response times, performance metrics, and reliability criteria are consistent with the approved Basis of Design (BOD), manufacturer-certified requirements, applicable codes and standards, and the final design documents. Where the EOR determines that an identified criterion is inconsistent with the approved design basis or applicable standards, the EOR shall recommend a revised criterion for review and approval by ASEM. In all cases, the more stringent requirement established by the Contract Documents, approved BOD, applicable codes, or manufacturer requirements shall govern.

Any numerical value identified herein shall be deemed a preliminary commissioning criterion unless expressly established in the approved Basis of Design. Prior to execution of Functional Performance Testing and Integrated Systems Testing, all quantitative acceptance thresholds shall be reviewed and certified by the Engineer of Record and approved by ASEM.

14. Commissioning Traceability and Acceptance Register (CTAR)

Each acceptance criterion, test, evidence item, and deficiency associated with this System-Specific Matrix shall be recorded in the Commissioning Traceability and Acceptance Register (CTAR) required by the Project Commissioning Specification. No system covered by this Matrix shall be eligible for Substantial Completion, Beneficial Occupancy, or Final Completion unless all requirements identified in the CTAR are demonstrated as fully compliant and accepted by ASEM.

15. Whole-Building Validation Requirements

The Design-Builder shall demonstrate that this system satisfies the requirements of the Full Clinical Operations Simulation Testing (FCOST) and the Hurricane Resiliency Validation Program established in the Project Commissioning Specification.

16. Additional Acceptance Package Deliverables

In addition to the deliverables identified in this Matrix, the Design-Builder shall include the following in the acceptance package for this system:

- a Digital Twin of Commissioning, including trends, sequences, alarms, operating models, system relationships, and integrated system responses, in a format approved by ASEM;

- a Deficiency Closure Certification certifying actual closure, verifiable evidence, successful retesting, and no recurrence of deficiencies;
- an Executive Acceptance Dashboard, including requirements satisfied, open requirements, risk items, acceptance restrictions, contingency items, and unresolved actions; and
- a Warranty Readiness Report, including warranty commencement date, warranty coverage, responsible entities, warranty exclusions, response times, and escalation procedures.

17. Cost Responsibility

All costs associated with failed tests, deficiencies of the Ramp System, recommissioning, retesting, manufacturer remobilization, corrective work, software or controls modifications, replacement equipment, schedule recovery efforts, and any other action required to achieve compliance with the Contract Documents shall be borne solely by the Design-Builder and shall not entitle the Design-Builder to any increase in Contract Price or Contract Time.

18. Repeated Failure Escalation

Three (3) occurrences of the same failed Functional Performance Test, Integrated Systems Test, subsystem, control sequence, communication pathway, resiliency feature, emergency function, or acceptance criterion shall automatically result in classification of the condition as a Level 1 Critical Deficiency regardless of its original classification.

19. Independent Validation Rights

ASEM reserves the right to perform, commission, or procure independent forensic investigations, engineering evaluations, commissioning reviews, reliability assessments, laboratory analyses, performance testing, or third-party validation whenever repeated failures, unresolved deficiencies, disputed results, operational concerns, life-safety concerns, resiliency concerns, or commissioning disputes exist.

Where such testing confirms a deficiency, nonconformance, or failure to achieve the Contract Documents, all associated costs shall be reimbursed by the Design-Builder. This right shall supplement and not replace the Design-Builder's commissioning obligations.

Attachment 1: Scope of Works

SYSTEM-SPECIFIC MINIMUM ACCEPTANCE CRITERIA AND COMMISSIONING MATRIX

Seismic Isolation System

Base-Isolated Hospital Structure

1. General Requirements

The Design-Builder shall demonstrate through Commissioning, Functional Performance Testing (FPT), Integrated Systems Testing (IST), installation verification, instrumentation validation, utility flexibility verification, seismic monitoring integration, operational readiness testing, post-event recovery validation, and Whole-Building Integrated Systems Testing that the Seismic Isolation System performs in accordance with:

- Contract Documents;
- Approved Owner's Project Requirements (OPR);
- Approved Basis of Design (BOD);
- Approved Seismic Design Criteria;
- Sealed Structural Design Documents;
- ASCE 7;
- International Building Code (IBC);
- Applicable healthcare facility requirements;
- Manufacturer-certified requirements; and
- All approved permitting documents.

The commissioning process shall verify:

- Seismic Isolation Plane functionality;
- Isolation bearing installation and performance characteristics;
- Energy dissipation device installation and functionality;
- Utility crossings at the Seismic Isolation Plane;
- Expansion joint performance;
- Structural health monitoring systems;
- Seismic instrumentation systems;
- MCER Immediate Occupancy (MCER-IO) performance objectives;

- Operational Immediate Occupancy objectives;
- Utility continuity across the Seismic Isolation Plane;
- Hospital operational continuity;
- Post-event recovery capability;
- Clinical-operational resiliency; and
- Integration with BAS, EPMS, utility monitoring systems, and emergency management systems.

The DB-Cx shall execute the tests described herein. The Owner's Independent Commissioning Authority (CxA) shall witness, verify, and validate all testing activities. Final Completion authority shall remain solely with ASEM.

Failure of any Critical Acceptance Criterion identified herein shall constitute a Level 1 Critical Deficiency.

All provisions related to commissioning administration, authority, acceptance, deficiency management, corrective actions, retesting, payment withholding, Substantial Completion, Beneficial Occupancy, Final Completion, warranty obligations, and Design-Builder responsibility are incorporated herein by reference as though fully stated herein. Deficiency Notices and Non-Conformance Notices shall be issued by the Owner's CxA. The Design-Builder shall determine the corrective measure, in consultation with the DB-Cx, and shall execute the correction. ASEM shall approve the resolution of each deficiency.

2. Minimum Acceptance Criteria Matrix

Commissioning Activity	Minimum Acceptance Criteria	Classification
Seismic Isolation Plane Verification	Full conformance with approved BOD and structural design	Critical
Isolation Bearing Verification	100% compliant installation	Critical
Structural Instrumentation Verification	100% sensor operability	Critical
Expansion Joint Validation	Full displacement capacity verified	Critical
Utility Flexibility Verification	Full displacement capacity verified	Critical
As-Constructed Seismic Design Conformance Validation	Consistent with approved BOD and Response History Analysis	Critical
MCER Immediate Occupancy Validation	Immediate Occupancy achieved	Critical
Operational Immediate Occupancy Validation	Full trauma operations capability maintained	Critical
Seismic Monitoring Integration	Monitoring and alarms functional	Major

Commissioning Activity	Minimum Acceptance Criteria	Classification
Seismic Utility Continuity Scenario	No loss of critical utility functionality	Critical
Post-Event Recovery Validation	Successful assessment and recovery capability demonstrated	Critical
Full Clinical Operations Simulation	Continuous hospital operations demonstrated	Critical
Integrated Systems Testing	Successful completion of all approved scenarios	Critical

3. Commissioning Verification and Validation Activities

Seismic Isolation Plane Verification

Objective

Demonstrate that the completed Seismic Isolation Plane has been constructed in accordance with the approved BOD, sealed structural drawings, approved shop drawings, and manufacturer-certified requirements.

Verification Activities

The DB-Cx shall verify:

- Isolation bearing locations;
- Isolation bearing orientation;
- Isolation bearing identification;
- Bearing tag numbers;
- Anchorage systems;
- Restraining systems;
- Seismic moat dimensions;
- Isolation gap dimensions;
- Inspection access;
- Access clearances;
- Utility crossings;
- Seismic joint clearances;
- Seismic movement clearances.

Acceptance Criteria

The Seismic Isolation Plane shall:

- conform to approved construction documents;
- remain unobstructed;

- maintain all required seismic clearances;
- provide unrestricted movement capability equal to or greater than the maximum displacement established in the approved BOD and sealed structural calculations.

Structural Instrumentation and Monitoring Verification

Objective

Demonstrate full functionality of all structural health monitoring and seismic instrumentation systems.

Verification Activities

Verification shall include:

- Accelerometers;
- Displacement sensors;
- Bearing displacement sensors;
- Structural response sensors;
- Gateway devices;
- Monitoring servers;
- Data acquisition platforms;
- Alarm systems;
- Event recording systems;
- Historical databases;
- Dashboard interfaces.

Acceptance Criteria

The instrumentation system shall demonstrate:

- 100% sensor operability;
- successful communications;
- successful alarm transmission;
- successful event recording;
- successful trend storage;
- successful integration with approved monitoring platforms.

Expansion Joint Performance Validation

Objective

Demonstrate that all expansion joints and isolation interfaces accommodate

the movement demands established in the approved BOD.

Acceptance Criteria

Expansion joint assemblies shall demonstrate:

- full seismic movement capacity;
- waterproofing continuity;
- weather resistance;
- fire-rating continuity;
- infection-control barrier continuity;
- wheel-load transfer capability;
- stretcher transport continuity;
- utility crossing protection;
- post-event operability.

Failure of any expansion joint assembly to accommodate the required displacement shall constitute a Critical Deficiency.

Utility Flexibility Verification

Objective

Demonstrate that all utilities crossing the Seismic Isolation Plane can accommodate the maximum displacement demands established in the approved BOD and sealed structural calculations.

Verification Activities

The DB-Cx shall verify:

- Electrical feeders;
- Emergency power feeders;
- Medical gas piping;
- Potable water piping;
- Sanitary piping;
- Stormwater piping;
- Fire protection piping;
- BAS cabling;
- Telecommunications cabling;
- Fiber-optic systems;
- Security systems;

- Fire alarm systems;
- Pneumatic tube interfaces.

Acceptance Criteria

All utility crossings shall:

- accommodate required displacement demands;
- remain operational after simulated movement;
- maintain redundancy where required;
- maintain applicable code compliance;
- maintain Immediate Occupancy functionality.

Verification shall include:

- shop drawing review;
- manufacturer certifications;
- movement-capacity certifications;
- installation inspections;
- field validation reports.

As-Constructed Seismic Design Conformance Verification

Objective

Demonstrate that the completed Seismic Isolation System conforms to the assumptions and design parameters established in the approved BOD and approved nonlinear Response History Analysis.

Verification Activities

The Structural Engineer of Record, DB-Cx, and Owner's CxA shall verify:

- isolation system properties;
- bearing characteristics;
- damping characteristics;
- displacement capacities;
- utility flexibility provisions;
- expansion joint capacities;
- structural interfaces;
- monitoring systems.

Acceptance Criteria

Attachment 1: Scope of Works

The as-constructed facility shall not materially deviate from the assumptions utilized within:

- the approved BOD;
- approved Response History Analysis;
- approved structural calculations; and
- approved permit documents.

MCER Immediate Occupancy (MCER-IO) Validation

Method of Demonstration

The MCER design event shall not be physically reproduced. Compliance shall be demonstrated through the following, executed by the DB-Cx and witnessed, verified, and validated by the Owner's CxA:

- as-constructed conformance verification of the Seismic Isolation System (isolators, isolation interface, seismic joints, and the seismic anchorage, restraint, and flexibility provisions serving this system) against the approved BOD, approved Response History Analysis, approved structural calculations, and approved permit documents;

- manufacturer and movement-capacity certifications for the applicable components; and

- an integrated post-event operational simulation of the post-seismic condition defined in the approved BOD, including loss of normal utilities, activation of emergency systems, and exercise of the post-event inspection, assessment, and recovery procedures.

ASEM shall accept the results.

Objective

Demonstrate compliance with the approved MCER Immediate Occupancy performance objective.

Acceptance Criteria

Following the MCER design event established in the approved BOD, the facility shall demonstrate:

- Immediate Occupancy performance;
- structural stability;
- operational functionality of the Seismic Isolation System;
- continuous life-safety operation;

- continuous emergency power operation;
- continuous BAS operation;
- continuous medical gas operation;
- continuous critical HVAC operation;
- continuous telecommunications operation;
- preservation of emergency access;
- preservation of patient transport routes;
- no structural repair requirements that would preclude occupancy.

Classification: Critical

Operational Immediate Occupancy Validation

Objective

Demonstrate that essential hospital services remain operational following the design seismic event. Compliance shall be demonstrated in accordance with the Method of Demonstration for the MCER Immediate Occupancy (MCER-IO) Validation.

Systems Included

- Emergency Power Systems;
- BAS;
- EPMS;
- Medical Gas Systems;
- Fire Alarm Systems;
- Telecommunications Systems;
- Security Systems;
- Pneumatic Tube Systems;
- Water Supply Systems;
- Sewer Systems;
- Stormwater Systems;
- Heliport Support Systems;
- Emergency Elevators;
- Trauma Operations Support Systems.

Acceptance Criteria

The hospital shall remain capable of supporting Level I Trauma Center operations immediately following the approved seismic event.

Attachment 1: Scope of Works

Classification: Critical

Seismic Monitoring Integration Validation

Objective

Demonstrate integration between seismic monitoring systems and building operational systems.

Verification Activities

- Event recording;
- Alarm transmission;
- BAS integration;
- Dashboard reporting;
- Trend logging;
- Historical data retention;
- Emergency notifications;
- Command-center reporting.

Acceptance Criteria

The system shall demonstrate:

- successful event recording;
- successful monitoring visibility;
- successful notification transmission;
- successful data retention.

Post-Event Recovery Validation

Acceptance Criteria

The facility shall demonstrate:

- rapid structural assessment capability;
- rapid utility assessment capability;
- rapid isolation system assessment capability;
- rapid operational readiness verification capability;
- preservation of emergency response functions;
- preservation of critical-care functions;
- preservation of trauma operations.

4. Integrated Systems Testing (IST)

IST-SIS-01 – Seismic Utility Continuity Scenario

Objective

Demonstrate continued operation of all critical utilities crossing the Seismic Isolation Plane.

Scenario

Testing shall validate continued operation of:

- Electrical infrastructure;
- Emergency power infrastructure;
- Potable water systems;
- Sanitary sewer systems;
- Stormwater systems;
- Oxygen cross-connections;
- Medical gas systems;
- BAS communications;
- Telecommunications networks;
- Fire alarm systems;
- Campus utility interconnections.

Acceptance Criteria

No utility service interruption shall occur as a result of differential movement occurring at the Seismic Isolation Plane.

Classification: Critical

5. Minimum Quantitative Acceptance Parameters

The minimum quantitative acceptance parameters for the Seismic Isolation System are the numerical values, tolerances, response times, and performance metrics stated in the Minimum Acceptance Criteria Matrix, the Functional Performance Testing and Integrated Systems Testing procedures of this System-Specific Matrix, the approved Basis of Design (BOD), and the manufacturer requirements, with the more stringent value governing.

Where a parameter required to determine the acceptance of a test is not

stated numerically, the Engineer of Record (EOR) shall establish it in the Commissioning Plan before the execution of Functional Performance Testing, for review by the Owner's CxA and approval by ASEM, in accordance with the Engineering Validation of Quantitative Acceptance Criteria provisions of this System-Specific Matrix.

6. Critical Deficiency Classification

Deficiencies of the Seismic Isolation System shall be classified and managed in accordance with Section 8 of this Part XII. Any deficiency affecting the integrity or performance of the isolators, the required isolation gap or moat clearance, the flexible utility and architectural crossings at the isolation interface, or the seismic separations required by the approved design shall be classified as a Level 1 Critical Deficiency.

7. Required Deliverables

The Design-Builder shall submit, for review by the Owner's CxA and acceptance by ASEM, the following deliverables for the Seismic Isolation System: isolator prototype and production test reports; isolator installation and alignment records; as-built isolation plan and isolator schedule; isolation gap and moat clearance verification survey; inspection records of flexible utility, architectural, and structural crossings at the isolation interface; Engineer of Record certification of the installed isolation system; and the inspection, monitoring, and maintenance program for the isolation system.

8. Final Completion Documentation Package

The Design-Builder shall submit a Final Seismic Isolation System Commissioning Report containing, at a minimum: executive summary; system description; equipment inventory; the results of each Functional Performance Test and Integrated Systems Test of this System-Specific Matrix; the Reliability Demonstration Period results; training documentation; deficiency log and closure documentation; corrective action documentation; manufacturer certifications; warranty documentation; and the Final Completion recommendation.

9. Integrated Systems Testing Failure Threshold

Any failed Integrated Systems Test involving the Seismic Isolation System, or its interfaces with life-safety systems, emergency power, the Building Automation System, clinical operations, or continuity of operations, shall automatically

constitute a Level 1 Critical Deficiency and shall require complete re-execution of the failed scenario prior to recommendation of Substantial Completion or Final Completion.

10. Substantial Completion Restriction

Notwithstanding any other provision of the Contract Documents, the existence of any unresolved Critical Deficiency of the Seismic Isolation System, missing deliverable, incomplete validation report, or unresolved Integrated Systems Testing deficiency shall automatically preclude recommendation of Substantial Completion and Final Completion.

ASEM may withhold progress payments, retainage release, Substantial Completion, and Final Completion until all corrective actions, retesting requirements, validation requirements, documentation requirements, and acceptance criteria have been fully satisfied, verified by the Owner's Independent Commissioning Authority (CxA), and formally accepted by ASEM.

11. Commissioning Traceability and Acceptance Register (CTAR)

Each seismic performance objective, displacement demand, utility flexibility requirement, Immediate Occupancy requirement, resiliency objective, inspection activity, Functional Performance Test, Integrated Systems Test, and acceptance criterion associated with the Seismic Isolation System shall be linked through the Commissioning Traceability and Acceptance Register (CTAR) to:

- Approved OPR;
- Approved BOD;
- Approved Sealed Structural Calculations;
- Approved Permitting Documents;
- Contract Documents;
- Commissioning Requirements; and
- Acceptance Milestones.

No portion of the Seismic Isolation System shall be eligible for Beneficial Occupancy, Substantial Completion, or Final Completion unless all CTAR requirements have been demonstrated as compliant and accepted by ASEM.

12. Reliability Demonstration Period

Successful completion of all Functional Performance Tests (FPT) and Integrated Systems Tests (IST) shall not, by itself, constitute acceptance of the Seismic Isolation System.

The Seismic Isolation System shall successfully complete a Reliability Demonstration Period of not less than thirty (30) consecutive calendar days following completion of all required testing.

In addition to the minimum duration established above, the Reliability Demonstration Period shall require:

- System availability meeting the targets established by the Engineer of Record in the approved BOD and Commissioning Plan, which shall be monitored and reported throughout the Reliability Demonstration Period;
- Zero Critical Deficiencies;
- Zero Unplanned Service Interruptions affecting life-safety, patient-care, critical-care, emergency response, resiliency, environmental control, medical gas distribution, emergency power, BAS operation, or other essential hospital functions;
- Not more than one (1) Major Deficiency, provided such deficiency does not affect patient care, life-safety systems, resiliency objectives, continuity of operations, required performance criteria, or regulatory compliance; and
- No recurring deficiencies.

The occurrence of any Critical Deficiency, any prohibited Major Deficiency, any recurring deficiency, any unplanned service interruption affecting essential hospital functions, or more than one (1) Major Deficiency shall constitute failure of the Reliability Demonstration Period and shall require corrective action, recommissioning, retesting, and restart of the Reliability Demonstration Period.

13. Express ASEM Authority

Notwithstanding any recommendation issued by the Owner's Independent Commissioning Authority, ASEM reserves the unrestricted right to reject, suspend, defer, condition, or withhold any recommendation for Beneficial Occupancy, Substantial Completion, Final Completion, payment release, retainage release, or milestone approval whenever ASEM determines that any commissioned system fails to satisfy the operational, clinical, resiliency,

reliability, patient-safety, emergency preparedness, business continuity, or risk management objectives of the Hospital.

14. Engineering Validation of Quantitative Acceptance Criteria

The quantitative performance criteria identified within the Commissioning Specifications and this System-Specific Matrix are intended to establish minimum commissioning and validation objectives. Prior to Final Completion, the Design-Builder shall submit to ASEM and the Owner's CxA a sealed certification by the Engineer of Record (EOR) confirming that all specified acceptance thresholds, operating tolerances, response times, performance metrics, and reliability criteria are consistent with the approved Basis of Design (BOD), manufacturer-certified requirements, applicable codes and standards, and the final design documents. Where the EOR determines that an identified criterion is inconsistent with the approved design basis or applicable standards, the EOR shall recommend a revised criterion for review and approval by ASEM. In all cases, the more stringent requirement established by the Contract Documents, approved BOD, applicable codes, or manufacturer requirements shall govern.

Any numerical value identified herein shall be deemed a preliminary commissioning criterion unless expressly established in the approved Basis of Design. Prior to execution of Functional Performance Testing and Integrated Systems Testing, all quantitative acceptance thresholds shall be reviewed and certified by the Engineer of Record and approved by ASEM.

15. Whole-Building Validation Requirements

The Design-Builder shall demonstrate that this system satisfies the requirements of the Full Clinical Operations Simulation Testing (FCOST) and the Hurricane Resiliency Validation Program established in the Project Commissioning Specification.

16. Additional Acceptance Package Deliverables

In addition to the deliverables identified in this Matrix, the Design-Builder shall include the following in the acceptance package for this system:

- a Digital Twin of Commissioning, including trends, sequences, alarms, operating models, system relationships, and integrated system responses, in a format approved by ASEM;
- a Deficiency Closure Certification certifying actual closure, verifiable evidence, successful retesting, and no recurrence of deficiencies;

- an Executive Acceptance Dashboard, including requirements satisfied, open requirements, risk items, acceptance restrictions, contingency items, and unresolved actions; and
- a Warranty Readiness Report, including warranty commencement date, warranty coverage, responsible entities, warranty exclusions, response times, and escalation procedures.

17. Cost Responsibility

All costs associated with failed tests, deficiencies of the Seismic Isolation System, recommissioning, retesting, manufacturer remobilization, corrective work, software or controls modifications, replacement equipment, schedule recovery efforts, and any other action required to achieve compliance with the Contract Documents shall be borne solely by the Design-Builder and shall not entitle the Design-Builder to any increase in Contract Price or Contract Time.

18. Repeated Failure Escalation

Three (3) occurrences of the same failed Functional Performance Test, Integrated Systems Test, subsystem, control sequence, communication pathway, resiliency feature, emergency function, or acceptance criterion shall automatically result in classification of the condition as a Level 1 Critical Deficiency regardless of its original classification.

19. Independent Validation Rights

ASEM reserves the right to perform, commission, or procure independent forensic investigations, engineering evaluations, commissioning reviews, reliability assessments, laboratory analyses, performance testing, or third-party validation whenever repeated failures, unresolved deficiencies, disputed results, operational concerns, life-safety concerns, resiliency concerns, or commissioning disputes exist.

Where such testing confirms a deficiency, nonconformance, or failure to achieve the Contract Documents, all associated costs shall be reimbursed by the Design-Builder. This right shall supplement and not replace the Design-Builder's commissioning obligations.

Attachment 1: Scope of Works

SYSTEM-SPECIFIC MINIMUM ACCEPTANCE CRITERIA AND COMMISSIONING MATRIX

Utility Interconnection with Existing Utilities and ASEM Main Building Standalone Commissioning Discipline (UTL)

1. General Requirements

The Design-Builder shall demonstrate through Commissioning, Functional Performance Testing (FPT), Integrated Systems Testing (IST), emergency operation testing, resiliency testing, and operational readiness validation that all utility interconnections between the New Trauma Hospital, the existing utilities, and the ASEM Main Building perform in accordance with the Contract Documents, the Owner's Project Requirements (OPR), the Basis of Design (BOD), and applicable codes and standards.

The Utility Interconnection Commissioning Program shall demonstrate that all utility systems serving the New Trauma Hospital are fully integrated, interoperable, resilient, and capable of operating continuously with the existing and campus-wide infrastructure.

Commissioning shall verify the reliability, functionality, redundancy, monitoring, control, emergency response, and operational continuity of all new and existing utility interconnections, including utility transfer scenarios, emergency conditions, maintenance bypass operations, and disaster recovery operations.

The commissioning process shall validate:

- Physical utility interconnections.
- Operational interoperability.
- Utility redundancy.
- Emergency transfer capabilities.
- Monitoring and controls integration.
- Utility isolation procedures.
- Cross-campus operational continuity.
- Immediate Occupancy (IO) functionality following disaster events.
- Long-term resilience under emergency operating conditions.

Attachment 1: Scope of Works

The DB-Cx shall execute the tests described herein. The Owner's Independent Commissioning Authority (CxA) shall witness, verify, and validate all testing activities. Final Completion authority shall remain solely with ASEM.

Failure of any Critical Acceptance Criterion identified herein shall constitute a Level 1 Critical Deficiency.

All provisions related to commissioning administration, authority, acceptance, deficiency management, corrective actions, retesting, payment withholding, Substantial Completion, Beneficial Occupancy, Final Completion, warranty obligations, and Design-Builder responsibility are incorporated herein by reference as though fully stated herein. Deficiency Notices and Non-Conformance Notices shall be issued by the Owner's CxA. The Design-Builder shall determine the corrective measure, in consultation with the DB-Cx, and shall execute the correction. ASEM shall approve the resolution of each deficiency.

2. Existing ASEM Integration Commissioning Matrix

Test ID	System	Commissioning Activity	Acceptance Criteria	Classification
FPT-INT-01	Potable Water	Interconnection Verification	Continuous service and proper pressure maintained	Critical
FPT-INT-02	Storm Water	Drainage Integration Testing	Positive drainage under design storm conditions	Critical
FPT-INT-03	Sewer System	Sewer Interconnection Validation	No surcharging or backflow	Critical
FPT-INT-04	Electrical Service	Utility Coordination Testing	Successful operation under all transfer scenarios	Critical
FPT-INT-05	Emergency Power	Cross-Campus Emergency Operations	Continuous service maintained	Critical
FPT-INT-06	Oxygen System	Oxygen Cross-Connection Validation	Full redundancy and uninterrupted service	Critical
FPT-INT-07	Medical Gas Monitoring	Alarm Integration Testing	System-wide alarm functionality verified	Critical
FPT-INT-08	BAS	BAS Integration Validation	Full monitoring and control capability	Critical

Test ID	System	Commissioning Activity	Acceptance Criteria	Classification
FPT-INT-09	Telecommunications	Network Integration Testing	Redundant communications maintained	Critical
FPT-INT-10	Fire Alarm	Fire Alarm Integration Testing	Campus-wide notification verified	Critical
FPT-INT-11	Security Systems	Security Integration Validation	Full interoperability achieved	Major
IST-INT-01	Utility Failure Scenario	Integrated Utility Failure Simulation	Operations maintained	Critical
IST-INT-02	Main Building Dependency Scenario	Cross-Campus Utility Support Validation	Successful operation demonstrated	Critical
IST-INT-03	MCER Scenario	Post-Seismic Utility Continuity	Immediate Occupancy achieved	Critical
IST-INT-04	Hurricane Recovery Scenario	Post-Storm Utility Restoration Validation	Full restoration verified	Critical
IST-INT-05	Full Campus Resiliency Scenario	Integrated Utility Resiliency Test	Continuous healthcare operations maintained	Critical

3. Functional Performance Testing (FPT)

Test ID Correspondence

The Test IDs of the Existing ASEM Integration Commissioning Matrix (FPT-INT and IST-INT) control for purposes of the CTAR and the traceability matrix. The detailed procedures that follow use subsystem prefixes for the FPT tests and the same identifiers as the matrix for the IST tests. Each FPT-INT test is satisfied only when all of the detailed procedures listed below have been successfully completed and verified by the Owner's CxA; the failure of any listed procedure constitutes a failure of the corresponding matrix test, with the classification shown in the matrix.

Matrix Test ID	System	Detailed Procedure(s)
FPT-INT-01	Potable Water	FPT-PWS-01, FPT-PWS-02, FPT-PWS-03
FPT-INT-02	Storm Water	FPT-SW-01, FPT-SW-02, FPT-SW-03
FPT-INT-03	Sewer System	FPT-SS-01, FPT-SS-02, FPT-SS-03
FPT-INT-04	Electrical Service	FPT-EL-01, FPT-EL-02
FPT-INT-05	Emergency Power	FPT-EL-03
FPT-INT-06	Oxygen System	FPT-OXY-01, FPT-OXY-02, FPT-OXY-03

Matrix Test ID	System	Detailed Procedure(s)
FPT-INT-07	Medical Gas Monitoring	FPT-MGM-01
FPT-INT-08	BAS	FPT-BAS-01, FPT-BAS-02, FPT-BAS-03
FPT-INT-09	Telecommunications	FPT-TEL-01
FPT-INT-10	Fire Alarm	FPT-FA-01
FPT-INT-11	Security Systems	FPT-SEC-01

The procedures FPT-BAS-01 to FPT-BAS-03 in this Utility Interconnection discipline (UTL) are distinct from the procedures bearing the same identifiers in the Building Automation System matrix, and shall be cited as "UTL FPT-BAS-01", "UTL FPT-BAS-02", and "UTL FPT-BAS-03" in any report, log, or deficiency notice.

Potable Water System Commissioning Matrix

The potable water system commissioning shall validate all interconnections between the New Trauma Hospital and the existing ASEM campus water infrastructure.

FPT-PWS-01 – Potable Water Interconnection Verification

Verify

- Connection points.
- Isolation valves.
- Pressure reducing valves.
- Backflow preventers.
- Water meters.
- Monitoring devices.

Acceptance Criteria

- No leakage.
- Full operational control.
- Proper valve identification.
- Complete redundancy maintained.

FPT-PWS-02 – Pressure and Flow Verification

Test Procedure

Simulate:

- Normal demand.
- Peak hospital demand.

- Emergency demand.
- Fire event demand.

Acceptance Criteria

- Pressure remains within design range.
- Adequate flow maintained.
- No service interruption.

FPT-PWS-03 – Campus Transfer Scenario

Objective

Demonstrate seamless operation if one campus water source becomes unavailable.

Acceptance Criteria

- Automatic transfer successful.
- No pressure loss affecting clinical services.
- Continuous hospital operation maintained.

Storm Water System Commissioning Matrix

FPT-SW-01 – Storm Water Collection Verification

Verify

- Inlets.
- Catch basins.
- Roof drainage systems.
- Trench drains.
- Drainage piping.

Acceptance Criteria

- Positive drainage achieved.
- No standing water.
- No flooding conditions.

FPT-SW-02 – Design Storm Simulation

Objective

Demonstrate performance under a design rainfall event.

Acceptance Criteria

- No roadway flooding.
- No ramp flooding.
- No emergency access impairment.
- No water intrusion into critical areas.

FPT-SW-03 – Hurricane Resiliency Validation

Scenario

Simulate extreme rainfall event.

Acceptance Criteria

- Drainage remains operational.
- Emergency access maintained.
- Critical services protected.

Sanitary Sewer System Commissioning Matrix

FPT-SS-01 – Sewer Interconnection Verification

Verify

- Connection structures.
- Manholes.
- Force mains.
- Gravity mains.
- Isolation devices.

Acceptance Criteria

- No infiltration.
- No exfiltration.
- Full hydraulic continuity.

FPT-SS-02 – Peak Discharge Testing

Objective

Verify performance under peak occupancy conditions.

Acceptance Criteria

- No backups.

- No surcharging.
- No loss of service.

FPT-SS-03 – Emergency Operation Validation

Scenario

Power outage and lift station emergency operation.

Acceptance Criteria

- Pumps remain operational.
- Emergency power functions correctly.
- Continuous sewer service maintained.

Electrical System Integration Commissioning Matrix

FPT-EL-01 – Utility Interconnection Verification

Verify

- Service entrances.
- Primary feeders.
- Tie breakers.
- Protective devices.
- Metering systems.

Acceptance Criteria

- Proper coordination achieved.
- No nuisance operations.
- Successful synchronization.

FPT-EL-02 – Campus Electrical Transfer Testing

Scenarios

- Utility loss.
- Feeder failure.
- Transformer failure.
- Switchgear failure.

Acceptance Criteria

- Automatic transfer successful.
- No interruption to critical loads.

- Selective coordination maintained.

FPT-EL-03 – Black Building Scenario

Objective

Simulate complete utility loss.

Verify

- Generator operation.
- BESS operation.
- Microgrid controls.
- Campus interconnections.

Acceptance Criteria

- Trauma hospital remains operational.
- Existing Main Building remains operational.
- Critical healthcare functions maintained.

BAS Integration Commissioning Matrix

FPT-BAS-01 – BAS Interoperability Validation

Verify

Real-time monitoring of:

- HVAC.
- Electrical systems.
- Medical gases.
- Plumbing systems.
- Fire alarm interfaces.
- Utility infrastructure.

Acceptance Criteria

- Full visibility from both facilities.
- Accurate data reporting.
- Historical trending functional.

FPT-BAS-02 – Alarm Integration Testing

Verify

Integrated alarms for:

- Water systems.
- Electrical systems.
- Medical gases.
- Security systems.
- Fire alarm systems.

Acceptance Criteria

- Alarm received locally.
- Alarm received at ASEM Main Building.
- Event logging successful.

FPT-BAS-03 – Loss of Communications Scenario

Acceptance Criteria

- Systems continue operating autonomously.
- Alarm buffering maintained.
- Automatic restoration successful.

Oxygen Cross-connection Commissioning Matrix

Critical Care Utility System

FPT-OXY-01 – Oxygen Cross-Connection Verification

Verify

- Interconnecting piping.
- Isolation valves.
- Source equipment.
- Pressure regulators.
- Monitoring systems.

Acceptance Criteria

- Cross-connection installed per design.
- No leakage detected.
- Isolation capability verified.

FPT-OXY-02 – Emergency Supply Transfer Test

Scenario

Loss of primary oxygen source.

Verify

- Automatic switching.
- Pressure maintenance.
- Alarm notification.
- System continuity.

Acceptance Criteria

- No interruption to patient care areas.
- Full system capacity maintained.

FPT-OXY-03 – Peak Demand Trauma Scenario

Objective

Simulate major disaster patient surge.

Acceptance Criteria

- Oxygen pressure maintained.
- Flow maintained.
- ICU operational.
- Operating rooms operational.
- Emergency Department operational.

Medical Gas Monitoring Commissioning Matrix

FPT-MGM-01 – Medical Gas Alarm Integration Testing

Objective

Verify that the medical gas alarms of the New Trauma Hospital are integrated with the building automation system and with the ASEM Main Building, in accordance with NFPA 99 and the approved BOD.

Method

The DB-Cx shall simulate each alarm condition below at the field device, source equipment, or alarm panel, without compromising the supply to patient care areas. The Owner's CxA shall witness, verify, and validate the test.

Verify

Local, master, and area alarm panels, and integrated alarms for:

- Low and high line pressure.
- Reserve supply in use and low reserve supply.
- Source equipment faults, including compressor, vacuum pump, and manifold faults.
- Zone valve and area alarm conditions.
- Loss of communication and trouble conditions of the alarm system.

Acceptance Criteria

- Each simulated alarm annunciated at the local, master, and area alarm panels.
- Each alarm received at the BAS and at the ASEM Main Building within the response time established in the approved BOD.
- Alarm and restoration events logged with date and time.
- Loss of communication detected and annunciated.
- System-wide alarm functionality verified, with no nuisance alarms.

Telecommunications and Data Systems Matrix

FPT-TEL-01 – Network Interconnection Validation

Verify

- Fiber backbone.
- Redundant paths.
- Voice systems.
- Data systems.
- Clinical systems connectivity.

Acceptance Criteria

- Full interoperability.
- No communication loss.
- Redundant pathways operational.

Fire Alarm Interconnection Matrix

FPT-FA-01 – Campus Fire Alarm Integration

Verify

- Alarm transmission.
- Supervisory signals.

- Trouble conditions.
- Emergency notifications.

Acceptance Criteria

- Signal transmission between facilities.
- Correct emergency response activation.
- Event recording successful.

Security Systems Integration Matrix

FPT-SEC-01 – Security Integration Validation

Verify

Integration of the security systems of the New Trauma Hospital with the security operations of the ASEM Main Building, including:

- Access control, credential recognition, and door status monitoring.
- Video surveillance, live viewing, recording, and retrieval.
- Intrusion detection, duress, and panic alarms.
- Intercom and emergency communication stations.
- Interface with the fire alarm system, including the release of electrified egress hardware.
- Operation on emergency power and during loss of communications between facilities.

Acceptance Criteria

- Full interoperability achieved between both facilities.
- Alarms received locally and at the ASEM Main Building security operations center.
- Video available for viewing and retrieval from both facilities.
- Egress never impeded; electrified egress hardware releases upon fire alarm activation.
- Systems continue operating autonomously during loss of communications, with event buffering and automatic restoration.
- Event logging successful.

4. Integrated Systems Testing (IST)

IST-INT-01 – Campus Utility Failure Scenario

Simulate simultaneous failure of:

- Utility power.
- Potable water source.
- Medical gas source.
- Telecommunications.

Acceptance Criteria

- Trauma Hospital remains operational.
- Existing ASEM Main Building remains operational.
- Critical patient care functions maintained.

IST-INT-02 – Cross-Campus Utility Support Validation

Scenario

Simulate the loss of the independent utility services of the New Trauma Hospital, requiring operation with the support of the existing ASEM Main Building through the cross-campus interconnections, including:

- Potable water supply.
- Electrical power, including emergency power.
- Oxygen and medical gas cross-connections.
- BAS monitoring and alarms.
- Telecommunications.

Verify

- Activation of the cross-campus interconnections, isolation valves, and tie breakers.
- Capacity of the ASEM Main Building to support the transferred demand without degrading its own critical operations.
- Monitoring and alarm visibility from both facilities during the event.
- Return to the normal configuration without interruption.

Acceptance Criteria

- Successful operation demonstrated.
- Trauma Hospital remains operational.
- Existing ASEM Main Building maintains its critical functions.
- No interruption of critical patient services during transfer or return to normal.

IST-INT-03 – MCER Immediate Occupancy Utility Continuity Scenario

Objective

Validate functionality of all utility interconnections following the Maximum Considered Earthquake (MCER) design event established in the approved BOD.

Method of Demonstration

The MCER design event shall not be physically reproduced. Compliance shall be demonstrated through the following, executed by the DB-Cx and witnessed, verified, and validated by the Owner's CxA:

- as-constructed conformance verification of the Seismic Isolation System and of the seismic anchorage, restraint, and flexibility provisions serving this system, in accordance with the Seismic Isolation System matrix;
- manufacturer and movement-capacity certifications for the applicable components; and
- an integrated post-event operational simulation of the post-seismic condition defined in the approved BOD, including loss of normal utilities, activation of emergency systems, and exercise of the post-event inspection, assessment, and recovery procedures.

ASEM shall accept the results.

Acceptance Criteria

- Potable water operational.
- Sewer service operational.
- Storm drainage operational.
- Oxygen cross-connections operational.
- Electrical infrastructure operational.
- BAS communications operational.
- Existing ASEM Main Building support maintained.

IST-INT-04 – Post-Storm Utility Restoration Validation

Scenario

The hurricane event shall not be physically reproduced. The DB-Cx shall simulate the post-storm condition defined in the approved BOD and the Hurricane Resiliency Validation Program, witnessed, verified, and validated by

the Owner's CxA, including:

- Prolonged loss of utility power, potable water, sewer service, and telecommunications.
- Operation on emergency power and stored supplies.
- Phased restoration of utility services.

Verify

- Restoration sequence of each utility service and re-energization of utility feeders.
- Transfer from emergency power back to normal power without interruption of critical loads.
- Restoration of potable water and sewer service without backflow or cross-contamination.
- Continuity of oxygen and medical gas supply during restoration.
- Re-establishment of BAS, alarm, and communications links with the ASEM Main Building, including data synchronization.
- Inspection of the utility interconnections for post-storm damage.

Acceptance Criteria

- Full restoration verified.
- No interruption of critical patient services during restoration.
- All systems returned to their normal configuration, with events logged.

IST-INT-05 – Full Campus Resiliency Scenario

Scenario

Integrated emergency simulation involving:

- Hurricane conditions.
- Loss of utility service.
- Emergency power operation.
- Medical surge conditions.
- Cross-campus utility support.

Acceptance Criteria

- Continuous healthcare operations maintained.
- Utility interconnections function properly.
- No interruption of critical patient services.

5. Minimum Quantitative Acceptance Parameters

The minimum quantitative acceptance parameters for the Utility Interconnection (UTL) System are the numerical values, tolerances, response times, and performance metrics stated in the Minimum Acceptance Criteria Matrix, the Functional Performance Testing and Integrated Systems Testing procedures of this System-Specific Matrix, the approved Basis of Design (BOD), and the manufacturer requirements, with the more stringent value governing.

Where a parameter required to determine the acceptance of a test is not stated numerically, the Engineer of Record (EOR) shall establish it in the Commissioning Plan before the execution of Functional Performance Testing, for review by the Owner's CxA and approval by ASEM, in accordance with the Engineering Validation of Quantitative Acceptance Criteria provisions of this System-Specific Matrix.

6. Critical Deficiency Classification

The following conditions shall automatically constitute a Level 1 Critical Deficiency:

- Loss of potable water service to critical care areas.
- Sewer backup affecting healthcare operations.
- Failure of oxygen cross-connection functionality.
- Loss of critical electrical distribution.
- Failure of emergency utility transfer sequence.
- Failure of BAS monitoring capability.
- Loss of integrated communications with the ASEM Main Building.
- Failure of utility interconnections following an MCER event.
- Any condition resulting in interruption of trauma, surgical, ICU, emergency department, or life-safety operations.

7. Required Deliverables

- Existing ASEM Utility Integration Report.
- Potable Water System Commissioning Report.
- Storm Water System Validation Report.
- Sewer System Validation Report.
- Electrical Interconnection Commissioning Report.
- BAS Integration Report.

- Oxygen Cross-Connection Validation Report.
- Telecommunications Integration Report.
- Fire Alarm Integration Report.
- Utility Failure Scenario Report.
- Cross-Campus Utility Support Report.
- Post-Storm Utility Restoration Report.
- Full Campus Resiliency Test Report.
- MCER Utility Continuity Report.
- Deficiency Tracking Log.
- Utility Interconnection As-Built Verification Package.
- Cross-Campus Operational Continuity Certification Report.

8. Final Completion Documentation Package

The Design-Builder shall submit a Final Utility Interconnection (UTL) System Commissioning Report containing, at a minimum: executive summary; system description; equipment inventory; the results of each Functional Performance Test and Integrated Systems Test of this System-Specific Matrix; the Reliability Demonstration Period results; training documentation; deficiency log and closure documentation; corrective action documentation; manufacturer certifications; warranty documentation; and the Final Completion recommendation.

9. Integrated Systems Testing Failure Threshold

Any failed Integrated Systems Test involving the Utility Interconnection (UTL) System, or its interfaces with life-safety systems, emergency power, the Building Automation System, clinical operations, or continuity of operations, shall automatically constitute a Level 1 Critical Deficiency and shall require complete re-execution of the failed scenario prior to recommendation of Substantial Completion or Final Completion.

10. Substantial Completion Restriction

Notwithstanding any other provision of the Contract Documents, the existence of any unresolved Critical Deficiency of the Utility Interconnection (UTL) System, missing deliverable, incomplete validation report, or unresolved Integrated Systems Testing deficiency shall automatically preclude recommendation of Substantial Completion and Final Completion.

ASEM may withhold progress payments, retainage release, Substantial

Completion, and Final Completion until all corrective actions, retesting requirements, validation requirements, documentation requirements, and acceptance criteria have been fully satisfied, verified by the Owner's Independent Commissioning Authority (CxA), and formally accepted by ASEM.

11. Reliability Demonstration Period

Successful completion of all Functional Performance Tests (FPT) and Integrated Systems Tests (IST) shall not, by itself, constitute acceptance of the Utility Interconnection Commissioning Package.

The Utility Interconnection Commissioning Package shall successfully complete a Reliability Demonstration Period of not less than thirty (30) consecutive calendar days following completion of all required testing.

In addition to the minimum duration established above, the Reliability Demonstration Period shall require:

- System availability meeting the targets established by the Engineer of Record in the approved BOD and Commissioning Plan, which shall be monitored and reported throughout the Reliability Demonstration Period;
- Zero Critical Deficiencies;
- Zero Unplanned Service Interruptions affecting life-safety, patient-care, critical-care, emergency response, resiliency, environmental control, medical gas distribution, emergency power, BAS operation, or other essential hospital functions;
- Not more than one (1) Major Deficiency, provided such deficiency does not affect patient care, life-safety systems, resiliency objectives, continuity of operations, required performance criteria, or regulatory compliance; and
- No recurring deficiencies.

  The occurrence of any Critical Deficiency, any prohibited Major Deficiency, any recurring deficiency, any unplanned service interruption affecting essential hospital functions, or more than one (1) Major Deficiency shall constitute failure of the Reliability Demonstration Period and shall require corrective action, recommissioning, retesting, and restart of the Reliability Demonstration Period.

12. Express ASEM Authority

Notwithstanding any recommendation issued by the Owner's Independent Commissioning Authority, ASEM reserves the unrestricted right to reject,

suspend, defer, condition, or withhold any recommendation for Beneficial Occupancy, Substantial Completion, Final Completion, payment release, retainage release, or milestone approval whenever ASEM determines that any commissioned system fails to satisfy the operational, clinical, resiliency, reliability, patient-safety, emergency preparedness, business continuity, or risk management objectives of the Hospital.

13. Engineering Validation of Quantitative Acceptance Criteria

The quantitative performance criteria identified within the Commissioning Specifications and this System-Specific Matrix are intended to establish minimum commissioning and validation objectives. Prior to Final Completion, the Design-Builder shall submit to ASEM and the Owner's CxA a sealed certification by the Engineer of Record (EOR) confirming that all specified acceptance thresholds, operating tolerances, response times, performance metrics, and reliability criteria are consistent with the approved Basis of Design (BOD), manufacturer-certified requirements, applicable codes and standards, and the final design documents. Where the EOR determines that an identified criterion is inconsistent with the approved design basis or applicable standards, the EOR shall recommend a revised criterion for review and approval by ASEM. In all cases, the more stringent requirement established by the Contract Documents, approved BOD, applicable codes, or manufacturer requirements shall govern.

Any numerical value identified herein shall be deemed a preliminary commissioning criterion unless expressly established in the approved Basis of Design. Prior to execution of Functional Performance Testing and Integrated Systems Testing, all quantitative acceptance thresholds shall be reviewed and certified by the Engineer of Record and approved by ASEM.

14. Commissioning Traceability and Acceptance Register (CTAR)

Each acceptance criterion, test, evidence item, and deficiency associated with this System-Specific Matrix shall be recorded in the Commissioning Traceability and Acceptance Register (CTAR) required by the Project Commissioning Specification. No system covered by this Matrix shall be eligible for Substantial Completion, Beneficial Occupancy, or Final Completion unless all requirements identified in the CTAR are demonstrated as fully compliant and accepted by ASEM.

Attachment 1: Scope of Works

15. Whole-Building Validation Requirements

The Design-Builder shall demonstrate that this system satisfies the requirements of the Full Clinical Operations Simulation Testing (FCOST) and the Hurricane Resiliency Validation Program established in the Project Commissioning Specification. The Utility Interconnection Commissioning Package shall be incorporated as a standalone commissioning discipline (UTL) and shall be included within the Integrated Systems Testing (IST), the Hurricane Resiliency Validation Program, the Full Clinical Operations Simulation Testing (FCOST), and the Immediate Occupancy Validation Program to ensure full operational integration between the New Trauma Hospital and the existing ASEM Main Building.

16. Additional Acceptance Package Deliverables

In addition to the deliverables identified in this Matrix, the Design-Builder shall include the following in the acceptance package for this system:

- a Digital Twin of Commissioning, including trends, sequences, alarms, operating models, system relationships, and integrated system responses, in a format approved by ASEM;
- a Deficiency Closure Certification certifying actual closure, verifiable evidence, successful retesting, and no recurrence of deficiencies;
- an Executive Acceptance Dashboard, including requirements satisfied, open requirements, risk items, acceptance restrictions, contingency items, and unresolved actions; and
- a Warranty Readiness Report, including warranty commencement date, warranty coverage, responsible entities, warranty exclusions, response times, and escalation procedures.

17. Cost Responsibility

All costs associated with failed tests, deficiencies of the Utility Interconnection (UTL) System, recommissioning, retesting, manufacturer remobilization, corrective work, software or controls modifications, replacement equipment, schedule recovery efforts, and any other action required to achieve compliance with the Contract Documents shall be borne solely by the Design-Builder and shall not entitle the Design-Builder to any increase in Contract Price or Contract Time.

Attachment 1: Scope of Works

18. Repeated Failure Escalation

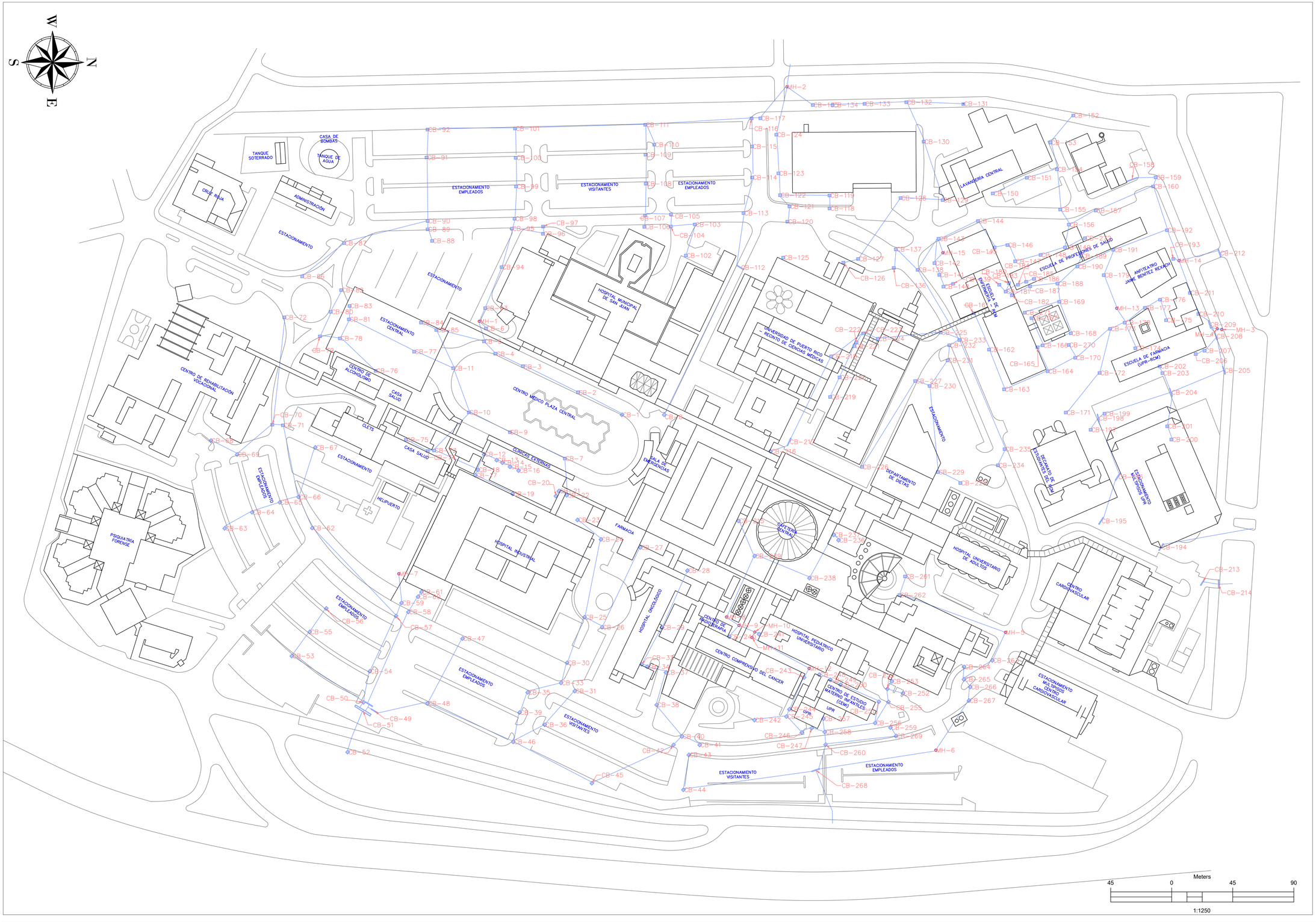
Three (3) occurrences of the same failed Functional Performance Test, Integrated Systems Test, subsystem, control sequence, communication pathway, resiliency feature, emergency function, or acceptance criterion shall automatically result in classification of the condition as a Level 1 Critical Deficiency regardless of its original classification.

19. Independent Validation Rights

ASEM reserves the right to perform, commission, or procure independent forensic investigations, engineering evaluations, commissioning reviews, reliability assessments, laboratory analyses, performance testing, or third-party validation whenever repeated failures, unresolved deficiencies, disputed results, operational concerns, life-safety concerns, resiliency concerns, or commissioning disputes exist.

Where such testing confirms a deficiency, nonconformance, or failure to achieve the Contract Documents, all associated costs shall be reimbursed by the Design-Builder. This right shall supplement and not replace the Design-Builder's commissioning obligations.

Exhibit XVI: Additional drawings related to the information of the existing utilities and Main Building



NO	DATE	REVISION	BY	CK.	APPR.

DRAWN BY	IGS
DESIGNED BY	
CHECKED BY	
APPR. BY	

INTEGRATED GLOBAL SOLUTIONS

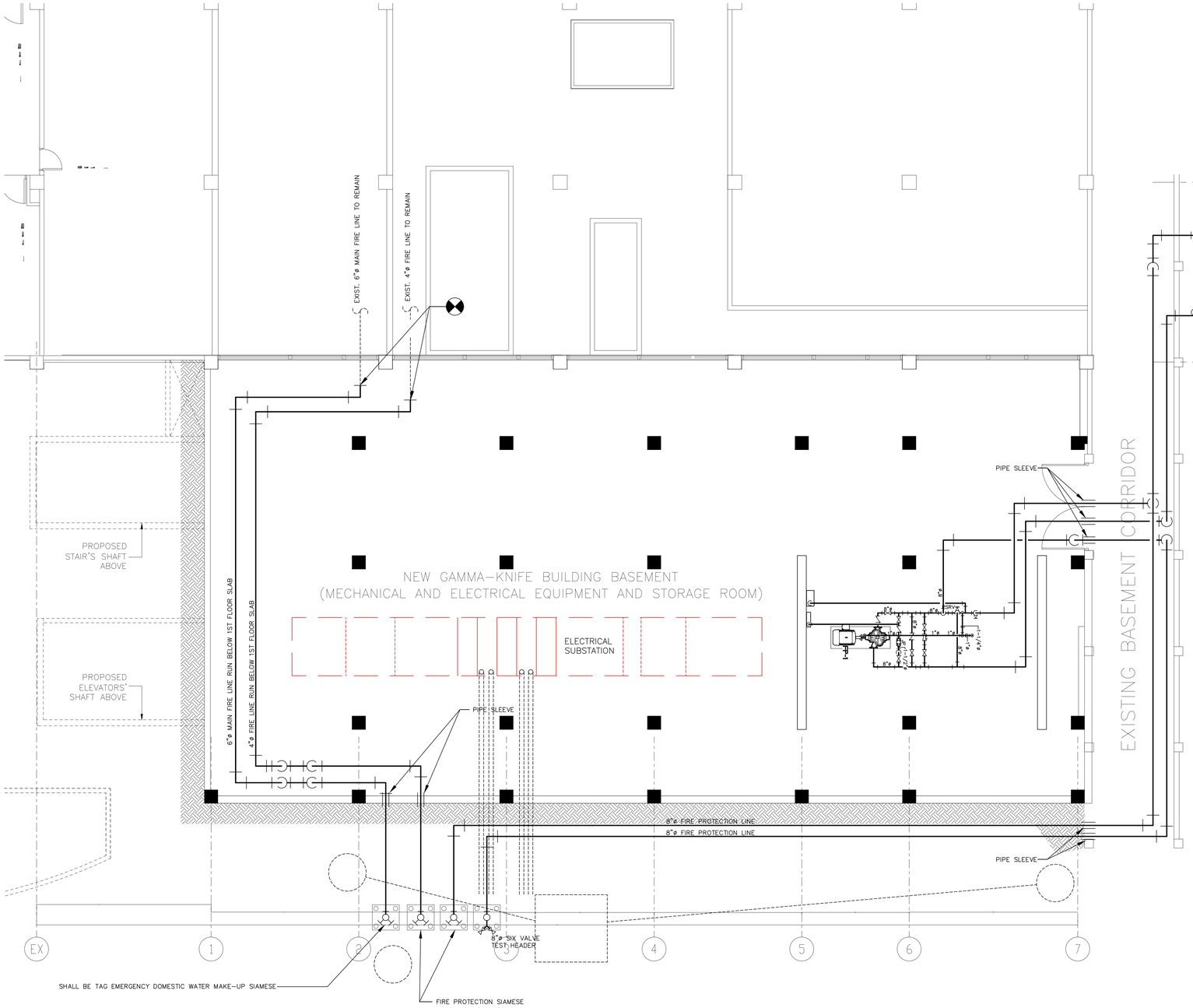
PROJECT NAME.

ASEM-PHASE II
SMALL MS4
APPLICATION AND
DEVELOPMENT

TITLE.

STORM WATER SYSTEM

SCALE 1:1250	DWG. NO.
DATE 08/31/22	
SHEET NO. 1 of 1	



FIRE PROTECTION BOOSTER PUMP LAYOUT

SCALE: 1/2"=1'-0"

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Dwg File Name:
04 04
Year Project Sheet

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BABILONIA ENG. GROUP

Checked by
H.M.B.

Date
09-15-06

No.	Revision	Date	By
1	New Fire Protection Layout for Basement	4/10/2007	

Project

A.S.E.M. MAIN BUILDING REMODELING AND EXPANSION

PUERTO RICO MEDICAL CENTER

PHASE I: NEW CLINICAL SERVICES BUILDING ANNEX AND ROOFTOP HELIPORT FACILITIES AND EMERGENCY MAIN ENTRANCES REMODELING

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SHEET TITLE

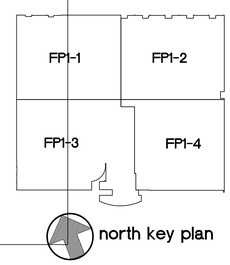
GAMMA KNIFE BASEMENT FIRE PROTECTION LAYOUT

SHEET	OF	DWG. NO.
.	.	FP0-1



MAIN 1ST FLOOR FIRE PROTECTION BLOW-UP REFERENCES

SCALE : 3/16" = 1'-0"



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Date: 09-15-06

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1	Issued for bid	10/11/2006	
2	Revised split areas	10/19/2006	

Project

A.S.E.M. MAIN BUILDING REMODELING AND EXPANSION

PUERTO RICO MEDICAL CENTER

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SHEET TITLE: MAIN 1ST FLOOR FIRE PROTECTION BLOW-UP REFERENCES

SHEET	OF	DWG. NO.
.	.	FP1-0



MAIN 1ST FLOOR FIRE PROTECTION BLOW-UP REFERENCES

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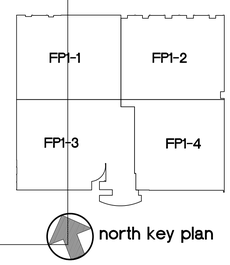

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1	Issued for bid	10/11/2006	
2	Revised split areas	10/19/2006	

Project

A.S.E.M. MAIN BUILDING REMODELING AND EXPANSION

PUERTO RICO MEDICAL CENTER

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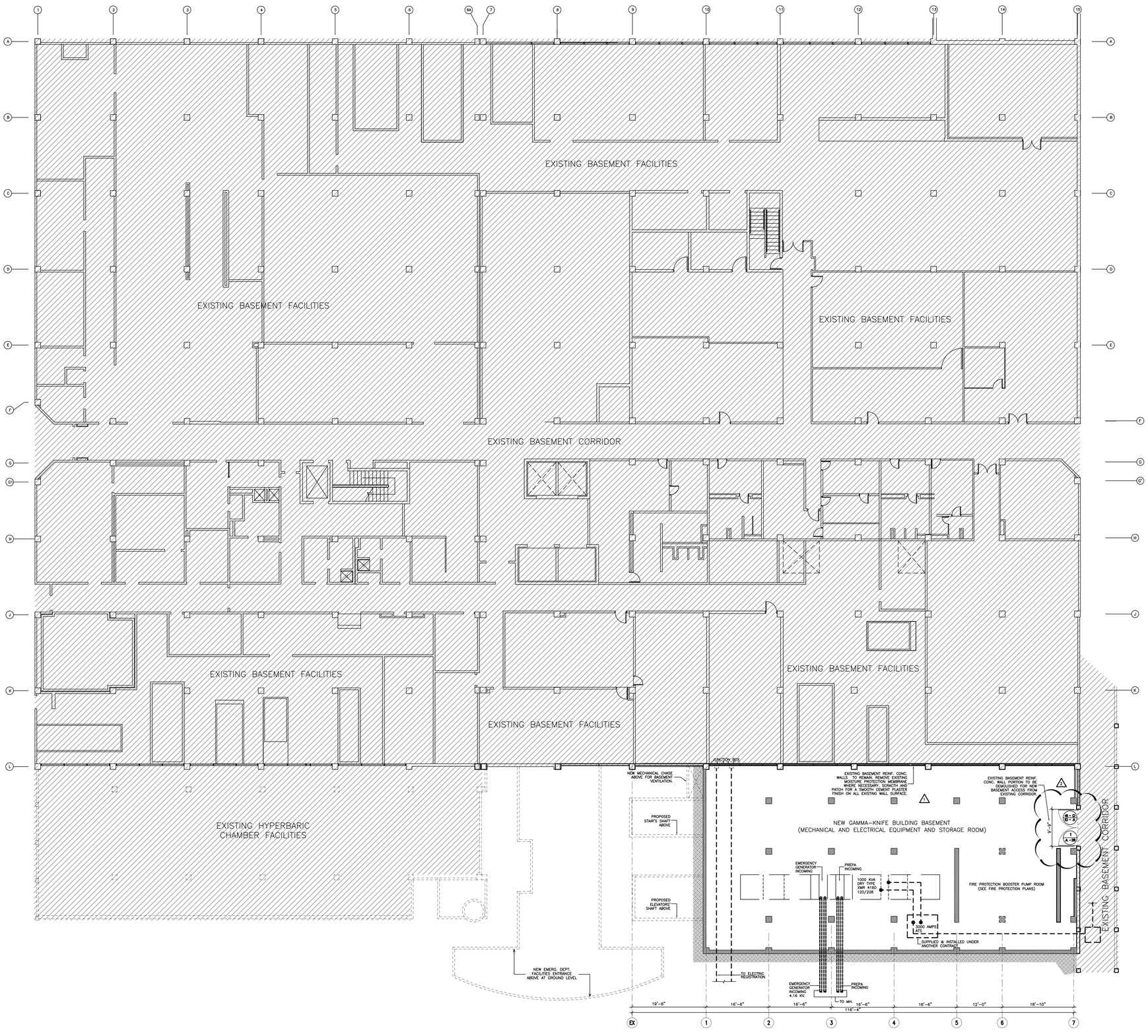
SHEET TITLE: MAIN 1ST FLOOR FIRE PROTECTION BLOW-UP REFERENCES

SHEET	OF	DWG. NO.
.	.	FP1-0



⚠ PROPOSED BASEMENT FLOOR PLAN

SCALE: 3/32" = 1'- 0"

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Year Project Sheet

Drawn by

Checked by

Date FEB-23-2007

No.	Revision	Date	By
1	GAMMA KNIFE BASEMENT LAYOUT REVISED.	APR-18-'07	
2	DOOR IDENTIFICATION	JUN-12-'07	

Project

A.S.E.M. MAIN BUILDING REMODELING AND EXPANSION

PUERTO RICO MEDICAL CENTER

PHASE I: NEW LEVEL I EMERGENCY AND TRAUMA CENTER
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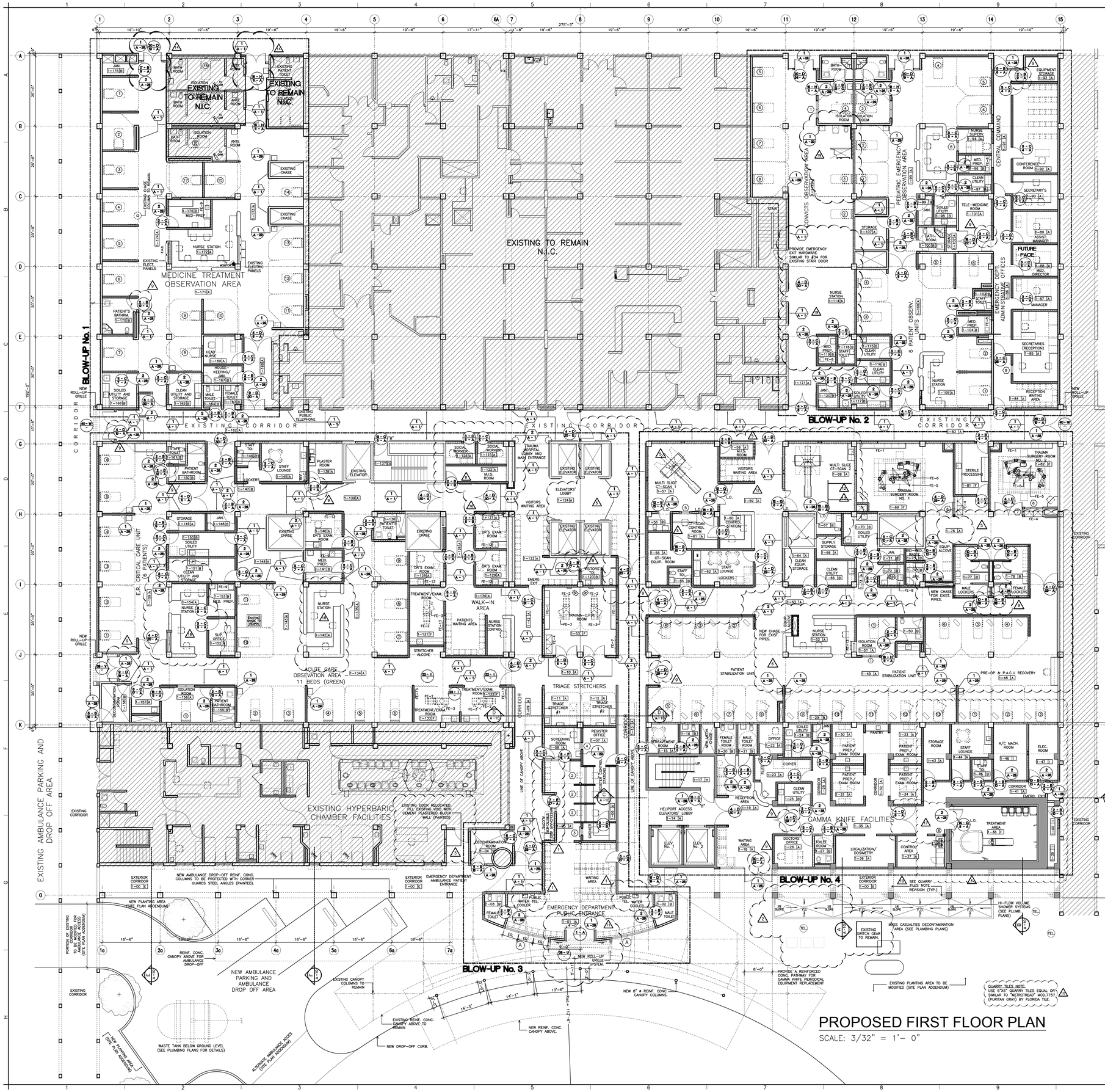
SHEET TITLE

PROPOSED BASEMENT FLOOR PLAN

DWG. NO.
A-0.1

FILE: R:\DWGS\0404- ASEM EDIFICIO CENTRAL\FINAL\SET SUBASTA\ARCHITECTURE-DWG\FLOOR PLANS\0404AF00.dwg 04-25-07 10:05

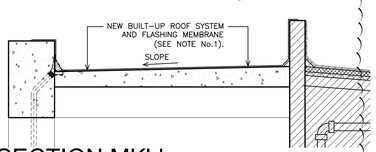

EXISTING TO REMAIN N.I.C.
EXISTING TO REMAIN
MEDICINE TREATMENT OBSERVATION AREA
EXISTING CORRIDOR
BLOW-UP No. 1
BLOW-UP No. 2
BLOW-UP No. 3
BLOW-UP No. 4
ACUTE CARE OBSEVATION AREA — 11 BEDS (GREEN)
TRIAGE STRETCHERS
EXISTING HYPERBARIC CHAMBER FACILITIES
EXISTING DOOR RELOCATED. FILL EXISTING HOLE WITH CEMENT PLASTERED BLOCK WALL (PAINTED).
EMERGENCY DEPARTMENT PUBLIC ENTRANCE
EXISTING AMBULANCE PARKING AND DROP OFF AREA
NEW AMBULANCE PARKING AND AMBULANCE DROP OFF AREA
NEW AMBULANCE DROP-OFF REINF. CONC. COLUMNS TO BE PROTECTED WITH CORNER GUARDS STEEL ANGLES (PAINTED).
EXISTING CANOPY COLUMNS TO REMAIN
NEW REINF. CONC. CANOPY COLUMNS.
NEW REINF. CONC. CANOPY ABOVE.
EXISTING REINF. CONC. CANOPY ABOVE TO REMAIN
NEW DROP-OFF CURB.
NEW 8" ø REINF. CONC. CANOPY COLUMNS.
WASTE TANK BELOW GROUND LEVEL (SEE PLUMBING PLANS FOR DETAILS)
ALTERNATE AMBULANCE ACCESS (SITE PLAN ADDENDUM)
NEW PLANTING AREA (SITE PLAN ADDENDUM)
PROVIDE A REINFORCED CONC. PATHWAY FOR GAMMA KNIFE PERIODICAL EQUIPMENT REPLACEMENT
EXISTING PLANTING AREA TO BE MODIFIED (SITE PLAN ADDENDUM)
MASS CASUALTIES DECONTAMINATION AREA (SEE PLUMBING PLANS)
EXISTING SWITCH GEAR TO REMAIN.
NEW ROLL-UP GRILLE SYSTEM.
NEW ROLL-UP GRILLE
EXISTING CORRIDOR
EXISTING ELEVATOR
EXISTING ELECTRIC PANELS
EXISTING CHASE
NEW CHASE FOR EXIST. PIPES.
NEW COLUMN TO REMAIN.
PROVIDE EMERGENCY EXIT HARDWARE. SIMILAR TO #34 FOR EXISTING STAIR DOOR
CONVICTS OBSERVATION AREA
PEDIATRIC EMERGENCY OBSERVATION AREA
CENTRAL COMMAND
EMERGENCY DEPT. ADMINISTRATIVE OFFICES
6 PATIENT OBSERV. UNITS
FUTURE FACE
EXISTING CORRIDOR
EXISTING ELEVATOR
EXISTING CHASE
EXISTING ELECTRIC PANELS
EXISTING PATIENT TOILET
EXISTING PUBLIC TELEPHONE
NEW ROLL-UP GRILLE
NEW COLUMN TO REMAIN.
EXISTING CORRIDOR
EXISTING ELEVATOR
EXISTING CHASE
EXISTING ELECTRIC PANELS
EXISTING CORRIDOR
EXISTING ELEVATOR
EXISTING CHASE
EXISTING CORRIDOR
EXISTING CORRIDOR
EXISTING CORRIDOR

PROPOSED SECOND FLOOR PLAN

SCALE: 3/32" = 1'- 0"

NOTE No.1
PROVIDE THERMOPLASTIC SINGLE PLY BUILT-UP ROOF EQUAL OR SYMILAR TO FLEX FB ELVALOY ADHERED FLEXIBLE SHEET ROOFING SYSTEM.

FLEX MEMBRANE INTERNATIONAL, INC.
PHONE #: 610-286-7788
FAX #: 610-286-7786
OR (787)-960-3130 (ROBERTO SERRANO).



SECTION MK'd

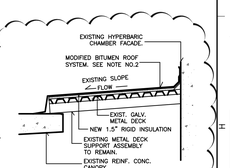
SCALE: 1/2" = 1'- 0"

SYMBOLS:

- 2 B — DENOTES ROOM FIN. (SEE ROOM FIN. GROUPS SCHEDULES)
- A — DENOTES WINDOW TYPE & DESCRIPTION (SEE WINDOW SCHEDULE)
- 6 — DENOTES FIXED GLASS PANEL TYPE AND DESCRIPTION
- 9 / A-1 — DENOTES DETAILS NUMBER / SHEET WHERE DETAIL IS DRAWN
- 34LIB — DENOTES FIXED CABINETRY NO. EQ. OR SIM. AS APPROVED TO HAMILTON STEEL CASE CO. SEE SPECTS. FOR DETAILS (SEE FIXED CABINET SCHEDULE)
- 1-F — DOOR MK'D
- 5-C — DOOR TYPE / DENOTES DOOR TYPE & DESCRIPTION / FRAME TYPE / HARDWARE GROUP
- 10 / A-7 — WALL SECTION / DENOTES WALL SECTION / SHEET WHERE WALL SECT. IS DRAWN
- 10 / A-7 — BUILDING SECTION / DENOTES BUILDING SECTION / SHEET WHERE BUILDING SECT. IS DRAWN
- EXISTING WALL TO BE DEMOLISHED
- TIE COLUMN (SEE STRUCTURAL PLAN REINF. DETAIL)
- DENOTES REINFORCED CONC. WALL OR CONC. COLUMN
- DENOTES CONC. BLOCK WALL
- DENOTES GYPSUM BOARD
- DENOTES EXISTING STRUCTURE TO REMAIN
- DENOTES MOVABLE EQUIPMENT AND FURNITURE NOT INCLUDED IN CONTRACT (UNLESS OTHERWISE NOTED)
- DENOTES HANDRAIL AT CORRIDOR WALLS. SEE TYPICAL DETAIL
- DENOTES GYPSUM BOARD SMOKE BARRIER PARTITION WALLS. SEE DETAIL ON SHEET
- 3 — DENOTES HORIZONTAL GRID MARKED ON FLOOR PLAN
- T — DENOTES VERTICAL GRID MARKED ON FLOOR PLAN
- 28.97 — DENOTES FINISH FLOOR ELEVATION

NOTE NO.2
MODIFIED BITUMEN ROOF SYSTEM

1-1.5 E.P.S. INSUPERM RIGID BOARD.
2-2" MIN. INSUCELL CELLULAR LIGHT WEIGHT CONCRETE. (FOR DRAIN SLOPE ONLY)
3-PARABASE MECHANICAL FASTEN WITH ZONOLITE FASTENERS.
4-PARADINE 20, INSTALLED IN PA-311.
5-PARADINE 30, INSTALLED IN PA-311.
6-VERAL ALUMINUM FLASHING.
7-ROOF VENTS EVERY 800 S.F. MAX.



SECTION MK'd

NOT TO SCALE

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mechanical engineer
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Dwg File Name: 0 4 0 4 A F 0 2
Year Project Sheet

Drawn by

Checked by

Date OCT-8-2008

No.	Revision	Date	By
1	I.C.U. PLAN REV.	5-31-07	
2	AMBULANCE AREA BUILT-UP ROOF SPECS., REINFORCEMENT FOR DOORS, FIN. FL. & ROOM NO. TIED GLASS. & WALLS REV.	6-20-07	
3	HARDWARE REVISED	JUN-18-'07	
4	NEW ROOF DETAIL OVER EXISTING CONC. CANOPY BEHIND HYPERB. CHAMBER	NOV-31-'07	
5	A/C UNIT MACHINE ROOM REVISED	NOV-9-'07	
6	I.C.U. ENTRANCE DOORS AND HEALTH DEPT.RECOMMENDATIONS REV.	JAN-30-'08	
7	I.C.U. ENTRANCE DOORS REVISED	SEP-24-'08	
8	BED#2 POWER COL. RELOCATED	OCT-8-'08	
9	EXISTING O.R. CORRIDOR ACCESS REV.	DEC-3-'08	

Project

A.S.E.M. MAIN BUILDING REMODELING AND EXPANSION

PUERTO RICO MEDICAL CENTER
PHASE I: NEW LEVEL I EMERGENCY AND TRAUMA CENTER
PHASE II: NEW CLINICAL SERVICES BUILDING ANNEX AND ROOFTOP HELIPORT FACILITIES

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SHEET TITLE

PROPOSED SECOND FLOOR PLAN

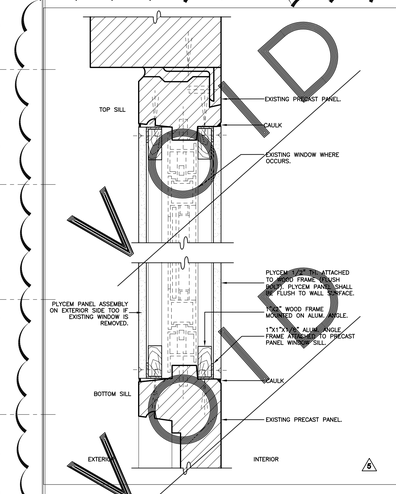
DWG. NO. A-2

FILE: R:\DWGS\0404- ASEM EDIFICIO CENTRAL\PWA\SET SUBASTA\ARCHITECTURE-DWL\FLOOR PLANS\U04A4F02REV.dwg 10-08-08 17:53

IMPORTANT WINDOWS NOTES:

1. SOME WINDOWS IDENTIFIED AS "EX" ALONG AXIS 2 ARE EXISTING WINDOWS TO BE RELOCATED FROM ANOTHER PANEL OPENING.
2. SEE SHEET D-3 "EXISTING CONDITION AND DEMOLITION 3RD FLOOR PLAN" FOR EXISTING WINDOWS TO BE RELOCATED.

VOID



EXISTING PRECAST PANEL MODIFIED WINDOW DETAIL

SCALE: 3" = 1'- 0"

PROPOSED GENERAL THIRD FLOOR PLAN

SCALE: 3/32" = 1'- 0"

NOTES:

1. ALL COUNTERTOPS, CABINETRY AND MILLWORK, LABORATORY WORK AREA PRE CAST CABINETS SHOWN IN GENERAL PLANS ARE BLOCK OUT NOT TO BE INCLUDED IN CONTRACT.
2. CONTRACTOR SHALL COORDINATE ANY NECESSARY ELEMENT AS LOW WALLS, OR ANY OTHER EQUIPMENT WITH THE CABINETS AND MILLWORK INSTALLATION IN ORDER TO PROVIDE THE REQUIRED CONDITIONS FOR THEIR PROPER INSTALLATION AND FUNCTIONING.
3. SEE BLOWUPS AND MILLWORK DETAILS TO COORDINATE TYPICAL MILLWORK ELEVATIONS WITH EACH SPECIFIC CONDITION SHOWN ON PLAN.
4. ALL EXISTING LABORATORY EQUIPMENT REMOVAL OR RELOCATION SHALL BE STRICTLY COORDINATED WITH THE HOSPITAL APPROPRIATE PERSONNEL DESIGNATED PRIOR TO COMMENCEMENT OF WORKS.
5. PLUMBING AND ELECTRICAL CONTRACTORS SHALL CAREFULLY COORDINATE RECEPTACLES AND ROUGHIN-INS LOCATED ON CABINETS, COUNTERTOPS, OR NURSE STATIONS (ALL MILLWORK).
6. THE NEW FLOOR DRAIN TO BE INSTALL TO EXIST. SLOPE 1/8" PER FT. (INTERIOR PATIO AREA)

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Year Project Sheet

Drawn by

Checked by

Date JULY-20-2007

No.	Revision	Date	By
1	NEW M.I.S. ROOM	05-17-07	
2	ADDITIONAL M.I.S. ROOM, DOORS, FIN. FL., ROOF, GLASS & WALLS REVISED	6/13/07	
3	EXISTING WINDOWS TO MAIN GENERAL LABORATORY REVISED	6/18/07	
4	HARDWARE REVISED	6/18/07	
5	WINDOW REVISED	6/27/07	
6	I.C.U. WOOMS REVISED.	7/20/07	
7	PLUMBING FIXTURES REVISED	4/29/08	
8	EXIT DOORS MAGNET CLOSER ADDED	5/01/08	
9	WALL ADDED TO ACCOMODATE SANITARY PIPE	5/20/08	
10	17 BED I.C.U. AREA WINDOW ADDED	6/18/08	
11	17 BED I.C.U. AREA WINDOW ADDED	DEC-10-2008	
12	M.I.S. ELIMINATED & NOTES REV.	APR-22-2009	

Project

A.S.E.M. MAIN BUILDING REMODELING AND EXPANSION

PUERTO RICO MEDICAL CENTER

PHASE I: NEW LEVEL I EMERGENCY AND TRAUMA CENTER
PHASE II: NEW CLINICAL SERVICES BUILDING ANNEX AND ROOFTOP HELIPORT FACILITIES

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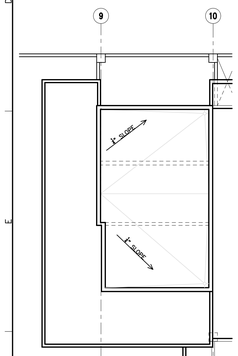
SHEET TITLE

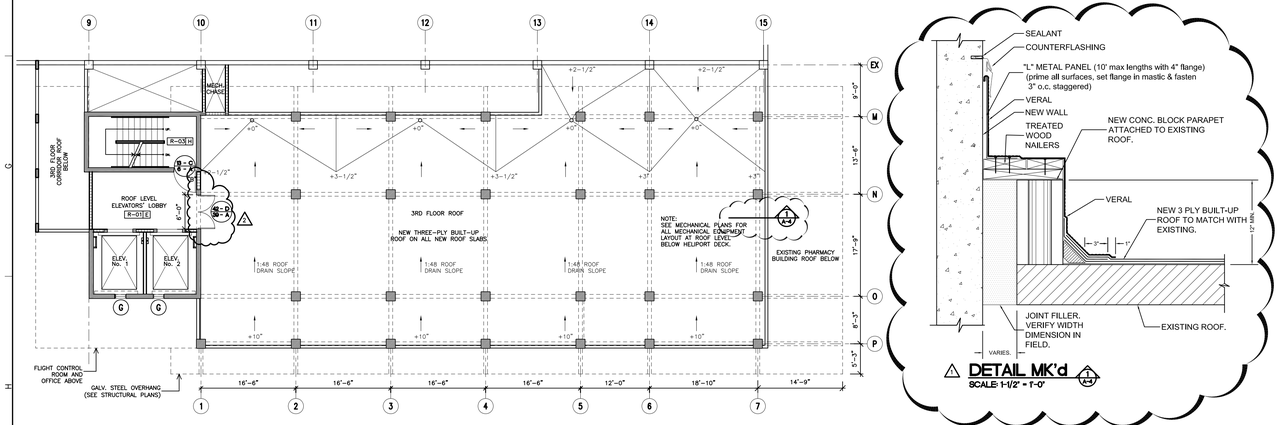
PROPOSED GENERAL THIRD FLOOR PLAN

DWG. NO. A-3

FILE: R:\DWGS\0404- ASEM EDIFICIO CENTRAL\FINAL\CRT SUBASTA\ARCHITECTURE-CIVIL\FLOOR PLANS\0404AF03-REV.dwg 07-20-07 09:18

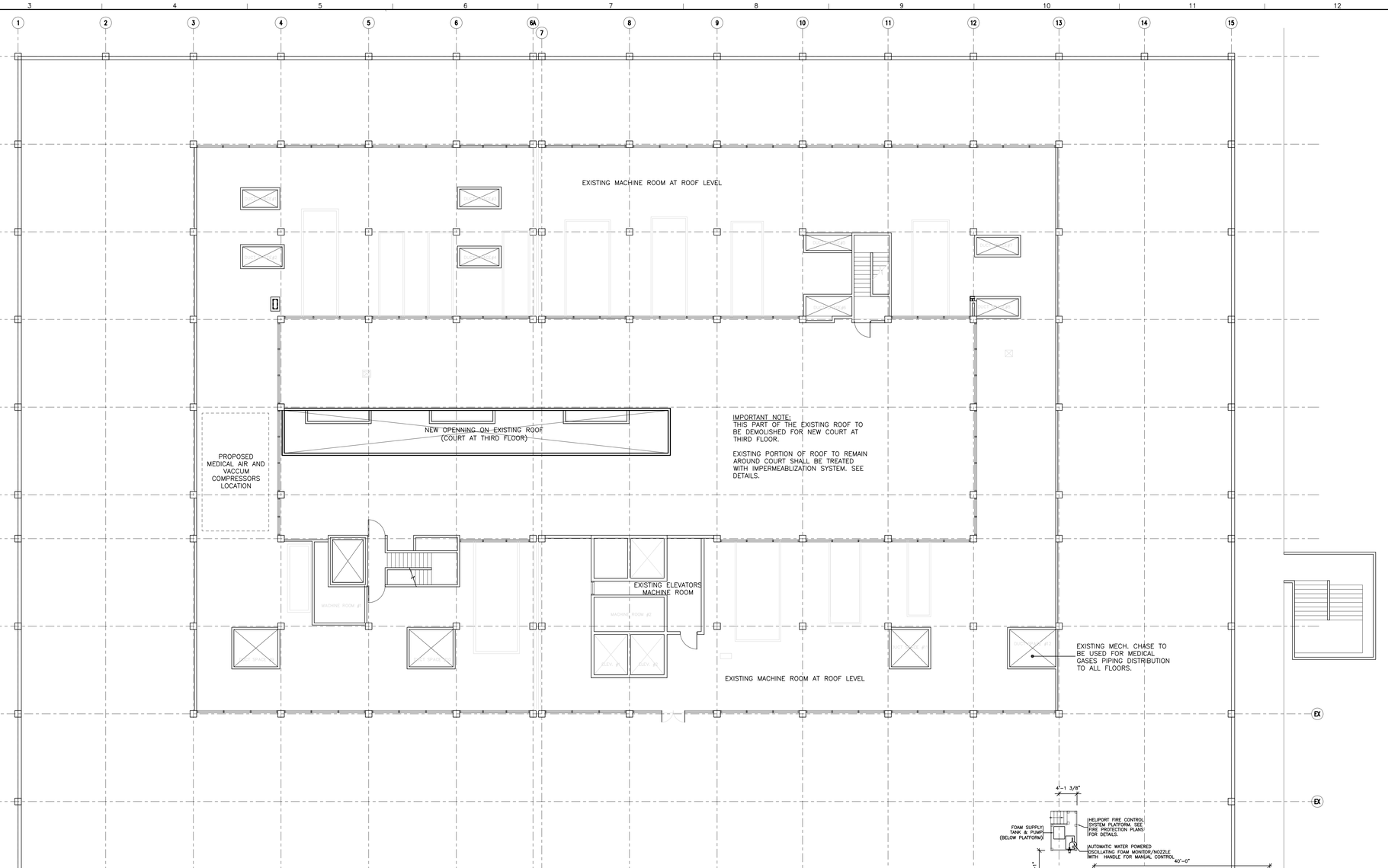


STAIR AND ELEVATORS SHAFT ROOF PLAN
SCALE: 3/32" = 1'-0"



PARTIAL ROOF FLOOR PLAN (BELOW NEW HELIPORT DECK)
SCALE: 3/32" = 1'-0"

DETAIL MK'd
SCALE: 1-1/2" = 1'-0"



PROPOSED P ACH. ROOM AND NEW HELIPORT)
SCALE: 3/32" = 1'-0"

NOTES:

EXISTING ELEVATORS UPPER LEVEL STOP WILL BE MODIFIED ACCORDING TO 3RD LEVEL FINISHED FLOOR ELEVATION SHOWN ON PLANS (SEE SECTIONS – 1"-4" HIGHER THAN EXISTING).

DEYA ELEVATORS IS IN CHARGE OF THE MAINTENANCE FOR THE FOUR MAIN LOBBY EXISTING ELEVATORS. INSTRUCTIONS AND MODIFICATIONS WILL BE AVAILABLE BY ADDENDUM AS PER DEYA ELEVATORS RECOMMENDATIONS AND ARCHITECTURAL PLANS REVISIONS.

ALL EXISTING ROOF PENETRATIONS SHALL BE PROPERLY SEALED AFTER DUCTS INSTALLATION. SEE DETAILS.

HELIPORT ILLUMINATION AND EQUIPMENT LEGEND:

A : DOWNING SURFACE FLOOD LIGHTING COMBINED WITH PERIMETER LIGHTING, MODEL 700. (TOTAL: 8 UNITS)

B : DOWNING PERIMETER LIGHTING, MODEL 1000

C : TWO (2) PORTABLE FOAM EXTINGUISHERS EACH HAVING A RATE OF 20-A:160-B. (SEE NFPA 418, CHAPTER 3-6, EXCEPTION NO.2)

D : DOWNING RADIO RECEIVER CONTROLLER MODEL 1200 WITH REMOTE ANTENNA TO BE INSTALLED ON TOP OF ELEVATOR SHAFT.

E : DOWNING LIGHTED WIND CONE ASSEMBLY (WIND SOCK) MODEL WC 818 SERIES. LOCATION ON ROOF OF EMERGENCY EXIT STAIR.

F : DOWNING SUPER BRIGHT LOCATING BEACON MODEL 1701. LOCATION ON ROOF OF EMERGENCY EXIT STAIR.

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Year Project Sheet

Drawn by

Checked by

Date JUL-09-2008

No.	Revision	Date	By
1	NEW DETAIL 1/A-4 ADDED.	JAN-23-'08	
2	NEW DOOR ADDED AT ELEV. LOBBY (ROOF AND HELIPORT)	JUL-9-'08	

Project

A.S.E.M. MAIN BUILDING REMODELING AND EXPANSION

PUERTO RICO MEDICAL CENTER

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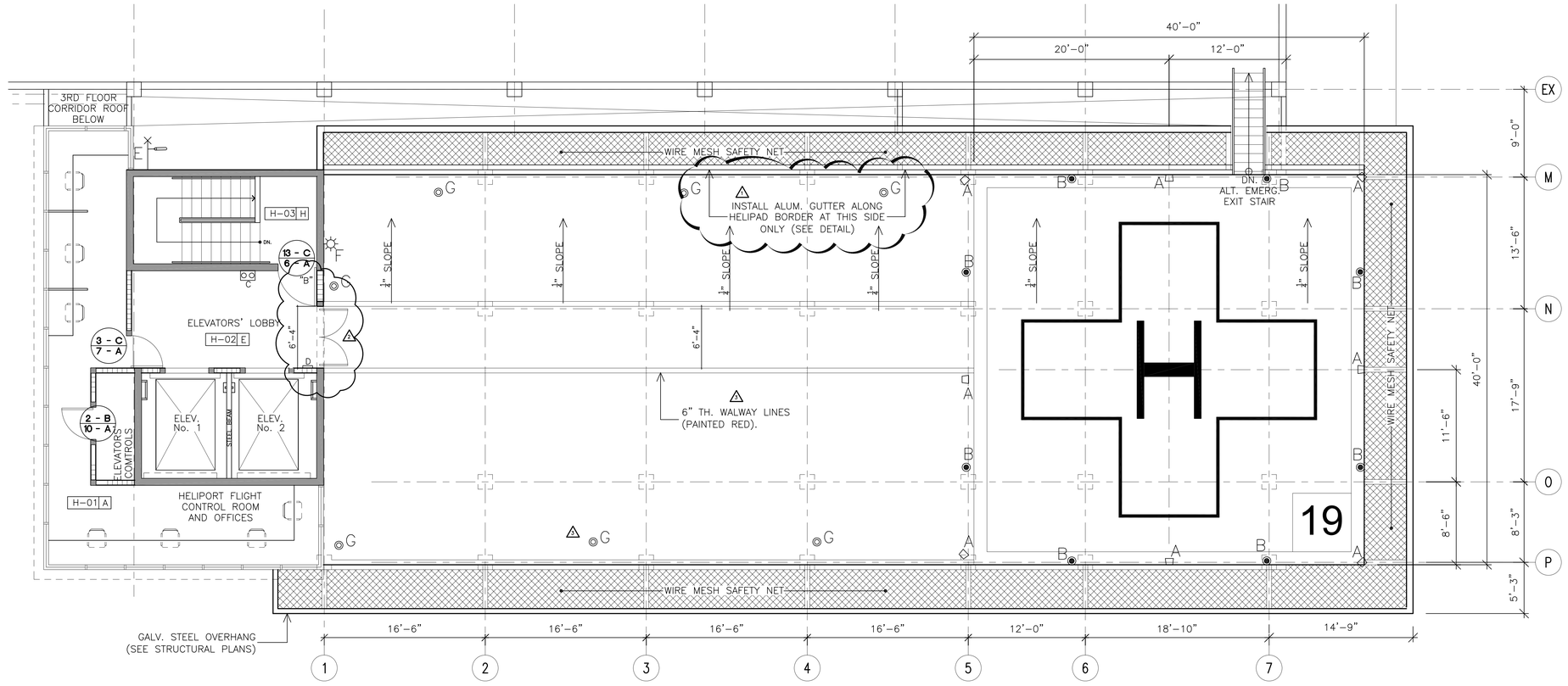
SHEET TITLE

PROPOSED ROOF FLOOR PLANS

DWG. NO.
A-4

FILE: R:\DWGS\0404- ASEM EDIFICIO CENTRAL\FINAL\SET SUBASTA\ARCHITECTURE-CIVIL\FLOOR PLANS\0404AFR1.dwg 07-09-08 12:01



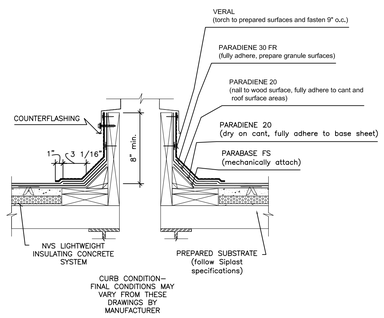
PROPOSED HELIPORT DECK OVER ROOF LEVEL

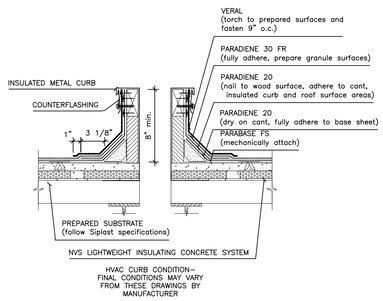
SCALE: 3/16" = 1'-0"

LEGEND:

- A ▫ :DOWNING SURFACE FLOOD LIGHTING COMBINED WITH PERIMETER LIGHTING, MODEL 700. (TOTAL: 8 UNITS)
- B ◉ : DOWNING PERIMETER LIGHTING, MODEL 1000
- C ▯▯ : TWO (2) PORTABLE FOAM EXTINGUISHERS EACH HAVING A RATE OF 20-A:160-B. (SEE NFPA 418, CHAPTER 3-6, EXCEPTION NO.2)
- D ▭ : DOWNING RADIO RECEIVER CONTROLLER MODEL 1200 WITH REMOTE ANTENNA TO BE INSTALLED ON TOP OF ELEVATOR SHAFT.
- E : DOWNING LIGHTED WIND CONE ASSEMBLY (WIND SOCK) MODEL WC 818 SERIES. SUGGESTED LOCATION ON ROOF OF EMERGENCY EXIT STAIR.
- F ☼ : DOWNING SUPER BRIGHT LOCATING BEACON MODEL 1701. SUGGESTED LOCATION ON ROOF OF EMERGENCY EXIT STAIR.
- G ◎ : SURFACE FLOOD LIGHTING EQ. OR SIMILAR TO MODEL 701 BY DOWNING HELIPORT SYSTEMS.

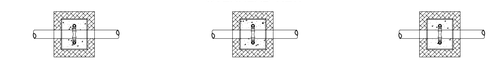
NOTES:
1. THE PARATREAD SHOULD BE INSTALLED BY A SIPLAST SELECT CONTRACTOR.
2. THE INSTALLATION OF THE ROLLING SUPPORT SYSTEM SHOULD FOLLOW THE SPECIFICATIONS OF THE SUPPORT SYSTEM MANUFACTURER AND THE ABOVE GUIDELINES.
3. REQUIREMENTS AND RECOMMENDATIONS DETAILED IN SIPLAST SPECIFICATIONS SHALL APPLY IN ADDITION TO THIS DRAWINGS.

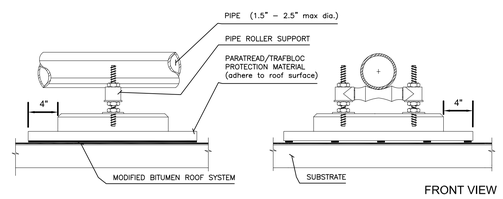




NOT TO SCALE

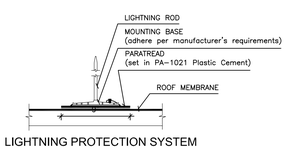
OVERHEAD VIEW





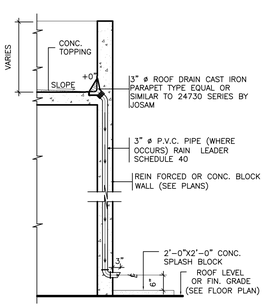
SIDE VIEW FRONT VIEW

ON ROOF SMALL PIPE ROLLING SUPPORT DETAILS

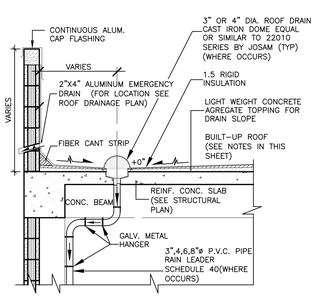


LIGHTNING PROTECTION SYSTEM

TYPICAL BUILT-UP ROOF DETAILS (FOR NEW AND EXISTING ROOF SLABS)



ROOF DRAIN TYPICAL DETAIL (1 / A-5)
SCALE: 1/2" = 1'-0"



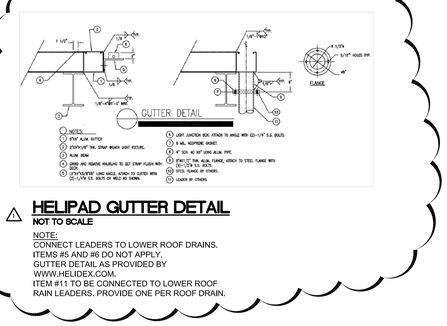
TYPICAL DETAIL MK'D (2 / A-5)
SCALE: 1/2" = 1'-0"

MODIFIED BITUMEN ROOF SYSTEM FOR CRICKET SLOPE ONLY:

1- CONCRETE
2- PARADIENE 30 TG
3- CELLULAR LIGHT WEIGHT FOAM CONCRETE. (FOR CRICKET SLOPE ONLY)
4- 1" E.P.S. INSUCELL RT PELLETS RIGID BOARD.
5- PARABASE MECHANICAL FASTEN ZONOLITE FASTENERS.
6- FOR COLD PROCESS:
PARADIENE 20 HT INSTALLED IN PA-311
PARADIENE 30 FR INSTALLED IN PA-311
FOR TORCH GRADE PROCESS:
PARADIENE 20 TS
PARADIENE 30 TGFR
7- VERAL ALUMINUM FLASHING
8- VENTS SYSTEM EVERY 800 S.F. MAX.
OPTION: FACTORY TAPERED CRICKET.

NOTES:

- 1/4" PER FT. MINIMUM SLOPE. FULL 20 YEARS MINIMUM ROOF WARRANTY, FOR INSTALLATION SHALL FOLLOW MANUFACTURERS SPECIFICATIONS AND SHALL BE DONE BY A CERTIFIED SUB-CONTRACTOR APPLICATOR.
- REFER TO MANUFACTURERS TYPICAL DETAILS FOR CRICKET DETAILED ASSEMBLY.



HELIPAD GUTTER DETAIL

NOT TO SCALE

NOTE:
CONNECT LEADERS TO LOWER ROOF DRAINS.
ITEMS #5 AND #6 DO NOT APPLY.
GUTTER DETAIL AS PROVIDED BY WWW.HELIDEX.COM.
ITEM #11 TO BE CONNECTED TO LOWER ROOF RAIN LEADERS. PROVIDE ONE PER ROOF DRAIN.

ROBERT L. REXACH CINTRON
site engineer
JOSE M. GREEN, M.S.C.E., P.E.
structural engineer
J+E. FIGUEROA, P.S.C.
electrical engineer
BABILONIA ENGINEERING GROUP
mechanical engineer
Consultants

Dwg File Name: 0404AF0R
Year Project Sheet
Drawn by
Checked by
Date OCT-13-2008

No.	Revision	Date	By
1	HELIPAD DRAIN GUTTER ADDED	MAR-31-'08	
2	NEW DOOR ADDED AT ELEV. LOBBY	MAY-15-'08	
3	LIGHTS LOCATION AND WALKWAY LINE REVISED	OCT-13-'08	

Project

A.S.E.M. MAIN BUILDING REMODELING AND EXPANSION

PUERTO RICO MEDICAL CENTER

PHASE I: NEW LEVEL I EMERGENCY AND TRAUMA CENTER
PHASE II: NEW CLINICAL SERVICES BUILDING ANNEX AND ROOFTOP HELIPORT FACILITIES

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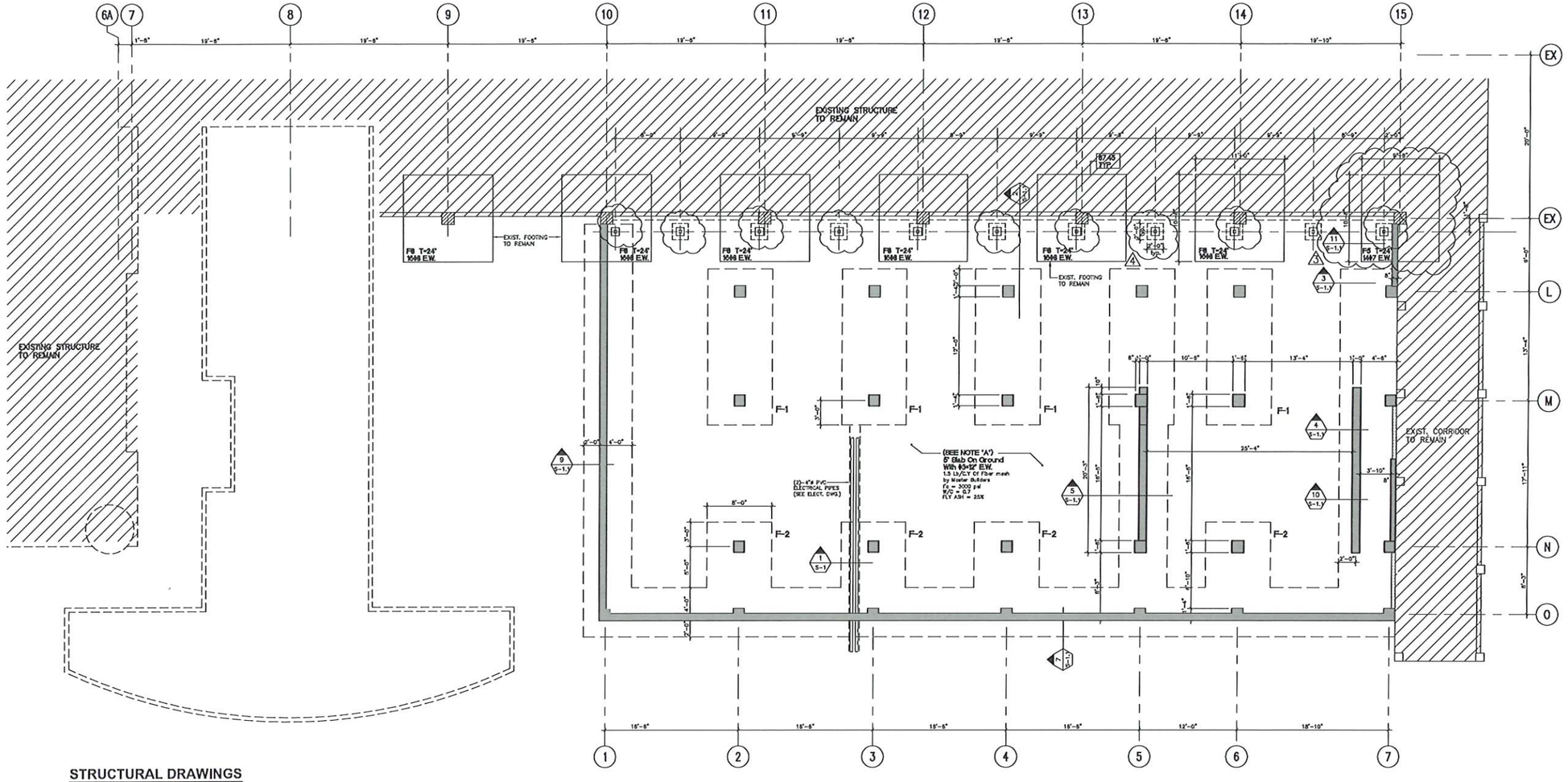
SHEET TITLE
PROPOSED HELIPORT DECK, PARTIAL ROOF FLOOR PLAN AND DETAILS

DWG. NO.
A-5

FILE: C:\Documents and Settings\Administrator\Desktop\0404AF2.dwg 10-13-08 10:59

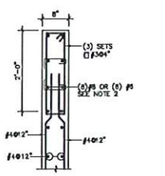


BASEMENT FOUNDATION PLAN

SCALE: 3/16"=1'-0"

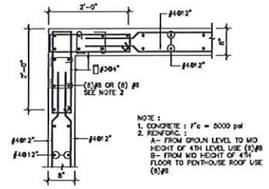
STRUCTURAL DRAWINGS

Num	REV	Fecha	Title
S-01	2	20-July -07	Basement Foundation Plan
S-01.1	2	11-April-07	Footing Details
S-02	2	11-April-07	First Floor Structural Plan
S-02.1	2	11-April-07	Foundation Plan & Roof Structural Plan
S-02.2	1	14-February-07	New Canopy Foundation Plan & Roof Structural Plan
S-02.3	2	11-April-07	Stair Section and Details
S-03	2	11-April-07	Second Floor Structural Plan
S-04	1	11-April-07	Third Floor Structural Plan
S-05	2	11-April-07	Roof Structural Plan
S-06	0	20-March-05	Helicopter Pkng & Roof Plan
S-07	0	20-March-05	Hillport Structural Details
S-08	2	11-April-07	Structural Sections
S-09	2	11-April-07	General Notes
S-10	1	14-March-07	Typical Details



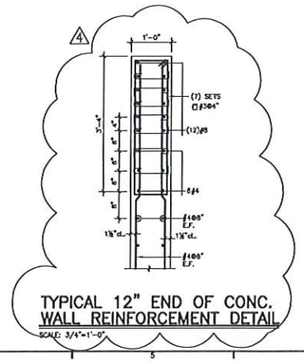
TYPICAL 8" END OF CONC. WALL REINFORCEMENT DETAIL

SCALE: 3/4"=1'-0"



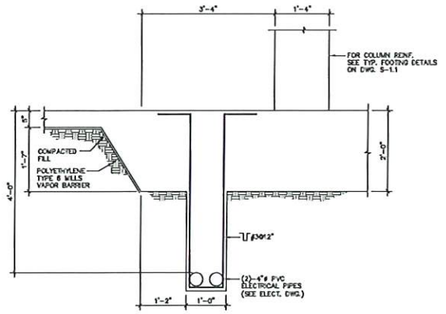
TYPICAL AT 8" CONC. WALL CORNER SHEARWALL DETAIL

SCALE: 3/4"=1'-0"



TYPICAL 12" END OF CONC. WALL REINFORCEMENT DETAIL

SCALE: 3/4"=1'-0"



SECTION MK'D. 1 / S-1

SCALE: 3/4"=1'-0"

NOTES :

1- FOR ADDITIONAL DIMENTIONS AND BLOCK WALL LOCATIONS SEE ARCHITECTURAL DRAWINGS.

2- FOR BLOCK WALL REINFORCEMENT DETAILS SEE DWGS. S-10

3- FOR GENERAL NOTES SEE DWGS. S-9

FOUNDATION NOTES :

1- FOUNDATIONS HAVE BEEN DESIGNED FOLLOWING THE RECOMENDATIONS OF GTM/IN THEIR REPORT DATED SEPTEMBER 29, 1995 JOB # 0292712

2- DEPTH OF FOUNDATION = 2'-0" MIN. BELOW DIST. UNLESS OTHERWISE NOTED.

3- AN ALLOWABLE BEARING PRESSURE OF = 3500 PSF & Ko=175 KCF AT MAT FOUNDATION.
AT AMBULANCE PARKING AREA
qa= 2,000 psf ko= 75 kcf
df= 2'-0"
SOILTYPE= sd

4. THE CONTRACTOR SHALL VERIFY THE SOIL BEARING CAPACITY WITH A LICENSE PROFESSIONAL GEOTECHNICAL ENGINEER PRIOR TO ANY FOURING OF CONCRETE

5. CONTRACTOR SHALL PROVIDE FOR DE-WATERING OF EXCAVATIONS FROM EITHER SURFACE WATER, GROUND WATER OR SEEPAGE.

6. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO ACTUAL CONSTRUCTION. ANY CONFLICT WITH DETAILS OR NOTES SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER FOR CLARIFICATION.

7. ALL CONSTRUCTION, EXCAVATION AND/OR DEMOLITION SHALL BE MADE IN SUCH A WAY AS NOT TO IMPAIR THE STRENGTH, STABILITY OR USE OF ANY EXISTING STRUCTURE TO REMAIN.

8. EXCAVATE AND REMOVE EXISTING SOILS TO 8'-0" BELOW EXISTING GROUND THEN BACK FILL AREA WITH A-2-4 COMPACTED TO 95% OF ITS MAXIMUM DRY DENSITY ASTM D1557 IN LIFTS OF 8" MAX. TO THE BOTTOM OF FOUNDATION ELEVATION, FOLLOWING SOIL REPORT RECOMMENDATIONS.

LEGEND

	R/C WALL OR COL. ABOVE & BELOW
	R/C WALL OR COL. ABOVE ONLY
	R/C WALL OR COL. BELOW ONLY
	DENOTES BEAM BELOW
	DENOTES EXISTING WALL
	DENOTES BLOCK WALL (SEE NOTE 1)
T/F.F.E.	TOP FINISH CONCRETE ELEVATION
B.M.E.	BOTTOM MAT ELEVATION
C.J.	CONSTRUCTION JOINT
C.S.C.J.	CONTROL SAW CUT JOINT
E.J.	EXPANSION JOINT
F-1	FOOTING NUMBER
t=4"	SLAB THICKNESS
TYP.	TYPICAL
CONT.	CONTINUOUS
CL.	CLEAR
B.W.	BOTH WAYS
E.W.	EACH WAY
E.F.	EACH FACE
B/W	BLOCKS WALL
C/W	CONCRETE WALL
(T)	TOP REINFORCEMENT
(B)	BOTTOM REINFORCEMENT
(TEMP.)	TEMPERATURE REINFORCEMENT
(U.O.N)	UNLESS OTHERWISE NOTED
⊢⊳	DENOTES MOMENT CONNECTION.
⊢⊣	DENOTES SHEAR CONNECTION.
V.O.F.	VERIFY ON FIELD
W.W.F.	WELDED WIRE FABRIC

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JOSE M. GREEN, MSCE, P.E.
structural engineer
HENRY FIGUEROA
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BABILONIA ENGINEERING GROUP
mechanical engineer
Consultants

Dwg File Name: 0 4 0 4 A F 0 1
Year Project Sheet

Drawn by

Checked by
ING. JOSE M. GREEN

Date

No.	Revision	Date	By
1	EXIST. COORDINATE FIELD		JAA
2	GENERAL REVISION	APRIL 11,07	JAA
3	ADD 1/S-1.1 ADD. AND DLOT	JAA	
4	REVISION	MAY 30,07	JAA

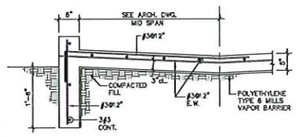
Project

A.S.E.M. MAIN BUILDING REMODELING AND EXPANSION
PUERTO RICO MEDICAL CENTER
PHASE I: NEW LEVEL I EMERGENCY AND TRAUMA CENTER
PHASE II: NEW CLINICAL SERVICES BUILDING ANNEX AND ROOFTOP HELIPORT FACILITIES

SHEET TITLE
BASEMENT FOUNDATION PLAN

DWG. NO.
S-1

ISSUE FOR CONSTRUCTION DATE MARCH 16-2007



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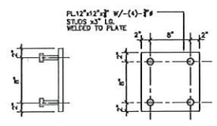
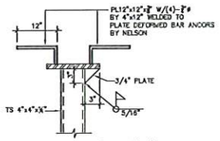


TYP. BASE PLATE DETAIL
SCALE: 1" = 1'-0"



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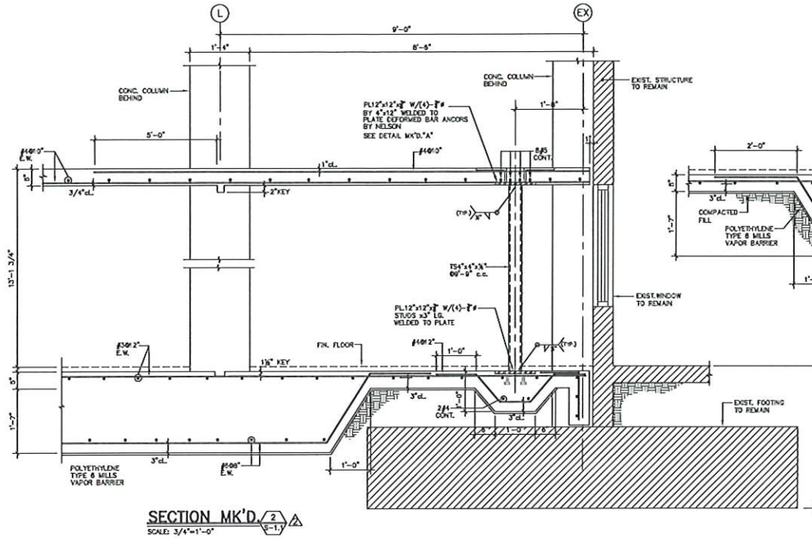

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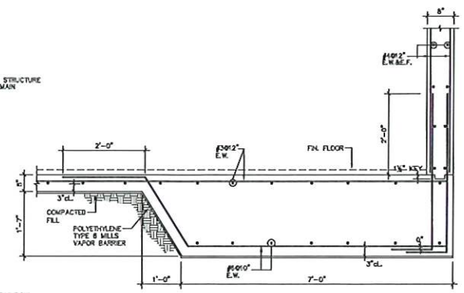

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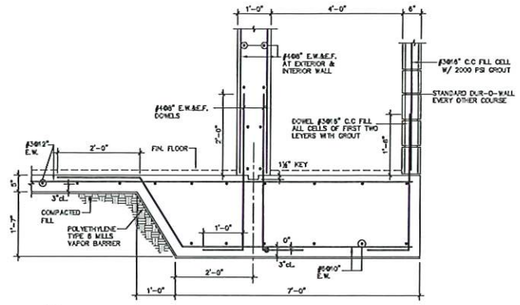

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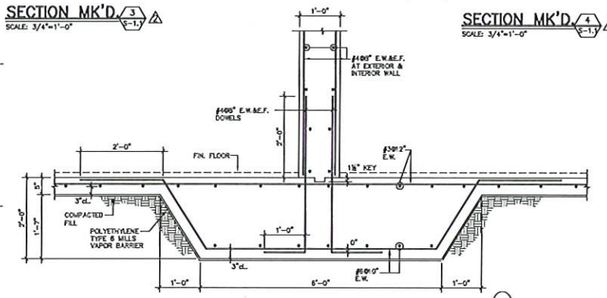

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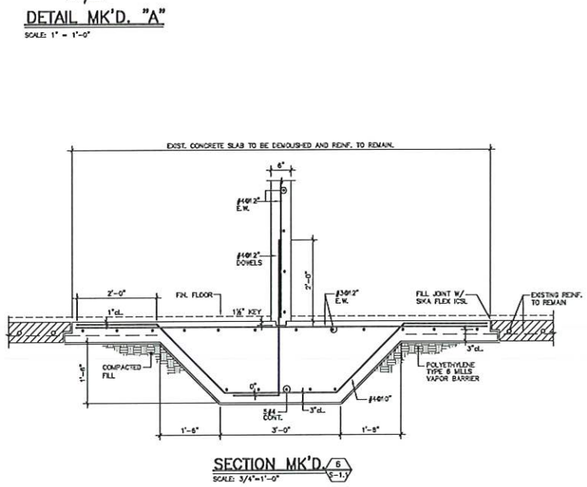

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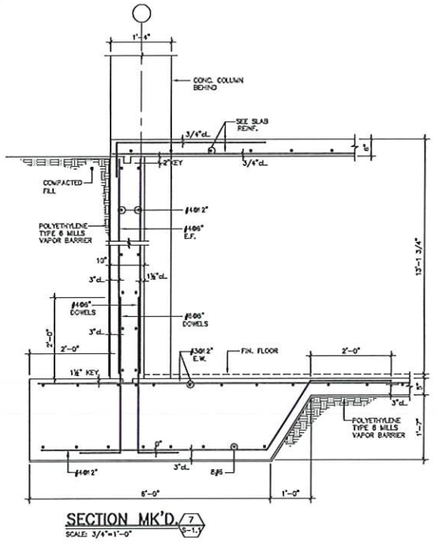

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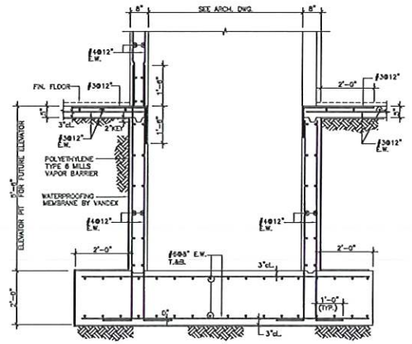

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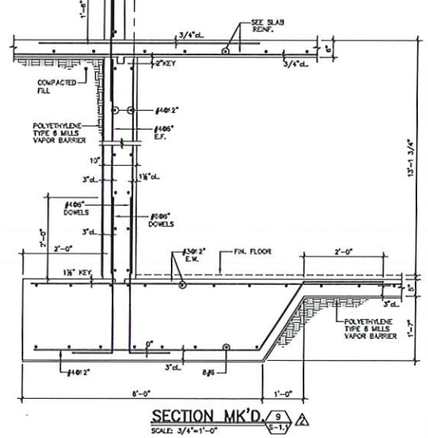

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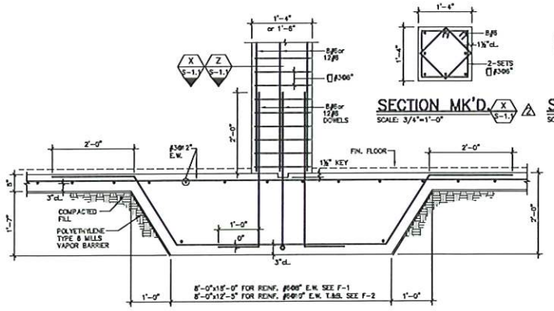
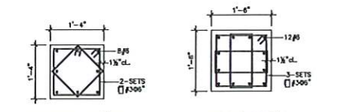
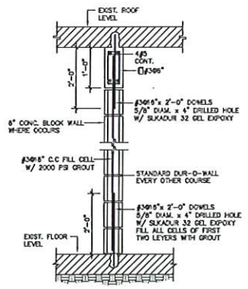


TYPICAL FOOTING DETAILS
SCALE: 3/4"=1'-0"

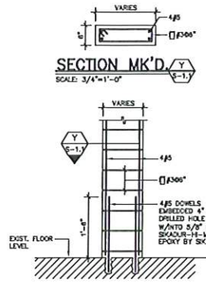


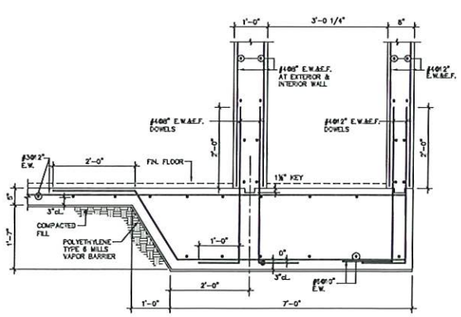
SECTION MK'D. X S-1.1 ⚠
SCALE: 3/4"=1'-0"

SECTION MK'D. Z S-1.1 ⚠
SCALE: 3/4"=1'-0"



TYPICAL CONC. BLOCK WALL AND CONC. COLUMN DETAIL
SCALE: 3/4"=1'-0"





SECTION MK'D. 10 S-1.1 ⚠
SCALE: 3/4"=1'-0"

ROBERT L. REXACH CINTRON
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HENRY FIGUEROA
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Consultants

Dwg File Name: 0404AF01
Year Project Sheet
Drawn by
Checked by ING. JOSE M. GREEN
Date

No.	Revision	Date	By
⚠	REVISION	APRIL 11,07	JAS

Project

A.S.E.M. MAIN BUILDING REMODELING AND EXPANSION
PUERTO RICO MEDICAL CENTER
PHASE I: NEW LEVEL I EMERGENCY AND TRAUMA CENTER
PHASE II: NEW CLINICAL SERVICES BUILDING ANNEX AND ROOFTOP HELIPORT FACILITIES

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OFICINA 1-A, SAN JUAN, PUERTO RICO 00917
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SHEET TITLE
FOOTING DETAILS

DWG. NO.
S-1.1

ISSUE FOR CONSTRUCTION DATE MARCH 14-2007

P:\184-219 FT AGEM Main Building\STR DWGS\STR- APRIL 11 2007\S-1.1.dwg, 4/17/2007 2:54:39 PM

EXISTING STRUCTURE TO REMAIN

EXISTING STRUCTURE TO REMAIN

DECONTAMINATION ROOM

EXIST. SLAB TO REMAIN

SEE TYPICAL CONC. BLOCK WALL AND CONC. COLUMN DETAIL ON DWG. S-1.1

EXIST. COLUMN TO REMAIN (TYP.)

EXIST. ROOF ABOVE TO REMAIN (TYP.)

(FOR BOUNDARY CONDITION SEE DWGS. S-1 TYP.)

5" Slab On Ground With #3@12" E.W. 1.5 Lb./C.F. Of Fiber mesh by Master Builders

ELEVATOR

(FOR BOUNDARY CONDITION SEE DWGS. S-1 TYP.)

8" SLAB f' PARABOLIC CAMBER

3/4" CONT. T.&B.

EXIST. CORRIDOR TO REMAIN

5" Slab On Ground With #3@12" E.W. 1.5 Lb./C.F. Of Fiber mesh by Master Builders

WHEN LOADING THE GAMA KNIFE A PROTECTIVE STEEL PLATE® 1/4" MIN. SHALL BE PLACED ON FLOOR.

FIRST FLOOR STRUCTURAL PLAN

SCALE: 3/16"=1'-0"

NOTES:

1- FOR ADDITIONAL DIMENTIONS AND BLOCK WALL LOCATIONS SEE ARCHITECTURAL DRAWINGS.

2- FOR BLOCK WALL REINFORCEMENT DETAILS SEE DWGS. S-10

3- FOR GENERAL NOTES SEE DWGS. S-9

LEGEND:

- R/C WALL OR COL. ABOVE & BELOW
- R/C WALL OR COL. ABOVE ONLY
- R/C WALL OR COL. BELOW ONLY
- DENOTES BEAM BELOW
- DENOTES EXISTING WALL
- DENOTES BLOCK WALL (SEE NOTE 1)
- T.F.C.E. TOP FINISH CONCRETE ELEVATION
- B.M.E. BOTTOM MAT ELEVATION

CONT.	CONTINUOUS	E.F.	EACH FACE
CL.	CLEAR	B/W	BLOCKS WALL
B.W.	BOTH WAYS	C/W	CONCRETE WALL
E.W.	EACH WAY	(T)	TOP REINFORCEMENT
C.J.	CONSTRUCTION JOINT	(B)	BOTTOM REINFORCEMENT
C.S.C.J.	CONTROL SAW CUT JOINT	(TEMP.)	TEMPERATURE REINFORCEMENT
E.J.	EXPANSION JOINT	(U.O.N.)	UNLESS OTHERWISE NOTED
F-1	FOOTING NUMBER		DENOTES MOMENT CONNECTION.
t=4"	SLAB THICKNESS		DENOTES SHEAR CONNECTION.
TYP.	TYPICAL	V.O.F.	VERIFY ON FIELD
		W.W.F.	WELDED WIRE FABRIC

SECTION MK'D. 4 S-2 — SCALE: 3/4"=1'-0"

SECTION MK'D. 5 S-2 — SCALE: 3/4"=1'-0"

SECTION MK'D. 1 S-2 — SCALE: 3/4"=1'-0"

SECTION MK'D. 2 S-2 — SCALE: 3/4"=1'-0"

SECTION MK'D. 3 S-2 — SCALE: 3/4"=1'-0"

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Dwg File Name: 04 04 AF 01 (Year Project Sheet)

Drawn by

Checked by ING. JOSE M. GREEN

Date

No.	Revision	Date	By
1	ADDED ELEVATIONS	FEB.08.07	J.M.G.
2	REVISION	APR. 11.07	J.M.G.
3	ADD SAW BOARDS AT EXIST. SHEAR WALL DETAILS #2&3	AUG. 30.07	J.M.G.
4	PARTIAL ELEVATION OPNG. AT SHEAR WALL DETAILS #2&3	SEP.28.2007	J.M.G.
5	DETS. 1&2/S-2 ADD.	SEP. 11 07	J.M.G.
6	NOTE ADDED A/S-2 & 1 1/2"x 2" ADD.	NOV.16.07	J.M.G.

Project

A.S.E.M. MAIN BUILDING REMODELING AND EXPANSION
PUERTO RICO MEDICAL CENTER
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PHASE II: NEW CLINICAL SERVICES BUILDING ANNEX AND ROOFTOP HELIPORT FACILITIES

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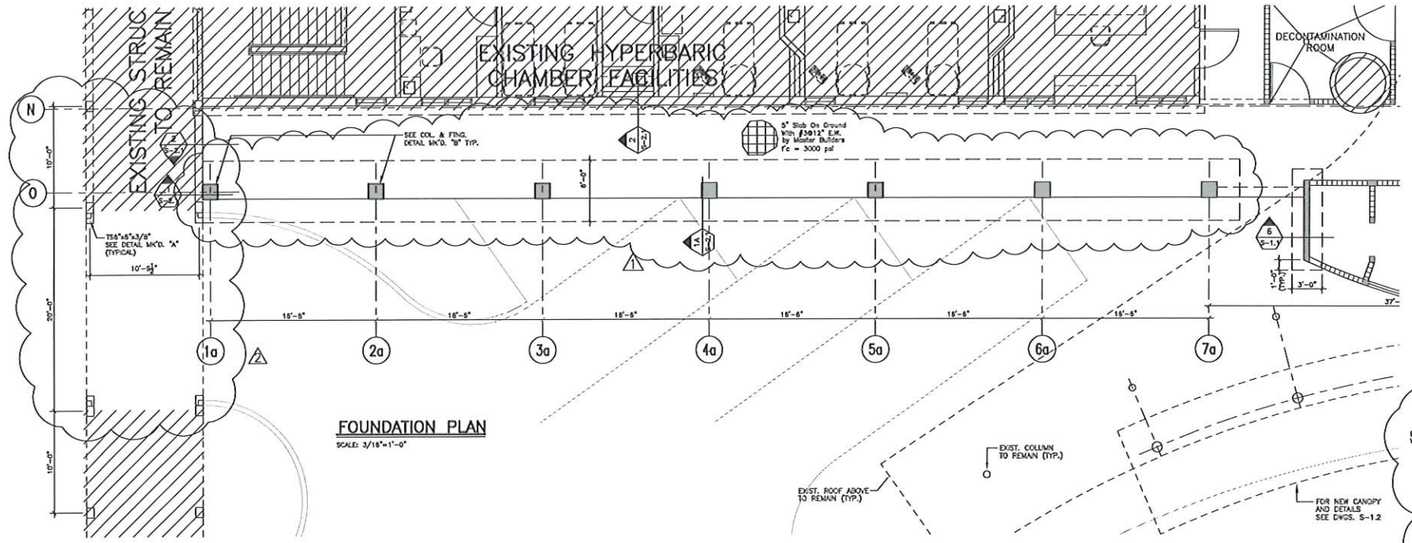
SHEET TITLE: FIRST FLOOR STRUCTURAL PLAN

DWG. NO. S-2

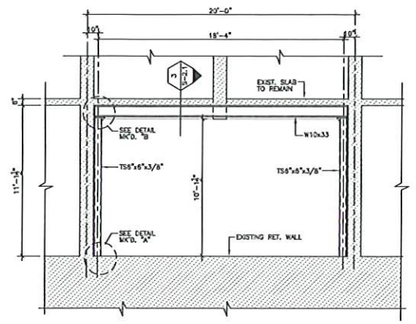
ISSUE FOR CONSTRUCTION DATE MARCH 14-2007

P:\04-319 FT. AGER Main Building\STR DWGS\STR. 2007-09-26\S-2.dwg, 11/21/2007 11:33:35 AM



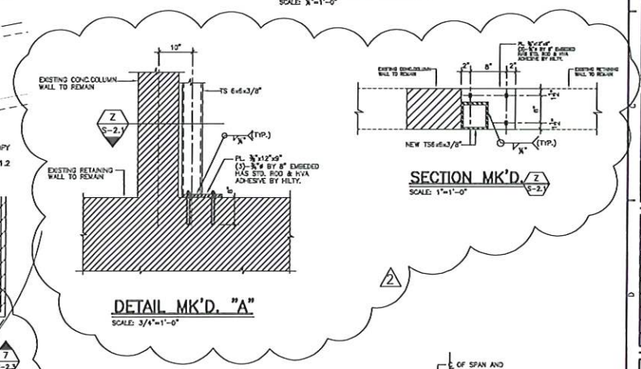
FOUNDATION PLAN

SCALE: 3/16"=1'-0"



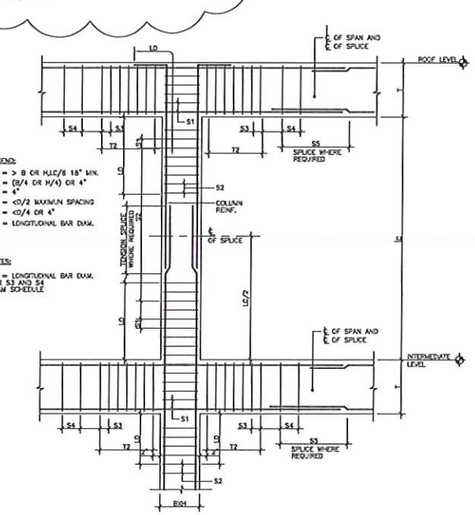
WBEAM ELEVATION

SCALE: 3/4"=1'-0"



DETAIL MK'D. "A"

SCALE: 3/4"=1'-0"



ROOF STRUCTURAL PLAN

SCALE: 3/16"=1'-0"

TYPICAL ELEVATION CONCRETE COLUMN

SCALE: 3/4"=1'-0"

NOTES:

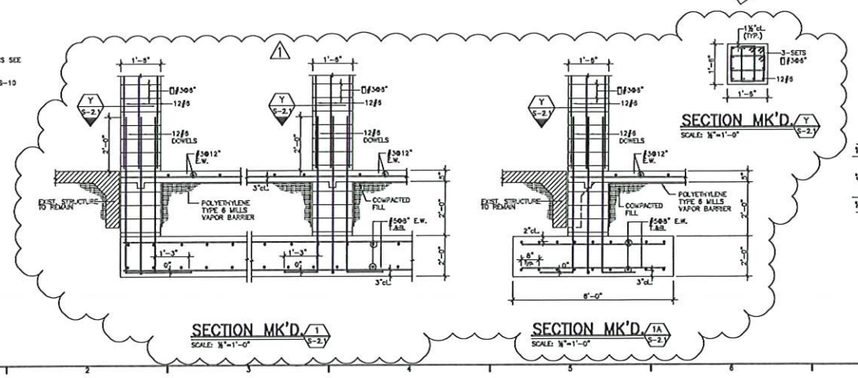
1- FOR ADDITIONAL DIMENTIONS AND BLOCK WALL LOCATIONS SEE ARCHITECTURAL DRAWINGS.

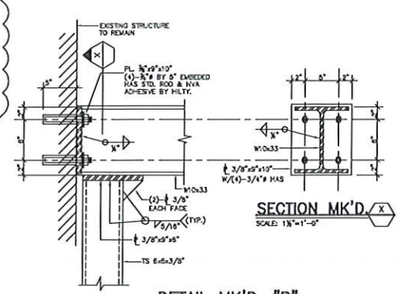
2- FOR BLOCK WALL REINFORCEMENT DETAILS SEE DWGS. S-1.0

2- FOR GENERAL NOTES SEE DWGS. S-0

LEGEND:

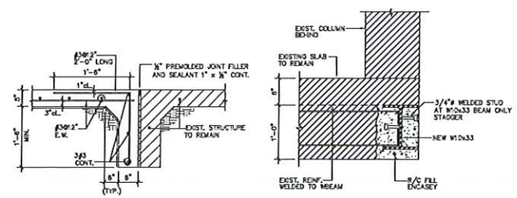
	R/C WALL OR COL. ABOVE & BELOW
	R/C WALL OR COL. ABOVE ONLY
	R/C WALL OR COL. BELOW ONLY
	DENOTES BEAM BELOW
	DENOTES EXISTING WALL
	DENOTES BLOCK WALL (SEE NOTE 1)
t=#"	SLAB THICKNESS
TYP.	TYPICAL
CONT.	CONTINUOUS
B.W.	BOTH WAYS
E.W.	EACH WAY
E.F.	EACH FACE
B/W	BLOCKS WALL
C/W	CONCRETE WALL
(T)	TOP REINFORCEMENT
(B)	BOTTOM REINFORCEMENT





DETAIL MK'D. "B"

SCALE: 1½"=1'-0"



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JOSE M. GREEN, MSCE, P.E.	structural engineer
HENRY FIGUEROA	electrical engineer
BABILONIA ENGINEERING GROUP	mechanical engineer

Consultants

Dwg File Name: 0 4 0 4 A F 0 1
Year Project Sheet

Drawn by

Checked by ING. JOSE M. GREEN

Date

No.	Revision	Date	By
1	FOOTING REVISION	APRIL 03 07	J.M.G.
2	STL. & REVISED	APRIL 17 07	J.M.G.
3	NEW RM-1 ELEVATION	MAY 08 07	J.M.G.
4	REVISION RM-1 ELEVATION, NEW SHEET S & STL. & MAY 23 07		J.M.G.

Project

A.S.E.M. MAIN BUILDING REMODELING AND EXPANSION
PUERTO RICO MEDICAL CENTER
PHASE I: NEW LEVEL I EMERGENCY AND TRAUMA CENTER
PHASE II: NEW CLINICAL SERVICES BUILDING ANNEX AND ROOFTOP HELIPORT FACILITIES

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SHEET TITLE

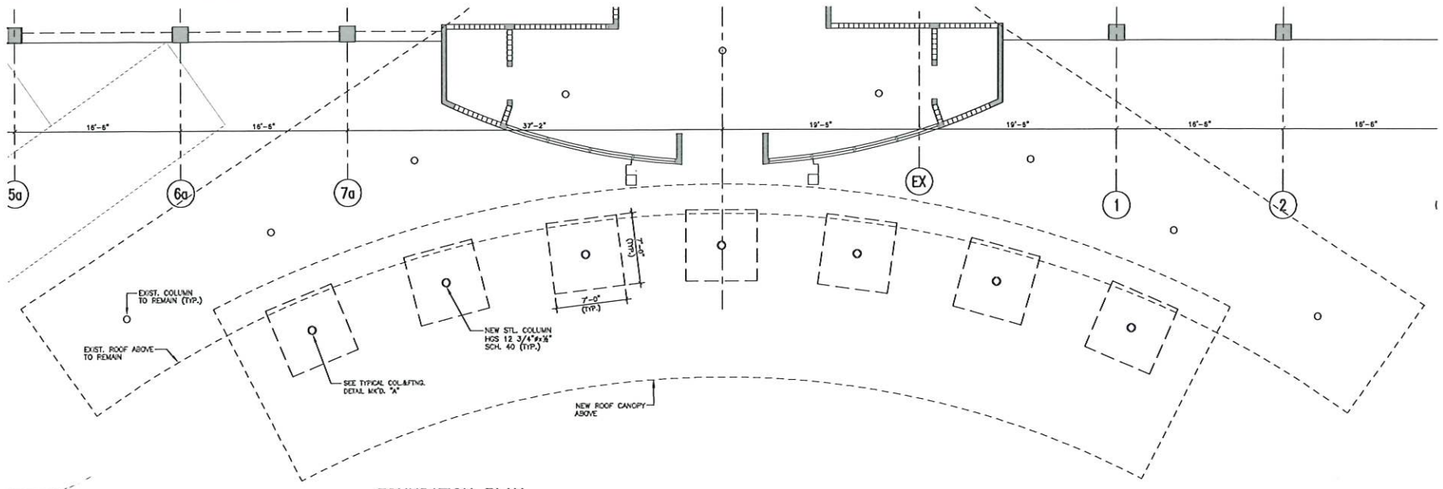
FOUNDATION PLAN AND ROOF STRUCTURAL PLAN

DWG. NO.

S-2.1

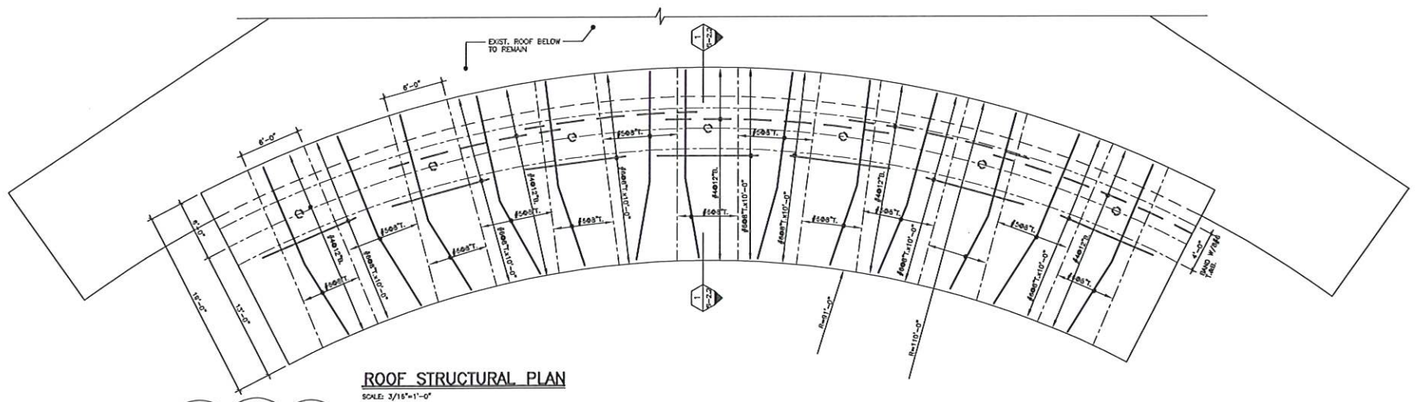
ISSUE FOR CONSTRUCTION DATE MARCH 14-2007

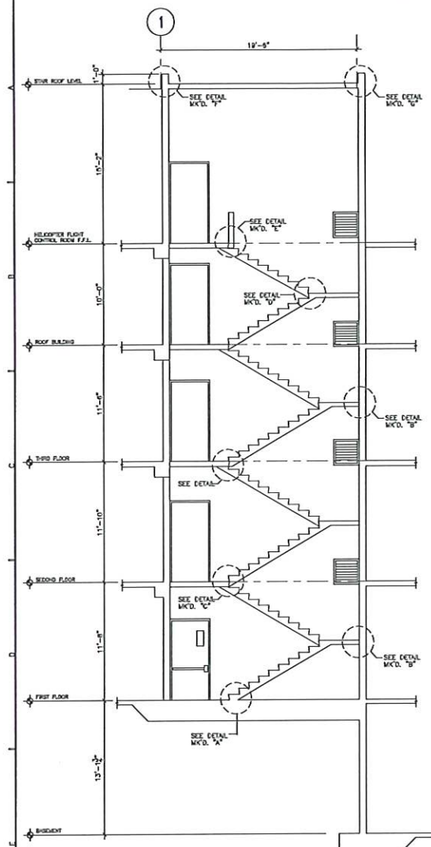
P:\04-319 FI ASEM Main Building\CSTR DWGS\STR- May 23 2007\S-2.1.dwg, 5/31/2007 2:51:03 PM



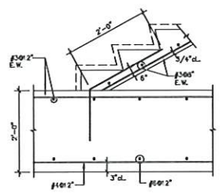
FOUNDATION PLAN

SCALE: 3/16"=1'-0"

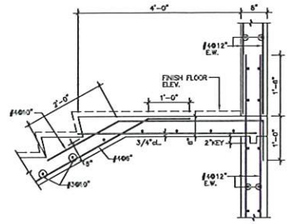

EXIST. ROOF BELOW TO REMAIN
6'-0"
6'-0"
14'-0"
37'-0"
#5@6"T.
#5@12"B.
#5@7"T.
#5@10"T.
#5@10"B.
#5@10"T.
#5@7



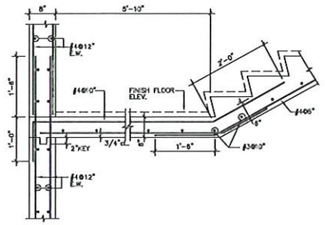
SECTION MK'D. 9 S-2.3
SCALE: 3/16"=1'-0"



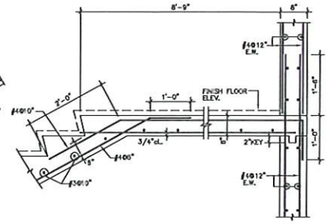
DETAIL MK'D. A S-2.3
SCALE: 3/4"=1'-0"



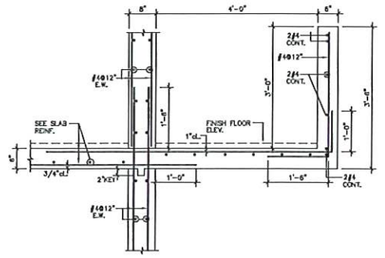
DETAIL MK'D. B S-2.3
SCALE: 3/4"=1'-0"



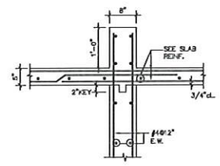
DETAIL MK'D. C S-2.3
SCALE: 3/4"=1'-0"



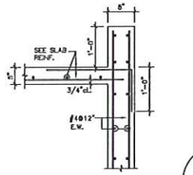
DETAIL MK'D. D S-2.3
SCALE: 3/4"=1'-0"



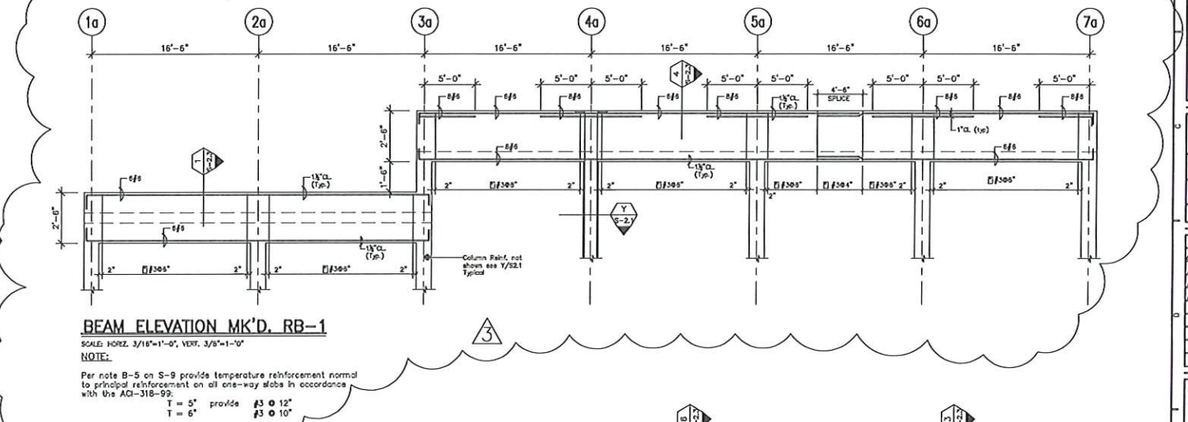
DETAIL MK'D. E S-2.3
SCALE: 3/4"=1'-0"



DETAIL MK'D. F S-2.3
SCALE: 3/4"=1'-0"



DETAIL MK'D. G S-2.3
SCALE: 3/4"=1'-0"



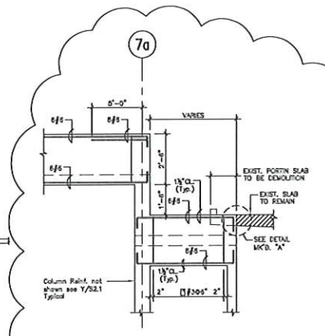
BEAM ELEVATION MK'D. RB-1
SCALE: HORZ. 3/16"=1'-0", VERT. 3/8"=1'-0"

NOTE:

Per note B-5 on S-9 provide temperature reinforcement normal to principal reinforcement on all one-way slabs in accordance with the ACI-318-99:

T = 5" provide #3 @ 12"
T = 6" #3 @ 10"

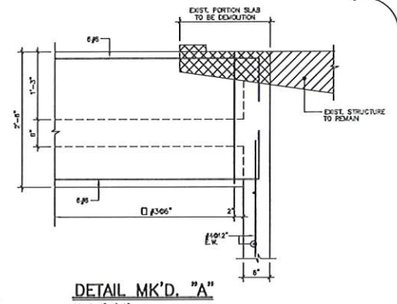
3



BEAM ELEVATION MK'D. RB-2
SCALE: HORZ. 3/16"=1'-0", VERT. 3/8"=1'-0"

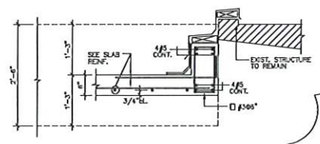
2

SECTION MK'D. 4 S-2.3
SCALE: 3/4"=1'-0"

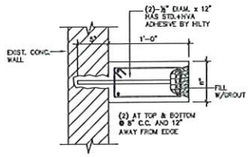


DETAIL MK'D. "A"
SCALE: 1"=1'-0"

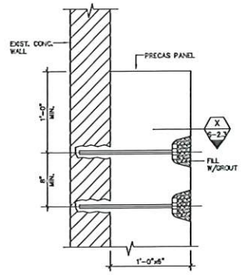
4



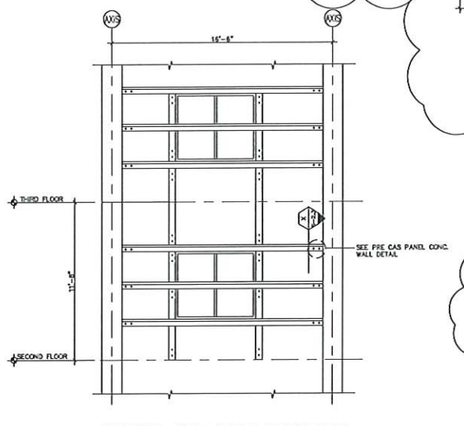
SECTION MK'D. 7 S-2.3
SCALE: 3/4"=1'-0"



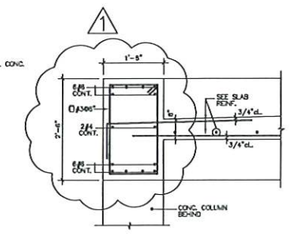
SECTION MK'D. X S-2.3
SCALE: 1½"=1'-0"



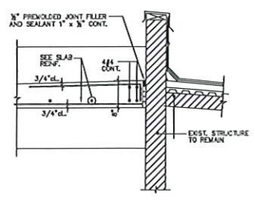
PRE-CAS PANEL CONC. WALL DETAIL
SCALE: 1½"=1'-0"



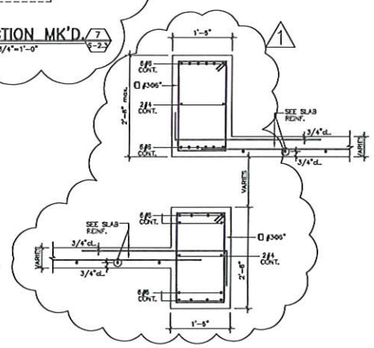
TYPICAL PRE CAST ELEVATION
SCALE: X"=1'-0"



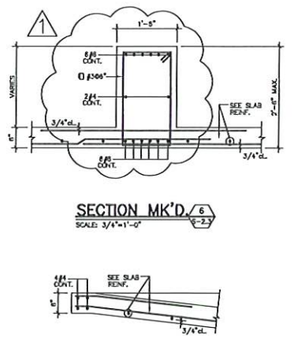
SECTION MK'D. 1 S-2.3
SCALE: 3/4"=1'-0"



SECTION MK'D. 2 S-2.3
SCALE: 3/4"=1'-0"



SECTION MK'D. 3 S-2.3
SCALE: 3/4"=1'-0"



SECTION MK'D. 6 S-2.3
SCALE: 3/4"=1'-0"

SECTION MK'D. 5 S-2.3
SCALE: 3/4"=1'-0"

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Dwg File Name: 0 4 0 4 A F 0 1
Year Project Sheet

Drawn by

Checked by
ING. JOSE M. GREEN

Date

No.	Revision	Date	By
1	NEW ROOF, REVISION APPL CD ET AS-5		
2	REVISION	APRIL 11,07	AS-5
3	NEW RB-1 ELEVATION MAY 08 07		AS-5
4	REVISION TO 1ST EDITION		
5	NEW SECT'S & DTL'S MAY 23 07		AS-5

Project

A.S.E.M. MAIN BUILDING REMODELING AND EXPANSION
PUERTO RICO MEDICAL CENTER
PHASE I: NEW LEVEL I EMERGENCY AND TRAUMA CENTER
PHASE II: NEW CLINICAL SERVICES BUILDING ANNEX AND ROOFTOP HELIPORT FACILITIES

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SHEET TITLE
STAIR SECTION AND SECTIONS

DWG. NO.
S-2.3

ISSUE FOR CONSTRUCTION DATE MARCH 14-2007

P:\04-219 FI ASEM Main Building\STR DWG\STR- May 23 2007\S-2.3.dwg, 5/31/2007 2:20:14 PM

EXISTING STRUCTURE TO REMAIN

EXISTING STRUCTURE TO REMAIN

MAIN BUILDING ENTRANCE
EXISTING CANOPY BELOW
TO REMAIN

EXISTING CORRIDOR

SEE NEW PARTIAL SHEAR WALL AT ROOF PLAN ON THIS SHEET

PORTION CONCRETE SLAB BELOW TO EXISTING ROOF TO REMAIN

EXISTING PORTION TO BE DEMOLISHED & REINF. TO REMAIN

2" VLI 22 BY VULCRAFT W/ 5" P/C SLAB & WWF 4 x 4 - W 2.9 X W 2.9

ELEVATOR

F SLAB F PARABOLIC CAMBER

3/4" CAMBER AT EDGE (TYP.)

3/4"ø @ 3'-0"C.C. T.&B. (TYP.)

SEE DETAIL M/C'D. "A"

SEE DETAIL M/C'D. "B"

W14x22

L3x3x3/8" CONT.

FB-1

FB-5

EX 1 2 3 4 5 6 7

6A 7 8 9 10 11 12 13 14 15

L EX M N O

SECOND FLOOR STRUCTURAL PLAN

SCALE: 3/15"=1'-0"

NOTES:

1- FOR ADDITIONAL DIMENTIONS AND BLOCK WALL LOCATIONS SEE ARCHITECTURAL DRAWINGS.

LEGEND:

- R/C WALL OR COL. ABOVE & BELOW
- R/C WALL OR COL. ABOVE ONLY
- R/C WALL OR COL. BELOW ONLY
- DENOTES BEAM BELOW
- DENOTES EXISTING WALL
- DENOTES BLOCK WALL (SEE NOTE 1)

PARTIAL NEW SHEAR WALL 1ST TO ROOF STRUCTURAL PLAN

SCALE: 1"=1'-0"

(5) #5 NOTE: USE fc=5,000 AT ALL WALL ON AXIS 7

(5) SETS □ #3@4"

#5@8" E.F.

#10@12" E.F.

#5@8 2nd. TO ROOF

3-SETS □ #3@6"

PARTIAL NEW SHEAR WALL BASEMENT FOUNDATION PLAN

SCALE: 1"=1'-0"

2'-0" NEW

10'-0" EXISTING STRUCTURE TO REMAIN

10'-0" NEW

1'-4"

(5) SETS □ #3@4"

1'-0"

(6)#5 OR (5) #6 SEE NOTE 2

#10@12"x2'-0" W/5/8"DIAM. DRILLED HOLE EMBEDDED 12" MIN. W/ SIKADUR 32 HI-MOD EXPOXY

SECTION MK'D. 1 S-3

SCALE: 1"=1'-0"

2" VLI 22 BY VULCRAFT W/ 5" P/C SLAB & WWF 4 x 4 - W 2.9 X W 2.9

L3"x3"x3/8" cont. W/-3/4" DIAM. KWK BOLT II BY HILTI EMBEDDED 4" MIN. INTO EXIST. STRUCTURE @ 18" C.C.

EXIST. STRUCTURE TO REMAIN

SECTION MK'D. 2 S-3

SCALE: 1"=1'-0"

6" CONC. BLOCK WALL

#3@32" C.C. FILL W/ 2000 PSI GROUT

DOWEL #3@18" C. (FILL WALL CELLS OF FIRST TWO LEVERS WITH GROUT

STANDARD DUR-O-WALL EVERY OTHER COURSE

2" VLI 22 BY VULCRAFT W/ 5" P/C SLAB & WWF 4 x 4 - W 2.9 X W 2.9

END BEND PLATE

L5"x3½"x5/8" LONG w/2-3" LONG W/(5)-3/4"ø A325-N

W14x22 BEAM

W18x40

SECTION MK'D. 3 S-3

SCALE: 1"=1'-0"

2" VLI 22 BY VULCRAFT W/ 5" P/C SLAB & WWF 4 x 4 - W 2.9 X W 2.9

PL-5/8"x8"x8" LONG W/(4)-3/4"ø A325-N

W14x22 BEAM

W18x40

SECTION MK'D. 4 S-3

SCALE: 3/4"=1'-0"

8"

#10@12" I.N.

FINISH FLOOR ELEV.

SEE SLAB REINF.

2" VLI 22 BY VULCRAFT W/ 5" P/C SLAB & WWF 4 x 4 - W 2.9 X W 2.9

L3"x3"x3/8" cont. W/-3/4" DIAM. KWK BOLT II BY HILTI EMBEDDED 4" MIN. INTO EXIST. STRUCTURE @ 18" C.C.

#10@12" I.N.

DETAIL MK'D. "A"

SCALE: 1½"=1'-0"

PL. 15"x22"x⅞" - A36 W/(8)-¾"ø BY 7" EMBEDDED HIT-RE 500 HAS SUPPER A 193

EXISTING CONC. COLUMN TO REMAIN

15"x6"x⅝" Plate-A36 W/(5) ¾"ø A325-N Std Gaps = 1.5"

W18x40 - A992 Fy=50 End Offset = 3" max Vu = 43 kips

Typ. Both Sides Weld Return ⅜"

SECTION MK'D. Y S-3

SCALE: 1½"=1'-0"

EXISTING STRUCTURE TO REMAIN

PL. 9"x15"x⅞" - A36 W/(6)-¾"ø BY 6" EMBEDDED HAS SUPPER, ROD & HVA ADHESIVE BY HILTY.

W18x40

7 DETAIL MK'D: "B"

SCALE: 1½"=1'-0"

EXISTING STRUCTURE TO REMAIN

PL. 9"x15"x⅞" - A36 W/(6)-¾"ø BY 6" EMBEDDED HAS SUPPER, ROD & HVA ADHESIVE BY HILTY.

15"x6"x⅝" Plate-A36 W/(5) ¾"ø A325-N Std Gaps = 1.5"

W18x40 - A992 Fy=50 End Offset = 3" max Vu = 43 kips

Typ. Both Sides Weld Return ⅜"

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JOSE M. GREEN, MSCE, P.E.
structural engineer
HENRY FIGUEROA
electrical engineer
BABILONIA ENGINEERING GROUP
mechanical engineer
Consultants

Dwg File Name: 0 4 0 4 A F 0 1
Year Project Sheet

Drawn by

Checked by
ING. JOSE M. GREEN

Date

No.	Revision	Date	By
1	ADDIT. DOCUMENTS	FEB.26.07	J.A.C.
2	REVISION	APRIL 11.07	J.A.C.
3	PLUMB. SLEEVES, SHEAR WALL DETAILS AXIS.	JUL. 30.2007	J.A.C.
4	PARTIAL ELEVATION SPAN. SHEAR WALL DETAILS AXIS. & PIPE SLEEVES 7/8-9	SEP.28.2007	J.A.C.
5	REVISION	OCT.23.2007	J.A.C.
6	REVISE SHEAR WALL & NOTES	NOV.28.2007	J.A.C.

Project

A.S.E.M. MAIN BUILDING REMODELING AND EXPANSION
PUERTO RICO MEDICAL CENTER
PHASE I: NEW LEVEL I EMERGENCY AND TRAUMA CENTER
PHASE II: NEW CLINICAL SERVICES BUILDING ANNEX AND ROOFTOP HELIPORT FACILITIES

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SHEET TITLE
SECOND FLOOR STRUCTURAL PLAN

DWG. NO.
S-3

ISSUE FOR CONSTRUCTION DATE MARCH 14-2007

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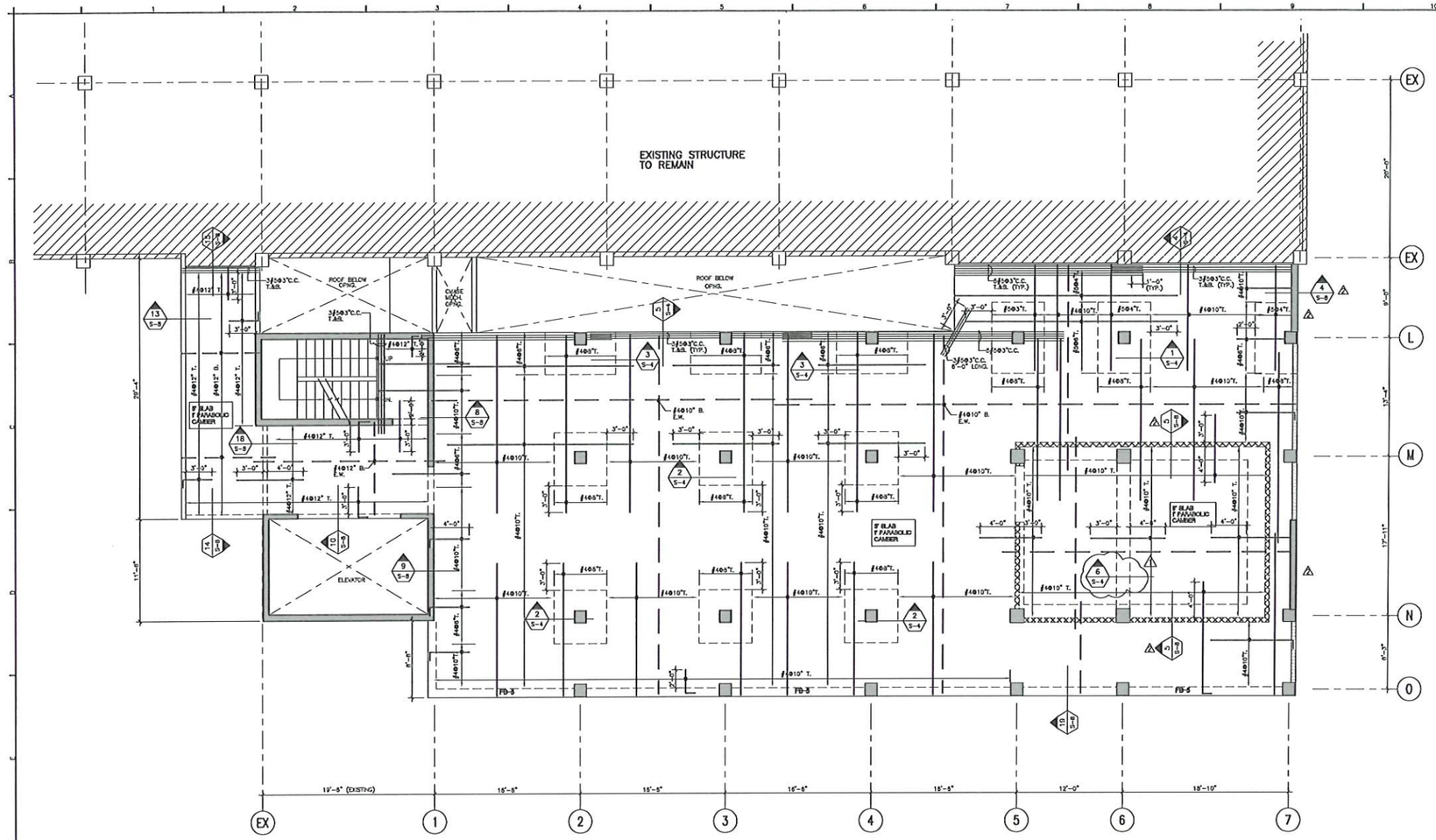
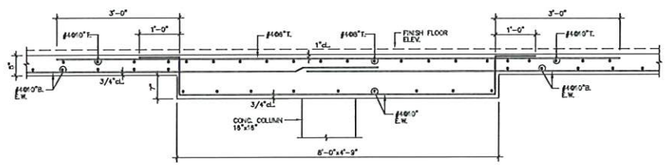


THIRD FLOOR STRUCTURAL PLAN
SCALE: 3/16"=1'-0"

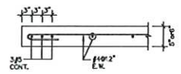
LEGEND

- R/C WALL OR COL. ABOVE & BELOW
- R/C WALL OR COL. ABOVE ONLY
- R/C WALL OR COL. BELOW ONLY
- DENOTES BEAM BELOW
- DENOTES EXISTING WALL
- DENOTES BLOCK WALL (SEE NOTE 1)

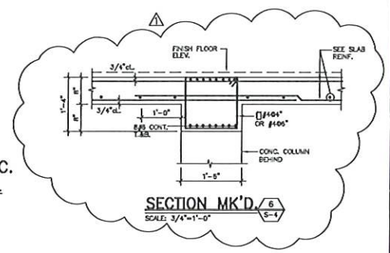
C.J.	CONSTRUCTION JOINT
C.S.C.J.	CONTROL SAW CUT JOINT
E.J.	EXPANSION JOINT
F-1	FOOTING NUMBER
t=4"	SLAB THICKNESS
TYP.	TYPICAL
CONT.	CONTINUOUS
CL.	CLEAR
B.W.	BOTH WAYS
E.W.	EACH WAY
E.F.	EACH FACE
B/W	BLOCKS WALL
C/W	CONCRETE WALL
(T)	TOP REINFORCEMENT
(B)	BOTTOM REINFORCEMENT
(TEMP.)	TEMPERATURE REINFORCEMENT
(U.O.N.)	UNLESS OTHERWISE NOTED
⊢⊕	DENOTES MOMENT CONNECTION.
⊢⊢	DENOTES SHEAR CONNECTION.
V.O.F.	VERIFY ON FIELD
W.W.F.	WELDED WIRE FABRIC



SECTION MK'D. 3 / S-4
SCALE: 3/4"=1'-0"



TYPICAL 5" OR 6" END OF CONC. WALL REINFORCEMENT DETAIL
SCALE: 3/4"=1'-0"



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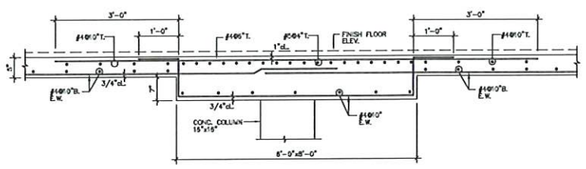
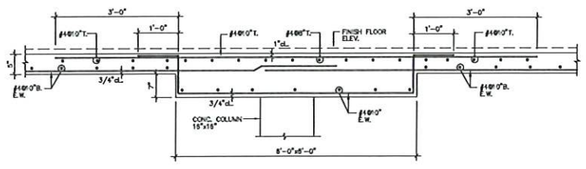
SCALE: 3/4"=1'-0"



SECTION MK'D. 1 / S-4
SCALE: 3/4"=1'-0"



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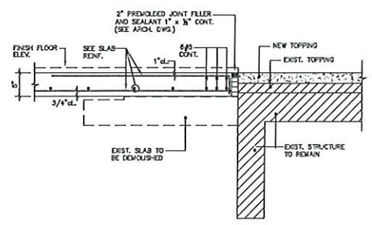

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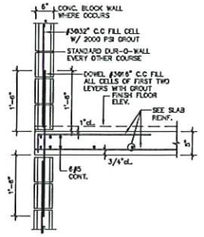
SCALE: 3/4"=1'-0"



SECTION MK'D. 5 / S-4
SCALE: 3/4"=1'-0"

ROBERT L. REXACH CINTRON
site engineer
JOSE M. GREEN, MSCE, P.E.
structural engineer
HENRY FIGUEROA
electrical engineer
BABILONIA ENGINEERING GROUP
mechanical engineer
Consultants

Dwg File Name: 0 4 0 4 A F 0 1
Year Project Sheet
Drawn by
Checked by ING. JOSE M. GREEN
Date

No.	Revision	Date	By
1	MECH. & ADD.	APRIL 03 07 J.A.S.	
2	REVISION	APRIL 11 07 J.A.S.	

Project

A.S.E.M. MAIN BUILDING REMODELING AND EXPANSION
PUERTO RICO MEDICAL CENTER
PHASE I: NEW LEVEL I EMERGENCY AND TRAUMA CENTER
PHASE II: NEW CLINICAL SERVICES BUILDING ANNEX AND ROOFTOP HELIPORT FACILITIES

FERNANDO IRIZARRY ARCHITECTS, P.S.C.
(787) 782-2419 782-7027 P.O. BOX 191518
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SHEET TITLE
THIRD FLOOR STRUCTURAL PLAN

DWG. NO.
S-4

ISSUE FOR CONSTRUCTION DATE MARCH 14-2007

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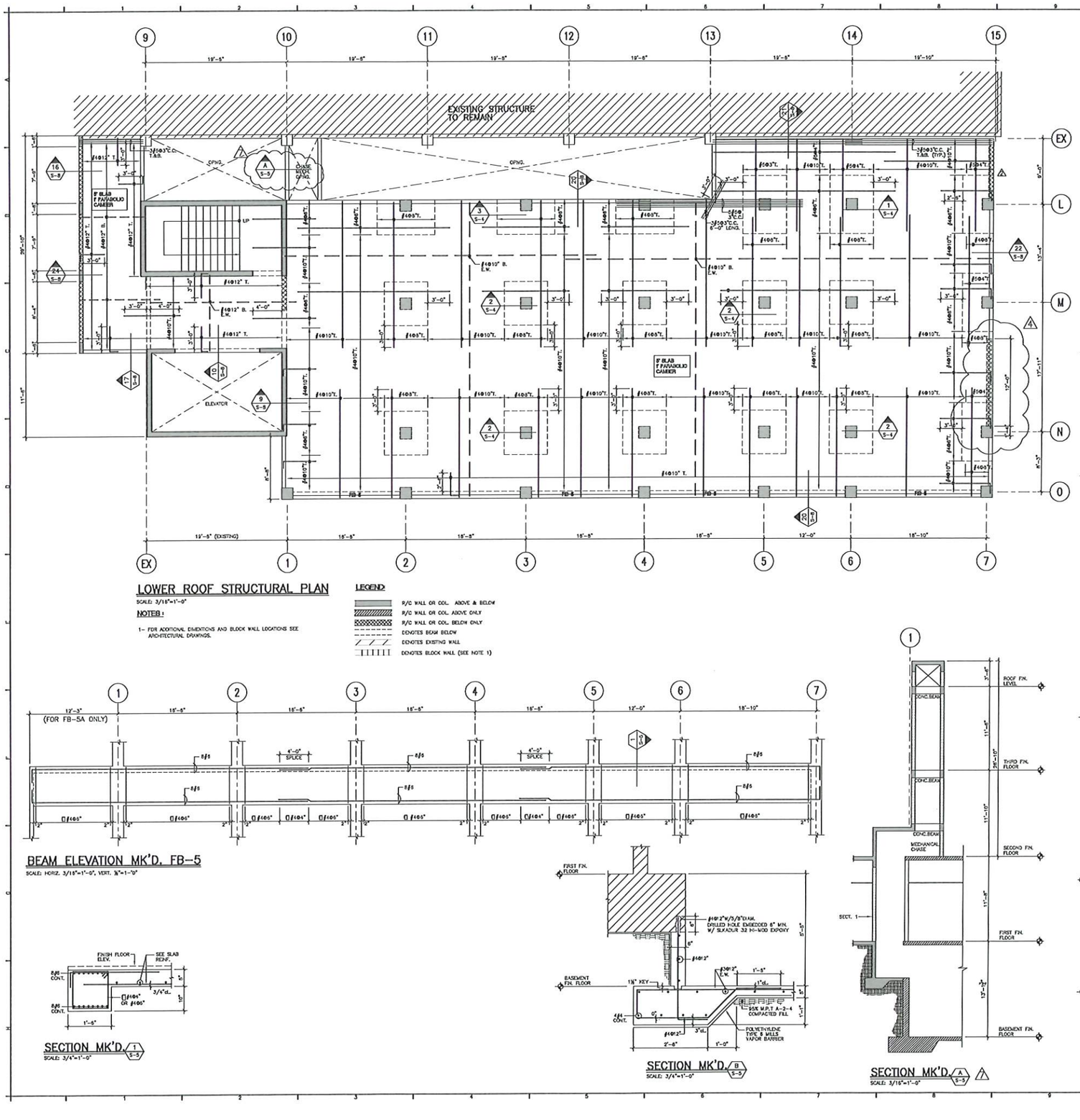

LOWER ROOF STRUCTURAL PLAN

SCALE: 3/16"=1'-0"

NOTES:

1- FOR ADDITIONAL DIMENTIONS AND BLOCK WALL LOCATIONS SEE ARCHITECTURAL DRAWINGS.

LEGEND

- R/C WALL OR COL. ABOVE & BELOW
- R/C WALL OR COL. ABOVE ONLY
- R/C WALL OR COL. BELOW ONLY
- DENOTES BEAM BELOW
- DENOTES EXISTING WALL
- DENOTES BLOCK WALL (SEE NOTE 1)

BEAM ELEVATION MK'D. FB-5

SCALE: HORIZ. 3/16"=1'-0", VERT. 3/4"=1'-0"

SECTION MK'D. 1/S-5

SCALE: 3/4"=1'-0"

SECTION MK'D. B/S-5

SCALE: 3/4"=1'-0"

SECTION MK'D. A/S-5 ⚠

SCALE: 3/16"=1'-0"

SECTION MK'D. 1/S-5 ⚠

SCALE: 3/4"=1'-0"

ROBERT L. REXACH CINTRON
site engineer
JOSE M. GREEN, MSCE, P.E.
structural engineer
HENRY FIGUEROA
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BABILONIA ENGINEERING GROUP
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Consultants

Dwg File Name: 0404AF01
Year Project Sheet

Drawn by

Checked by ING. JOSE M. GREEN

Date

No.	Revision	Date	By
⚠	REVISION	APRIL 11,07	AAE
⚠	1ST FLOOR REVISION & FLOOR SLAB WALL DECKS ADD.		
⚠	NEW BEAM FB-5 & 1/S-5 AXS.	NOV.16,07	AAE

Project

A.S.E.M. MAIN BUILDING REMODELING AND EXPANSION
PUERTO RICO MEDICAL CENTER
PHASE I: NEW LEVEL I EMERGENCY AND TRAUMA CENTER
PHASE II: NEW CLINICAL SERVICES BUILDING ANNEX AND ROOFTOP HELIPORT FACILITIES

FERNANDO IRIZARRY ARCHITECTS, P.S.C.

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SHEET TITLE
ROOF STRUCTURAL PLAN

DWG. NO.
S-5

ISSUE FOR CONSTRUCTION DATE MARCH 14-2007

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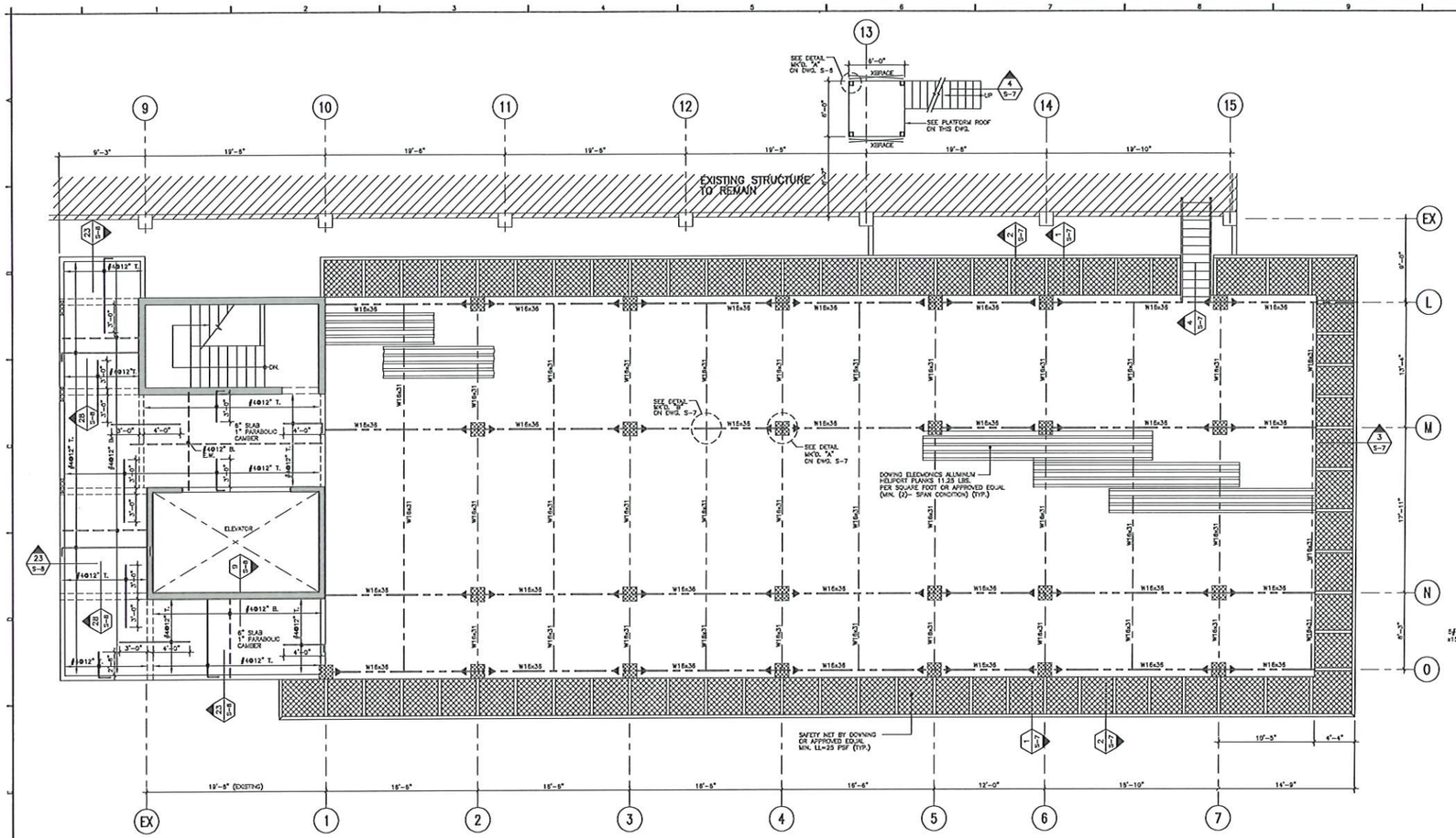
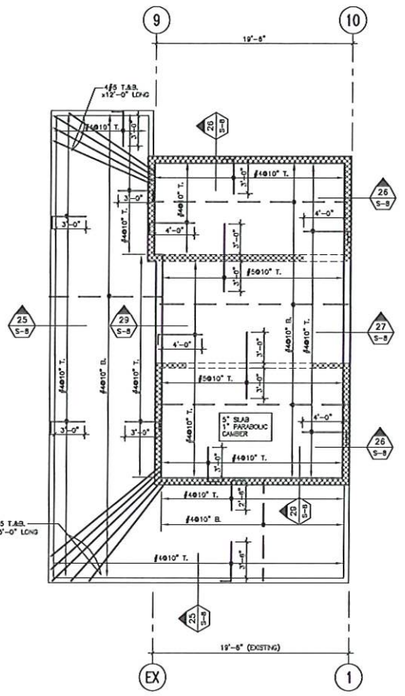




UPPER ROOF STRUCTURAL PLAN

SCALE: 3/16"=1'-0" (FLIGTH CONTROL ROOM & OFFICES)

HELICOPTER PARKING STRUCTURAL PLAN

SCALE: 3/16"=1'-0"

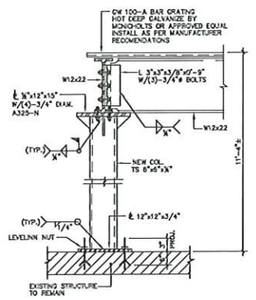
NOTES :

1- FOR ADDITIONAL DIMENTIONS AND BLOCK WALL LOCATIONS SEE ARCHITECTURAL DRAWINGS.

2- CONTRACTOR SHALL SUBMITAL SHOP DRAWING STRUCTURAL CALCULATIONS OF ALL FRE-ENGINEERING ALUMINUM HELIPORT PARTS.

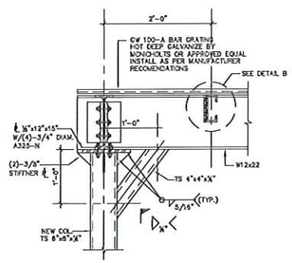
LEGEND:

|-|> DENOTES MOMENT CONNECTION.
|-|- DENOTES SHEAR CONNECTION.
V.O.F. VERIFY ON FIELD
W.W.F. WELDED WIRE FABRIC



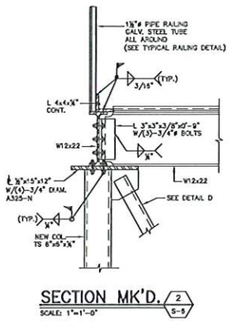
DETAIL MK'D. "A"

SCALE: 1"=1'-0"



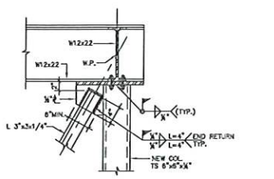
SECTION MK'D. 1 S-6

SCALE: 1"=1'-0"

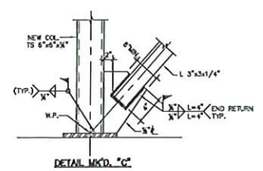


SECTION MK'D. 2 S-6

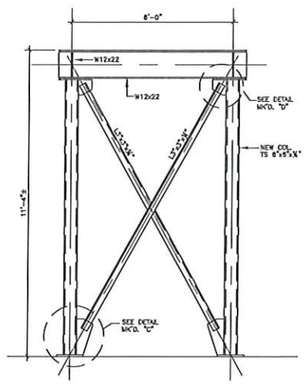
SCALE: 1"=1'-0"



DETAIL MK'D. "D"

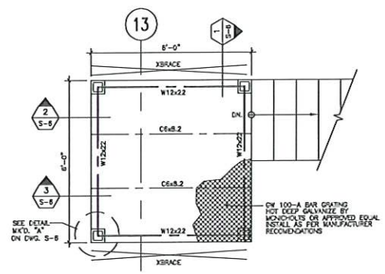


DETAIL MK'D. "C"



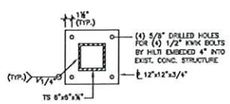
XBRACE FRAME ELEVATION

SCALE: 3/4"=1'-0"



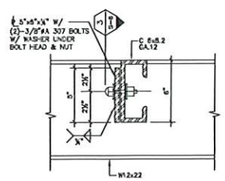
PLATFORM ROOF STRUCTURAL FRAMING PLAN

SCALE: 3/4"=1'-0"



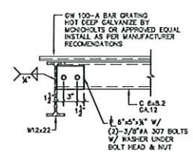
BASE PLATE DETAIL

SCALE: 1"=1'-0"



DETAIL MK'D. "B"

SCALE: N.T.S.



SECTION MK'D. 3 S-6

SCALE: 1"=1'-0"

ROBERT L. REXACH CINTRON
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JOSE M. GREEN, MSCE, P.E.
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HENRY FIGUEROA
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BABILONIA ENGINEERING GROUP
mechanical engineer
Consultants

Dwg File Name:
04 04 AF01
Year Project Sheet

Drawn by

Checked by
ING. JOSE M. GREEN

Date

No.	Revision	Date	By

Project

A.S.E.M. MAIN BUILDING REMODELING AND EXPANSION
PUERTO RICO MEDICAL CENTER
PHASE I: NEW LEVEL I EMERGENCY AND TRAUMA CENTER
PHASE II: NEW CLINICAL SERVICES BUILDING ANNEX AND ROOFTOP HELIPORT FACILITIES

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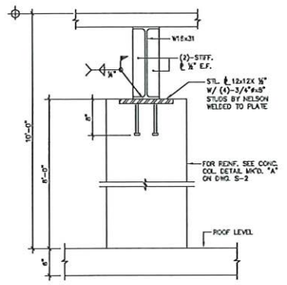
SHEET TITLE
HELICOPTER PARKING AND ROOF PLAN

DWG. NO.
S-6

ISSUE FOR CONSTRUCTION DATE MARCH 14-2007

P:\04-219 FT. ASEM Main Building\DTR DWGS\DTR- APRIL 11 2007\S-6.dwg, 4/17/2007 2:08:47 PM



DETAIL MK'D. "A"

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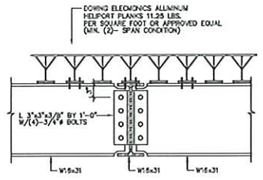

DETAIL MK'D. "B"

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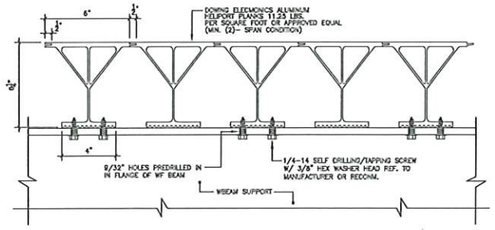
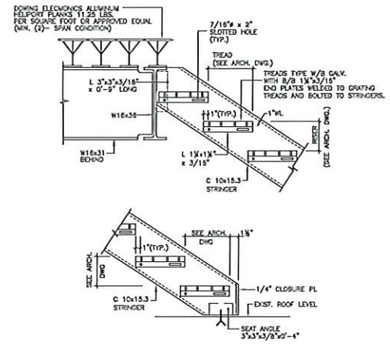


ATTACHMENT TO SUPPORT BEAMS DETAIL

SCALE: 3"=1'-0"



SECTION MK'D. 4/S-7

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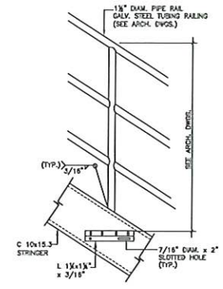
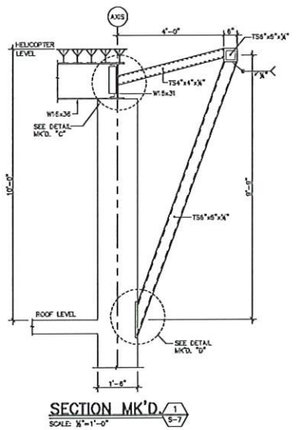


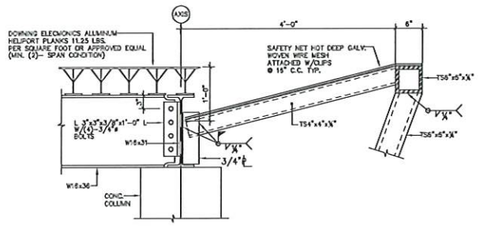
TYPICAL STAIR DETAILS

SCALE: N.T.S.



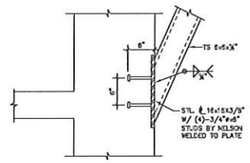
SECTION MK'D. 1/S-7

SCALE: ⅜"=1'-0"



DETAIL MK'D. "C"

SCALE: 1"=1'-0"



DETAIL MK'D. "D"

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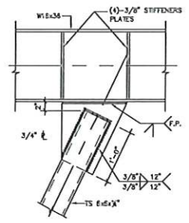

DETAIL MK'D. "E"

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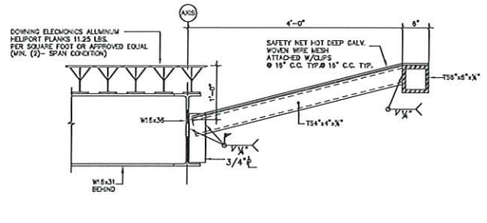
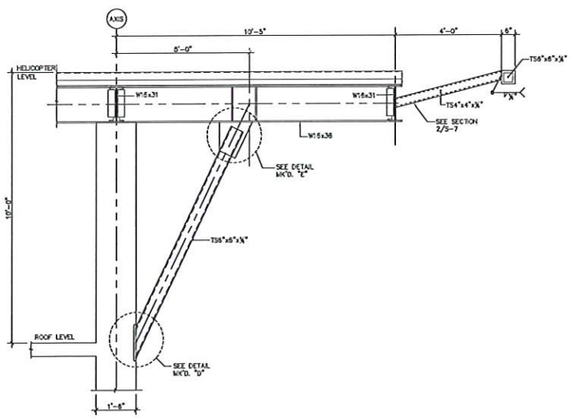


SECTION MK'D. 2/S-7

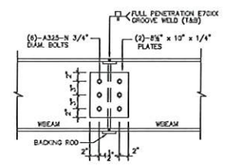
SCALE: ⅜"=1'-0"



SECTION MK'D. 3/S-7

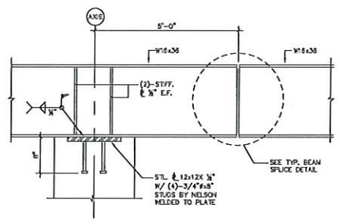
SCALE: ⅜"=1'-0"

TABLE "A"				
BEAM OR CHANNEL DEPTH (INCHES)	NO.OF 3/4" ø A-325 BOLTS (TOTAL)	CONNECTION ANGLES t	CONNECTION ANGLES L	MIN.FILLET WELD SIZE
36	20	3/8"	2'-6"	5/16"
24	12	3/8"	1'-6"	1/4"
21	10	3/8"	1'-3"	1/4"
18-18	8	3/8"	0'-12"	1/4"
12-14	8	3/8"	0'-8"	1/4"
8-10	4	3/8"	0'-7"	1/4"
6-7	2	3/8"	0'-5"	3/16"



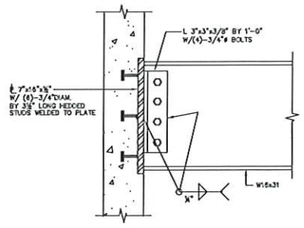
TYP. BEAM SPLICE DETAIL

SCALE: 1"=1'-0"



BEAM ELEVATION

SCALE: 1"=1'-0"



TYPICAL W16x31 CONN. DETAIL

SCALE: 1½"=1'-0"

ROBERT L. REXACH CINTRON
site engineer
JOSE M. GREEN, MSCE, P.E.
structural engineer
HENRY FIGUEROA
electrical engineer
BABILONIA ENGINEERING GROUP
mechanical engineer
Consultants

Dwg File Name:
0 4 0 4 A F 0 1
Year Project Sheet

Drawn by

Checked by
ING. JOSE M. GREEN

Date

No.	Revision	Date	By

Project

A.S.E.M. MAIN BUILDING REMODELING AND EXPANSION
PUERTO RICO MEDICAL CENTER
PHASE I: NEW LEVEL I EMERGENCY AND TRAUMA CENTER
PHASE II: NEW CLINICAL SERVICES BUILDING ANNEX AND ROOFTOP HELIPORT FACILITIES

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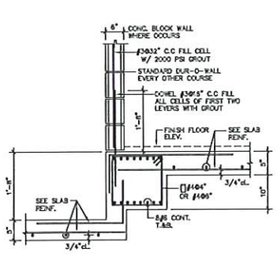
SHEET TITLE
HELIPORT STRUCTURAL DETAILS

DWG. NO.
S-7

ISSUE FOR CONSTRUCTION DATE MARCH 14-2007

P:\04-219 FI ASEM Main Building\DSTR\ APRIL 11 2007\S-7.dwg, 4/17/2007 3:09:13 PM



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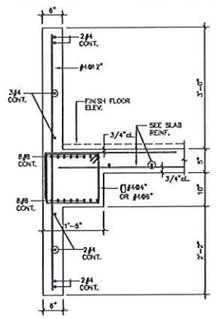

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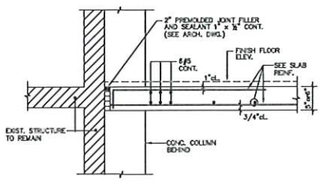

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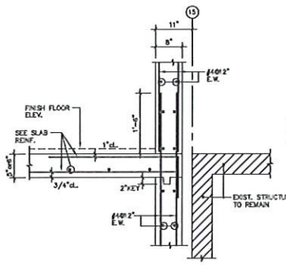

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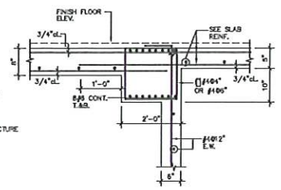

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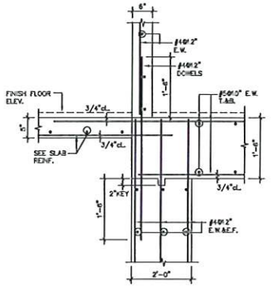

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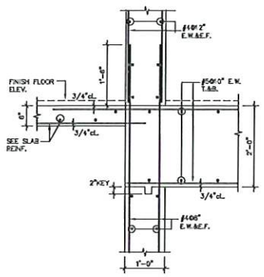

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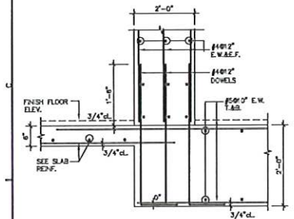

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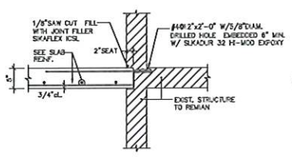

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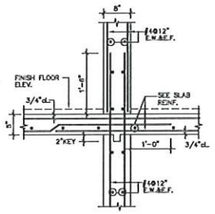

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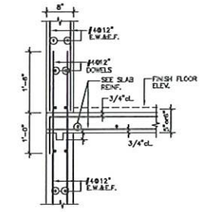

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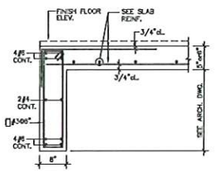

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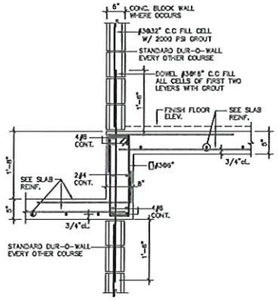

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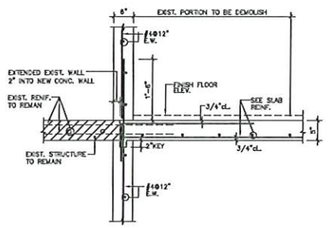

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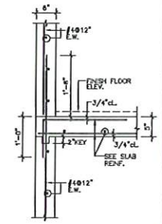

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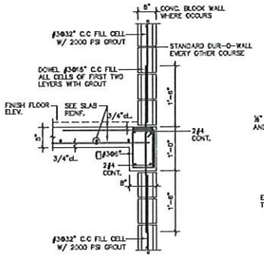

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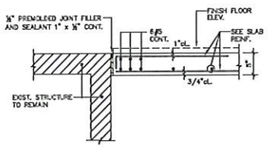

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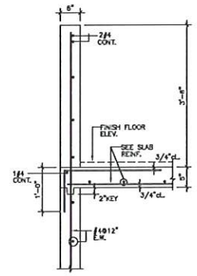

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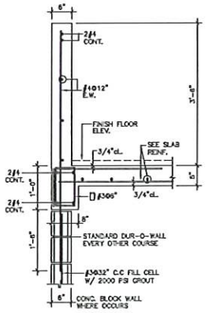

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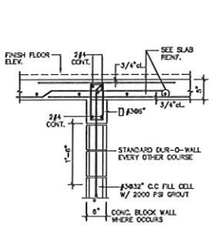

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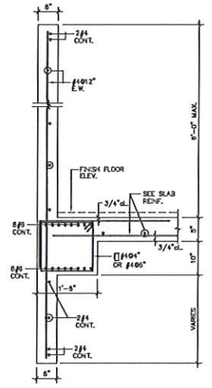

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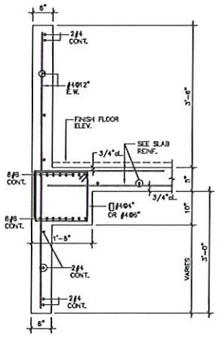

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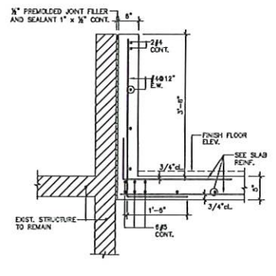

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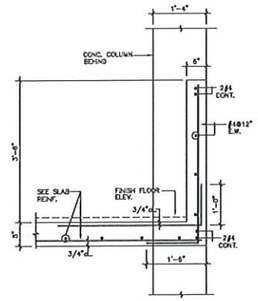

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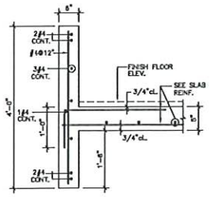

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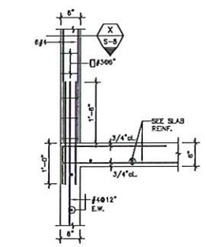

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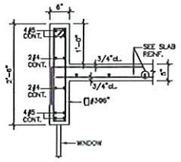

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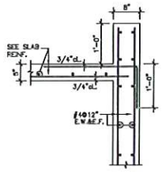

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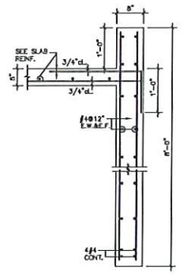

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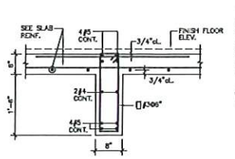

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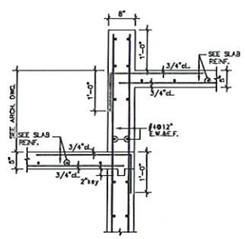

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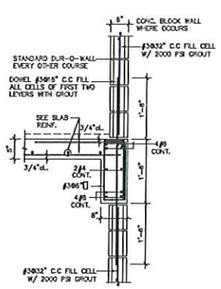

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Consultants

Dwg File Name:
0404AF01
Year Project Sheet
Drawn by
Checked by
ING. JOSE M. GREEN
Date

No.	Revision	Date	By
⚠	REVISION	APRIL 11,07	JAA

Project

A.S.E.M. MAIN BUILDING REMODELING AND EXPANSION
PUERTO RICO MEDICAL CENTER
PHASE I: NEW LEVEL I EMERGENCY AND TRAUMA CENTER
PHASE II: NEW CLINICAL SERVICES BUILDING ANNEX AND ROOFTOP HELIPORT FACILITIES

FERNANDO IRIZARRY ARCHITECTS, P.S.C.

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SHEET TITLE
STRUCUTRAL SECTIONS

DWG. NO.
S-8

ISSUE FOR CONSTRUCTION DATE MARCH 14-2007

P:\04-219 FI AGEM Main Building\STR DWGS\STR- APRIL 11 2007\S4.dwg, 4/17/2007 3:57:48 PM

ABBREVIATION

SYMBOL	DEFINITION
@	AT
A.B.	ANCHOR BOLT
ACI	AMERICAN CONCRETE INSTITUTE
ADD.	ADDITION
AGGR.	AGGREGATE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ALT.	ALTERNATE
ASSN.	ASSOCIATION
APPROX.	APPROXIMATELY
ARCH.	ARCHITECTURAL
ASTM	AMERICAN STANDARD FOR TESTING AND MATERIALS
AWS	AMERICAN WELDING SOCIETY
B	BOTTOM
BET.	BETWEEN
BLDG.	BUILDING
BM.	BEAM
CAT.	CATALOG
CGS	CENTROID OF TENDON
C/P	CAST-IN-PLACE CONCRETE
CJ	CONSTRUCTION JOINT
CL	CENTERLINE
CLG.	CEILING
CLR.	CLEAR
CMU	CONCRETE MASONRY UNIT
CO.	COMPANY
COEF.	COEFFICIENT
COL.	COLUMN
CONC.	CONCRETE
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
CTR.	CENTER
CU.FT.	CUBIC FEET
CU.IN.	CUBIC INCH
CU.YD.	CUBIC YARD
d_b	BAR DIAMETER
DBL.	DOUBLE
DET.	DETAIL
DIA.	DIAMETER
DIAG.	DIAGONAL
DIM.	DIMENSION
DL	DEAD LOAD
DN.	DOWN
DO.	DITTO
DWG(S)	DRAWNG(S)
EA.	EACH
E.F.	EACH FACE
EL.	ELEVATION
ELEV.	ELEVATOR
ENGR.	ENGINEER
ENGRG.	ENGINEERING
EQ.	EQUAL
E.S.	EACH SIDE
E.W.	EACH WAY
E-W	EAST-WEST
EXT.	EXTERIOR
F.D.	FLOOR DRAIN
FDN.	FOUNDATION
F.F.	FINISH FLOOR
F.G.	FINISH GRADE
FIG.	FIGURE
FIN.	FINISH
FLR.	FLOOR
F.O.	FACE OF
F.O.M.	FACE OF MASONRY
FTG.	FOOTING
GA.	GAGE
GALV.	GALVANIZED
GB.	GRADE BEAM
HORIZ.	HORIZONTAL
I.D.	INSIDE DIAMETER
IN.	INCH(ES)
INCL.	INCLUDE
INFO.	INFORMATION
INT.	INTERIOR
JT.	JOINT
K K/FT, K/'	KIP (1,000 LBS) KIPS PER FOOT
LAB.	LABORATORY
LG.	LONG
LIN.	LINEAR
LL	LIVE LOAD
LT.WT.	LIGHT WEIGHT
MB	MACHINE BOLT
MD	MID-DEPTH
MATL.	MATERIAL
MAX.	MAXIMUM
MECH.	MECHANICAL
MEMB.	MEMBRANE
MFR.	MANUFACTURER
MIN.	MINIMUM
MISC.	MISCELLANEOUS
NO., #	NUMBER
N-S	NORTH-SOUTH
N.T.S.	NOT TO SCALE
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
O.F.	OUTSIDE FACE
OPNG.	OPENING
OPP.	OPPOSITE
ORIG.	ORIGINAL
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POST-TENSIONING
R.	RADIUS
R.D.	ROOF DRAIN
REF.	REFERENCE
REINF.	REINFORCE(D) / REINFORCING
REQ.	REQUIRED
RM.	ROOM
S.A.D.	SEE ARCHITECTURAL DRAWNGS
SEAONC	STRUCTURAL ENGINEERS ASSOCIATION OF NORTHERN CALIFORNIA
SECT.	SECTION
SHT.	SHEET
SIM.	SIMILAR
SJ	SLAB JOINT
SOG	SLAB-ON-GRADE
SPECS.	SPECIFICATIONS
SQ.	SQUARE
STAG.	STAGGER(ED)
STD.	STANDARD
STL.	STEEL
STR.	STRAIGHT
SYM.	SYMMETRICAL
T	TOP
TS	STRUCTURAL TUBE
TYP.	TYPICAL
UBC	UNIFORM BUILDING CODE
UNO	UNLESS NOTED OTHERWISE
W/	WITH
WJ	WALL JOINT
W.P.M.	WATERPROOF MEMBRANE

GENERAL NOTES

1. **SHORING:** IT SHALL BE THE CONTRACTOR'S SOLE RESPONSIBILITY TO DESIGN AND PROVIDE ADEQUATE SHORING, BRACING, AND FORMWORK AS REQUIRED FOR THE PROTECTION OF LIFE AND PROPERTY DURING THE CONSTRUCTION OF THIS BUILDING. EXCESS LOAD CAPACITY OF SLAB SHALL NOT EXCEED LOADS EQUIVALENT TO THE DESIGN SUPERIMPOSED LOADS LESS CONSTRUCTION DEAD AND LIVE LOADS. DESIGN SUPERIMPOSED LOADS INCLUDE LIVE LOAD, PARTITION LOAD, AND ANY OTHER LOAD NOT IN PLACE AT THE TIME OF SHORING.
2. **EXCAVATION:** THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL EXCAVATION PROCEDURE INCLUDING LAGGING, SHORING, AND PROTECTION OF ADJACENT PROPERTY, STRUCTURES, STREETS AND UTILITIES IN ACCORDANCE WITH THE LOCAL BUILDING DEPARTMENT.
3. **BACKFILL:** BACKFILL AROUND THE EXTERIOR PERIMETER OF WALL SHALL NOT BE PLACED UNTIL AFTER THE WALLS ARE SUPPORTED BY THE COMPLETION OF INTERIOR FLOOR SYSTEMS. DO NOT PROCEED WITH BACKFILL UNTIL SEVEN (7) DAYS AS A MINIMUM AFTER THE COMPLETION OF INTERIOR FLOOR SYSTEMS UNLESS WALLS ARE ADEQUATELY BRACED. BACKFILL SHALL NOT BE PLACED UNTIL AFTER COMPLETION AND INSPECTION OF WATERPROOFING WHERE WATERPROOFING OCCURS.
4. **BRACING:** TEMPORARY BRACING SHALL BE PROVIDED AS REQUIRED TO HOLD ALL COMPONENTS OF THE STRUCTURE IN PLACE UNTIL FINAL SUPPORT IS SECURELY ANCHORED.

INSPECTION

1. **GENERAL:** IN ADDITION TO THE INSPECTIONS REQUIRED BY SECTIONS 106 AND 1701 OF THE UBC-97, THE OWNER SHALL EMPLOY A SPECIAL INSPECTOR DURING CONSTRUCTION ON THE TYPES OF WORK DESCRIBED IN THIS SECTION.
2. **CONCRETE:** DURING THE TAKING OF TEST SPECIMENS AND PLACING OF ALL REINFORCED CONCRETE AND PNEUMATICALLY PLACED CONCRETE.
3. **REINFORCING STEEL AND PRESTRESSING STEEL:**
   - A. DURING ALL STRESSING AND GROUTING OF PRESTRESSED AND POST-TENSIONED CONCRETE. THE SPECIAL INSPECTION SHALL INCLUDE RECORDING OF FIELD-MEASURED ELONGATION AND JACKING FORCE FOR EACH TENDON.
   - B. DURING THE PLACING OF REINFORCING STEEL, TENDONS AND PRESTRESSING STEEL FOR ALL STRUCTURAL CONCRETE. TENDON PLACEMENT AND INTEGRITY OF THE PROTECTIVE WRAPPING FOR POST-TENSIONED TENDONS SHALL BE INSPECTED PRIOR TO PLACEMENT OF CONCRETE.

ALL SPECIAL INSPECTION REPORTS SHALL BE SIGNED AND SEALED BY A LICENSED ENGINEER.

STRUCTURAL OBSERVATION AS REQUIRED BY SECTION 1702 FOR SEISMIC ZONE 3 AND OCCUPANCY CATEGORY 3

LEGEND:

- R/C WALL OR COL. ABOVE & BELOW
- R/C WALL OR COL. ABOVE ONLY
- R/C WALL OR COL. BELOW ONLY
- DENOTES BEAM BELOW
- DENOTES EXISTING WALL
- DENOTES BLOCK WALL (SEE NOTE 1 A3)
- C.J. CONSTRUCTION JOINT
- C.S.C.J. CONTROL SAW CUT JOINT
- E.J. EXPANSION JOINT
- F-1 FOOTING NUMBER
- t=4" SLAB THICKNESS
- TYP. TYPICAL
- CONT. CONTINUOUS
- CL. CLEAR
- E.W. BOTH WAYS
- E.F. EACH FACE
- B/W BLOCKS WALL
- C/W CONCRETE WALL
- (T) TOP REINFORCEMENT
- (B) BOTTOM REINFORCEMENT
- (TEMP.) TEMPERATURE REINFORCEMENT
- (U.O.N.) UNLESS OTHERWISE NOTED
- DENOTES MOMENT CONNECTION.
- DENOTES SHEAR CONNECTION.

NET UPLIFT (PSF)			
	TRIBUTARY AREA (S.F.)		
ZONE	+109	-110	
I	-83	.86	
II	-93	-127	
III	-81/93	-86/166	
V	-81/93	-111/166	
Min Down Force = 25 PSF (All locations)			

GENERAL NOTES (cont'd)

GENERAL NOTES

1 – THE FOLLOWING NOTES SHALL APPLY TO ALL STRUCTURAL PLANS UNLESS OTHERWISE SHOWN THEREIN.

2 – THE CONTRACTOR SHALL NOTIFY THE STRUCTURAL ENGINEERS OF ANY DISCREPANCY AND/OR OMISSION WITH RESPECT TO THE ARCH, ELECTRICAL, MECHANICAL AND PLUMBING DRAWINGS.

3 – HORIZONTAL MOVEMENT OF ANY EQUIPMENT OVER THE STRUCTURAL FLOORS OR ROOF AND ITS TEMPORARY AND/OR DEFINITE LOCATIONS MUST BE PREVIOUSLY APPROVED BY THE ENGINEER TO AVOID OVERLOADING OR IMPAIRMENT OF THE STRUCTURE. THE SAME PRECAUTIONS SHALL BE TAKEN FOR THE PILING OF CONSTRUCTION MATERIALS.

A - CONCRETE NOTES:

1 – CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF THE 1997 EDITION OF THE UNIFORM BUILDING CODE WITH AMENDMENTS, FOLLOWING THE ULTIMATE STRENGTH DESIGN THEORY.

2 – CONCRETE QUALITY SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED:

CONCRETE USE	STRENGTH 28 DAY	SLUMP	W/C RATIO	AIR	AGGREGATE SIZE	AGGREGATE TYPE
a. EXTERIOR walks AND CURBS	3,000	6	0.7	---	1 1/2"	HARD ROCK
b. GRADE SLAB	3,000	6	0.7	---	1"	HARD ROCK
c. ELEVATED SLAB	4,000	6	0.6	---	1"	HARD ROCK
e. TIE BEAMS	3,000	6	0.7	---	1 1/2"	HARD ROCK
f. CONT. & ISOLATED FOOTINGS	3,000	4	0.6	---	1 1/2"	HARD ROCK
g. COLUMNS AND SHEAR WALLS	4,000	4	0.55	---	3/4"	HARD ROCK

General Contractor Shall submit to the structural engineer of record the concrete mix design and reinforcement fabrication and placement shop drawings for review. No Concrete shall be pour without this submittal review.

3 – ADMIXTURES OR CONCRETE CONTAINING CHLORIDES SHALL NOT BE USED ANY WHERE IN THE PROJECT.

4 – ALL CONCRETE SLABS AND CORRESPONDING BEAMS, CURBS AND APRONS SHALL BE CASTED MONOLITHICALLY.

5 – CONCRETE PROTECTION FOR STEEL BARS:

CONCRETE DEPOSITED AGAINST SOIL ____ 3"
CONCRETE EXPOSE TO WEATHER :
No. 5 AND SMALLER ________ 1-1/2"
No. 6 AND LARGER ________ 2"
STRUCTURAL SLABS ________ 3/4"
BEAMS AND COLUMNS ________ 1 1/2"
WALLS, UNLESS OTHERWISE NOTED ____ 3/4"
SLAB ON FILL ________ 1" FROM TOP OF SLAB

6 – NO JOINT, OPENING, SLOT OR GROOVE OTHER THAN THAT SHOWN ON PLANS SHALL BE PERMITTED WITHOUT PREVIOUS APPROVAL BY THE DESIGNER.

7 – BEND AND EITHER MAKE CONTINUOUS OR OVERLAP WALL REINFORCEMENT AROUND CORNERS AS PER SPLICE LENGTH TABLE.

8 – CONDUITS AND PIPES EMBEDDED IN CONCRETE SHALL FOLLOW THE REQUIREMENTS OF SECTION 6.3 OF THE A.C.I 318 BUILDING CODE.

9 – ALL REINFORCING BARS, ANCHOR BOLTS AND OTHER CONCRETE INSERTS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE. (CAST IN PLACE)

B - REINFORCING STEEL NOTES:

1 – ALL REINFORCING STEEL BARS SHALL CONSIST OF NEW BILLET DEFORMED STEEL BARS CONFORMING TO A.S.T.M. A-706 or A-615, GRADE 60, IF Conditions on ACI 318-99 Sec 21.2.5 are met.
The General Contractor shall submit Mill Certificates to ascertain reinforcing steel bars, postensioning strands and structural steel capacity. Also Tensile Strength and percent elongation test from a local material testing laboratory. And placement & fabrication shop drawings. No Concrete shall be pour without this submittal review

2 – REINFORCING SPLICES SHALL BE MADE ONLY WHERE INDICATED ON THE DRAWINGS OR AT THE CENTERLINE OF SPAN. FOR SPLICE LENGTH SEE TABLE ON GENERAL DETAILS DRWG.
Y

3 – PROVIDE DOWELS IN FOOTINGS, EQUAL IN SIZE AND NUMBER TO VERTICAL REINFORCEMENT, SPLICE ABOVE FOOTING ACCORDING TO TENSION LAP LENGTH TABLE AND EXTENDING TO THE FOOTING BOTTOM WITH A STANDARD HOOK. SEE GENERAL DETAILS DRAWING

4 – PROVIDE AT ALL CONCRETE WALLS:

a) 2#5 VERTICAL AT EACH END FOR 6" WALLS AND 4#5 FOR 8" WALLS
b) 2#5 ALL AROUND OPENINGS, EXTENDING 2'-0" MINIMUM BEYOND EDGES
c) 1#6 DIAGONAL (45 DEG) BAR, AT 3" FORM EACH OPENING CORNER, 3'-0" LONG

5 – TEMPERATURE REINFORCEMENT SHALL BE PROVIDED IN ALL ONE – WAY SLABS NORMAL TO THE PRINCIPAL REINFORCEMENT IN ACCORDANCE WITH A.C.I. 318-99 BLDG CODE

6 – BARS MARKED (T) SHALL BE PLACED AT THE TOP OF THE SLABS; BARS MARKED (B) SHALL BE PLACED AT THE BOTTOM OF THE SLABS.

7 – THE MINIMUM REINFORCEMENT FOR 6" CONCRETE WALLS SHALL CONSIST OF #4 @ 12" E.W. AND FOR 8" WALLS # 4 @ 10" E.W.

8 – ALL REINFORCING WELDED WIRE FABRIC SHALL BE IN ACCORDANCE WITH A.S.T.M. A-185 GRADE 60. MINIMUM SPLICE SHALL BE 6" OR ONE FULL MESH, WHICH EVER IS GRATER.

9 – MASONRY WALLS HORIZONTAL REINF. SHALL BE EQUAL OR SIMILAR TO DUR-O-WALL TRUSS DESIGN GAGE 9, SAID REINF. SHALL BE INSTALLED IN THE FIRST AND SECOND BED JOINTS, (8" APART); IMMEDIATELY ABOVE LINTELS AND SILLS; AT OPENINGS; AND AT 16" VERTICAL INTERVALS ELSEWHERE, U.O.N.

10 – ALL WELDING PERFORMED ON STEEL BARS SHALL CONFORM TO "RECOMMENDED PRACTICES FOR WELDING REINFORCING STEEL METAL INSERTS AND CONNECTIONS IN REINF. CONC. CONSTRUCTION", (AWS D 1.4-92).

C - FOUNDATION SYSTEM NOTES:

1– FOUNDATIONS HAVE BEEN DESIGNED FOLLOWING THE RECOMMENDATIONS OF *GMTS* IN THEIR REPORT DATED *SEPTEMBER 26, 1995 JOB # 6050712.*

2 – FOUNDATION DATA :
At Mat Foundation: Qa = 3500 PSF, Df = 8'-0" FT, Ks = 175 KCF
Back Fill at Walls: Wt = 130 PCF, # = 30 DEG, C = 0 PSF, Ko = 0.9, Ka = 0.3
At Ambulance Parking Qa = 2,000, cl = 2'-0", kc = 75 kct

EXCAVATE AND REMOVE EXISTING SOILS TO 8'-0" BELOW EXISTING GROUND THEN BACK FILL AREA WITH A-2-4 COMPACTED TO 95% OF ITS MAXIMUM DRY DENSITY ASTM D1557 IN LIFTS OF 8" MAX. TO THE BOTTOM OF FOUNDATION ELEVATION, FOLLOWING SOIL REPORT RECOMMENDATIONS.

3 – THE CONTRACTOR SHALL VERIFY THE SOIL BEARING CAPACITY USED FOR THE DESIGN OF THE FOUNDATION SYSTEM, PRIOR TO ANY PLACEMENT OF CONCRETE.

4 – THE SOIL INVESTIGATION REPORT IS PART OF THESE NOTES AND ITS RECOMMENDATIONS MUST BE CAREFULLY OBSERVED.

5 – ANY LINE DRAWN FROM ANY BOTTOM EDGE OF A FOOTING, HAVING A SLOPE OF 1 VERTICALLY AND 2 HORIZONTALLY, SHALL LIE ENTIRELY ON UNDISTURBED SOIL OF AN ALLOWABLE BEARING PRESSURE AS SPECIFIED IN NOTE C-2.

6 – FILL UNDER THE GROUND FLOOR SHALL BE COMPACTED AS TO ATTAIN 95% OF ITS MODIFIED PROCTOR TEST, IN 8" LIFTS.

7 – CONTRACTOR SHALL PROVIDE FOR DESIGN AND INSTALLATION OF ALL CRIBBING, SHEATHING AND SHORING REQUIRED TO SAFELY RETAIN THE EARTH BANKS.

8 – ALL EXCAVATIONS SHALL BE PROPERLY BACK FILLED. DO NOT PLACE BACK FILL BEHIND RETAINING WALLS BEFORE CONCRETE HAS ATTAINED FULL DESIGN STRENGTH. CONTRACTOR SHALL BRACE AND PROTECT ALL BUILDING'S PIT WALLS BELOW GRADE FROM LATERAL LOADS UNTIL ATTACHED FLOORS ARE COMPLETELY IN PLACE AND HAVE ATTAINED FULL STRENGTH. CONTRACTOR SHALL PROVIDE FOR DESIGN, PERMITS AND INSTALLATION OF SUCH BRACING.

(CONT. FOUNDATION NOTES)

9. CONTRACTOR SHALL PROVIDE FOR DE-WATERING OF EXCAVATIONS FROM EITHER SURFACE WATER, GROUND WATER OR SEEPAGE.

10. FOOTINGS SHALL BE PLACED AND ESTIMATED ACCORDING TO DEPTHS SHOWN ON DRAWINGS. SHOULD SOIL ENCOUNTERED AT DEPTH SHOWN NOT BE SUITABLE FOR BEARING, DEPTH SHALL BE INCREASED PER SOILS REPORT RECOMMENDATION, SEE NOTE NO. 1.

11. ALL FOUNDATIONS MUST BE PLACED ON GOOD AND/OR UNDISTURBED SOIL UNLESS NOTED OTHERWISE UNSATISFACTORY SOIL MUST BE REMOVED AND REPLACED WITH SELECTED FILL MATERIAL AS PER SOIL REPORT RECOMMENDATIONS.

12. A PROFESSIONAL GEOTECHNICAL ENGINEER LICENSED IN PUERTO RICO SHALL OBSERVE COMPLIANCE WITH SOIL REPORT. THE GEOTECHNICAL ENGINEER SHALL DETERMINE WHETHER THE SOIL IN WHICH THE FOUNDATIONS SHALL BE POURED IS AN ADEQUATE SOIL IN THE EVENT THAT SUBSURFACE CONDITIONS DIFFER FROM THOSE ANTICIPATED PRIOR TO START OF CONSTRUCTION. IF SOIL IS NOT ADEQUATE, THE CONTRACTOR SHALL CONTINUE TO EXCAVATE UNTIL THE ADEQUATE ALLUVIUM SOIL HAS BEEN REACHED.

13. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO ACTUAL CONSTRUCTION. ANY CONFLICT WITH DETAILS OR NOTES SHALL BE BROUGHT TO THE ATTENTION OF THE DESIGN ENGINEER FOR CLARIFICATION.

14. ALL CONSTRUCTION, EXCAVATION AND/OR DEMOLITION SHALL BE MADE IN SUCH A WAY AS NOT TO IMPAIR THE STRENGTH, STABILTY OR USE OF ANY EXISTING STRUCTURE TO REMAIN.

15. FILL MATERIAL SHALL BE SELECTED FILL MATERIAL AND COMPACTED TO A MINIMUM OF 95% MODIFIED PROCTOR TEST, IN LIFTS OF 8" OR LESS, SEE NOTE NO. 1.

E - MASONRY (CONCRETE BLOCK)

1 – CONCRETE BLOCK SHALL BE HOLLOW LOAD-BEARING CONCRETE MASONRY UNITS C90. USE OPEN END UNITS FOR STACKED BOND PATTERN AND BOND BEAM UNITS AT HORIZONTAL REINFORCING.

2 – CEMENT SHALL BE AS SPECIFIED FOR CONCRETE.

3 – REINFORCING BARS – SEE NOTES UNDER "REINFORCING STEEL" FOR REQUIREMENTS ASTM 615 GRADE 60, EXCEPT AS NOTED.

4 – MORTAR MIX SHALL CONFORM TO REQUIREMENTS FOR P.R. BUILDING CODE TABLE IV-F-2.3a TYPE S, AND PROJECT SPECIFICATIONS. MORTAR SHALL ATTAIN A COMPRESSIVE STRENGTH OF 1800 PSI AT 28 DAYS. ADMIXTURE SHALL BE APPROVED BY STRUCTURAL ENGINEER.

5 – GROUT SHALL CONFORM TO REQUIREMENTS OF SECTION IV-F-4.0 OF P.R. BUILDING CODE FOR COARSE GROUT. COARSE GROUT SHALL HAVE A MINIMUM OF ONE PART OF FEA GRAVEL FOR ESSENTIAL BUILDINGS. USE SUFFICIENT WATER FOR GROUT TO FLOW INTO ALL JOINTS OF THE MASONRY WITHOUT SEGREGATION. ADD GROUT AID WITH A COMPRESSIVE STRENGTH OF 2000 PSI AT 28 DAYS.

6 – PROVIDE A MINIMUM OF 1/2 IN. GROUT BETWEEN MAIN REINFORING AND MASONRY UNITS.

7 – LOW LIFT CONSTRUCTION, MAXIMUM GROUT POUR HEIGHT IS 4 FT.

8 – REINFORCED CELLS IN CONCRETE BLOCKS SHALL BE FILLED SOLID WITH GROUT, EXCEPT AS NOTED IN THE DRAWINGS OR SPECIFICATIONS.

9 – CELLS SHALL BE IN VERTICAL ALIGNMENT. DOWELS IN FOOTING OR SLAB SHALL BE SET TO ALIGN WITH CORES CONTAINING REINFORING STEEL.

10 – REFER TO ARCHITECTURAL DRAWINGS FOR SURFACE AND HEIGHT OF UNITS, LAYING PATTERN AND JOINT TYPE.

11 – DESIGN COMPRESSIVE STRENGTH OF CONCRETE MASONRY CONSTRUCTION SHALL BE 1,350 PSI.

F - DESIGN DATA

1 – THE FOLLOWING REFERENCE DOCUMENTS, THEIR COMMENTARIES, AND THE STANDARDS REFERENCED THEREIN, APPLY TO THE DESIGN, FABRICATION AND CONSTRUCTION PRACTICES TO BE ADHERED TO WITH REGARD TO THE WORK SHOWN ON THE DRAWINGS.
a) Uniform Building Code, 1997 Ed
b) P.R. Building Code, As Amended on Dic 8, 1999
c) Building Code Requirements for Reinforce Concrete, ACI 318-99
d) Building Code Requirements for Masonry Structures ACI 530-95
e) Manual of Standard Practice for Detailing Reinforced Concrete Structures
f) AISC Manual of Steel Construction, ASD 9th Ed.
g) AISW Structural Welding Code (D1.1-92)
h) Standard Specification For Open Web Steel Joist -- (Latest Edition)
i) Standard Specification For Long Span Steel Joist -- (Latest Edition)
j) Timber Construction Manual

2 – DESIGN LOADS

LIVE LOADS:

ROOF AREAS	---	50 PSF
HELIDECK	---	100 PSF + 19k HELICOPTER
OFFICE AREAS	---	50 PSF
STAIRS	---	100 PSF
CORRIDORS	---	100 PSF
MECHANICAL AREAS	---	100 PSF
EARTH QUAKE LAOD	---	AS PER P.R. BLDG. CODE + UBC-97 ZONE II
WIND LOAD	---	AS PER ASCE 7-95 (V = 125 MPH)
SOIL BEARING CAPACITY	---	3,500 PSF and 100 PSF

ALL EXTERIOR WINDOWS AND DOORS AND ITS CONNECTIONS TO THE STRUCTURE SHALL BE CAPABLE TO RESIST A MINIMUM PRESSURE OF -81 / 50 PSF AND BE CERTIFY TO COMPLY WITH ASCE 7-95 WIND LOADS AND RESIST WIND-BORNE DEBRIS.

ROBERT L. REXACH CINTRON, site engineer
JOSE M. GREEN, MSCE, P.E., structural engineer
HENRY FIGUEROA, electrical engineer
BABILONIA ENGINEERING GROUP, mechanical engineer
Consultants

Dwg File Name: 0404AF01
Year Project Sheet
Drawn by
Checked by: ING. JOSE M. GREEN
Date

No.	Revision	Date	By
1	REVISION	APRIL 11,07	JMG

Project

A.S.E.M. MAIN BUILDING REMODELING AND EXPANSION
PUERTO RICO MEDICAL CENTER
PHASE I: NEW LEVEL I EMERGENCY AND TRAUMA CENTER
PHASE II: NEW CLINICAL SERVICES BUILDING ANNEX AND ROOFTOP HELIPORT FACILITIES

FERNANDO IRIZARRY ARCHITECTS, P.S.C.

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SHEET TITLE: GENERAL NOTES

DWG. NO. S-9

ISSUE FOR CONSTRUCTION DATE MARCH 14-2007

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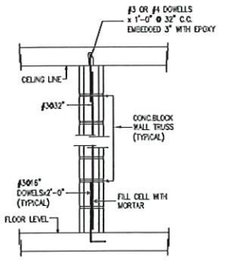
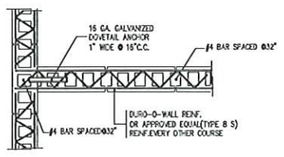
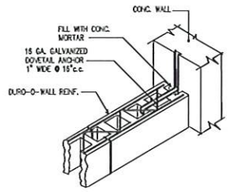


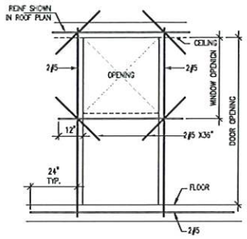
CONC. BLOCK WALL
REINFORCEMENT DETAIL
N.T.S.



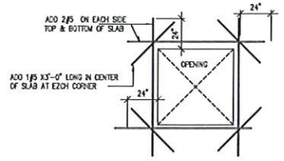
MASONRY WALL HORIZONTAL
REINFORCEMENT DETAIL
N.T.S.



BLOCK WALL TO CONC.
WALL ANCHORANGE DETAIL
N.T.S.



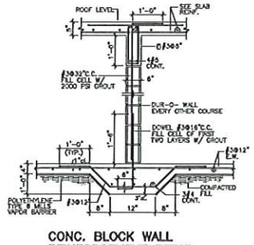
CONCRETE WALL OPENING
REINFORCEMENT
N.T.S.



REINF. AT SLAB OPENING
N.T.S.

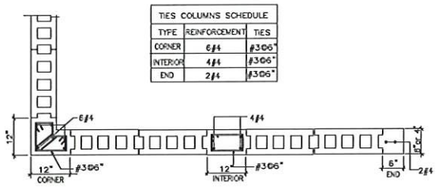
NOTES:
1-FOR OPENING LESS THAN 12"
SQUARED CNIT ADDED REINF. &
BEND SLAB STEEL AROUND

2-ADDITIONAL BARS SHALL BE
ADDED
AT THE SIDES OF THE OPENING
EQUIVALENT TO THE INTERRUPTED
STELL AREA

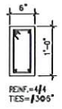


CONC. BLOCK WALL
REINFORCEMENT DETAIL
N.T.S.

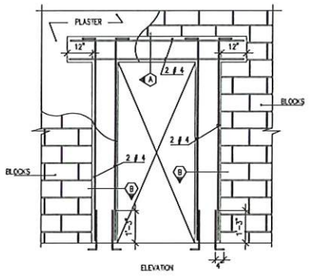
TIES COLUMNS SCHEDULE		
TYPE	REINFORCEMENT	TIES
CORNER	6#4	#3@6"
INTERIOR	4#4	#3@6"
END	2#4	#3@6"



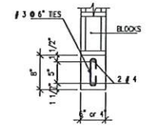
TIE-COLUMNS FOR BLOCK WALLS
N.T.S.



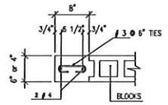
TIE BEAM & TIE COL. REINF
SCALE: 3/4"=1'-0"
NOTES:
1-THE TIE-COLUMNS SPACING SHALL NOT EXCEED 16"-0"
2-THE TIE-BEAMS SPACING SHALL NOT EXCEED 10'-0"



TYPICAL WALL OPENING REINFORCEMENT
N.T.S.



SECTION "A"



SECTION "B"

LAP SPLICE SCHEDULE						
TENSION LAP SPLICE LENGTH (in)						
BAR SIZE	f'c= 3,000 P.S.I.		f'c= 4,000 P.S.I.		f'c= 5,000 P.S.I.	
	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS	TOP BARS	OTHER BARS
#3	23	22	23	18	22	17
#4	38	29	33	25	29	22
#5	47	36	40	31	35	27
#6	56	43	49	38	44	34
#7	81	62	69	53	62	48
#8	94	72	79	61	72	55
#9	106	81	90	69	78	61
#10	118	91	101	78	90	69
#11	131	101	112	86	100	77



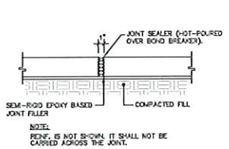
TYPE B & C BEAM HOOPS
AND REGULAR COLUMN TIES



TYPE B & C BEAM HOOPS,
COL CONFINEMENT TIES
AND BEAM-COLUMN JOINT
TIES

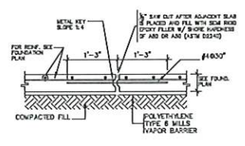


ACI 90 ° STANDARD HOOK

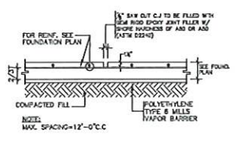


NOTE:
REINF. IS NOT SHOWN. IT SHALL NOT BE
CARRIED ACROSS THE JOINT.

TYPICAL ISOLATION JOINT DETAIL
SCALE : 3/4"=1'-0"

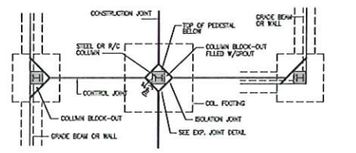


TYPICAL CONSTRUCTION JOINT DETAIL
SCALE : 3/4"=1'-0"



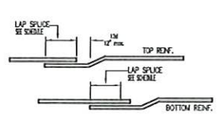
NOTE:
MAX. SPACING=12'-0"C.C

TYPICAL CONTROL JOINT
SCALE : 3/4"=1'-0"

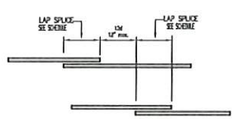


EXTERIOR COLUMN INTERIOR COLUMN CORNER COLUMN

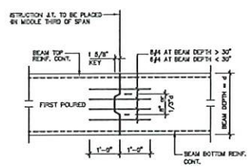
TYPICAL SLAB BLOCK-OUT AT COLUMNS
SCALE : N.T.S.



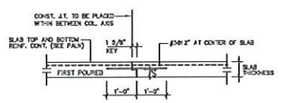
BEAM SPLICE DETAIL
N.T.S.



WALL OR SLAB DETAIL
N.T.S.



BOUNDARY BEAM CONSTRUCTION JOINT



TYPICAL CONSTRUCTION JOINT IN SLAB

TYPICAL MATFOUNDATION CONSTRUCTION JOINT DETAILS
NOT TO SCALE

NOTES:
1- PRIOR TO POURING CONCRETE AGAINTS THE HARDENED CONCRETE, THE SURFACE SHALL BE CLEAN, FREE OF LOOSE MATERIAL & INTENTIONALLY ROUGHENED TO A FULL AMPLITUDE OF 1/4" APPROX.
2- CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS IN ORDER TO COMPLETELY FILL THE CONSTRUCTION KEY AT BEAM.
3- MAT FOUNDATION CONSTRUCTION JOINT BETWEEN GRID LINES. CONTRACTOR SHALL PROVIDE JOINT LAYOUT FOR ENG. APPROVAL



TRANSVERSE REINFORCEMENT DETAIL,S

NOTES:
1) TYPE A HOOKS SHALL BE USED WHEN THE DESIGNATION LETTER IS OMITED IN BEAM DETAILS.
2) EXCEPT WHERE OTHERWISE INDICATED THE FIRST HOOP AT EACH END SHALL BE PLACED AT 2" FROM THE FACE TOF THE SUPPORT

ROBERT L. REXACH CINTRON
site engineer
JOSE M. GREEN, MSCE, P.E.
structural engineer
HENRY FIGUEROA
electrical engineer
BABILONIA ENGINEERING GROUP
mechanical engineer
Consultants

Dwg File Name:
04 04 AF 01
Year Project Sheet
Drawn by
Checked by
ING. JOSE M. GREEN
Date

No.	Revision	Date	By

Project

A.S.E.M. MAIN BUILDING REMODELING
AND EXPANSION
PUERTO RICO MEDICAL CENTER
PHASE I: NEW LEVEL I EMERGENCY AND TRAUMA CENTER
PHASE II: NEW CLINICAL SERVICES BUILDING ANNEX AND ROOFTOP
HELIPORT FACILITIES

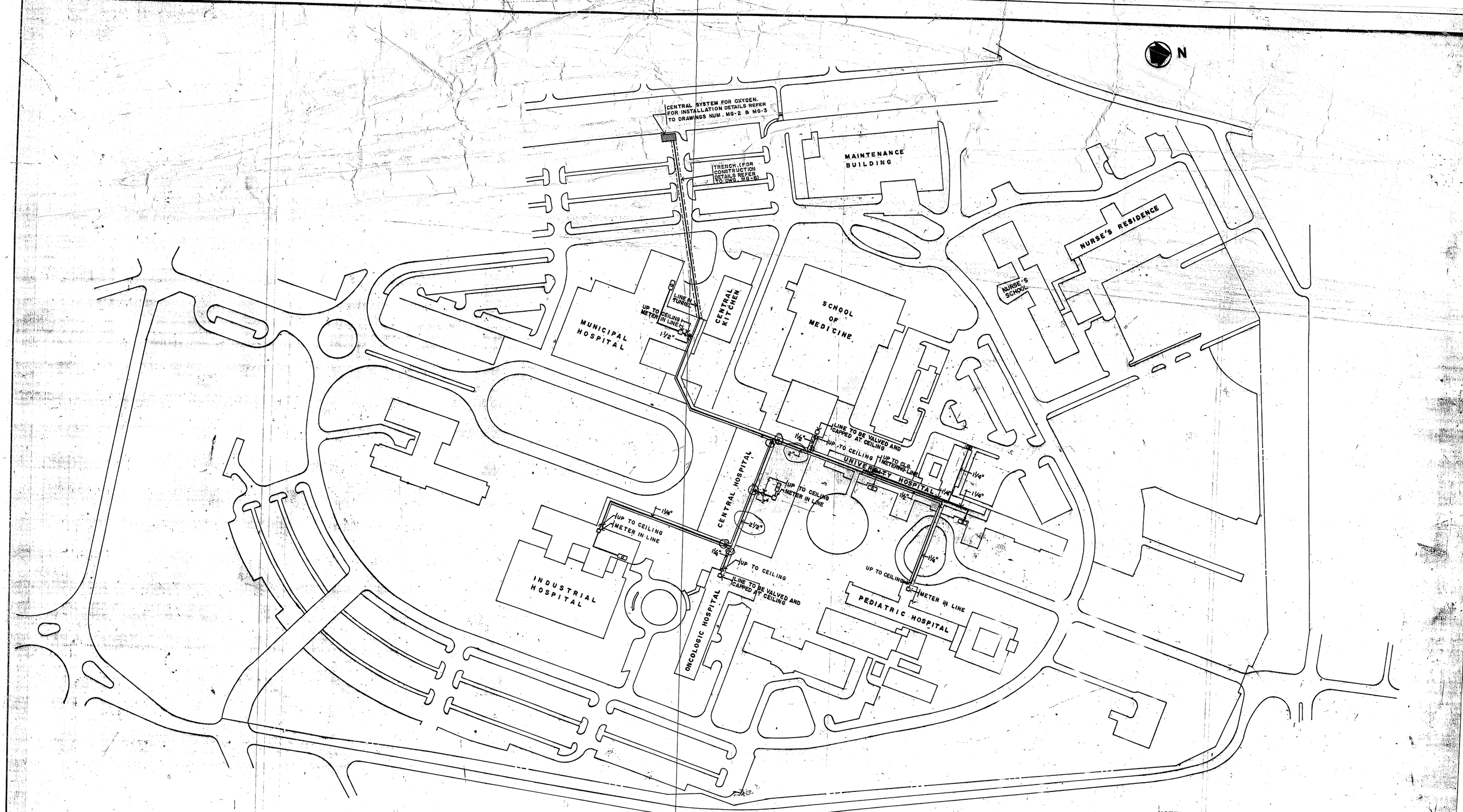
FERNANDO IRIZARRY
ARCHITECTS, P.S.C.
PO BOX 191939 SAN JUAN PR 00919-1939
TEL. (787) 754-2929 FAX (787) 765-2929
OFFICE: #1 BALDORIOTY ST. SUITE 1 GUAYNABO PR 00969
E-mail: arch@coqui.net

THIS DRAWING IS AN INSTRUMENT OF SERVICE AND IS THE PROPERTY OF THE OFFICE OF FERNANDO IRIZARRY ARCHITECTS, P.S.C. AND MAY NOT BE USED AS AN INSTRUMENT OF WORK IN PROJECTS ONLY AUTHORIZED BY THE OFFICE OF FERNANDO IRIZARRY ARCHITECTS. NO PART OF THESE DRAWINGS MAY BE REPRODUCED IN ANY FORM.

SHEET TITLE
TYPICAL DETAILS
DWG. NO.
S-10

ISSUE FOR CONSTRUCTION DATE MARCH 14-2007

P:\04-319 FI AGEM Main Building\DTR DWGS\DTR- APRIL 11 2007\S-10.dwg, 4/17/2007 2:10:47 PM



NOTES:
X - ZONE VALVE
[O] - OXYGEN BANK

GENERAL OXYGEN SYSTEM LAYOUT SCALE: 1" = 100'-0"
SITE

C. VALENCIA VECCHINI & ASSOCIATES
CONSULTING ENGINEERS
SAN JUAN, PUERTO RICO

DESIGNED: C. V. V.
DRAWN: J. C. L.
CHECKED: C. V. V.

CENTRAL OXYGEN SYSTEM FOR PUERTO RICO MEDICAL CENTER
RIO PIEDRAS, PUERTO RICO

CORPORACION DE SERVICIO
DEL CENTRO MEDICO DE PR.

LOCATION: BO. MONACILLOS P.R.

SCALE: 1"= 100'-0"

DRAWN BY: S. GUTIERREZ

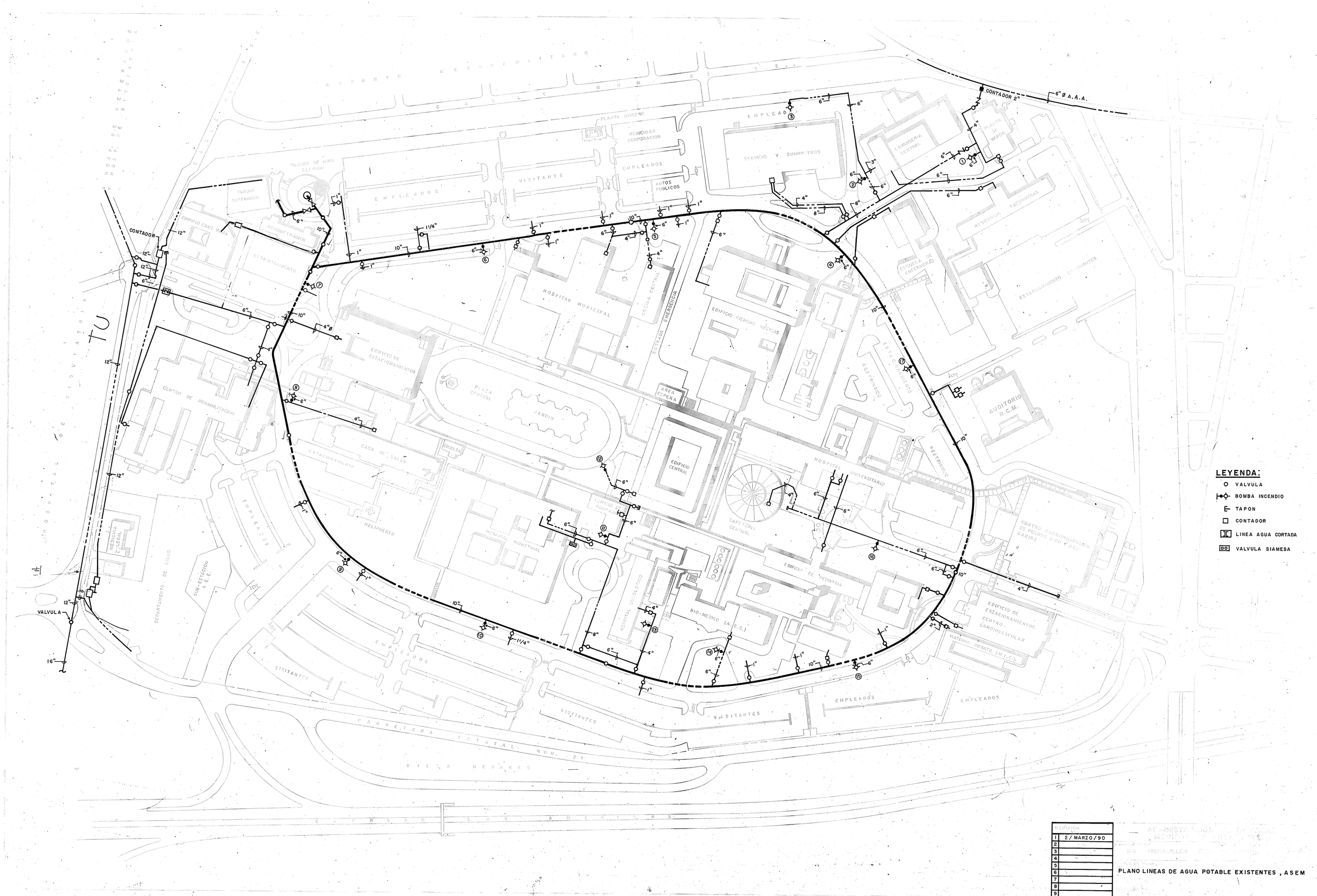
REVISED: N. RAMOS

TITLE: DIST. LINEAS SISTEMA SANITARIO

DATE: OCT. 9

APPROVED BY:

E-1-SR



LEYENDA:

- VALVULA
- BOMBA INCENDIO
- TAPON
- CONTADOR
- LINEA AGUA CORTADA
- VALVULA SIAMESA

REVISION	
1	2/ MARZO/90
2	
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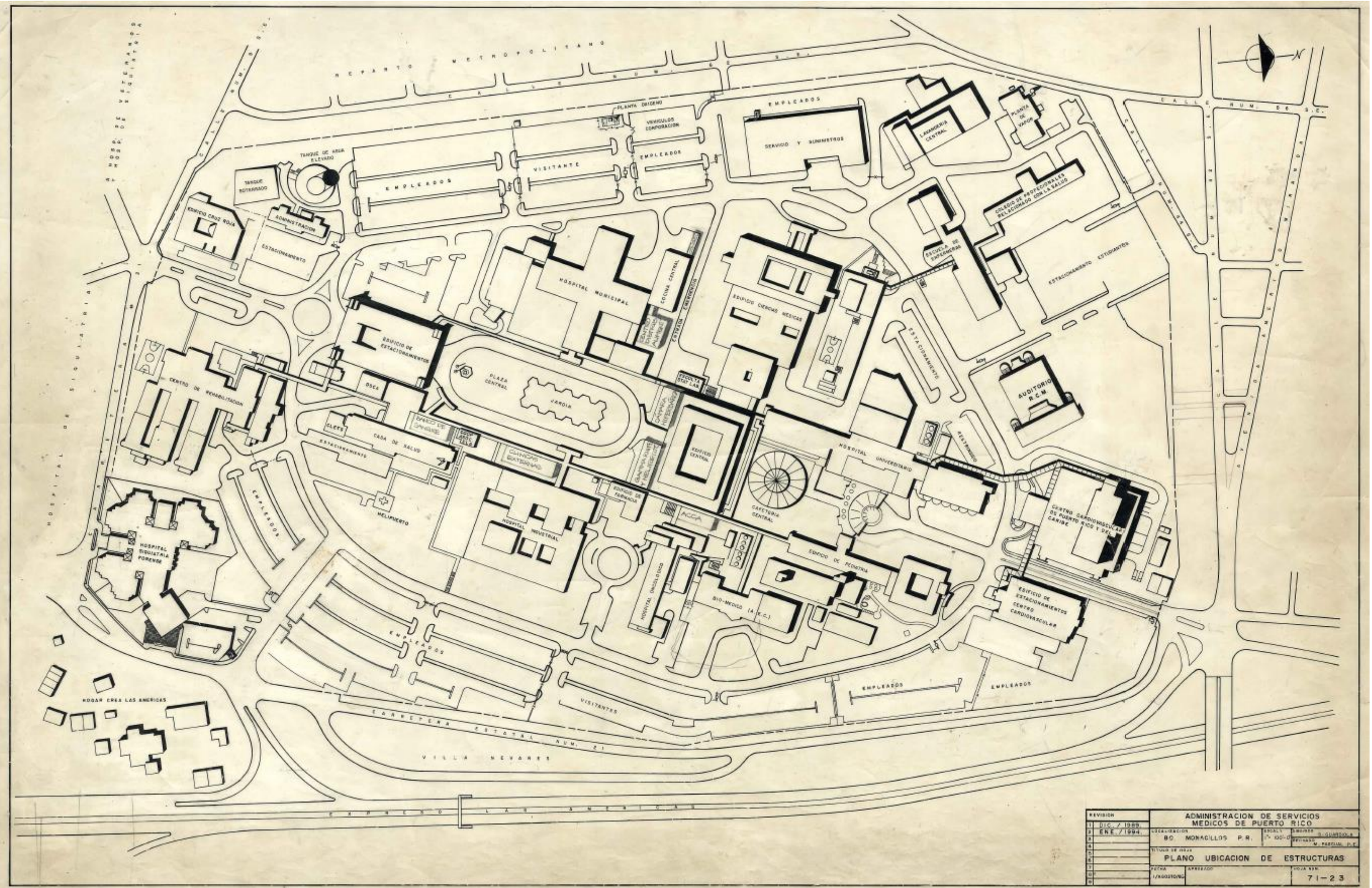
9	

PLANO LINEAS DE AGUA POTABLE EXISTENTES , ASEM



REVISION	
1	DIC. / 1989
2	ENE. / 1994
3	
4	
5	
6	
7	
8	
9	

ADMINISTRACION DE SERVICIOS MEDICOS DE PUERTO RICO

LOCALIZACION: BO. MONACILLOS P.R.

ESCALA: 1" = 100'-0"

DISEÑO: R. QUINTERO

REVISADO: M. PARDO, P.E.

TITULO DE HOJA: PLANO UBICACION DE ESTRUCTURAS

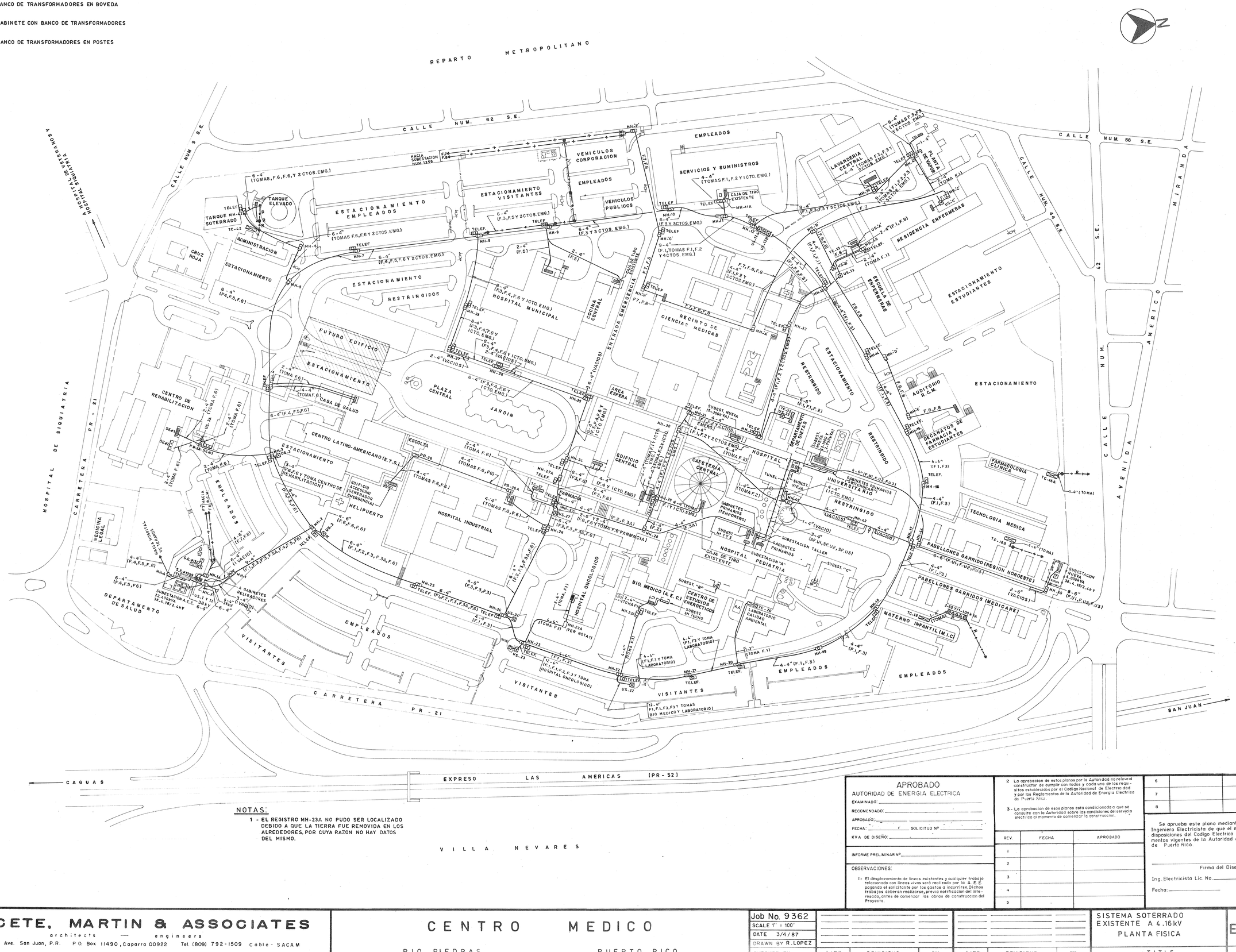
FECHA: 1/ENERO/90

APROBADO:

HOJA NUM.: 71-23

LEGEND

- UNIDAD SECCIONADORA
- SUBESTACION DENTRO EDIFICIO
- BANCO DE TRANSFORMADORES EN BOVEDA
- GABINETE CON BANCO DE TRANSFORMADORES
- BANCO DE TRANSFORMADORES EN POSTES


REPARTO METROPOLITANO
CALLE NUM. 62 S.E.
CALLE NUM. 56 S.E.
CALLE NUM. 44 S.E.
CALLE NUM. 42 S.E.
CALLE NUM. 9 S.E.
AVENIDA AMERICO MIRANDA
HOSPITAL DE SIQUIATRIA
HOSPITAL DE VETERANOS Y HOSPITAL QUIRURGICO
CARRETERA PR - 21
CARRETERA PR - 21
EXPRESO LAS AMERICAS (PR - 52)
CAGUAS
SAN JUAN
VILLA NEVARES
ESTACIONAMIENTO EMPLEADOS
ESTACIONAMIENTO VISITANTES
ESTACIONAMIENTO RESTRINGIDOS
ESTACIONAMIENTO ESTUDIANTES
ESTACIONAMIENTO
VEHICULOS CORPORACION
VEHICULOS PUBLICOS
EMPLEADOS
SERVICIOS Y SUMINISTROS
TANQUE ELEVADO
TANQUE MH-SOTERRADO
ADMINISTRACION
CRUZ ROJA
FUTURO EDIFICIO
PLAZA CENTRAL
JARDIN
AREA ESPERA
CASA DE SALUD
CENTRO DE REHABILITACION
CENTRO LATINO-AMERICANO (E.T.S.)
EDIFICIO ACCESORIO (REHABILITACION)
EDIFICIO ACCESORIO (EMERGENCIA)
HELIPUERTO
ESCOLTA
LEDICINA LEGAL
DEPARTAMENTO DE SALUD
HOSPITAL INDUSTRIAL
HOSPITAL ONCOLOGICO
HOSPITAL PEDIATRIA
HOSPITAL UNIVERSITARIO
HOSPITAL MUNICIPAL
COCINA CENTRAL
CAJA DE TIRO EXISTENTE
ENTRADA EMERGENCIA
CAFETERIA CENTRAL
EDIFICIO CENTRAL
FARMACIA
DEPARTAMENTO DE DIETAS
RECINTO DE CIENCIAS MEDICAS
BIO MEDICO (A.E.C.)
CENTRO DE ESTUDIOS ENERGETICOS
LABORATORIO CALIDAD AMBIENTAL
LAVANDERIA CENTRAL
PLANTA DE VAPOR
RESIDENCIA ENFERMERAS
ESCUELA DE ENFERMERIS
AUDITORIO R.C.M.
DESPACHOS DE FARMACIA ESTUDIANTES
FARMACOLOGIA CLINICA
TECNOLOGIA MEDICA
PABELLONES GARRIDO (REGION NOROESTE)
PABELLONES GARRIDOS (MEDICARE)
MATERNO INFANTIL (M.I.C)
SUBESTACION NUEVA (1 000kVA 38-4.16/2.4kV)
SUBESTACION A.E.E. (750kVA 38-4.16/2.4kV)
SUBEST. NUEVA (1-300kVA)
SUBEST. NUEVA (1-500kVA)
SUBEST. VIEJA
SUBESTACION "A"
SUBESTACION "B"
SUBEST. "C"
SUBEST. "D"
SUBEST. "N"
SUBESTACION TALLER
GABINETES PRIMARIOS
GABINETES PRIMARIOS (TENEDORES)
GABINETES PRIMARIOS UNIVERSITARIO (PARTE)
GABINETES RELLAMADORES
LABORATORIO
BIO MEDICO Y LABORATORIO
HOSPITAL (PARTE)
TUNEL
RESTRINGIDO
EMPLEADOS
VISITANTES
ESTACIONAMIENTO ESTUDIANTES
6-4" (TOMAS, F.6, F.6, Y 2 CTOS. EMG.)
6-4" (TOMAS F.6, F.6 Y 2 CTOS. EMG.)
6-4" (F.4, F.5, F.6 Y 2 CTOS. EMG.)
6-4" (F.5 Y 3 CTOS. EMG.)
6-4" (F.3, F.5 Y 3 CTOS. EMG.)
6-4" (F.1, TOMAS F.1, F.2 Y 4 CTOS. EMG.)
8-4" (TOMAS F.3, F.5 Y 4 CTOS. EMG.)
9-4" (F.1, F.3, F.5 Y 5 CTOS. EMG.)
4-4" (TOMAS F.1, F.2 Y 1 CTO. EMG.)
2-4" (F.5)
2-4" (F.6)
2-4" (TOMA F.6)
2-4" (TOMA F.1)
4-4" (TOMAS F.6, F.6)
4-4" (F.1, F.3)
4-4" (F.1, F.2)
4-4" (F.1, F.3 Y TOMA LABORATORIO)
4-4" (TOMA F.1)
4-4" (TOMA F.2)
4-4" (TOMA F.3)
4-4" (TOMA F.6)
4-4" (F.5A)
4-4" (F.2, F.3A)
4-4" (F.3, F.5, F.3)
4-4" (F.1, F.3)
4-4" (F.1, F.2 Y 2 CTOS. EMG.)
4-4" (F.1, F.2 Y 1 CTO. EMG.)
4-4" (F.1, F.2 Y TOMA F.6 FARMACIA)
4-4" (F.1, F.2 Y TOMA F.1 LABORATORIO)
4-4" (F.1, F.3 Y TOMA LABORATORIO)
4-4" (F.1, F.2, F.3 Y TOMAS BIO MEDICO Y LABORATORIO)
4-4" (F.1, F.2 Y 2 CTOS. EMG.)
4-4" (F.1, F.2 Y 1 CTO. EMG.)
4-4" (F.1, F.3)
4-4" (F.1, F.3)
4-4" (F.1, F.3

NOTAS:

1- a) INSTALAR INTERRUPTOR PRIMARIO, 3 FASES, 5 KV, 600 A, "SQUARE D" EN GABINETE NO. 16

b) INSTALAR 2 CONDUCTOS DE 4" DIAMETRO, ACERO GALVANIZADO, ENTRE GABINETE PRIMARIO NO.16 EN LA SUBESTACION NUEVA Y LOS "O.C.B.S." PRIMARIOS EN LA SUBESTACION VIEJA DEL HOSPITAL UNIVERSITARIO.

c) INSTALAR 3 CABLES # 2/0 AWG, "X.L.P.E.", BLINDADO, 15 KV. Y 1 C # 4 AWG, TW-600 V. (TIERRA)

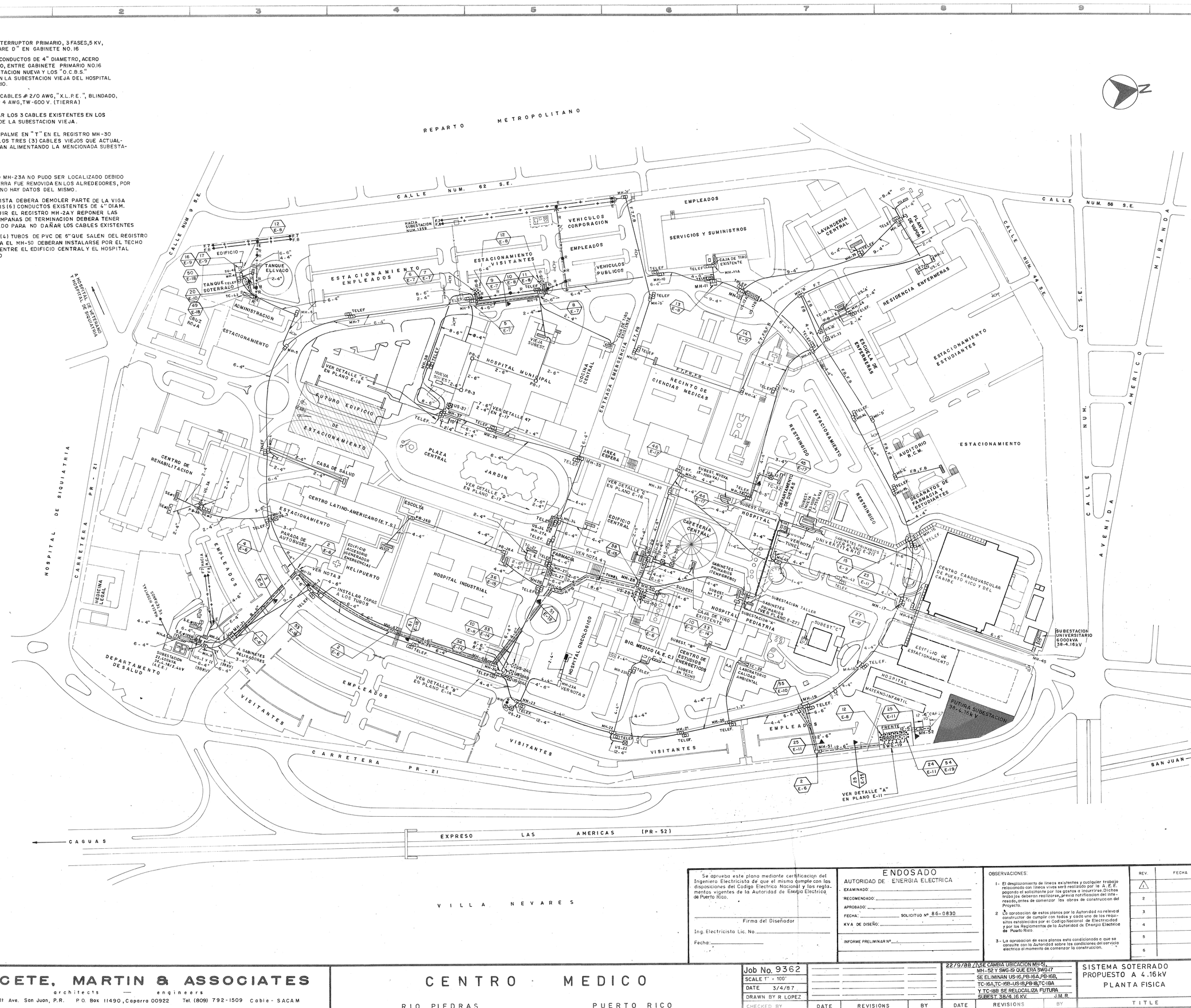
d) DESCONECTAR LOS 3 CABLES EXISTENTES EN LOS "O.C.B.S." DE LA SUBESTACION VIEJA.

e) ELIMINAR EMPALME EN "T" EN EL REGISTRO MH-30 Y RETIRAR LOS TRES (3) CABLES VIEJOS QUE ACTUALMENTE ESTAN ALIMENTANDO LA MENCIONADA SUBESTACION VIEJA.

2- EL REGISTRO MH-23A NO PUDO SER LOCALIZADO DEBIDO A QUE LA TIERRA FUE REMOVIDA EN LOS ALREDEDORES, POR CUYA RAZON NO HAY DATOS DEL MISMO.

3- EL CONTRATISTA DEBERA DEMOLER PARTE DE LA VIGA CON LOS SEIS(6) CONDUCTOS EXISTENTES DE 4" DIAM. AL CONSTRUIR EL REGISTRO MH-23A Y REPONER LAS DOCE(12) CAMPANAS DE TERMINACION DEBERA TENER SUMO CUIDADO PARA NO DAÑAR LOS CABLES EXISTENTES

4- LOS CUATRO(4) TUBOS DE PVC DE 6" QUE SALEN DEL REGISTRO MH-49 HACIA EL MH-50 DEBERAN INSTALARSE POR EL TECHO DEL TUNEL ENTRE EL EDIFICIO CENTRAL Y EL HOSPITAL ONCOLOGICO



Se aprueba este plano mediante certificacion del Ingeniero Electricista de que el mismo cumple con las disposiciones del Codigo Electrico Nacional y las reglamentos vigentes de la Autoridad de Energia Electrica de Puerto Rico.

Firma del Diseñador

Ing. Electricista Lic. No.

Fecha:

ENDOSADO
AUTORIDAD DE ENERGIA ELECTRICA

EXAMINADO:
RECOMENDADO:
APROBADO:
FECHA: SOLICITUD Nº 86-0830
KVA DE DISEÑO:
INFORME PRELIMINAR Nº:

OBSERVACIONES:

1- El desplazamiento de lineas existentes y cualquier trabajo relacionado con lineas vivas será realizado por la A.E.E. pagando el solicitante por los gastos a incurrirse. Dichos trabajos deberan realizarse, previa notificacion del interesado, antes de comenzar las obras de construccion del Proyecto.

2- La aprobacion de estos planos por la Autoridad no relevará constructor de cumplir con todos y cada uno de los requisitos establecidos por el Codigo Nacional de Electricidad y por los Reglamentos de la Autoridad de Energia Electrica de Puerto Rico.

3- La aprobacion de esos planos esta condicionada a que se consulte con la Autoridad sobre las condiciones del servicio electrico al momento de comenzar la construccion.

REV.	FECHA	APROB
1		
2		
3		
4		
5		
6		

CAPACETE, MARTIN & ASSOCIATES
architects — engineers
1509 F.D. Roosevelt Ave. San Juan, P.R. P.O. Box 11490, Caparra 00922 Tel. (809) 792-1509 Cable - SACAM

CENTRO MEDICO

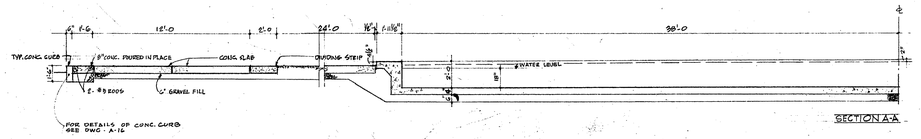
RIO PIEDRAS PUERTO RICO

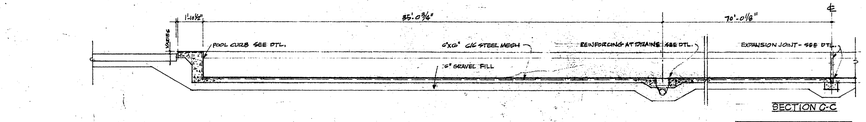
Job No. 9362
SCALE 1" = 100'
DATE 3/4/87
DRAWN BY R LOPEZ
CHECKED BY

DATE	REVISIONS	BY
2/9/88	SE CAMBIA UBICACION MH-51, MH-52 Y SWG-19 QUE ERA SWG-17 SE ELIMINAN US-16, PB-16A, PB-16B, TC-16A, TC-16B-US-18, PB-18, TC-18A Y TC-18B SE RELOCALIZA FUTURA SUBEST. 38/4.16 KV.	J.M.R.

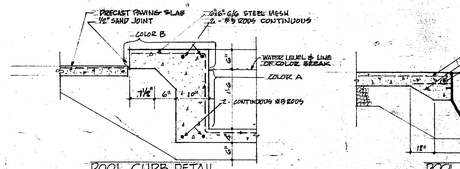
SISTEMA SOTERRADO
PROPUESTO A 4.16kV
PLANTA FISICA
TITLE

E-5
No.

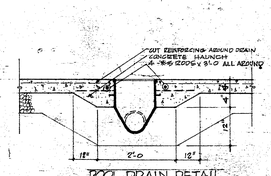




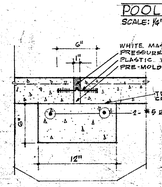
POOL SECTIONS
SCALE: 1/8"=1'-0



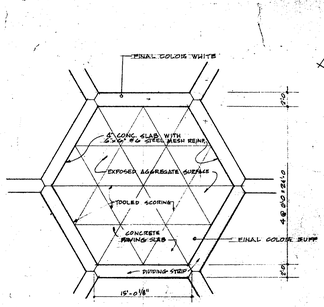
POOL CURB DETAIL
SCALE: 3/4"=1'-0



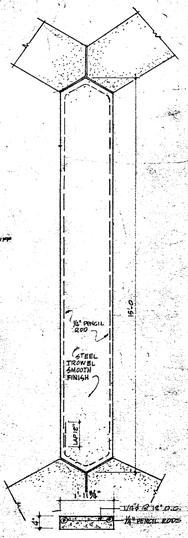
POOL DRAIN DETAIL
SCALE: 3/4"=1'-0



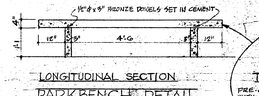
POOL EXPANSION JOINT
SCALE: 1 1/2"=1'-0



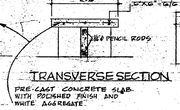
TYPICAL CONC. PAVING SLAB
SCALE: 1 1/2"=1'-0



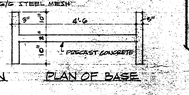
POURED CONC. DIVIDING STRIP
SCALE: 1 1/2"=1'-0



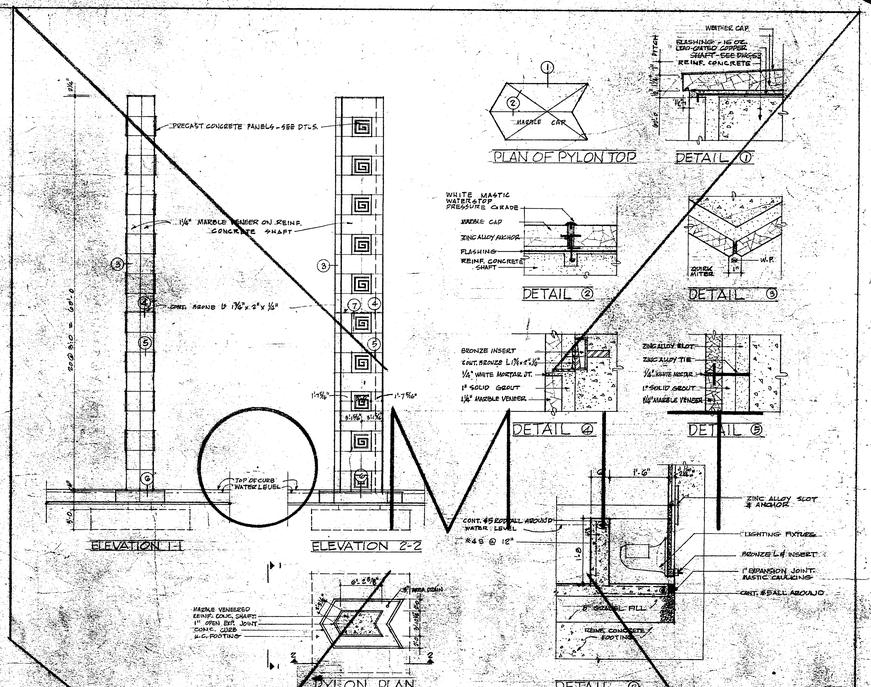
LONGITUDINAL SECTION
PARKBENCH DETAIL

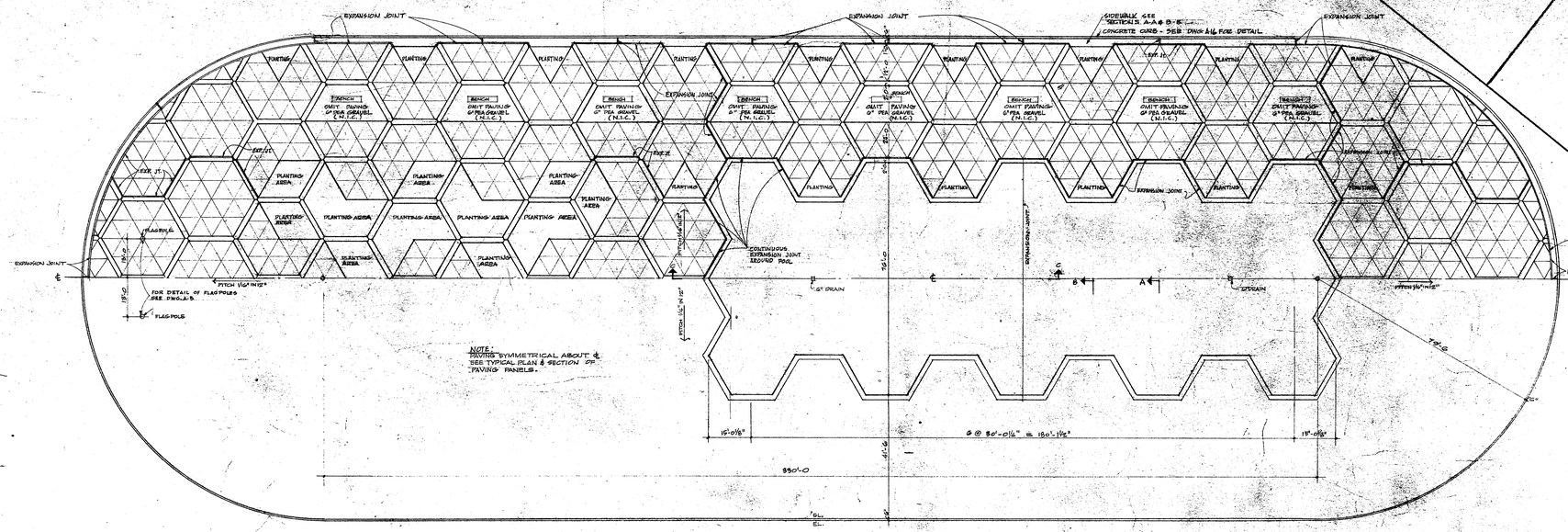


TRANSVERSE SECTION
PRE-CAST CONCRETE SLAB WITH POLISHED FINISH AND WHITE AGGREGATE



PLAN OF BASE





SITE IMPROVEMENT AND UTILITIES

PUERTO RICO MEDICAL CENTER
RIO PIEDRAS, P.R.-PROJECT No.P.R.11(REVISED)

PROVISIONAL BOARD OF THE MEDICAL CENTER
COMMONWEALTH OF PUERTO RICO

MAY, 14, 1960
JULY, 19, 1960
OCT. 25, 1960

APPROVED: _____ DATE: _____
PRESIDENT: PROVISIONAL BOARD OF THE PUERTO RICO MEDICAL CENTER

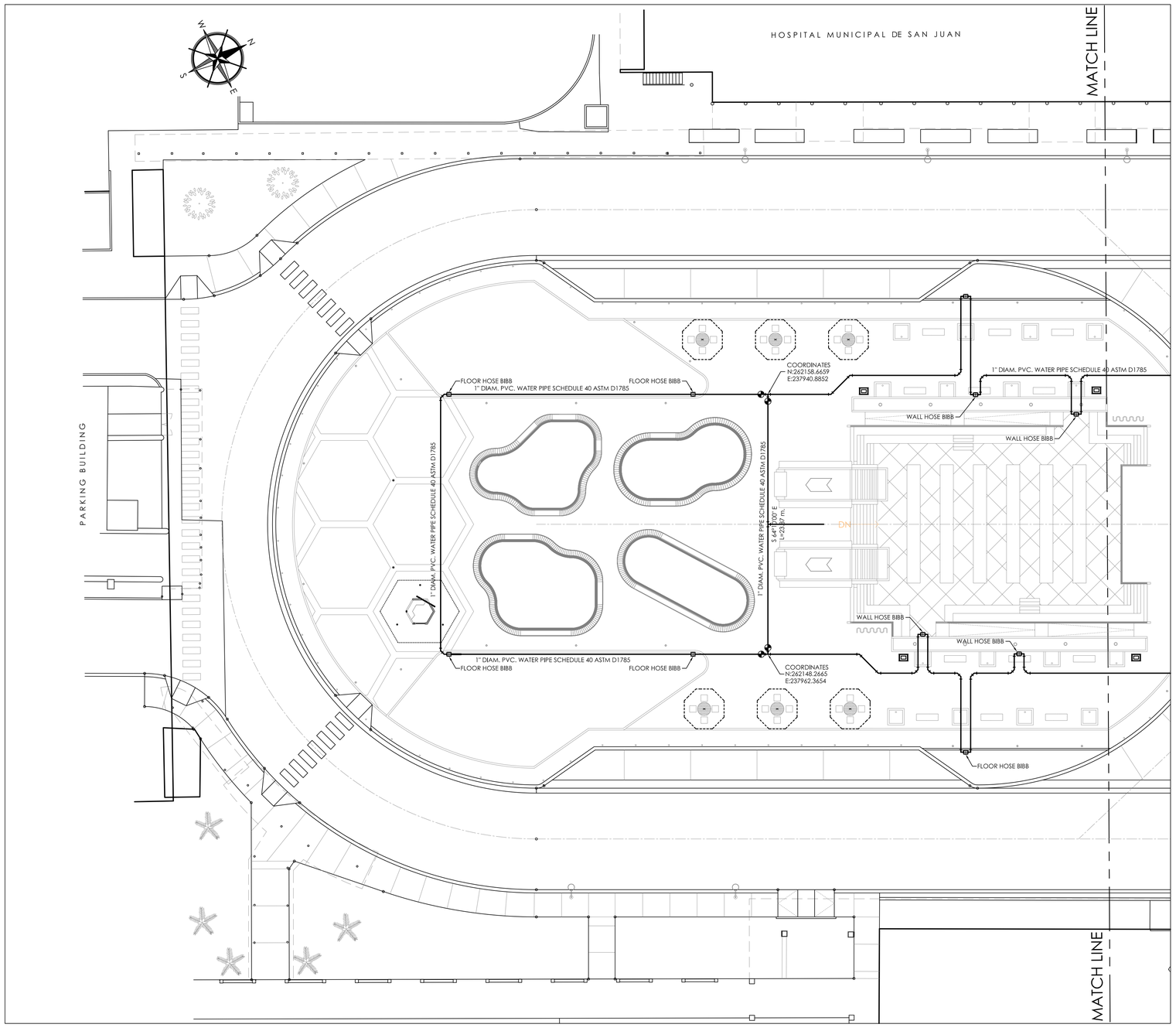
ARCHITECTURAL
POOL & PLAZA PLANS

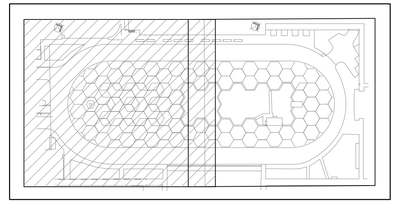
SCALE: AS SHOWN
DRAWN BY: W.S.
CHECKED BY: J.D.
DATE: 5/19/59
REVISIONS:

ISADORE & ZACHARY ROSENFIELD
ARCHITECTS & HOSPITAL CONSULTANTS
45 WEST 45 ST., NEW YORK 36, N.Y.

JOHN D. DILLON, CONSULTING ENGINEER
FARKAS & BARRON, STRUCTURAL ENGINEER
COFFEY & LEVINE, SITE PLANNING CONSULTANTS

JOB No: 5715-C
DRAWING No.
A-7





KEY MAP
NOT TO SCALE

NOTES:

1. ALL MANHOLES, VALVES AND OTHERS UTILITIES BELONGING TO P.R.A.S.A. SHALL BE RESETED TO FIT THE NEW ELEVATIONS, BE IT IN NEW PAVEMENT AREA, SIDEWALKS, AND/OR PLANTING AREAS.
2. WHENEVER THE CONTRACTOR IS GOING TO WORK ON ANY WAY AFFECTING ANY UTILITY, HE SHALL COORDINATE WITH THE CONCERNED AUTHORITY, PRIOR TO STARTING THE WORK.
3. WHEREVER THE CONTRACTOR FINDS ANY UTILITY, NOT SHOWN ON THE PLANS, AND IN A POSITION AFFECTING THE CONSTRUCTION, HE SHALL INFORM THE RESIDENT ENGINEER AS WELL AS THE CONCERNED UTILITY COMPANY, PRIOR TO WORKING ON IT.
4. CONTRACTOR WILL REFER TO MECHANICAL DRAWINGS FOR EXACT POSITION OF ALL HOUSE CONNECTIONS.
5. PIPE SHALL BE INSTALLED AT DEPTH OF NO LESS THAN 0.75 METER MEASURED FROM GROUND SURFACE TO THE UPPER PART OF THE PIPE AND A DETECTABLE PLASTIC TAPE SHALL BE PLACE ABOVE ALL THE LENGTH OF THE PIPE AT NO LESS THAN 0.30 METER MEASURED FROM GROUND SURFACE PERMIT LOCATION OF THE PIPE.
6. EXISTING WATER MAIN PIPES SHOWN ON PLANS ARE APPROXIMATELY LOCATED. CONTRACTOR SHALL BE RESPONSIBLE TO FIELD VERIFY EXACT LOCATION BEFORE TRENCH EXCAVATIONS.

PRASA REQUIREMENTS FOR WATER SAVING:

1 – ALL EQUIPMENTS INSTALLED SHALL BE WATER SAVING EQUIPMENTS SIMILAR OR EQUAL TO "AFC" (WATER SAVING) "UFO" OR "ECO".
2 – THE DEVICE SHALL CLOSE AUTOMATICALLY THE FLOW AFTER THE USER REMOVES HIS HAND FROM THE WATER FLOW.
3 – THE DEVICE SHALL STOP LEAKINGS CAUSED BY DEFECTIVE FAUCETS AND WASHERS.
4 – THE EFFECTIVE LOSS SHALL BE 00 GPM AND THE DEVICE FLOW SHALL NOT BE GREATER THAN 15 GPM.
5 – WATER CLOSETS SHALL NOT BE GREATER THAN 1.6 GALLONS PER DISCHARGE.
6 – ALL FIRE HYDRANTS SHALL BE PROVIDED WITH AN ANTI–THEFT SYSTEM. EQUAL OR SIMILAR TO MCGARD HYDRANT LOCK.

LEGEND:

- NEW 1" DIAM. BRONZE GATE VALVE
- NEW 1" DIAM. PVC. WATER PIPE SCHEDULE 40 ASTM D1785
- NEW 4"x4"x4" DIAM. TAPPING SLEEVE AND 4" DIAM. GATE VALVE
- EXISTING 4" DIAM. FIRE HYDRANT AND 4" DIAM. GATE VALVE
- NEW 1" DIAM. HOSE BIBB BOX
- NEW 1" DIAM. PVC. HOUSE CONNECTION SCHEDULE 40 ASTM D1785

PIPE TO BE INSTALLED

PIPE DIAMETER	METERS
2" DIAM. PVC. CLASS 200 (DR 14) AWWA C–900	58.00
1" DIAM. PVC. WATER PIPE SCHEDULE 40 ASTM D1785	561.00

GRAPHIC SCALE
0m 5m 10m 15m
SCALE 1:200

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PROFESSIONAL CERTIFICATION LAW

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PROYECTO DE REHABILITACIÓN DE LA PLAZA PEDRO ARZUAGA BERAZA

DIVISIÓN AMBIENTE DE CUIDADO Y MANEJO DE RIESGOS

ISSUED FOR CONSTRUCTION

ISSUE CHART

NO.	DESCRIPTION	DATE	APPROVED

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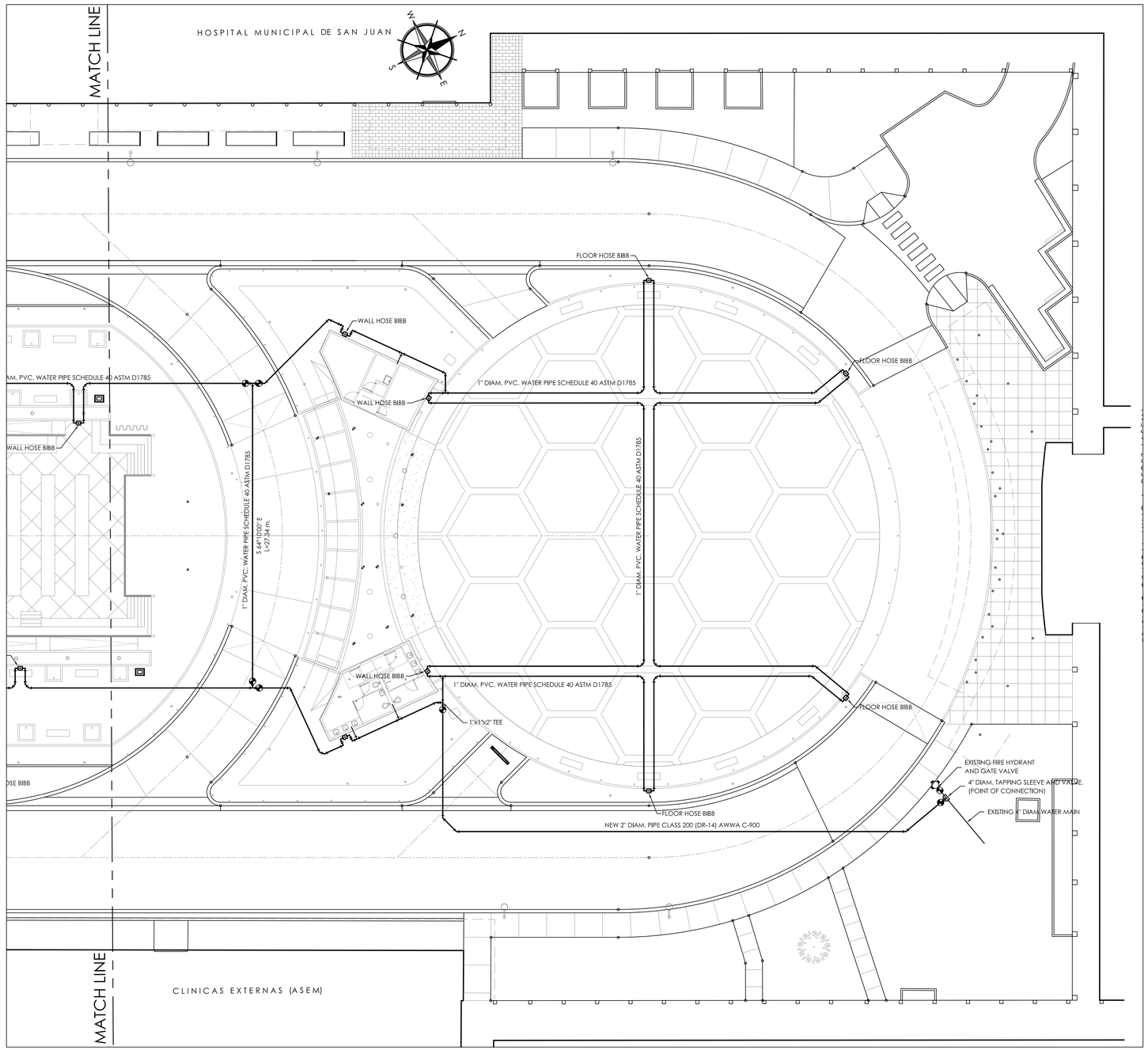
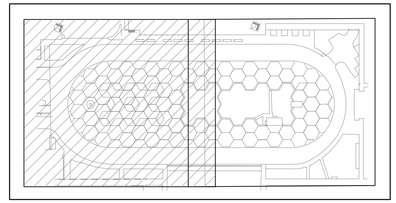
URB. HYDE PARK, 855 AVE. LAS MARÍAS, SAN JUAN PR 00927
TEL: (787) 982-0002 | EMAIL: RIGAU@JORGERIGAU.COM

TITLE
WATER DISTRIBUTION PLAN

SCALE	PRINTED ON	SHEET NO.
1:200		CU-101
DRAWN BY: G. MEDINA		
PHASE: ISSUED FOR CONSTRUCTION		DATE: OCTOBER 12, 2023

G:\OFFICE DATA\DRAWINGS\Proj2022\ASEM_JORGE RIGAU\PLAZA CENTRO MEDICO\PSC-CU-101 WATER DISTRIBUTION PLAN.dwg 10/27/2022 10:39:20 AM, Adobe PDF





KEY MAP
NOT TO SCALE

NOTES:

1. ALL MANHOLES, VALVES AND OTHERS UTILITIES BELONGING TO P.R.A.S.A. SHALL BE RESETED TO FIT THE NEW ELEVATIONS, BE IT IN NEW PAVEMENT AREA, SIDEWALKS, AND/OR PLANTING AREAS.
2. WHENEVER THE CONTRACTOR IS GOING TO WORK ON ANY WAY AFFECTING ANY UTILITY, HE SHALL COORDINATE WITH THE CONCERNED AUTHORITY, PRIOR TO STARTING THE WORK.
3. WHEREVER THE CONTRACTOR FINDS ANY UTILITY, NOT SHOWN ON THE PLANS, AND IN A POSITION AFFECTING THE CONSTRUCTION, HE SHALL INFORM THE RESIDENT ENGINEER AS WELL AS THE CONCERNED UTILITY COMPANY, PRIOR TO WORKING ON IT.
4. CONTRACTOR WILL REFER TO MECHANICAL DRAWINGS FOR EXACT POSITION OF ALL HOUSE CONNECTIONS.
5. PIPE SHALL BE INSTALLED AT DEPTH OF NO LESS THAN 0.75 METER MEASURED FROM GROUND SURFACE TO THE UPPER PART OF THE PIPE AND A DETECTABLE PLASTIC TAPE SHALL BE PLACE ABOVE ALL THE LENGTH OF THE PIPE AT NO LESS THAN 0.30 METER MEASURED FROM GROUND SURFACE PERMIT LOCATION OF THE PIPE.
6. EXISTING WATER MAIN PIPES SHOWN ON PLANS ARE APPROXIMATELY LOCATED. CONTRACTOR SHALL BE RESPONSIBLE TO FIELD VERIFY EXACT LOCATION BEFORE TRENCH EXCAVATIONS.

PRASA REQUIREMENTS FOR WATER SAVING:

1 – ALL EQUIPMENTS INSTALLED SHALL BE WATER SAVING EQUIPMENTS SIMILAR OR EQUAL TO "AFC" (WATER SAVING) "UFO" OR "ECO".
2 – THE DEVICE SHALL CLOSE AUTOMATICALLY THE FLOW AFTER THE USER REMOVES HIS HAND FROM THE WATER FLOW.
3 – THE DEVICE SHALL STOP LEAKINGS CAUSED BY DEFECTIVE FAUCETS AND WASHERS.
4 – THE EFFECTIVE LOSS SHALL BE 00 GPM AND THE DEVICE FLOW SHALL NOT BE GREATER THAN 15 GPM.
5 – WATER CLOSETS SHALL NOT BE GREATER THAN 1.6 GALLONS PER DISCHARGE.
6 – ALL FIRE HYDRANTS SHALL BE PROVIDED WITH AN ANTI–THEFT SYSTEM. EQUAL OR SIMILAR TO MCGARD HYDRANT LOCK.

LEGEND:

- NEW 1" DIAM. BRONZE GATE VALVE
- NEW 1" DIAM. PVC. WATER PIPE SCHEDULE 40 ASTM D1785
- NEW 4"x4"x4" DIAM. TAPPING SLEEVE AND 4" DIAM. GATE VALVE
- EXISTING 4" DIAM. FIRE HYDRANT AND 4" DIAM. GATE VALVE
- NEW 1" DIAM. HOSE BIBB BOX
- NEW 1" DIAM. PVC. HOUSE CONNECTION SCHEDULE 40 ASTM D1785

PIPE TO BE INSTALLED

PIPE DIAMETER	METERS
2" DIAM. PVC. CLASS 200 (DR 14) AWWA C–900	58.00
1" DIAM. PVC. WATER PIPE SCHEDULE 40 ASTM D1785	561.00

GRAPHIC SCALE
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SCALE 1:200

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ISSUED FOR CONSTRUCTION

ISSUE CHART

NO.	DESCRIPTION	DATE	APPROVED

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TITLE
WATER DISTRIBUTION PLAN

SCALE 1:200	PRINTED ON	SHEET NO. CU-102
DRAWN BY G. MEDINA		
PHASE ISSUED FOR CONSTRUCTION		DATE OCTOBER 12, 2023

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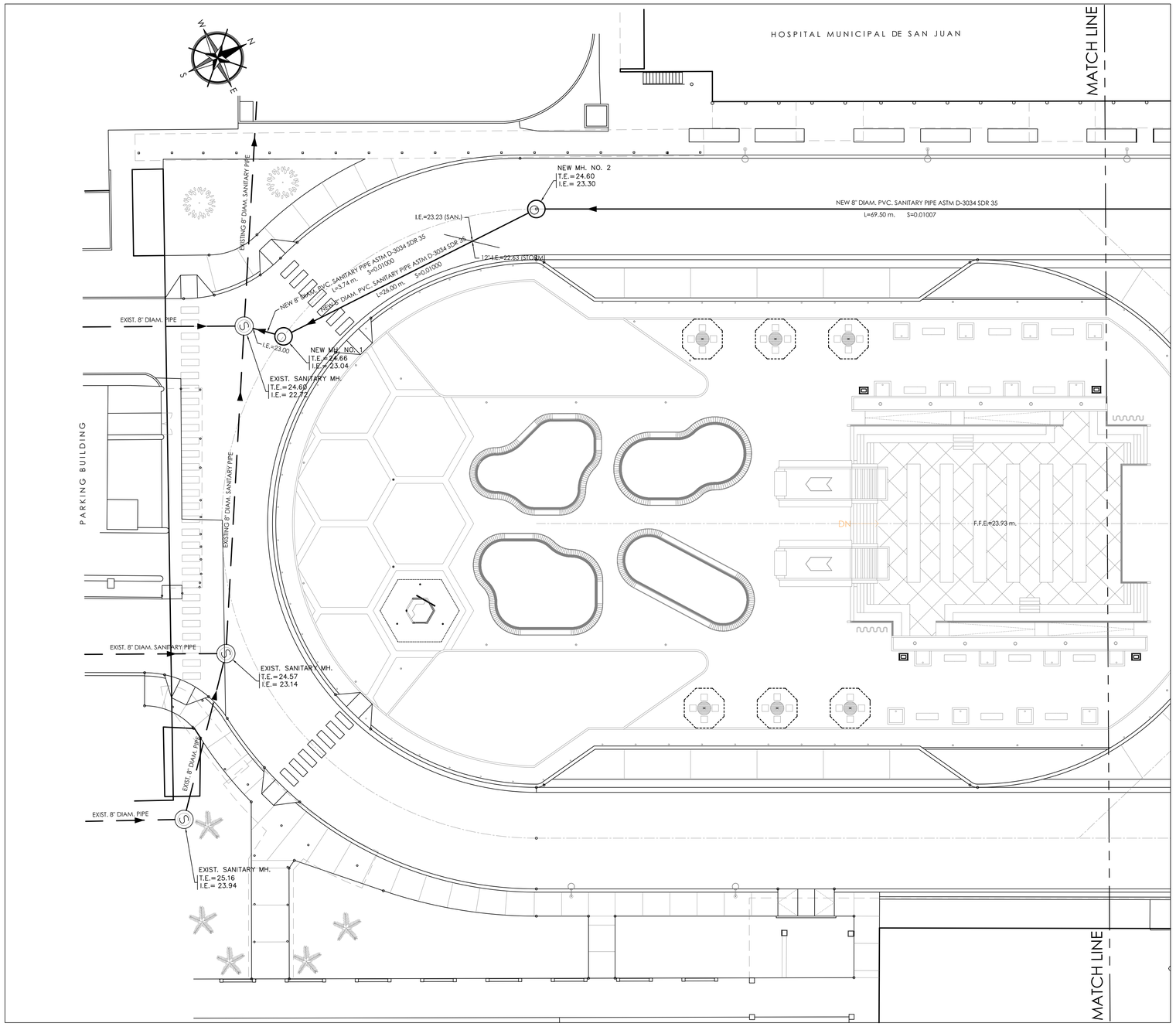

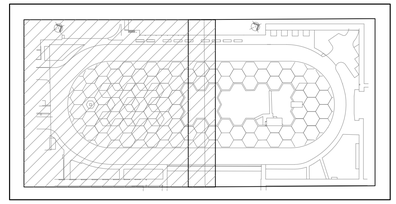

KEY MAP
NOT TO SCALE

LEGEND:

- NEW SANITARY SEWER MANHOLE
- NEW SANITARY SEWER LINE 8"-6" OR 4" DIAM. PVC. PIPE ASTM D-3034 SRD 35
- FLOW DIRECTION
- L= LENGTH
- S= SLOPE
- T.E. TOP ELEVATION
- I.E. INVERT ELEVATION
- NEW 6" OR 4" DIAM. CONNECTION
- CO. NEW 6" OR 4" DIAM. CLEANOUT
- (S) EXISTING SANITARY SEWER MANHOLE

NOTES:

1 - THE INFILTRATION AND EXFILTRATION OF WATER IN PIPES SHALL NOT BE MORE THAN 100 GALLONS PER INCH OF DIAMETER PER MILE OF LENGTH OF PIPE PER 24 HOURS. THE CONTRACTOR SHALL PROVIDE THE NEEDED MEANS, AS REQUIRED BY P.R.A.S.A. ENGINEER, FOR THE PERFORMANCE OF INFILTRATION AND/OR EXFILTRATION TESTS IN SECTIONS OF PIPES SELECTED BY THE ABOVE MENTIONED ENGINEER.

2 - ALL PIPES THAT FAIL THE ABOVE MENTIONED TESTS SHALL BE REPAIRED OR REPLACED BY THE CONTRACTOR AND WILL BE SUBMITTED TO NEW TESTS UNTIL IT IS DEFINITELY APPROVED BY P.R.A.S.A. ENGINEER.

3 - SEE MECHANICAL DRAWINGS FOR PLUMBING DISTRIBUTION.

GRAPHIC SCALE
0m 5m 10m 15m
SCALE 1:200

frank collazo
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ISSUED FOR CONSTRUCTION

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TITLE
SANITARY SEWER PLAN

SCALE	PRINTED ON	SHEET NO.
1:200		CU-103
DRAWN BY: G. MEDINA		
PHASE: ISSUED FOR CONSTRUCTION		DATE: OCTOBER 12, 2023

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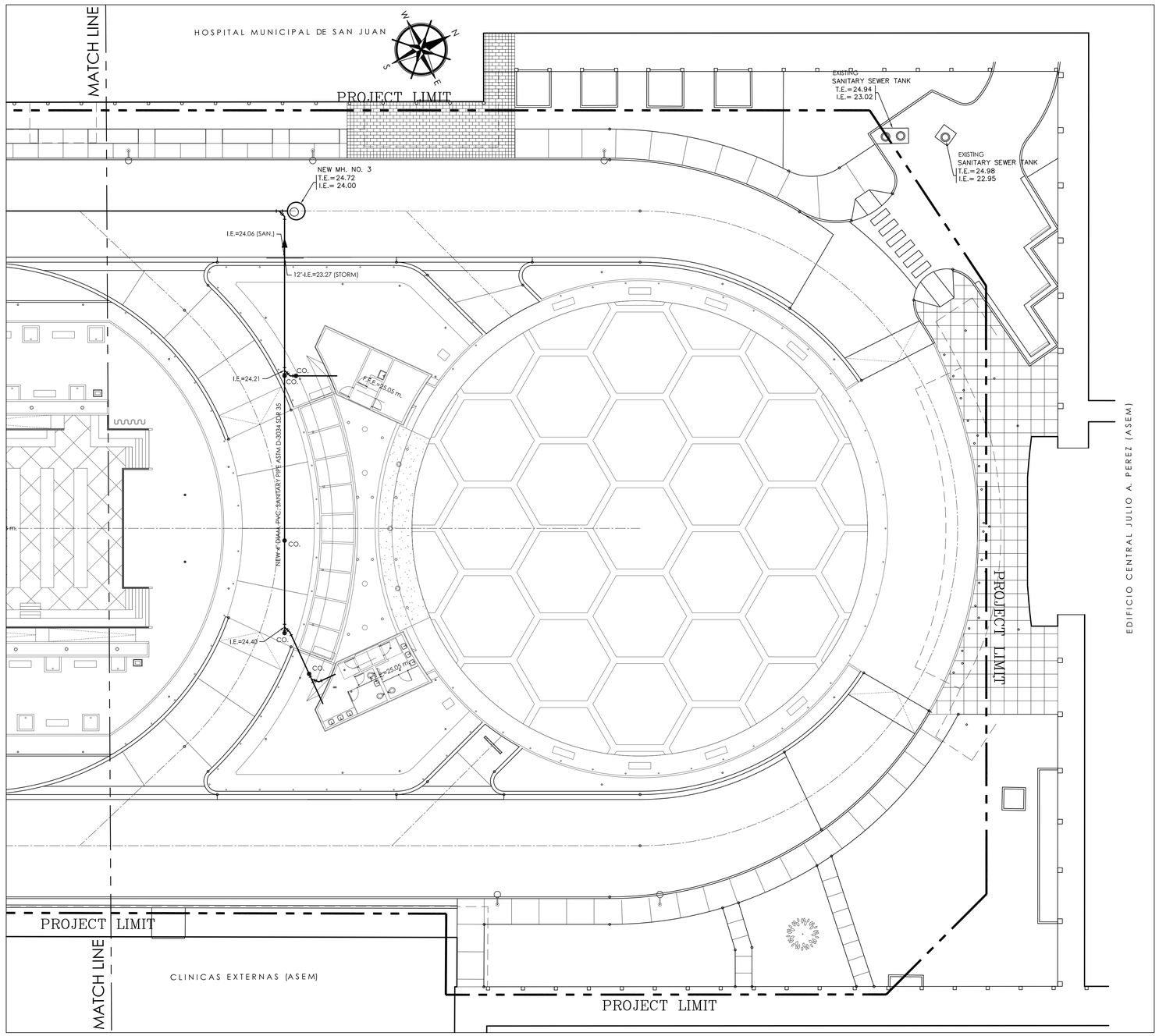

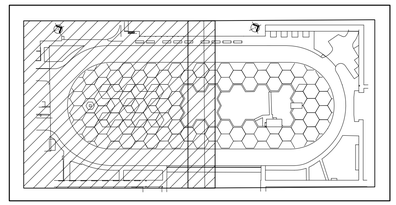

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NOT TO SCALE

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- NEW SANITARY SEWER LINE 8"-6" OR 4" DIAM. PVC. PIPE ASTM D-3034 SRD 35
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3 - SEE MECHANICAL DRAWINGS FOR PLUMBING DISTRIBUTION.

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0m 5m 10m 15m
SCALE 1:200

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TITLE

SANITARY SEWER PLAN

SCALE	PRINTED ON	SHEET NO.
1:200		CU-104
DRAWN BY: G. MEDINA		
PHASE: ISSUED FOR CONSTRUCTION		DATE: OCTOBER 12, 2023

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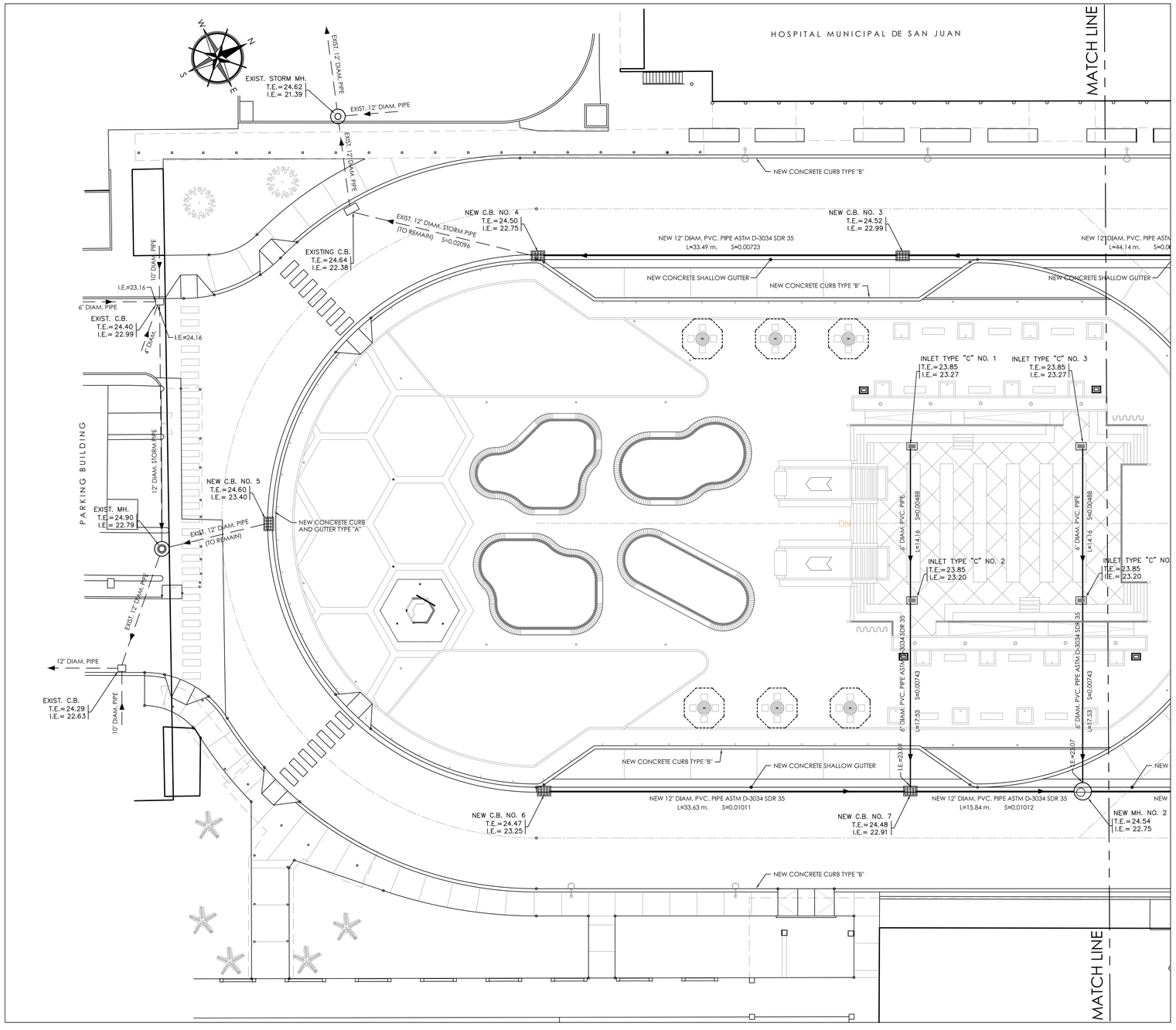

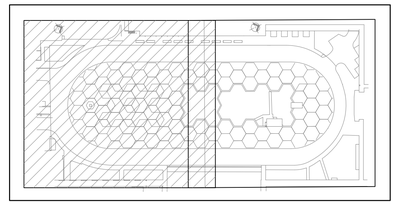

KEY MAP
NOT TO SCALE

NOTES:

1- DIMENSIONS AND/OR ELEVATIONS ARE SHOWN IN METRIC SYSTEM, UNLESS OTHERWISE NOTED.

2- THIS PLAN AND OTHER RELATED ONES, HAVE BEEN PREPARED CONSIDERING THE INFORMATION INCLUDED IN THE PLANIMETRIC SURVEY PLAN PREPARED BY ALEXIS OCASIO AGOSTO, (PROFESSIONAL LAND SURVEYOR) LIC. NO. 14879, DATED MARCH 31, 2016

3- CONTRACTOR SHALL COMPLY WITH THE RECOMMENDATIONS INCLUDED IN THE SUB-SOIL STUDY PREPARED FOR THIS PROJECT. IF CONFLICT BETWEEN PLANS AND THE SUB-SOIL STUDY ARISES, THE SUBSOIL STUDY RECOMMENDATIONS SHALL PREVAIL.

4- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROLLING SOIL EROSION AND SEDIMENT RUNOFF FROM THE CONSTRUCTION AREA. THE CONTRACTOR SHALL OBTAIN ALL PERMITS AND ABIDE TO APPLICABLE STORM WATER RUNOFF AND/OR DISCHARGE REQUIREMENTS SET BY ENVIRONMENTAL QUALITY BOARD (EPA), OR ANY OTHER REGULATORY AGENCY.

5- CONTRACTOR SHALL REPAIR AND MAINTAIN IN ACCEPTABLE CONDITIONS ANY EXISTING PAVEMENT AND UTILITIES THAT WILL REMAIN IN USE AFTER THE COMPLETION OF THE PROJECT. ALSO, CONTRACTOR SHALL REPAVE ANY AFFECTED AREA OF PAVEMENT WITH 1" ASPHALT TYPE IV-B.

KEY:

	NEW CATCH BASIN
	NEW CATCH BASIN (TYPE "B")
	NEW STORM SEWER LINE (DIAMETER AS INDICATED)
C	NEW CONCRETE MANHOLE
T.E.	TOP ELEVATION
I.E.	INVERT ELEVATION
	NEW CONCRETE SHALLOW GUTTER
	NEW EARTH SWALE
	NEW 1.22 m. CONCRETE GUTTER
L	LENGTH
S	SLOPE
EXIST.	EXISTING
MH.	MANHOLE
C.B.	CATCH BASIN
CO.	4" DIAM. CLEANOUT

GRAPHIC SCALE
0m 5m 10m 15m
SCALE 1:200

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CARLOS MERCADO LÓPEZ, MD, SECRETARIO DEL DEPARTAMENTO DE SALUD
LCDO. JORGE E. MATTA GONZÁLEZ, MHSA DIRECTOR EJECUTIVO
ADMINISTRACIÓN DE SERVICIOS MÉDICOS DE PUERTO RICO (ASEM)

PROYECTO DE REHABILITACIÓN DE LA PLAZA PEDRO ARZUAGA BERAZA

DIVISIÓN AMBIENTE DE CUIDADO Y MANEJO DE RIESGOS

ISSUED FOR CONSTRUCTION

ISSUE CHART

NO.	DESCRIPTION	DATE	APPROVED

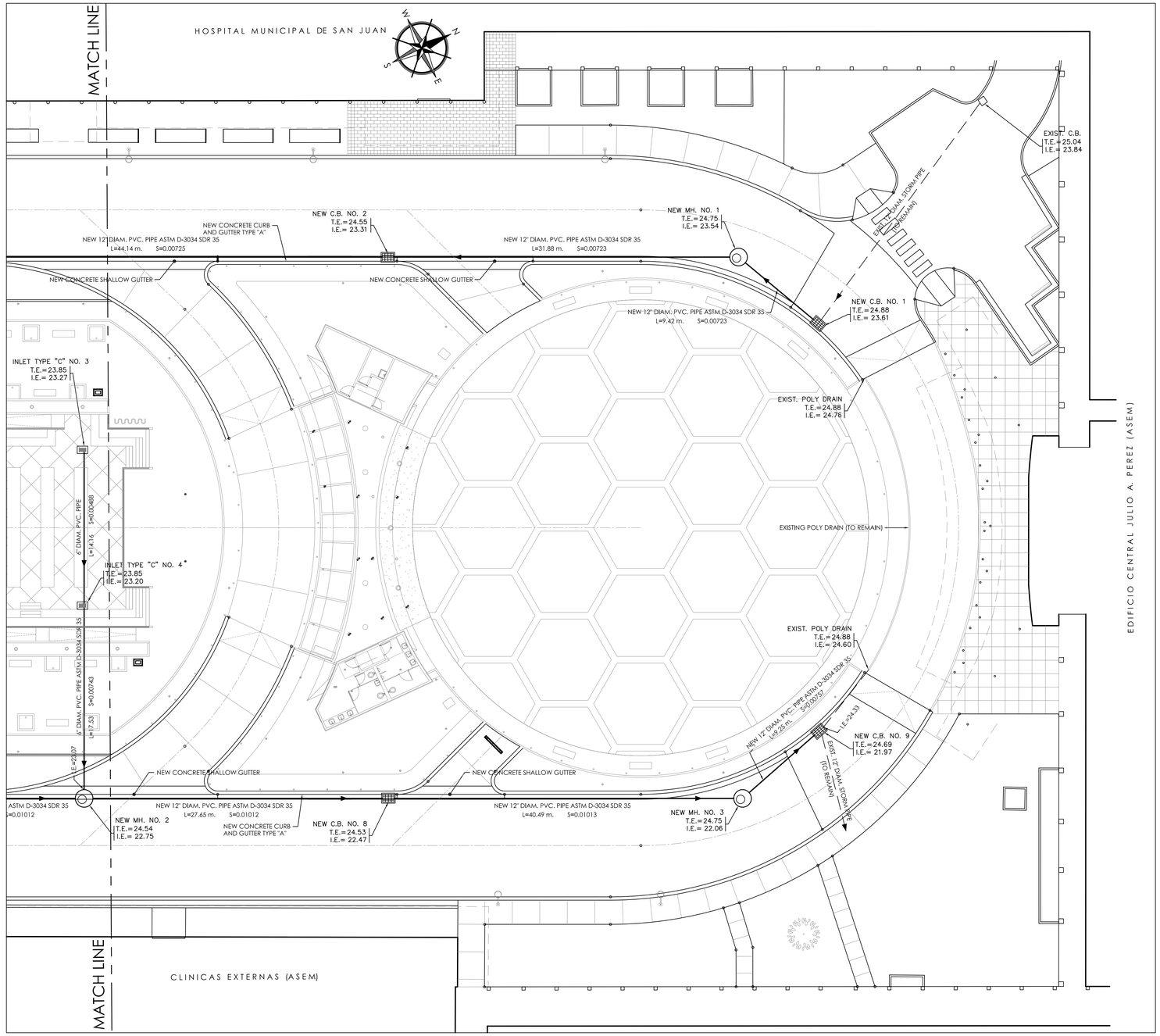
JORGE RIGAU ARQUITECTOS PSC
URB. HYDE PARK, 855 AVE. LAS MARÍAS, SAN JUAN PR 00927
TEL: (787) 982-0002 | EMAIL: RIGAU@JORGERIGAU.COM

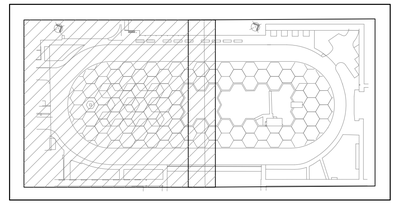
TITLE

STORM SEWER PLAN

SCALE 1:200	PRINTED ON	SHEET NO. CU-105
DRAWN BY G. MEDINA		
PHASE **ISSUED FOR CONSTRUCTION**		DATE **OCTOBER 12, 2023**

G:\OFFICE DATA\DRAWINGS\Proj\2022\ARQ. JORGE RIGAU\HUMA CENTRO MEDICO\PLACAS\CU-105-STORM SEWER PLAN.dwg, 9/29/2023 11:03:07 AM, Adobe PDF





KEY MAP
NOT TO SCALE

NOTES:

1- DIMENSIONS AND/OR ELEVATIONS ARE SHOWN IN METRIC SYSTEM, UNLESS OTHERWISE NOTED.

2- THIS PLAN AND OTHER RELATED ONES, HAVE BEEN PREPARED CONSIDERING THE INFORMATION INCLUDED IN THE PLANIMETRIC SURVEY PLAN PREPARED BY ALEXIS OCASIO AGOSTO, (PROFESSIONAL LAND SURVEYOR) LIC. NO. 14879, DATED MARCH 31, 2016

3- CONTRACTOR SHALL COMPLY WITH THE RECOMMENDATIONS INCLUDED IN THE SUB-SOIL STUDY PREPARED FOR THIS PROJECT. IF CONFLICT BETWEEN PLANS AND THE SUB-SOIL STUDY ARISES, THE SUBSOIL STUDY RECOMMENDATIONS SHALL PREVAIL.

4- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTROLLING SOIL EROSION AND SEDIMENT RUNOFF FROM THE CONSTRUCTION AREA. THE CONTRACTOR SHALL OBTAIN ALL PERMITS AND ABIDE TO APPLICABLE STORM WATER RUNOFF AND/OR DISCHARGE REQUIREMENTS SET BY ENVIRONMENTAL QUALITY BOARD (EPA), OR ANY OTHER REGULATORY AGENCY.

5- CONTRACTOR SHALL REPAIR AND MAINTAIN IN ACCEPTABLE CONDITIONS ANY EXISTING PAVEMENT AND UTILITIES THAT WILL REMAIN IN USE AFTER THE COMPLETION OF THE PROJECT. ALSO, CONTRACTOR SHALL REPAVE ANY AFFECTED AREA OF PAVEMENT WITH 1" ASPHALT TYPE IV-B.

KEY:

	NEW CATCH BASIN
	NEW CATCH BASIN (TYPE "B")
	NEW STORM SEWER LINE (DIAMETER AS INDICATED)
	NEW CONCRETE MANHOLE
T.E.	TOP ELEVATION
I.E.	INVERT ELEVATION
	NEW CONCRETE SHALLOW GUTTER
	NEW EARTH SWALE
	NEW 1.22 m. CONCRETE GUTTER
L	LENGTH
S	SLOPE
EXIST.	EXISTING
MH.	MANHOLE
C.B.	CATCH BASIN
CO.	4" DIAM. CLEANOUT

GRAPHIC SCALE
0m 5m 10m 15m
SCALE 1:200

frank collazo
Professional Engineer
TEL. (787) 756-8677
FAX (787) 765-1931
E-MAIL: fcancel@prtc.net
Caribe Dev., Cavalieri 1581, Suite 2
San Juan, Puerto Rico 00927

PROFESSIONAL CERTIFICATION LAW

I, JORGE RIGAU PÉREZ, LICENSE 7650, CERTIFY THAT I AM THE PROFESSIONAL WHO DESIGNED THESE PLANS AND THE COMPLEMENTARY SPECIFICATIONS. I ALSO CERTIFY THAT I UNDERSTAND THAT SUCH PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE PROVISIONS OF THE JOINT REGULATIONS AND APPLICABLE PROVISIONS OF THE REGULATIONS AND CODES OF AGENCIES, REGULATORY BOARDS AND/OR PUBLIC CORPORATIONS WITH JURISDICTION.

I ACKNOWLEDGE THAT ANY FALSE DECLARATION OR FALSIFICATION OF THE FACTS WHICH HAVE BEEN PRODUCED WITHOUT KNOWLEDGE OR NEGLIGENCE EITHER BY ME, MY AGENTS OR EMPLOYEES, OR BY OTHER PERSONS WITH MY KNOWLEDGE, MAKES ME RESPONSIBLE FOR ANY JUDICIAL AND DISCIPLINARY ACTION BY THE OIGPE AND OTHER COMPETENT AUTHORITIES, INCLUDING, BUT NOT LIMITED TO, THE TERMINATION OF THE PARTICIPATION IN PROFESSIONAL CERTIFICATION PROCEDURES IN THE OIGPE.

IMPORTANT INFORMATION FOR THE CONTRACTOR

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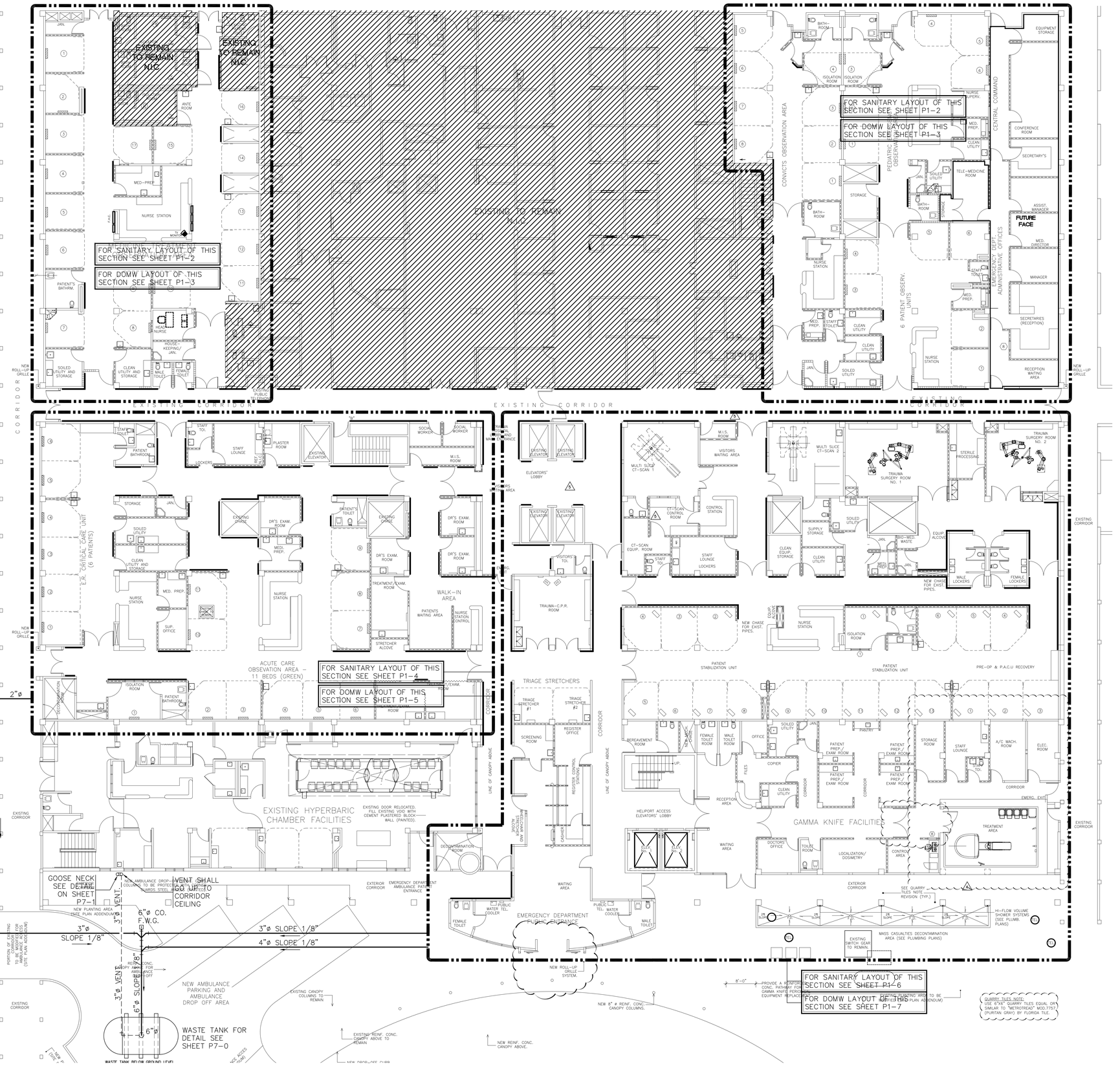
TITLE

STORM SEWER PLAN

SCALE 1:200	PRINTED ON	SHEET NO. CU-106
DRAWN BY G. MEDINA		
PHASE ISSUED FOR CONSTRUCTION		DATE OCTOBER 12, 2023

G:\OFFICE DATA\DRAWINGS\Proj-2022\2-MSJ - JORGE RIGAU\PLAZA CENTRO MEDICO\PLACA-CU-106-STORM SEWER PLAN.dwg, 10/9/2023 11:33:28 AM, Adobe PDF



MAIN FIRST FLOOR PLUMBING BLOW UP REFERENCES

SCALE: 3/32" = 1'-0"

MECHANICAL, ELECTRICAL & STRUCTURAL CONSULTING ENGINEERS
HECTOR M. BABILONIA PANZARDI
REGISTER M. BABILONIA CEDEÑO
LIC. # MEP-STR-0001 EXP. 31 AUG 2007
info@babilonia.ws
proj@babilonia.ws
www.babilonia.ws
1223 Ponce De Leon Rio Piedras, San Juan P.R.
00926-1305 Tel. 787-753-0003, Fax 787-753-8373
Consulting Engineers
· site engineer
· structural engineer
HENRY FIGUEROA
electrical engineer
Consultants

Dwg File Name:
0 4 | 0 4 | | | | |
Year | Project | Sheet

Drawn by: BABILONIA ENG. GROUP

Checked by: H.M.B.

Date: 09-15-06

No.	Revision	Date	By
1	Issued for bid	10/11/2006	

Project

A.S.E.M. MAIN BUILDING REMODELING AND EXPANSION
PUERTO RICO MEDICAL CENTER

PHASE I: NEW LEVEL I EMERGENCY AND TRAUMA CENTER

FERNANDO IRIZARRY ARCHITECTS, P.S.C.
(787) 765-4295 765-7027 P.O. BOX 195199
SAN JUAN, PUERTO RICO 00919-5199
CALLE ALMIRANTE CERVERA #1 SUITE E
HATO REY, PUERTO RICO 00917

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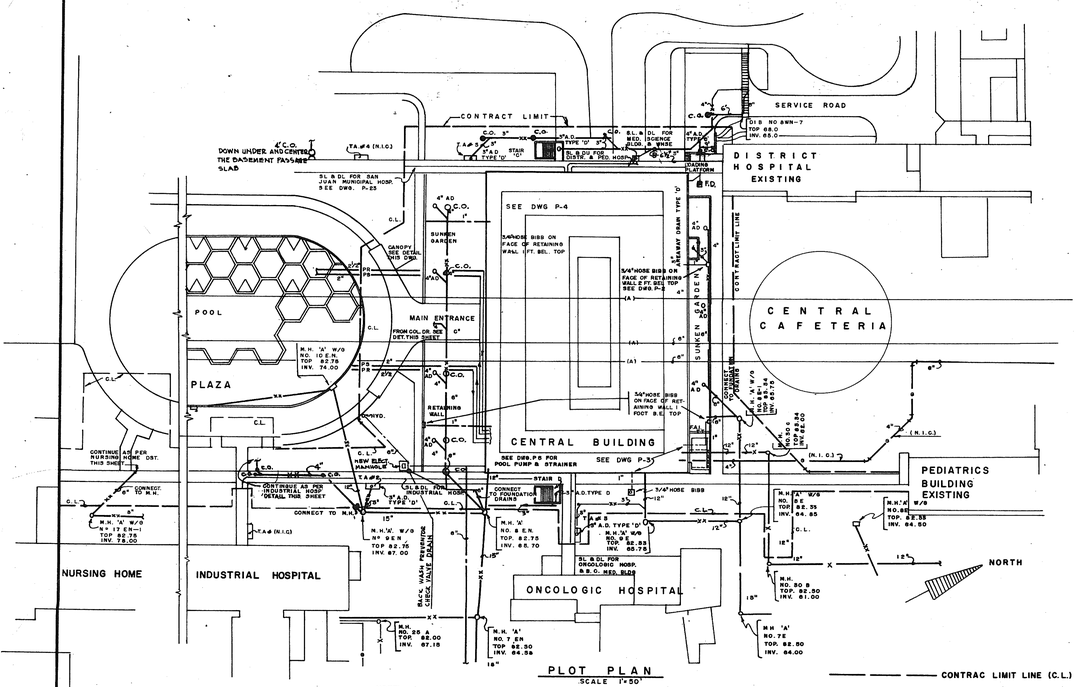
SHEET TITLE

MAIN 1ST FLOOR SANITARY BLOW UP REFERENCES

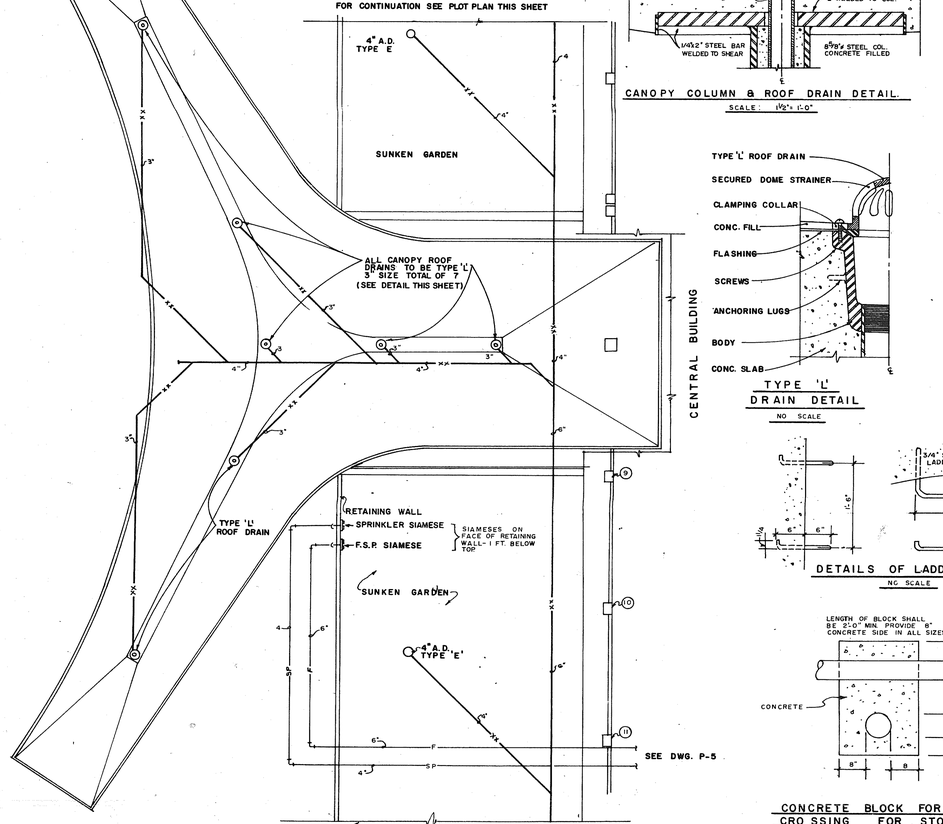
SHEET	OF	DWG. NO.
.	.	P1-0



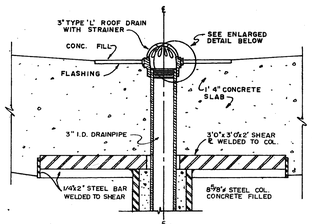
PLOT PLAN
SCALE 1"=50'

CONTRAC LIMIT LINE (C.L.)

NOTE:
ALL SUNKEN GARDEN AREA DRAINS TO BE TYPE 'E'
MAKE ALL FINAL PIPING CONNECTIONS TO MANHOLES WHICH ARE EXTERIOR OF CONTRACT LIMIT LINE BUT IMMEDIATELY ADJACENT



CENTRAL BUILDING
CANOPY ROOF DRAIN LAYOUT
SCALE 1/8"=1'-0"



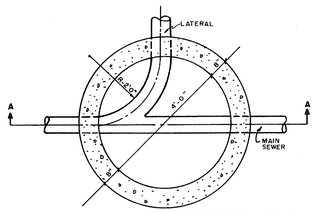
CANOPY COLUMN & ROOF DRAIN DETAIL.
SCALE: 1½"=1'-0"

TYPE 'L'
DRAIN DETAIL
NO SCALE

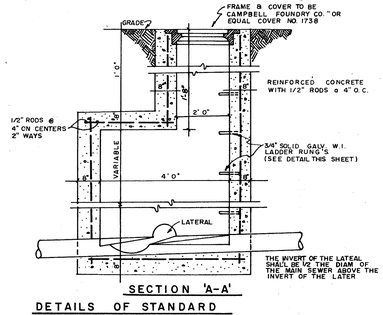
DETAILS OF LADDER RUNGS
NO SCALE

CONCRETE BLOCK FOR PIPE CROSSING FOR STORM & SANITARY SEWERS
SCALE 3/4" = 1'-0"

DRAIN SCHEDULE			
DESCRIPTION	TYPE	J.R. SMITH NO.	ZURN NO.
ROOF	A	38	Z-100
CANOPY	B	36	Z-100
FLOOR DRAIN GENERAL	C	100 A	Z-415B
AREA GENERAL	D	265	Z-509
AREA SUNKEN GARDEN AREA NORTH & PLANTING BOX	E	141	Z-620K
PENTHOUSE AIR CONDITIONING ROOM	F	100 VAL METAL BARBER	
FINISHED AREA COMBINATION FUNNEL & FLOOR	G	100VA	Z-317-5
GLOVE WASHER & ICE MACH. INDIRECT WASTE RECEPTORE	H	752-3V	ZP-9025
BASEMENT	I	295	Z-730
MECH. EQPT. ROOM FLOOR	J	263	Z-540
MECH. EQPT. ROOM FLOOR & FUNNEL	K	264-3	Z-508
CANOPY	L	80	Z-180
CANOPY	M	73	Z-189
COURT		36 LOW DOME W/MESH	Z-100
PLANTING BOX		1010	ZP-9491
CAN WASHER	N	240-37	Z-611

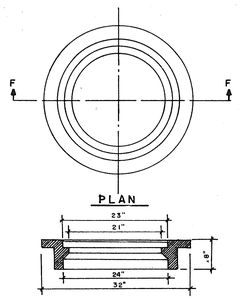


SECTIONAL PLAN



SECTION 'A-A'

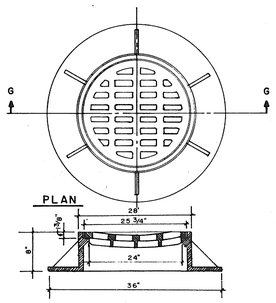
DETAILS OF STANDARD
SANITARY SEWER MANHOLE
NO SCALE



PLAN

SECTION 'F-F'

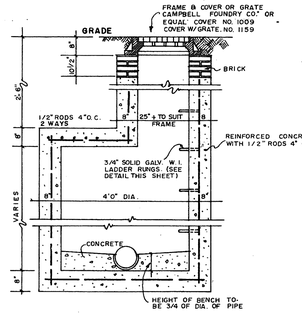
DETAILS OF CAST IRON COVER AND FRAME FOR SANITARY SEWER MANHOLES
SCALE 1"=1'0"



PLAN

SECTION 'G-G'

DETAILS OF CAST IRON COVER AND FRAME FOR STORM SEWERS MANHOLES
SCALE 1"=1'0"



DETAILS OF STANDARD
STORM SEWER MANHOLE
NO SCALE

MANHOLE NOTES

1. WALLS OF MH. GREATER THAN 12'0" IN DEPTH SHALL BE INCREASSED FROM 8" TO 10" IN THICKNESS.
2. ON FILLED GROUND THE BASE OF ALL MH. SHALL EXTEND A MINIMUM OF 1'0" BEYOND THE OUTSIDE FACE OF MH. AND THICKNESS OF BASE INCREASE FROM 8" TO 12"
3. SPECIAL SIZE OF MH. WHERE LATERALS OF SEWERS JOIN IN MH. & CURVES OF SEWERS IN MH REQUIRE IT, INCREASE DIAMETER OF STANDARD MH TO MAKE FLOW LINES MEET SMOOTHLY.
4. ALL MH TO BE ABANDONED SHOOLD BE FILLED WITH COMPACTED EARTH AND THE TOP & WALLS DEMOLISHED TWO FEET BELOW FINISHED GRADE.
5. AT CONTRACT LIMIT LINES CAP & PROVIDE MARKER FOR WHICH FINAL CONNECTIONS TO SITE OR BUILDING UTILITIES CANNOT BE MADE
6. CONCRETE GRADE B 1:2½:5. REINFORCED CONCRETE 1:2:4
7. WHERE BRICKWORK IS USED, PROVIDE EXTERIOR WITH 1/2" THICK PLASTER TROWELLED SMOOTH.

SYMBOLS AND ABBREVIATIONS

HOT WATER CIRCULATING	H.W.R. OR H.W.C.	
HOT WATER	H.W.	
COLD WATER	C.W.	
AUTOPSY HOT WATER	A.U.	AU AU
AUTOPSY COLD WATER	A.U.	AU AU
VENT	V.	
VAPOR VENT	V.V.	VV
ACID VENT	A.V.	AV
ACID WASTE	A.W.	AW
INDIRECT WASTE	I.W.	IW
STORM	ST.	ST OR XX
SOIL OR WASTE	S.	S OR X
SPRINKLER	S.P.	SP
FIRE STAND-PIPE	F.S.P.	F
* GAS (N.I.C.)	G.	G
VACUUM	VA.	VA
AIR	A.	A
OXYGEN	OX.	OX
NITROUS OXIDE	N.O.	NO
DISTILLED WATER	D.S.	DS
SWITCH LINE	S.L.	SL
DISPATCH LINE	D.L.	DL (PNEUMATIC TUBE LINES)
AIR LINE	A.L.	AL
CARBON DIOXIDE	C.D.	CD
CARBON MONOXIDE	C.M.	CM
HELIUM	H.	H
NITROGEN	N	N
POOL SUPPLY	P.S.	PS
POOL RETURN	P.R.	PR
GAS TO BE ABANDONED		G(A)
COLD WATER TO BE ABANDONED		(A)
VACUUM VENT	VAV	VAV

EXTRA HEAVY CAST IRON	E.N.C.I.	POST INDICATING VALVE	P.I.V.
CLEAN OUT DECK PLATE	C.O.D.P.	FIRE EXTINGUISHER	F.E.
AREA DRAIN	A.D.	LEADER	L.DR.
FLOOR DRAIN AND/OR FUNNEL	F.D.	CLEAN OUT	C.O.
HOUSE TRAP	H.T.	BRANCH	BR.
DRAIN	D.R.	HOSE BIBB	H.B.
ROOF DRAIN	R.D.	CONTINUATION	CONT.
FLOOR	FL.	INVERT	INV.
BELOW FLOOR	B.F.	ABOVE FLOOR	AB. FL.
AT CEILING	A.C.	WITH GRATING	W/G
ROOM	RM.	MANHOLE	MH.
VITRIFIED TILE	VT.	BUILDING	BLDG
STATION	STA.	JOINT	JT.
PNEUMATIC TUBE	P.T.	COURT DRAIN	C.D.
FUNNEL DRAIN	FU.DR.	HYDRANT	HYD.
DRAWING	DWG.	DRINKING FOUNTAIN	D.F.
URINAL	UR.		
FLUSHING RIM SINK	F.R.S.	SCRUB - UP SINK	S.U.S.
VENT	V.	STERILIZER	STER.
CUP SINK	C.S.	SHOWER	SH.
FIRE HOSE CABINET	F.H.C.		
HOT WATER	H.W.	POOL SUPPLY	P.S.
COLD WATER	C.W.	POOL RETURN	P.R.
EMERGENCY SHOWER	EM.SH.	PLANTING BOX DRAIN	P.B. DR.
CONCRETE	CONC.	SHOWER DRAIN	SH.DR.
CONNECTION	CONN.	RUNNING TRAP	R.T.
INSIDE DIAMETER	I.D.	HOT WATER CIRCULATING	H.W.C.OR H.W.R.
GALVANIZED	GALV.	BASEMENT	BSMT.
ARCHITECTURAL	ARCH.	FRESH AIR INLET	F.A.I.

OUTSIDE SCREW & YOKE	C.S. &Y.		
AIR CHAMBER	A.C.H.		
EXISTING	EXIST.		
CEILING	CLG.		
UF THRU ROOF	U.T.R.		
BELOW	BEL.		
FUTURE	FUT.		
IN CEILING	I.C.		
DOWN	DN.		
FROM	FR.		
ELEVATION	EL.		
HOSPITAL	HOSP.		
BY PASS	B.P.		
FIRE STAND PIPE	F.S.P.		
DRAIN INLET	D.I.		
WATER CLOSET	W.C.		
SERVICE SINK	S.S.		
LAVATORY	L., L.A.V.		
BED PAN WASHER	B.P.W.		
BRANCH VENT	B.R.V.		
OXYGEN VALVE NO. BOX	O.V.N.B		
NITROUS OXIDE VALVE No Box	N.O.V.N.B		
VACUM. VALVE NO BOX	VA.V.N.B.		
DENTAL UNIT	D. U		
WASTE	W		
TUNNEL AREAWAY	T. A.		
DIAMETER	DIAM.~ DIA.		
NUMBER	NO.		
GALLONS PER HOUR	G.P.H.		

A.F. AT FLOOR
S- DENOTES SINK TYPE SEE SPEC.
T- DENOTES TYPE OF FIXTURE TRIM
F- DENOTES EQUIPMENT SUPPLIED UNDER ANOTHER SECTION OF THE SPECIFICATION, UNLESS OTHERWISE NOTED OR SPECIFIED. SEE ARCHITECTURAL DWG. A-27 FOR EQUIPMENT SCHEDULE)

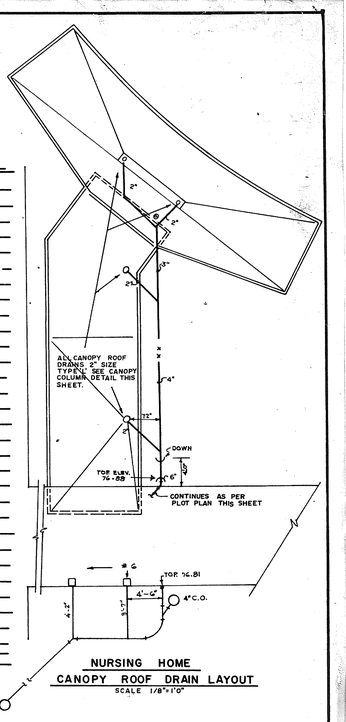
DRY CHEMICAL FIRE EXTINGUISHER F.E. (D.C)
CARBON DIOXIDE FIRE EXTINGUISHER F.E. (C.O)

(L) DENOTES LEADER No.
(S) DENOTES – SOIL STACK NO.
(AW) DENOTES – ACID WASTE STACK NO.
(VV) DENOTES VAPOR VENT STACK NO.
(F) DENOTES – FIRE STAND PIPE NO.

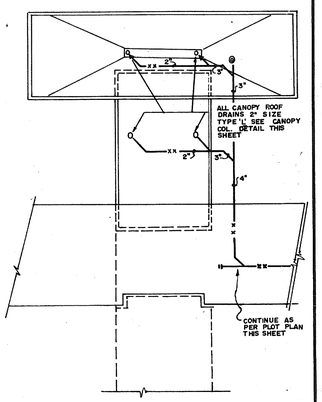
VALVE WITH BOX (OXYGEN N.O.)
RECESSED OUTLET, DOUBLE OXYGEN, VACUUM WITH SLIDE
RECESSED OUTLET, SINGLE (OXYGEN)
RECESSED OUTLET, SINGLE(VACUUM WITH SLIDE)

⊙ NITROUS OXIDE CLG. OUTLET.
⊘ VACUUM
⊗ OXYGEN
⊙ SPRINKLER HEAD
◎ CLEAN OUT & DECK PLATE
SWITCHING MECHANISM FOR PNEUMATIC TUBE LINES
OXYGEN ALARM BOX
NITROUS OXIDE ALARM BOX
DRINKING FOUNTAIN DF-
WATER CLOSET WC-
URINAL UR
SINK IN COUNTER F-
SERVICE SINK SS
FLUSHING RIM SINK W/DRAIN R.S. BOARD
SCRUB UP SINK S
LAVATORY L
SHOWER SH
CUSPIDOR
CLEAN OUT

CHECK VALVE — OR
GLOBE VALVE
GATE VALVE
PIPE DOWN
PIPE UP



NURSING HOME
CANOPY ROOF DRAIN LAYOUT
SCALE 1/8"=1'0"



INDUSTRIAL HOSPITAL
CANOPY ROOF DRAIN LAYOUT
SCALE: 1/8"=1'-0"

AS-BUILT DRAWING

PUERTO RICO MEDICAL CENTER PROJECT
PR-II REVISED
RIO PIEDRAS PUERTO RICO
PROVISIONAL BOARD OF THE MEDICAL CENTER
COMMONWEALTH OF PUERTO RICO
GENERAL HOSPITAL & RELATED FACILITIES
PR-IIA
CENTRAL BUILDING
PLUMBING
PLOT PLAN

SCALE:
DRAWN:
CHECKED:
DATE:
REVISIONS:

APPROVED _____ DATE _____
PRESIDENT PROVISIONAL BOARD OF THE PUERTO RICO MEDICAL CENTER
APPROVED _____ DATE _____
PROJECT DIRECTOR PROVISIONAL BOARD OF THE P.R. MEDICAL CENTER

ISADORE AND ZACHARY ROSENFIELD
ARCHITECTS & HOSPITAL CONSULTANTS
45 WEST 45 STREET NEW YORK 36 N.Y.

JOHN D. DILLON
CONSULTING ENGINEER

EDWARD SCHMITZ & ASSOC.
STRUCTURAL ENGINEERS

JOB NO.
DRAWING NO.
P-1

ORIGINAL CHECKED
RE-DRAWN BY
DATE

MATCH LINE
(FOR CONTINUATION SEE DWG. NO. P-3)

MATCH LINE
(FOR CONTINUATION SEE DWG NO. P-4)

CORRIDOR
SEB-11

CONTINUE AS PER DWG. Nº P-3

STORAGE
SEB-21
(FUTURE ELEVATOR) (FUTURE ELEVATOR)

LOUNGE
SEB-16

32 MENS LOCKERS
SEB-15

OFFICE
SEB-10

44 MENS LOCKERS
(JANITORS & ELEV. OPERS.)
SEB-9

16 WOMENS LOCKERS
(JANITORS)
SEB-7

TUNNEL TO ONCOLOGIC HOSP.

2" EARTH QUAKE JOINT

STAIR 'D'

1/4 WOMENS LOCKERS
(C.S.S. PHARMACY
FIRST FLOOR)
SEB-18

TOILET & SHOWER RM.
SEB-17

TOILET & SHOWER RM.
SEB-14

JANITOR'S STORAGE
SEB-15

SUPERVISOR
SEB-12

TOIL. & SHOWER
SEB-8

TOIL. & SHOWER
SEB-6

SHOP
SEB-5

ELEVATOR LOBBY
SEB-20

ELEVATOR #1

ELEVATOR #2

NOTE:
SEE SIMILAR PLAN BELOW FOR PIPING OF W.C.'S.

CHASE PIPING ON PART PLAN

ALL L-1
1½"W.
1½"W RISE
½"H & C.W.
1½"W. RISE

2" WASTE DN.

1½"W. DN.
1½"W. RISE
½"C.W. DN.
1½"H.W. "

1"C.W. DN.
1"H.W. "

4" SOIL DN.
2" C.W. DN.
1" H.W. DN.

2" SH. DR.
ALL SH.-1½"H & C.W.

SH-1 SH-1 SH-1 SH-1

WC-2 WC-2

4" SOIL DN.
2" V. RISE
1½"C.W. DN.

2" V. RISE

2" SH. DR.

3/4" DRAIN LINE FROM FLOW ALARM

FLOW ALARM

2" W. DN.
1½"W. RISE
1½"C.W. DN.
1½"H.W. "

2" W. DN.
1½"W. RISE

2" V. RISE

1¼"C.W. DN.

3/4"C.W. DN.
3/4"H.W.

4" SOIL DN.
2" V. RISE
1½"C.W. DN.

1½" WASTE DN.
1½" V. RISE

4" A.W. UP & DN.
1½"C.W. "
1½"H.W. "
3/4"H.W.R. "
4" V. UP

4" SOIL DN.
2" V. RISE

1½" C.W. DN.

1½" W. F.D. LAV.
½" C.W. "
½" H.W. "

3" F.D. TYPE I

3" F.D. TYPE 'J'

3" DN. B.F.

4" B.F.

4" V. UP
4" SOIL UP & DN. B.F.
3" L.P.D.
2" C.W. UP
1¼" H.W.
3/4" H.W.R. UP

CONTINUE AS PER DWG. Nº P-4

SEB-19
PASSAGE

4" DN. B.F.

FE(DC)

2" C.W. UP
3/4" H.W. "
3/4" H.W. "

4" SOIL UP
4" VENT

1½" W. FD. LAV.
½" C.W. UP
½" H.W. UP

4" DN. B.F.

4" F.S.R. UP

2" FD. TYPE 'D'

3" CONN. TO COMPRESSOR WITH KRATE VALVE (SEE DRAW. OF DOC'S.)

CONTROL COMPRESSOR

4" DN. B.F.

3" F.D. TYPE I

3" F.D. TYPE I

EXPANSION LOOPS

3" F.D. TYPE I

4" F-S.D. UP TO FIX'S

AIR CONDITIONING EQUIPMENT ROOM
SEB-4

AIR CONDITIONING UNITS

2" F.D. TYPE 'F'

3" F.D. TYPE 'F'

2" W. FR. LAV'S
½" C.W. UP
½" H.W. "

4" S. F.D. W.C.
1¼" C.W. UP
½" H.W. "

3" F.D. TYPE I

1½" W. FR. LAV'S
3/4" C.W. UP
3/4" H.W. "

3" W. FR. LAV. & F.S. 1¼" C.W. 1¾" H. UP

3" F.D. TYPE 'J'

3" F.D. TYPE I

3" F.D. TYPE 'J'

3" DN. B.F.

RESIDENTS
SWB-4

IN HUNG CEILING

2" B.F.

2" F.D. TYPE 'F'

HISTO. PATHOLOGY LAB.
SWB-3

PATHOLOGISTS OFFICES
SEB-12

ELECTRICAL EQUIPMENT RM
SEB-3

CHECK VALVE

DOWN BELOW LEVEL OF SUNKEN WARDROBE

4" SPRINKLE 'C' FIRE STANDPIPE CONNECT TO SIAMESES. SEE CANOPY DETAIL DRAWING P-7

REFLECTING POOL PUMP & STRAINER UNITS (SEE DETAIL THIS SHEET)

DUCT SPACE #11 ABOVE

DUCT SPACE #12 ABOVE

STORAGE
SEB-22

EDGE OF SLAB ABOVE

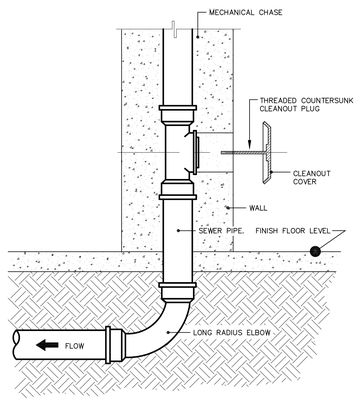
FE(CC)

FE(CO)

FE(CC)

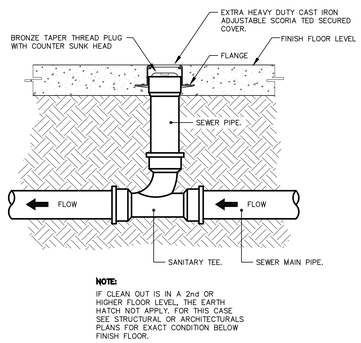
FE(CC)

FE(CC



TYPICAL CLEAN OUT FLUSH WITH WALL (CO. F.W.W.) DETAIL

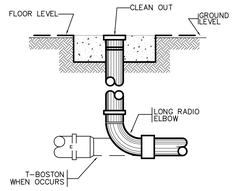
NOT TO SCALE



NOTE:
IF CLEAN OUT IS IN A 2nd OR HIGHER FLOOR LEVEL, THE EARTH HATCH NOT APPLY. FOR THIS CASE SEE STRUCTURAL OR ARCHITECTURALS PLANS FOR EXACT CONDITION BELOW FINISH FLOOR.

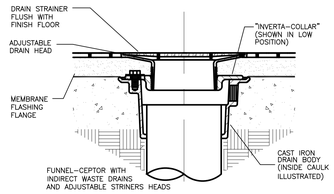
TYPICAL CLEAN OUT FLUSH WITH FLOOR (CO. F.W.F.) DETAIL

NOT TO SCALE



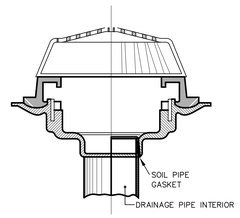
CLEAN OUT FLUSH WITH GROUND (F.W.G.) DETAILS

NOT TO SCALE



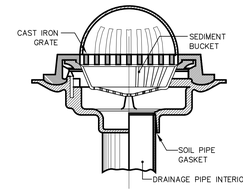
TYPICAL FLOOR DRAIN DETAIL

NOT TO SCALE



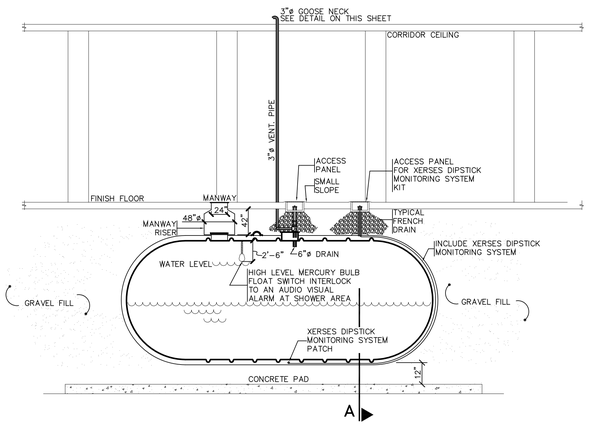
TYPICAL FLOOR DRAIN DETAIL (R.D.-1)

NOT TO SCALE



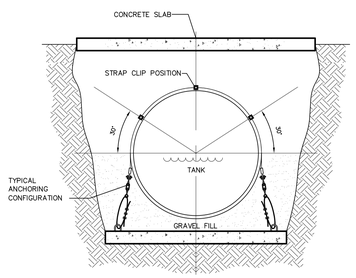
TYPICAL ROOF DRAIN DETAIL (R.D.-2)

NOT TO SCALE



MAIN WASTE TANK SIDE VIEW

NOT TO SCALE

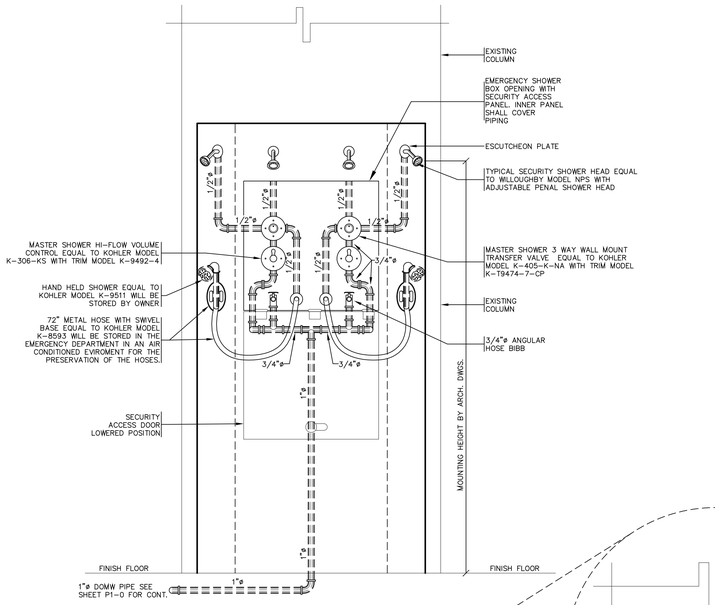


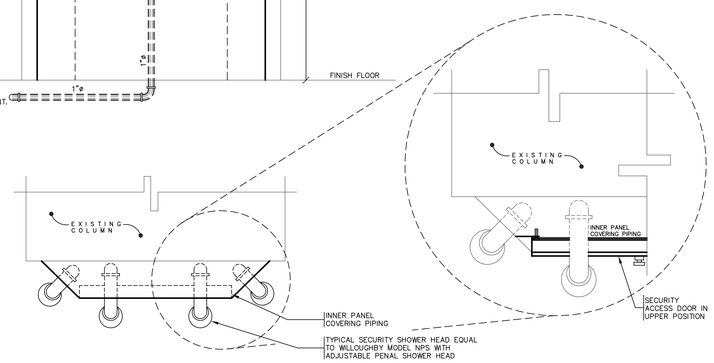
SECTION Mk'd A-A

NOT TO SCALE

SPECIFICATION :

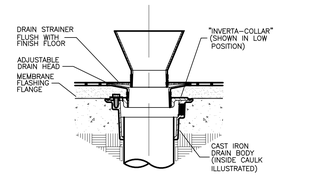
THE CONTRACTOR SHALL PROVIDE DOUBLE-WALL FIBERGLASS-REINFORCED PLASTIC (FRP) UNDERGROUND STORAGE TANK, 10,000 GAL CAPACITY, 8'ø x 31'-6" OF DIMENSIONS, THE TANK SHALL BE AS MANUFACTURED BY XERXES CORPORATION. TANK SHALL BE INSTALLED ACCORDING TO XERXES' CURRENT INSTALLATION INSTRUCTIONS





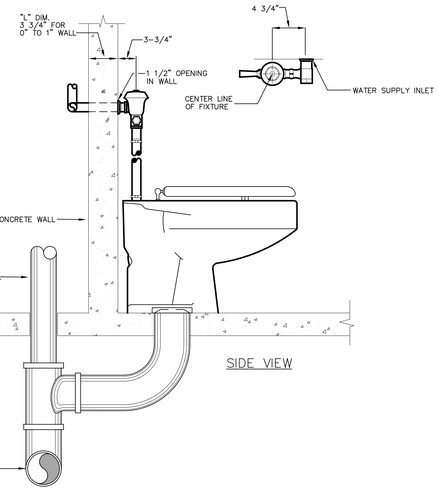
EMERGENCY SHOWER DETAIL

NOT TO SCALE



FUUNEL FLOOR DRAIN (F.F.D.)

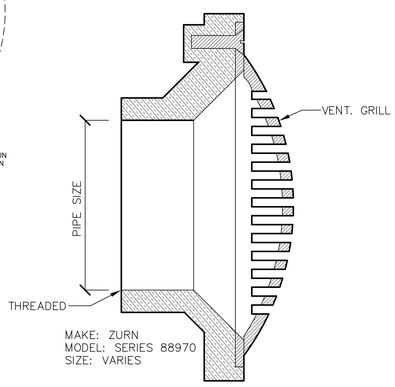
NOT TO SCALE



TYP. FLUSH VALVE DETAIL

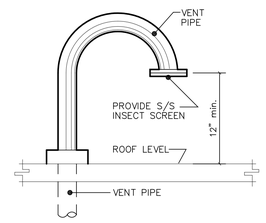
NOTE:
DIMENSION SHOWN FOR LOCATION OF SUPPLY ARE SUGGESTED.

NOT TO SCALE



VENT THRU WALL DETAIL

NOT TO SCALE



TYP. GOOSE NECK DETAIL

NOT TO SCALE

MECHANICAL, ELECTRICAL & STRUCTURAL CONSULTING ENGINEERS
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· site engineer
· structural engineer
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electrical engineer
Consultants

Dwg File Name: 0 4 0 4 | Year | Project | Sheet
Drawn by: BABILONIA ENG. GROUP
Checked by: H.M.B.
Date: 09-15-06

No.	Revision	Date	By
1	Issued for bid	10/11/2006	

Project

A.S.E.M. MAIN BUILDING REMODELING AND EXPANSION
PUERTO RICO MEDICAL CENTER

PHASE I: NEW LEVEL I EMERGENCY AND TRAUMA CENTER

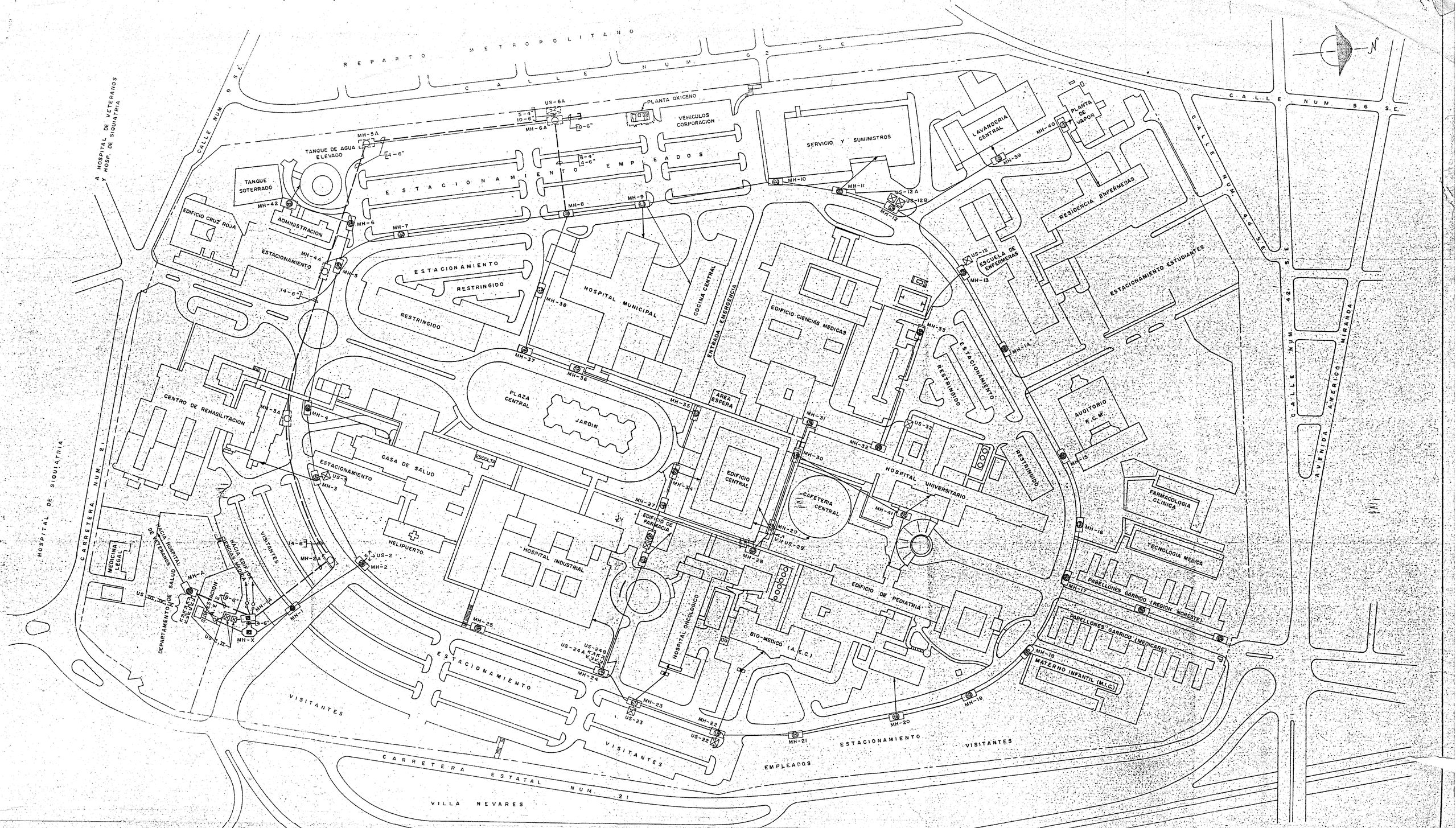
FERNANDO IRIZARRY ARCHITECTS, P.S.C.
(787) 765-4290 765-7127 P.O. BOX 195159
SAN JUAN, PUERTO RICO 00919-5159
CALLE ALEJANDRO TAPIA Y RIVERA #10
HATO REY, PUERTO RICO 00917

THIS DRAWINGS OR COPIES THEREOF FURNISHED BY THE OFFICE OF FERNANDO RIZZARRY ARCHITECTS AND SHALL BE USED AS INSTRUMENTS OF SERVICE FOR THE PROJECT AUTHORIZED BY FERNANDO RIZZARRY ARCHITECTS AND ARE NOT TO BE USED BY ANY ARCHITECTS OR REPRODUCED IN ANY FORM.

SHEET TITLE

PLUMBING NOTES, DETAILS AND SCHEDULES

SHEET	OF	DWG. NO.
.	.	P7-0



NOTA IMPORTANTE:

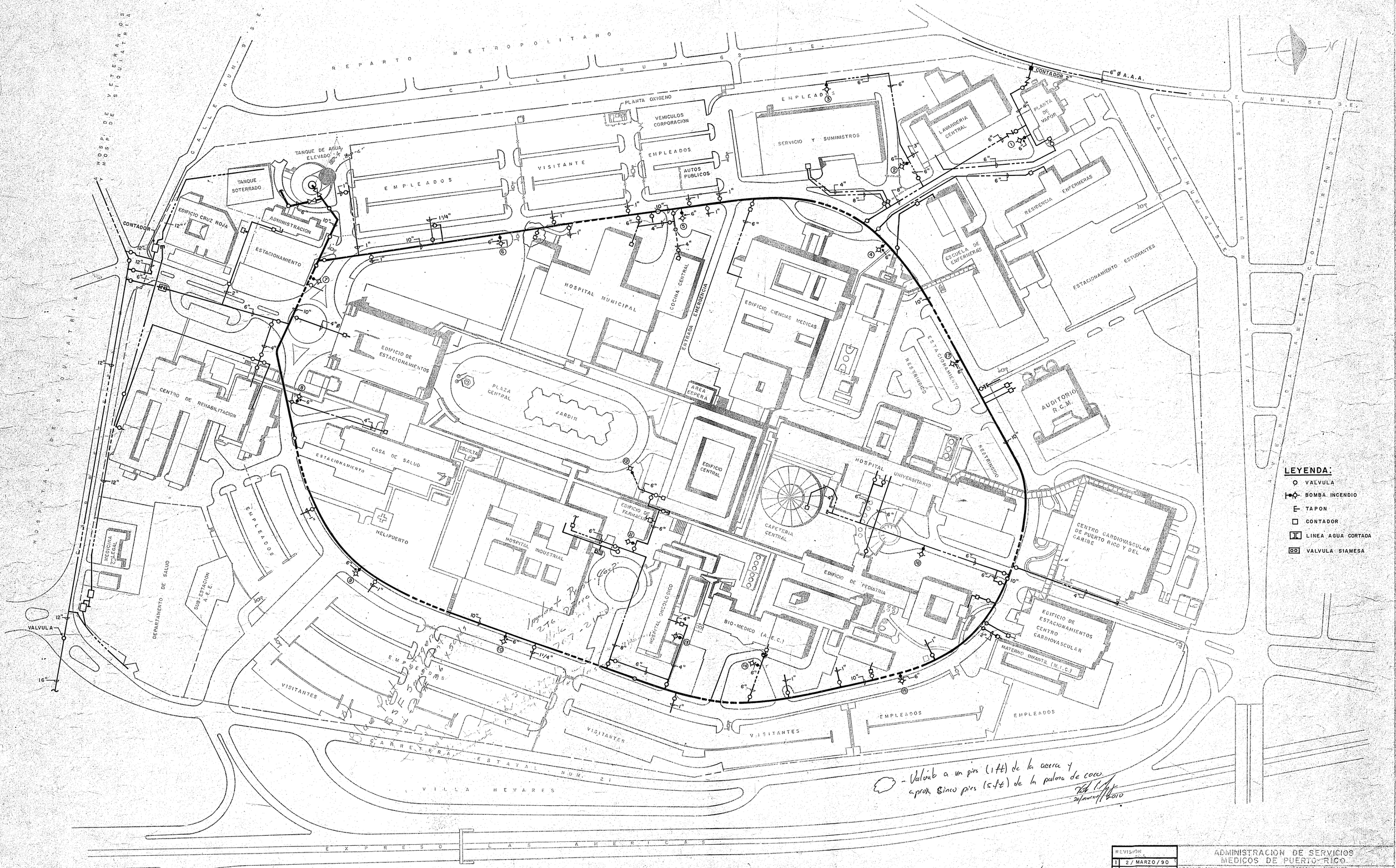
LA REVISION #1 EFECTUADA A ESTE PLANO ES RESULTADO DE UN ESTUDIO PRELIMINAR Y NO CONSTITUYE UN DISEÑO FINAL.

REVISIONS				REFERENCE DRAWINGS		REFERENCE DRAWINGS			DATE
NO.	DATE	DESCRIPTION	APPD	NUMBER	TITLE	NUMBER	TITLE	SURVEY	
1	7-8-84	SE AÑADEN UNIDADES SECCIONADORAS US. 2, 2-A, 2-B, 29 Y 32, Y SWITCH. SALE: US-6A. SE AÑADEN REGISTROS MH-2A, 2B, 4A, 5A Y 6A. SE AÑADE MANGADA DE CONDUCTOS DESDE LA SUBESTACION A MH-B, ATRAVES DE LOS REGISTROS MH-1A, 2A, 3A, 4A, 5A Y 6A.						DESIGN	
								DRAWN (TRACED) LUIS R. VILLALTA	01-13-84
								CHECKED	
								SUBMITTED	
								RECOMMENDED	
								APPROVED	

PUERTO RICO ELECTRIC POWER AUTHORITY
DISTRIBUTION SYSTEM

SISTEMA SOTERRADO A 4.16 KV
EN CENTRO MEDICO, RIO PIEDRAS
— PLANO FISICO —

SCALE: 1" = 100'-0" | SAN JUAN, P.R. | DRWG. NO.



REVISION	
1	2/MARZO/90
2	
3	
4	
5	
6	
7	
8	
9	

ADMINISTRACION DE SERVICIOS MEDICOS DE PUERTO RICO

LOCALIZACION: BO. MONACILLOS P.R.

ESCALA: 1" = 100'-0"

DIBUJADO: S. CHARDON

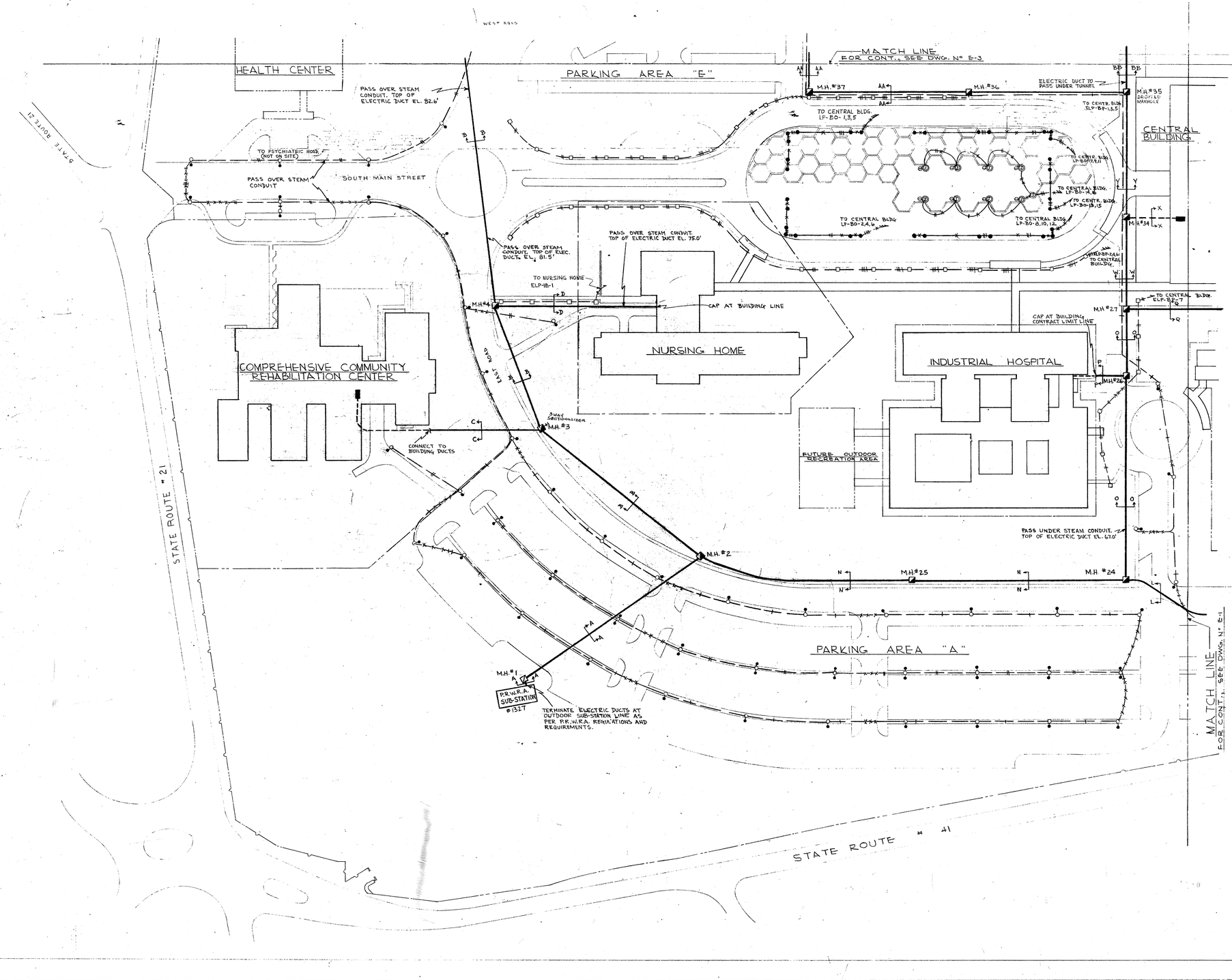
REVISADO: M. PASCUAL P.E.

TITULO DE HOJA: PLANO LINEAS DE AGUA POTABLE EXISTENTES, ASEM

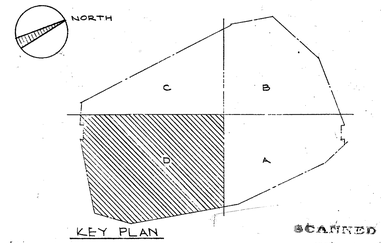
FECHA: 1/AGOSTO/85

ZONIFICACION:

HOJA NUM. 1 DE 2 - 23



NOTES:
1. SEE DWG. E-8 FOR SYMBOLS AND LEGEND LISTS AND GENERAL NOTES.
2. SEE DWGS. E-6 AND E-7 FOR SECTIONS AND DETAILS



KEY PLAN

SCANNED
AUG 1 X 2021

SITE IMPROVEMENT AND UTILITIES

PUERTO RICO MEDICAL CENTER
RIO PIEDRAS, P.R.-PROJECT No. P.R. 11 (REVISED)

PROVISIONAL BOARD OF THE MEDICAL CENTER
COMMONWEALTH OF PUERTO RICO

APPROVED: _____ DATE: _____
PRESIDENT: PROVISIONAL BOARD OF THE PUERTO RICO MEDICAL CENTER

ELECTRIC SYSTEM PLAN - SECTION "D"

SCALE:	1" = 50'
DRAWN BY:	B.J.D.
CHECKED BY:	H.L.K.
DATE:	OCT. 28, 60
REVISIONS:	

ISADORE & ZACHARY ROSENFIELD
ARCHITECTS & HOSPITAL CONSULTANTS
45 WEST 45 ST., NEW YORK 36, N.Y.

JOHN D. DILLON, CONSULTING ENGINEER
FARKAS & BARRON, STRUCTURAL ENGINEERS
COFFEY & LEVINE, MECHANICAL ENGINEERS

JOB No. 5715-C
DRAWING No. E-4

LEGEND

- BUILDING CONTRACT LINE
- PLOT PERIMETER
- FENCE AT PLOT PERIMETER
- MATCH LINE
- FUTURE BUILDING EXPANSION & FUTURE ROADS
- PHASING LIMIT LINE

GENERAL NOTES

1. CONTRACTOR TO VERIFY ALL CONDITIONS, LOCATIONS & DIMENSIONS AT SITE.
2. STREET LIGHTING CABLE TO BE LAID CLOSE TO CURBS SO AS TO AVOID TREES AND PLANTING.
3. CONTRACTOR TO CO-ORDINATE STREET LIGHTING LOCATIONS WITH TREES, PLANTING AND LANDSCAPING LOCATIONS AND DETAILS SO AS TO AVOID CONFLICTS.
4. SEE DWG. "E7" FOR SECTIONS AND DETAILS.
5. DUCTS AND CONNECTIONS SHOWN TO FUTURE BUILDINGS ARE DEPENDANT UPON FUTURE BUILDING LOCATIONS AND ITS ELECTRICAL FACILITIES LOCATIONS (WHICH SHALL BE VERIFIED BY CONTRACTOR). CONTRACTOR SHALL PROVIDE DUCTS AND CONNECTIONS TO FUTURE BUILDINGS AS REQUIRED BY THE ENGINEER.
6. PICK UP TELEPHONE SERVICE FROM PUERTO RICO TELEPHONE CO. POLE AND MANHOLES.
7. CONTRACTOR IS TO VERIFY ALL BUILDINGS AND ELECTRIC FACILITIES LOCATIONS.
8. EXACT LOCATIONS OF CONDUIT TERMINATIONS SHALL BE VERIFIED BY CONTRACTOR BY SITE INSPECTION OF EQUIPMENT LOCATIONS.
9. GROUNDING SYSTEMS AS REQUIRED BY LOCAL ELECTRICAL CODE AND P.R.W.R.A. REGULATIONS SHALL BE SUPPLIED AND INSTALLED. GROUND ALL EQUIPMENT AS SPECIFIED BY EQUIPMENT MANUFACTURERS.
10. ALL SCHEDULES ARE PREPARED FOR DESIGN CONVENIENCE. ALL QUANTITIES AND SIZES SHALL BE VERIFIED BY CONTRACTOR FROM THESE PLANS.
11. CIRCUIT NUMBERS ARE ASSIGNED FOR DESIGN CONVENIENCE. PHASE LOADINGS SHALL BE BALANCED AT EACH PANEL TO DESIGN LIMITS SET BY P.R.W.R.A.
12. INSTALL ALL CONTROL WIRING, CONDUITS AND DEVICES AS REQUIRED BY MANUFACTURERS CONTROL WIRING REQUIREMENTS FOR INDIVIDUAL EQUIPMENT, MOTORS AND CONTROL PANELS.
13. ALL OUTDOOR CONDUITS AND EQUIPMENT TO BE WATER TIGHT. SLEEVES WHERE NECESSARY.
14. ALL EXPOSED CONDUIT SHALL BE FLAT, SNUG TO MOUNTING SURFACE AND PARALLEL TO WALLS.
15. CONTRACTOR TO REMOVE ALL EXISTING ABOVE GROUND ELECTRICAL FACILITIES AND EQUIPMENT AND ABANDON ALL EXISTING UNDERGROUND ELECTRICAL FACILITIES AND CAP ALL LIVE ENDS THROUGHOUT SITE AS WORK PROGRESS OBSOLETES SAID ELECTRICAL FACILITIES AND EQUIPMENT. ALL REMOVALS AND ABANDONMENTS SHALL BE DONE AS DIRECTED BY THE ENGINEERS.
16. CONTRACTOR TO CO-ORDINATE WITH ALL TRADES AND VERIFY AND CO-ORDINATE WITH ALL WORK UNDER ALL OTHER SECTIONS OF THE SPECIFICATIONS. DO NOT CONFLICT WITH STEAM, WATER, GAS, OXYGEN, SOIL, ETC. LINES. WHERE NECESSARY ADJUST ELECTRIC WORK LOCATIONS AND ELEVATIONS AS DIRECTED AND APPROVED BY THE ENGINEER.

ELECTRICAL SYMBOLS

SYMBOL	DESCRIPTION
W.P.	WEATHER PROOF
E.C.	EMPTY CONDUIT
	ELECTRIC PANEL
	CONDUIT CONCEALED IN CEILING.
	CONDUIT CONCEALED IN FLOOR (PUMP HOUSE ONLY)
	CONDUIT EXPOSED
	CONDUIT GOING UP
	CONDUIT GOING DOWN
	HOME RUN. NUMBER OF ARROWS DENOTES QUANTITY OF CIRCUITS. NUMBER OF CROSS LINES DENOTES QUANTITY OF WIRES. ALL CONDUITS, UNLESS OTHERWISE NOTED ON PLANS OR IN SCHEDULES, ARE ¾" AND CONTAIN 2 #12 WIRES. USE #10 WIRES IN ALL BRANCH CIRCUITS OF 100' OR OVER.
A.F.F.	ABOVE FINISHED FLOOR
	CEILING OUTLET
A	CEILING OUTLET, LIGHTING FIXTURE LETTER DENOTES FIXTURE TYPE
bH	WALL OUTLET, LIGHTING FIXTURE LETTER DENOTES FIXTURE TYPE
	WALK WAY LIGHT - PRESCOLITE CAT. # OL45SP SEE DETAIL ON DWG. # E-6
	UNDER TREE LIGHT - 500W. - SIMES CAT. "44923-S OR EQUAL SEE DETAIL ON DWG. # E-6
	POOL LIGHT - 300W. - SIMES CAT. "45212 OR EQUAL SEE DETAIL ON DWG. # E-6
J	JUNCTION BOX
	DUPLEX CONVENIENCE RECEPTACLE 120 VOLTS, 20 AMPS.
	DUPLEX CONVENIENCE RECEPTACLE GROUNDING TYPE, 120 VOLTS, 20 AMPS.
S	SINGLE POLE, SINGLE THROW SWITCH.
SP	SINGLE POLE, SINGLE THROW SWITCH WITH LIGHTED ACTIVATOR.
	CAST ALUMINUM 8"x8"x4" WATERTIGHT DIRECT BURIAL JUNCTION BOX.
70	DISCONNECT SWITCH, NUMBER INDICATES FUSE SIZE WHEN FUSED.
	MOTOR STARTER.
	MOTOR STARTER, HAND-OFF-AUTOMATIC
7½	COMBINATION MOTOR STARTER, NUMBER INDICATES FUSE SIZE WHEN FUSED.
Z	MOTOR, NUMBER INDICATES HORSE-POWER
D	FIRE ALARM AUTOMATIC COMBINATION DETECTOR, RATED AT 135° F, CEILING RECESSED OUTLET BOX MTD.
F	FIRE ALARM MANUAL BREAK GLASS STATION
G	FIRE ALARM GONG - 10" DIAM. - WALL MOUNTED.
	INTERCOM. TELEPHONE AND OUTLET BOX WITH RECEPTACLE, WALL MOUNTED.
C	CLOCK AND OUTLET - 12" SINGLE FACE - FLUSH MOUNTED
	ELECTRICAL DUCT BANK, IN SITE WORK CONTRACT. SEE SECTIONS ON DWG. E-7 FOR CABLES & WIRES IN DUCT BANK.
	ELECTRICAL DUCT BANK CABLE, WIRES AND/OR CONDUITS FURNISHED UNDER INDIVIDUAL BUILDING CONTRACTS. DO NOT INCLUDE AS PART OF SITE CONTRACT WORK.
	CABLE IN OUTDOOR UNDERGROUND ALUMINUM CONDUIT. TICKS INDICATE NUMBER OF WIRES IN CONDUIT. WIRES MIN. #10.
	HOME RUN - OUTDOOR ALUMINUM UNDERGROUND CONDUIT. NUMBER OF ARROWS DENOTES QUANTITY OF CIRCUITS. TICKS DENOTE QUANTITY OF WIRES. ALL CONDUITS UNLESS OTHERWISE NOTED ON PLANS OR IN SCHEDULES ARE 1" AND CONTAIN 2 #10 WIRES. ALL WIRES MIN. #10.
	½" ϕ 5 KV. DIRECT BURIAL CABLE UNDER OTHER CONTRACTS. TICKS INDICATE NUMBER OF CABLES IN TRENCH.
	½" ϕ 5 KV. DIRECT BURIAL CABLE IN SITE WORK. TICKS INDICATE NUMBER OF CABLES IN TRENCH.
	2" OUTDOOR ALUMINUM UNDERGROUND CONDUIT, BURIED A MINIMUM OF 2'-6" BELOW FINISHED GRADE. TICKS INDICATE NUMBER OF ½" ϕ 5 KV. STREET LIGHTING CABLES IN CONDUIT. CONDUIT SHOULD EXTEND A MIN. OF 5 FEET BEYOND ON EACH SIDE OF ROADWAY OR PAVED SURFACES PASSED.
	2" OUTDOOR ALUMINUM UNDERGROUND CONDUIT & CABLES. UNDER OTHER CONTRACTS.
	POWER AND SIGNAL MANHOLE (IN SITE WORK UNLESS OTHERWISE NOTED IN MANHOLE SCHEDULE)
	POWER MANHOLE
	SIGNAL MANHOLE (TELEPHONE)
	UNIT SUB-STATION. ALL (EXCEPT PUMP HOUSE SUB-STATION) ARE UNDER OTHER CONTRACTS.
	OUTDOOR UNDER GROUND PULL BOX - UNDER OTHER CONTRACTS.
	STREET LIGHTING STANDARD - SINGLE ARM
	STREET LTG. STANDARD - SINGLE ARM - UNDER OTHER CONTRACT
	STREET LTG. STANDARD - DOUBLE ARM
	STREET LTG. STANDARD - DOUBLE ARM - UNDER OTHER CONTRACT.
T.O.EL. 76.0	WHERE CROSSING UNDER OTHER SERVICES THIS INDICATES "TOP OF ELECT. DUCT ELEVATION 76.0"
B.O.EL. 71.0	WHERE CROSSING OVER OTHER SERVICES THIS INDICATES "BOTTOM OF ELECT. DUCT ELEVATION 71.0"

PUERTO RICO WATER RESOURCE AUTHORITY
SECONDARY IN OUTDOOR SUBSTATION Nº 1827
4160 V. 3ϕ, 60 CYCLE

5KV. OUTDOOR METAL ENCLOSED OIL CIRCUIT BREAKERS, 500A. TRIP 100,000A. I.C.; CONFORM TO ALL P.R.W.R.A. REQUIREMENTS.

FEEDER # 1 | FEEDER # 2 | FEEDER # 3 | FEEDER # 4 | FEEDER # 5 | FEEDER # 6

MANHOLE # 1

NURSING HOME — M.H. 4
COMPREHENSIVE COMMUNITY REHAB. CENTER — M.H. 3 — SECTIONALIZER
PUMP HOUSE — M.H. 42
FUTURE HEALTH CENT.
INDUSTRIAL HOSPITAL — M.H. 26
CENTRAL BLDG. — M.H. 29
CENTRAL BLDG. — M.H. 34
CAFETERIA — M.H. 40
MEDICAL SCIENCE BLDG. — M.H. 35
DISTRICT HOSPITAL — M.H. 41
CLINICAL RESEARCH
MEDICAL SCIENCE BLDG. — M.H. 31, M.H. 33, M.H. 11
M.H. 36, M.H. 38, M.H. 9 — FUTURE MUNICIPAL HOSPITAL
M.H. 16 — FUTURE STUDENT DORM. & APARTMENT BUILDING AND FACILITIES
M.H. 15
M.H. 14 — FUTURE SCHOOL OF NURSING AND STUDENT & GRAD NURSES DORM.
M.H. 13
M.H. 11 — GARAGE, WAREHOUSE & TEXTILE CENT.
EXISTING TB PAVILION — M.H. 17
SECTIONALIZER — M.H. 22
BIO MEDICAL BLDG. A.E.C.
SECTIONALIZER — M.H. 23
ONCOLOGIC HOSPITAL
LAUNDRY — M.H. 39
POWER PLANT — M.H. 40

NOTE:
ALL NORMAL SERVICE POWER FEEDERS ARE 3-1/c, 500 MCM, 5KV. UNDER GROUND CABLE.

NORMAL SERVICE POWER ONE-LINE DISTRIBUTION DIAGRAM
(NO SCALE)

PUERTO RICO MEDICAL CENTER EMERGENCY GENERATOR BUS IN POWER PLANT
4160 V. 3ϕ, 60 CYCLE

FEEDER # E1 | FEEDER # E2 | FEEDER # E3 | FEEDER # E4

MANHOLE # 40
POWER PLANT
CENTRAL BLDG. — M.H. 29
CAFETERIA
M.H. 39 — CENTRAL BLDG.
M.H. 11 — GARAGE WAREHOUSE & TEXTILE CENTER
M.H. 42 — PUMP HOUSE
M.H. 39 — LAUNDRY

NOTE:
ALL EMERGENCY SERVICE POWER FEEDERS ARE 3-1/c, #2 AWG., 5KV. UNDERGROUND CABLE.

EMERGENCY SERVICE POWER ONE-LINE DISTRIBUTION DIAGRAM
(NO SCALE)

SITE IMPROVEMENT AND UTILITIES

PUERTO RICO MEDICAL CENTER
RIO PIEDRAS, P.R. - PROJECT No. P.R. 11 (REVISED)

PROVISIONAL BOARD OF THE MEDICAL CENTER
COMMONWEALTH OF PUERTO RICO

APPROVED: ..... DATE .....
PRESIDENT: PROVISIONAL BOARD OF THE PUERTO RICO MEDICAL CENTER

ELECTRIC WORK
WIRING DIAG., DETAILS & SYMBOLS

SCALE: AS NOTED
DRAWN BY: P.M.
CHECKED BY: H.L.L.
DATE: OCT. 18, 60
REVISIONS

ISADORE & ZACHARY ROSENFIELD
ARCHITECTS & HOSPITAL CONSULTANTS
49 WEST 45 ST. NEW YORK 36, N.Y.

JOHN D. GILLON, CONSULTING ENGINEER
FARKAS & BARRON, STRUCTURAL ENGINEER
COFFEY & LEVINE, SITE PLANNING CONSULTANTS

JOB No: 5715-C
DRAWING No.
E-8

HEALTH CENTER

PARKING AREA "E"

MATCH LINE FOR CONT., SEE DWG. Nº E-11

PASS OVER STEAM CONDUIT. TOP OF ELECTRIC DUCT EL. 82.6'

EXISTING TEL. CO. DUCT LINE

EXIST. TEL. M.H.#18

TO PSYCHIATRIC HOSP. (NOT ON SITE)

PASS OVER STEAM CONDUIT

SOUTH MAIN STREET

EXISTING TEL. CO. DUCT LINES.

EXISTING TEL. M.H.#19

THIS DUCT RUN IN PHASE #1

ELECTRIC DUCT TO PASS UNDER TUNNEL

M.H.#37

M.H.#36

M.H.#35 DROPPED MANHOLE

TO CENTR. BLDG. LP-BP-1,3,5

TO CENTRAL BLDG. LP-BO-1,3,5

EXIST. TEL. M.H.#20

EXISTING TEL. CO. DUCT LINE

EXIST. TEL. M.H.#21

CENTRAL BUILDING

TO CENTR. BLDG. LP-BO-11

TO CENTRAL BLDG. LP-BO-9,11

TO CENTR. BLDG. LP-BO-13,15

TO CENTRAL BLDG. LP-BO-2,4,6

TO CENTRAL BLDG. LP-BO-9,10,12

M.H.#34

LP-BO-2,4,6 TO CENTRAL BUILDING

PASS OVER STEAM CONDUIT. TOP OF ELEC. DUCT EL. 81.5'

PASS OVER STEAM CONDUIT. TOP OF ELECTRIC DUCT EL. 75.0'

TO NURSING HOME LP-BE-1

CAP AT BUILDING LINE

M.H.#4

NURSING HOME

CAP AT BUILDING CONTRACT LIMIT LINE

M.H.#27

TO CENTRAL BLDG. LP-BE-7

INDUSTRIAL HOSPITAL

THIS PORTION OF DUCT BANK IN PHASE #1

M.H.#26

COMPREHENSIVE COMMUNITY REHABILITATION CENTER

EAST ROAD

M.H.#3

CONNECT TO BLDG. DUCTS

FUTURE OUTDOOR RECREATION AREA

PASS UNDER STEAM CONDUIT. TOP OF ELECTRIC DUCT EL. 67.0'

M.H.#2

M.H.#25

M.H.#24

PARKING AREA "A"

M.H.#1

P.R.W.R.A. SUB-STATION #152-7

TERMINATE ELECTRIC DUCTS AT OUTDOOR SUB-STATION LINE AS PER P.R.W.R.A. REGULATIONS AND REQUIREMENTS.

MATCH LINE FOR CONT., SEE DWG. Nº E-9

STATE ROUTE # 21

STATE ROUTE # 41

WEST ROAD

STATE ROUTE 21

NOTES:

1. SEE DWG. E-8 FOR SYMBOLS AND LEGEND LISTS AND GENERAL NOTES.
2. SEE DWGS E-6 AND E-7 FOR SECTIONS AND DETAILS
3. ALL SITE ELECTRIC WORK IS IN PHASE Nº 1 UNLESS ENCLOSED BY PHASE LINE (——) ACCOMPANIED BY PHASE Nº 2, 3 OR 4 WHICH INDICATES PHASE IN WHICH WORK IS TO BE DONE

NORTH

KEY PLAN

SITE IMPROVEMENT AND UTILITIES

PUERTO RICO MEDICAL CENTER
RIO PIEDRAS, P.R.-PROJECT No. P.R. 11 (REVISED)

PROVISIONAL BOARD OF THE MEDICAL CENTER
COMMONWEALTH OF PUERTO RICO

APPROVED: _____ DATE: _____
PRESIDENT: PROVISIONAL BOARD OF THE PUERTO RICO MEDICAL CENTER

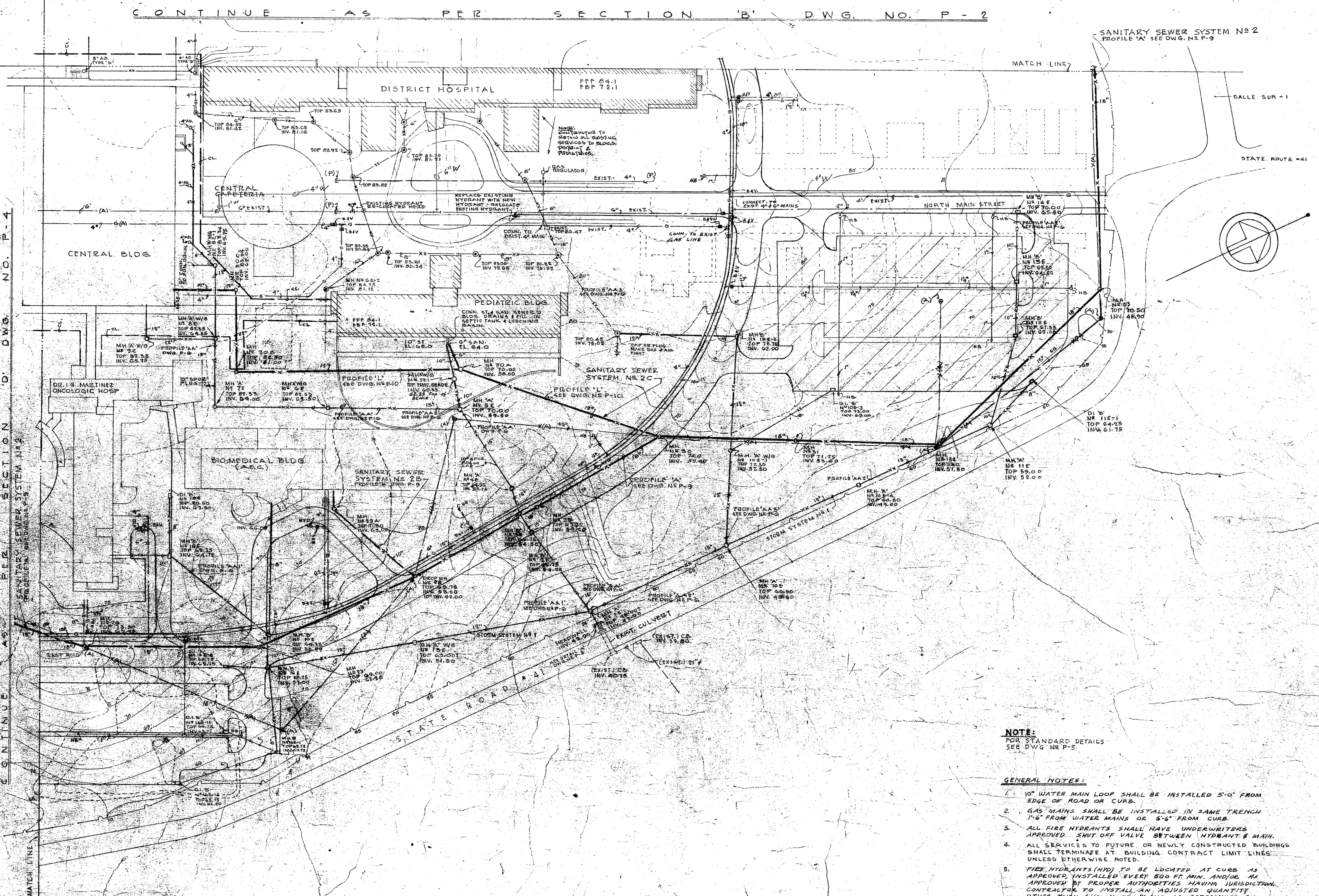
ELECTRIC SYSTEM - PHASING - PLAN SECTION "D"

SCALE: 1" = 50'
DRAWN BY: B.M.
CHECKED BY: W.L.K.
DATE: OCT. 28, 60
REVISIONS:

ISADORE & ZACHARY ROSENFIELD
ARCHITECTS & HOSPITAL CONSULTANTS
45 WEST 45 ST., NEW YORK 36, N.Y.

JOHN D. DILLON CONSULTING ENGINEER
FARKAS & BARRON STRUCTURAL ENGRS.
COFFEY & LEVINE DATA PROCESSING CONSULTANTS

JOB No: 5715C
DRAWING No.
E-12



NOTE:
FOR STANDARD DETAILS
SEE DWG Nº P-5

GENERAL NOTES:

1. 10" WATER MAIN LOOP SHALL BE INSTALLED 5'-0" FROM EDGE OF ROAD OR CURB.
2. GAS MAINS SHALL BE INSTALLED IN SAME TRENCH 1'-6" FROM WATER MAINS OR 6'-6" FROM CURB.
3. ALL FIRE HYDRANTS SHALL HAVE UNDERWRITERS APPROVED SHUT OFF VALVE BETWEEN HYDRANT & MAIN.
4. ALL SERVICES TO FUTURE OR NEWLY CONSTRUCTED BUILDINGS SHALL TERMINATE AT BUILDING CONTRACT LIMIT LINES UNLESS OTHERWISE NOTED.
5. FIRE HYDRANTS (HYD) TO BE LOCATED AT CURB AS APPROVED, INSTALLED EVERY 500 FT. MIN. AND/OR AS APPROVED BY PROPER AUTHORITIES HAVING JURISDICTION. CONTRACTOR TO INSTALL AN ADJUSTED QUANTITY OTHER THEN SHOWN ON PLANS AS DETERMINED BY SAME AUTHORITIES, CONTRACTOR IS ALSO CAUTIONED TO INSTALL PROPER HYDRANTS AT BLDGS. NOT SHOWN ON PLANS.
6. CONTRACTOR TO REMAIN RESPONSIBLE & REVISE (UNDER AUTHORIZED SUPERVISION) ANY NEW OR EXISTING MANHOLE, OR ANY PIPING FOUND ON JOB NOT SHOWN OR NOTED ON THESE DRAWINGS, DUE TO UNKNOWN CONDITIONS AT THIS TIME... WITH NO EXTRA TO OWNER.
7. ALL UNDERGROUND WATER PIPING, VALVES, CONSTRUCTION DETAILS AND ISULATION, SHALL MEET THE STANDARDS AND REQUIREMENTS OF THE PUERTO RICO AQUEDUCT AND SEWER AUTHORITY.

SYMBOLS AND ABBREVIATIONS

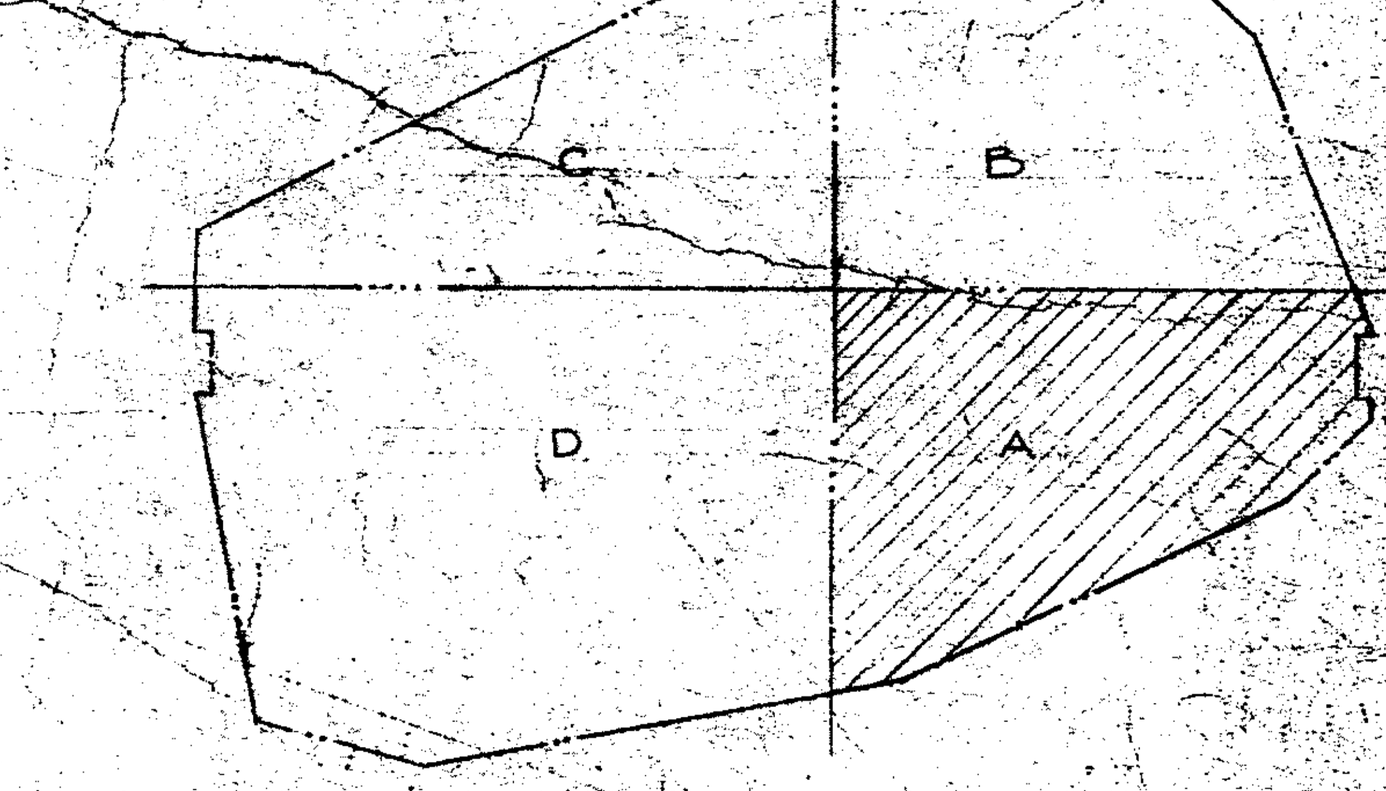
SANITARY	SAN.
STORM	ST
COLD WATER	CW
SOFT WATER	SW
GAS	G
POOL SUPPLY WATER	PS
POOL RETURN WATER	PR
CURB AND VALVE BOX	B&V
EXISTING	EXIST
INVERT	INV
MANHOLE	MH
AREA DRAIN	A. D.
DRAIN INLET	DI
HYDRANT (FIRE)	HYD
ELEVATION	EL

DWG.	DRAWING
HB	HOSE BIBB
CL	CONTRACT LIMIT
V.T	VITRIFIED TILE
CI	CAST IRON
FFF	FINISHED FIRST FLOOR
FBF	FINISHED BASEMENT FLOOR
CONN	CONNECT
W/G	WITH GRATE
W.I.	WROUGHT IRON
O.C.	ON CENTER
LG.	LONG
CB	CATCH BASIN
VERT.	VERTICAL
HOR.	HORIZONTAL

SANITARY, STORM, COLD WATER, GAS } EXISTING

(A) ABANDON EXISTING PIPING OR EXISTING MANHOLE
(P) PLUG OR CAP. MAKE GAS AND AIR TIGHT
◉ EXISTING MANHOLE

EXISTING GRADE
FINISHED GRADE
CONTRACT LIMIT LINE CL.



KEY PLAN

SITE IMPROVEMENT AND UTILITIES
PUERTO RICO MEDICAL CENTER
RIO PIEDRAS, P.R.-PROJECT No.P.R.11(REVISED)
PROVISIONAL BOARD OF THE MEDICAL CENTER
COMMONWEALTH OF PUERTO RICO
APPROVED: ________ DATE ________
PRESIDENT: PROVISIONAL BOARD OF THE PUERTO RICO MEDICAL CENTER

WATER AND GAS MAINS
STORM AND SANITARY SEWERS
PLAN SECTION A

ISADORE & ZACHARY ROSENFIELD
ARCHITECTS & HOSPITAL CONSULTANTS
45 WEST 45 ST. NEW YORK 36, N.Y.

JOHN D. DILLON CONSULTING ENGINEER | FARKAS & BARRON STRUCTURAL ENGINEER | COFFEY & LEVINE SITE PLANNING CONSULTANTS

SCALE: 1" = 50'-0"
DRAWN BY: G.C.
CHECKED BY: I.S.
DATE: OCT 8,60
REVISIONS:
JOB No. 5715-C
DRAWING No.
P-1

CONTINUE AS PER SECTION 'C' DWG. NO. P-3

MATCH LINE

STATE ROUTE #2

SOUTH MAIN STREET

STATE ROUTE #41

COMPREHENSIVE COMMUNITY REHABILITATION CENTER

NURSING HOME

INDUSTRIAL HOSPITAL

CENTRAL BUILDING

POOL

ELIM. WATER

CONNECT EXISTING 6"CW. AND 4"GAS LINES TO NEW MAINS.

INSTALL HOSE BIBBS (HB) IN NEAREST UNPOLED AREAS.

NOTE
INSTALL THE LEGS OF ALL PLAZA MANHOLES 1 FOOT AWAY FROM EDGE OF CURB

SANITARY SEWER SYSTEM NO. 2A
PROFILE "EL"
DWG NO. P-10

SANITARY SEWER SYSTEM NO. 2
PROFILES "A" "B" "C" "D" "E" "F" "G" "H" "I" "J" "K" "L" "M" "N" "O" "P" "Q" "R" "S" "T" "U" "V" "W" "X" "Y" "Z"
SEE DWG. NO. P-9

STORM SYSTEM NO. 1
STORM SYSTEM NO. 2
STORM SYSTEM NO. 5
STORM SYSTEM NO. 6
STORM SYSTEM NO. 7
STORM SYSTEM NO. 8

PROFILE "AA" SEE DWG. NO. P-5
PROFILE "BB" SEE DWG. NO. P-5
PROFILE "CC" SEE DWG. NO. P-5
PROFILE "DD" SEE DWG. NO. P-5
PROFILE "EE" SEE DWG. NO. P-5
PROFILE "FF" SEE DWG. NO. P-5
PROFILE "GG" SEE DWG. NO. P-5
PROFILE "HH" SEE DWG. NO. P-5
PROFILE "II" SEE DWG. NO. P-5
PROFILE "JJ" SEE DWG. NO. P-5
PROFILE "KK" SEE DWG. NO. P-5
PROFILE "LL" SEE DWG. NO. P-5
PROFILE "MM" SEE DWG. NO. P-5
PROFILE "NN" SEE DWG. NO. P-5
PROFILE "OO" SEE DWG. NO. P-5
PROFILE "PP" SEE DWG. NO. P-5
PROFILE "QQ" SEE DWG. NO. P-5
PROFILE "RR" SEE DWG. NO. P-5
PROFILE "SS" SEE DWG. NO. P-5
PROFILE "TT" SEE DWG. NO. P-5
PROFILE "UU" SEE DWG. NO. P-5
PROFILE "VV" SEE DWG. NO. P-5
PROFILE "WW" SEE DWG. NO. P-5
PROFILE "XX" SEE DWG. NO. P-5
PROFILE "YY" SEE DWG. NO. P-5
PROFILE "ZZ" SEE DWG. NO. P-5

TO MAUNABO
TO PSYCHIATRIC
TO PENITENCIARIA
TO LUQUILLO
FROM PSYCHIATRIC
FROM LUQUILLO

METER PIT SEE DETAIL 'N' THIS SHEET

NEW F.W. CONNECTION TO MAIN AS DIRECTED BY AQUEDUCT AND SEWER AUTHORITY

EXIST. CONCRETE CULVERT

EXIST. C.B. INV. 57.60

EXIST. C.B. INV. 57.90

24" EXIST.

18" EXIST.

CONC PIPE

MATCH LINE

CONTRACT LIMIT LINES (CL)

NOTE: FOR SYMBOLS AND ABBREVIATIONS, SEE DWG NO P-1

FOR STANDARD DETAILS SEE DWG NO P-5

SCALE: 1" = 50'-0"

SYMBOLS FOR POOL

A - SPRAY NOZZLE AND ADJUSTABLE JOINT ON SIDEWALL - 4" ABOVE WATERLINE
B - DRAIN - JOSAM 0456 - 6" GALVANIZED BODY - BRONZE STRAINER
C - SUPPLY HYDRANT - ZURN Z-1495 ENCASED HYDRANT, 1" SIZE, LOCKING COVER
D - RETURN FITTING - JOSAM 0550 B 5" GALVANIZED BODY BRONZE STRAINER - INV. 8" BELOW RIM
E - OVERFLOW - JOSAM 0540 B 2½" GALVANIZED BODY BRONZE STRAINER - INV. 6" BELOW RIM
F - DRAIN VALVE WITH CURB BOX
G - PYLON BASE DRAIN JOSAM # 4863 BP ALL BRASS HIGH DOME ← OMIT
H - GLOSS VALVE IN CURB BOX WITH LOCKED C.I. COVER → OMIT

NOTE
SPRAY NOZZLE NO 2K 120 WITH ADJUSTABLE ¾" x ¾" JOINT
20.8 G.P.M. @ 30 P.S.I. FROM WATER COOLING CORP. N.Y.

15' - 6"

FLOW

6 EXTRA BARS

WATER-TIGHT FRAME WITH HINGED DOORS "FLOCKHART" NO. 5504-S

NOTE: DOORS TO BE HOOKED AT EACH END CONCRETE WALLS

PLAN

WATERTIGHT FRAME WITH HINGED DOORS "FLOCKHART NO. 85-65"

GRADE

12" BLOCK 6" CC. BOTH WAYS TOP BOTTOM & SIDES

LADDER RUNGS SEE DWG P-5 FOR DETAILS

FLOW

WALL FLANGE BOTH SIDES, CAULK BOTH SIDES OF WALL
FLOW P-1408

PITCH

6" CONCR.

DRY SUMP 18"x18"x18"

15' - 6"

SECTION

PRESSURE GAUGES

FLANGE AND BELL

GATE VALVE

DRESSER COUPLING

METER

BY-PASS 2" GATE VALVE

FLANGE AND PLAIN

METERS, VALVES AND PIPING SUPPORTED & ENCASED AS SPECIFIED

NOTES:
1- ALL VALVES O.S.&Y. AWWA CI BRASS TRIM
2- ALL FITTINGS 125# C.I. FLANGED
3- ALL PIPE C.I. 150# CLASS CEMENT LINED

DETAIL 'N'
METER PIT AND ASSEMBLY
SCALE: ¾"=1'-0"

KEY PLAN

SITE IMPROVEMENT AND UTILITIES

PUERTO RICO MEDICAL CENTER
RIO PIEDRAS, P.R.-PROJECT No.P.R.11(REVISED)

PROVISIONAL BOARD OF THE MEDICAL CENTER
COMMONWEALTH OF PUERTO RICO

APPROVED: _____ DATE: _____
PRESIDENT: PROVISIONAL BOARD OF THE PUERTO RICO MEDICAL CENTER

WATER AND GAS MAINS
STORM AND SANITARY SEWERS
PLAN SECTION D

ISADORE & ZACHARY ROSENFIELD
ARCHITECTS & HOSPITAL CONSULTANTS
45 WEST 45 ST., NEW YORK 36, N.Y.

JOHN D. DILLON CONSULTING ENGINEER
FARKAS & BARRON STRUCTURAL ENGINEER
COFFEY & LEVINE SITE PLANNING CONSULTANTS

SCALE 1"=50'-0" & AS SHOWN
DRAWN BY: R.C.
CHECKED BY: R.R.
DATE: OCT 29 60
REVISIONS:

JOB No. 5715-C
DRAWING No. P-4

CONTINUE AC PEF SECTION 'C' DWG NO. P-13

MATCH LINE

STATE ROUTE # 8

155TH MAIN STREET

WATER METER AND GAS MAIN TO REMAIN, CENTER NOT IN CONTRACT

CONNECT EXISTING 6" GW AND 6" G LINES TO NEW MAINS

6" WATER METER

COMPREHENSIVE COMMUNITY REHABILITATION CENTER

NURSING HOME

INDUSTRIAL HOSPITAL

POOL

INSTALL NOSE BIBBS AND HI HEADERS IN PLANTED AREAS

FROM CANOPY DRAINS, BLDG.

CONNECT TO CENTRAL BUILDING

NOTE
INSTALL THE LEGS OF ALL PLAZA MANHOLES AT RIGHT ANGLES TO FLOW DIRECTION OF CURB

6" CONN. TO CANOPY DRAINS

STORM SYSTEM NO 8

STORM SYSTEM NO 6

STORM SYSTEM NO 7

STORM SYSTEM NO 9

SANITARY SEWER SYSTEM NO 8A

PROFILE 'DD' SEE DWG NO P-10

PROFILE 'CC' SEE DWG NO P-9

PROFILE 'EE' SEE DWG NO P-8

PROFILE 'FF' SEE DWG NO P-8

PROFILE 'GG' SEE DWG NO P-8

PROFILE 'HH' SEE DWG NO P-8

PROFILE 'II' SEE DWG NO P-8

PROFILE 'JJ' SEE DWG NO P-8

PROFILE 'KK' SEE DWG NO P-8

PROFILE 'LL' SEE DWG NO P-8

PROFILE 'MM' SEE DWG NO P-8

PROFILE 'NN' SEE DWG NO P-8

PROFILE 'OO' SEE DWG NO P-8

PROFILE 'PP' SEE DWG NO P-8

PROFILE 'QQ' SEE DWG NO P-8

PROFILE 'RR' SEE DWG NO P-8

PROFILE 'SS' SEE DWG NO P-8

PROFILE 'TT' SEE DWG NO P-8

PROFILE 'UU' SEE DWG NO P-8

PROFILE 'VV' SEE DWG NO P-8

PROFILE 'WW' SEE DWG NO P-8

PROFILE 'XX' SEE DWG NO P-8

PROFILE 'YY' SEE DWG NO P-8

PROFILE 'ZZ' SEE DWG NO P-8

PROFILE 'AAA' SEE DWG NO P-8

PROFILE 'BBB' SEE DWG NO P-8

PROFILE 'CCC' SEE DWG NO P-8

PROFILE 'DDD' SEE DWG NO P-8

PROFILE 'EEE' SEE DWG NO P-8

PROFILE 'FFF' SEE DWG NO P-8

PROFILE 'GGG' SEE DWG NO P-8

PROFILE 'HHH' SEE DWG NO P-8

PROFILE 'III' SEE DWG NO P-8

PROFILE 'JJJ' SEE DWG NO P-8

PROFILE 'KKK' SEE DWG NO P-8

PROFILE 'LLL' SEE DWG NO P-8

PROFILE 'MMM' SEE DWG NO P-8

PROFILE 'NNN' SEE DWG NO P-8

PROFILE 'OOO' SEE DWG NO P-8

PROFILE 'PPP' SEE DWG NO P-8

PROFILE 'QQQ' SEE DWG NO P-8

PROFILE 'RRR' SEE DWG NO P-8

PROFILE 'SSS' SEE DWG NO P-8

PROFILE 'TTT' SEE DWG NO P-8

PROFILE 'UUU' SEE DWG NO P-8

PROFILE 'VVV' SEE DWG NO P-8

PROFILE 'WWW' SEE DWG NO P-8

PROFILE 'XXX' SEE DWG NO P-8

PROFILE 'YYY' SEE DWG NO P-8

PROFILE 'ZZZ' SEE DWG NO P-8

PROFILE 'AAAA' SEE DWG NO P-8

PROFILE 'BBBB' SEE DWG NO P-8

PROFILE 'CCCC' SEE DWG NO P-8

PROFILE 'DDDD' SEE DWG NO P-8

PROFILE 'EEEE' SEE DWG NO P-8

PROFILE 'FFFF' SEE DWG NO P-8

PROFILE 'GGGG' SEE DWG NO P-8

PROFILE 'HHHH' SEE DWG NO P-8

PROFILE 'IIII' SEE DWG NO P-8

PROFILE 'JJJJ' SEE DWG NO P-8

PROFILE 'KKKK' SEE DWG NO P-8

PROFILE 'LLLL' SEE DWG NO P-8

PROFILE 'MMMM' SEE DWG NO P-8

PROFILE 'NNNN' SEE DWG NO P-8

PROFILE 'OOOO' SEE DWG NO P-8

PROFILE 'PPPP' SEE DWG NO P-8

PROFILE 'QQQQ' SEE DWG NO P-8

PROFILE 'RRRR' SEE DWG NO P-8

PROFILE 'SSSS' SEE DWG NO P-8

PROFILE 'TTTT' SEE DWG NO P-8

PROFILE 'UUUU' SEE DWG NO P-8

PROFILE 'VVVV' SEE DWG NO P-8

PROFILE 'WWWW' SEE DWG NO P-8

PROFILE 'XXXX' SEE DWG NO P-8

PROFILE 'YYYY' SEE DWG NO P-8

PROFILE 'ZZZZ' SEE DWG NO P-8

PROFILE 'AAAAA' SEE DWG NO P-8

PROFILE 'BBBBB' SEE DWG NO P-8

PROFILE 'CCCCC' SEE DWG NO P-8

PROFILE 'DDDDD' SEE DWG NO P-8

PROFILE 'EEEEE' SEE DWG NO P-8

PROFILE 'FFFFF' SEE DWG NO P-8

PROFILE 'GGGGG' SEE DWG NO P-8

PROFILE 'HHHHH' SEE DWG NO P-8

PROFILE 'IIIII' SEE DWG NO P-8

PROFILE 'JJJJJ' SEE DWG NO P-8

PROFILE 'KKKKK' SEE DWG NO P-8

PROFILE 'LLLLL' SEE DWG NO P-8

PROFILE 'MMMMM' SEE DWG NO P-8

PROFILE 'NNNNN' SEE DWG NO P-8

PROFILE 'OOOOO' SEE DWG NO P-8

PROFILE 'PPPPP' SEE DWG NO P-8

PROFILE 'QQQQQ' SEE DWG NO P-8

PROFILE 'RRRRR' SEE DWG NO P-8

PROFILE 'SSSSS' SEE DWG NO P-8

PROFILE 'TTTTT' SEE DWG NO P-8

PROFILE 'UUUUU' SEE DWG NO P-8

PROFILE 'VVVVV' SEE DWG NO P-8

PROFILE 'WWWWW' SEE DWG NO P-8

PROFILE 'XXXXX' SEE DWG NO P-8

PROFILE 'YYYYY' SEE DWG NO P-8

PROFILE 'ZZZZZ' SEE DWG NO P-8

PROFILE 'AAAAAA' SEE DWG NO P-8

PROFILE 'BBBBBB' SEE DWG NO P-8

PROFILE 'CCCCCC' SEE DWG NO P-8

PROFILE 'DDDDDD' SEE DWG NO P-8

PROFILE 'EEEEEE' SEE DWG NO P-8

PROFILE 'FFFFFF' SEE DWG NO P-8

PROFILE 'GGGGGG' SEE DWG NO P-8

PROFILE 'HHHHHH' SEE DWG NO P-8

PROFILE 'IIIIII' SEE DWG NO P-8

PROFILE 'JJJJJJ' SEE DWG NO P-8

PROFILE 'KKKKKK' SEE DWG NO P-8

PROFILE 'LLLLLL' SEE DWG NO P-8

PROFILE 'MMMMMM' SEE DWG NO P-8

PROFILE 'NNNNNN' SEE DWG NO P-8

PROFILE 'OOOOOO' SEE DWG NO P-8

PROFILE 'PPPPPP' SEE DWG NO P-8

PROFILE 'QQQQQQ' SEE DWG NO P-8

PROFILE 'RRRRRR' SEE DWG NO P-8

PROFILE 'SSSSSS' SEE DWG NO P-8

PROFILE 'TTTTTT' SEE DWG NO P-8

PROFILE 'UUUUUU' SEE DWG NO P-8

PROFILE 'VVVVVV' SEE DWG NO P-8

PROFILE 'WWWWWW' SEE DWG NO P-8

PROFILE 'XXXXXX' SEE DWG NO P-8

PROFILE 'YYYYYY' SEE DWG NO P-8

PROFILE 'ZZZZZZ' SEE DWG NO P-8

PROFILE 'AAAAAAA' SEE DWG NO P-8

PROFILE 'BBBBBBB' SEE DWG NO P-8

PROFILE 'CCCCCCC' SEE DWG NO P-8

PROFILE 'DDDDDDD' SEE DWG NO P-8

PROFILE 'EEEEEEE' SEE DWG NO P-8

PROFILE 'FFFFFFF' SEE DWG NO P-8

PROFILE 'GGGGGGG' SEE DWG NO P-8

PROFILE 'HHHHHHH' SEE DWG NO P-8

PROFILE 'IIIIIII' SEE DWG NO P-8

PROFILE 'JJJJJJJ' SEE DWG NO P-8

PROFILE 'KKKKKKK' SEE DWG NO P-8

PROFILE 'LLLLLLL' SEE DWG NO P-8

PROFILE 'MMMMMMM' SEE DWG NO P-8

PROFILE 'NNNNNNN' SEE DWG NO P-8

PROFILE 'OOOOOOO' SEE DWG NO P-8

PROFILE 'PPPPPPP' SEE DWG NO P-8

PROFILE 'QQQQQQQ' SEE DWG NO P-8

PROFILE 'RRRRRRR' SEE DWG NO P-8

PROFILE 'SSSSSSS' SEE DWG NO P-8

PROFILE 'TTTTTTT' SEE DWG NO P-8

PROFILE 'UUUUUUU' SEE DWG NO P-8

PROFILE 'VVVVVVV' SEE DWG NO P-8

PROFILE 'WWWWWWW' SEE DWG NO P-8

PROFILE 'XXXXXXX' SEE DWG NO P-8

PROFILE 'YYYYYYY' SEE DWG NO P-8

PROFILE 'ZZZZZZZ' SEE DWG NO P-8

PROFILE 'AAAAAAAA' SEE DWG NO P-8

PROFILE 'BBBBBBBB' SEE DWG NO P-8

PROFILE 'CCCCCCCC' SEE DWG NO P-8

PROFILE 'DDDDDDDD' SEE DWG NO P-8

PROFILE 'EEEEEEEE' SEE DWG NO P-8

PROFILE 'FFFFFFFF' SEE DWG NO P-8

PROFILE 'GGGGGGGG' SEE DWG NO P-8

PROFILE 'HHHHHHHH' SEE DWG NO P-8

PROFILE 'IIIIIIII' SEE DWG NO P-8

PROFILE 'JJJJJJJJ' SEE DWG NO P-8

PROFILE 'KKKKKKKK' SEE DWG NO P-8

PROFILE 'LLLLLLLL' SEE DWG NO P-8

PROFILE 'MMMMMMMM' SEE DWG NO P-8

PROFILE 'NNNNNNNN' SEE DWG NO P-8

PROFILE 'OOOOOOOO' SEE DWG NO P-8

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PROFILE 'QQQQQQQQ' SEE DWG NO P-8

PROFILE 'RRRRRRRR' SEE DWG NO P-8

PROFILE 'SSSSSSSS' SEE DWG NO P-8

PROFILE 'TTTTTTTT' SEE DWG NO P-8

PROFILE 'UUUUUUUU' SEE DWG NO P-8

PROFILE 'VVVVVVVV' SEE DWG NO P-8

PROFILE 'WWWWWWWW' SEE DWG NO P-8

PROFILE 'XXXXXXXX' SEE DWG NO P-8

PROFILE 'YYYYYYYY' SEE DWG NO P-8

PROFILE 'ZZZZZZZZ' SEE DWG NO P-8

PROFILE 'AAAAAAAAA' SEE DWG NO P-8

PROFILE 'BBBBBBBBB' SEE DWG NO P-8

PROFILE 'CCCCCCCCC' SEE DWG NO P-8

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PROFILE 'HHHHHHHHH' SEE DWG NO P-8

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PROFILE 'PPPPPPPPP' SEE DWG NO P-8

PROFILE 'QQQQQQQQQ' SEE DWG NO P-8

PROFILE 'RRRRRRRRR' SEE DWG NO P-8

PROFILE 'SSSSSSSSS' SEE DWG NO P-8

PROFILE 'TTTTTTTTT' SEE DWG NO P-8

PROFILE 'UUUUUUUUU' SEE DWG NO P-8

PROFILE 'VVVVVVVVV' SEE DWG NO P-8

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PROFILE 'ZZZZZZZZZ' SEE DWG NO P-8

PROFILE 'AAAAAAAAAA' SEE DWG NO P-8

PROFILE 'BBBBBBBBBB' SEE DWG NO P-8

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PROFILE 'DDDDDDDDDD' SEE DWG NO P-8

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PROFILE 'OOOOOOOOOO' SEE DWG NO P-8

PROFILE 'PPPPPPPPPP' SEE DWG NO P-8

PROFILE 'QQQQQQQQQQ' SEE DWG NO P-8

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PROFILE 'ZZZZZZZZZZ' SEE DWG NO P-8

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PROFILE 'EEEEEEEEEEE' SEE DWG NO P-8

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PROFILE 'GGGGGGGGGGG' SEE DWG NO P-8

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PROFILE 'QQQQQQQQQQQ' SEE DWG NO P-8

PROFILE 'RRRRRRRRRRR' SEE DWG NO P-8

PROFILE 'SSSSSSSSSSS' SEE DWG NO P-8

PROFILE 'TTTTTTTTTTT' SEE DWG NO P-8

PROFILE 'UUUUUUUUUUU' SEE DWG NO P-8

PROFILE 'VVVVVVVVVVV' SEE DWG NO P-8

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PROFILE 'YYYYYYYYYYY' SEE DWG NO P-8

PROFILE 'ZZZZZZZZZZZ' SEE DWG NO P-8

PROFILE 'AAAAAAAAAAAA' SEE DWG NO P-8

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PROFILE 'EEEEEEEEEEEE' SEE DWG NO P-8

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PROFILE 'VVVVVVVVVVVV' SEE DWG NO P-8

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PROFILE 'JJJJJJJJJJJJJJJ' SEE DWG NO P-8

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PROFILE 'LLLLLLLLLLLLLLL' SEE DWG NO P-8

PROFILE 'MMMMMMMMMMMMMMM' SEE DWG NO P-8

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PROFILE 'PPPPPPPPPPPPPPP' SEE DWG NO P-8

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PROFILE 'RRRRRRRRRRRRRRR' SEE DWG NO P-8

PROFILE 'SSSSSSSSSSSSSSS' SEE DWG NO P-8

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PROFILE 'VVVVVVVVVVVVVVV' SEE DWG NO P-8

PROFILE 'WWWWWWWWWWWWWWW' SEE DWG NO P-8

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PROFILE 'YYYYYYYYYYYYYYY' SEE DWG NO P-8

PROFILE 'ZZZZZZZZZZZZZZZ' SEE DWG NO P-8

PROFILE 'AAAAAAAAAAAAAAAA' SEE DWG NO P-8

PROFILE 'BBBBBBBBBBBBBBBB' SEE DWG NO P-8

PROFILE 'CCCCCCCCCCCCCCCC' SEE DWG NO P-8

PROFILE 'DDDDDDDDDDDDDDDD' SEE DWG NO P-8

PROFILE 'EEEEEEEEEEEEEEEE' SEE DWG NO P-8

PROFILE 'FFFFFFFFFFFFFFFF' SEE DWG NO P-8

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PROFILE 'XXXXXXXXXXXXXXXX' SEE DWG NO P-8

PROFILE 'YYYYYYYYYYYYYYYY' SEE DWG NO P-8

PROFILE 'ZZZZZZZZZZZZZZZZ' SEE DWG NO P-8

PROFILE 'AAAAAAAAAAAAAAAAA' SEE DWG NO P-8

PROFILE 'BBBBBBBBBBBBBBBBB' SEE DWG NO P-8

PROFILE 'CCCCCCCCCCCCCCCCC' SEE DWG NO P-8

PROFILE 'DDDDDDDDDDDDDDDDD' SEE DWG NO P-8

PROFILE 'EEEEEEEEEEEEEEEEE' SEE DWG NO P-8

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PROFILE 'GGGGGGGGGGGGGGGGG' SEE DWG NO P-8

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PROFILE 'IIIIIIIIIIIIIIIII' SEE DWG NO P-8

PROFILE 'JJJJJJJJJJJJJJJJJ' SEE DWG NO P-8

PROFILE 'KKKKKKKKKKKKKKKKK' SEE DWG NO P-8

PROFILE 'LLLLLLLLLLLLLLLLL' SEE DWG NO P-8

PROFILE 'MMMMMMMMMMMMMMMMM' SEE DWG NO P-8

PROFILE 'NNNNNNNNNNNNNNNNN' SEE DWG NO P-8

PROFILE 'OOOOOOOOOOOOOOOOO' SEE DWG NO P-8

PROFILE 'PPPPPPPPPPPPPPPPP' SEE DWG NO P-8

PROFILE 'QQQQQQQQQQQQQQQQQ' SEE DWG NO P-8

PROFILE 'RRRRRRRRRRRRRRRRR' SEE DWG NO P-8

PROFILE 'SSSSSSSSSSSSSSSSS' SEE DWG NO P-8

PROFILE 'TTTTTTTTTTTTTTTTT' SEE DWG NO P-8

PROFILE 'UUUUUUUUUUUUUUUUU' SEE DWG NO P-8

PROFILE 'VVVVVVVVVVVVVVVVV' SEE DWG NO P-8

PROFILE 'WWWWWWWWWWWWWWWWW' SEE DWG NO P-8

PROFILE 'XXXXXXXXXXXXXXXXX' SEE DWG NO P-8

PROFILE 'YYYYYYYYYYYYYYYYY' SEE DWG NO P-8

PROFILE 'ZZZZZZZZZZZZZZZZZ' SEE DWG NO P-8

PROFILE 'AAAAAAAAAAAAAAAAAA' SEE DWG NO P-8

PROFILE 'BBBBBBBBBBBBBBBBBB' SEE DWG NO P-8

PROFILE 'CCCCCCCCCCCCCCCCCC' SEE DWG NO P-8

PROFILE 'DDDDDDDDDDDDDDDDDD' SEE DWG NO P-8

PROFILE 'EEEEEEEEEEEEEEEEEE' SEE DWG NO P-8

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PROFILE 'IIIIIIIIIIIIIIIIII' SEE DWG NO P-8

PROFILE 'JJJJJJJJJJJJJJJJJJ' SEE DWG NO P-8

PROFILE 'KKKKKKKKKKKKKKKKKK' SEE DWG NO P-8

PROFILE 'LLLLLLLLLLLLLLLLLL' SEE DWG NO P-8

PROFILE 'MMMMMMMMMMMMMMMMMM' SEE DWG NO P-8

PROFILE 'NNNNNNNNNNNNNNNNNN' SEE DWG NO P-8

PROFILE 'OOOOOOOOOOOOOOOOOO' SEE DWG NO P-8

PROFILE 'PPPPPPPPPPPPPPPPPP' SEE DWG NO P-8

PROFILE 'QQQQQQQQQQQQQQQQQQ' SEE DWG NO P-8

PROFILE 'RRRRRRRRRRRRRRRRRR' SEE DWG NO P-8

PROFILE 'SSSSSSSSSSSSSSSSSS' SEE DWG NO P-8

PROFILE 'TTTTTTTTTTTTTTTTTT' SEE DWG NO P-8

PROFILE 'UUUUUUUUUUUUUUUUUU' SEE DWG NO P-8

PROFILE 'VVVVVVVVVVVVVVVVVV' SEE DWG NO P-8

PROFILE 'WWWWWWWWWWWWWWWWWW' SEE DWG NO P-8

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PROFILE 'YYYYYYYYYYYYYYYYYY' SEE DWG NO P-8

PROFILE 'ZZZZZZZZZZZZZZZZZZ' SEE DWG NO P-8

PROFILE 'AAAAAAAAAAAAAAAAAAA' SEE DWG NO P-8

PROFILE 'BBBBBBBBBBBBBBBBBBB' SEE DWG NO P-8

PROFILE 'CCCCCCCCCCCCCCCCCCC' SEE DWG NO P-8

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PROFILE 'EEEEEEEEEEEEEEEEEEE' SEE DWG NO P-8

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PROFILE 'HHHHHHHHHHHHHHHHHHH' SEE DWG NO P-8

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PROFILE 'JJJJJJJJJJJJJJJJJJJ' SEE DWG NO P-8

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PROFILE 'LLLLLLLLLLLLLLLLLLL' SEE DWG NO P-8

PROFILE 'MMMMMMMMMMMMMMMMMMM' SEE DWG NO P-8

PROFILE 'NNNNNNNNNNNNNNNNNNN' SEE DWG NO P-8

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PROFILE 'SSSSSSSSSSSSSSSSSSS' SEE DWG NO P-8

PROFILE 'TTTTTTTTTTTTTTTTTTT' SEE DWG NO P-8

PROFILE 'UUUUUUUUUUUUUUUUUUU' SEE DWG NO P-8

PROFILE 'VVVVVVVVVVVVVVVVVVV' SEE DWG NO P-8

PROFILE 'WWWWWWWWWWWWWWWWWWW' SEE DWG NO P-8

PROFILE 'XXXXXXXXXXXXXXXXXXX' SEE DWG NO P-8

PROFILE 'YYYYYYYYYYYYYYYYYYY' SEE DWG NO P-8

PROFILE 'ZZZZZZZZZZZZZZZZZZZ' SEE DWG NO P-8

PROFILE 'AAAAAAAAAAAAAAAAAAAA' SEE DWG NO P-8

PROFILE 'BBBBBBBBBBBBBBBBBBBB' SEE DWG NO P-8

PROFILE 'CCCCCCCCCCCCCCCCCCCC' SEE DWG NO P-8

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PROFILE 'JJJJJJJJJJJJJJJJJJJJ' SEE DWG NO P-8

PROFILE 'KKKKKKKKKKKKKKKKKKKK' SEE DWG NO P-8

PROFILE 'LLLLLLLLLLLLLLLLLLLL' SEE DWG NO P-8

PROFILE 'MMMMMMMMMMMMMMMMMMMM' SEE DWG NO P-8

PROFILE 'NNNNNNNNNNNNNNNNNNNN' SEE DWG NO P-8

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PROFILE 'YYYYYYYYYYYYYYYYYYYY' SEE DWG NO P-8

PROFILE 'ZZZZZZZZZZZZZZZZZZZZ' SEE DWG NO P-8

PROFILE 'AAAAAAAAAAAAAAAAAAAAA' SEE DWG NO P-8

PROFILE 'BBBBBBBBBBBBBBBBBBBBB' SEE DWG NO P-8

PROFILE 'CCCCCCCCCCCCCCCCCCCCC' SEE DWG NO P-8

PROFILE 'DDDDDDDDDDDDDDDDDDDDD' SEE DWG NO P-8

PROFILE 'EEEEEEEEEEEEEEEEEEEEE' SEE DWG NO P-8

PROFILE 'FFFFFFFFFFFFFFFFFFFFF' SEE DWG NO P-

CONTINUE AS PER SECTION 'C' DWG. NO. F-18

CONTINUE AS PER SECTION 'E' DWG. NO. F-19

MATCH LINE

SOUTH MAIN STREET

COMPREHENSIVE COMMUNITY REHABILITATION CENTER

NURSING HOME

INDUSTRIAL HOSPITAL

POOL

STORM SYSTEM NO 7

STORM SYSTEM NO 8

STORM SYSTEM NO 5

STORM SYSTEM NO 2

SANITARY SEWER SYSTEM NO 2A

SANITARY SEWER SYSTEM NO 2

PROFILE 'DD' SEE DWG. NO P-8

PROFILE 'DD1' SEE DWG. NO P-8

PROFILE 'DD2' SEE DWG. NO P-8

PROFILE 'DD3' SEE DWG. NO P-8

PROFILE 'DD4' SEE DWG. NO P-8

PROFILE 'DD5' SEE DWG. NO P-8

PROFILE 'DD6' SEE DWG. NO P-8

PROFILE 'DD7' SEE DWG. NO P-8

PROFILE 'W' SEE DWG. NO P-9

PROFILE 'X' SEE DWG. NO P-9

PROFILE 'Z' SEE DWG. NO P-9

PROFILE 'Y' SEE DWG. NO P-9

PROFILE 'AA' SEE DWG. NO P-9

PROFILE 'BB' SEE DWG. NO P-9

PROFILE 'CC' SEE DWG. NO P-9

PROFILE 'EE' SEE DWG. NO P-9

PROFILE 'FF' SEE DWG. NO P-9

PROFILE 'GG' SEE DWG. NO P-9

PROFILE 'HH' SEE DWG. NO P-9

PROFILE 'II' SEE DWG. NO P-9

PROFILE 'JJ' SEE DWG. NO P-9

PROFILE 'KK' SEE DWG. NO P-9

PROFILE 'LL' SEE DWG. NO P-9

PROFILE 'MM' SEE DWG. NO P-9

PROFILE 'NN' SEE DWG. NO P-9

PROFILE 'OO' SEE DWG. NO P-9

PROFILE 'PP' SEE DWG. NO P-9

PROFILE 'QQ' SEE DWG. NO P-9

PROFILE 'RR' SEE DWG. NO P-9

PROFILE 'SS' SEE DWG. NO P-9

PROFILE 'TT' SEE DWG. NO P-9

PROFILE 'UU' SEE DWG. NO P-9

PROFILE 'VV' SEE DWG. NO P-9

PROFILE 'WW' SEE DWG. NO P-9

PROFILE 'XX' SEE DWG. NO P-9

PROFILE 'YY' SEE DWG. NO P-9

PROFILE 'ZZ' SEE DWG. NO P-9

PROFILE 'AAA' SEE DWG. NO P-9

PROFILE 'BBB' SEE DWG. NO P-9

PROFILE 'CCC' SEE DWG. NO P-9

PROFILE 'DDD' SEE DWG. NO P-9

PROFILE 'EEE' SEE DWG. NO P-9

PROFILE 'FFF' SEE DWG. NO P-9

PROFILE 'GGG' SEE DWG. NO P-9

PROFILE 'HHH' SEE DWG. NO P-9

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PROFILE 'JJJ' SEE DWG. NO P-9

PROFILE 'KKK' SEE DWG. NO P-9

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PROFILE 'ZZZ' SEE DWG. NO P-9

PROFILE 'AAAA' SEE DWG. NO P-9

PROFILE 'BBBB' SEE DWG. NO P-9

PROFILE 'CCCC' SEE DWG. NO P-9

PROFILE 'DDDD' SEE DWG. NO P-9

PROFILE 'EEEE' SEE DWG. NO P-9

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PROFILE 'GGGGGGGGGGGGGGGGGGGG' SEE DWG. NO P-9

PROFILE 'HHHHHHHHHHHHHHHHHHHH' SEE DWG. NO P-9

PROFILE 'IIIIIIIIIIIIIIIIIIII' SEE DWG. NO P-9

PROFILE 'JJJJJJJJJJJJJJJJJJJJ' SEE DWG. NO P-9

PROFILE 'KKKKKKKKKKKKKKKKKKKK' SEE DWG. NO P-9

PROFILE 'LLLLLLLLLLLLLLLLLLLL' SEE DWG. NO P-9

PROFILE 'MMMMMMMMMMMMMMMMMMMM' SEE DWG. NO P-9

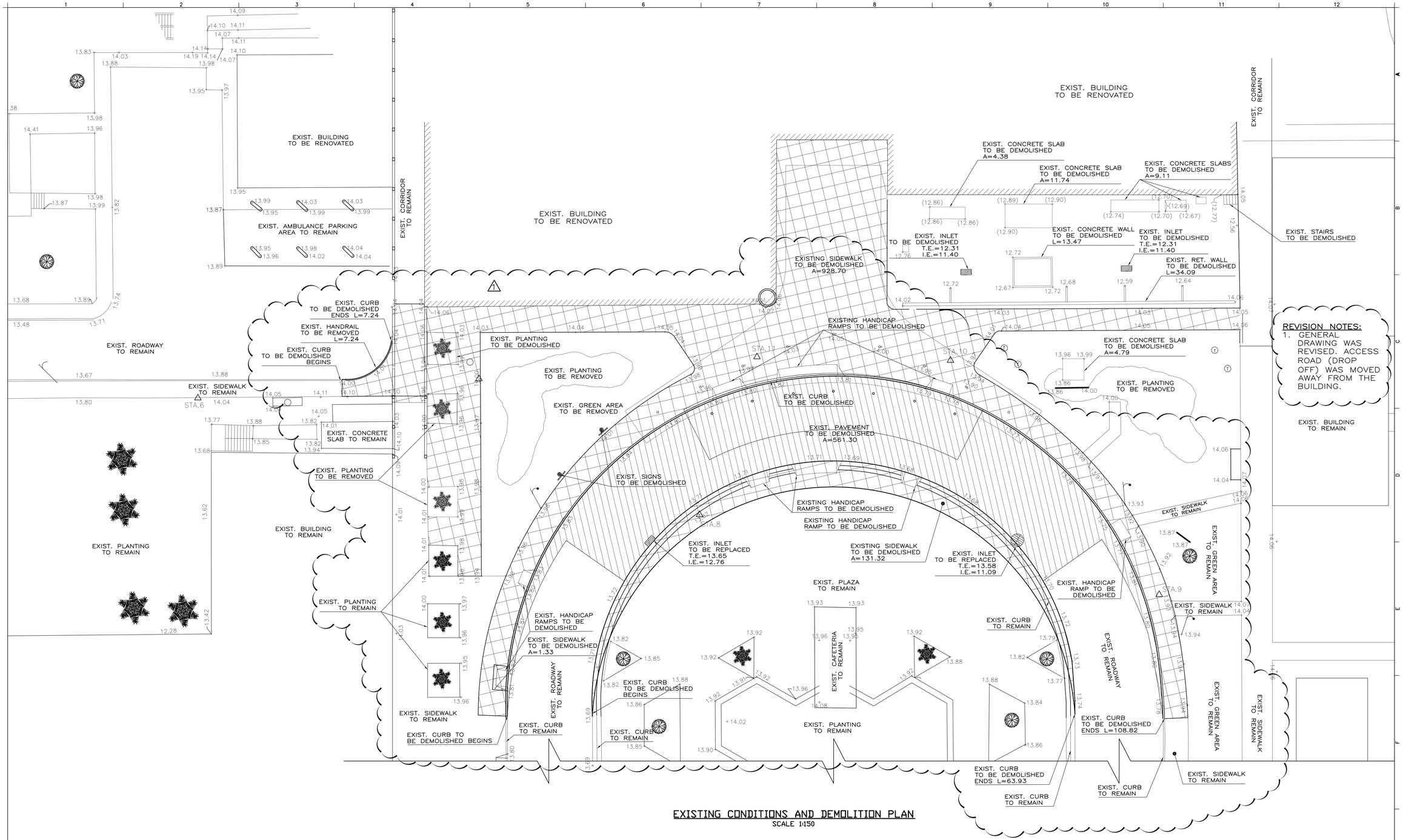
PROFILE 'NNNNNNNNNNNNNNNNNNNN' SEE DWG. NO P-9

PROFILE 'OOOOOOOOOOOOOOOOOOOO' SEE DWG. NO P-9

PROFILE 'PPPPPPPPPPPPPPPPPPPP' SEE DWG. NO P-9

PROFILE 'QQQQQQQQQQQQQQQQQQQQ' SEE DWG. NO P-9

PROFILE 'RRRRRRRRR



EXISTING CONDITIONS AND DEMOLITION PLAN

SCALE 1:150

LEYEND

- EXISTING PAVEMENT TO BE DEMOLISHED
- EXISTING SIDEWALK TO BE DEMOLISHED
- LIGHT POST
- EXISTING TREE
- EXISTING TREE

HORIZONTAL AND VERTICAL CONTROL POINTS

STA.	COORDINATES		ELEVATION	DESCRIPTION
	NORTHING (Y)	EASTING (X)		
6	4,937.2250	5,067.7766	13.994	3/8" STEEL ROD
7	4,913.7654	5,084.6080	14.003	STEEL NAIL
8	4,887.2141	5,084.6657	13.824	PK NAIL
9	4,842.8308	5,102.4825	13.916	PK NAIL
10	4,873.6527	5,111.6416	13.997	STEEL NAIL
11	4,890.7106	5,101.5119	14.015	STEEL NAIL

SURVEY BY:
VICTOR FIGUEROA FLECHA, LAND SURVEYOR – LIC 9316
SEPT. 10 & 11, 2005

REVISION NOTES:
1. GENERAL DRAWING WAS REVISED. ACCESS ROAD (DROP OFF) WAS MOVED AWAY FROM THE BUILDING.

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J+E FIGUEROA, P.S.C.
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BABILONIA ENGINEERING GROUP
mechanical engineer
Consultants

Dwg File Name: REV 3
0 4 0 4 A F 0 1
Year Project Sheet

Drawn by: CRS
Checked by: IMM
Date: OCTOBER 2005

No.	Revision	Date	By
2.		16-OCT-2007	CRS

Project

A.S.E.M. MAIN BUILDING REMODELING AND EXPANSION
PUERTO RICO MEDICAL CENTER
PHASE I: NEW LEVEL I EMERGENCY AND TRAUMA CENTER
PHASE II: NEW CLINICAL SERVICES BUILDING ANNEX AND ROOFTOP HELIPORT FACILITIES

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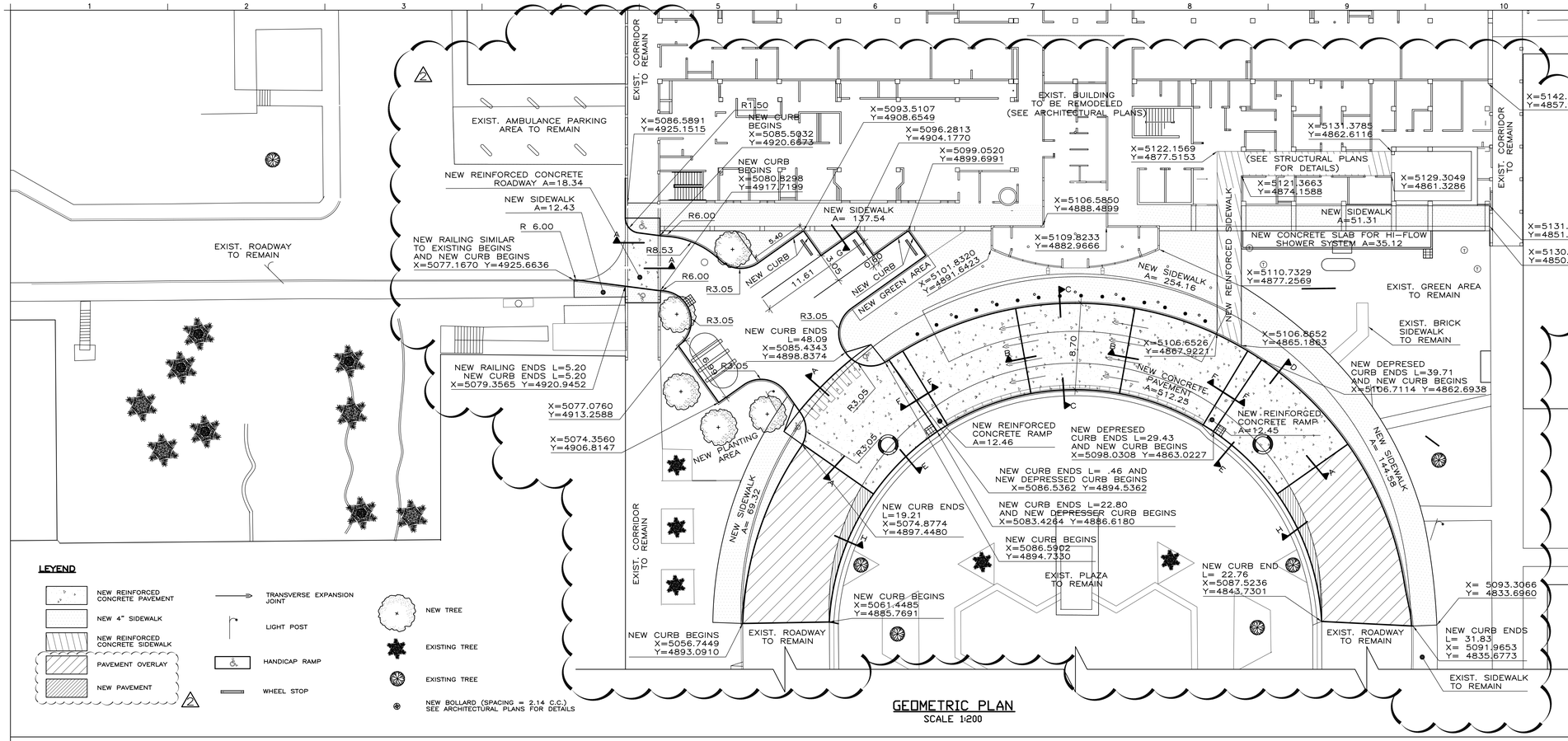
SHEET TITLE

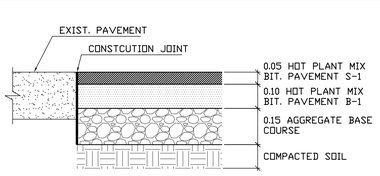
EXISTING CONDITIONS AND DEMOLITION PLAN

SHEET	OF	DWG. NO.
.	.	SI-1

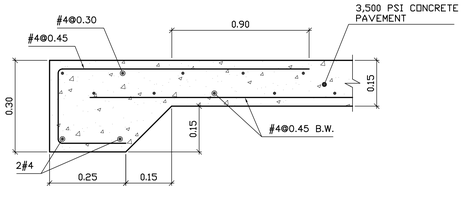


GEOMETRIC PLAN
SCALE 1:200

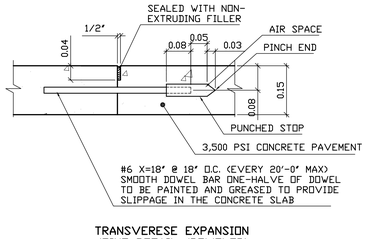
REVISION NOTES:
1. COORDINATES WERE ADDED THROUGHOUT.
2. GENERAL DRAWING WAS REVISED.
   a. ACCESS ROAD (DROP OFF) WAS MOVED AWAY FROM THE BUILDING.
   b. SECTION H WAS ADDED.



TYPICAL ASPHALT PAVEMENT SECTION



SECTION DETAIL



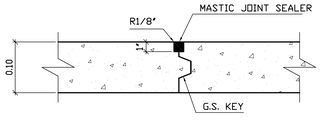
TRANSVERESE EXPANSION JOINT DETAIL (DOWELED)

CONCRETE PAVEMENT DETAIL

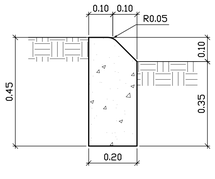
SIEDWALK WIDTH	MAXIMUM CONTRACTION JOINT SPACING	MAXIMUM EXPANSION JOINT SPACING
4'	4'	40'
5'	5'	40'
6'	6'	40'

SIDEWALK NOTES:
1. EDGE SIDEWALK WITH 3/8" RADIUS EDGING TOOL. ROUND EDGES AT EXPANSION JOINTS TO A RADIUS OF 3/8".
2. USE FINE HAIR BROOM TO FINDSH WALKS ON GRADES UNDER 6". OVER 6" USE ROUGH HAIR BROOM.
3. USE 4" THICK, GRADE 1 UNTREATED BASE COURSE COMPACTED TO A MINIMUM OF 95% PER SPECIFICATIONS.

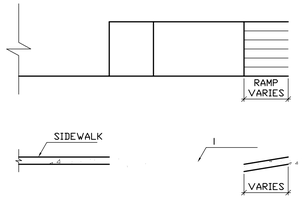
4' SIDEWALK DETAIL



CONSTRUCTION JOINT DETAIL

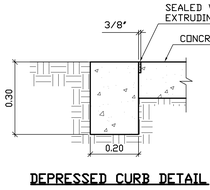


TYPICAL CURB DETAIL

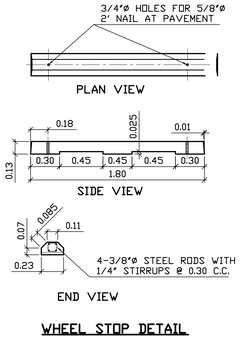


HANDICAP RAMP DETAIL

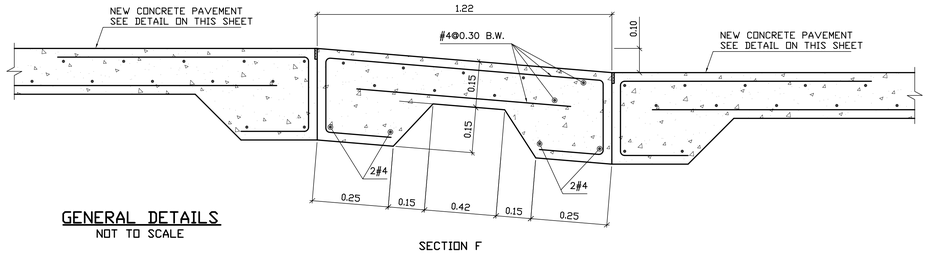
CURB NOTES:
1. ALL TYPICAL AND DEPRESSED CURBS SHALL BE PAINTED WITH YELLOW REFLECTORIZED PAINTED PAVEMENT MARKINGS STRIPES.



DEPRESSED CURB DETAIL

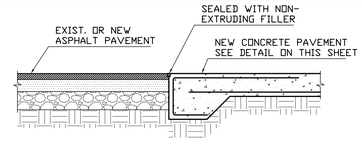


WHEEL STOP DETAIL

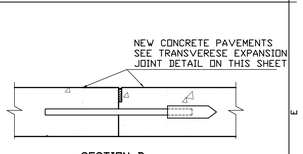


SECTION F

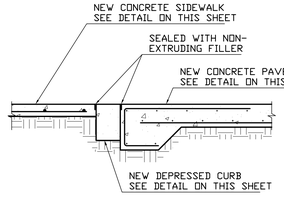
GENERAL DETAILS
NOT TO SCALE



SECTION A



SECTION B



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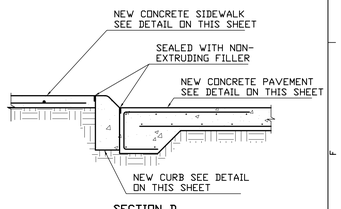
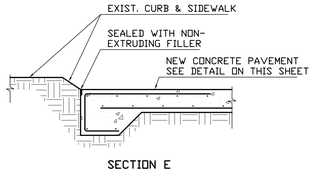
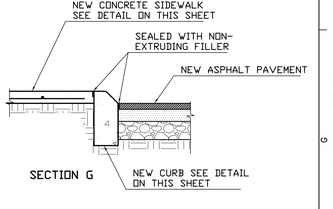


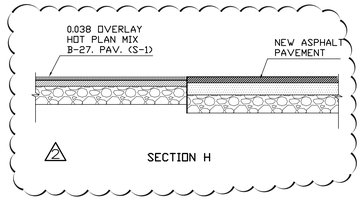
SECTION D



SECTION E



SECTION G



SECTION H

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Dwg File Name: REV 3	
0 4 0 4 A F 0 1	
Year Project	Sheet
Drawn by	CRS
Checked by	IMM
Date	OCTOBER 2005

No.	Revision	Date	By
1		FEBRUARY-12-2006	CRS
2.		16-OCT-2007	CRS

Project

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PUERTO RICO MEDICAL CENTER
PHASE I: NEW LEVEL I EMERGENCY AND TRAUMA CENTER
PHASE II: NEW CLINICAL SERVICES BUILDING ANNEX=AND ROOFTOP HELIPORT FACILITIES

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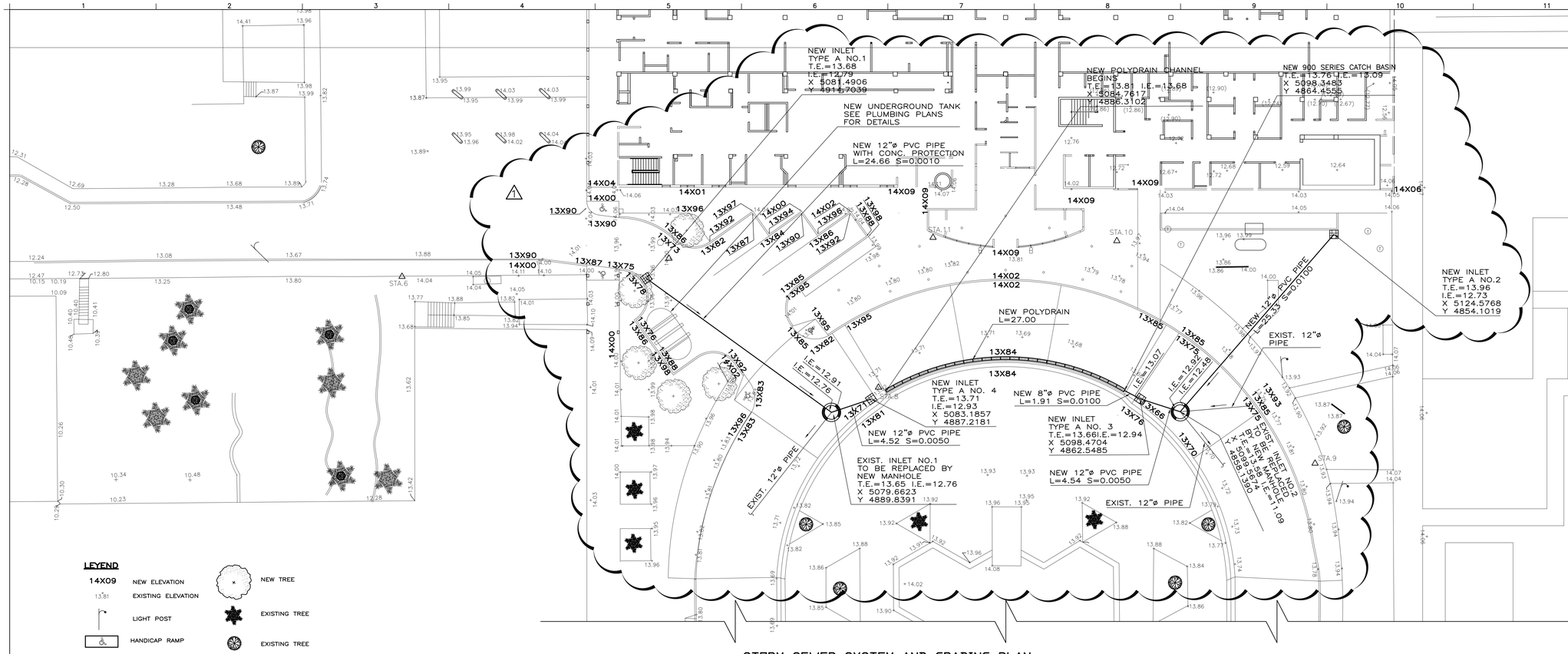
SHEET TITLE

GEOMETRIC PLAN AND GENERAL DETAILS

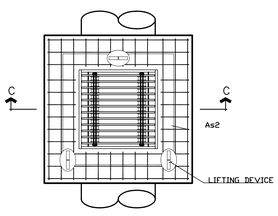
SHEET	OF	DWG. NO.
.	.	SI-2



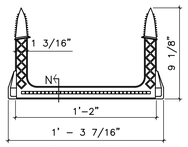
STORM SEWER SYSTEM AND GRADING PLAN
SCALE 1:200

LEYEND

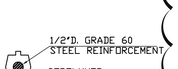
- 14X09 — NEW ELEVATION
- 13.81 — EXISTING ELEVATION
- LIGHT POST
- HANDICAP RAMP
- NEW TREE
- EXISTING TREE
- EXISTING TREE



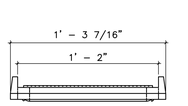
PLAN VIEW



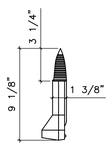
PLAN VIEW



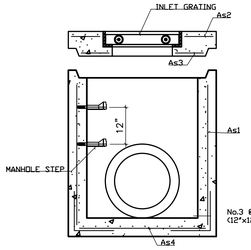
SECTION "N"



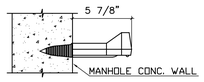
FRONT VIEW



SIDE VIEW



SECTION 'C-C'



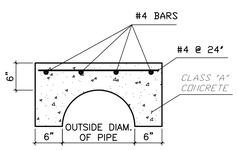
ANCHORAGE DETAIL

STANDARD SIZES	As1	As2	As3	As4	CONCRETE F'c @ 28 DAYS	MAX. PIPE DIAM.
3'x3'	0.12	0.12	0.24	0.24	3,500 p.s.i.	18"

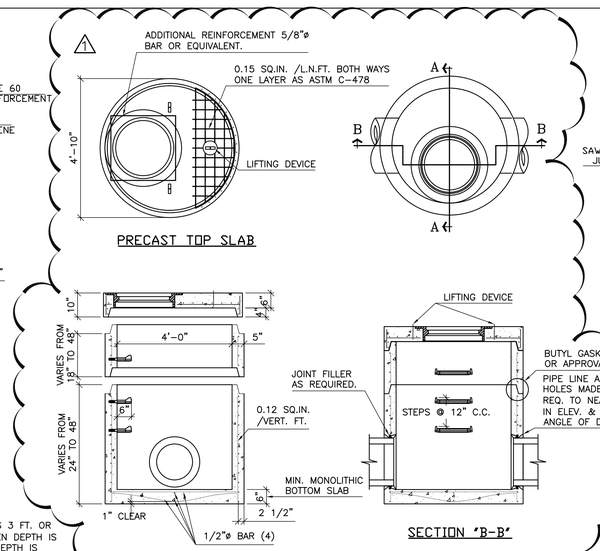
GENERAL NOTES:

1- STANDARD SIZES REFER TO INTERNAL DIMENSIONS.
2- ALL TOP SLABS 6" THICK.
3- WALL THICKNESS ALL SIZES = 6".
4- GRATING SIZE & MODEL AS SPECIFIED.
5- BOTTOM SLABS FOR ALL SIZES = 6".
6- MAXIMUM ALLOWABLE TOTAL DEPTH = 12ft (3.66).

TYPE 'A' INLET DETAIL



CONCRETE PROTECTION DETAIL



STEP NOTES

NO STEPS WILL BE REQUIRED WHERE DEPTH IS 3 FT. OR LESS. INSTALL ONE STEP 1'-6" ABOVE FLOOR WHEN DEPTH IS MORE THAN 3 FT. BUT LESS THAN 5 FT. WHERE DEPTH IS MORE THAN 5 FT, STEPS SHALL BE EVENLY SPACED AT 1 FT. INTERVALS FROM 1'-6" ABOVE FLOOR TO WITHIN 2 FT. OF THE TOP OF THE MANHOLE. PLACE STEPS IN WALL WITHOUT PIPE AND ADJACENT TO FRAME OPENING.

MANHOLE STEP DETAIL

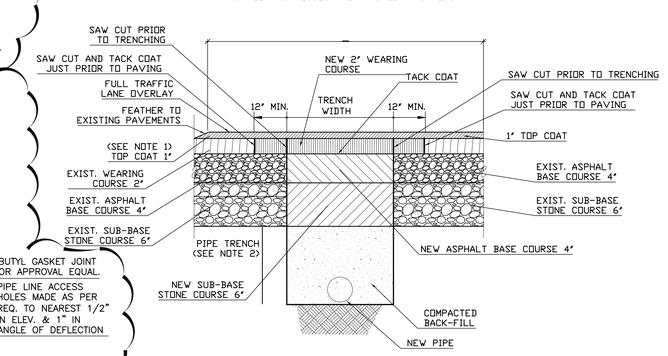
BASE DIAM.	NOMINAL PIPE DIAM.	PIPE TYPE	OPENINGS DIMENSIONS
48"	6"	PVC, DI	10
48"	8"	PVC, DI	12
48"	10"	PVC, DI	14
48"	12"	PVC, DI	16
		RCP	16
48"	15"	PVC, DI	22" x 24"
48"	21"	PVC	29" x 32"
48"	24"	PVC, DI	32" x 36"
48	30"	RCP	39" x 44"

MANHOLE NOTES:

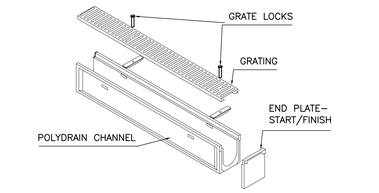
1. FOR SEWER PIPE 6" DIAM. TO 15" DIAM. OPTIONAL ITEMS DEPEND ON PROJECT REQUIREMENTS.
2. MINIMUM CONCRETE COMPRESSIVE STRENGTH IN ALL SECTIONS SHALL BE 4,000 PSI.
3. ALL SECTIONS ARE MADE IN ACCORDANCE WITH ASTM C-478 IN ANY HEIGHT REQUIRED.
4. MANHOLE STEPS WILL BE LOCATED AT 90° OF THE LARGER SEGMENT.
5. MANHOLE SHOULD BE SUPPLIED FOR CONCRETE PAVEMENT, CROSS CROSSING ("FLUSH") AND 1" OVER FOR ASPHALT PAVEMENTS.

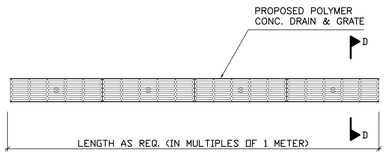
48" STORM SEWER PRECAST CONCRETE MANHOLE

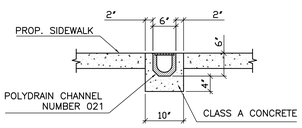
NOTES:
1-MINIMUM PAVEMENT WIDTH TO BE RECOATED WITH 1" TOP COAT SHALL CONSIST OF WIDTH OF AFFECTED TRAFFIC LANES. APPLY TACK COAT BETWEEN TOP COAT AND EXISTING PAVEMENT.
2-AS DETAILED IN THE DRAWINGS AND AS SPECIFIED
3-ALL THICKNESSES ARE FINISHED THICKNESS.



PAVEMENT PATCHING

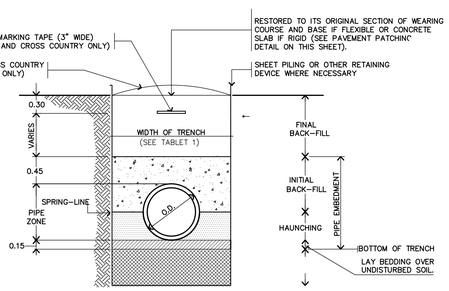






SECTION 'D-D'

=	NOTE:
WIDTH OF TRENCH AT TOP OF PIPE (HES)	*WHENEVER MOVABLE SHEET PILING OR OTHER TRENCH PROTECTION IS USED BELOW THE TOP OF THE PIPE, THE CLEAR DISTANCE BETWEEN THE OUTSIDE FACE OF THE PIPE AND THE MOVABLE TRENCH SUPPORT SHALL BE NOT LESS THAN 2 1/2" X OUTSIDE PIPE DIAMETER.



STORM SEWER SYSTEM DETAILS
NOT TO SCALE

POLYDRAIN NOTES:

1. CASTING FOR GRATE SHALL BE GRAY CAST IRON AASHTO SPECIFICATION M-105, CLASS 30B.
2. GRATE USED FOR POLYDRAIN AND INLET NO. 3 SHALL HAVE ORIFICE SPACE WIDTHS NO GREATER THAN 1/4" IN ONE DIRECTION AND AN ELONGATED OPENING PERPENDICULAR TO THE DOMINATE DIRECTION OF TRAVEL.
3. EXCAVATION, CONCRETE BACKFILL, AND INCIDENTALS ARE A SUBSIDIARY OBLIGATION.

POLYDRAIN TRENCH DRAIN SYSTEM

REVISION NOTES:
1. GENERAL DRAWING WAS REVISED.
   a. ACCESS ROAD (DROP OFF) WAS MOVED AWAY FROM THE BUILDING.
   b. EXISTING INLETS WILL BE REPLACED BY NEW MANHOLES.
   c. MANHOLE DETAIL WAS ADDED.

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Dwg File Name: REV 3
0 4 0 4 A F 0 1
Year Project Sheet

Drawn by: CRS
Checked by: IMM
Date: OCTOBER 2005

No.	Revision	Date	By
1.		16-OCT-2007	CRS

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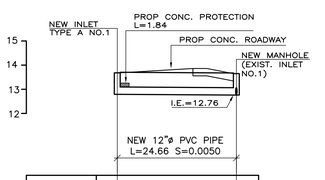
SHEET TITLE
STORM SEWER SYSTEM PLAN AND DETAILS

SHEET	OF	DWG. NO.
.	.	SI-3

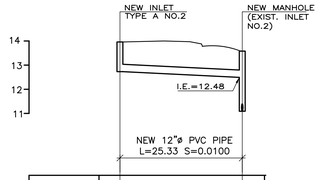
1



TOP ELEVATION	13.68	13.65
INVERT ELEVATION	12.79	12.76
STATION	0+00.00	0+24.66

PROFILE NO. 1

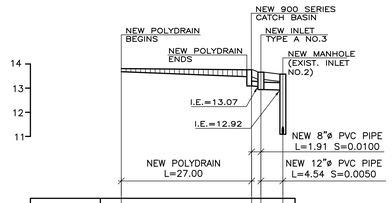
FROM NEW INLET NO.1 TO EXISTING INLET NO.1



TOP ELEVATION	13.96	13.58
INVERT ELEVATION	12.73	11.09
STATION	0+00.00	0+25.33

PROFILE NO. 2

FROM NEW INLET NO.2 TO EXISTING INLET NO.2



TOP ELEVATION	13.81	13.76 13.66	13.58
INVERT ELEVATION	13.68	13.09 12.94	11.09
STATION	0+00.00	0+27.00 0+28.91	0+33.45

PROFILE NO. 3

FROM NEW POLYDRAIN TO EXISTING INLET NO.2

STORM SEWER SYSTEM PROFILES

HORIZONTAL SCALE 1:100
VERTICAL SCALE 1:500

REVISION NOTES:
1. PROFILES WERE REVISED TO REFLECT CHANGES IN THE SITE DRAWINGS.

ROBERTO L. REXACH CINTRON
site engineer
JOSE M. GREEN, M.S.C.E.
structural engineer
J+E FIGUEROA, P.S.C.
electrical engineer
BABILONIA ENGINEERING GROUP
mechanical engineer
Consultants

Dwg File Name: REV 3
04 04 AF 01
Year Project Sheet

Drawn by CRS

Checked by IMM

Date OCTOBER 2005

No.	Revision	Date	By
1.		16-OCT-2007	CRS

Project

A.S.E.M. MAIN BUILDING REMODELING AND EXPANSION

PUERTO RICO MEDICAL CENTER

PHASE I: NEW LEVEL I EMERGENCY AND TRAUMA CENTER
PHASE II: NEW CLINICAL SERVICES BUILDING ANNEX AND ROOFTOP HELIPORT FACILITIES

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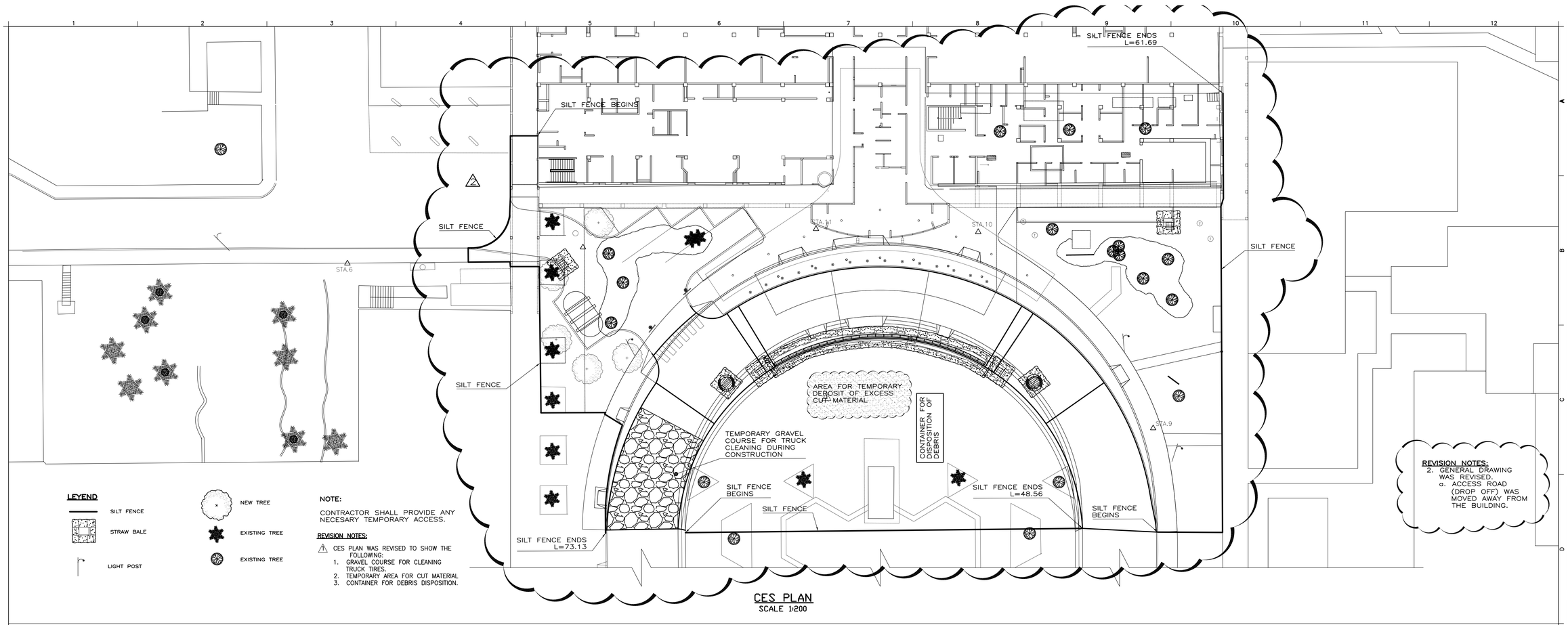
SHEET TITLE

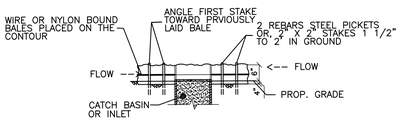
STORM SEWER SYSTEM PROFILES

SHEET	OF	DWG. NO.
.	.	SI-4

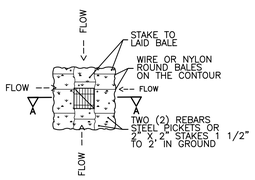


CES PLAN
SCALE 1:200

REVISION NOTES:
2. GENERAL DRAWING WAS REVISED.
a. ACCESS ROAD (DROP OFF) WAS MOVED AWAY FROM THE BUILDING.



SECTION A–A



PLAN VIEW

STRAW BALE NOTES

1. BALES SHALL BE PLACED IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT BALES.

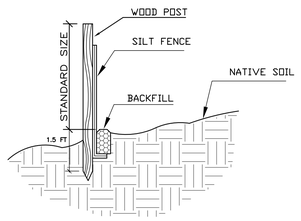
2. EACH BALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4".

3. BALES SHALL BE SECURELY ANCHORD IN PLACED BY STAKES OR RE–BARS DRIVEN THROUGH THE BALES. THE FIRST STAKE IN EACH BALE SHALL BE ANGLED TOWARD PREVIOUSLY LAID BALE TO FORCE TOGETHER.

4. INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.

5. BALES SHALL BE REMOVED WHE THEY HAVE SERVED THEIR USEFULNESS SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.

STRAW BALE PROTECTION



SILT FENCE NOTES

1. THE HEIGHT OF THE FILTER FABRIC SILT FENCE SHOULD BE AT LEAST 1.25 FEET AND NOT EXCEED 3 FEET.

2. THE FILTER FABRIC SHOULD BE PURCHASED IN A CONTINUOUS ROLL AND CUT TO LENGTH OF THE BARRIER TO AVOID THE USE OF JOINTS.

3. WOOD POST SHOULD HAVE A MINIMUM CROSS SECTIONAL AREA OF AT LEAST 3 SQUARE INCHES. STEEL POSTS CAN BE STANDARD "T" OR "U" SECTIONS WEIGHING NO LESS THEN 1.33 POUND PER FOOT, WITH PROJEC– TION FOR FASTENING WIRE MESH.

4. POST SHOULD BE AT LEAST 5 FEET LONG AND DRIVEN AT A SLIGHT UPSTREAM ANGLE INTO THE GROUND TO A MINIMUM OF DEPTH OF 18 INCHES.

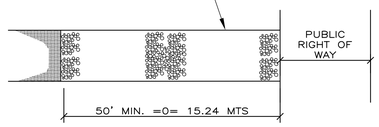
5. A TRENCH IS EXCAVATED AT LEAST 4 TO 8 INCHES DEEP AND 4 INCHES WIDE ALONG THE LINE OF THE SUPPORT POST AND UPSTREAM FROM THE BARRIER. THE TRENCH IS BACKFILLED AND SOIL COMPACTED OVER THE FILTER FABRIC.

6. MAINTENANCE – SILT FENCES SHOULD BE INSPECTED IMMEDIATELY AFTER EACH HEAVY RAINFALL EVENT OR DAILY DURING PERIODS OF PROLONGED RAINFALL. DAMAGE FENCES, UNDERCUTTING, OR FLOW CHANNELS AROUND THE ENDS OF BARRIERS SHOULD BE REPAIRED OR CORRECTED IMMEDIATELY. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH RAINFALL, AND ACCUMULATIONS SHOULD BE REMOVED WHEN THEY REACH 1/2 THE HEIGHT OF THE FENCE OR A REQUESTED BY THE ENGINEER. SEDIMENT SHOULD BE DISPOSED PROPERLY TO PREVENT ITS ENTRY INTO ANY WATERCOURSE.

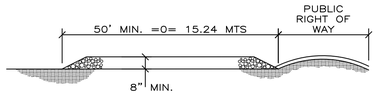
7. REMOVAL – AFTER ALL SEDIMENT PRODUCING AREAS HAVE BEEN PERMANENTLY STABILIZED, ALL SEDIMENT ACCUMULATION AT THE BARRIER TRAP SHOULD BE REMOVED, AND ALL EXCAVATIONS SHOULD BE BACKFILLED AND PROPERLY COMPACTED. SMOOTH THE SITE TO BLEND WITH THE TERRAIN OR AS SPECIFIED ON PLANS.

SILT FENCE

PROVIDE AN APPROPRIATE TRANSITION BETWEEN TEMPORARY GRAVEL COURSE AND PUBLIC RIGHT OF WAY



PLAN



PROFILE

STABILIZED CONSTRUCTION ENTRANCE NOTES

1. STONE SIZE – USE MESH SIZE NO. 2 (2–1/2" TO 1") OR ASSHTO DESIGNATION M43, SIZE NO.2 (2–1/2" TO 1–1/2").

2. THICKNESS – NOT LESS THAN EIGHT (8) INCHES.

3. WIDTH – NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS OR EGRESS.

4. WASHING – WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT–OF–WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE WHICH DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE THROUGH USE OF SAND BAGS, GRAVEL, BOARDS OR OTHER APPROVED METHODS.

5. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT–OF–WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHT–OF–WAY MUST BE REMOVED IMMEDIATELY.

STABILIZED CONSTRUCTION ENTRANCE

CES DETAILS
NOT TO SCALE

ROBERTO L. REXACH CINTRON
site engineer
JOSE M. GREEN, M.S.C.E.
structural engineer
J+E FIGUEROA, P.S.C.
electrical engineer
BABILONIA ENGINEERING GROUP
mechanical engineer
Consultants

Dwg File Name: REV 3
0 4 0 4 A F 0 1
Year Project Sheet

Drawn by CRS

Checked by IMM

Date OCTOBER 2005

No.	Revision	Date	By
1.		01–FEB–2007	CRS
2.		16–OCT–2007	CRS

Project

A.S.E.M. MAIN BUILDING REMODELING AND EXPANSION

PUERTO RICO MEDICAL CENTER

PHASE I: NEW LEVEL I EMERGENCY AND TRAUMA CENTER
PHASE II: NEW CLINICAL SERVICES BUILDING ANNEX AND ROOFTOP HELIPORT FACILITIES

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SHEET TITLE

CES PLAN AND DETAILS

SHEET	OF	DWG. NO.
.	.	SI-5

Exhibit XVII: Geotechnical Report

GEO

GEOTECHNICAL ENGINEERING
CONSTRUCTION MATERIALS TESTING

REPORT

GEOTECHNICAL EVALUATION

NUEVO HOSPITAL DE TRAUMA NIVEL 1 DE PUERTO RICO

CENTRO MÉDICO DE PUERTO RICO

LOCATION	San Juan, Puerto Rico
PROJECT NO.	SB72-26-BD-SJU
DOCUMENT	Geotechnical Report

REPORT

GEOTECHNICAL EVALUATION

NUEVO HOSPITAL DE TRAUMA NIVEL 1 DE PUERTO RICO

CENTRO MÉDICO DE PUERTO RICO
SAN JUAN, PUERTO RICO

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Geotechnical engineering

Construction materials testing

DBE
PR/FL DTOP Certified Disadvantaged Business Enterprise

HUBZone
SBA Certified

AASHTO AAP Accredited Laboratory

US Army Corps of Engineers®
Validated Laboratory

MBE Certified

Prepared for

Administración de Servicios Médicos de Puerto Rico (ASEM)
San Juan, Puerto Rico

November 3, 2026

PO Box 270328
San Juan
PR, 00927

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F.787.706.0183

Geotechnical engineering

Construction materials testing

Administración de Servicios Médicos de Puerto Rico
c/o Yanira Rivera Ortiz, Coordinador de Proyectos
Centro Médico de Puerto Rico
San Juan, Puerto Rico
Tel. 787-777-3535 Ext. 4104, e-mail: yanira.rivera4@asem.pr.gov

Re: Geotechnical Evaluation for
Nuevo Hospital de Trauma Nivel 1 de Puerto Rico
Centro Médico de Puerto Rico
San Juan, PR

Dear Ms. Rivera:

We are submitting our report on the geotechnical evaluation of the referenced project. If you have any questions with regard to this evaluation or require additional services, please do not hesitate to contact us. We would be pleased to meet with you or your representative for any explanation concerning this evaluation.

We thank you for giving us the opportunity to perform this study.

Cordially,
GEO-Engineering

Carlos E. Rodríguez Pérez, PhD, PE
Geotechnical Engineer

Enclosures

Carlos E. Rodríguez Pérez
Ingeniero Licenciado
Lic. 10034 PE
Puerto Rico

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Appendix 1 Standard Clause for Unanticipated Subsoil Conditions
Appendix 2 Procedures Summary
Appendix 3 General Earthwork Recommendations
Appendix 4 Boring Logs and Laboratory Test Results
Appendix 5 Drilled Shaft Additional Recommendations

EXECUTIVE SUMMARY

1. Project Description

The project consists of the design of a nine-story building with basement to house the New Trauma Hospital Level 1 of Puerto Rico, within the Centro Médico de Puerto Rico (CMPR) in San Juan, PR. The building will occupy an area of approximately 41,050 sq ft, and the basement an area of approximately 36,780 sq ft. The building structure will be supported on columns and walls. The FFE of the building will be 25.20 m and that of the basement 20.32 m, requiring an excavation approximately 14 to 15.5 ft deep; the basement will act as a raft foundation. Two 30,000-gal cisterns (approximately 22 ft by 82 ft) within the basement will require an additional excavation, to a total depth of approximately 21 ft. Reportedly, the new hospital will be constructed utilizing a Design-Build method.

2. Subsurface Conditions

The project site, located in the central part of the CMPR, is practically flat and is bordered by existing hospital buildings on the north, east, and west. The site was part of the old insular sanatorium of San Juan, constructed on the upper part of an elongated mound; buildings and streets previously existed within the site, and debris, remnants of buried foundations, and abandoned underground utilities may exist. Six SPT borings (B-1 to B-6) were drilled to depths of 50 to 60 ft. The generalized profile consists of:

- Existing fill, approximately 2 to 6 ft thick at all borings: silty gravel, clayey gravel with sand, and sandy fat clay with gravel; very loose

to medium dense (coarse soil) and medium to stiff (clayey soil), N = 3 to 25 bpf.

- Alluvial soil, below the existing fill to depths of approximately 33 to 43 ft: layered system of silty sand, clayey sand, and fat clay, with elastic silt (B-1) and sandy silt (B-3); very loose to medium dense (sandy soil) and medium to very stiff (fine soil), N = 3 to 26 bpf. The lowest N-values (3 to 4 bpf) were obtained in the silty sand at depths of approximately 13 to 20 ft.

- San Sebastián Formation soil, below the alluvial soil at depths of approximately 33 to 43 ft, to the maximum depths explored of 50 to 60 ft: fat clay, sandy lean clay, and lean clay with sand; very stiff to hard, N = 21 to over 75 bpf (mainly over 30 bpf).

The submerged silty sand and clayey sand of the alluvial soil should have a low potential of undergoing liquefaction; however, further detailed investigation shall be conducted by the design-builder to verify this conclusion.

3. Groundwater

Groundwater was found within the alluvial soil at depths of approximately 25 ft (borings B-3 and B-6) and 30 ft (boring B-1), at elevations of approximately 17.2 m and 15.7 m, respectively. The basement and cistern excavations will be performed above these levels. Long-term monitoring through observation wells would be required to define the groundwater level and its variations with time, which shall be established by the design-builder. Perched water or percolating runoff may appear locally within the existing fill and alluvial soil, especially during or after rainy events.

4. Primary Recommendations

The basement excavation will remove the existing fill and part of the alluvial soil and will partially compensate the loads imposed by the building structure (approximately 1,500 psf for an average Df of 14 ft). The following parameters are recommended for the foundation design:

1. Rigid concrete mat (raft): allowable soil bearing pressure (qall) of 3 ksf, modulus of subgrade reaction (k) of 20 pci, and friction coefficient (μ) of 0.36. The structure and mat shall be designed for a total settlement of approximately 1.0 inch and a differential settlement (Δs) of approximately 0.5 inch between the mat center and edges. The bottom of the excavation shall be recompacted prior to constructing the mat.

2. If the contact pressure exceeds 3 ksf, the structure shall be supported on drilled shafts or CFA piles (driven piles were discarded due to vibrations affecting adjacent hospital buildings): D = 24 in, minimum L = 50 ft, Qall = 280 kips, Tall = 200 kips, and P = 10 kips (at approximately 0.5 in lateral deflection). Temporary steel casing may be required due to caving of the alluvial sandy soil.

3. Basement walls: at-rest earth pressure, Ko = 0.5 and soil unit weight of 115 pcf; the walls shall be waterproofed.

4. Seismic site class: D.

The basement excavation (approximately 15 ft deep, deeper at the cisterns) will require lateral support designed by the design-builder, considering the adjacent buildings, and continuous monitoring by a Geotechnical Engineer (inclinometers, control points, and vibration sensors). The excavation can be performed with regular equipment.

5. Site Preparation & Earthwork

Any fill or backfill required for the project shall consist of the fill specified in Section 3.2 and Appendix 3. Debris, remnants of buried foundations, abandoned utilities, soft soil spots, doubtful fill, or deleterious material found within the excavations shall be removed and replaced with compacted fill. All excavations shall be performed under dry conditions. Due to the presence of nearby structures, compaction equipment without vibration may have to be used.

This Executive Summary is an overview of the geotechnical evaluation and is not intended to be used separately from the report. It must be read in conjunction with the complete text, boring logs, and appendices of the full report, including the limitations and general comments presented in Section 4.0.

1.0 GENERAL PROJECT INFORMATION

1.1 Introduction

This report presents the results of the geotechnical evaluation performed for the design of a multi-story building to house the New Trauma Hospital Level 1 of Puerto Rico in San Juan, PR. Yanira Rivera Ortiz, Project Coordinator, from the Administración de Servicios Médicos de Puerto Rico (ASEM), requested this evaluation on behalf of the project owner.

The evaluation is based upon soil information obtained from six (6) Standard Penetration Test (SPT) borings (B-1 to B-6) performed at the project site, a site reconnaissance, geologic information from the area, an aerial photointerpretation of the site, and laboratory test results. Information in conjunction with data submitted to this office by ASEM's personnel was also utilized.

1.2 Site and Project Description

The Centro Médico de Puerto Rico (CMPR) is located within the western central portion of the Municipality of San Juan, PR (Fig. 1). The project site is located within the central part of the CMPR. The site is bordered on the north by the ASEM's Central Services Building, on the south by Plaza Pedro Arzuaga Beraza, on the east by the Oncologic Hospital, and on the west by the Municipal Hospital of San Juan.

The project site consists of the construction of a building to house the new hospital. Figure 2 shows the submitted project layout and elevation. The building will consist of a nine-story structure with basement. The building will occupy an area of approximately 41,050 sq ft. The basement will occupy an area of approximately 36,780 sq ft. Figure 3 shows a submitted plan of the basement. Reportedly the new hospital will be constructed utilizing a Design-Build method.

Based on the information included in Figs. 2 and 3, the structure of the building will be supported on columns and walls. According to this information, the Finished Floor Elevation (FFE) of the building will be 25.20 m (Fig. 2), while the FFE of the basement will be 20.32 m (Fig. 3). No information was submitted on the ground elevation of the project site. However, Fig. 2 includes data on the existing elevation of sectors of the ground surrounding the project site, which varies approximately from 24.61 m to 25.00 m. Based on these elevations, the basement will require the performance of an excavation approximately 4.3 m to 4.68 m deep (about 14 to 15.5 ft). Taking this into consideration, the basement will act as a raft foundation.

Two 30,000-gals cisterns will be constructed within the basement area (Fire Cistern, Potable Water Cistern). Both cisterns will be constructed as a single structure divided by a wall in the middle. Figure 3 shows the submitted floor plan of the cisterns and their location within the basement area. The cisterns will occupy an area of approximately 22 ft by 82 ft. Reportedly, the bottom of the cisterns may reach Elev. 18.18. Taking this into consideration, the bottom of the cisterns will require an additional excavation of approximately 2.14 m (approx. 7 ft). The total

depth of excavation in the area of the cisterns will be 6.4 m (approx. 21 ft). The basement will also include a service yard.

Figure 4 shows views of the project site. As can be observed in this figure, the project site was part of Plaza Pedro Arzuaga Beraza presently under construction. The plaza portion within the project area has been undergoing demolition. As a result, the project area has been subjected to previous earthwork. Debris and abandoned and/or other underground utilities may exist at the project site.

2.0 SUBSOIL EXPLORATION

2.1 Site Geology

The following table summarizes information on the geology of the site, based on published information by the US Geological Survey (USGS). Figure 5 schematically shows the project site within the corresponding USGS geologic map.

Table 1 - USGS Geological Map Information

Quadrangle: San Juan	Map ID: I-1010	Published Date: 1977

Type of Deposits

Project area:	Alluvial Fan Deposits (Qf) (Pleistocene)	
USGS Description:	Clay, silty and sandy, mainly red or mottled-red and light-gray; lithologically indistinguishable from material of older alluvial deposits. Thickness: Not available	
Comments:	According to the geologic map, Alluvium (Qa) borders the CMPR area on the west and east, and the San Sebastián Formation (Ts) on the south. Taking this into consideration, the San Sebastián Formation (Ts) should underlie the Qf deposits. The geologic map does not include the presence of a geologic fault at or near the project site. As will be mentioned in Section 2.3, fill, alluvial soil, and soil from the San Sebastián Formation (Ts) were found with the soil exploration performed at the project site.	
Landslide Susceptibility (Hughes & Schulz, 2020)	☒ N/A ☐ Low ☐ Moderate	☐ High ☐ Very High ☐ Extremely high

Qf

Alluvial fan deposits

2.2 Site Aerial Photointerpretation

The photointerpretation of a site is conducted by comparing aerial photographs taken of the area over a period of several years. These photographs show the broad physical characteristics of the area and help to identify site changes with time. The photointerpretation of a site has become an effective technique to recognize and better define features such as topography, sinkholes, drainage, physical changes made by man-made earthmoving operations (cuts and fill), areas of instability, etc.

The evaluation of the project site was performed utilizing aerial photographs, topographic maps, and LiDAR data spanning from 1930 to 2026.

Figure 6 - Aerial View of Project General Area (1930): By 1930, the project site was part of the area of the old insular sanatorium ("Sanatorio Insular") of San Juan, PR. The project general area included several buildings and streets, some of which existed within the project site. The old insular sanatorium had been constructed on the upper part of an elongated mound having a near north-south alignment and descending slopes on the east and west.

Figure 7 – Portion of USGS Topographic Quadrangle (1941) – San Juan, PR: The contour lines of the topographic quadrangle published for San Juan, PR by the USGS in 1941 illustrate the morphology of the project general area as observed in the aerial photograph from 1930. According to the contour lines, the top of the elongated mound had an

elevation of 25 m or slightly more, which largely agrees with the present elevation of the project site. The base of the mound western and eastern descending slopes were at elevations of approximately 10 to 15 m. The slopes contained several gullies draining east and west. The quadrangle shows the location of the buildings and streets of the old insular sanatorium and those within the project site.

Figure 8 - Aerial View of Project General Area (1950): The aerial view from 1950 shows practically the same morphology observed in the aerial photograph from 1930 (Fig. 6).

Figure 9 - Aerial View of Project General Area (1962): By 1962, earthwork was being performed at the project general area, probably for the construction of the CMPR. Some of the buildings of the old sanatorium previously located in this area had been demolished.

Figure 10 - Aerial View of Project General Area (1977): By 1977, the CMPR had been constructed, including the plaza where the new hospital will be constructed and the buildings surrounding the project site.

Figure 11 - Aerial View of Project General Area (1995): By 1995, two structures had been built within the project site.

Figure 12 - LiDAR-Derived Hillshade Model of School General Area (2024): The existing morphology of the site can also be observed in Fig. 12, which presents a LiDAR-derived Hillshade Model from 2024. As can

be observed in this figure, most of the project general area, including the project site, is practically flat, and bordered by two areas (parking lots) with lower elevation. Based on topographic information obtained with the LiDAR-derived hillshade model, these low areas have elevations of about 17.5 to 18.5 m. The hillshade model shows the presence of small structures within the project site.

Figure 13 - Aerial View of Project General Area (2025): By 2025, earthwork was being performed for the construction of the plaza.

Figure 14 - Aerial View of Project General Area (2026): Figure 14 shows an aerial view of the site in 2026. The project area contains debris, equipment, and two small structures to be demolished.

In summary, the project site was part of the old insular sanatorium of San Juan, PR, which was constructed on the upper part of an elongated mound. Several buildings and streets of the old sanatorium existed within the project area. These buildings and street were demolished for the construction of the CMPR, which started in 1962. Other small structures were constructed and demolished within the project site through the years after the construction of the CMPR. Based on these findings, debris, remnants of buried foundations and other parts from the previous structures, and abandoned underground utilities may exist at the project site.

2.3 Subsoil Conditions

A soil exploration program consisting of six (6) SPT borings (B-1 to B-6), accompanied with field and laboratory testing, was performed to obtain information on the subsoil conditions at the project site. Figure 15 schematically shows the location of the SPT borings. The borings were distributed within the project area, taking into consideration the new building footprint layout and accessibility to the boring locations.

The SPT borings were performed with a drill rig. The depth and location of the borings were defined in the field, taking into consideration the project type, the soil conditions obtained while doing the borings, and the accessibility to the boring locations. The following table shows the depths reached by the borings:

Table 2 - Summary of Boring Depths

Boring ID	Coordinates (lat., long.)	Depth (ft)	Approximate location
B-1	18.39540°, -66.07383°	50	Project site northern area
B-2	18.39530°, -66.07402°	50	Project site northwestern area
B-3	18.39525°, -66.07348°	60	Project site eastern area
B-4	18.39524°, -66.07379°	50	Project site central area
B-5	18.39507°, -66.07413°	60	Project site southwestern area
B-6	18.39498°, -66.07376°	50	Project site southern area

Soil samples from the SPT borings were recovered, identified in the field and laboratory, and subjected to laboratory testing. The recovered soil samples were described and classified following visual-manual

procedures in accordance with ASTM D2488 Standard. Appendix 2 provides a brief description of the drilling and sampling procedures utilized. Appendix 4 presents the boring logs as well as field and laboratory test results.

Three types of materials were found with the SPT borings performed at the project site:

Table 3 - Summary of Materials

Type of Material
Existing fill
Alluvial soil
San Sebastián Formation

Figure 16 shows schematic soil profiles obtained with the SPT borings. The soil profiles are simplified representations of the subsoil and the layer boundaries found at the borings during the drilling operations. Detailed soil descriptions and engineering properties can be found in the attached boring logs (see Appendix 4). The following table summarizes the type and approximate depths of the soil layers found with the SPT borings:

[*Table on next page*]

Table 4 - Summary of Soil Information from the SPT Borings

Soil Type	Description	Approx. Depth Range
Existing fill	Recovered mainly as gray, black, pale brown, reddish brown, and dark grayish brown: • Silty GRAVEL with sand (GM) (B-1, B-3, B-5) • Silty GRAVEL (GM) (B-2) • Clayey GRAVEL with sand (GC) (B-4) • Sandy fat CLAY with gravel (CH) (B-5, B-6) Relative density: very loose to medium dense Consistency: medium to stiff N-value: 3 - 25 bpf	0-2 ft (B-1) 0-3 ft (B-2) 0-3 ft (B-3) 0-4 ft (B-4) 0-6 ft (B-5) 0-5 ft (B-6)
Alluvial soil	Recovered mainly as a layered system of brownish yellow, reddish yellow, red, light gray, and pale yellow: • Silty SAND (SM) (B-1 to B-6) • Clayey SAND (SC) (B-1, B-4, B-5) • Fat CLAY (CH), sometimes sandy or with sand (B-2, B-3, B-4) • Sandy SILT (ML) (B-3) • Elastic SILT (MH) (B-1) Relative density: very loose to medium dense Consistency: medium to very stiff N-value: 3 - 26 bpf	2-38 ft (B-1) 3-38 ft (B-2) 3-38 ft (B-3) 4-38 ft (B-4) 6-43 ft (B-5) 5-33 ft (B-6)
San Sebastián Formation	Recovered mainly as pale brown, pale yellow, brown, light olive gray, and light yellowish brown: • Fat CLAY (CH) (B-1, B-3) • Sandy lean CLAY (CL) or lean CLAY with sand (CL) (B-2, B-4, B-5, B-6) Consistency: very stiff to hard N-value: 21 - >75 bpf	38-50 ft (B-1) 38-50 ft (B-2) 38-60 ft (B-3) 38-50 ft (B-4) 43-60 ft (B-5) 33-50 ft (B-6)
Comments	The aforementioned depth range of the soil layers may vary at other project locations.	

Several soil samples from those recovered with the SPT borings were subjected to laboratory testing to obtain the soil grain-size distribution, the liquid (LL) and plastic (PL) limits, and the plasticity index (PI). The

following table shows the test results and the soil classification according to the ASTM D2487 Standard (Unified Soil Classification System, USCS):

Table 5 - Summary of Laboratory Test Results from Selected Soil Samples

Soil	Borings	Depth (ft)	USCS Class.	% Gravel	% Sand	% Fines	Atterberg Limits (%)			w (%)
							LL	PL	PI	
Existing fill	B-4	0-4	GC	29.8	22.3	47.9	70	28	42	40
	B-6	2-4	CH	22.0	27.5	50.5	64	31	33	30
Alluvial soil	B-1	4-6	MH	0.0	9.0	91.0	63	33	30	-
	B-2	4-6	CH	7.7	14.2	78.1	89	36	53	37
	B-3	4-6	CH	0.0	10.9	89.1	73	30	43	25
	B-6	8-10	SM	0.3	58.1	41.6	41	32	9	28
	B-3	13-15	ML	0.0	47.6	52.4	49	34	15	34
	B-4	13-15	SM	0.0	57.2	42.8	44	36	8	25
	B-5	13-15	SM	0.0	60.3	39.7	45	33	12	40
	B-1	18-20	SM	0.0	58.5	41.5	38	27	11	-
	B-2	18-20	SM	0.0	59.5	40.5	42	30	12	38
	B-6	18-20	SM	0.8	60.0	39.2	39	28	11	28
	B-3	23-25	SM	0.2	64.3	35.5	47	30	17	36
	B-5	23-25	SC	0.0	63.8	36.2	38	23	15	28
	B-1	28-30	SC	0.1	50.0	49.9	57	23	34	-
	B-2	28-30	CH	2.4	47.5	50.1	50	28	22	29
	B-4	28-30	SC	0.3	64.9	34.8	62	22	40	34
	B-5	33-35	SC	3.2	72.9	23.9	33	21	12	27
San Sebastián Formation	B-1	38-40	CH	0.0	6.5	93.5	52	18	34	-
	B-6	38-40	CL	0.0	23.4	76.6	43	19	24	21
	B-3	48-50	CH	0.0	12.7	87.3	55	27	28	22

The existing fill was found in all borings and reached a thickness of approximately 2 to 6 ft. The existing fill consisted mainly of silty gravel, clayey gravel with sand, and sandy fat clay with gravel. The Standard Penetration Test (SPT) N-values ranged from 3 to 25 blows per foot (bpf). The relative density of the coarse soil varied from very loose to medium dense, while the consistency in the clayey fill varied from medium to stiff. Based on the liquid limit (LL) and plasticity index (PI) of the tested samples, the clayey soil is of high plasticity. Taking into

consideration the required excavation for the basement, the existing fill will be removed from the project area.

The alluvial soil was found beneath the existing fill in all borings and extended to depths of approximately 33 to 43 ft. The alluvial soil consisted of a layered system of silty sand, clayey sand, and fat clay, with elastic silt in boring B-1 and sandy silt in boring B-3. The N-values ranged from 3 to 26 bpf. The relative density of the sandy soil varied from very loose to medium dense, while the consistency of the fine soil varied from medium to very stiff. The lowest N-values (3 to 4 bpf) were obtained in the silty sand at depths of approximately 13 to 20 ft. Based on the liquid limit (LL) and plasticity index (PI) of the tested samples, the fine soil consists of soil with medium to high plasticity. The alluvial soil has variable bearing characteristics, ranging from poor to good.

The soil from the San Sebastián Formation was found beneath the alluvial soil in all borings at depths of approximately 33 to 43 ft. The borings were completed within this soil, which consisted of fat clay, sandy lean clay, and lean clay with sand. The N-values ranged from 21 to over 75 bpf (mainly over 30 bpf). The soil consistency varied from very stiff to hard. Based on the liquid limit (LL) and plasticity index (PI) of the tested samples, the clay is of medium to very high plasticity. The soil from the San Sebastián Formation has good to very good bearing characteristics.

Groundwater

Found in some SPT borings

Groundwater was found within the alluvial soil while performing the SPT borings at depths of approximately 25 ft (borings B-3 and B-6) and 30 ft (boring B-1). Taking into consideration the elevation of these borings,

the groundwater was found at elevation of approximately 15.7 m (B-1) and 17.2 m (B-3, B-6). Based on the morphology of the CMPR general area, the elevation at which the groundwater was found in the borings should not increase significantly; otherwise, flooding would have occurred in the past in the lower areas (parking lots) bordering the project general area. However, long-term monitoring through deep observation wells would be required to accurately define the groundwater level depth and its variations with time. Perched water or percolating runoff may also appear in localized sectors within the existing fill and the alluvial soil, especially during or after rainy events.

The specific conditions encountered at the SPT borings are indicated on the enclosed boring logs (see Appendix 4). The stratification or change lines shown in the logs and in the schematic soil profiles of Fig. 16 are based upon visual-manual descriptions of the samples and information recorded on the field logs. For this reason, these lines are approximate and thus schematic. The in-situ transition between various soil/rock types may be gradual. The depths mentioned in the report refer to the existing ground surface at the time of performing the field testing.

2.3.1 Liquefaction Considerations

The soil profile encountered at the tested locations within the project area consisted of existing fill, sandy, silty, and clayey alluvial soil, and clayey soils from the San Sebastián Formation (Ts). The liquefaction potential of the soil profile will be addressed in Section 3.1.1.

3.0 GEOTECHNICAL ASSESSMENT

3.1 Foundation Recommendations

As mentioned in Section 1.2, the project site consists of the construction of a building to house the new hospital. The building will consist of a nine-story structure with basement. The building will occupy an area of approximately 41,050 sq ft. The basement will occupy an area of approximately 36,780 sq ft. The building structure will be supported on columns and walls. The basement will act as a raft foundation.

Reportedly, the FFE of the building will be 25.20 m, while the FFE of the basement will be 20.32 m. Based on these elevations, the construction of the basement will require the performance of an excavation approximately 14 to 15.5 ft deep.

The project includes the construction of two 30,000-gals cisterns to be built within the basement area. The cisterns will be constructed as a single structure (divided by a wall in the middle) occupying an area of approximately 22 ft by 82 ft. Reportedly, the bottom of the cisterns may reach Elev. 18.18. Taking this into consideration, the excavation required for the construction of the cisterns will reach a depth of approximately 21 ft. However, this excavation will occur in a relatively small portion of the basement area.

The soil profile at the project site includes the presence of existing fill, alluvial soil, and soil from the San Sebastián Formation. The FFE of the basement and of the cistern structure are schematically shown in the soil profiles of Fig. 16. As can be observed, the excavation required for the construction of the basement and cisterns will remove the existing fill and part of the alluvial soil. The required excavation will partially compensate the loads to be imposed by the building structure on the foundation soils. Also, the bottom of the excavation will be at a higher elevation than the elevation where groundwater was found in some of the SPT borings.

3.1.1 Liquefaction Potential

As mentioned above, the soil profile encountered at the tested locations within the project area consisted of existing fill, alluvial soil, and clayey soils from the San Sebastián Formation (Ts). The groundwater was found at a depth of 25 ft and 30 ft. The submerged alluvial soil underlying the project area mainly consists of clayey sand (SC) and fat clay(CH); although silty sand (SM) is also present in some sectors, such as in SPT boring B-6.

According to the laboratory test results included in Table 5, the silty sand from the alluvial soil has a fines content of approximately 36 to 52 percent and a plasticity index (PI) from 8 to 17 percent, with average values of approximately 42 percent and 12 percent, respectively. The submerged clayey sand has a fines content of approximately 24 to 50 percent and a plasticity index (PI) from 12 to 40 percent, with average values of approximately 39 percent and 25 percent, respectively.

A review of the literature shows that soils having a fines content larger than 35 percent and plasticity index (PI) larger than 7 percent are considered not susceptible to liquefaction. Taking this into consideration, the submerged silty sand and clayey sand from the alluvial soil should have a low potential of undergoing liquefaction. However, further detailed investigation shall be conducted by the design-builder of the project to verify this conclusion.

3.1.2 Mat/Raft Foundation

As mentioned in Section 1.2, the basement of the building will act as a raft foundation. As a result, the required excavation for the construction of the basement will partially compensate the loads to be imposed by the building structure on the foundation soils. Assuming an average depth (D_f) of 14 ft and a soil unit weight (γ) of 105 pcf, the required excavation will compensate a pressure (γD_f) of approximately 1,500 psf.

Any additional pressure (Δq) to the compensated pressure applied by the building structure will cause vertical deformations (settlements) in the underlying soils. An additional pressure (Δq) of 1,500 psf will cause settlements of approximately 1.0 inches. Taking this into consideration, the maximum contact pressure (q_b) that can be applied on the foundation soils would be 3 ksf.

As the basement of the building will act as a raft foundation, the building structure shall founded on a rigid concrete mat. The rigid concrete mat

can be designed for an allowable soil bearing pressure (q_{all}) of 3 ksf or modulus of subgrade reaction (k) of 20 pci. A friction coefficient (μ) of 0.36 can be used to estimate the lateral resistance along the concrete mat bottom. The building structure and the concrete mat shall be designed to sustain a total settlement of approximately 1.0 inches and the internal effects caused by a differential settlement (Δs) of approximately 0.5 inches that may tend to develop between the mat center and edges.

Based on the soil information obtained with the SPT borings, a Site Class D can be used for the structure seismic design. Prior to constructing the mat, the bottom of the excavation shall be recompacted.

If the contact pressure (q_b) to be applied by the building structure will exceed the allowable soil bearing pressure (q_{all}) of 3 ksf, the structure will have to be founded on deep foundation. Driven piles have been discarded for the deep foundation because the pile installation will cause vibrations that may reach the buildings adjacent to the project site.

A deep foundation utilizing drilled shafts or CFA piles will cause much less vibrations during their construction. Due to the project site setting of existing adjacent hospital buildings, the alternative of drilled shafts or CFA piles is preferred for the building structure.

3.1.3 Drilled Shafts/CFA Piles

The drilled shafts will transfer the structure loads to deeper more competent alluvial soil and to the soil from the San Sebastián Formation. Taking into consideration the irregular nature of the soil profile, a critical soil profile was prepared to determine the allowable load capacities of the drilled shafts/CFA piles. Table 6 presents the recommended axial load capacities for drilled shafts 24 inches in diameter (D) and a minimum depth of embedment (L) of the shaft within the ground. A Site Class D can be used for the structure seismic design.

Table 6 – Concrete Drilled Shaft/CFA Pile Summary of Recommendations

D	L	Q_{all}	T_{all}	P
(in)	(ft)	(Kips)	(Kips)	(Kips)
24	50	280	200	10

where

D = drilled shaft diameter
L = drilled shaft minimum depth of embedment within the ground
Q_{all} = allowable axial load under compression
T_{all} = allowable uplift
P = Lateral load capacity at maximum lateral deflection of approximately 0.5” at top (head) of drilled shaft

As the soil from the San Sebastián Formation may be at shallower depths in some sectors of the building area, the required minimum depth of embedment (L) may change during construction. For such a case, a reevaluation will be required to determine if the depth of embedment (L) should be reduced. Appendix 5 includes additional recommendations for the drilled shafts.

Also, the contractor shall consider in the construction of the drilled shafts that there may be a risk of caving when drilling the alluvial sandy soil and that the use of temporary steel casing may be required. Furthermore, the contractor shall take into consideration the depth of the groundwater detected with the SPT borings.

3.1.4 Basement Walls

The walls of the basement will be partially or completely restrained and should be designed for an at-rest condition of earth pressures. A coefficient of earth pressure at rest (K_o) of 0.5 and a soil unit weight of 115 pcf can be used for the wall design. The wall shall be waterproofed.

3.1.5 Required Excavation

The construction of the basement will require an excavation of approximately 15 ft deep. The excavation will be deeper in the sector where the cisterns will be constructed.

Based on the groundwater detected with the SPT borings, the excavation will be performed above the groundwater level. However, the actual depth of the groundwater and its variations with time shall be established by the design-builder through the installation of observation wells.

As mentioned in Section 1.2, there are several buildings close to the project site. The types of foundation used for these buildings are unknown. The performance of the excavation will cause the development of ground lateral deformations and settlement, which will have to be minimized to prevent causing damage to the adjacent buildings. As a result, the performance of the excavation will require the installation of lateral support for the excavation walls and to maintain the excavation in stable condition. The design-builder shall take into consideration in his design of the lateral support the presence of these buildings.

Continuous field monitoring of the ground surrounding the excavation shall be conducted by a Geotechnical Engineer to detect the lateral deformations and settlements developed when performing and during the time the excavation remains opened. The ground monitoring shall include the installation of inclinometers, control points, and of vibration sensors or detectors. Depending on the lateral deformations and settlements being developed, the Geotechnical Engineer shall decide if additional lateral support is required to maintain the excavation in stable condition and to prevent causing damage to the neighboring buildings.

On the basis of the soil information obtained with the SPT borings, the required excavation for the basement can be performed with regular equipment (e.g. bulldozers, backhoes, rippers, etc.).

3.2 New Fill

Unless otherwise stated in this report, any fill or backfill required for the project shall consist of the soil specified as fill in Appendix 3. The soil shall be placed and compacted, following the recommendations provided for fill in this appendix.

Due to the presence of nearby structures, the contractor shall verify which type of equipment to use for the compaction operations to prevent causing damage to the nearby structures (probably compaction equipment without vibration may have to be used in the project).

3.3 Construction Considerations

The following considerations shall be taken into account for the construction of this project. Appendix 3 includes additional recommendations.

1. All earthwork operations in the project shall be conducted under supervision of a Geotechnical Engineer.

2. All existing underlying utilities (in use or abandoned) shall be removed or relocated from the project loaded areas. Any underground utility not removed or relocated will be subjected to new pressures, which can result in damages to the utility and

have an adverse effect on the new structure. The void left by these utilities shall be backfilled with compacted fill as specified in Section 3.2. If any utility has to remain beneath the structure loaded areas, the utility shall be isolated from the loaded areas by structural means.

3. One of our Geotechnical Engineers (or his representative) shall examine the bottom of any excavation to verify its conditions with respect to those obtained with the soil exploration program. Unless otherwise stated in this report, proof-rolling of the excavation bottom may be required depending on the exposed ground conditions (this shall be determined in the field during construction). Any detected soft soil spot, debris, remnants of buried foundations and other parts from previous structures, doubtful fill, or deleterious material within any excavation shall be removed and replaced with compacted fill, as specified in Section 3.2.

4. The project excavations shall be expedited to prevent disturbance of the foundation soils. All excavations shall be performed under dry conditions. The contractor shall take the required provisions to prevent seepage into and accumulation of water (e.g. runoff, percolating water, perched water) in all excavations.

5. Any water collected from the roof of the structure shall be properly disposed of into the storm drainage system of the project. No roof water shall be discharged directly into the ground. The ground

surface surrounding the structure shall be covered with asphalt, or clay of low plasticity, or concrete and be provided with sufficient gradient to allow runoff drainage away from the structure. No accumulation of water shall be allowed adjacent to the structure.

6. No trees with a large, thick, superficial root system shall be planted or exist close to the structure. Any tree of this type shall be placed or exist at a minimum distance of 50 feet away from the structure.

7. The new utilities reaching the new structure shall have flexible connections due to the expected total and differential settlements.

8. This report is submitted for the project design, and it includes construction considerations that shall be reviewed by any bidding contractor. However, the bidding contractors shall not use this report as the only information to base their bid for the project. GEO-Engineering shall not be held responsible if the contractors use without limitations the information contained herein. Any bidding contractor should conduct a careful review of the geotechnical data and comments presented in this report. In addition, GEO-Engineering will not be responsible for the contractor's interpretation and conclusions made from these data. The bidding contractor shall visit the project site prior to submitting a bid to become acquainted with the actual site conditions.

9. The contractor shall take care to prevent damaging surrounding structures and utilities due to the construction operations. Claims are frequently presented by owners of properties located adjacent to project areas commonly based on vibration effects derived from the construction operations (especially those due to earthwork equipment). A notarization of an overall evaluation of the conditions of the nearby properties is recommended prior to starting the project construction.

10. The contractor will be solely and completely responsible for his method of construction, his method of excavation, the working conditions at the job site, and the project safety measures. This requirement applies continuously, and it is not limited to normal working hours.

    According to existing regulations, any excavation exceeding a depth of 5 ft must be shored, braced, or be cut with adequate slopes to provide safety to workers. The adequacy of the required shoring or bracing system or the inclination of the excavation walls and the stability of the complete excavation is a responsibility of the contractor.

11. The project owner or designer shall pre-qualify the contractors and/or subcontractors bidding for this project, since the performance of earthwork, the performance of deep excavation, the construction of foundations, and their associated activities are all specialized operations.

4.0 GENERAL COMMENTS

4.1 General Comments

1. This report has been prepared to evaluate the project site from a geotechnical point of view and provide geotechnical recommendations for the project design and construction.

2. The scope of this report is limited to the specific project and location described herein.

3. Our description and analysis of the project represent our understanding of the significant aspects relevant to soil/rock characteristics.

4. In the event that any changes in the project are made, we should be informed so that the changes can be reviewed, and the recommendations and conclusions of this report be modified as necessary in writing by us.

5. Geotechnical aspects of design and construction are specialized activities. As a result, we should be consulted and should participate in the preparation of the final design plans and specifications for the project. In addition, we recommend that we be authorized to review the project construction plans and specifications to confirm that the recommendations contained in this report have been interpreted in accordance with our intent. Without this review, we will not be held responsible for the misinterpretation of our data, our analysis, and/or our

recommendations, nor how these are or have been incorporated into the final design.

6. The analysis and recommendations submitted in this report are based upon data obtained from a soil exploration program performed at the site and from any other information discussed in the report. The report does not reflect any soil/rock variations, which may occur between the tested locations and other project locations. If variations appear evident, it will be necessary to re-evaluate the conclusions and recommendations after performing on-site observations during construction and noting the characteristics of the variations.

Submitted by,

GEO-Engineering

Carlos E. Rodríguez Pérez, PhD, PE
Geotechnical Engineer

November 3, 2026
SB72-26-BD-SJU

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PR/FL DTOP Certified Disadvantaged Business Enterprise

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FIGURES

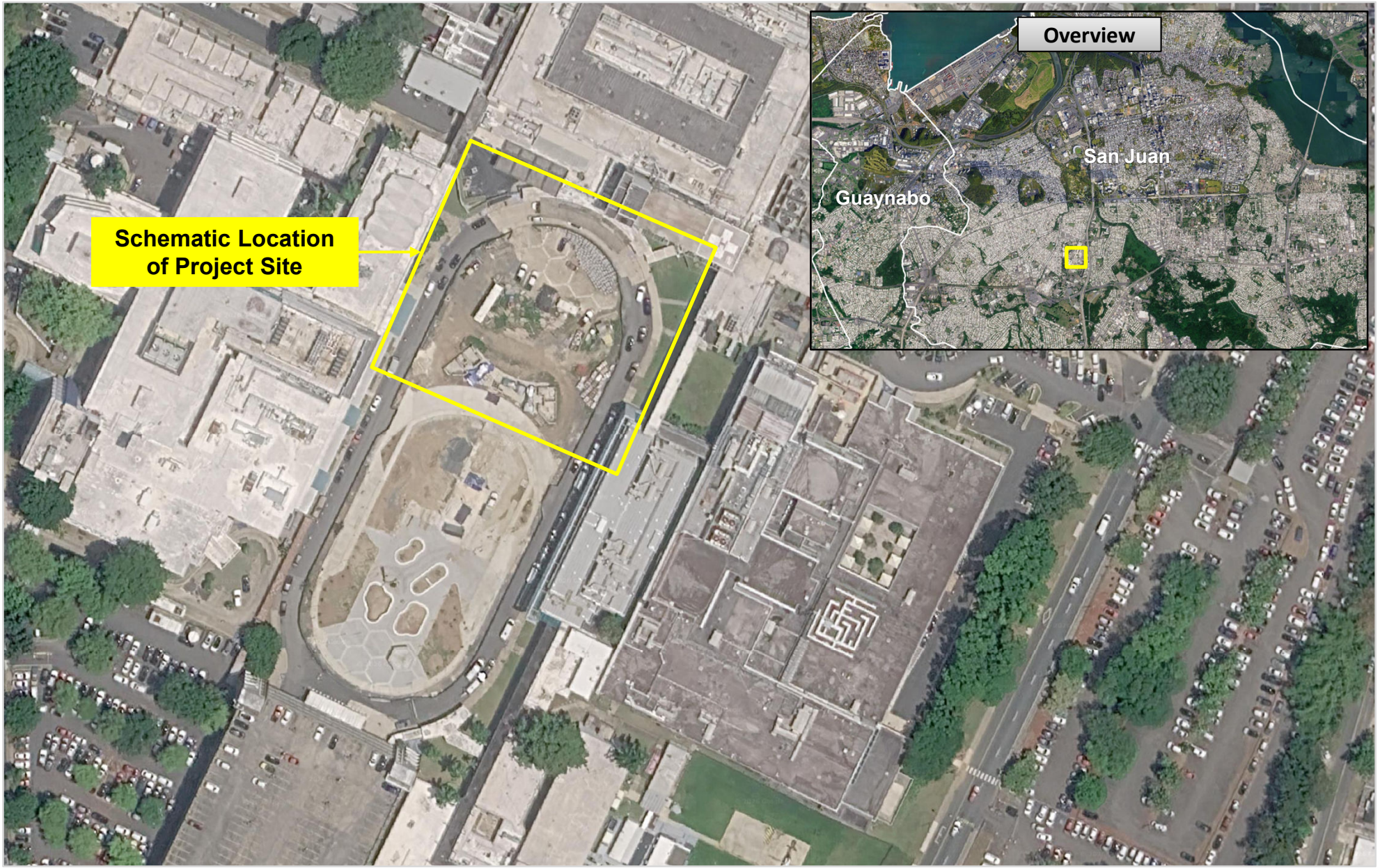

FIGURE 1

Schematic Location of Project Site – San Juan, PR

Geotechnical Evaluation
Nuevo Hospital de Trauma Nivel 1 de Puerto Rico
Centro Médico de Puerto Rico
San Juan, Puerto Rico
SB72-26-BD-SJU

geotechnical engineering
construction materials testing
GEO

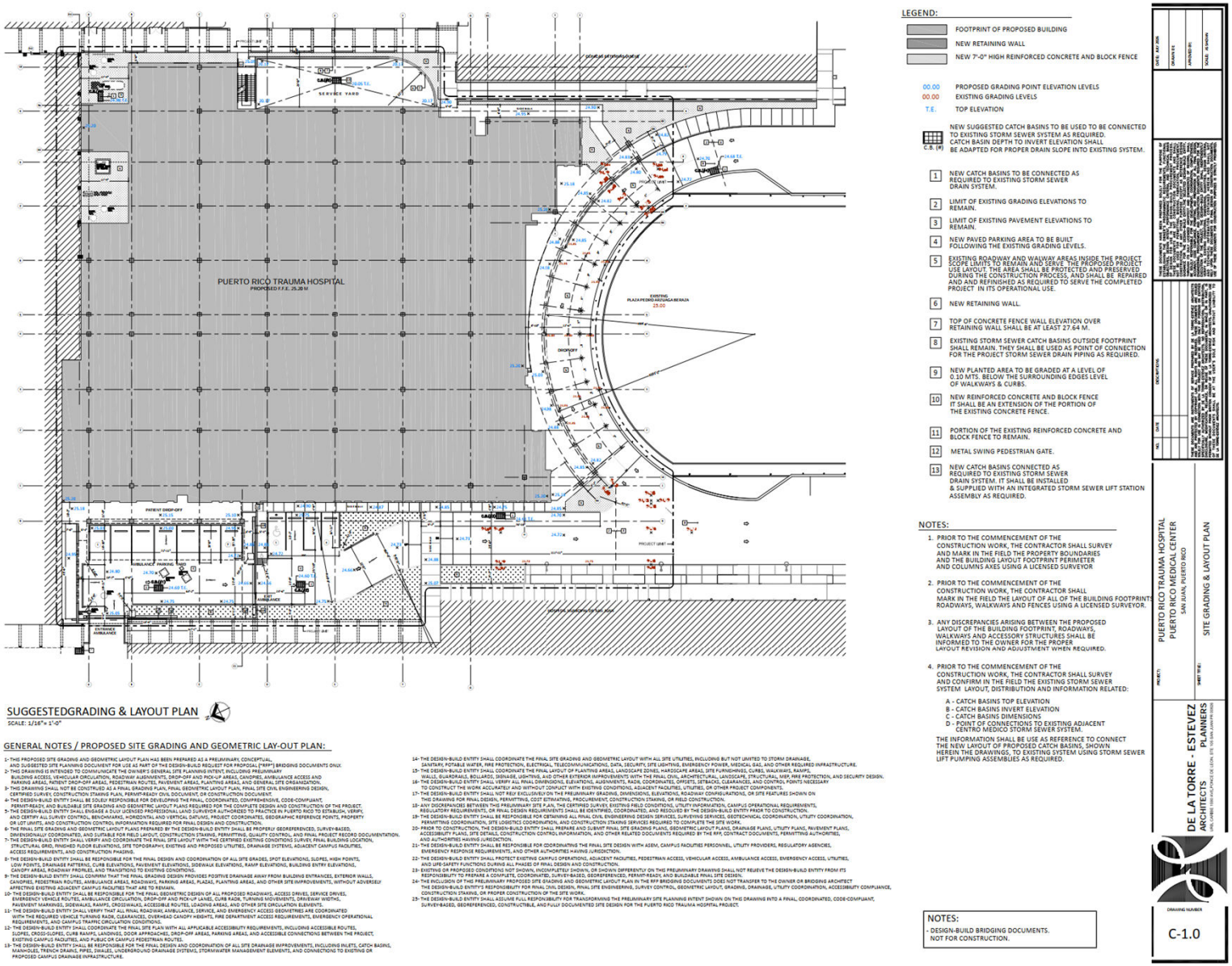

FIGURE 2

Project Layout and Elevation

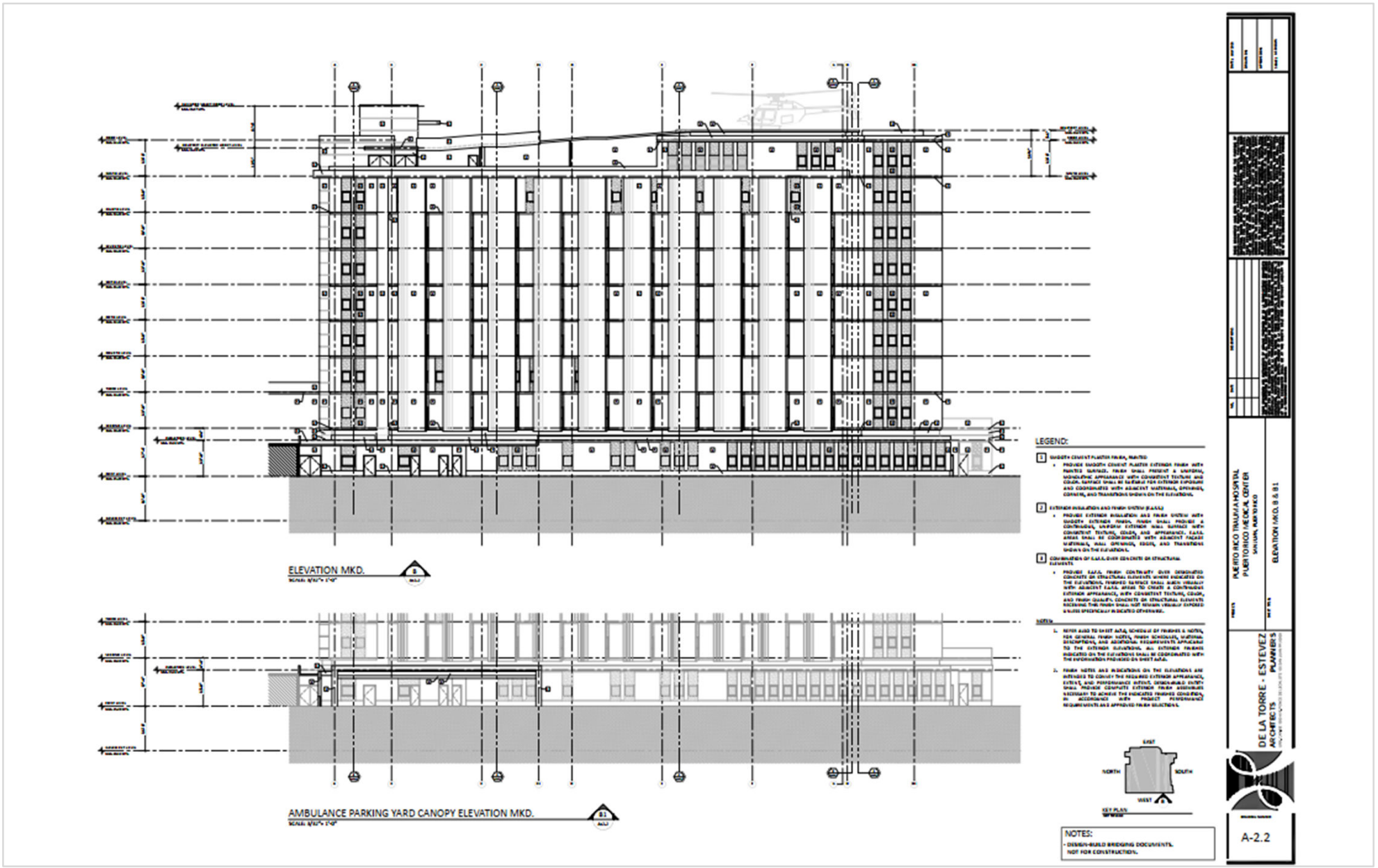

FIGURE 2 (Cont.)

Project Layout and Elevation

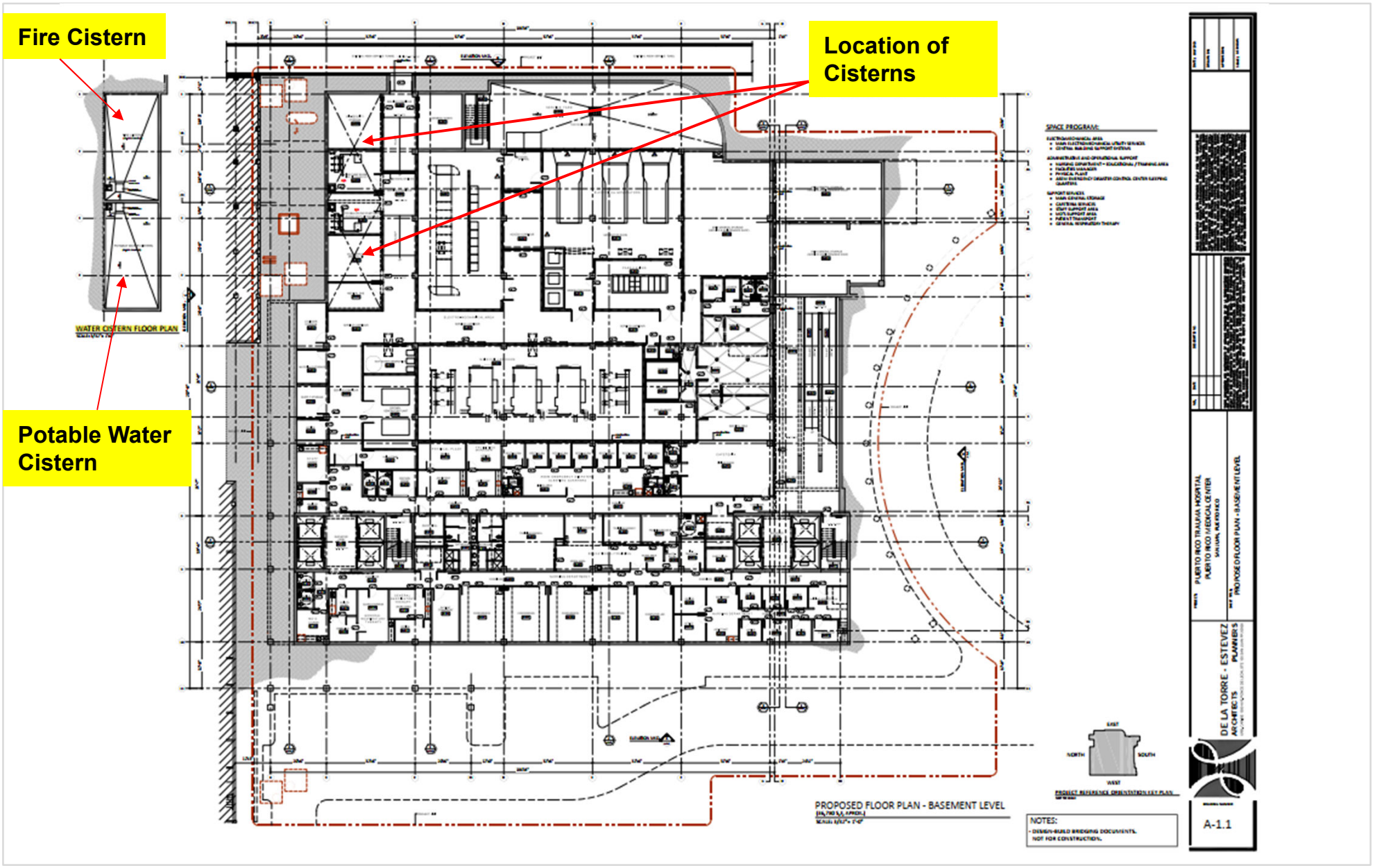

FIGURE 3

Basement Plan

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FIGURE 4

Views of Project Site

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FIGURE 4 (Cont.)

Views of Project Site



FIGURE 4 (Cont.)

Views of Project Site



FIGURE 4 (Cont.)

Views of Project Site

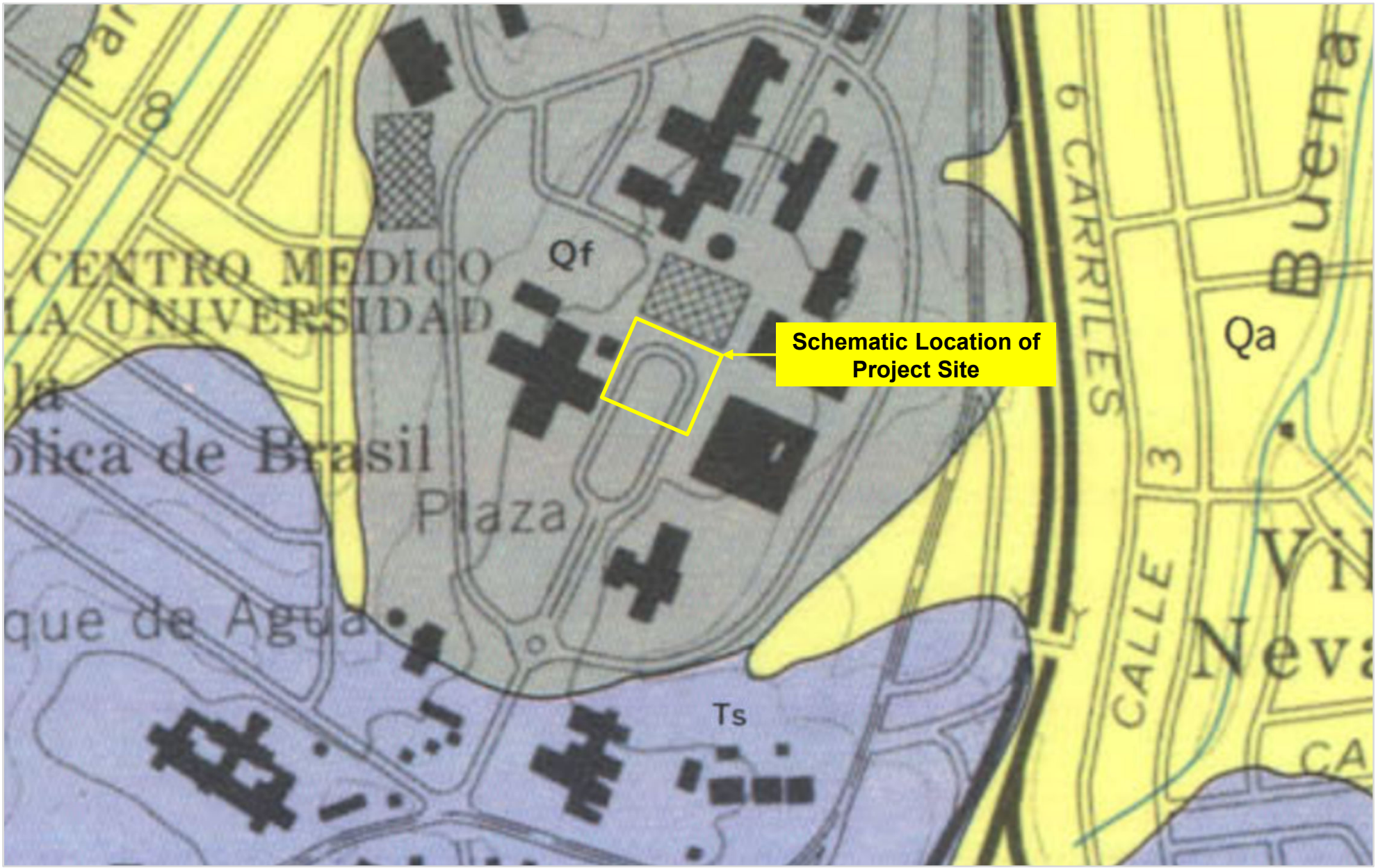

FIGURE 5

Schematic Location of Site on USGS Geologic Map (I-1010)

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FIGURE 6

Aerial View of Project General Area (1930)

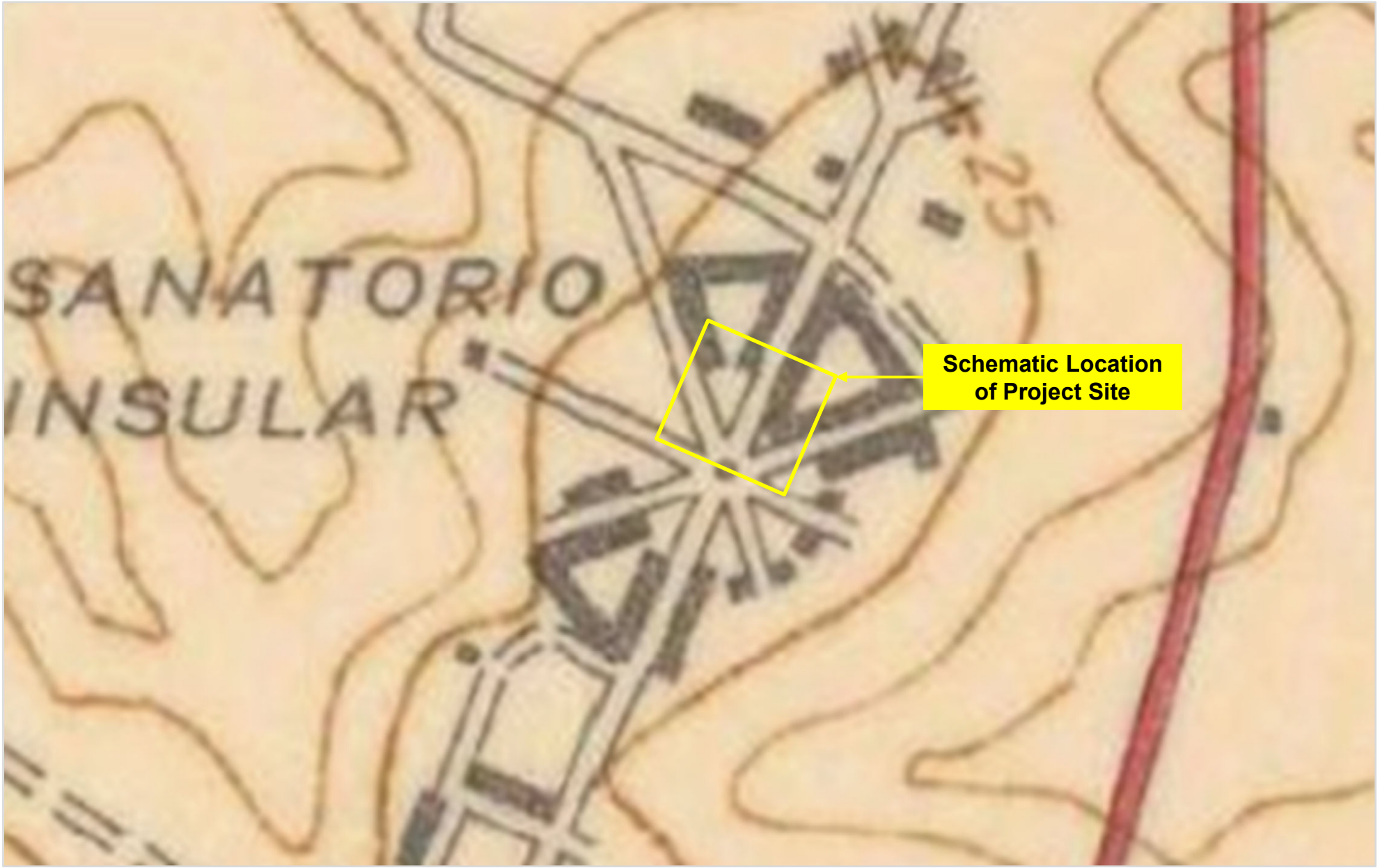

FIGURE 7

Portion of USGS Topographic Quadrangle (1941) – San Juan, PR

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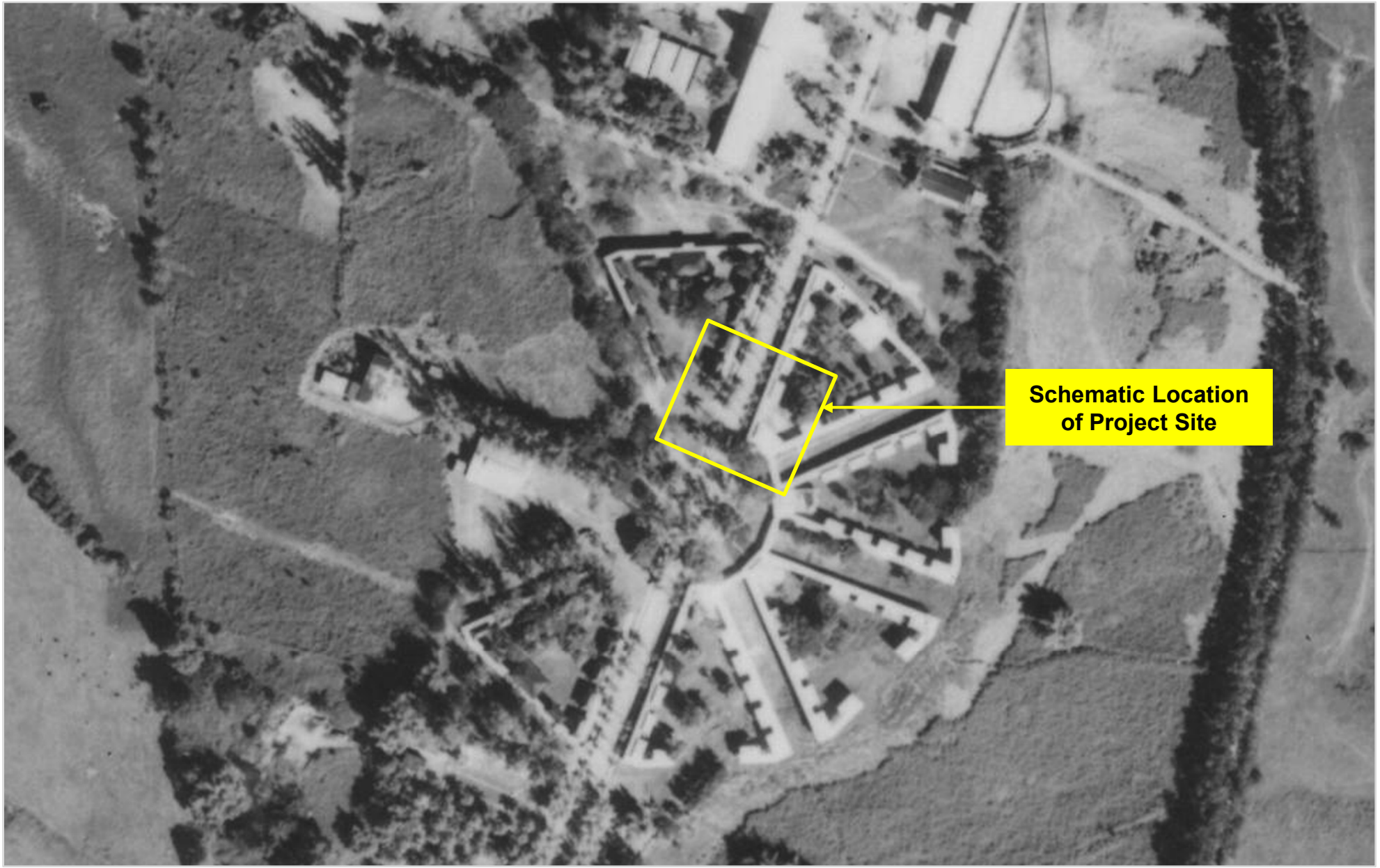

FIGURE 8

Aerial View of Project General Area
(1950)

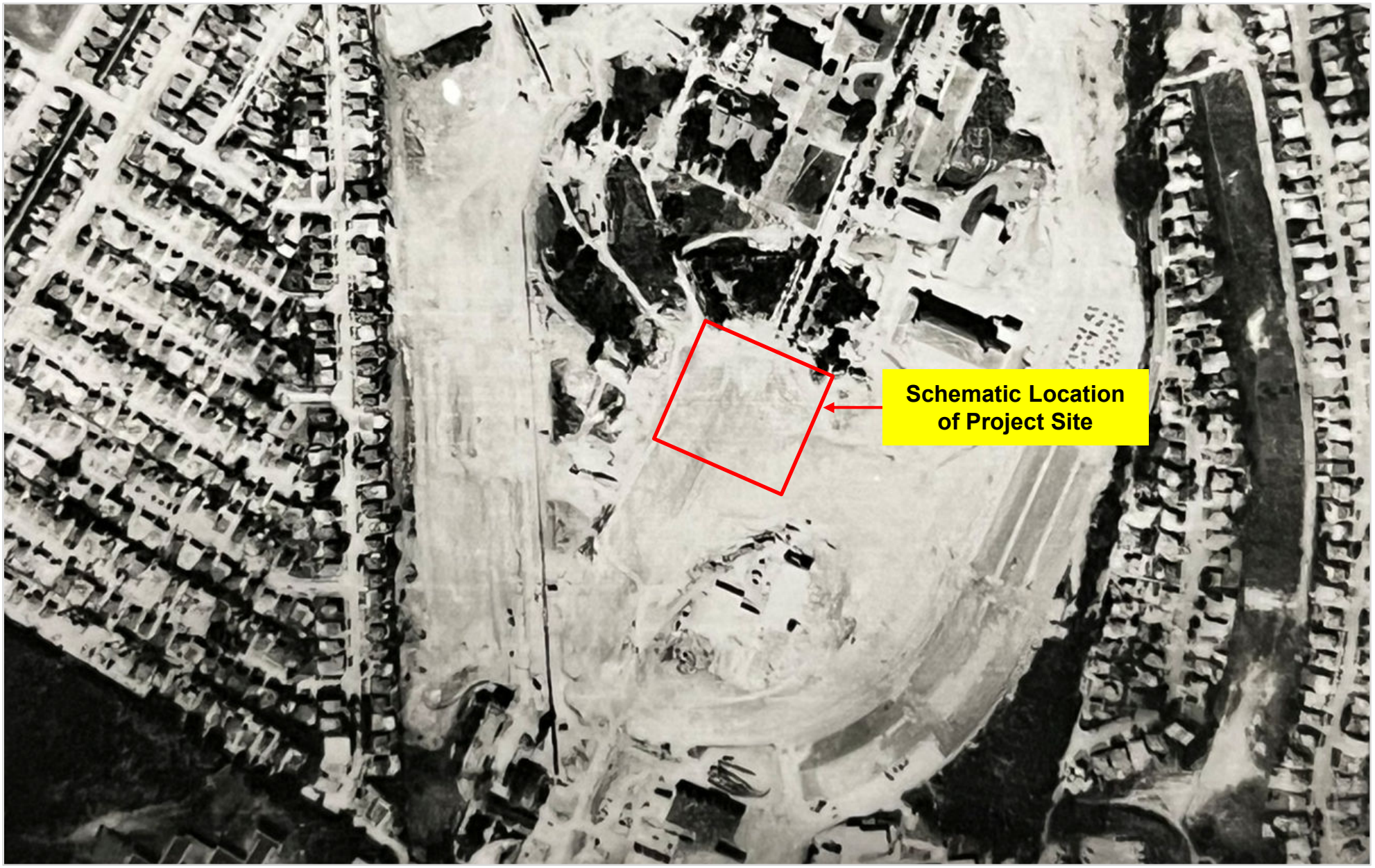

FIGURE 9

Aerial View of Project General Area
(1962)

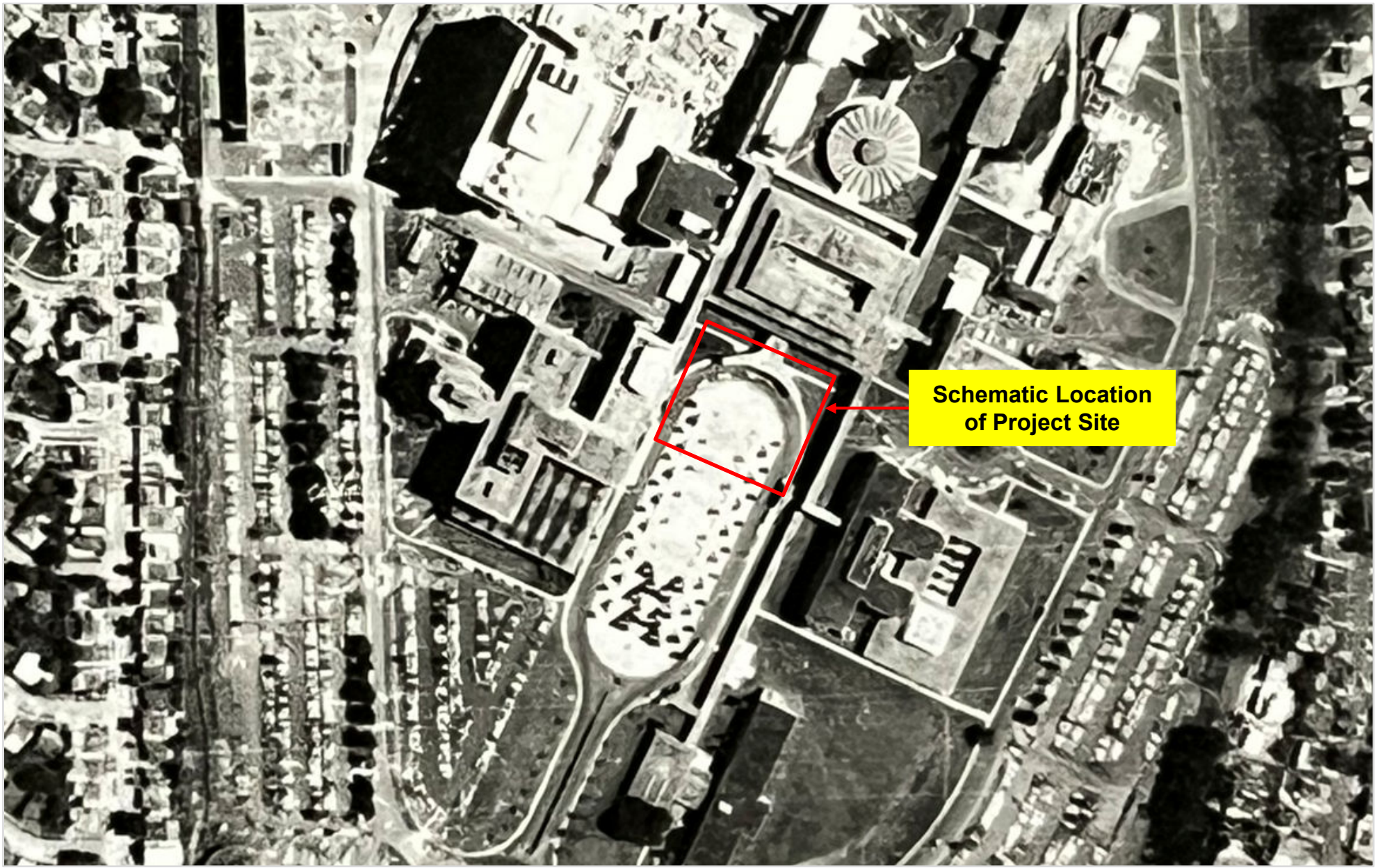

FIGURE 10

Aerial View of Project General Area
(1977)

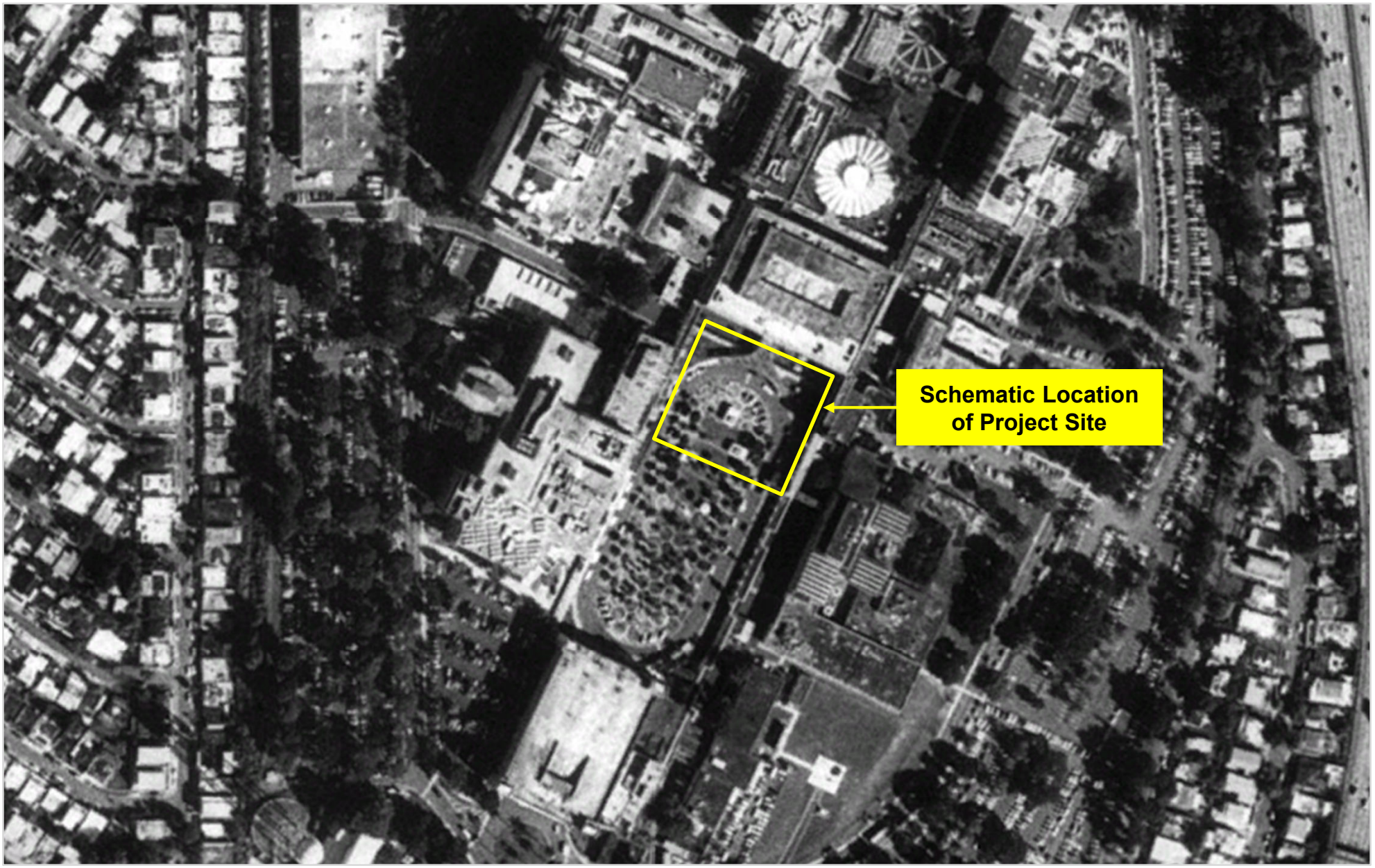

FIGURE 11

Aerial View of Project General Area
(1995)

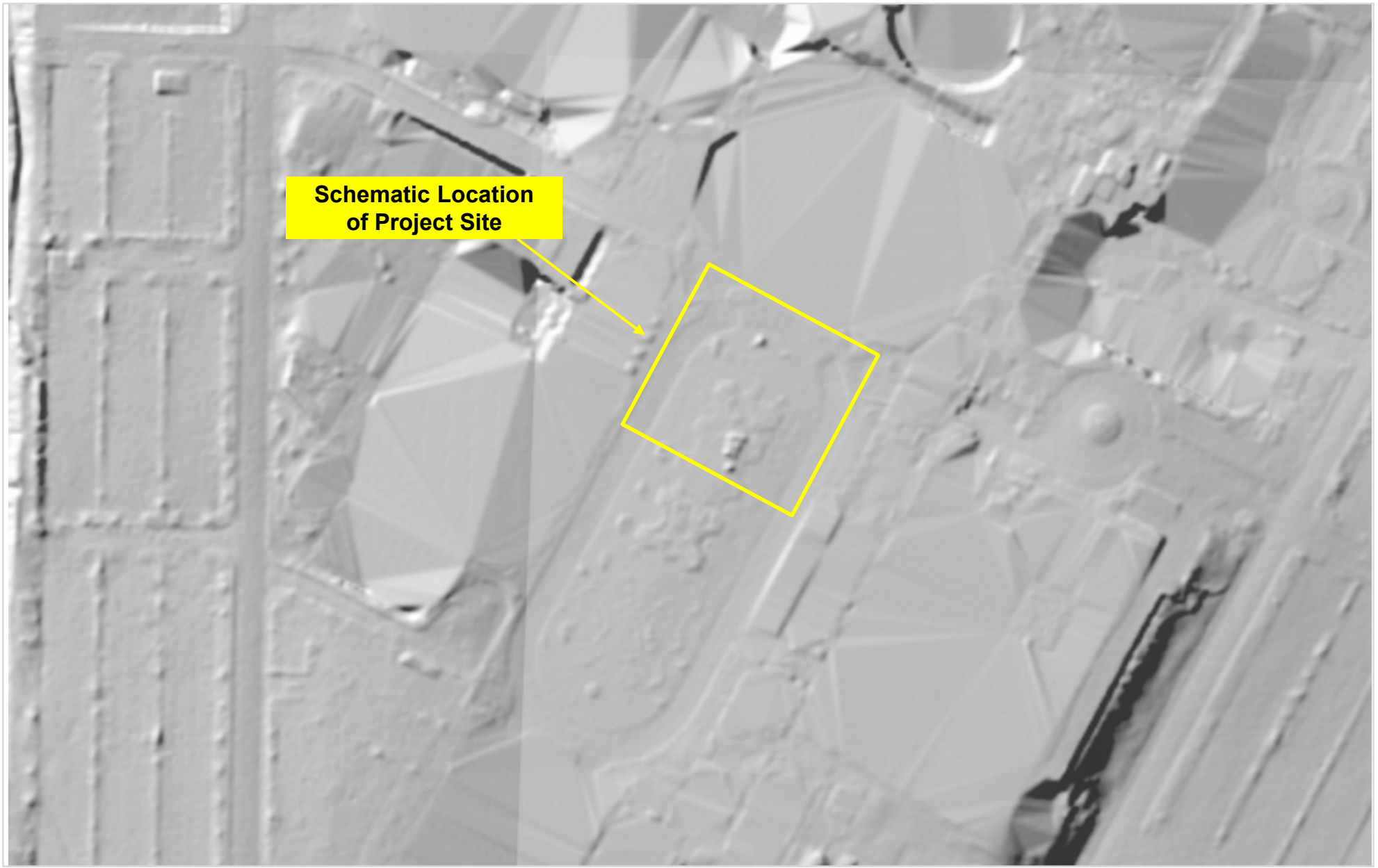

FIGURE 12

LiDAR-Derived Hillshade Model of Project General Area (2024)

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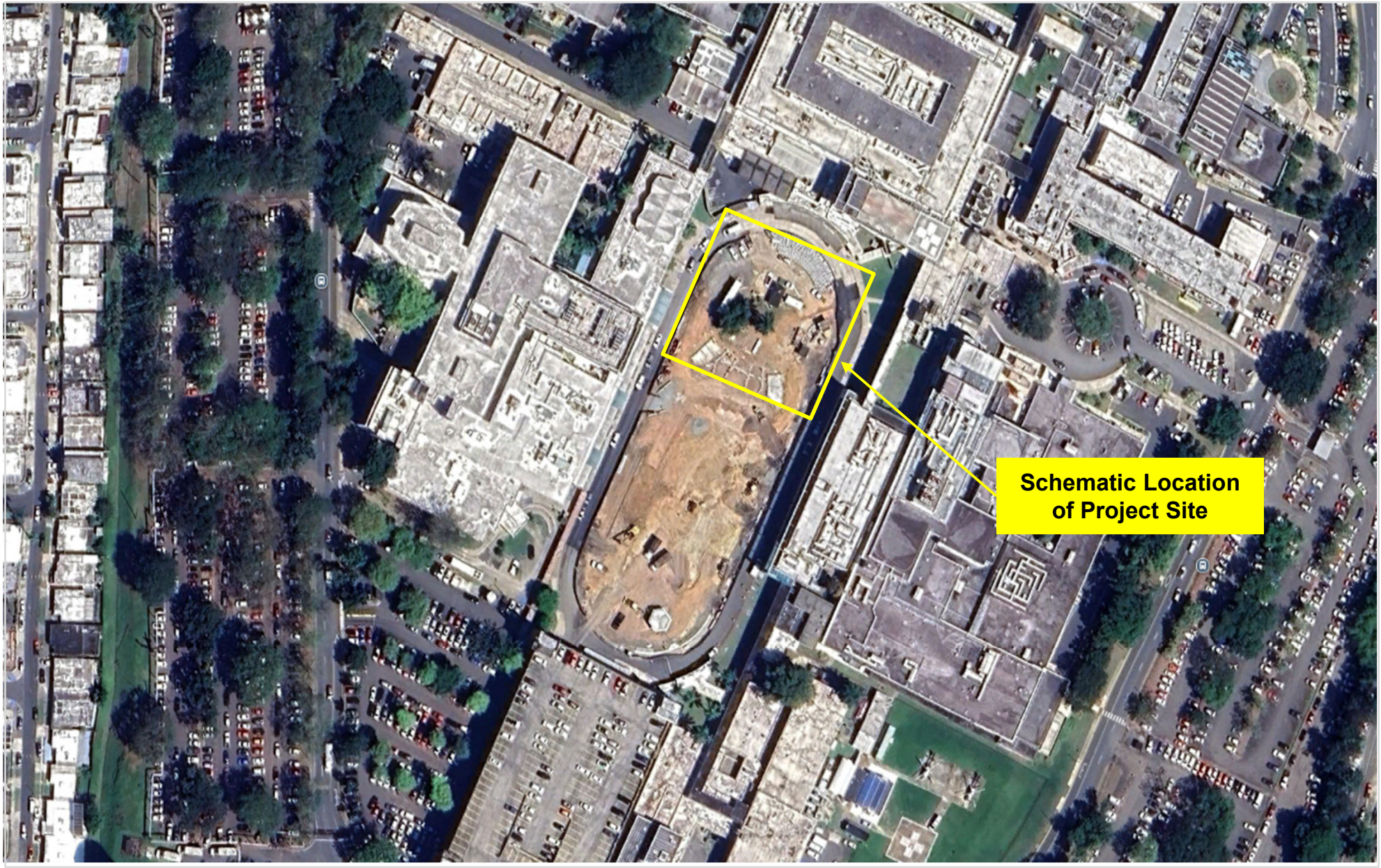

FIGURE 13

Aerial View of Project General Area
(2025)

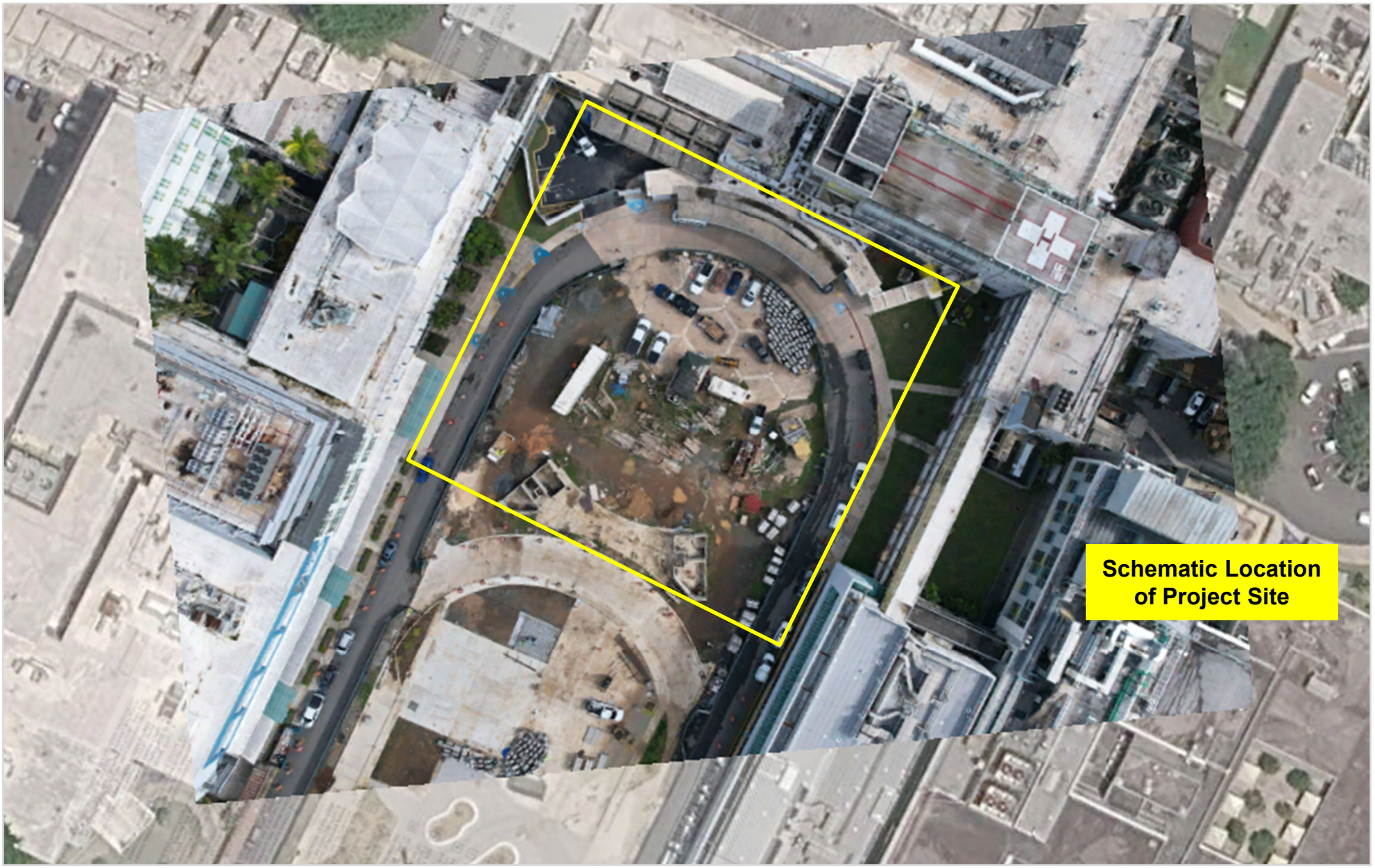

FIGURE 14

Aerial View of Project General Area
(2026)

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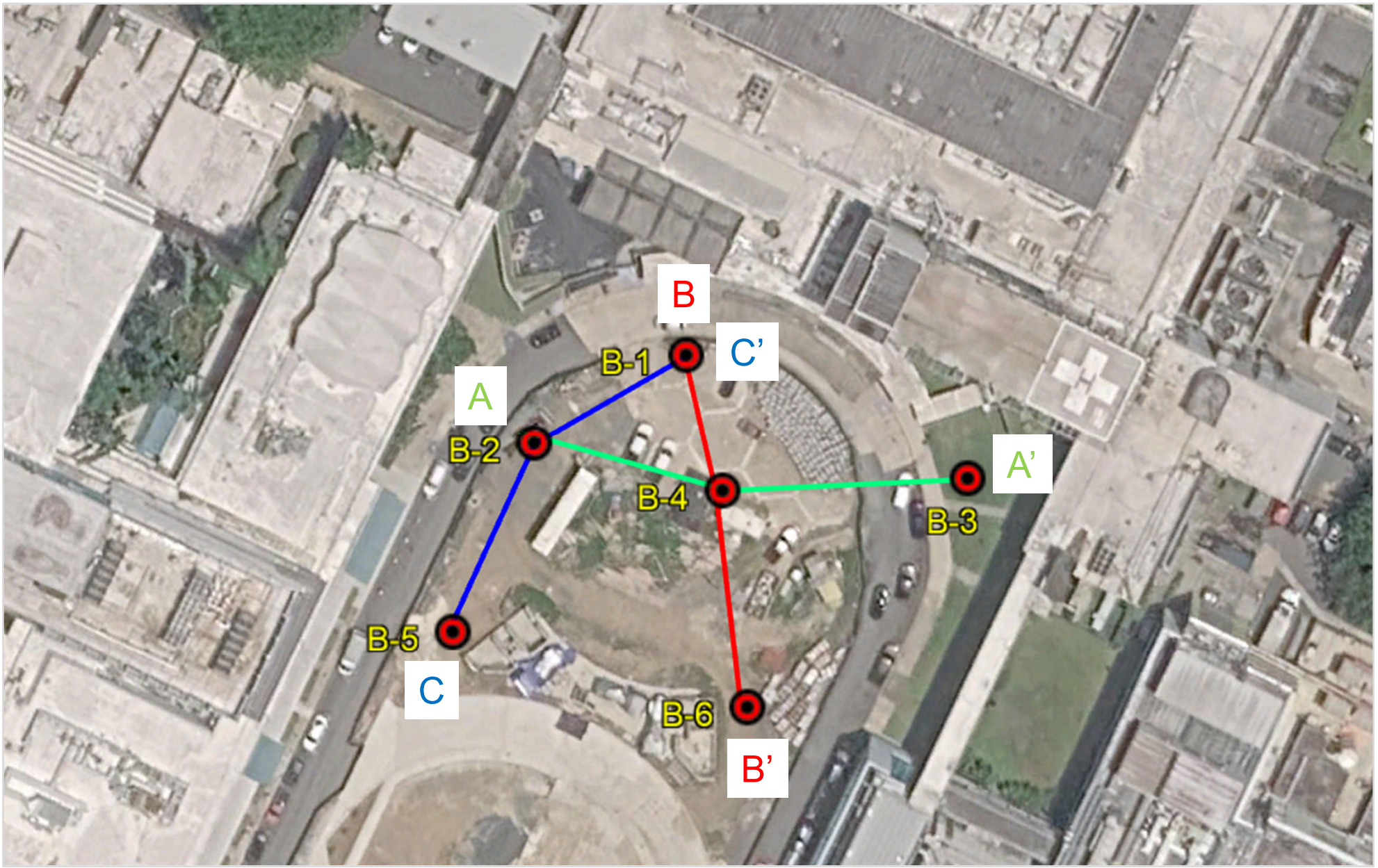

FIGURE 15

Schematic Location of SPT Borings

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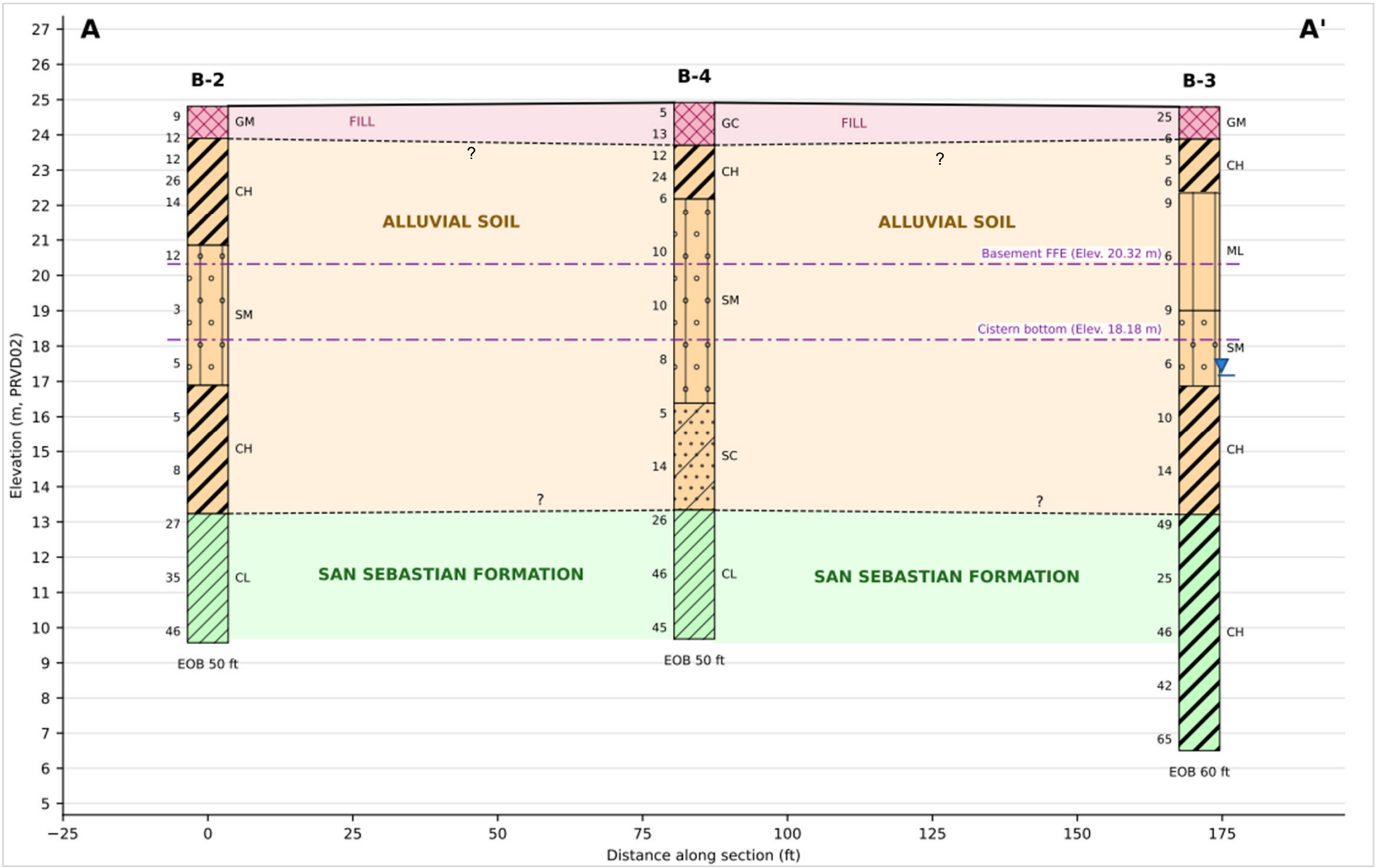

FIGURE 16

Schematic Soil Profiles

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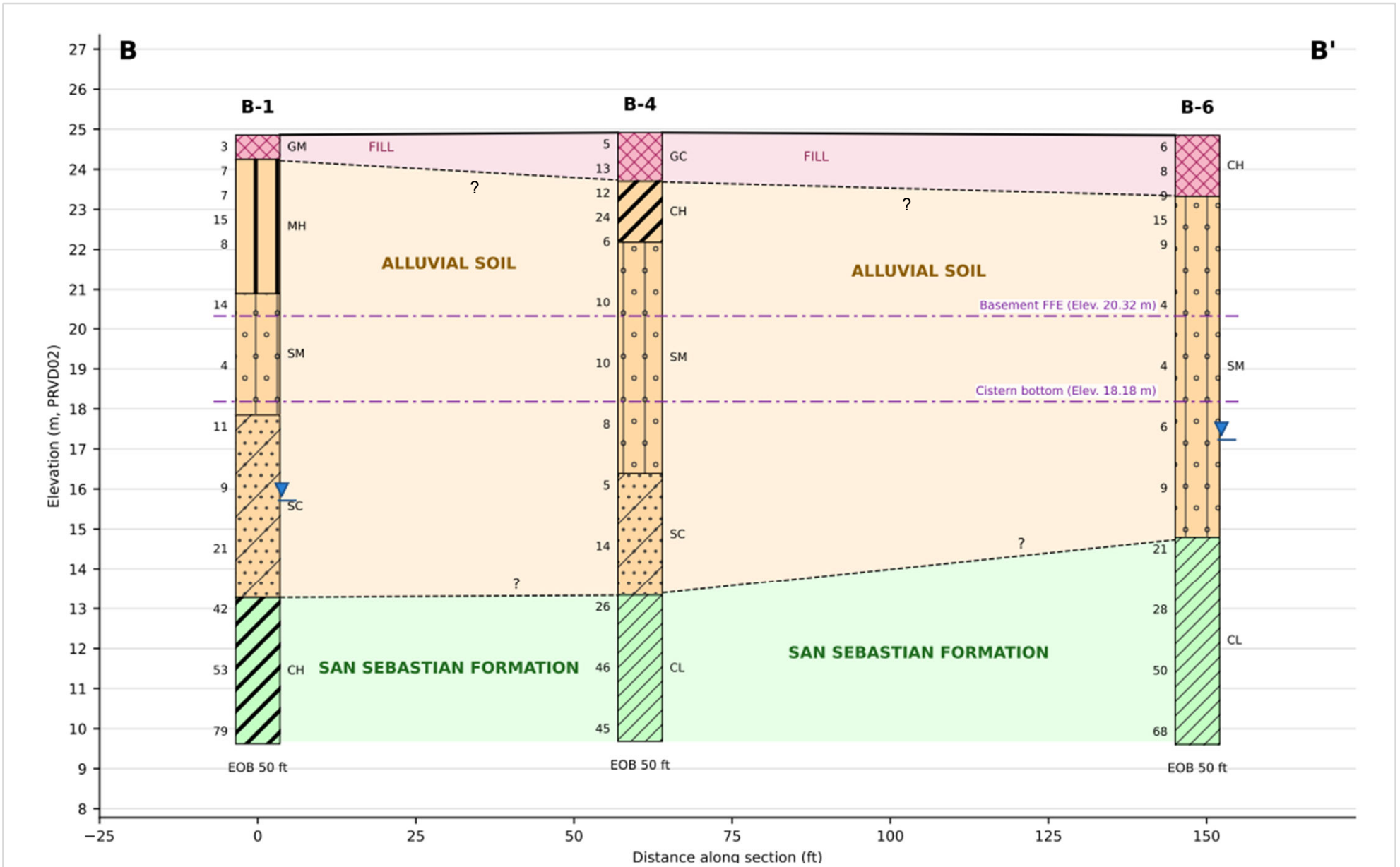

FIGURE 16 (Cont.)

Schematic Soil Profiles

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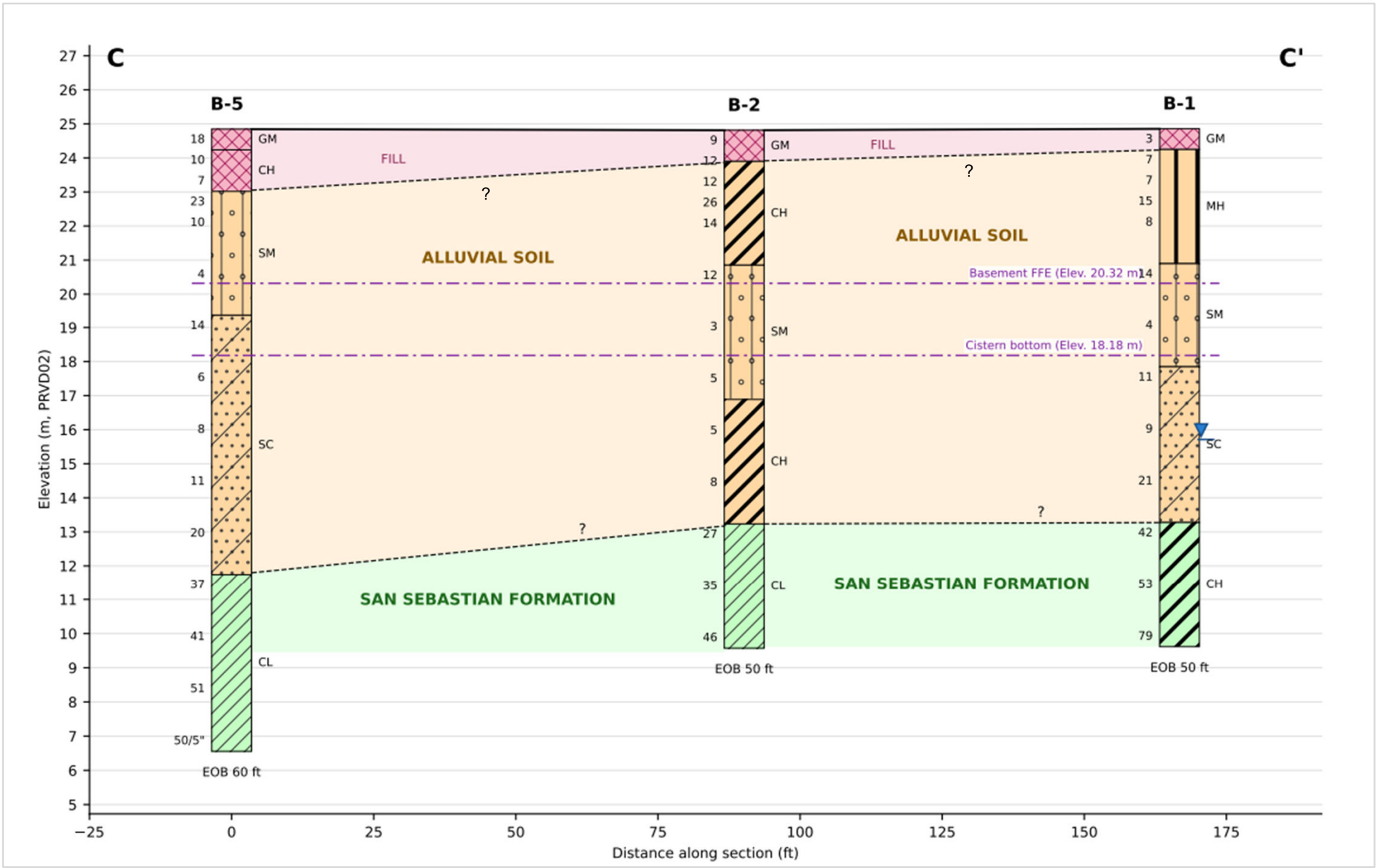

FIGURE 16 (Cont.)

Schematic Soil Profiles

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APPENDIX ONE

Standard Clause for Unanticipated Subsoil Conditions

A1.1 STANDARD CLAUSE FOR UNANTICIPATED SOIL CONDITIONS

This subsurface investigation has been performed by a Geotechnical Consultant, the results of which are contained in the Consultant's report. This report presents the Consultant conclusions on the subsurface conditions based on his interpretation of the data obtained in the investigation. The contractor acknowledges that he has reviewed the Consultant's report and any addenda. It is recognized that a subsurface investigation may not disclose all conditions as they actually exist and further, conditions may change, particularly groundwater conditions, between the time of the subsurface investigation and the construction time of the project. In recognition of these facts, the project contract should provide a means of equitable additional compensation for the contractor if adverse unanticipated conditions are encountered during construction and to provide a means of rebate to the owner if the conditions are more favorable than anticipated.

At any time during construction that the contractor encounters conditions that are different than those anticipated by the Geotechnical Consultant's report, he shall immediately (within 24 hours) bring this fact to the owner's attention. On the other hand, if the owner's representative on the construction site observes subsurface conditions which are different than those anticipated by the Consultant's report, he shall immediately (within 24 hours) bring this fact to the contractor's attention. Once a fact of unanticipated conditions has been brought to the attention of either the owner or the contractor, and the Consultant has concurred, immediate negotiations will be undertaken between the owner and the contractor to arrive at a change in contract for the additional work or reduction in work because of the unanticipated conditions.

APPENDIX TWO

Procedures Summary

A2.1 STANDARD PENETRATION TESTING (SPT) AND SAMPLING PROCEDURES

Subsurface borings are advanced using trailer-mounted and/or crawler-mounted rotary drilling rigs equipped with hollow-stem augers. In zones where granular soils are encountered below the groundwater table, the rotary wash method is employed to advance the borehole. Drilling and sampling operations are performed in accordance with applicable ASTM standards, including ASTM D1586 for Standard Penetration Testing and ASTM D1587 for undisturbed sampling using thin-walled tubes.

Standard Penetration Tests (SPT) are typically conducted at 2-foot intervals, with disturbed soil samples obtained using a 2-inch outside diameter, 24-inch long split-spoon sampler. Disturbed samples are those in which the natural structure of the soil has been altered or destroyed during the sampling process. Disturbed sampling is performed continuously within the upper 10 feet of the boring and at 5-foot intervals thereafter, or at changes in stratigraphy. The sampler is driven into the soil using a 140-lb hammer dropped freely from a height of 30 inches. The number of blows required to drive the sampler a total of 24 inches is recorded. The blows required to advance the sampler from 6 to 18 inches are used to calculate the N-value (blows per foot), an index that provides a measure of relative density for granular soils or consistency for cohesive soils.

It is important to note that artificially high N-values may be recorded in soils containing coarse gravel or rock fragments. In such cases, high blow counts may result from interference with the sampler rather than

true soil density or stiffness. These anomalous values should be interpreted with caution, and cross-referenced with visual classifications and other in-situ test data where available.

N-Value and Soil Consistency and Unconfined Compressive Strength Correlations for Fine Grained Soils

N-value (bpf)	Consistency of Cohesive Soils	qu (tsf)
< 2	Very Soft	0 – 0.25
2 – 4	Soft	0.25 – 0.50
4 – 8	Medium	0.50 – 1.00
8 – 15	Stiff	1.00 – 2.00
15 – 30	Very Stiff	2.00 – 4.00
> 30	Hard	> 4.00

N-Value and Soil Consistency Correlations for Cohesionless Soils

N-value (bpf)	Relative Density of Cohesionless Soils
0 – 5	Very Loose
5 – 10	Loose
10 – 30	Medium
30 – 50	Dense
> 50	Very Dense

Undisturbed samples are obtained in cohesive soils using a thin-walled Shelby tube sampler in accordance with ASTM D1587, for laboratory tests requiring intact soil structure, such as unconfined compressive strength or consolidation.

All samples collected in the field are clearly labeled with borehole number, sampling depth, date, and project reference. Observations related to sample condition, drilling resistance, groundwater, and stratigraphy are recorded in the field boring logs. Samples are stored in appropriate containers (e.g., sealed plastic bags or glass jars) to minimize contamination, moisture loss, or degradation. Undisturbed samples are handled and transported with special care to preserve integrity.

Samples are held in a secure location on-site and later transported to the geotechnical laboratory under controlled conditions. Storage and transport practices are monitored to ensure samples remain stable and representative for testing.

A2.2 AUGER DRILLING

Auger drilling is performed using continuous flight augers with either open (hollow) or closed (sealed) stems, depending on the site conditions. Hollow-stem augers are commonly used in geotechnical investigations, as they provide lateral support to the borehole walls and allow soil sampling tools—such as the split-spoon sampler used in SPT testing—to be advanced through the hollow center without removing the augers.

Sealed-stem augers (solid-stem) may be used in soils that are cohesive or otherwise stable enough to stand open without collapse. Solid-stem

augering is more limited and generally used only for very shallow or exploratory purposes.

A2.3 ROTARY DRILLING AND ROCK CORING

Rotary drilling involves the continuous rotation of a string of drill rods fitted with a tungsten carbide or diamond drill bit, used to advance a borehole through hard soil or rock. Downward pressure is applied through the rods while drilling fluid (typically water or drilling mud) is circulated to cool the bit and remove cuttings.

When encountering bedrock or cemented materials, a double- or triple-tube core barrel is attached to the drill string to retrieve intact cylindrical core samples. Core runs are typically retrieved in 2- to 5-foot intervals. The quality of the rock core is evaluated using the Rock Quality Designation (RQD), which represents the percentage of core pieces 4 inches or longer over the total run length.

The following table is used to classify rock quality based on RQD:

[*table in following page*]

RQD and Rock Quality Correlations for Rock Samples

RQD (%)	Rock Quality
90 – 100	Excellent
75 – 90	Good
50 – 75	Fair
25 – 50	Poor
0 – 25	Very Poor

Rotary drilling is the preferred method for characterizing bedrock and evaluating its strength, fracturing, and continuity. Rock cores are logged for lithology, weathering, and structural features in accordance with standard geotechnical procedures.

A2.4 DYNAMIC CONE PENETROMETER (DCP)

The Dynamic Cone Penetrometer (DCP) test is an in-situ method used to evaluate the relative strength and stratification of shallow soils, particularly in pavement subgrades and lightly loaded foundation areas. The test involves driving a steel rod—typically 0.625 inches (16 mm) in diameter—into the ground using a 17.6-lb (8-kg) hammer dropped from a height of 22.6 inches (575 mm). The rod is fitted with a hardened steel cone whose diameter is approximately 0.16 inches (4 mm) larger than the rod, a design feature that helps reduce shaft friction and ensures that the measured resistance primarily reflects tip resistance.

During testing, the number of hammer blows required to advance the cone a given distance is recorded. The resulting penetration per blow (e.g., mm/blow) is used to estimate soil strength and to identify transitions between soil layers. The test provides a continuous resistance profile and is often used to correlate with parameters such as California Bearing Ratio (CBR) for pavement design purposes.

The DCP is lightweight and portable, making it well-suited for rapid field evaluations. However, it is generally limited to depths of 1 to 1.5 meters and may not perform reliably in very dense soils, coarse gravel, or soils with embedded rock fragments. The test is performed in accordance with ASTM D6951 – Standard Test Method for Use of the Dynamic Cone Penetrometer in Shallow Pavement Applications.

A2.5 DYNAMIC PROBING SUPER HEAVY (DPSH-B)

The Dynamic Probing Super Heavy test (DPSH-B) is an in-situ method used to evaluate the penetration resistance of soils by driving a solid 90-degree steel cone into the ground using dynamic energy. The test provides a continuous profile of resistance with depth and is particularly useful for soil stratification, assessing relative density, and identifying weak zones in granular or mixed soils.

The probe consists of a series of steel rods connected to a 90-degree conical tip. The rods are driven into the ground using a 140-lb (63.5-kg) hammer dropped from a height of 30 inches (760 mm). This configuration ensures a standardized energy input for each blow. The

number of blows required to drive the cone a distance of 12 inches is recorded, and the dynamic cone resistance (qd) is calculated based on the energy per unit penetration. The resulting qd values can be correlated with geotechnical parameters such as relative density, shear strength, and allowable bearing capacity.

The DPSH-B test is conducted in accordance with ISO 22476-2 – Geotechnical Investigation and Testing: Dynamic Probing. It is especially valuable in conditions where Standard Penetration Testing (SPT) may be difficult due to access constraints or where a rapid profiling method is needed without borehole excavation. However, results should be interpreted cautiously in soils containing large cobbles, cemented zones, or high variability, as these may affect energy transmission and blow counts.

A2.6 CONE PENETRATION TESTING (CPT)

Cone Penetration Testing (CPT) is a continuous in-situ testing method used to evaluate the geotechnical properties of soils without requiring borehole excavation. The test involves hydraulically advancing a cone-shaped probe—typically with a 10 cm² conical tip—into the ground at a constant rate of 2 cm/s. The probe assembly includes a conical tip, friction sleeve, and pore pressure transducer.

During penetration, the following parameters are continuously measured:

- Tip Resistance (qc): Resistance encountered by the cone tip.
- Sleeve Friction (fs): Frictional resistance acting along the sleeve behind the cone.
- Pore Water Pressure (u): Measured adjacent to or behind the cone, used for pore pressure dissipation analysis.

These measurements are used to compute the friction ratio (Rf = fs/qc × 100%), which helps classify soil behavior type and stratigraphy. CPT data can be correlated with parameters such as relative density, undrained shear strength, liquefaction potential, and soil behavior index.

The CPT provides a detailed, continuous profile with high resolution, making it particularly useful for detecting thin or interbedded soil layers that might be missed by discrete sampling methods. It is frequently supplemented with piezocone (CPTu) testing in soft, saturated clays to evaluate pore pressure response and consolidation behavior.

CPT is generally limited to soft to medium-dense soils and may be obstructed by coarse gravel, cemented layers, or boulders. Additionally, CPT does not provide soil samples, which limits direct visual classification and laboratory testing. As such, it is often used in combination with sampling-based methods for comprehensive site characterization. The test is performed in accordance with ASTM D5778 – Standard Test Method for Electronic Friction Cone and Piezocone Penetration Testing of Soils.

A2.7 LABORATORY TESTING

Laboratory testing is conducted to classify soils and determine their engineering properties in accordance with applicable ASTM standards. The following procedures are commonly used:

- **Visual-Manual Classification – ASTM D2488**: ASTM D2488 provides a standardized method for describing and preliminarily classifying soils based on visual observation and manual tests. This procedure is typically performed in the field or in the lab prior to full testing and is used to identify key characteristics such as grain size distribution, color, plasticity, structure, and moisture condition.

  Descriptions are based on tactile responses, and estimated proportions of gravel, sand, silt, and clay. Granular soils are evaluated for gradation (well-graded vs. poorly graded), while fine-grained soils are assessed for plasticity (plastic vs. non-plastic).

  While not a substitute for laboratory testing, ASTM D2488 is used in combination with ASTM D2487 to assign preliminary USCS group names and symbols. For example, a soil identified in the field as a fine-grained material with low plasticity may be preliminarily classified as a “CL” (lean clay), pending confirmation by Atterberg limits and sieve analysis.

  This method is particularly valuable during drilling and sampling, where rapid classification is needed to update boring logs,

identify changes in stratigraphy, and guide the selection of laboratory tests. The consistency and detail of ASTM D2488 descriptions also support effective communication between field personnel, laboratory technicians, and geotechnical engineers.

- **Unified Soil Classification System (USCS) – ASTM D2487**: ASTM D2487 provides a standardized method for classifying soils based on laboratory-determined particle-size distribution (via sieve and hydrometer analysis) and plasticity characteristics (via Atterberg limits). Soils are assigned a group symbol (e.g., GW, CL, SC) and descriptive name (e.g., well-graded gravel with sand, lean clay with sand) according to their gradation and plasticity index.

  Coarse-grained soils (more than 50% retained on the No. 200 sieve) are further classified as gravels or sands and subdivided by gradation (well-graded vs. poorly graded) and fines content. Fine-grained soils (more than 50% passing No. 200) are classified as clays or silts based on plasticity and liquid limit.

  This classification system is essential for geotechnical design, as it provides engineers with a common framework for evaluating material behavior related to strength, compressibility, permeability, and suitability for use in foundations, embankments, and backfill. It is the reference system used in most design specifications, construction documentation, and regulatory submissions. The USCS is also closely tied to field logs, boring logs, and laboratory reports, where symbols like ML, SM, or CH serve as shorthand for expected soil behavior.

- **Water Content – ASTM D2216**: The water content of a soil sample is calculated as the ratio of the mass of water to the mass of dry soil, expressed as a percentage. This fundamental index property is used in compaction control, strength assessment, and consistency evaluation.

- **Particle-Size Analysis – ASTM D422/D6913/D7928**: This test combines mechanical sieving (for sand and gravel) with hydrometer analysis (for silts and clays) to determine the particle size distribution of a soil. The resulting gradation curve is essential for soil classification, compaction behavior, and permeability estimation.

- **Atterberg Limits – ASTM D4318**: The liquid limit (LL), plastic limit (PL), and plasticity index (PI) are used to evaluate the plasticity and consistency of fine-grained soils. These parameters help identify soil type, estimate behavior under wetting/drying, and determine suitability for use in fills or foundations.

- **Unconfined Compressive Strength (qu) – ASTM D2166 or Field Penetrometer**: This test measures the axial strength of a cylindrical sample of cohesive soil under unconfined conditions. Where intact samples are not available, a hand penetrometer may be used in the field for approximate correlations. Strength results aid in evaluating bearing capacity and slope stability for cohesive soils.

APPENDIX THREE

General Earthwork Recommendations

A3.1 GENERAL EARHTWORK RECOMMENDATIONS (WHERE APPLICABLE PER MAIN REPORT)

The construction of any fill should be made under strict controlled conditions, whereby the fill material shall be placed in layers and properly compacted to support the superimposed loads.

A3.1.1 Site Preparation

A3.1.1.1 Clearing and Grubbing

All vegetation, including trees, brush, stumps, logs, and roots, shall be completely removed from all designated construction and fill areas. This work shall include grubbing to remove embedded roots and organic material that could compromise fill stability or foundation support. Cleared materials shall be properly disposed of off-site in accordance with environmental regulations and project specifications. The cleared area shall be left free of deleterious material and prepared for subsequent earthwork operations.

A3.1.1.2 Stripping

Stripping shall be performed throughout all proposed excavation and fill areas to remove topsoil, organic matter, and unsuitable surface materials. This includes the removal of artificial fill, debris, rubbish, and any deleterious material such as construction remnants, concrete rubble, or vegetation. Stripping shall be carried out to the full depth necessary to expose firm, competent subgrade soils. Any localized soft,

unstable, or unsuitable soil zones encountered during or after stripping shall also be excavated and replaced as directed by the Geotechnical Engineer. All stripped material shall be properly disposed of in accordance with project and environmental requirements.

Below are guidelines for estimating volumes of soil after extraction:

Swell Factors for Soils

Material Type*	Comparable Soil Group USCS	Swell Factor (%)*
Clay, Damp	CL, CH, ML, MH	67
Decomposed Rock		
50% Rock, 50% Earth	GW, GP, SW, SP	38%
25% Rock, 75% Earth	GM, GC	43%
Earth Loam, Damp	SM, SC	43%

*Reference, **FHWA Earthwork Design Exhibit 5.1**

A3.1.1.3 Repurposing of Excavated Soil

Excavated materials generated from Clearing and Grubbing, Stripping operations, or from areas identified for removal and replacement in the Geotechnical Report shall be classified as unsuitable for reuse and must be removed from the project site and disposed of in accordance with applicable regulations. These materials, along with any otherwise suitable soil that has been mixed with or contaminated by such materials—including organic matter, topsoil, debris, or other deleterious substances—shall not be used as fill under any circumstances.

Only other clean, uncontaminated soil excavated from within the project site may be considered for reuse as fill, and solely if it meets the criteria outlined in Section A3.1.2. Prior to reuse, such soil must be tested to confirm compliance with gradation, plasticity, moisture, and compaction specifications. The Geotechnical Engineer shall review and approve all excavated soils proposed for reuse before incorporation into fill operations.

A3.1.1.4 Fill Areas

Prior to the placement of fill in any area, grading shall be performed as necessary to promote proper drainage. The subgrade shall then be compacted and evaluated by proofrolling to verify its stability and uniformity. Proof rolling shall be conducted on an exposed subgrade that is free of surface water, including moisture resulting from rainfall, which could degrade an otherwise acceptable subgrade. All proofrolling procedures, equipment specifications, and acceptance criteria shall conform to the requirements outlined in Section A3.1.1.5 – Subgrade Evaluation and Proofrolling. Any areas that fail to meet the acceptance criteria shall be reworked or replaced in accordance with the compaction requirements of Section A3.1.2.

A3.1.1.5 Subgrade Evaluation and Proofrolling

All areas to receive structural fill, slabs-on-grade, pavements, or foundations shall be evaluated after stripping and prior to the placement of any fill or base materials. The subgrade must be firm, stable, and free of organic matter, soft zones, or excessive moisture. Subgrade

conditions shall be reviewed and approved by the Geotechnical Engineer prior to proceeding with construction.

Proofrolling is required to verify the stability and uniformity of the exposed subgrade. The proofrolling procedure shall consist of multiple passes of a fully loaded dump truck (minimum 20 tons) or similar heavy equipment over the entire prepared surface. Tires shall be inflated to 125 psi, and vehicle speed shall be maintained between 2.5 and 3.5 mph. A minimum of six overlapping passes shall be performed in a crosshatch pattern and ensure complete coverage of the fill area.

During proofrolling, the subgrade shall be visually inspected for excessive deflection, rutting, or pumping. Any areas that deflect one inch or more or exhibit permanent deformation of one inch or more shall be considered unsuitable. Such areas shall be either undercut and replaced with compacted structural fill or reworked and compacted in accordance with the recommendations in Section A3.1.2.

Proofrolling shall be scheduled during dry weather and performed only when the subgrade is not visibly wet or soft from rainfall or surface runoff. If conditions change between proofrolling and fill placement, the area shall be re-evaluated. The results of proofrolling shall be documented and approved by the Geotechnical Engineer prior to the start of overlying construction.

A3.1.2 Placement and Preparation of Fill (where applicable)

Once the recommendations outlined above have been implemented, filling operations to achieve final grade may begin. Adequate grading shall be maintained at all times to prevent accumulation of surface runoff. Filling must be performed in a manner that avoids any obstruction to natural drainage. Sump pumps, if required, must be continuously maintained in proper working condition.

Unless otherwise specified in this report, any fill material placed above the groundwater level shall consist of GW, GP, GM, GC, or SC soils (based on the Unified Soil Classification System, USCS), approximately corresponding to A-2-4 or A-2-6 soils under the AASHTO Soil Classification System. These soils shall have a **maximum fines content of 35%** and a **maximum plasticity index (PI) of 15**. SC soils may be more difficult to compact and may require additional time and compaction effort. The use of relatively clean sand should be avoided. Stones larger than 6 inches must be removed before compaction.

For fill subject to submergence, the specified materials are also acceptable, but with the additional requirement that the fraction passing the No. 200 sieve shall not exceed 12%, and the plasticity index shall not exceed 10.

Fill placement shall commence at the lowest elevation and proceed horizontally. Fill shall be uniformly spread and placed in lifts with a compacted thickness between 4 inches and 12 inches. For hand-operated compactors (e.g., tampers, plate compactors), lifts shall not exceed 4 inches. After spreading, each layer shall be broken up, moistened or aerated as necessary, uniformly mixed, and compacted to at least 95% of the laboratory maximum dry density as determined by the Modified Proctor Test (ASTM D1557).

Multiple passes of compaction equipment will be required. Each pass should overlap the previous by approximately 30% to avoid segregation and ensure uniform compaction. No lift shall be covered by a subsequent lift until compaction testing confirms that it meets the required density. Any fill that does not meet compaction criteria shall be reworked, re-compacted, and retested.

In-place field density shall be determined in accordance with ASTM D6938 (Procedure A - Direct Transmission). Moisture content shall also be measured per ASTM D6938. Equipment must be calibrated per ASTM D6938, and direct transmission measurements must be taken at a depth of at least 4 inches.

The Resident Engineer shall instruct the Geotechnical Engineer (retained by the project owner) to determine the optimum moisture content and maximum dry density for each type of fill material. These values are essential for properly evaluating field compaction results.

Any fill material found to be in unsatisfactory condition shall be rejected and removed to the satisfaction of the inspecting Geotechnical Engineer.

Each fill layer shall be brought to the appropriate moisture content before compaction, either through aeration or by uniformly adding water. If previously compacted layers are exposed to rainfall, they shall be reconditioned—scarified and aerated—and retested prior to placement of the next lift. Alternatively, these layers may be allowed to dry to suitable conditions before additional fill is placed.

Unless otherwise specified, compaction may be carried out using vibratory smooth drum rollers. However, **the number, type, and weight of the rollers** must be sufficient to meet compaction specifications. GC and SC soils with 35% or more clay content may require the use of sheepsfoot rollers.

If clearing and grubbing, and stripping occur during or after rainy periods, difficult working conditions are likely. Clayey and silty soils typically become soft and sticky when wet. Contractors should account for this in their bids.

A3.1.3 Unsuitable Materials and Remediation

Unsuitable materials encountered during earthwork operations shall be identified, removed, and properly managed in accordance with

geotechnical recommendations and project specifications. Unsuitable materials include, but are not limited to:

- Organic soils, topsoil, peat, or root-laden material
- High-plasticity clays with excessive moisture content or low bearing strength
- Loose, compressible fills or debris-laden backfill from prior development
- Soils with expansive, collapsible, or soluble properties
- Contaminated or environmentally regulated materials

All unsuitable material within structural fill areas, pavement zones, or beneath foundations shall be excavated to the limits determined by the Geotechnical Engineer. The depth and lateral extent of removal shall be based on visual observation, proofrolling, or supplemental testing, and may extend beyond the original design footprint as required to expose competent subgrade.

Remediation measures may include:

- Replacement with approved compacted structural fill in accordance with Section A3.1.2
- Use of geotextiles or geogrids to stabilize weak subgrades
- Overexcavation and backfill with engineered granular materials
- Moisture conditioning or chemical stabilization (e.g., lime or cement treatment), where appropriate
- Installation of underdrains to address high water content or perched groundwater

All remediation procedures shall be reviewed and approved by the Geotechnical Engineer before fill placement or foundation construction resumes. Field compaction and moisture content of replacement materials shall be tested per ASTM D6938 or other approved methods. Rejected materials shall be stockpiled in a designated area and disposed of in compliance with environmental regulations and project requirements.

A3.1.4 Slopes (when applicable)

Unless otherwise specified in this report, all cut and fill slopes shall be constructed with a maximum inclination of 2H:1V (Horizontal to Vertical). All slopes shall be protected from erosion immediately after construction using appropriate erosion control measures such as turf reinforcement mats, biodegradable geotextiles, or vegetation (e.g., grass, hydroseeding, or mulching with straw, wood fiber, or coconut matting). Erosion control shall be maintained until permanent stabilization is achieved. Any shallow slope failure or erosion channel that develops prior to permanent stabilization shall be promptly repaired to prevent progressive deterioration that could result in larger slope instabilities.

All fill slopes must be compacted to the specified degree of compaction. One method to ensure compaction is to extend the fill beyond the design slope line and then trim it back to the required geometry. This technique ensures that the exposed slope face consists of properly compacted material. Uncompacted slopes are not permitted, as they pose a risk of instability.

Adequate drainage shall be provided at the toe of all slopes using lined ditches or swales at a sufficient gradient to prevent water accumulation. Where surface runoff or subsurface water is anticipated to daylight near slope toes, intercepting drains or subdrain systems shall be installed to protect adjacent structures and prevent saturation of slope base materials.

Runoff from adjacent flat areas shall be diverted away from slopes and directed to the site's stormwater management system. Water shall not be allowed to pond on these areas or above any slope.

Where fill will be placed over existing sloped ground steeper than 5H:1V, the natural slope shall be deeply scarified or benched to facilitate bonding between the new fill and native soil. Benching shall be performed as follows:

- For slopes between 5H:1V and 3H:1V: maximum bench height = 5 ft, minimum bench width = 8 ft
- For slopes between 3H:1V and 1H:1V: maximum bench height = 5 ft, minimum bench width = 6 ft

High slopes (greater than approximately 6 m vertical height) shall include terraces at vertical intervals of 5–6 m. These terraces shall be a minimum of 2 meters wide and shall include a concrete swale located along the inner edge of the terrace to collect surface runoff. The swale shall be sloped to direct flow into the site's stormwater management system or other approved outlet, in accordance with the project's drainage design.

A3.1.5 Utility Trenches and Backfill

All utility trench excavations shall be performed in accordance with project drawings, applicable codes, and safety regulations. Trench dimensions must be adequate to allow for safe installation of utility lines and proper compaction of backfill. Where trench depth or soil conditions pose a risk of instability, appropriate shoring, bracing, or sloping shall be implemented as required by OSHA and local standards.

The trench bottom shall be prepared to provide uniform support for the pipe or conduit. If soft, yielding, or unsuitable soils are encountered at pipe grade, they shall be removed and replaced with compacted granular material or flowable fill to achieve firm, stable bearing. Overexcavation and backfill may be required as directed by the Geotechnical Engineer.

A bedding layer of clean, free-draining granular material (typically crushed stone with a maximum size of 3/4 inch) shall be placed beneath and around the pipe in accordance with the pipe manufacturer's specifications and project design requirements. Bedding material shall be placed in uniform lifts, carefully compacted under and around the pipe haunches to avoid displacement or damage.

Initial backfill shall be placed from the top of the bedding to at least 12 inches above the crown of the pipe using approved select material. Compaction around the pipe zone shall be performed using light

mechanical tampers to avoid excessive loading on the pipe. Above the pipe zone, backfill shall be placed in uniform lifts (typically 6 to 12 inches thick) and compacted to at least 95% of the Modified Proctor maximum dry density (ASTM D1557), unless otherwise specified.

Soils with high plasticity, organic content, or debris shall not be used as trench backfill. The use of on-site excavated soils may be permitted if they meet gradation, moisture, and compaction requirements and are approved by the Geotechnical Engineer.

Field density tests shall be performed per lift during backfill operations in accordance with ASTM D6938 to verify compliance with compaction specifications. Any backfill not meeting compaction criteria shall be reworked and retested. Backfill around utilities shall not be performed during saturated conditions unless approved dewatering measures are in place.

A3.1.6 Construction Dewatering

When excavation extends below the groundwater table or is subject to surface water inflow, effective dewatering measures shall be implemented to maintain stable working conditions and prevent disturbance of the subgrade or foundation bearing surface. Dewatering shall be performed continuously during all phases of excavation, foundation construction, and backfilling, as required to maintain dry and stable conditions.

Acceptable dewatering methods include sump pumps, well points, interceptor drains, or other systems appropriate to the soil and groundwater conditions. The selected system shall be capable of lowering and controlling groundwater levels to a minimum of 12 inches below the bottom of the excavation or as otherwise required in the report or by project specifications.

Sumps, if used, shall be located outside the structural footprint whenever feasible and protected to avoid soil migration or undermining. Discharge from dewatering systems shall be directed away from the excavation area and controlled to prevent erosion, flooding, sedimentation, or the return flow into the excavation. Discharge shall comply with applicable environmental regulations and permitting requirements.

In fine-grained soils, extended dewatering may induce soil desiccation and shrinkage, resulting in reduced support capacity. Excavations in such soils should be completed and backfilled promptly after reaching final grade to minimize moisture loss.

Where groundwater seepage or perched water conditions are encountered behind cut slopes or retaining walls, subdrain systems or filter fabric-wrapped drain pipes shall be installed to intercept and redirect flow away from critical areas.

The contractor shall monitor water levels, flow rates, and soil stability throughout the dewatering process. Dewatering operations shall be reviewed and adjusted as necessary under the guidance of the

Geotechnical Engineer to ensure that excavations remain safe, stable, and suitable for construction.

A3.1.7 Wet Weather Earthwork

Earthwork operations during or immediately following periods of rainfall shall be conducted with extreme caution to avoid degrading the performance of the subgrade or compacted fill. Contractors shall plan and sequence grading, excavation, and fill placement activities to minimize exposure of unprotected surfaces to precipitation and surface runoff.

Soils with high fines content—particularly silts and clays—are highly susceptible to moisture infiltration. Once wetted, these soils tend to lose shear strength and become difficult or impossible to compact to the specified density. Consequently, any fill or subgrade material that becomes saturated or excessively soft shall be evaluated by the Geotechnical Engineer and either reconditioned or removed and replaced as necessary.

To mitigate wet weather impacts, the following measures could be implemented:

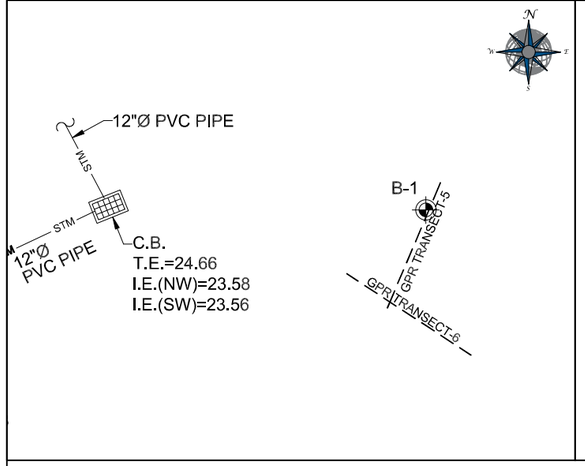
- Limit earthwork to small, manageable areas that can be completed and protected within a single workday.
- Avoid placing fill on wet, unstable, or ponded surfaces.
- Suspend compaction operations during active rainfall.

- Protect exposed subgrade and fill with plastic sheeting, geotextiles, or temporary berms to minimize infiltration.
- Use approved drying methods (scarification, aeration, application of drying agents) to recondition lightly wetted surfaces before continuing work.
- Avoid operating heavy equipment on saturated soils to reduce rutting and degradation of the working surface.

Contractors shall be responsible for managing stormwater during construction in accordance with the project erosion and sediment control plan. Any work performed in wet weather conditions shall be subject to the approval of the Resident Engineer and Geotechnical Engineer. The contractor shall be prepared to rework or remove materials that do not meet the specified requirements due to moisture intrusion.

APPENDIX FOUR

Boring Logs and Laboratory Test Results



BORING-1
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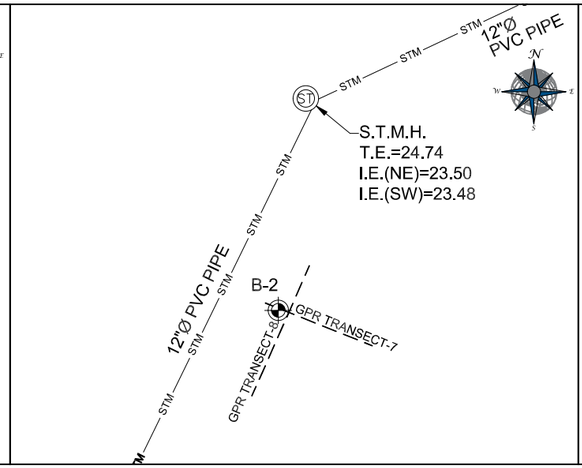

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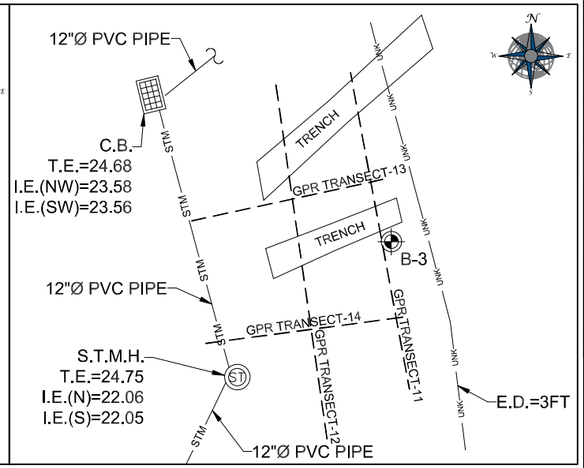

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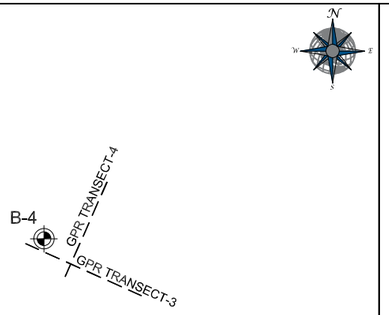

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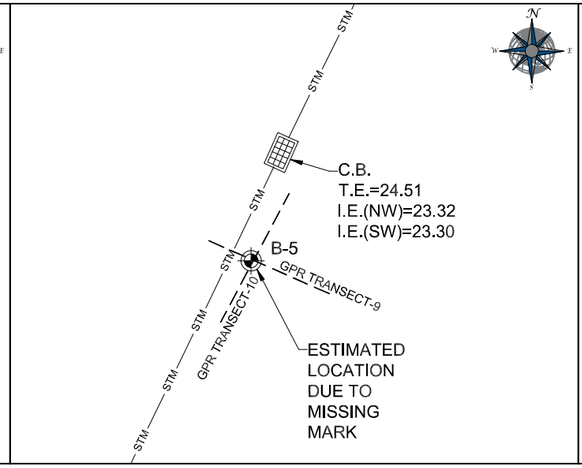

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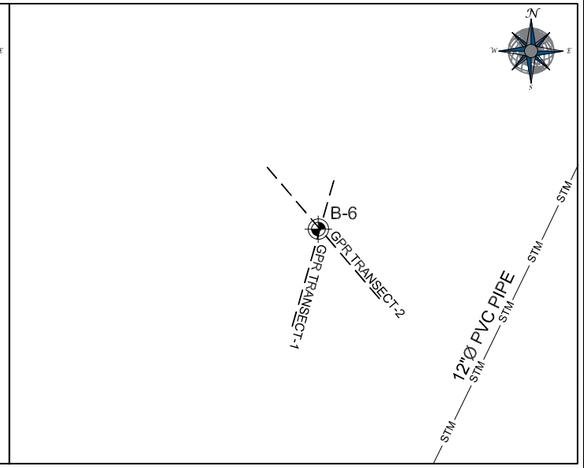
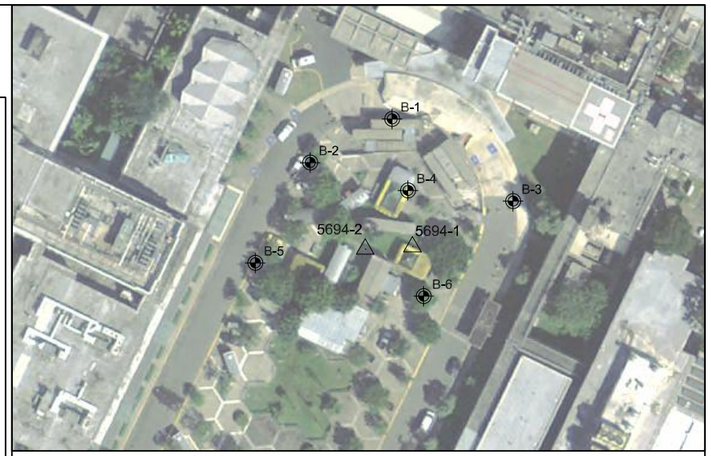


BORING-6
SCALE 1 : 200

BORING TABLE

NAME	COORDINATES (SPCS NAD 83/2011)		ELEVATION (PRVD02)
	NORTHING (M)	EASTING (M)	
B-1	262247.617	237987.382	24.857
B-2	262236.653	237966.773	24.813
B-3	262226.947	238017.798	24.792
B-4	262229.631	237991.373	24.92
B-5	To be established		
B-6	262203.067	237995.306	24.848



LOCATION MAP
1 : 1,500

NOTES:

1. ALL UNITS ARE EXPRESSED IN METERS, UNLESS OTHERWISE NOTED.
2. FIELDWORK PERFORMED ON SEPTEMBER 03, 2026.
3. PLEASE REFER TO SURVEY JEB-5694.
4. HORIZONTAL CONTROL IS REFERRED TO SPCS NAD 83(2011)
5. VERTICAL DATUM IS REFERRED TO PRVD02 (GEOID 18).
6. THE INFORMATION OF THIS MAP REPRESENTS THE RESULT OF THE SURVEY MADE IN THE DATE INDICATED AND CAN BE ONLY CONSIDERED AS AN INDICATION OF THE GENERAL CONDITIONS EXISTING AT THAT TIME.
7. CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS AND MEASUREMENTS AND ADVISE ARCHITECT OR OWNER OF ANY DIFFERENCES.
8. SUBSURFACE UTILITY SURVEY WAS PERFORMED TO A QUALITY LEVEL B OF SPECIFICATION ASCE 38-22. THE DETAILED FINDINGS OF THE SUBSURFACE UTILITY PORTION ARE CONTAINED ON THE PROJECT REPORT (5694-SUS REPORT), HEREBY MADE PART OF THESE DOCUMENTS AND NOT VALID IF SEPARATE FROM EACH OTHER. SUBJECT TO THE CONTENT, DISCLAIMER AND LIMITATIONS DISCLOSED ELSEWHERE ON THIS DRAWING.

LEGEND:

- CONTROL STATION
- S — SANITARY SEWER LINE
- STM — STORM SEWER LINE
- U/T — UNDERGROUND TELEPHONE LINE
- UNK — UNKNOWN LINE
- SANITARY SEWER MANHOLE
- CATCH BASINS
- B — BORING

ABREVIATIONS:

E.D.	ESTIMATED DEPTH
S.M.H.	SANITARY SEWER MANHOLE
C.B.	CATCH BASINS
T.E.	TOP ELEVATION
I.E.	INVERT ELEVATION

SURVEYORS CERTIFICATION

I, CARLOS M. LEBRON CABRERA, HEREBY CERTIFY THAT THIS PLAN SHOWN HEREON IS AN EXACT AND TRUE GRAPHIC REPRESENTATION OF THE EXISTING CONDITIONS. THIS WORK COMPLIES WITH THE CODES, ORDINANCES, LAWS AND REGULATIONS APPLICABLE IN PUERTO RICO.

CARLOS M. LEBRON CABRERA
LAND SURVEYOR LIC.NO. 23744

COORDINATE TABLE

POINT	COORDINATES (NAD 83/2011)		ELEVATION (PRVD02)
	NORTHING	EASTING	
5694-1	262215.512	237992.483	25.081
5694-2	262214.931	237980.618	25.089

GRAPHIC SCALE
4 2 0 4 8 12
SCALE 1 : 200

JAVIER E. BIDOT ASSOCIATES, PSC
Land Surveyors & Consultants
16 Cordova St. | Terralinda | Caguas, PR 00727
Phone: (787)746-5486 Fax: (787)704-6215
www.jebpr.com

SUBSURFACE CLEARANCE SURVEY
IN SUPPORT OF GEOTECHNICAL EXPLORATION AT CENTRO MEDICO
FOR GEO-ENGINEERING, LLC
MUNICIPALITY OF SAN JUAN, PUERTO RICO

PAPER SIZE: 11x17 | SEPT. 11, 2026 | DRAWING NO. VF-1

JAVIER E. BIDOT ASSOCIATES, PSC
Land Surveyors & Consultants

REPORT ON SPECIAL PURPOSE FIELD SURVEY

Report Date	Survey Date	Type of Survey	Project Name/JEBA	Project Location
09/11/2026	09/03/2026	Subsurface Utility Survey ASCE 38-22 QL-B	JEB-5694	Centro Medico, San Juan, PR

CLIENT	Geo-Engineering, LLC
CLIENT POC (phone/email)	Carlos Felipe Rodríguez, PE carlosrodriguez@geopsc.com
SURVEY OBJECTIVE	Quality Level B (ASCE Spec-38-22) Subsurface Survey

SURVEY CREW	Joel Hernandez - Utility Operator Dennis Alicea - Survey Helper
EQUIPMENT	➢ Location Equipment Subsite Ditch Witch 970T Transmitter & 910R Receiver ➢ Ridgid Utility Locators SR-60 & ST-305 Transmitter. ➢ Ground Penetrating Radars MALA Easy Locator & US Radar ➢ GPS Equipment and RTK applications (Trimble R12i) ➢ Ford Truck

SURVEY LOCATION

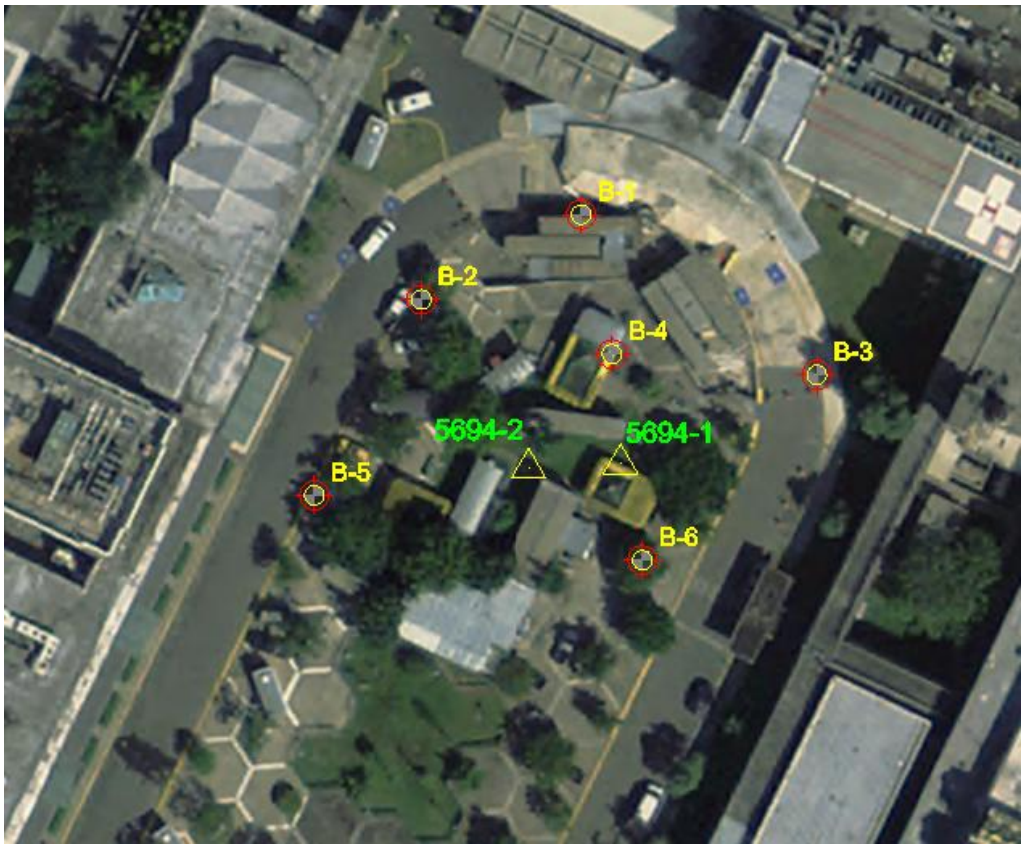


Figure 1

TYPE OF PROSPECTING

Type of prospecting

- ASCE Spec 38-22 Quality Level B
- Prospecting with Ditch Witch utility locator and US Radar GPR methods.

MARKINGS SURVEYED ☒**Yes** ☐ **No**

HORIZONTAL TOLERANCE TO EDGE OF ASSET: +/- 2 ft.

General Notes

- Reported information refers to utility owner record information. Records may include: previous construction plans in area, conduit maps, direct buried cable records, distribution and transmission maps, service record cards, "As-builts" and record drawings, field notes, county, city, utility owner or other geographic information system, circuit diagrams and verbal report.(CI/ASCE 38-22 5.1.2)
- Minimal intrusive (non-destructive) excavation method is a method of excavation that minimizes the potential damage to the structure being uncovered. Factors such as utility material and conditions may influence specific techniques. Typical techniques for utility exposures include air-entrainment/vacuum-extraction systems, water-jet/vacuum-extraction systems, and careful hand tool usage.(CI/ASCE 38-22 3.0
- Designating is the process of using a surface geophysical method or methods to interpret the presence of a subsurface utility and to mark its approximate horizontal position (its designation) on the ground surface. (Note: Utility owners and contractors sometimes call this process "locating.") (CI/ASCE 38-22 3.0)
- All sampling location or proposed excavations shall be established away from the vicinity of confirmed and reported utilities.
- Client shall discuss the results of this survey with owner/owner representative, contractors and sub-contractors.
- Reported coordinates and elevations correspond to the above ground markings and at the actual underground assets unless specifically indicated. Nondestru
- ctive excavation methods shall be employed to determined actual depth of such utilities.
- Excavator shall work in compliance with Law 267 September 11, 1998 as amend "Ley del Centro de Coordinación de Excavaciones y Demoliciones de Puerto Rico".

Notes reference: Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data CI/ASCE 38-22 Abridged Version

DELIVERABLES

☐ **Field Report**

☒ **Field Report, CAD & Media**

UTILITY ASSET OPERATORS NOTIFIED (See table attached below):

- ☒ **NONE**
- ☐ **PREPA**
- ☐ **PRASA**
- ☐ **CLARO**
- ☐ **AT&T**
- ☐ **PIPELINES OF PR**
- ☐ **PR LIBERTY**
- ☐ **OTHER:**

Table: Utility Operators Contact Information

Utility operators were not notified under the present task.

INTRODUCTION

Javier E. Bidot & Associates, PSC, (JEBA) has been retained by Geo-Engineering, LLC for the underground utility designation and location to specification ASCE 38-22 QL-B standards and methodology for six soil boring to be performed by client. Please refer to figure 1 for schematic location of the project area.

METHODOLOGY

A comprehensive field investigation was conducted in accordance with ASCE 38-22 Quality Level B (QL-B) standards, incorporating all applicable methodologies and requirements for Quality Levels D through B, as described herein. The scope of work included a physical reconnaissance of the designated study area (refer to site image), a detailed field survey of all detectable above- and below-ground utility features within and surrounding the project limits, and correlation of those surrounding utility assets to utilities observed within the study area. In addition, the nearest utility assets located outside the project footprint that were connected to designated utility lines were surveyed.

Following development of a well-informed understanding of site conditions, a geophysical detection team was deployed to attempt designation of reported underground utilities lacking visible surface features.

Subsurface utilities were designated using US Radar GPR (Triple-Frequency Antenna) and RIDGID SR-60 Utility Locator with ST-305 Transmitter**.** Subsurface Utility Engineering (SUE) activities rely on interpretation of instrument-generated signals to designate underground assets. Signal quality and accuracy may be affected by soil composition, moisture content, buried debris, and the proximity of adjacent utilities, which can limit depth penetration and positional accuracy. Most utility location methods require signal continuity; therefore, broken utilities, transitions from conductive to non-conductive materials, open circuits, sealed access points, or abandoned lines may impair signal transmission and cause signal scattering. Unknown utilities may include, but are not limited to, electrical, telecommunications, water, sanitary sewer, storm drainage, combustible utility lines, or buried rubble.

Utility clearance activities were performed in coordination with Carlos Felipe Rodriguez of Geo-Engineering, LLC on September 03, 2026. Utilities were designated using the following prospecting techniques and technologies: active induction, direct connection, passive scanning, and Ground Penetrating Radar (GPR)**.**

SUBSURFACE UTILITY FINDINGS

1. Multiple underground utilities were identified within the project limits, including storm sewer lines.
    - Underground storm sewer lines were found near B-1, B-2, B-3, B-5, and B-6.
2. Unknown asset was found while applying GPR technology near boring B-3. These may correspond to abandoned or active underground utilities or structures for which no above-ground indicators were visible at the time of the survey.
3. GPR transect scans were conducted across the project area as part of the subsurface utility investigation. Scan diagrams and interpreted visual representations are based on reflected radar signals. GPR results are interpretive in nature and may be affected by site conditions, utility composition, depth, and electromagnetic interference. Additional verification may be required to confirm utility presence and location. Please refer to GPR readings herein included on the present submittal.

4. Underground utilities were generally located and mapped using non-invasive geophysical survey techniques within the project limits. The methods followed ASCE 38-22 QL-B standards and were conducted in coordination with utility records provided by client. The accuracy and completeness of QL-B data were subject to the inherent limitations of the geophysical equipment and methods, especially in terms of depth and signal attenuation. Assets designated on field were marked on ground and are herein included on the present task order submittal.

RECOMMENDATIONS AND CONCLUSIONS

The subsurface utility survey services have been historically proven to provide a benefit to cost ratio better than 11 to 1. This benefit is solely based on the successful avoidance of the assets designated and informed on the survey report. It is our opinion that the drawings and report herein show the detectable subsurface utilities and assets on the project up to the quality level methodology employed. It is not a guarantee, however, that all possible underground assets were located so caution should be exercised especially around designated assets.

If higher accuracy location and confirmation of subsurface utility assets is desired, quality level A is required. Quality A utility designation will achieve precise horizontal and vertical location of utilities obtained by the actual exposure (or verification of previously exposed and surveyed utilities) and subsequent measurement of subsurface utilities, usually at a specific point.

Minimally intrusive (non-destructive) excavation equipment is typically used to minimize the potential for utility damage.

Non-destructive excavation is recommended for all sites. The client shall perform all excavation activities in a workmanlike manner and exercise extreme care in the vicinity of survey markings. The client assumes all direct and indirect liabilities associated with excavation activities as the owner of the excavation.

Utility location tolerance is measured from the edge of the asset, while utility markings typically represent the signal peak. Pipe diameters and duct bank widths are required to accurately determine the applicable tolerance zone.

Ground-penetrating radar (GPR) anomaly areas may indicate, but are not limited to, buried tanks, metal objects or caps, zones of high soil moisture or aquifers, previous excavations, high-density soils, building foundations, the presence of utilities, or buried rubble.

Survey images:



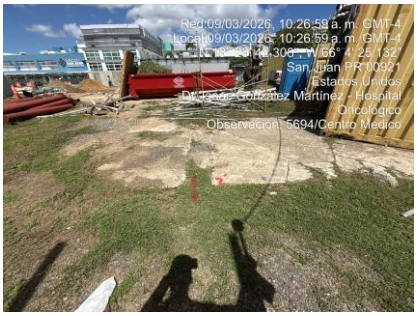












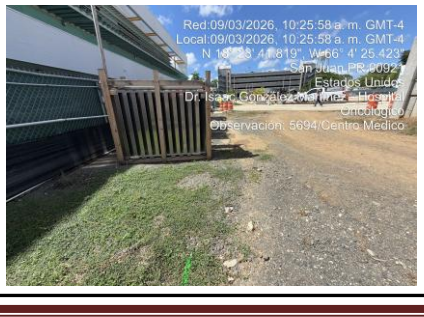














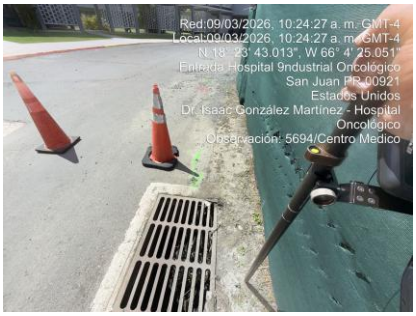


Survey images:







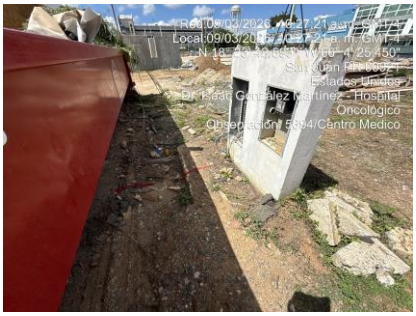






















GPR Transect images:

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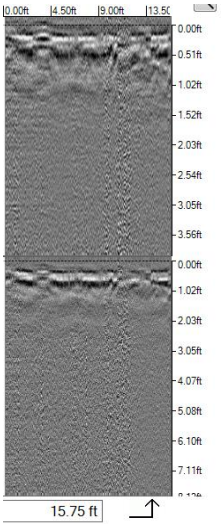

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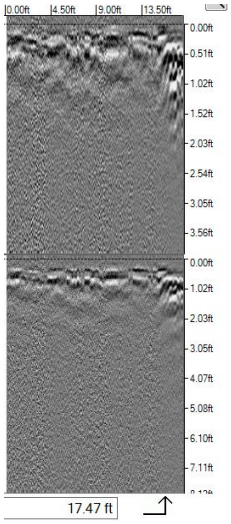

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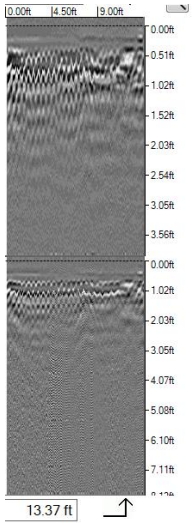

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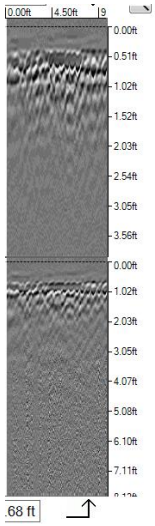

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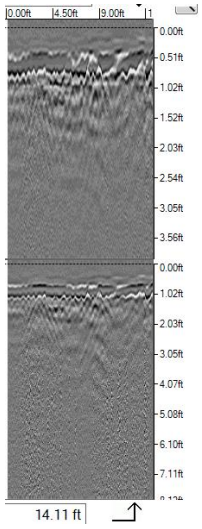
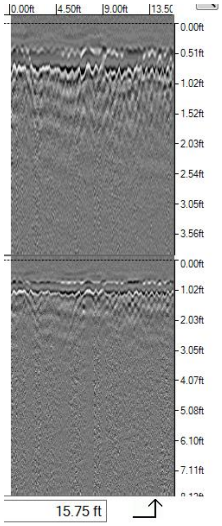


GPR TRANSECT-6



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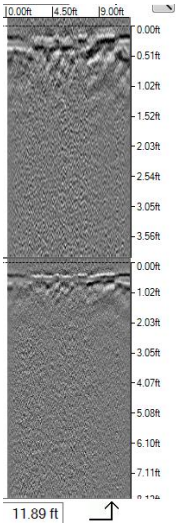
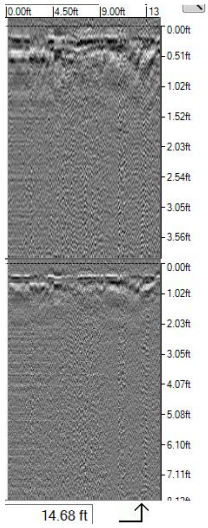
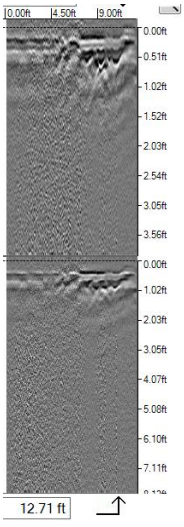


GPR TRANSECT-8

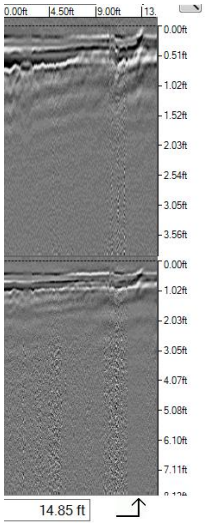


GPR TRANSECT-9

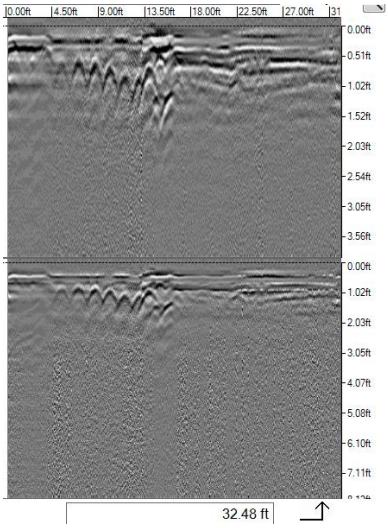


GPR Transect images:

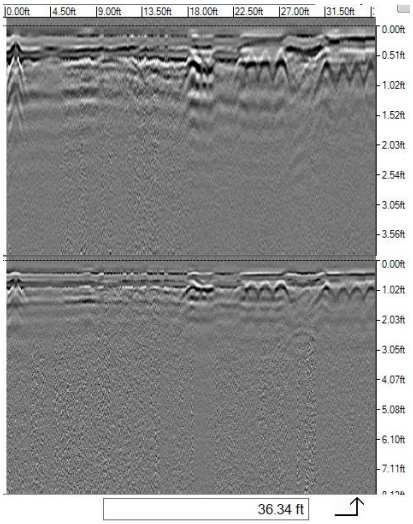
GPR TRANSECT-10



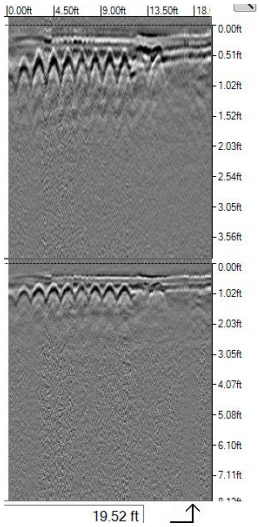
GPR TRANSECT-11



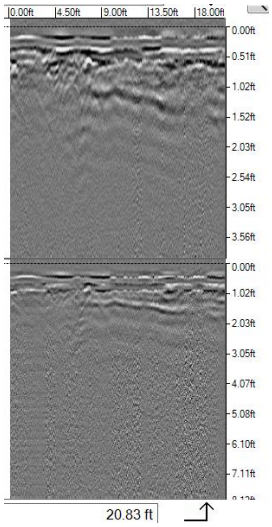
GPR TRANSECT-12



GPR TRANSECT-13



GPR TRANSECT-14



TEST HOLE LOG: B-1

Date: 09-14-2026
Longitude (°): -66.073830
Latitude (°): 18.395398
Elevation: 24.86 m (PRVD02)

Foreman: I. Gonzalez
Logger: Alondra Valle
Reviewer: A. Torres, PE

PROJECT LOCATION:
Centro Medico de Puerto Rico
San Juan, PR

COMPLETION DEPTH (FT): 50

WATER DEPTH (FT): 30

Depth FT	Depth M	Lithologic / Soil Description	Symbol	Boring Method: Drilling Method	Boring Method: Drill Rig Info.	Samples	Blows: 00" - 06"	Blows: 06" - 12"	Blows: 12" - 18"	Blows: 18" - 24"	N - Value (bpf)	Soil Classification	Atterberg Limits: LL (%)	Atterberg Limits: PI (%)	qu (tsf)	Moisture (%)
0–2	0	Existing Fill silty GRAVEL with sand (GM); mostly hard angular fine to coarse gravel, very loose, some silt, little fine- to coarse-grained sand, moist, gray				1	28	1	2	3	3					10
2.00 ft																
3–4	1	Alluvial Soil elastic SILT (MH); mostly high plasticity silt, medium to stiff, few fine- to coarse-grained sand, moist, strong brown				2	3	3	4	6	7				2.0	46
5–6						3	2	2	5	5	7	MH	63	30		44
7–8	2					4	5	7	8	10	15				2.25	41
9–10						5	2	3	5	6	8				2.5	41
13.00 ft																
13–14	4	silty SAND (SM); mostly fine- to medium-grained sand, very loose to medium-dense, some low plasticity silt, moist, pinkish gray		Auger (Hollow-Stem)		6	4	5	9	11	14				2.0	35
18–19	5					7	2	1	3	3	4	SM	38	11		30
23.00 ft																
23–24	7	clayey SAND (SC); mostly fine- to medium-grained sand, loose to medium-dense, some high plasticity clay, moist, brownish yellow				8	2	4	7	10	11				1.5	26
28–29	8					9	2	4	5	8	9	SC	57	34		33
32	9															

GEO | geotechnical engineering construction materials testing

PROJECT TITLE: SB72-26-ASEM-HospTrauma

CLIENT: Centro Medico de Puerto Rico

PROJECT NO.:

SHEET: 1 of 2

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TEST HOLE LOG: B-1

Date: 09-14-2026
Longitude (°): -66.073830
Latitude (°): 18.395398
Elevation: 24.86 m (PRVD02)

Foreman: I. Gonzalez
Logger: Alondra Valle
Reviewer: A. Torres, PE

PROJECT LOCATION:
Centro Medico de Puerto Rico
San Juan, PR

COMPLETION DEPTH (FT): 50

WATER DEPTH (FT): 30

Depth FT	Depth M	Lithologic / Soil Description	Symbol	Boring Method: Drilling Method	Boring Method: Drill Rig Info.	Samples	Blows: 00" - 06"	Blows: 06" - 12"	Blows: 12" - 18"	Blows: 18" - 24"	N - Value (bpf)	Soil Classification	Atterberg Limits: LL (%)	Atterberg Limits: PI (%)	qu (tsf)	Moisture (%)
32–38	10–11	clayey SAND (SC); mostly fine- to medium-grained sand, loose to medium-dense, some high plasticity clay, moist, brownish yellow				10	3	9	12	18	21					30
38–50	12–15	San Sebastian Formation fat CLAY (CH); mostly high plasticity clay, hard, few fine- to medium-grained sand, moist, light olive gray		Auger (Hollow-Stem)		11	11	19	23	27	42	CH	52	34		26
						12	12	21	32	74	53				4.5+	26
						13	16	33	46	49	79				3.5	22

38.00 ft

50.00 ft

GEO geotechnical engineering construction materials testing

PROJECT TITLE: SB72-26-ASEM-HospTrauma

CLIENT: Centro Medico de Puerto Rico

PROJECT NO.:

SHEET: 2 of 2

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TEST HOLE LOG: B-2

Date: 09-08-2026
Longitude (°): -66.074025
Latitude (°): 18.395300
Elevation: 24.81 m (PRVD02)

Foreman: C. Burgos
Logger: Alondra Valle
Reviewer: A. Torres, PE

PROJECT LOCATION:
Centro Medico de Puerto Rico
San Juan, PR

COMPLETION DEPTH (FT): 50

WATER DEPTH (FT):

Depth FT	Depth M	Lithologic / Soil Description	Symbol	Boring Method: Drilling Method	Boring Method: Drill Rig Info.	Samples	Blows: 00" - 06"	Blows: 06" - 12"	Blows: 12" - 18"	Blows: 18" - 24"	N - Value (bpf)	Soil Classification	Atterberg Limits: LL (%)	Atterberg Limits: PI (%)	qu (tsf)	Moisture (%)
0–3	0–1	**Existing Fill** silty GRAVEL (GM); mostly hard subangular fine to coarse gravel, loose, some silt, moist, pale brown				1	4	6	3	4	9					17
		3.00 ft														
3–4	1–1	**Alluvial Soil** fat CLAY with sand (CH); mostly high plasticity clay, stiff to very stiff, little fine- to medium-grained sand, few gravel, moist, red				2	5	5	7	7	12				1.25	45
5	1					3	3	4	8	8	12	CH	89	53		37
7–8	2–2					4	9	11	15	14	26				4.0	34
9–10	3–3					5	2	6	8	10	14					33
		13.00 ft														
13–14	4–4	silty SAND (SM); mostly fine- to medium-grained sand, very loose to medium-dense, some low plasticity silt, moist, light gray		Auger (Hollow-Stem)		6	1	6	6	7	12					47
19	6					7	1	1	2	3	3	SM	42	12		38
24	7–8					8	1	2	3	5	5					30
		26.00 ft														
29	9	sandy fat CLAY (CH); mostly high plasticity clay, medium, some fine- to medium-grained sand, moist, brownish yellow				9	1	1	4	5	5	CH	50	22		29

GEO geotechnical engineering construction materials testing

PROJECT TITLE: SB72-26-ASEM-HospTrauma

CLIENT: Centro Medico de Puerto Rico

PROJECT NO.:

SHEET: 1 of 2

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TEST HOLE LOG: B-2

Date: 09-08-2026
Longitude (°): -66.074025
Latitude (°): 18.395300
Elevation: 24.81 m (PRVD02)

Foreman: C. Burgos
Logger: Alondra Valle
Reviewer: A. Torres, PE

PROJECT LOCATION:
Centro Medico de Puerto Rico
San Juan, PR

COMPLETION DEPTH (FT): 50

WATER DEPTH (FT):

Depth FT	Depth M	Lithologic / Soil Description	Symbol	Boring Method: Drilling Method	Boring Method: Drill Rig Info.	Samples	Blows: 00" - 06"	Blows: 06" - 12"	Blows: 12" - 18"	Blows: 18" - 24"	N - Value (bpf)	Soil Classification	Atterberg Limits: LL (%)	Atterberg Limits: PI (%)	qu (tsf)	Moisture (%)
32–34	10	sandy fat CLAY (CH); mostly high plasticity clay, medium, some fine- to medium-grained sand, moist, brownish yellow		Auger (Hollow-Stem)		10	1	2	6	7	8				1.5	30
35–37	11															
38		38.00 ft														
38–40	12	San Sebastian Formation sandy lean CLAY (CL); mostly medium plasticity clay, very stiff to hard, some fine- to coarse-grained sand, moist, pale yellow				11	3	12	15	19	27				4.0	18
41–43	13					12	8	13	22	28	35				2.5	24
44–46	14															
47–49	15					13	9	18	28	37	46				4.5+	22
50		50.00 ft														
51–53	16															
54–56	17															
57–59	18															
60–62	19															
63–64																

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GEO | geotechnical engineering construction materials testing

PROJECT TITLE: SB72-26-ASEM-HospTrauma

CLIENT: Centro Medico de Puerto Rico

PROJECT NO.:

SHEET: 2 of 2

TEST HOLE LOG: B-3

Date: 09-09-2026
Longitude (°): -66.073542
Latitude (°): 18.395211
Elevation: 24.79 m (PRVD02)

Foreman: I. Gonzalez
Logger: Alondra Valle
Reviewer: A. Torres, PE

PROJECT LOCATION:
Centro Medico de Puerto Rico
San Juan, PR

COMPLETION DEPTH (FT): 60

WATER DEPTH (FT): 25

Depth FT	Depth M	Lithologic / Soil Description	Symbol	Boring Method: Drilling Method	Boring Method: Drill Rig Info.	Samples	Blows: 00" - 06"	Blows: 06" - 12"	Blows: 12" - 18"	Blows: 18" - 24"	N - Value (bpf)	Soil Classification	Atterberg Limits: LL (%)	Atterberg Limits: PI (%)	qu (tsf)	Moisture (%)
0	0	Asphalt														
1		silty GRAVEL with sand (GM); mostly fine to coarse gravel, medium-dense, some silt, little fine- to coarse-grained sand, moist, black				1	38	18	7	2	25					3
2																
3	1	3.00 ft Alluvial Soil				2	3	3	3	4	6					37
4		fat CLAY (CH); mostly high plasticity clay, medium, little fine- to medium-grained sand, moist, reddish yellow														
5						3	2	2	3	3	5	CH	73	43	1.0	25
6	2															
7						4	2	3	3	2	6					41
8		8.00 ft sandy SILT (ML); mostly low plasticity silt, loose, some fine- to medium-grained sand, moist, brownish yellow														
9						5	1	4	5	9	9					34
10	3															
11																
12																
13	4															
14				Auger (Hollow-Stem)		6	2	2	4	4	6	ML	49	15	1.0	34
15																
16																
17	5															
18																
19		19.00 ft silty SAND (SM); mostly fine- to medium-grained sand, loose, some low plasticity silt, moist, reddish yellow				7	3	3	6	8	9					45
20	6															
21																
22																
23	7															
24						8	2	2	4	4	6	SM	47	17		36
25																
26		26.00 ft sandy fat CLAY (CH); mostly high plasticity clay, stiff, some fine- to medium-grained sand, moist, reddish, yellowish and pale brown														
27	8															
28																
29						9	3	4	6	6	10				1.0	42
30	9															
31																
32																

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GEO geotechnical engineering construction materials testing

PROJECT TITLE: SB72-26-ASEM-HospTrauma

CLIENT: Centro Medico de Puerto Rico

PROJECT NO.:

SHEET: 1 of 2

TEST HOLE LOG: B-3

Date: 09-09-2026
Longitude (°): -66.073542
Latitude (°): 18.395211
Elevation: 24.79 m (PRVD02)

Foreman: I. Gonzalez
Logger: Alondra Valle
Reviewer: A. Torres, PE

PROJECT LOCATION:
Centro Medico de Puerto Rico
San Juan, PR

COMPLETION DEPTH (FT): 60

WATER DEPTH (FT): 25

Depth FT	Depth M	Lithologic / Soil Description	Symbol	Boring Method: Drilling Method	Boring Method: Drill Rig Info.	Samples	Blows: 00" - 06"	Blows: 06" - 12"	Blows: 12" - 18"	Blows: 18" - 24"	N - Value (bpf)	Soil Classification	Atterberg Limits: LL (%)	Atterberg Limits: PI (%)	qu (tsf)	Moisture (%)
32–38	10–11	sandy fat CLAY (CH); mostly high plasticity clay, stiff, some fine- to medium-grained sand, moist, reddish, yellowish and pale brown		Auger (Hollow-Stem)		10	5	5	9	14	14				2.5	27
38.00 ft																
38–49	11–15	San Sebastian Formation fat CLAY (CH); mostly high plasticity clay, very stiff to hard, little fine- to medium-grained sand, moist, brown				11	16	20	29	30	49				4.5+	19
						12	7	11	14	18	25				1.75	24
						13	11	20	26	35	46	CH	55	28	4.5+	22
49–59	15–18					14	9	17	25	36	42				4.5+	18
						15	20	26	39	41	65				4.5+	21
60.00 ft																
60–64	18–19															

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GEO geotechnical engineering construction materials testing

PROJECT TITLE: SB72-26-ASEM-HospTrauma

PROJECT NO.:

CLIENT: Centro Medico de Puerto Rico

SHEET: 2 of 2

TEST HOLE LOG: B-4

Date: 09-08-2026
Longitude (°): -66.073792
Latitude (°): 18.395236
Elevation: 24.92 m (PRVD02)

Foreman: C. Burgos
Logger: Alondra Valle
Reviewer: A. Torres, PE

PROJECT LOCATION:
Centro Medico de Puerto Rico
San Juan, PR

COMPLETION DEPTH (FT): 50

WATER DEPTH (FT):

Depth FT	Depth M	Lithologic / Soil Description	Symbol	Boring Method: Drilling Method	Boring Method: Drill Rig Info.	Samples	Blows: 00" - 06"	Blows: 06" - 12"	Blows: 12" - 18"	Blows: 18" - 24"	N - Value (bpf)	Soil Classification	Atterberg Limits: LL (%)	Atterberg Limits: PI (%)	qu (tsf)	Moisture (%)
0	0	Existing Fill														
1		clayey GRAVEL with sand (GC); some hard subangular fine to coarse gravel, loose to medium-dense, some high plasticity clay, little fine- to coarse-grained sand, moist, light reddish brown and pinkish gray				1		3	2	2	5	GC	70	42		40
2																
3	1					2	5	6	7	6	13					39
4		4.00 ft														
5		Alluvial Soil														
6		fat CLAY with sand (CH); mostly high plasticity clay, stiff to very stiff, little fine- to medium-grained sand, moist, reddish and yellowish-brown				3	2	5	7	9	12				2.5	37
7	2					4	9	12	12	11	24				4.0	38
8																
9		9.00 ft				5	2	2	4	7	6					46
10	3	silty SAND (SM); mostly fine- to coarse-grained sand, loose to medium-dense, some low plasticity silt, moist, very pale brown														
11																
12																
13	4															
14				Auger (Hollow-Stem)		6	4	4	6	7	10	SM	44	8		25
15																
16																
17	5															
18																
19						7	1	6	4	5	10					35
20	6															
21																
22																
23	7															
24						8	3	3	5	7	8					32
25																
26	8															
27																
28		28.00 ft														
29	9	clayey SAND (SC); mostly fine- to coarse-grained sand, loose to medium-dense, some high plasticity clay, moist, pale yellow				9	1	1	4	5	5	SC	62	40		34
30																
31																
32																

GEO | geotechnical engineering construction materials testing

PROJECT TITLE: SB72-26-ASEM-HospTrauma

CLIENT: Centro Medico de Puerto Rico

PROJECT NO.:

SHEET: 1 of 2

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TEST HOLE LOG: B-4

Date: 09-08-2026
Longitude (°): -66.073792
Latitude (°): 18.395236
Elevation: 24.92 m (PRVD02)

Foreman: C. Burgos
Logger: Alondra Valle
Reviewer: A. Torres, PE

PROJECT LOCATION:
Centro Medico de Puerto Rico
San Juan, PR

COMPLETION DEPTH (FT): 50

WATER DEPTH (FT):

Depth FT	Depth M	Lithologic / Soil Description	Symbol	Boring Method: Drilling Method	Boring Method: Drill Rig Info.	Samples	Blows: 00" - 06"	Blows: 06" - 12"	Blows: 12" - 18"	Blows: 18" - 24"	N - Value (bpf)	Soil Classification	Atterberg Limits: LL (%)	Atterberg Limits: PI (%)	qu (tsf)	Moisture (%)
32																
33	10	clayey SAND (SC); mostly fine- to coarse-grained sand, loose to medium-dense, some high plasticity clay, moist, pale yellow														
34						10	2	5	9	10	14					31
35																
36	11															
37																
38		38.00 ft														
39	12	San Sebastian Formation sandy lean CLAY (CL); mostly medium plasticity clay, very stiff to hard, some fine- to medium-grained sand, moist, pale yellow		Auger (Hollow-Stem)		11	2	9	17	26	26				3.0	24
40																
41																
42																
43	13															
44						12	5	20	26	36	46				4.5+	19
45																
46	14															
47																
48																
49	15					13	12	17	28	47	45				4.5+	21
50		50.00 ft														
51																
52																
53	16															
54																
55																
56	17															
57																
58																
59	18															
60																
61																
62																
63	19															
64																

GEO | geotechnical engineering construction materials testing

PROJECT TITLE: SB72-26-ASEM-HospTrauma

CLIENT: Centro Medico de Puerto Rico

PROJECT NO.:

SHEET: 2 of 2

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TEST HOLE LOG: B-5

Date: 09-09-2026
Longitude (°): -66.074126
Latitude (°): 18.395071
Elevation:

Foreman: C. Burgos
Logger: Alondra Valle
Reviewer: A. Torres, PE

PROJECT LOCATION:
Centro Medico de Puerto Rico
San Juan, PR

COMPLETION DEPTH (FT): 60

WATER DEPTH (FT):

Depth FT	Depth M	Lithologic / Soil Description	Symbol	Boring Method: Drilling Method	Boring Method: Drill Rig Info.	Samples	Blows: 00" - 06"	Blows: 06" - 12"	Blows: 12" - 18"	Blows: 18" - 24"	N - Value (bpf)	Soil Classification	Atterberg Limits: LL (%)	Atterberg Limits: PI (%)	qu (tsf)	Moisture (%)
0	0	Existing Fill														
1		silty GRAVEL with sand (GM); mostly hard subangular fine to coarse gravel, medium-dense, some silt, moist, black				1	43	14	4	3	18					4
2		2.00 ft														
3	1	sandy fat CLAY with gravel (CH); mostly high plasticity clay, medium to stiff, some fine- to coarse-grained sand, little hard subangular fine to coarse gravel, moist, reddish and yellowish brown				2	5	4	6	7	10					35
4																
5						3	1	2	5	5	7					26
6		6.00 ft														
7	2	Alluvial Soil														
		silty SAND (SM); mostly fine- to medium-grained sand, very loose to medium-dense, some low plasticity silt, moist, light gray				4	7	12	11	13	23					22
8																
9						5	1	4	6	6	10					43
10	3															
11																
12																
13	4															
14						6	1	1	3	3	4	SM	45	12		40
15																
16																
17	5															
18		18.00 ft														
19		clayey SAND (SC); mostly fine- to medium-grained sand, loose to medium-dense, some medium plasticity clay, moist, pale yellow and olive yellow				7	3	6	8	11	14					30
20	6															
21																
22																
23	7															
24						8	1	2	4	5	6	SC	38	15	1.25	28
25																
26																
27	8															
28																
29						9	1	3	5	6	8				1.0	33
30	9															
31																
32																

Boring Method: Auger (Hollow-Stem)

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GEO | geotechnical engineering construction materials testing

PROJECT TITLE: SB72-26-ASEM-HospTrauma

CLIENT: Centro Medico de Puerto Rico

PROJECT NO.:

SHEET: 1 of 2

TEST HOLE LOG: B-5

Date: 09-09-2026
Longitude (°): -66.074126
Latitude (°): 18.395071
Elevation:

Foreman: C. Burgos
Logger: Alondra Valle
Reviewer: A. Torres, PE

PROJECT LOCATION:
Centro Medico de Puerto Rico
San Juan, PR

COMPLETION DEPTH (FT): 60

WATER DEPTH (FT):

Depth FT	Depth M	Lithologic / Soil Description	Symbol	Boring Method: Drilling Method	Boring Method: Drill Rig Info.	Samples	Blows: 00" - 06"	Blows: 06" - 12"	Blows: 12" - 18"	Blows: 18" - 24"	N - Value (bpf)	Soil Classification	Atterberg Limits: LL (%)	Atterberg Limits: PI (%)	qu (tsf)	Moisture (%)
32–34	10	clayey SAND (SC); mostly fine- to medium-grained sand, loose to medium-dense, some medium plasticity clay, moist, pale yellow and olive yellow		Auger (Hollow-Stem)		10	3	5	6	6	11	SC	33	12		27
35–38	11															
39–42	12					11	4	8	12	14	20					25
43	13	43.00 ft														
43–46	13–14	San Sebastian Formation sandy lean CLAY (CL); mostly medium plasticity clay, hard, some fine- to coarse-grained sand, moist, pale brown				12	6	16	21	25	37					26
47–50	14–15					13	10	18	23	36	41					25
51–54	15–16					14	9	20	31	50/3	51					22
55–58	16–17															
59	18					15	12	50/5	>75	>75	>75					18
60	18	60.00 ft														
61–64	19															

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GEO geotechnical engineering construction materials testing

PROJECT TITLE: SB72-26-ASEM-HospTrauma

CLIENT: Centro Medico de Puerto Rico

PROJECT NO.:

SHEET: 2 of 2

TEST HOLE LOG: B-6

Date: 09-11-2026
Longitude (°): -66.073755
Latitude (°): 18.394996
Elevation: 24.85 m (PRVD02)

Foreman: I. Gonzalez
Logger: Alondra Valle
Reviewer: A. Torres, PE

PROJECT LOCATION:
Centro Medico de Puerto Rico
San Juan, PR

COMPLETION DEPTH (FT): 50

WATER DEPTH (FT): 25

Depth FT	Depth M	Lithologic / Soil Description	Symbol	Boring Method: Drilling Method	Boring Method: Drill Rig Info.	Samples	Blows: 00" - 06"	Blows: 06" - 12"	Blows: 12" - 18"	Blows: 18" - 24"	N - Value (bpf)	Soil Classification	Atterberg Limits: LL (%)	Atterberg Limits: PI (%)	qu (tsf)	Moisture (%)
0	0	Existing Fill sandy fat CLAY with gravel (CH); mostly high plasticity clay, medium to stiff, some fine- to coarse-grained sand, little gravel, moist, dark grayish brown				1	5	3	3	3	6					31
3	1					2	5	3	5	5	8	CH	64	33		30
5		5.00 ft				3	3	4	5	8	9					12
6	2	Alluvial Soil silty SAND (SM); mostly fine- to medium-grained sand, very loose to medium-dense, some low plasticity silt, moist, brownish yellow				4	6	7	8	8	15					21
9						5	3	5	4	6	9	SM	41	9		28
10	3															
13	4			Auger (Hollow-Stem)		6	2	1	3	2	4					44
16	5															
19						7	1	2	2	4	4	SM	39	11		28
20	6															
23	7															
24						8	2	2	4	5	6					33
26	8															
29	9					9	3	3	6	7	9					26
32																

RSLog / Boring Log Template / geo-engineering / avalle / 10-30-2026 @ 06:26 PM

GEO | geotechnical engineering construction materials testing

PROJECT TITLE: SB72-26-ASEM-HospTrauma

CLIENT: Centro Medico de Puerto Rico

PROJECT NO.:

SHEET: 1 of 2

TEST HOLE LOG: B-6

Date: 09-11-2026
Longitude (°): -66.073755
Latitude (°): 18.394996
Elevation: 24.85 m (PRVD02)

Foreman: I. Gonzalez
Logger: Alondra Valle
Reviewer: A. Torres, PE

PROJECT LOCATION:
Centro Medico de Puerto Rico
San Juan, PR

COMPLETION DEPTH (FT): 50

WATER DEPTH (FT): 25

Depth FT	Depth M	Lithologic / Soil Description	Symbol	Boring Method: Drilling Method	Boring Method: Drill Rig Info.	Samples	Blows: 00" - 06"	Blows: 06" - 12"	Blows: 12" - 18"	Blows: 18" - 24"	N - Value (bpf)	Soil Classification	Atterberg Limits: LL (%)	Atterberg Limits: PI (%)	qu (tsf)	Moisture (%)
32–33	10	silty SAND (SM); mostly fine- to medium-grained sand, very loose to medium-dense, some low plasticity silt, moist, brownish yellow		Auger (Hollow-Stem)		10	7	9	12	17	21				2.75	25
33.00 ft																
34–36	11	San Sebastian Formation lean CLAY with sand (CL); mostly medium plasticity clay, very stiff to hard, little fine- to medium-grained sand, moist, light yellowish brown				11	8	12	16	24	28	CL	43	24		21
39–43	12–13					12	12	19	31	44	50				3.0	26
44–49	14–15					13	16	29	39	47	68				2.25	25
50.00 ft																
50–64	16–19															

RSLog / Boring Log Template / geo-engineering / avalle / 10-30-2026 @ 06:26 PM

GEO | geotechnical engineering construction materials testing

PROJECT TITLE: SB72-26-ASEM-HospTrauma

CLIENT: Centro Medico de Puerto Rico

PROJECT NO.:

SHEET: 2 of 2

GEO | geotechnical engineering construction materials testing

Sample Soil Pickup

Report #: 001

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 10/30/2026 **Field Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

FIELD DATA

No. of Samples / Sets: 3
Sample Source/Location: Boring Sample/In-Situ
Boring No: B-1 **Depth (ft):** 4-6
Sample Description / Classification: Strong brown - 7.5YR 5/6

SUMMARY OF WORK PERFORMED

LAB TEST SUMMARY

No	Test	Test Method	Status
001-L1	Sieve Test	ASTM D6913 (Sieve)	Completed
001-L2	Atterberg (ASTM4318 / AASHTO T89 & 90)	ASTM D4318	Completed
001-L3	Wash 200 Analysis (ASTM D1140/D2216)	ASTM D1140	Completed

Note: All completed lab tests are attached below.

Report Copied to: Yanira Rivera Ortiz

Field Representative: GEO FIELDTECH

Alejandro E Torres Quiñones
Ingeniero Licenciado
Lic. 28734 PE
Puerto Rico

Alejandro Torres, P.E.
Engineer (#28734)
GEO-Engineering
Date Signed: 11/03/2026 10:50 AM

Notes: As requested, a representative from our company arrived on site as scheduled and performed the above test. These test results apply only to the specific locations noted and do not represent any other location. Reports may not be reproduced except in full, without permission.

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Sieve Test

Report #: 001-L1

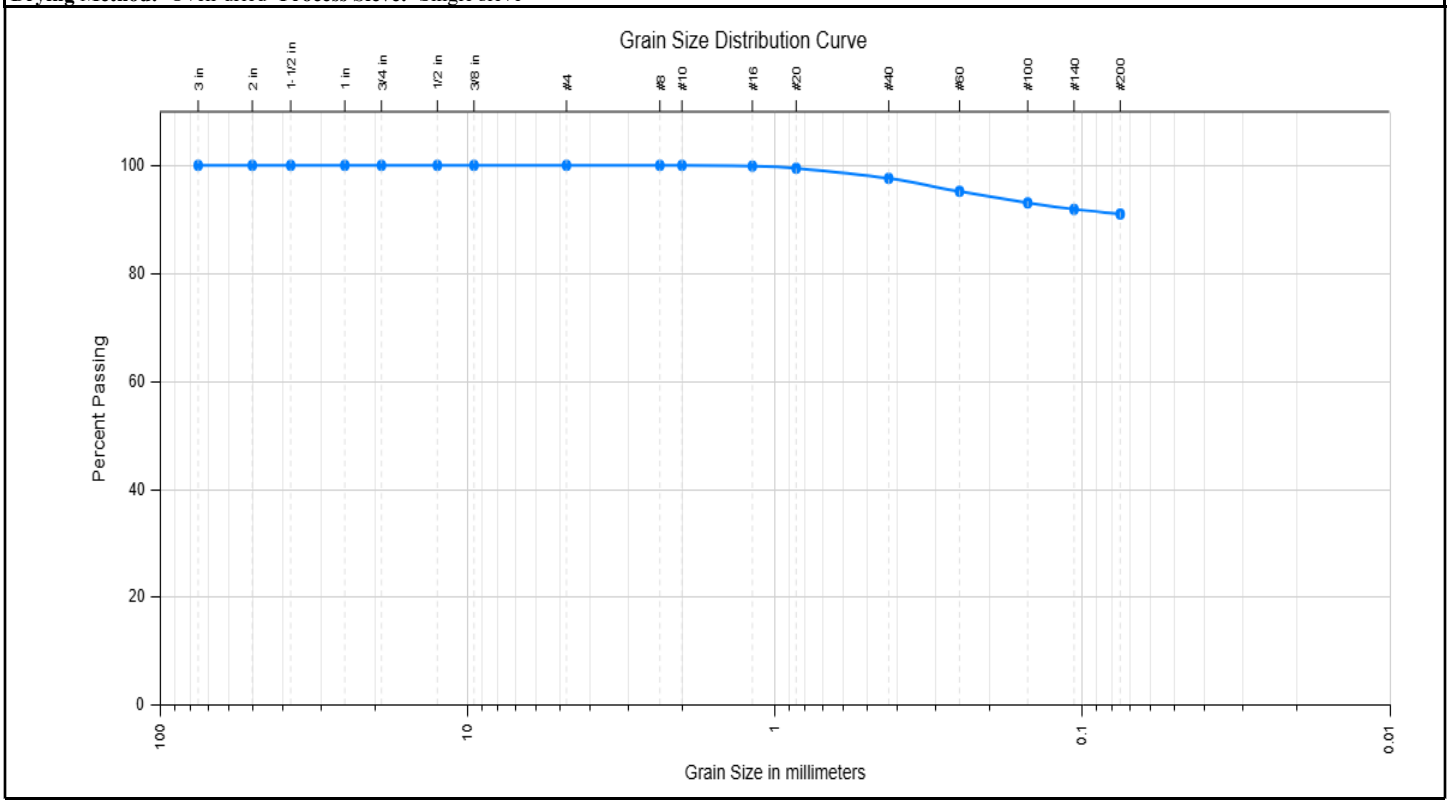
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 10/30/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-1 **Depth (ft):** 4-6
Test Procedure: ASTM D6913 (Sieve)
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Strong brown 7.5YR 5/6

SIEVE ANALYSIS AND TEST RESULTS

Composite Sieve :				**Maximum Particle Size (g) :**							
Tare Wt (g)	271.5	**Tare #**	103	**Moisture Content (%)**	0.00			**Dry Wt.+ Tare (g)**	562.6		
Water Wt	0.00	**Wet Wt.+ Tare (g)**	562.6	**Dry Wt (g)**	291.10						
Sample Washed	X Yes ☐ No	**Dry Wt.+Tare after Wash**	298.3	**Wt of Soil After Wash**	26.8	**Wash Loss**	264.3	**Passing #200 from Wash**	90.79		
Drying Method:	Oven-dried	**Process Sieve:**	Single sieve								



Sieve Sizes	Wt. Retained (g)	% Retained	% Passing	% Passing Spec Limits
3 in (75mm)		0.0	100.0	
2 in (50mm)		0.0	100.0	
1-1/2 in (37.5mm)		0.0	100.0	
1 in (25mm)		0.0	100.0	
3/4 in (19mm)		0.0	100.0	
1/2 in (12.5mm)		0.0	100.0	
3/8 in (9.5mm)		0.0	100.0	
#4 (4.75mm)		0.0	100.0	
#8 (2.36mm)		0.0	100.0	
#10 (2mm)		0.0	100.0	
#16 (1.18mm)	0.3	0.1	99.9	

Material

% Gravel	% Sand	% Fines
0.0	9.0	91.0

Atterberg Limits

PL = 33 **LL =** 63 **PI =** 30

Coefficients

D_{60} = 0.00 D_{10} = Cc =
D_{30} = Cu =

Soil Classification

USCS	AASHTO
MH	A-7-5

Elastic Silt

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Sieve Test

Report #: 001-L1

Client: Administración de Servicios Médicos de Puerto Rico (ASEM)
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico
Location: Centro Médico de Puerto Rico, San Juan, PR

Report Date: 10/30/2026 **Sample Date:** 09/29/2026
Project #: SB72-26-BD-SJU

Sieve Sizes	Wt. Retained (g)	% Retained	% Passing	% Passing Spec Limits
#20 (0.85mm)	1.4	0.5	99.5	
#40 (0.425mm)	7.0	2.4	97.6	
#60 (0.25mm)	13.9	4.8	95.2	
#100 (0.15mm)	20.1	6.9	93.1	
#140 (0.106mm)	23.5	8.1	91.9	
#200 (0.075mm)	26.3	9.0	91.0	

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687



Alejandro Torres, P.E.
Engineer (#28734)
GEO-Engineering
Date Signed: 11/03/2026 10:50 AM

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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 001-L2

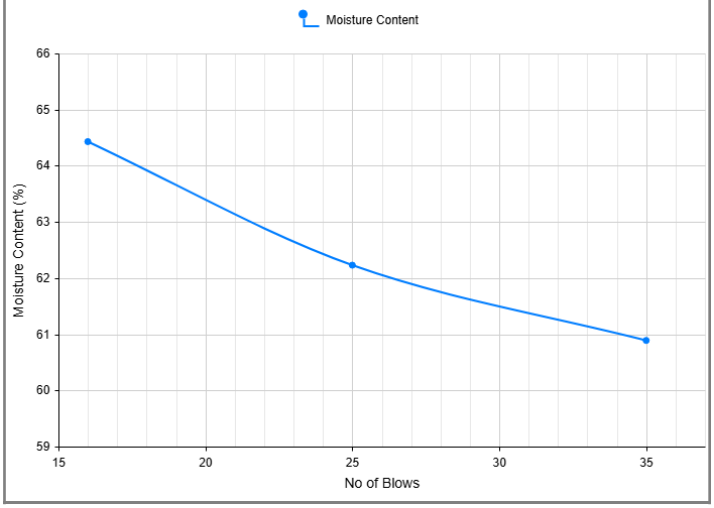
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 10/30/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

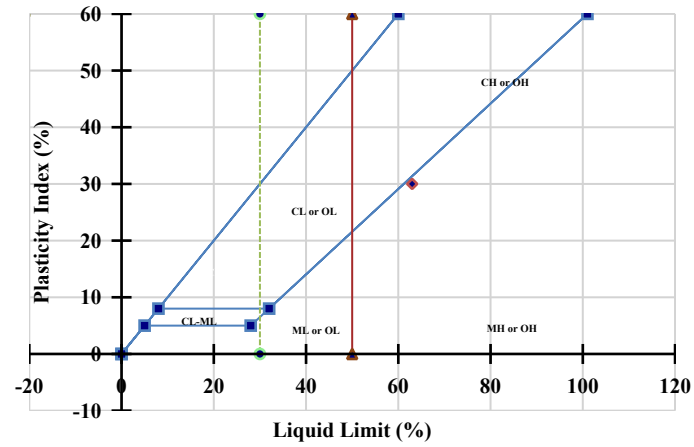
Test Procedure: ASTM D4318
Boring No: B-1 **Depth (ft):** 4-6
Sample Source/Location: Boring Sample / In-Situ
Sample Description / Classification: Strong Brown 7.5YR 5/6
Soil Description: Elastic Silt
Specimen Preparation: Dry (Air) **Mixing Water:** Distilled
Method of Removing Particles > #40 sieve: Dry Sieved on No 40 Sieve
Rolling Procedure: Mechanical Rolling Device **LL Apparatus:** Mechanical **Grooving Tool:** Plastic
Retained #40 Sieve (%) (Calculated) : 2.40

GRAPHICAL SUMMARY

Flow Curve



Plasticity Chart



TEST RESULTS

Liquid Limit (LL): **63**	Plastic Limit (PL): **33**	Plasticity Index (PI): **30**	USCS: **MH** AASHTO: **A-7-5**

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687



Alejandro Torres, P.E.
Engineer (#28734)
GEO-Engineering
Date Signed: 11/03/2026 10:50 AM

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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 001-L2

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 10/30/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

ASTM D4318 / AASHTO T89 & 90					
	Liquid Limit (s)			Plastic Limit (s)	
	Trial 1	Trial 2	Trial 3	Trial 1	Trial 2
Number of Blows	35	25	16		
Tare No.	33	52	53	63	78
Tare Mass (g)	31.43	31.41	31.19	31.86	31.44
Tare + Wet Soil (g)	52.86	52.37	53.01	40.85	40.08
Tare + Dry Soil (g)	44.75	44.33	44.46	38.65	37.95
Mass of Dry Soil (g)	13.32	12.92	13.27	6.79	6.51
Mass of Water (g)	8.11	8.04	8.55	2.2	2.13
Moisture Content (%)	60.89	62.23	64.43	32.4	32.72

GEO | geotechnical engineering construction materials testing

Wash 200 Analysis (ASTM D1140/D2216)

Report #: 001-L3

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 10/30/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-1 **Depth (ft):** 4-6
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Strong brown - 7.5YR 5/6
Test Procedure: ASTM D1140

MOISTURE CONTENT & PERCENT FINES (ASTM D1140/D2216)

MOISTURE CONTENT & PERCENT FINES		
Pan #	103	
Pan Weight (g)	271.5	
MOISTURE CONTENT		
Wet Weight (g)	562.6	291.1
Original Dry Mass (g)	562.6	291.1
Moisture Percent (%)	0.00	
PERCENT FINES		
Dry Weight (g)	562.6	291.1
Dry Mass Retained on the (No. 200)	298.3	26.8
Percentage of material finer than the 75-µm (No 200) (%)	90.8	
Recorded according to ASTM D6026	[X]	
Test Method	Method B (Cohesive Soils)	
Soaking Time (min)	120	
Test performed with the alternative method	[ ]	

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

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Date Signed: 11/03/2026 10:50 AM

Notes: The results above apply only to the specific samples noted using the aforementioned test method(s) and do not represent any other sample. Reports may not be reproduced except in full without permission.

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Sample Soil Pickup

Report #: 002

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 10/30/2026 **Field Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

FIELD DATA

No. of Samples / Sets: 3
Sample Source/Location: Boring Sample/In-Situ
Boring No: B-1 **Depth (ft):** 18-20
Sample Description / Classification: Pinkish gray - 7.5YR 7/2

SUMMARY OF WORK PERFORMED

LAB TEST SUMMARY

No	Test	Test Method	Status
002-L1	Sieve Test	ASTM D6913 (Sieve)	Completed
002-L2	Atterberg (ASTM4318 / AASHTO T89 & 90)	ASTM D4318	Completed
002-L3	Wash 200 Analysis (ASTM D1140/D2216)	ASTM D1140	Completed

Note: All completed lab tests are attached below.

Report Copied to: Yanira Rivera Ortiz

Field Representative: GEO FIELDTECH

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Engineer (#28734)
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Sieve Test

Report #: 002-L1

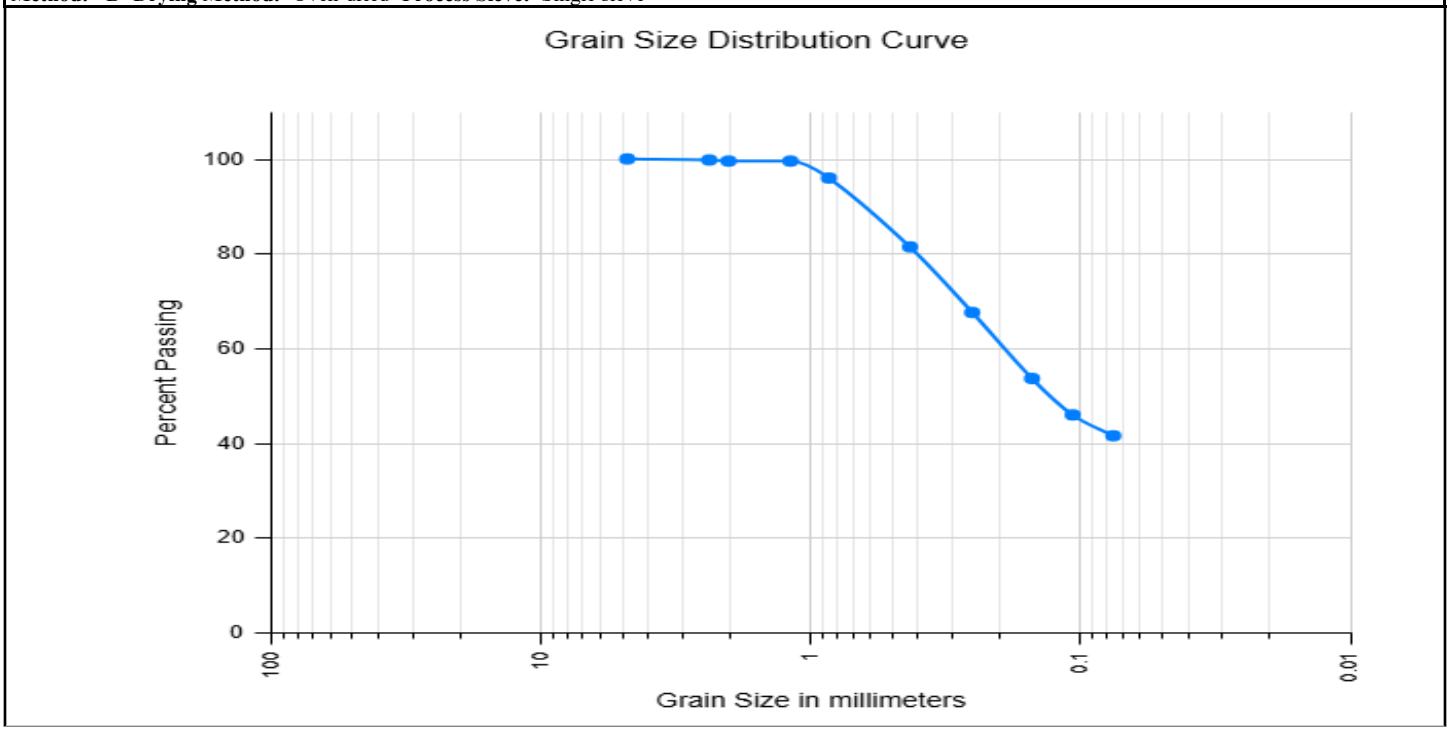
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 10/30/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-1 **Depth (ft):** 18-20
Test Procedure: ASTM D6913 (Sieve)
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Pinkish gray - 7.5YR 7/2

SIEVE ANALYSIS AND TEST RESULTS

Composite Sieve :			**Maximum Particle Size (g) :**								
Tare Wt (g)	272.4	**Tare #**	147	**Moisture Content (%)**	0.00			**Dry Wt.+ Tare (g)**	821.3		
Water Wt	0.00	**Wet Wt.+ Tare (g)**	821.3	**Dry Wt (g)**	548.90						
Sample Washed	X Yes ☐ No	**Dry Wt.+Tare after Wash**	595.3	**Wt of Soil After Wash**	322.9	**Wash Loss**	226	**Passing #200 from Wash**	41.17		
Method: B **Drying Method:** Oven-dried **Process Sieve:** Single sieve											



Sieve Sizes	Wt. Retained (g)	% Retained	% Passing	% Passing Spec Limits
#4 (4.75mm)		0.0	100.0	
#8 (2.36mm)	1.1	0.2	99.8	
#10 (2mm)	2.0	0.4	99.6	
#16 (1.18mm)	2.0	0.4	99.6	
#20 (0.85mm)	22.0	4.0	96.0	
#40 (0.425mm)	101.9	18.6	81.4	
#60 (0.25mm)	178.0	32.4	67.6	
#100 (0.15mm)	254.7	46.4	53.6	
#140 (0.106mm)	296.8	54.1	45.9	
#200 (0.075mm)	321.1	58.5	41.5	

Material

% Gravel	% Sand	% Fines
0.0	58.5	41.5

Atterberg Limits

PL = 27 LL = 38 PI = 11

Coefficients

D_{60} = 0.19 D_{10} = Cc =
D_{30} = Cu =

Soil Classification

USCS	AASHTO
SM	A-6

Silty Sand

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Sieve Test

Report #: 002-L1

Client: Administración de Servicios Médicos de Puerto Rico (ASEM)
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico
Location: Centro Médico de Puerto Rico, San Juan, PR

Report Date: 10/30/2026 **Sample Date:** 09/29/2026
Project #: SB72-26-BD-SJU

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687



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Date Signed: 11/03/2026 10:50 AM

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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 002-L2

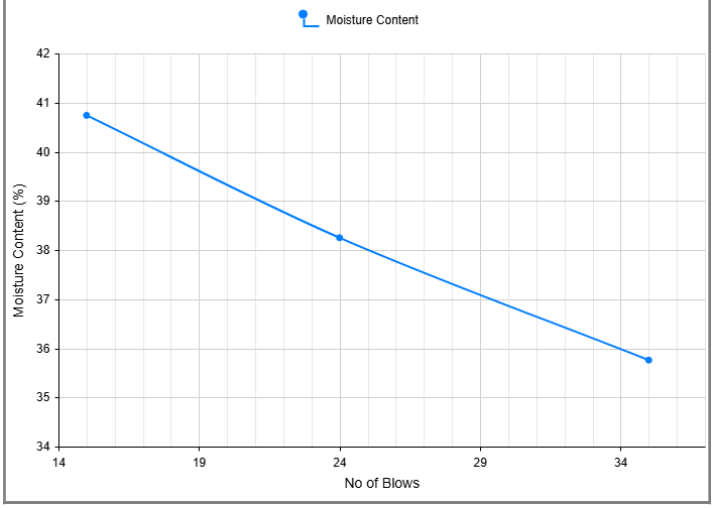
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 10/30/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

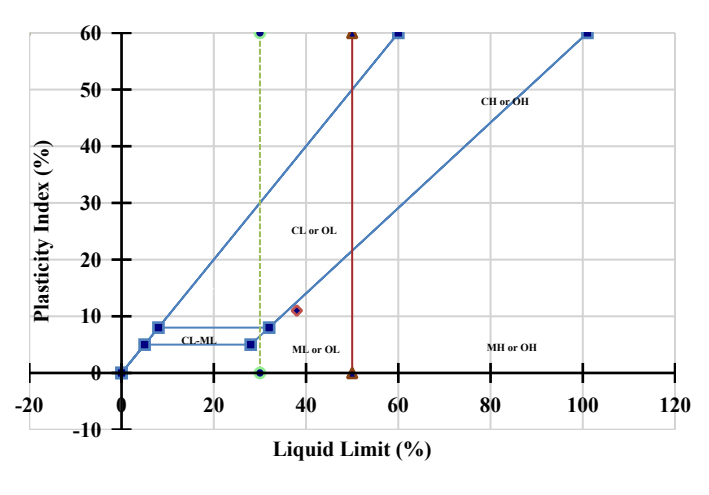
Test Procedure: ASTM D4318
Boring No: B-1 **Depth (ft):** 18-20
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Pinkish gray - 7.5YR 7/2
Soil Description: Silty Sand
Specimen Preparation: Dry (Air) **Mixing Water:** Distilled
Method of Removing Particles > #40 sieve: Dry Sieved on No 40 Sieve
Rolling Procedure: Mechanical Rolling Device **LL Apparatus:** Mechanical **Grooving Tool:** Metal
Retained #40 Sieve (%) (Calculated) : 18.60

GRAPHICAL SUMMARY

Flow Curve



Plasticity Chart



TEST RESULTS

Liquid Limit (LL): **38**	Plastic Limit (PL): **27**	Plasticity Index (PI): **11**	USCS: **SM** AASHTO: **A-6**

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

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Date Signed: 11/03/2026 10:50 AM

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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 002-L2

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 10/30/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

ASTM D4318 / AASHTO T89 & 90					
	Liquid Limit (s)			Plastic Limit (s)	
	Trial 1	Trial 2	Trial 3	Trial 1	Trial 2
Number of Blows	35	24	15		
Tare No.	10	13	22	23	30
Tare Mass (g)	31.38	31.51	31.4	31.45	31.41
Tare + Wet Soil (g)	55.22	55.15	56.48	41.11	41.05
Tare + Dry Soil (g)	48.94	48.61	49.22	39.05	39.06
Mass of Dry Soil (g)	17.56	17.1	17.82	7.6	7.65
Mass of Water (g)	6.28	6.54	7.26	2.06	1.99
Moisture Content (%)	35.76	38.25	40.74	27.11	26.01

GEO | geotechnical engineering construction materials testing

Wash 200 Analysis (ASTM D1140/D2216)

Report #: 002-L3

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 10/30/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-1 **Depth (ft):** 18-20
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Pinkish gray - 7.5YR 7/2
Test Procedure: ASTM D1140

MOISTURE CONTENT & PERCENT FINES (ASTM D1140/D2216)

MOISTURE CONTENT & PERCENT FINES		
Pan #	147	
Pan Weight (g)	272.4	
MOISTURE CONTENT		
Wet Weight (g)	821.3	548.9
Original Dry Mass (g)	821.3	548.9
Moisture Percent (%)	0.00	
PERCENT FINES		
Dry Weight (g)	821.3	548.9
Dry Mass Retained on the (No. 200)	595.2	322.8
Percentage of material finer than the 75-µm (No 200) (%)	41.2	
Recorded according to ASTM D6026	[X]	
Test Method	Method B (Cohesive Soils)	
Soaking Time (min)	120	
Test performed with the alternative method	[ ]	

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

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Puerto Rico

Alejandro Torres, P.E.
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Date Signed: 11/03/2026 10:50 AM

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GEO | geotechnical engineering construction materials testing

Sample Soil Pickup

Report #: 003

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 10/30/2026 **Field Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

FIELD DATA

No. of Samples / Sets: 3
Sample Source/Location: Boring Sample/In-Situ
Boring No: B-1 **Depth (ft):** 28-30
Sample Description / Classification: Brownish yellow - 10YR 6/8

SUMMARY OF WORK PERFORMED

LAB TEST SUMMARY

No	Test	Test Method	Status
003-L1	Sieve Test	ASTM D6913 (Sieve)	Completed
003-L2	Atterberg (ASTM4318 / AASHTO T89 & 90)	ASTM D4318	Completed
003-L3	Wash 200 Analysis (ASTM D1140/D2216)	ASTM D1140	Completed

Note: All completed lab tests are attached below.

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Field Representative: GEO FIELDTECH

Alejandro E Torres Quiñones
Ingeniero Licenciado
Lic. 28734 PE
Puerto Rico

Alejandro Torres, P.E.
Engineer (#28734)
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Date Signed: 11/03/2026 10:50 AM

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Sieve Test

Report #: 003-L1

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 10/30/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

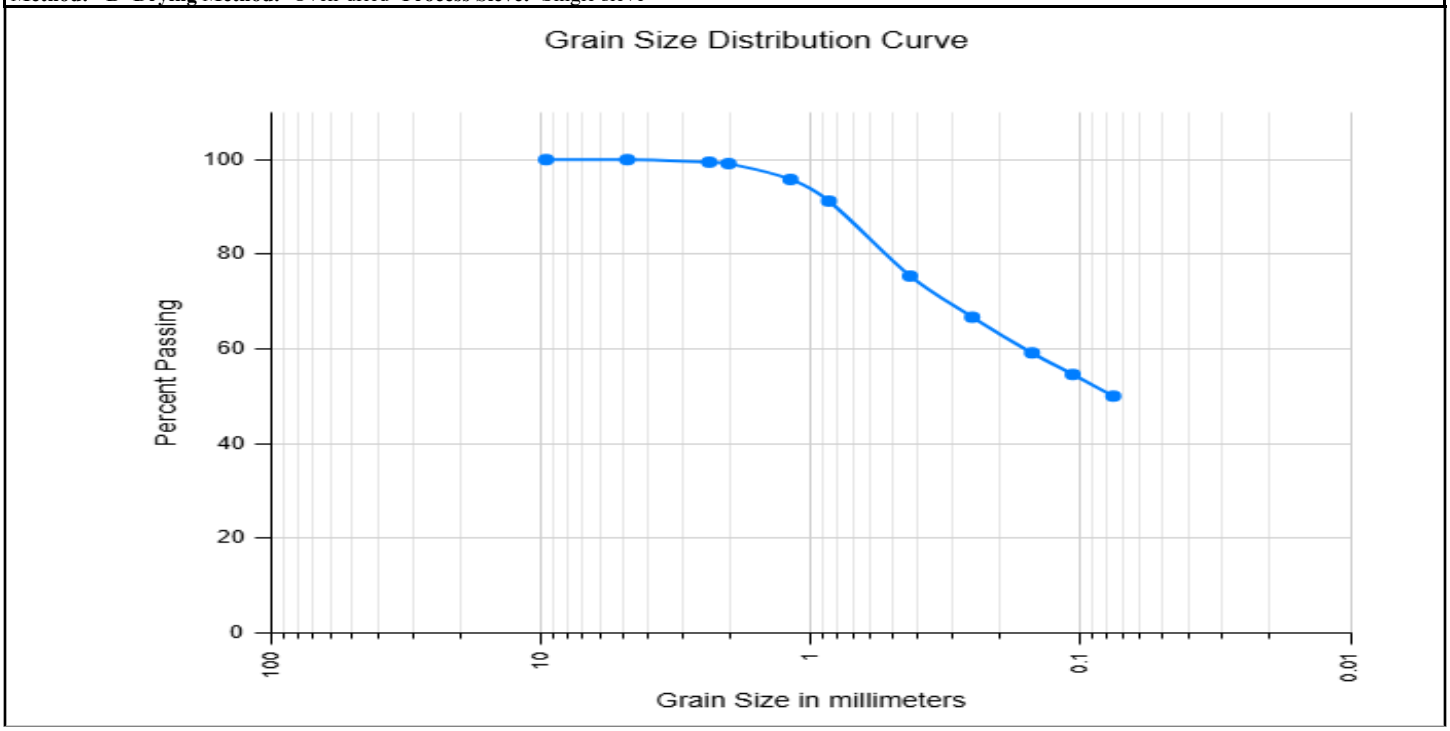
SAMPLE DATA

Boring No: B-1 **Depth (ft):** 28-30
Test Procedure: ASTM D6913 (Sieve)
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Brownish yellow - 10YR 6/8

SIEVE ANALYSIS AND TEST RESULTS

Composite Sieve :		**Maximum Particle Size (g) :**							
Tare Wt (g)	274.8	**Tare #**	128	**Moisture Content (%)**	0.00			**Dry Wt.+ Tare (g)**	714.8
Water Wt	0.00	**Wet Wt.+ Tare (g)**	714.8	**Dry Wt (g)**	440.00				
Sample Washed	X Yes ☐ No	**Dry Wt.+Tare after Wash**	499	**Wt of Soil After Wash**	224.2	**Wash Loss**	215.8	**Passing #200 from Wash**	49.05

Method: B **Drying Method:** Oven-dried **Process Sieve:** Single sieve



Sieve Sizes	Wt. Retained (g)	% Retained	% Passing	% Passing Spec Limits
3/8 in (9.5mm)	0.3	0.1	99.9	
#4 (4.75mm)	0.3	0.1	99.9	
#8 (2.36mm)	3.0	0.7	99.3	
#10 (2mm)	4.5	1.0	99.0	
#16 (1.18mm)	19.0	4.3	95.7	
#20 (0.85mm)	39.2	8.9	91.1	
#40 (0.425mm)	108.8	24.7	75.3	
#60 (0.25mm)	146.9	33.4	66.6	
#100 (0.15mm)	180.6	41.0	59.0	
#140 (0.106mm)	200.0	45.5	54.5	
#200 (0.075mm)	220.3	50.1	49.9	

Material

% Gravel	% Sand	% Fines
0.1	50.0	49.9

Atterberg Limits

PL = 23 **LL =** 57 **PI =** 34

Coefficients

D_{60} = 0.16 D_{10} = Cc =
D_{30} = Cu =

Soil Classification

USCS	AASHTO
SC	A-7-6

Clayey Sand

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Sieve Test

Report #: 003-L1

Client: Administración de Servicios Médicos de Puerto Rico (ASEM)
Report Date: 10/30/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico
Project #: SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

Report Copied to: Yanira Rivera Ortiz

Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687



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Date Signed: 11/03/2026 10:50 AM

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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 003-L2

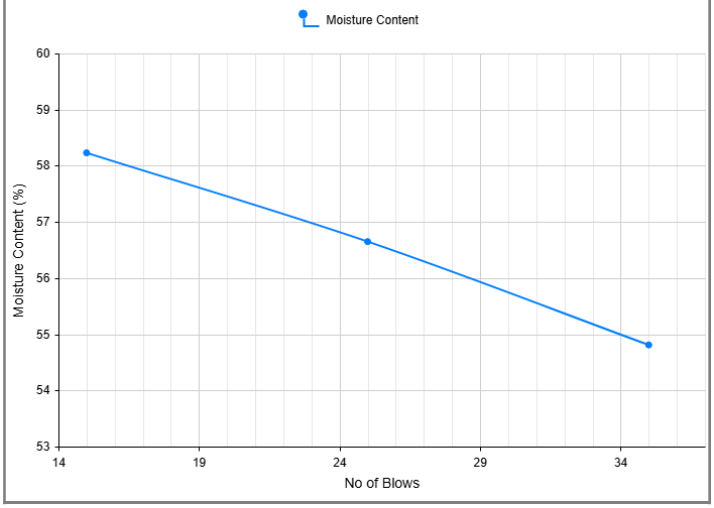
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 10/30/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

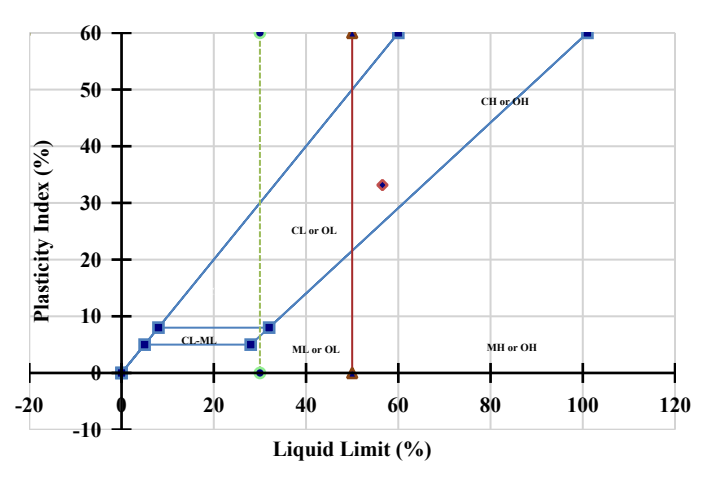
Test Procedure: ASTM D4318
Boring No: B-1 **Depth (ft):** 28-30
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Brownish yellow - 10YR 6/8
Soil Description: Clayey Sand
Specimen Preparation: Dry (Air) **Mixing Water:** Distilled
Method of Removing Particles > #40 sieve: Dry Sieved on No 40 Sieve
Rolling Procedure: Mechanical Rolling Device **LL Apparatus:** Mechanical **Grooving Tool:** Plastic
Retained #40 Sieve (%) (Calculated) : 24.70

GRAPHICAL SUMMARY

Flow Curve



Plasticity Chart



TEST RESULTS

Liquid Limit (LL): **57**	Plastic Limit (PL): **23**	Plasticity Index (PI): **34**	USCS: **SC** AASHTO: **A-7-6**

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 003-L2

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 10/30/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

ASTM D4318 / AASHTO T89 & 90					
	Liquid Limit (s)			Plastic Limit (s)	
	Trial 1	Trial 2	Trial 3	Trial 1	Trial 2
Number of Blows	35	25	15		
Tare No.	33	52	53	63	78
Tare Mass (g)	31.44	31.41	31.2	31.86	31.5
Tare + Wet Soil (g)	51.55	52.15	51.88	40.42	40.28
Tare + Dry Soil (g)	44.43	44.65	44.27	38.84	38.57
Mass of Dry Soil (g)	12.99	13.24	13.07	6.98	7.07
Mass of Water (g)	7.12	7.5	7.61	1.58	1.71
Moisture Content (%)	54.81	56.65	58.23	22.64	24.19

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Wash 200 Analysis (ASTM D1140/D2216)

Report #: 003-L3

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 10/30/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-1 **Depth (ft):** 28-30
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Brownish yellow - 10YR 6/8
Test Procedure: ASTM D1140

MOISTURE CONTENT & PERCENT FINES (ASTM D1140/D2216)

MOISTURE CONTENT & PERCENT FINES		
Pan #	128	
Pan Weight (g)	274.8	
MOISTURE CONTENT		
Wet Weight (g)	714.8	440
Original Dry Mass (g)	714.8	440
Moisture Percent (%)	0.00	
PERCENT FINES		
Dry Weight (g)	714.8	440
Dry Mass Retained on the (No. 200)	499	224.2
Percentage of material finer than the 75-µm (No 200) (%)	49.0	
Recorded according to ASTM D6026	[X]	
Test Method	Method B (Cohesive Soils)	
Soaking Time (min)	120	
Test performed with the alternative method	[ ]	

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687



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Sample Soil Pickup

Report #: 004

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Field Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

FIELD DATA

No. of Samples / Sets: 3
Sample Source/Location: Boring Sample/In-Situ
Boring No: B-1 **Depth (ft):** 38-40
Sample Description / Classification: Light olive gray - 5Y 6/2

SUMMARY OF WORK PERFORMED

LAB TEST SUMMARY

No	Test	Test Method	Status
004-L1	Sieve Test	ASTM D6913 (Sieve)	Completed
004-L2	Atterberg (ASTM4318 / AASHTO T89 & 90)	ASTM D4318	Completed
004-L3	Wash 200 Analysis (ASTM D1140/D2216)	ASTM D1140	Completed

Note: All completed lab tests are attached below.

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Field Representative: GEO FIELDTECH

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Sieve Test

Report #: 004-L1

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

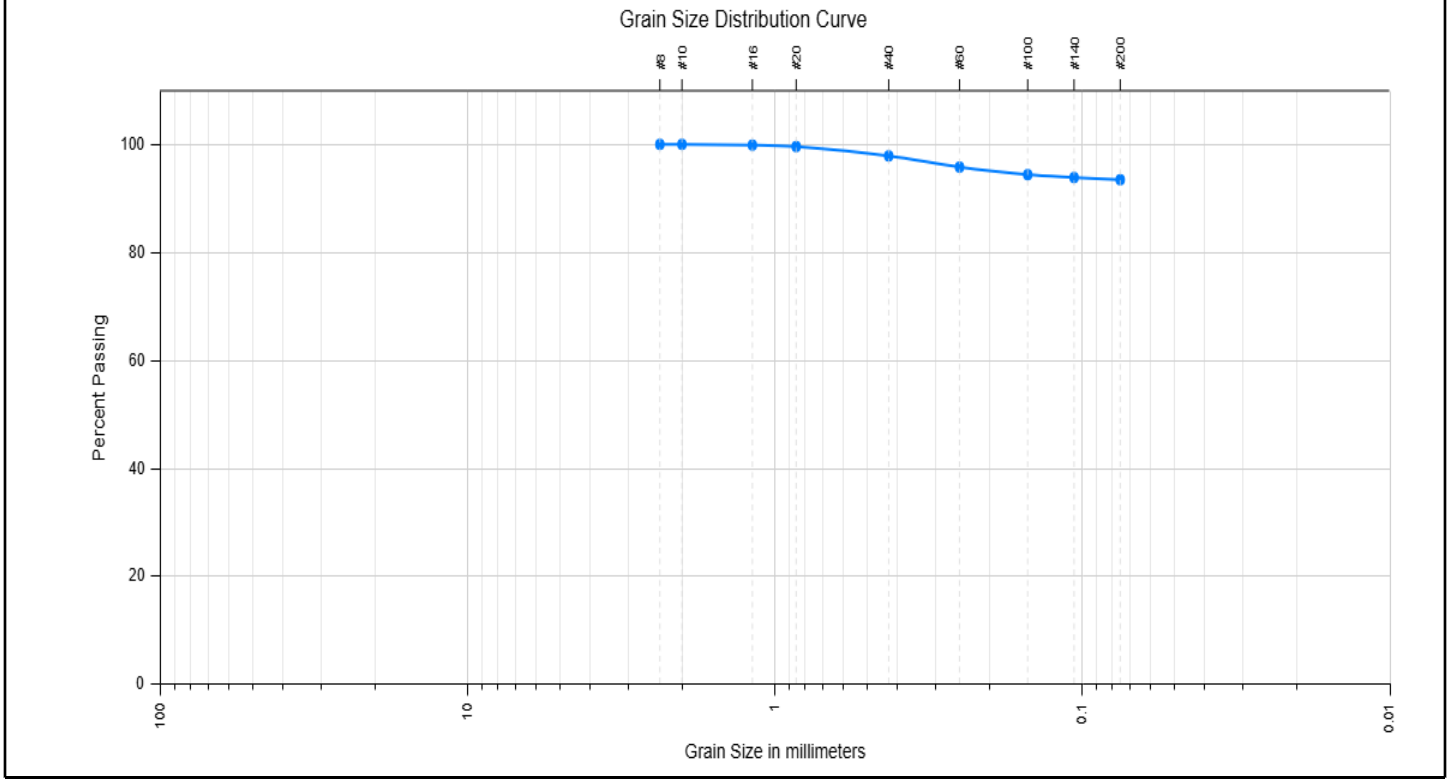
SAMPLE DATA

Boring No: B-1 **Depth (ft):** 38-40
Test Procedure: ASTM D6913 (Sieve)
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Light olive gray - 5Y 6/2

SIEVE ANALYSIS AND TEST RESULTS

Composite Sieve :		**Maximum Particle Size (g) :**							
Tare Wt (g)	271.5	**Tare #**	109	**Moisture Content (%)**	0.00			**Dry Wt.+ Tare (g)**	831.7
Water Wt	0.00	**Wet Wt.+ Tare (g)**	831.7	**Dry Wt (g)**	560.20				
Sample Washed	X Yes ☐ No	**Dry Wt.+Tare after Wash**	308.3	**Wt of Soil After Wash**	36.8	**Wash Loss**	523.4	**Passing #200 from Wash**	93.43

Method: B **Drying Method:** Oven-dried **Process Sieve:** Single sieve



Sieve Sizes	Wt. Retained (g)	% Retained	% Passing	% Passing Spec Limits
#8 (2.36mm)		0.0	100.0	
#10 (2mm)		0.0	100.0	
#16 (1.18mm)	0.8	0.1	99.9	
#20 (0.85mm)	2.5	0.4	99.6	
#40 (0.425mm)	11.9	2.1	97.9	
#60 (0.25mm)	23.8	4.2	95.8	
#100 (0.15mm)	31.1	5.6	94.4	
#140 (0.106mm)	33.9	6.1	93.9	
#200 (0.075mm)	36.4	6.5	93.5	

Material

% Gravel	% Sand	% Fines
0.0	6.5	93.5

Atterberg Limits

PL = 18 **LL =** 52 **PI =** 34

Coefficients

D_{60} = 0.00 D_{10} = Cc =
D_{30} = Cu =

Soil Classification

USCS	AASHTO
CH	A-7-6

Fat Clay

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Sieve Test

Report #: 004-L1

Client: Administración de Servicios Médicos de Puerto Rico (ASEM)
Report Date: 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico
Project #: SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687



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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 004-L2

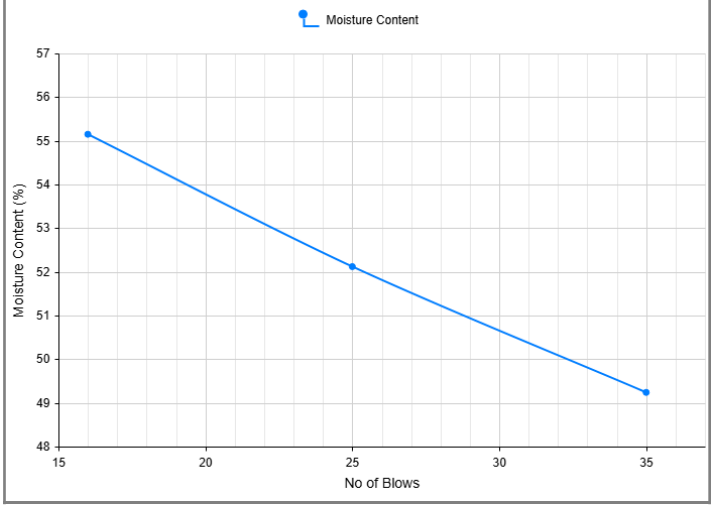
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

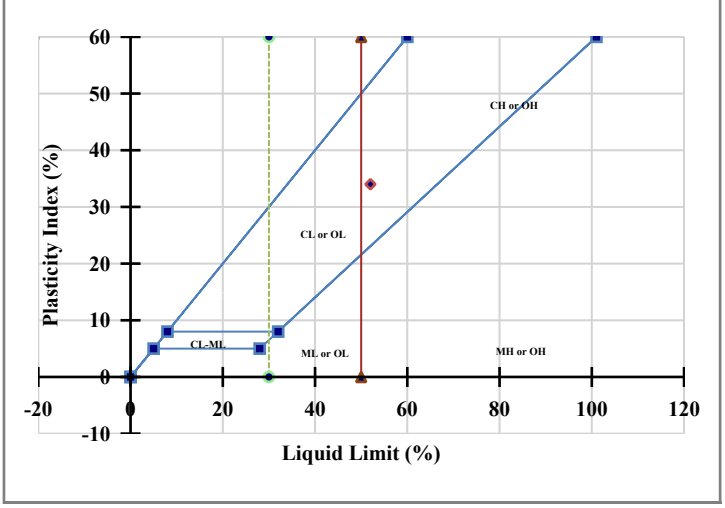
Test Procedure: ASTM D4318
Boring No: B-1 **Depth (ft):** 38-40
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Light olive gray - 5Y 6/2
Soil Description: Fat Clay
Specimen Preparation: Dry (Air) **Mixing Water:** Distilled
Method of Removing Particles > #40 sieve: Dry Sieved on No 40 Sieve
Rolling Procedure: Mechanical Rolling Device **LL Apparatus:** Mechanical **Grooving Tool:** Plastic
Retained #40 Sieve (%) (Calculated) : 2.10

GRAPHICAL SUMMARY

Flow Curve



Plasticity Chart



TEST RESULTS

Liquid Limit (LL): **52**	Plastic Limit (PL): **18**	Plasticity Index (PI): **34**	USCS: **CH** AASHTO: **A-7-6**

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687



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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 004-L2

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

ASTM D4318 / AASHTO T89 & 90					
	Liquid Limit (s)			Plastic Limit (s)	
	Trial 1	Trial 2	Trial 3	Trial 1	Trial 2
Number of Blows	35	25	16		
Tare No.	26	45	46	65	66
Tare Mass (g)	31.48	31.35	31.27	31.41	31.33
Tare + Wet Soil (g)	55	55.05	55.83	38.83	39.91
Tare + Dry Soil (g)	47.24	46.93	47.1	37.69	38.58
Mass of Dry Soil (g)	15.76	15.58	15.83	6.28	7.25
Mass of Water (g)	7.76	8.12	8.73	1.14	1.33
Moisture Content (%)	49.24	52.12	55.15	18.15	18.34

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Wash 200 Analysis (ASTM D1140/D2216)

Report #: 004-L3

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-1 **Depth (ft):** 38-40
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Light olive gray - 5Y 6/2
Test Procedure: ASTM D1140

MOISTURE CONTENT & PERCENT FINES (ASTM D1140/D2216)

MOISTURE CONTENT & PERCENT FINES		
Pan #	109	
Pan Weight (g)	271.6	
MOISTURE CONTENT		
Wet Weight (g)	831.7	560.1
Original Dry Mass (g)	831.7	560.1
Moisture Percent (%)	0.00	
PERCENT FINES		
Dry Weight (g)	831.7	560.1
Dry Mass Retained on the (No. 200)	308.3	36.7
Percentage of material finer than the 75-µm (No 200) (%)	93.4	
Recorded according to ASTM D6026	[X]	
Test Method	Method B (Cohesive Soils)	
Soaking Time (min)	120	
Test performed with the alternative method	[ ]	

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

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Sample Soil Pickup

Report #: 005

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Field Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

FIELD DATA

No. of Samples / Sets: 3
Sample Source/Location: Boring Sample/In-Situ
Boring No: B-2 **Depth (ft):** 4-6
Sample Description / Classification: Red - 2.5YR 5/8

SUMMARY OF WORK PERFORMED

LAB TEST SUMMARY

No	Test	Test Method	Status
005-L1	Sieve Test	ASTM D6913 (Sieve)	Completed
005-L2	Atterberg (ASTM4318 / AASHTO T89 & 90)	ASTM D4318	Completed
005-L3	Wash 200 Analysis (ASTM D1140/D2216)	ASTM D1140	Completed

Note: All completed lab tests are attached below.

Report Copied to: Yanira Rivera Ortiz

Field Representative: GEO FIELDTECH

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Sieve Test

Report #: 005-L1

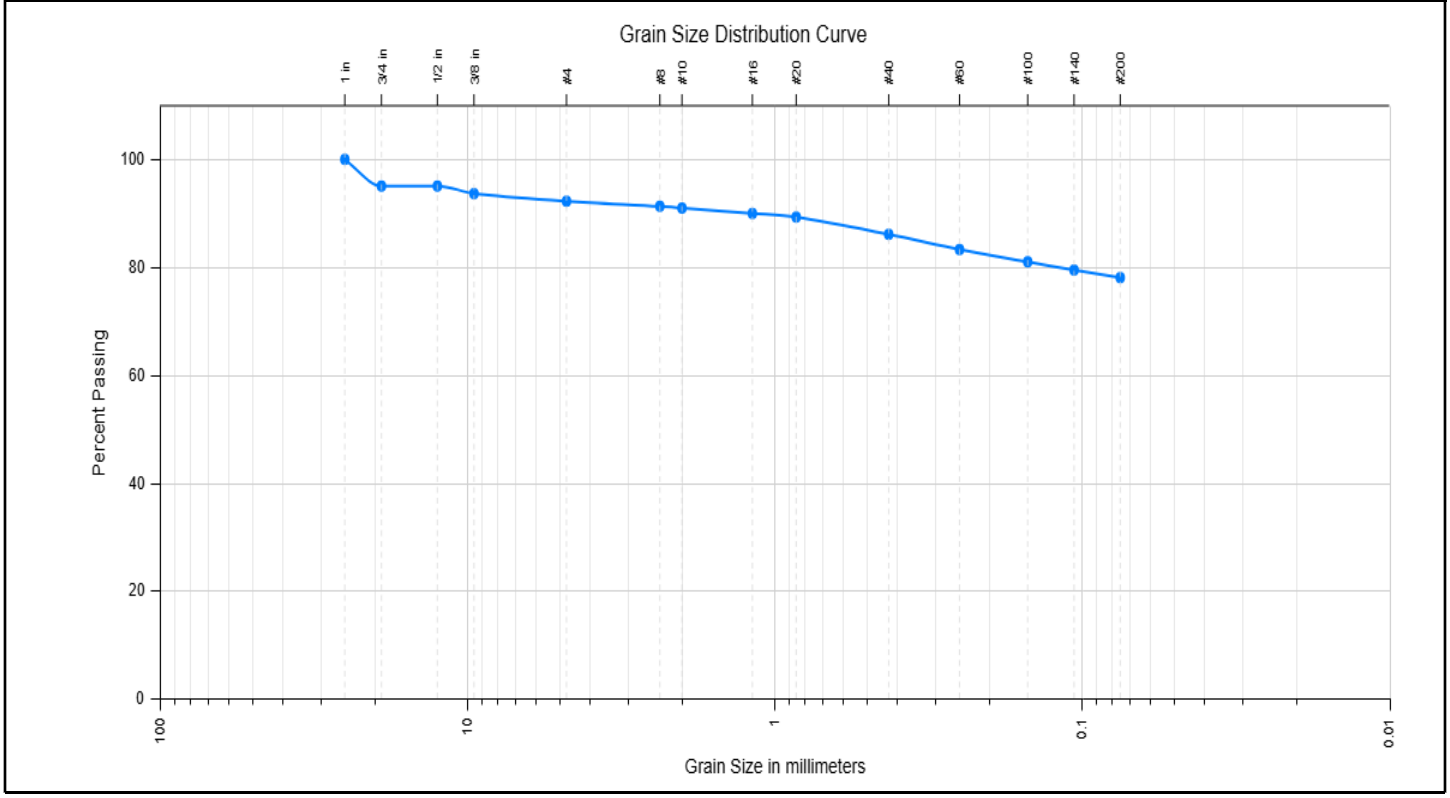
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-2 **Depth (ft):** 4-6
Test Procedure: ASTM D6913 (Sieve)
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Red - 2.5YR 5/8

SIEVE ANALYSIS AND TEST RESULTS

Composite Sieve :			**Maximum Particle Size (g) :**								
Tare Wt (g)	275.3	**Tare #**	129	**Moisture Content (%)**	0.00			**Dry Wt.+ Tare (g)**	593.1		
Water Wt	0.00	**Wet Wt.+ Tare (g)**	593.1	**Dry Wt (g)**	317.8						
Sample Washed	X Yes ☐ No	**Dry Wt.+Tare after Wash**	346.2	**Wt of Soil After Wash**	70.9	**Wash Loss**	246.9	**Passing #200 from Wash**	77.69		
Method: B **Drying Method:** Oven-dried **Process Sieve:** Single sieve											



Sieve Sizes	Wt. Retained (g)	% Retained	% Passing	% Passing Spec Limits
1 in (25mm)		0.0	100.0	
3/4 in (19mm)	15.6	4.9	95.1	
1/2 in (12.5mm)		0.0	95.1	
3/8 in (9.5mm)	20.4	6.3	93.7	
#4 (4.75mm)	24.7	7.7	92.3	
#8 (2.36mm)	28.1	8.7	91.3	
#10 (2mm)	28.9	9.0	91.0	
#16 (1.18mm)	32.0	10.0	90.0	
#20 (0.85mm)	34.4	10.7	89.3	
#40 (0.425mm)	44.6	13.9	86.1	
#60 (0.25mm)	53.6	16.7	83.3	

Material

% Gravel	% Sand	% Fines
7.7	14.2	78.1

Atterberg Limits

PL = 36 **LL =** 89 **PI =** 53

Coefficients

D_{60} = 0.00 D_{10} = **Cc =**
D_{30} = **Cu =**

Soil Classification

USCS	AASHTO
CH	A-7-5

Fat Clay with Sand

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Sieve Test

Report #: 005-L1

Client: Administración de Servicios Médicos de Puerto Rico (ASEM)
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico
Location: Centro Médico de Puerto Rico, San Juan, PR

Report Date: 11/02/2026 **Sample Date:** 09/29/2026
Project #: SB72-26-BD-SJU

Sieve Sizes	Wt. Retained (g)	% Retained	% Passing	% Passing Spec Limits
#100 (0.15mm)	61.2	19.0	81.0	
#140 (0.106mm)	66.0	20.5	79.5	
#200 (0.075mm)	70.3	21.9	78.1	

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687



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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 005-L2

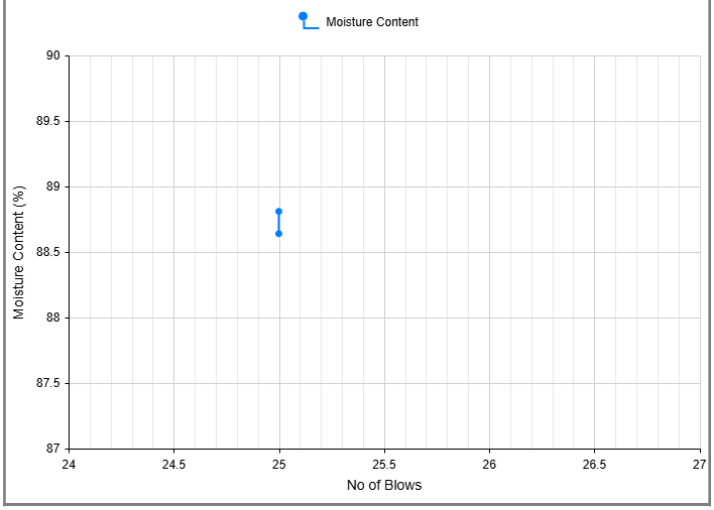
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

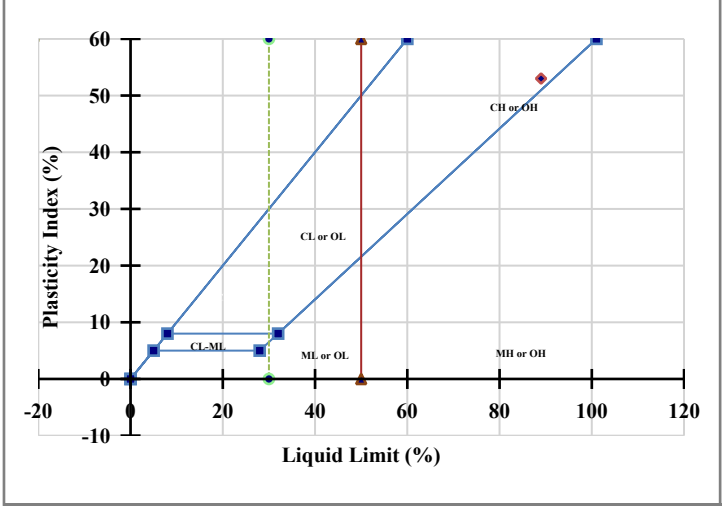
Test Procedure: ASTM D4318
Boring No: B-2 **Depth (ft):** 4-6
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Red - 2.5YR 5/8
Soil Description: Fat Clay with Sand
Specimen Preparation: Dry (Air) **Mixing Water:** Distilled
Method of Removing Particles > #40 sieve: Dry Sieved on No 40 Sieve
Rolling Procedure: Mechanical Rolling Device **LL Apparatus:** Mechanical **Grooving Tool:** Plastic
Retained #40 Sieve (%) (Calculated) : 13.90

GRAPHICAL SUMMARY

Flow Curve



Plasticity Chart



TEST RESULTS

Liquid Limit (LL): **89**	Plastic Limit (PL): **36**	Plasticity Index (PI): **53**	USCS: **CH** AASHTO: **A-7-5**

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

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Alejandro Torres, P.E.
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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 005-L2

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

ASTM D4318 / AASHTO T89 & 90				
	Liquid Limit (s)			Plastic Limit (s)
	Trial 1	Trial 2	Trial 3	Trial 1
Number of Blows	25	25		
Tare No.	75	92		95
Tare Mass (g)	31.09	31.17		31.19
Tare + Wet Soil (g)	52.84	52.94		39.86
Tare + Dry Soil (g)	42.62	42.7		37.55
Mass of Dry Soil (g)	11.53	11.53		6.36
Mass of Water (g)	10.22	10.24		2.31
Moisture Content (%)	88.64	88.81		36.32

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Wash 200 Analysis (ASTM D1140/D2216)

Report #: 005-L3

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-2 **Depth (ft):** 4-6
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Red - 2.5YR 5/8
Test Procedure: ASTM D1140

MOISTURE CONTENT & PERCENT FINES (ASTM D1140/D2216)

MOISTURE CONTENT & PERCENT FINES		
Pan #	129	
Pan Weight (g)	275.3	
MOISTURE CONTENT		
Wet Weight (g)	593.1	317.8
Original Dry Mass (g)	593.1	317.8
Moisture Percent (%)	0.00	
PERCENT FINES		
Dry Weight (g)	593.1	317.8
Dry Mass Retained on the (No. 200)	346.2	70.9
Percentage of material finer than the 75-µm (No 200) (%)	77.7	
Recorded according to ASTM D6026	[X]	
Test Method	Method B (Cohesive Soils)	
Soaking Time (min)	120	
Test performed with the alternative method	[ ]	

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

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Sample Soil Pickup

Report #: 006

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Field Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

FIELD DATA

No. of Samples / Sets: 3
Sample Source/Location: Boring Sample/In-Situ
Boring No: B-2 **Depth (ft):** 18-20
Sample Description / Classification: Light gray - 10YR 7/1

SUMMARY OF WORK PERFORMED

LAB TEST SUMMARY

No	Test	Test Method	Status
006-L1	Sieve Test	ASTM D6913 (Sieve)	Completed
006-L2	Atterberg (ASTM4318 / AASHTO T89 & 90)	ASTM D4318	Completed
006-L3	Wash 200 Analysis (ASTM D1140/D2216)	ASTM D1140	Completed

Note: All completed lab tests are attached below.

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Field Representative: GEO FIELDTECH

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Sieve Test

Report #: 006-L1

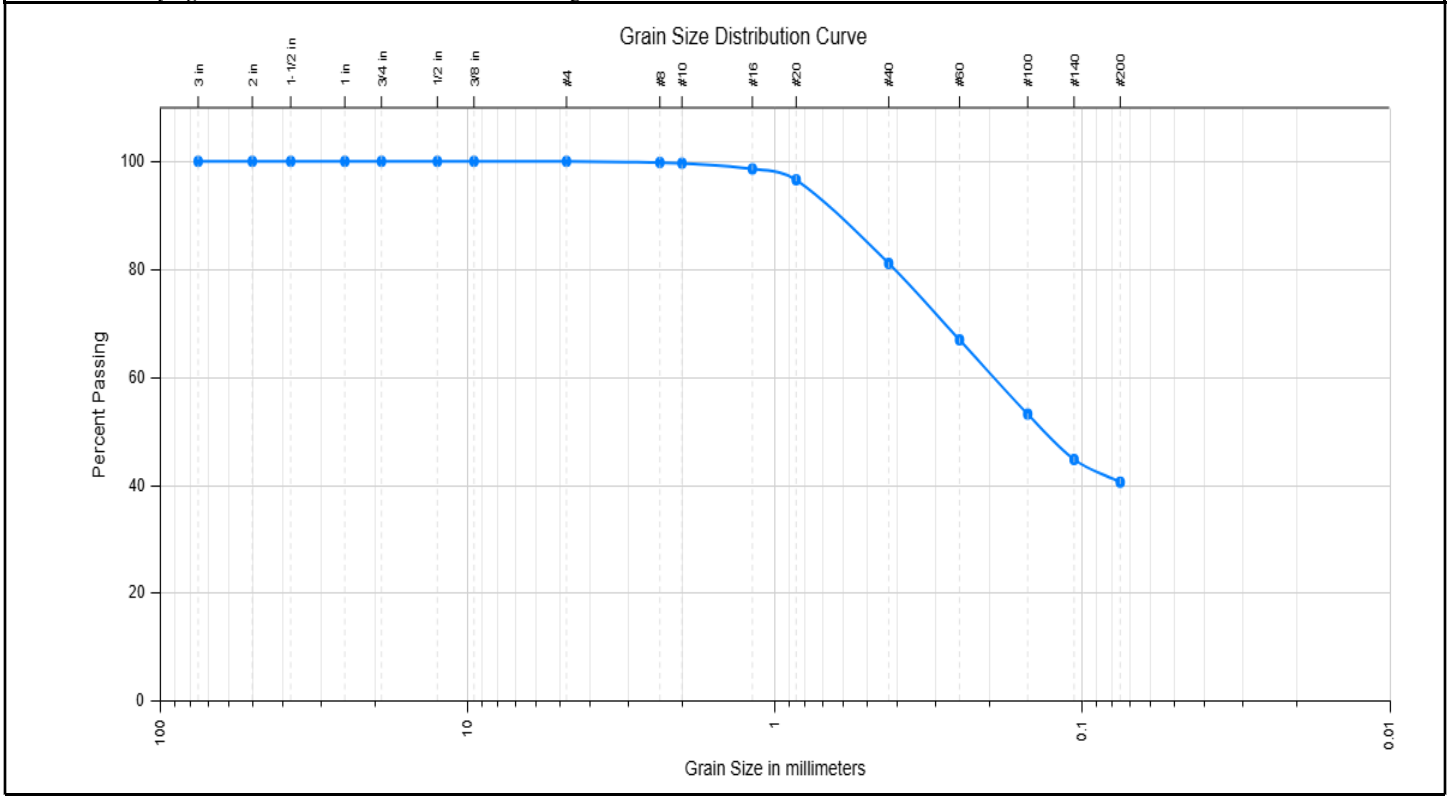
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-2 **Depth (ft):** 18-20
Test Procedure: ASTM D6913 (Sieve)
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Light gray - 10YR 7/1

SIEVE ANALYSIS AND TEST RESULTS

Composite Sieve :			**Maximum Particle Size (g) :**								
Tare Wt (g)	270.2	**Tare #**	101	**Moisture Content (%)**	0.00			**Dry Wt.+ Tare (g)**	584.9		
Water Wt	0.00	**Wet Wt.+ Tare (g)**	584.9	**Dry Wt (g)**	314.70						
Sample Washed	X Yes ☐ No	**Dry Wt.+Tare after Wash**	457.6	**Wt of Soil After Wash**	187.4	**Wash Loss**	127.3	**Passing #200 from Wash**	40.45		
Method: B **Drying Method:** Oven-dried **Process Sieve:** Single sieve											



Sieve Sizes	Wt. Retained (g)	% Retained	% Passing	% Passing Spec Limits
3 in (75mm)		0.0	100.0	
2 in (50mm)		0.0	100.0	
1-1/2 in (37.5mm)		0.0	100.0	
1 in (25mm)		0.0	100.0	
3/4 in (19mm)		0.0	100.0	
1/2 in (12.5mm)		0.0	100.0	
3/8 in (9.5mm)		0.0	100.0	
#4 (4.75mm)		0.0	100.0	
#8 (2.36mm)	0.7	0.2	99.8	
#10 (2mm)	1.0	0.3	99.7	
#16 (1.18mm)	4.5	1.4	98.6	

Material

% Gravel	% Sand	% Fines
0.0	59.5	40.5

Atterberg Limits

PL = 30 **LL =** 42 **PI =** 12

Coefficients

D_{60} = 0.19 D_{10} = **Cc =**
D_{30} = **Cu =**

Soil Classification

USCS	AASHTO
SM	A-7-5

Silty Sand

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Sieve Test

Report #: 006-L1

Client: Administración de Servicios Médicos de Puerto Rico (ASEM)
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico
Location: Centro Médico de Puerto Rico, San Juan, PR

Report Date: 11/02/2026 **Sample Date:** 09/29/2026
Project #: SB72-26-BD-SJU

Sieve Sizes	Wt. Retained (g)	% Retained	% Passing	% Passing Spec Limits
#20 (0.85mm)	10.7	3.4	96.6	
#40 (0.425mm)	59.6	18.9	81.1	
#60 (0.25mm)	104.3	33.1	66.9	
#100 (0.15mm)	147.6	46.9	53.1	
#140 (0.106mm)	174.1	55.3	44.7	
#200 (0.075mm)	187.4	59.5	40.5	

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Cert No:BN# 3242 / TN# 9687



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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 006-L2

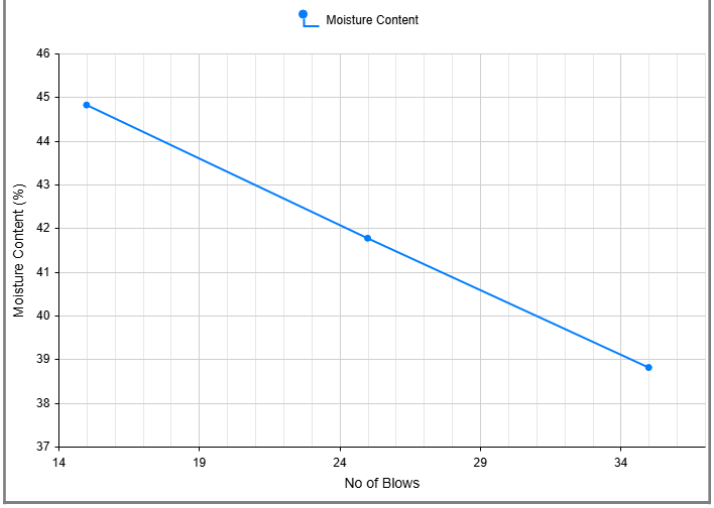
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

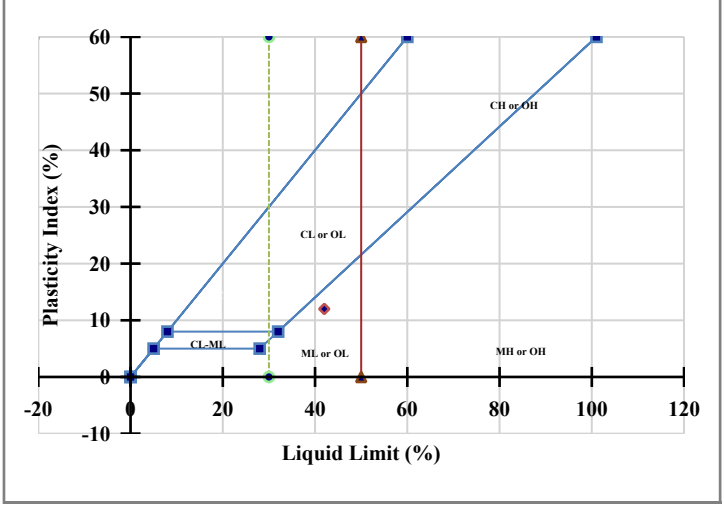
Test Procedure: ASTM D4318
Boring No: B-2 **Depth (ft):** 18-20
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Light gray - 10YR 7/1
Soil Description: Silty Sand
Specimen Preparation: Dry (Air) **Mixing Water:** Distilled
Method of Removing Particles > #40 sieve: Dry Sieved on No 40 Sieve
Rolling Procedure: Mechanical Rolling Device **LL Apparatus:** Mechanical **Grooving Tool:** Metal
Retained #40 Sieve (%) (Calculated) : 18.90

GRAPHICAL SUMMARY

Flow Curve



Plasticity Chart



TEST RESULTS

Liquid Limit (LL): **42**	Plastic Limit (PL): **30**	Plasticity Index (PI): **12**	USCS: **SM** AASHTO: **A-7-5**

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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 006-L2

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

ASTM D4318 / AASHTO T89 & 90					
	Liquid Limit (s)			Plastic Limit (s)	
	Trial 1	Trial 2	Trial 3	Trial 1	Trial 2
Number of Blows	35	25	15		
Tare No.	6	9	20	31	41
Tare Mass (g)	31.22	31.69	31.6	31.3	31.32
Tare + Wet Soil (g)	56.08	56.23	56.61	41.48	41.31
Tare + Dry Soil (g)	49.13	49	48.87	39.12	39.01
Mass of Dry Soil (g)	17.91	17.31	17.27	7.82	7.69
Mass of Water (g)	6.95	7.23	7.74	2.36	2.3
Moisture Content (%)	38.81	41.77	44.82	30.18	29.91

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Wash 200 Analysis (ASTM D1140/D2216)

Report #: 006-L3

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-2 **Depth (ft):** 18-20
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Light gray - 10YR 7/1
Test Procedure: ASTM D1140

MOISTURE CONTENT & PERCENT FINES (ASTM D1140/D2216)

MOISTURE CONTENT & PERCENT FINES		
Pan #	101	
Pan Weight (g)	270.1	
MOISTURE CONTENT		
Wet Weight (g)	584.9	314.8
Original Dry Mass (g)	584.9	314.8
Moisture Percent (%)	0.00	
PERCENT FINES		
Dry Weight (g)	584.9	314.8
Dry Mass Retained on the (No. 200)	457.6	187.5
Percentage of material finer than the 75-µm (No 200) (%)	40.4	
Recorded according to ASTM D6026	[X]	
Test Method	Method B (Cohesive Soils)	
Soaking Time (min)	120	
Test performed with the alternative method	[ ]	

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687



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Sample Soil Pickup

Report #: 007

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Field Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

FIELD DATA

No. of Samples / Sets: 3
Sample Source/Location: Boring Sample/In-Situ
Boring No: B-2 **Depth (ft):** 28-30
Sample Description / Classification: Brownish yellow - 10YR 6/6

SUMMARY OF WORK PERFORMED

LAB TEST SUMMARY

No	Test	Test Method	Status
007-L1	Sieve Test	ASTM D6913 (Sieve)	Completed
007-L2	Atterberg (ASTM4318 / AASHTO T89 & 90)	ASTM D4318	Completed
007-L3	Wash 200 Analysis (ASTM D1140/D2216)	ASTM D1140	Completed

Note: All completed lab tests are attached below.

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Field Representative: GEO FIELDTECH

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Sieve Test

Report #: 007-L1

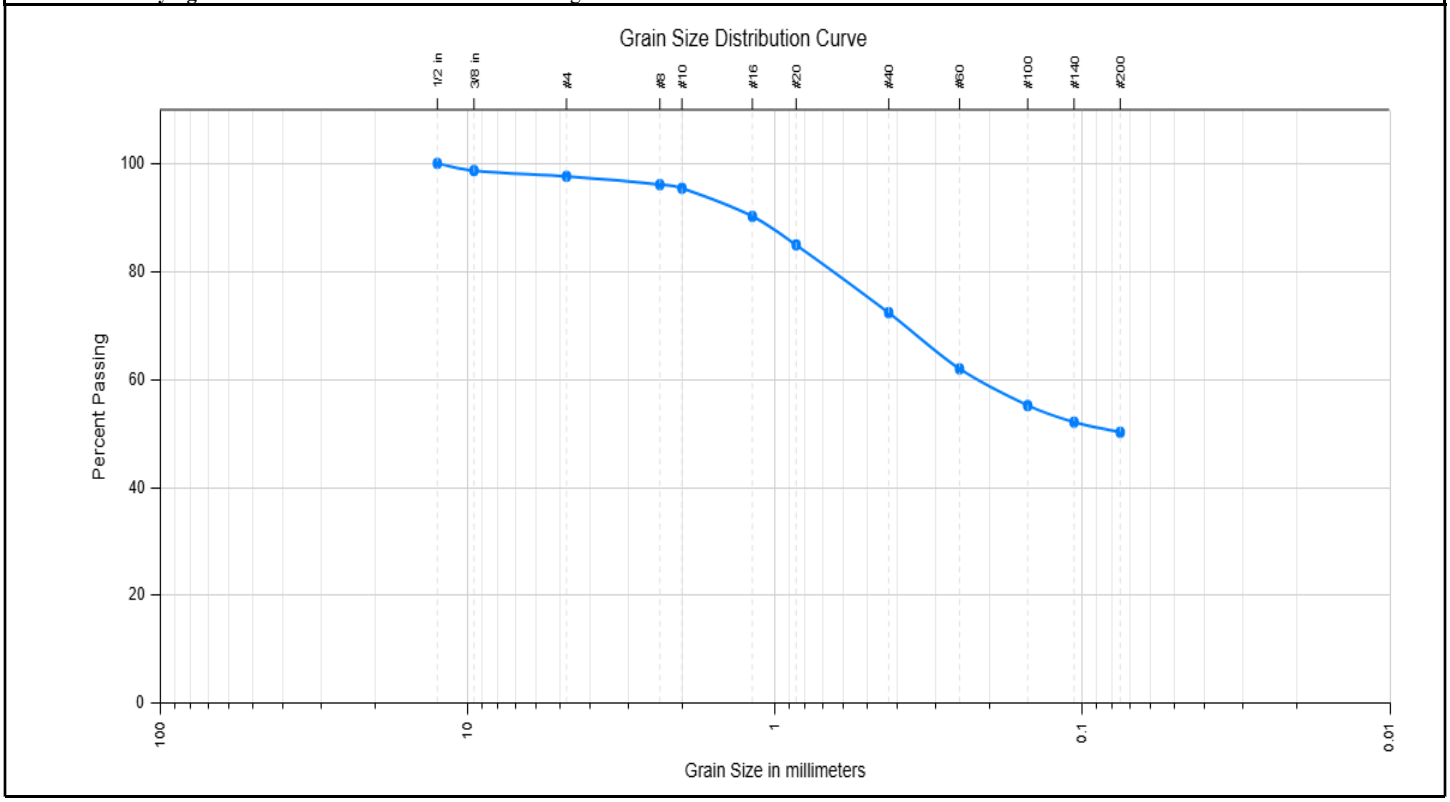
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-2 **Depth (ft):** 28-30
Test Procedure: ASTM D6913 (Sieve)
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Brownish yellow - 10YR 6/6

SIEVE ANALYSIS AND TEST RESULTS

Composite Sieve :			**Maximum Particle Size (g) :**								
Tare Wt (g)	273.3	**Tare #**	136	**Moisture Content (%)**	0.00			**Dry Wt.+ Tare (g)**	701.3		
Water Wt	0.00	**Wet Wt.+ Tare (g)**	701.3	**Dry Wt (g)**	428.00						
Sample Washed	X Yes ☐ No	**Dry Wt.+Tare after Wash**	487.5	**Wt of Soil After Wash**	214.2	**Wash Loss**	213.8	**Passing #200 from Wash**	49.95		
Method: B **Drying Method:** Oven-dried **Process Sieve:** Single sieve											



Sieve Sizes	Wt. Retained (g)	% Retained	% Passing	% Passing Spec Limits
1/2 in (12.5mm)		0.0	100.0	
3/8 in (9.5mm)	5.5	1.3	98.7	
#4 (4.75mm)	10.2	2.4	97.6	
#8 (2.36mm)	16.8	3.9	96.1	
#10 (2mm)	19.8	4.6	95.4	
#16 (1.18mm)	42.0	9.8	90.2	
#20 (0.85mm)	64.5	15.1	84.9	
#40 (0.425mm)	118.7	27.7	72.3	
#60 (0.25mm)	163.2	38.1	61.9	
#100 (0.15mm)	192.2	44.9	55.1	
#140 (0.106mm)	205.5	48.0	52.0	

Material

% Gravel	% Sand	% Fines
2.4	47.5	50.1

Atterberg Limits

PL = 28 **LL =** 50 **PI =** 22

Coefficients

D_{60} = 0.22 D_{10} = **Cc =**
D_{30} = **Cu =**

Soil Classification

USCS	AASHTO
CH	A-7-6

Sandy Fat Clay

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Sieve Test

Report #: 007-L1

Client: Administración de Servicios Médicos de Puerto Rico (ASEM)
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico
Location: Centro Médico de Puerto Rico, San Juan, PR

Report Date: 11/02/2026 **Sample Date:** 09/29/2026
Project #: SB72-26-BD-SJU

Sieve Sizes	Wt. Retained (g)	% Retained	% Passing	% Passing Spec Limits
#200 (0.075mm)	213.6	49.9	50.1	

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 007-L2

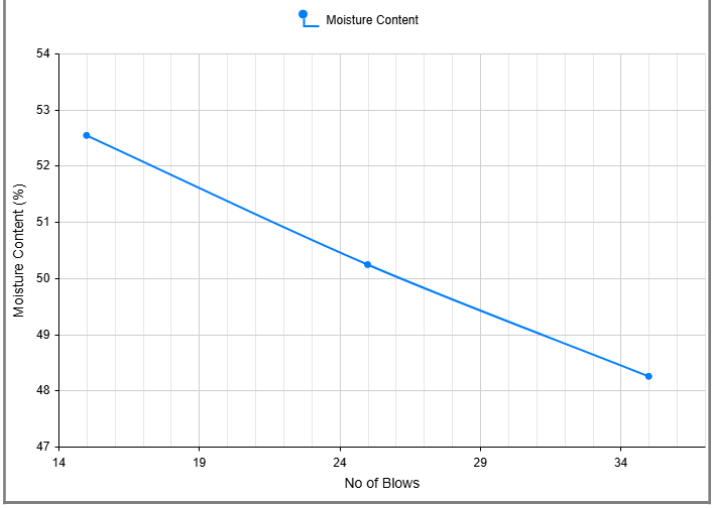
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

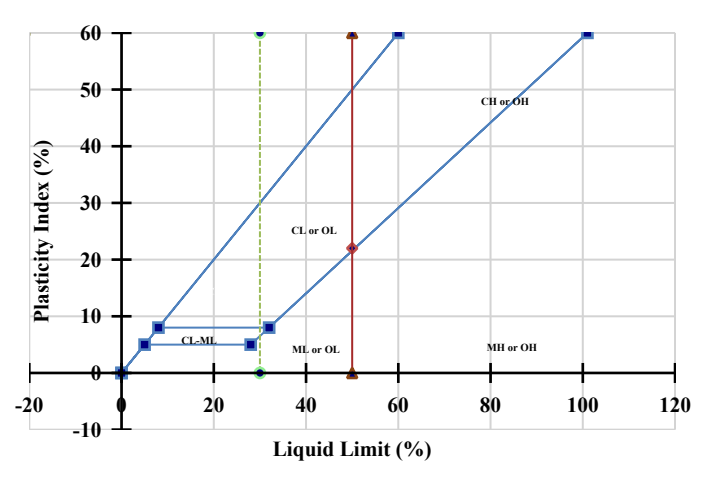
Test Procedure: ASTM D4318
Boring No: B-2 **Depth (ft):** 28-30
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Brownish yellow - 10YR 6/6
Soil Description: Sandy Fat Clay
Specimen Preparation: Dry (Air) **Mixing Water:** Distilled
Method of Removing Particles > #40 sieve: Dry Sieved on No 40 Sieve
Rolling Procedure: Mechanical Rolling Device **LL Apparatus:** Mechanical **Grooving Tool:** Plastic
Retained #40 Sieve (%) (Calculated) : 27.70

GRAPHICAL SUMMARY

Flow Curve



Plasticity Chart



TEST RESULTS

Liquid Limit (LL): **50**	Plastic Limit (PL): **28**	Plasticity Index (PI): **22**	USCS: **CH** AASHTO: **A-7-6**

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 007-L2

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

ASTM D4318 / AASHTO T89 & 90					
	Liquid Limit (s)			Plastic Limit (s)	
	Trial 1	Trial 2	Trial 3	Trial 1	Trial 2
Number of Blows	35	25	15		
Tare No.	11	47	64	71	82
Tare Mass (g)	31.4	31.26	31.31	31.05	31.19
Tare + Wet Soil (g)	53.43	53.03	53.81	40.55	40.73
Tare + Dry Soil (g)	46.26	45.75	46.06	38.49	38.64
Mass of Dry Soil (g)	14.86	14.49	14.75	7.44	7.45
Mass of Water (g)	7.17	7.28	7.75	2.06	2.09
Moisture Content (%)	48.25	50.24	52.54	27.69	28.05

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Wash 200 Analysis (ASTM D1140/D2216)

Report #: 007-L3

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-2 **Depth (ft):** 28-30
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Brownish yellow - 10YR 6/6
Test Procedure: ASTM D1140

MOISTURE CONTENT & PERCENT FINES (ASTM D1140/D2216)

MOISTURE CONTENT & PERCENT FINES		
Pan #	136	
Pan Weight (g)	273.3	
MOISTURE CONTENT		
Wet Weight (g)	701.3	428
Original Dry Mass (g)	701.3	428
Moisture Percent (%)	0.00	
PERCENT FINES		
Dry Weight (g)	701.3	428
Dry Mass Retained on the (No. 200)	487.5	214.2
Percentage of material finer than the 75-µm (No 200) (%)	50.0	
Recorded according to ASTM D6026	[X]	
Test Method	Method B (Cohesive Soils)	
Soaking Time (min)	120	
Test performed with the alternative method	[ ]	

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

Alejandro E Torres Quiñones
Ingeniero Licenciado
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Puerto Rico

Alejandro Torres, P.E.
Engineer (#28734)
GEO-Engineering
Date Signed: 11/03/2026 10:50 AM

Notes: The results above apply only to the specific samples noted using the aforementioned test method(s) and do not represent any other sample. Reports may not be reproduced except in full without permission.

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Sample Soil Pickup

Report #: 008

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Field Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

FIELD DATA

No. of Samples / Sets: 3
Sample Source/Location: Boring Sample/In-Situ
Boring No: B-3 **Depth (ft):** 4-6
Sample Description / Classification: Reddish yellow - 7.5YR 6/8

SUMMARY OF WORK PERFORMED

LAB TEST SUMMARY

No	Test	Test Method	Status
008-L1	Sieve Test	ASTM D6913 (Sieve)	Completed
008-L2	Atterberg (ASTM4318 / AASHTO T89 & 90)	ASTM D4318	Completed
008-L3	Wash 200 Analysis (ASTM D1140/D2216)	ASTM D1140	Completed

Note: All completed lab tests are attached below.

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Field Representative: GEO FIELDTECH



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Sieve Test

Report #: 008-L1

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

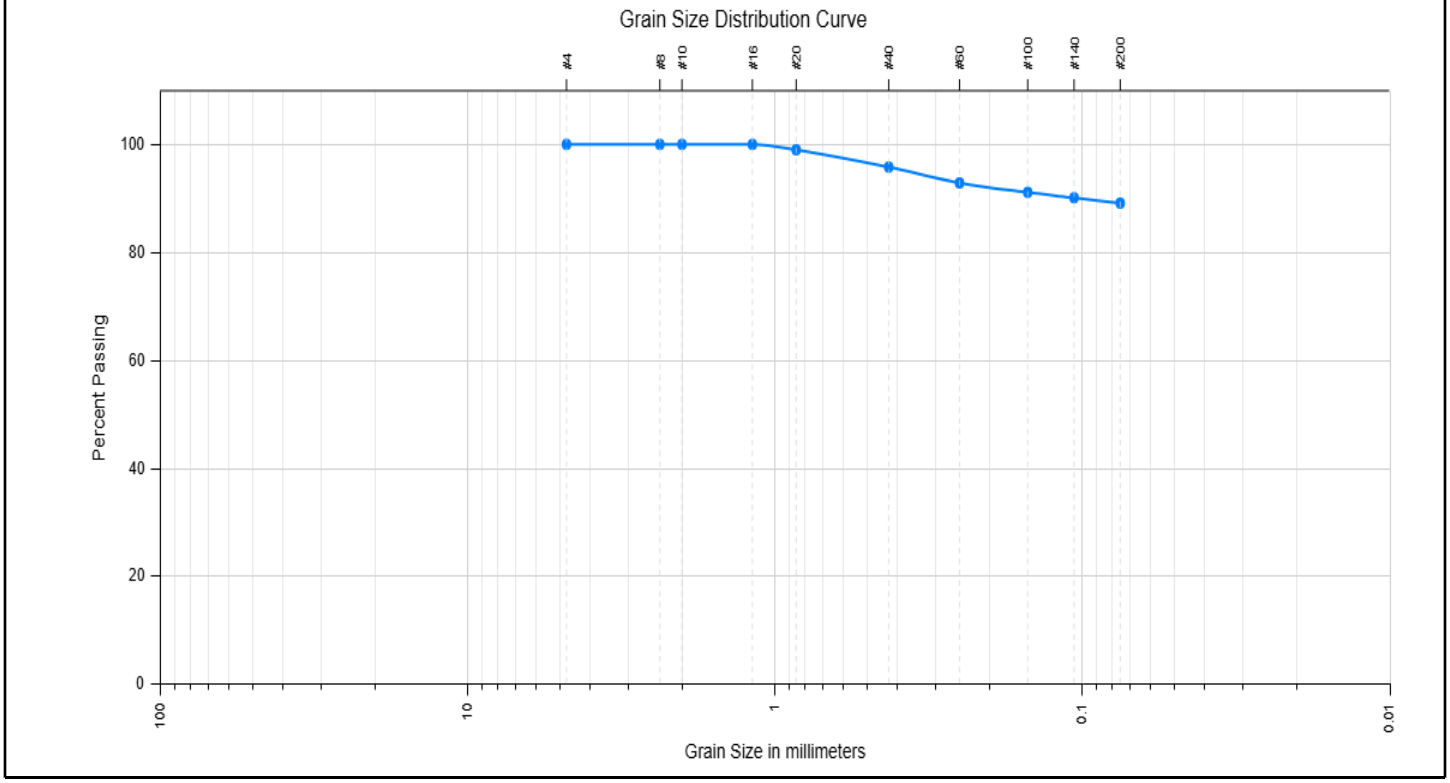
SAMPLE DATA

Boring No: B-3 **Depth (ft):** 4-6
Test Procedure: ASTM D6913 (Sieve)
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Reddish yellow - 7.5YR 6/8

SIEVE ANALYSIS AND TEST RESULTS

Composite Sieve :			**Maximum Particle Size (g) :**						
Tare Wt (g)	273.3	**Tare #**	132	**Moisture Content (%)**	0.00			**Dry Wt.+ Tare (g)**	701.3
Water Wt	0.00	**Wet Wt.+ Tare (g)**	701.3	**Dry Wt (g)**	428.00				
Sample Washed	X Yes ☐ No	**Dry Wt.+Tare after Wash**	320.3	**Wt of Soil After Wash**	47	**Wash Loss**	381	**Passing #200 from Wash**	89.02

Method: B **Drying Method:** Oven-dried **Process Sieve:** Single sieve



Sieve Sizes	Wt. Retained (g)	% Retained	% Passing	% Passing Spec Limits
#4 (4.75mm)		0.0	100.0	
#8 (2.36mm)		0.0	100.0	
#10 (2mm)		0.0	100.0	
#16 (1.18mm)	0.2	0.0	100.0	
#20 (0.85mm)	4.3	1.0	99.0	
#40 (0.425mm)	17.8	4.2	95.8	
#60 (0.25mm)	30.5	7.1	92.9	
#100 (0.15mm)	38.0	8.9	91.1	
#140 (0.106mm)	42.3	9.9	90.1	
#200 (0.075mm)	46.6	10.9	89.1	

Material

% Gravel	% Sand	% Fines
0.0	10.9	89.1

Atterberg Limits

PL = 30 **LL =** 73 **PI =** 43

Coefficients

D_{60} = 0.00 D_{10} = **Cc =**
D_{30} = **Cu =**

Soil Classification

USCS	AASHTO
CH	A-7-5

Fat Clay

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Sieve Test

Report #: 008-L1

Client: Administración de Servicios Médicos de Puerto Rico (ASEM)
Report Date: 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico
Project #: SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

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Cert No:BN# 3242 / TN# 9687



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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 008-L2

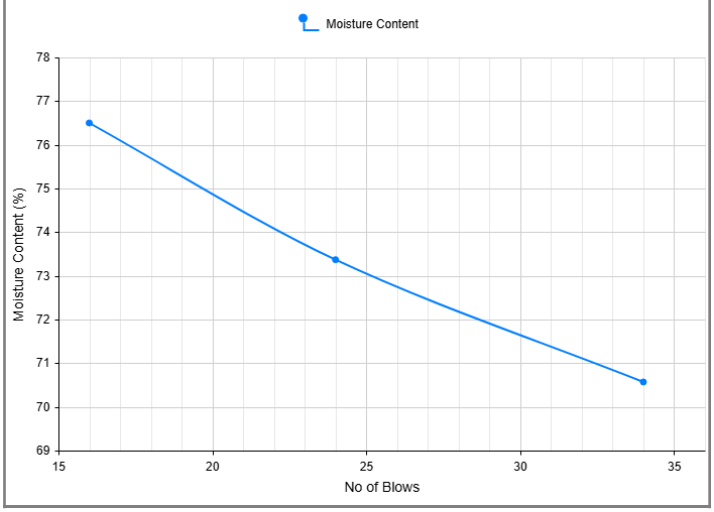
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

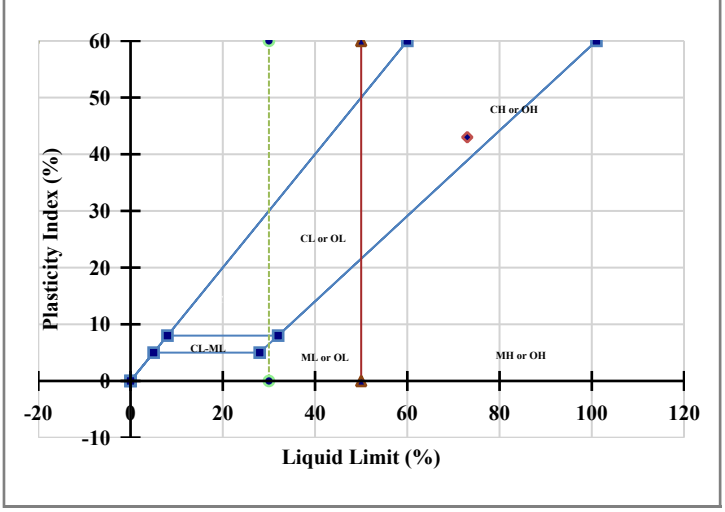
Test Procedure: ASTM D4318
Boring No: B-3 **Depth (ft):** 4-6
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Reddish yellow - 7.5YR 6/8
Soil Description: Fat Clay
Specimen Preparation: Dry (Air) **Mixing Water:** Distilled
Method of Removing Particles > #40 sieve: Dry Sieved on No 40 Sieve
Rolling Procedure: Mechanical Rolling Device **LL Apparatus:** Mechanical **Grooving Tool:** Plastic
Retained #40 Sieve (%) (Calculated) : 4.20

GRAPHICAL SUMMARY

Flow Curve



Plasticity Chart



TEST RESULTS

Liquid Limit (LL): **73**	Plastic Limit (PL): **30**	Plasticity Index (PI): **43**	USCS: **CH** AASHTO: **A-7-5**

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Cert No:BN# 3242 / TN# 9687

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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 008-L2

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

ASTM D4318 / AASHTO T89 & 90				
	Liquid Limit (s)			Plastic Limit (s)
	Trial 1	Trial 2	Trial 3	Trial 1
Number of Blows	34	24	16	
Tare No.	3	74	84	87
Tare Mass (g)	31.21	31.19	31.08	31.13
Tare + Wet Soil (g)	53.35	53.85	53.39	39.01
Tare + Dry Soil (g)	44.19	44.26	43.72	37.2
Mass of Dry Soil (g)	12.98	13.07	12.64	6.07
Mass of Water (g)	9.16	9.59	9.67	1.81
Moisture Content (%)	70.57	73.37	76.5	29.82

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Wash 200 Analysis (ASTM D1140/D2216)

Report #: 008-L3

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-3 **Depth (ft):** 4-6
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Reddish yellow - 7.5YR 6/8
Test Procedure: ASTM D1140

MOISTURE CONTENT & PERCENT FINES (ASTM D1140/D2216)

MOISTURE CONTENT & PERCENT FINES		
Pan #	132	
Pan Weight (g)	273.4	
MOISTURE CONTENT		
Wet Weight (g)	701.3	427.9
Original Dry Mass (g)	701.3	427.9
Moisture Percent (%)	0.00	
PERCENT FINES		
Dry Weight (g)	701.3	427.9
Dry Mass Retained on the (No. 200)	320.3	46.9
Percentage of material finer than the 75-µm (No 200) (%)	89.0	
Recorded according to ASTM D6026	[X]	
Test Method	Method B (Cohesive Soils)	
Soaking Time (min)	120	
Test performed with the alternative method	[ ]	

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

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Sample Soil Pickup

Report #: 009

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Field Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

FIELD DATA

No. of Samples / Sets: 3
Sample Source/Location: Boring Sample/In-Situ
Boring No: B-3 **Depth (ft):** 13-15
Sample Description / Classification: Brownish yellow - 10YR 6/8

SUMMARY OF WORK PERFORMED

LAB TEST SUMMARY

No	Test	Test Method	Status
009-L1	Sieve Test	ASTM D6913 (Sieve)	Completed
009-L2	Atterberg (ASTM4318 / AASHTO T89 & 90)	ASTM D4318	Completed
009-L3	Wash 200 Analysis (ASTM D1140/D2216)	ASTM D1140	Completed

Note: All completed lab tests are attached below.

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Field Representative: GEO FIELDTECH

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Sieve Test

Report #: 009-L1

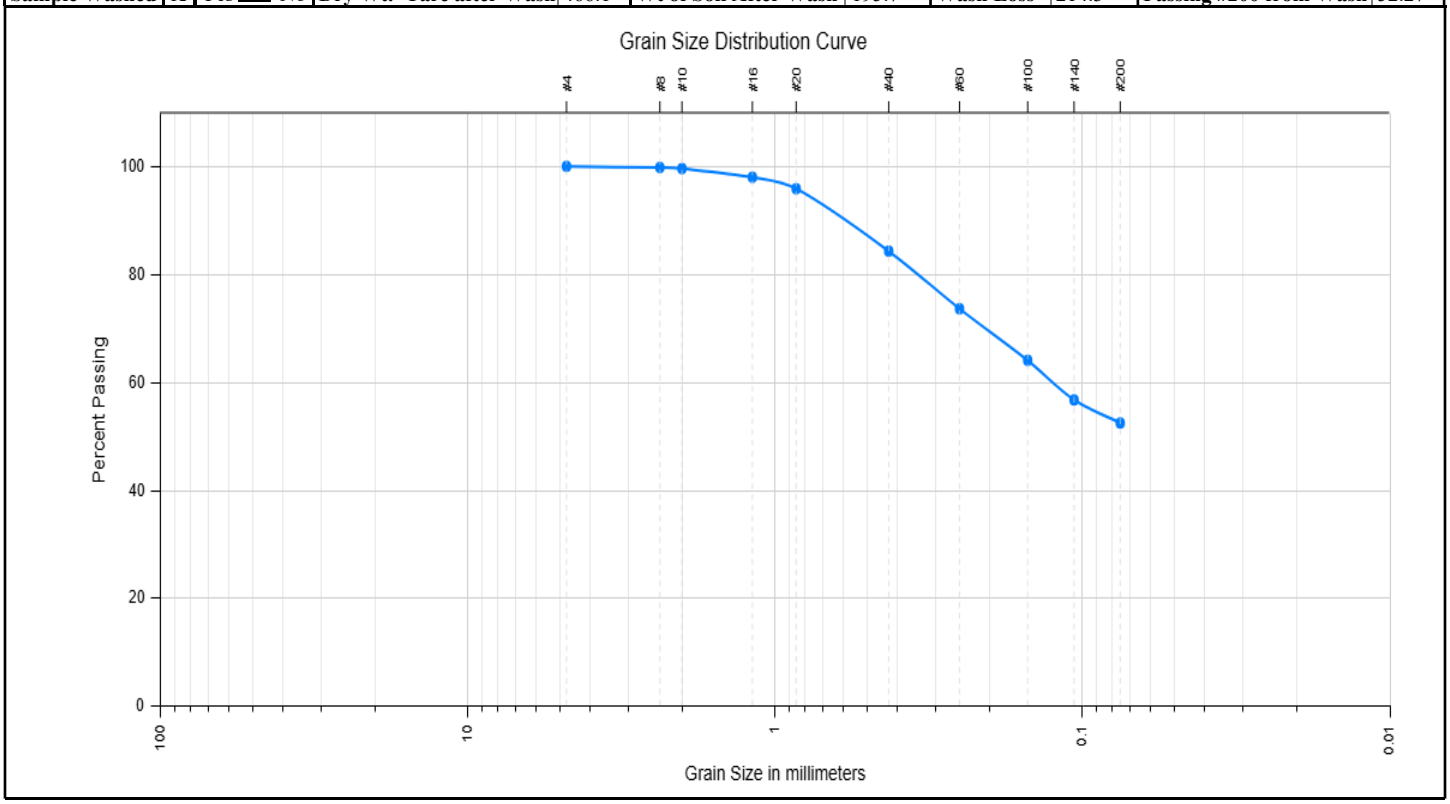
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-3 **Depth (ft):** 13-15
Test Procedure: ASTM D6913 (Sieve)
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Brownish yellow - 10YR 6/8

SIEVE ANALYSIS AND TEST RESULTS

Composite Sieve :				**Maximum Particle Size (g) :**							
Tare Wt (g)	270.4	**Tare #**	112	**Moisture Content (%)**	0.00			**Dry Wt.+ Tare (g)**	680.4		
Water Wt	0.00	**Wet Wt.+ Tare (g)**	680.4	**Dry Wt (g)**	410.0						
Sample Washed	X Yes ☐ No	**Dry Wt.+Tare after Wash**	466.1	**Wt of Soil After Wash**	195.7	**Wash Loss**	214.3	**Passing #200 from Wash**	52.27		



Sieve Sizes	Wt. Retained (g)	% Retained	% Passing	% Passing Spec Limits
#4 (4.75mm)		0.0	100.0	
#8 (2.36mm)	0.9	0.2	99.8	
#10 (2mm)	1.6	0.4	99.6	
#16 (1.18mm)	8.0	2.0	98.0	
#20 (0.85mm)	16.8	4.1	95.9	
#40 (0.425mm)	64.5	15.7	84.3	
#60 (0.25mm)	108.3	26.4	73.6	
#100 (0.15mm)	147.4	36.0	64.0	
#140 (0.106mm)	177.5	43.3	56.7	
#200 (0.075mm)	195.1	47.6	52.4	

Material

% Gravel	% Sand	% Fines
0.0	47.6	52.4

Atterberg Limits

PL = 34 **LL =** 49 **PI =** 15

Coefficients

D_{60} = 0.12 D_{10} = **Cc =**
D_{30} = **Cu =**

Soil Classification

USCS	AASHTO
ML	A-7-5

Sandy Silt

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Sieve Test

Report #: 009-L1

Client: Administración de Servicios Médicos de Puerto Rico (ASEM)
Report Date: 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico
Project #: SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687



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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 009-L2

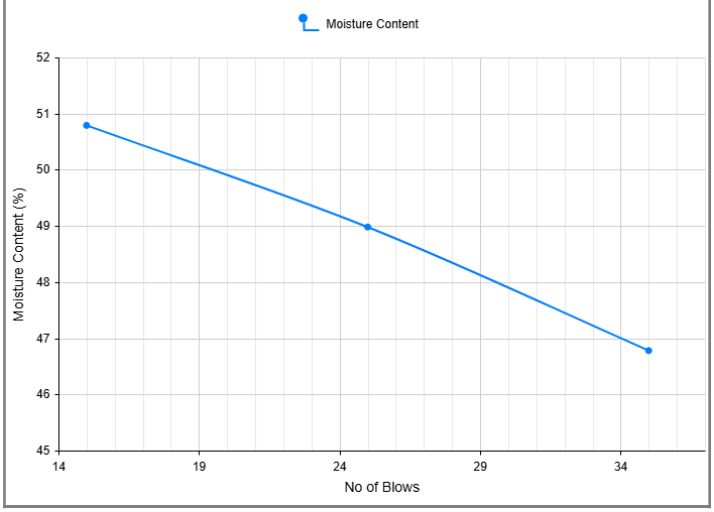
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

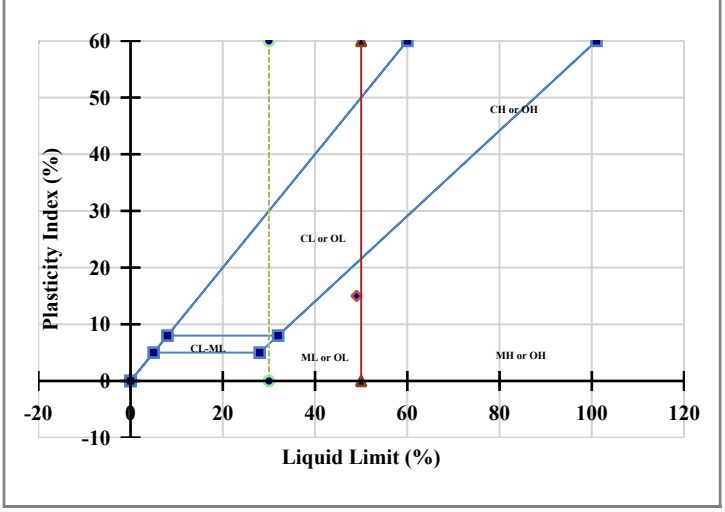
Test Procedure: ASTM D4318
Boring No: B-3 **Depth (ft):** 13-15
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Brownish yellow - 10YR 6/8
Soil Description: Sandy Silt
Specimen Preparation: Dry (Air) **Mixing Water:** Distilled
Method of Removing Particles > #40 sieve: Dry Sieved on No 40 Sieve
Rolling Procedure: Mechanical Rolling Device **LL Apparatus:** Mechanical **Grooving Tool:** Metal
Retained #40 Sieve (%) (Calculated) : 15.70

GRAPHICAL SUMMARY

Flow Curve



Plasticity Chart



TEST RESULTS

Liquid Limit (LL): **49**	Plastic Limit (PL): **34**	Plasticity Index (PI): **15**	USCS: **ML** AASHTO: **A-7-5**

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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 009-L2

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

ASTM D4318 / AASHTO T89 & 90					
	Liquid Limit (s)			Plastic Limit (s)	
	Trial 1	Trial 2	Trial 3	Trial 1	Trial 2
Number of Blows	35	25	15		
Tare No.	6	9	11	31	41
Tare Mass (g)	31.23	31.7	31.42	31.31	31.35
Tare + Wet Soil (g)	52.22	52.23	52.53	41.18	41.38
Tare + Dry Soil (g)	45.53	45.48	45.42	38.64	38.86
Mass of Dry Soil (g)	14.3	13.78	14	7.33	7.51
Mass of Water (g)	6.69	6.75	7.11	2.54	2.52
Moisture Content (%)	46.78	48.98	50.79	34.65	33.56

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Wash 200 Analysis (ASTM D1140/D2216)

Report #: 009-L3

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-3 **Depth (ft):** 13-15
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Brownish yellow - 10YR 6/8
Test Procedure: ASTM D1140

MOISTURE CONTENT & PERCENT FINES (ASTM D1140/D2216)

MOISTURE CONTENT & PERCENT FINES		
Pan #	112	
Pan Weight (g)	270.4	
MOISTURE CONTENT		
Wet Weight (g)	680.4	410
Original Dry Mass (g)	680.4	410
Moisture Percent (%)	0.00	
PERCENT FINES		
Dry Weight (g)	680.4	410
Dry Mass Retained on the (No. 200)	466.1	195.7
Percentage of material finer than the 75-µm (No 200) (%)	52.3	
Recorded according to ASTM D6026	[X]	
Test Method	Method B (Cohesive Soils)	
Soaking Time (min)	120	
Test performed with the alternative method	[ ]	

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

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Sample Soil Pickup

Report #: 010

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Field Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

FIELD DATA

No. of Samples / Sets: 3
Sample Source/Location: Boring Sample/In-Situ
Boring No: B-3 **Depth (ft):** 23-25
Sample Description / Classification: Reddish yellow - 7.5YR 6/8

SUMMARY OF WORK PERFORMED

LAB TEST SUMMARY

No	Test	Test Method	Status
010-L1	Sieve Test	ASTM D6913 (Sieve)	Completed
010-L2	Atterberg (ASTM4318 / AASHTO T89 & 90)	ASTM D4318	Completed
010-L3	Wash 200 Analysis (ASTM D1140/D2216)	ASTM D1140	Completed

Note: All completed lab tests are attached below.

Report Copied to: Yanira Rivera Ortiz

Field Representative: GEO FIELDTECH

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Sieve Test

Report #: 010-L1

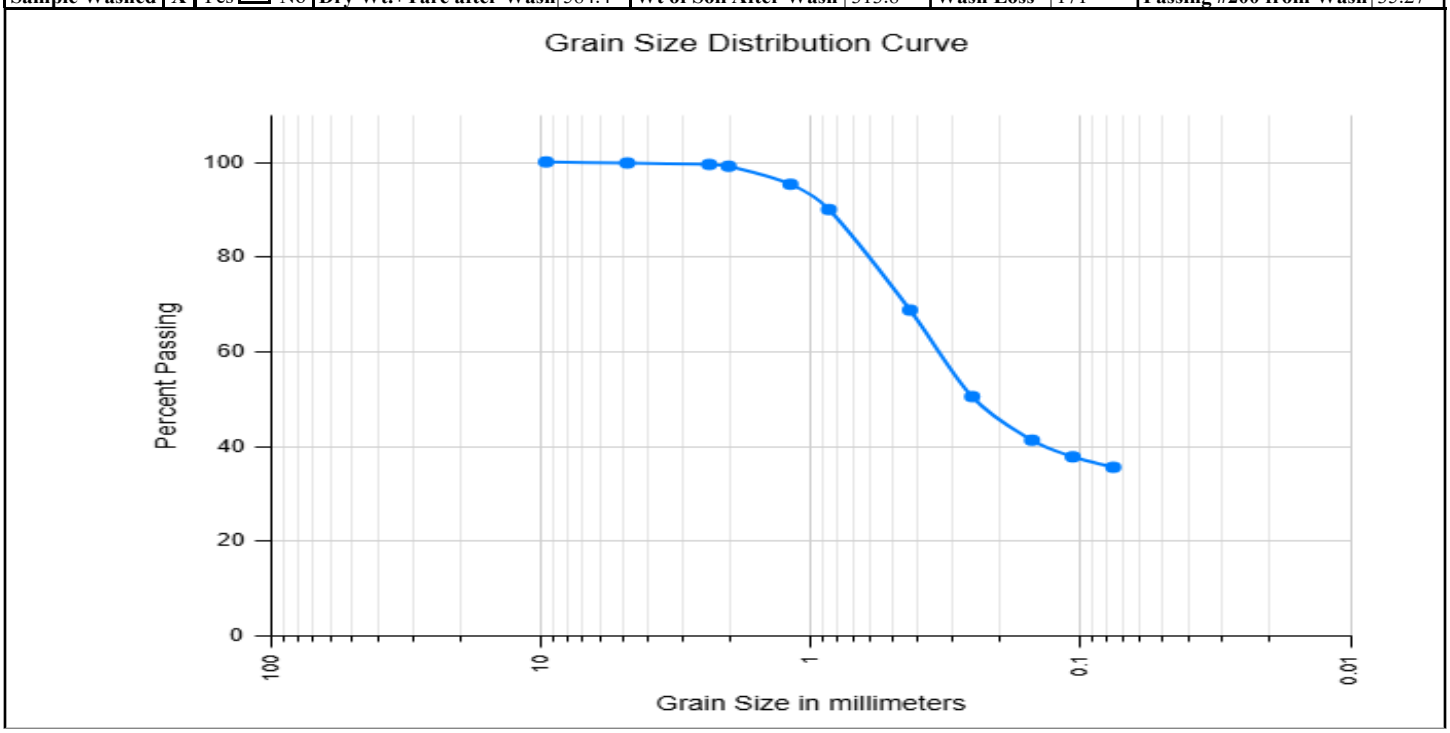
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-3 **Depth (ft):** 23-25
Test Procedure: ASTM D6913 (Sieve)
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Reddish yellow - 7.5YR 6/8

SIEVE ANALYSIS AND TEST RESULTS

Composite Sieve :				**Maximum Particle Size (g) :**							
Tare Wt (g)	270.6		**Tare #**	111	**Moisture Content (%)**	0.00		**Dry Wt.+ Tare (g)**	755.4		
Water Wt	0.00		**Wet Wt.+ Tare (g)**	755.4	**Dry Wt (g)**	484.80					
Sample Washed	X	Yes ☐ No	**Dry Wt.+Tare after Wash**	584.4	**Wt of Soil After Wash**	313.8	**Wash Loss**	171	**Passing #200 from Wash**	35.27	



Sieve Sizes	Wt. Retained (g)	% Retained	% Passing	% Passing Spec Limits
3/8 in (9.5mm)		0.0	100.0	
#4 (4.75mm)	0.9	0.2	99.8	
#8 (2.36mm)	2.3	0.5	99.5	
#10 (2mm)	4.3	0.9	99.1	
#16 (1.18mm)	23.0	4.7	95.3	
#20 (0.85mm)	48.4	10.0	90.0	
#40 (0.425mm)	151.5	31.3	68.7	
#60 (0.25mm)	240.5	49.6	50.4	
#100 (0.15mm)	285.1	58.8	41.2	
#140 (0.106mm)	302.1	62.3	37.7	
#200 (0.075mm)	312.7	64.5	35.5	

Material

% Gravel	% Sand	% Fines
0.2	64.3	35.5

Atterberg Limits

PL = 30 **LL =** 47 **PI =** 17

Coefficients

D_{60} = 0.33 D_{10} = **Cc =**
D_{30} = **Cu =**

Soil Classification

USCS	AASHTO
SM	A-7-5

Silty Sand

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Sieve Test

Report #: 010-L1

Client: Administración de Servicios Médicos de Puerto Rico (ASEM)
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico
Location: Centro Médico de Puerto Rico, San Juan, PR

Report Date: 11/02/2026 **Sample Date:** 09/29/2026
Project #: SB72-26-BD-SJU

Report Copied to: Yanira Rivera Ortiz

Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687



Alejandro Torres, P.E.
Engineer (#28734)
GEO-Engineering
Date Signed: 11/03/2026 10:50 AM

Notes: The results above apply only to the specific samples noted using the aforementioned test method(s) and do not represent any other sample. Reports may not be reproduced except in full without permission.

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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 010-L2

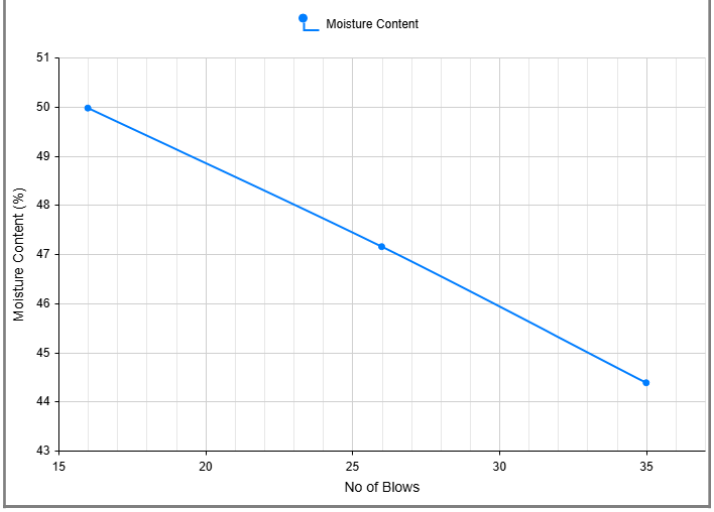
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

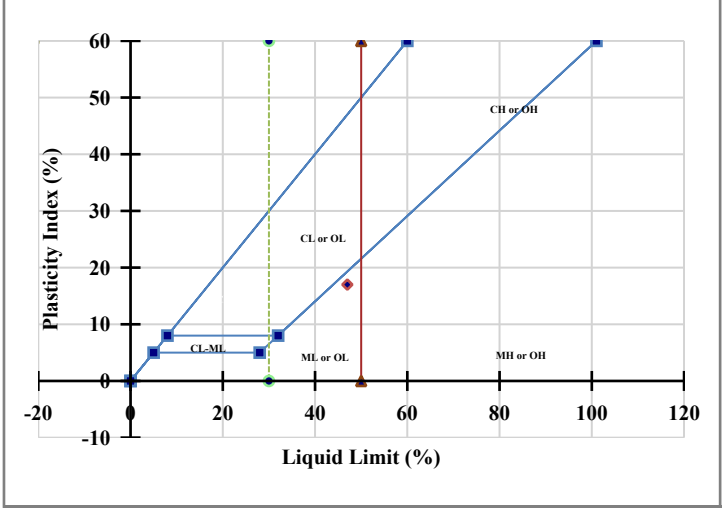
Test Procedure: ASTM D4318
Boring No: B-3 **Depth (ft):** 23-25
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Reddish yellow - 7.5YR 6/8
Soil Description: Silty Sand
Specimen Preparation: Dry (Air) **Mixing Water:** Distilled
Method of Removing Particles > #40 sieve: Dry Sieved on No 40 Sieve
Rolling Procedure: Mechanical Rolling Device **LL Apparatus:** Mechanical **Grooving Tool:** Metal
Retained #40 Sieve (%) (Calculated) : 31.30

GRAPHICAL SUMMARY

Flow Curve



Plasticity Chart



TEST RESULTS

Liquid Limit (LL): **47**	Plastic Limit (PL): **30**	Plasticity Index (PI): **17**	USCS: **SM** AASHTO: **A-7-5**

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 010-L2

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

ASTM D4318 / AASHTO T89 & 90					
	Liquid Limit (s)			Plastic Limit (s)	
	Trial 1	Trial 2	Trial 3	Trial 1	Trial 2
Number of Blows	35	26	16		
Tare No.	47	64	71	74	82
Tare Mass (g)	31.27	31.34	31.06	31.2	31.21
Tare + Wet Soil (g)	55.28	55.87	55.4	40.72	40.66
Tare + Dry Soil (g)	47.9	48.01	47.29	38.49	38.51
Mass of Dry Soil (g)	16.63	16.67	16.23	7.29	7.3
Mass of Water (g)	7.38	7.86	8.11	2.23	2.15
Moisture Content (%)	44.38	47.15	49.97	30.59	29.45

GEO | geotechnical engineering construction materials testing

Wash 200 Analysis (ASTM D1140/D2216)

Report #: 010-L3

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-3 **Depth (ft):** 23-25
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Reddish yellow - 7.5YR 6/8
Test Procedure: ASTM D1140

MOISTURE CONTENT & PERCENT FINES (ASTM D1140/D2216)

MOISTURE CONTENT & PERCENT FINES		
Pan #	111	
Pan Weight (g)	270.6	
MOISTURE CONTENT		
Wet Weight (g)	755.4	484.8
Original Dry Mass (g)	755.4	484.8
Moisture Percent (%)	0.00	
PERCENT FINES		
Dry Weight (g)	755.4	484.8
Dry Mass Retained on the (No. 200)	584.4	313.8
Percentage of material finer than the 75-µm (No 200) (%)	35.3	
Recorded according to ASTM D6026	[X]	
Test Method	Method B (Cohesive Soils)	
Soaking Time (min)	120	
Test performed with the alternative method	[ ]	

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

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Sample Soil Pickup

Report #: 011

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Field Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

FIELD DATA

No. of Samples / Sets: 3
Sample Source/Location: Boring Sample/In-Situ
Boring No: B-3 **Depth (ft):** 48-50
Sample Description / Classification: Brown - 10YR 5/3

SUMMARY OF WORK PERFORMED

LAB TEST SUMMARY

No	Test	Test Method	Status
011-L1	Sieve Test	ASTM D6913 (Sieve)	Completed
011-L2	Atterberg (ASTM4318 / AASHTO T89 & 90)	ASTM D4318	Completed
011-L3	Wash 200 Analysis (ASTM D1140/D2216)	ASTM D1140	Completed

Note: All completed lab tests are attached below.

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Field Representative: GEO FIELDTECH

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Sieve Test

Report #: 011-L1

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

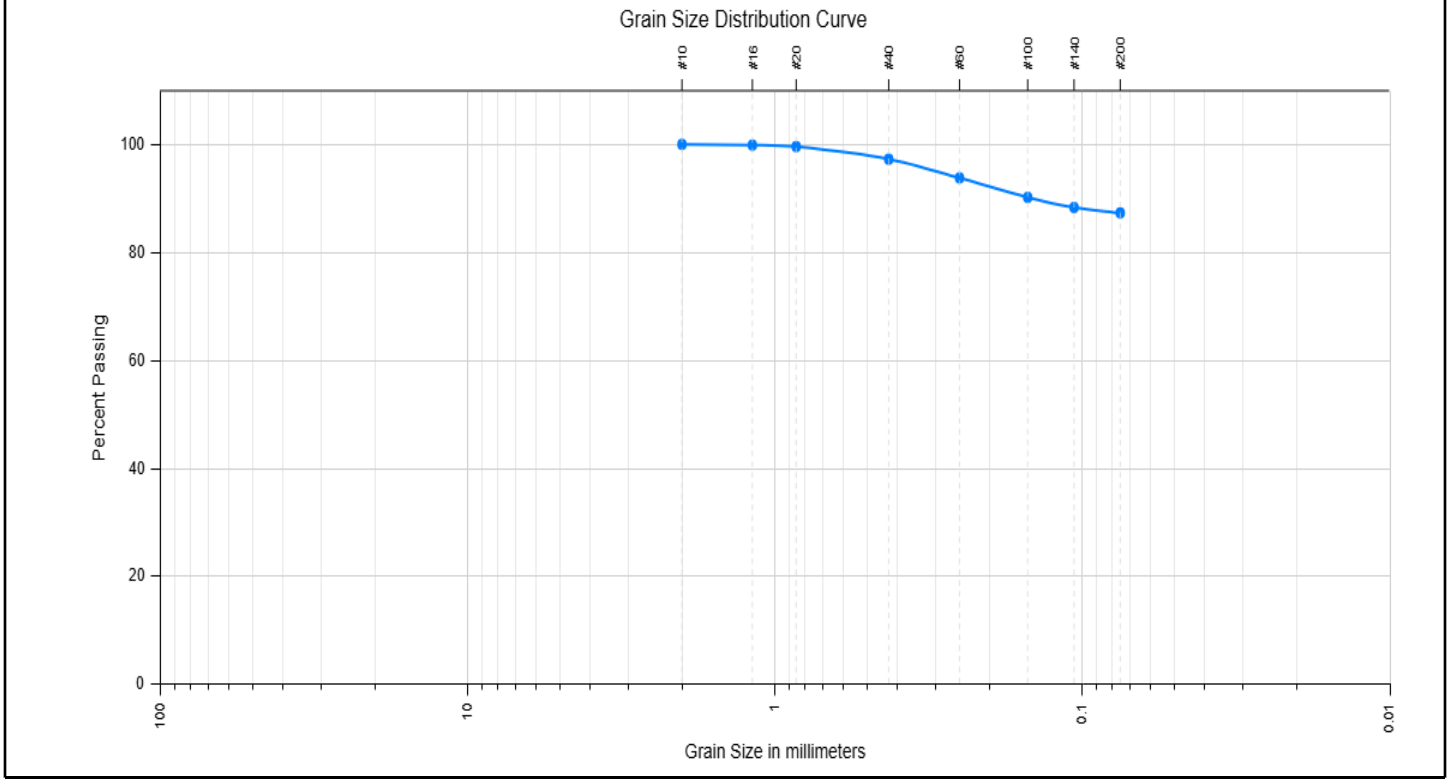
SAMPLE DATA

Boring No: B-3 **Depth (ft):** 48-50
Test Procedure: ASTM D6913 (Sieve)
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Brown - 10YR 5/3

SIEVE ANALYSIS AND TEST RESULTS

Composite Sieve :		**Maximum Particle Size (g) :**							
Tare Wt (g)	272.3	**Tare #**	114	**Moisture Content (%)**	0.00			**Dry Wt.+ Tare (g)**	635.8
Water Wt	0.00	**Wet Wt.+ Tare (g)**	635.8	**Dry Wt (g)**	363.50				
Sample Washed	X Yes ☐ No	**Dry Wt.+Tare after Wash**	319.3	**Wt of Soil After Wash**	47	**Wash Loss**	316.5	**Passing #200 from Wash**	87.07

Method: B **Drying Method:** Oven-dried **Process Sieve:** Single sieve



Sieve Sizes	Wt. Retained (g)	% Retained	% Passing	% Passing Spec Limits
#10 (2mm)		0.0	100.0	
#16 (1.18mm)	0.4	0.1	99.9	
#20 (0.85mm)	1.6	0.4	99.6	
#40 (0.425mm)	9.7	2.7	97.3	
#60 (0.25mm)	22.6	6.2	93.8	
#100 (0.15mm)	35.6	9.8	90.2	
#140 (0.106mm)	42.3	11.7	88.3	
#200 (0.075mm)	46.2	12.7	87.3	

Material

% Gravel	% Sand	% Fines
0.0	12.7	87.3

Atterberg Limits

PL = 27 **LL =** 55 **PI =** 28

Coefficients

D_{60} = 0.00 D_{10} = **Cc =**
D_{30} = **Cu =**

Soil Classification

USCS	AASHTO
CH	A-7-6

Fat Clay

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Sieve Test

Report #: 011-L1

Client: Administración de Servicios Médicos de Puerto Rico (ASEM)
Report Date: 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico
Project #: SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687



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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 011-L2

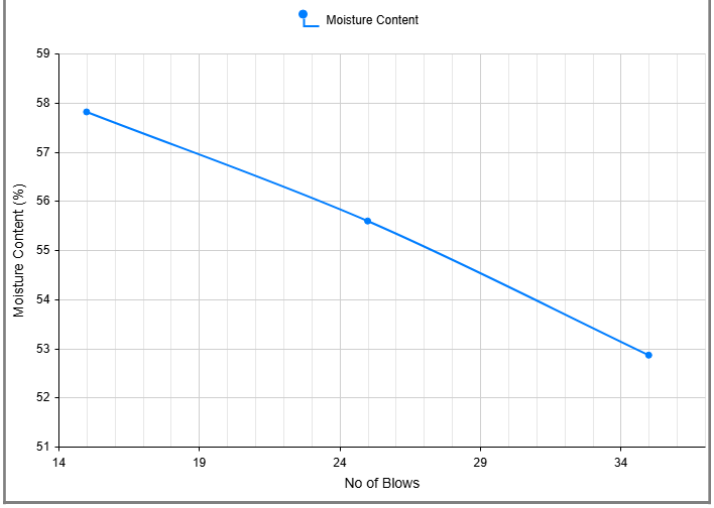
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

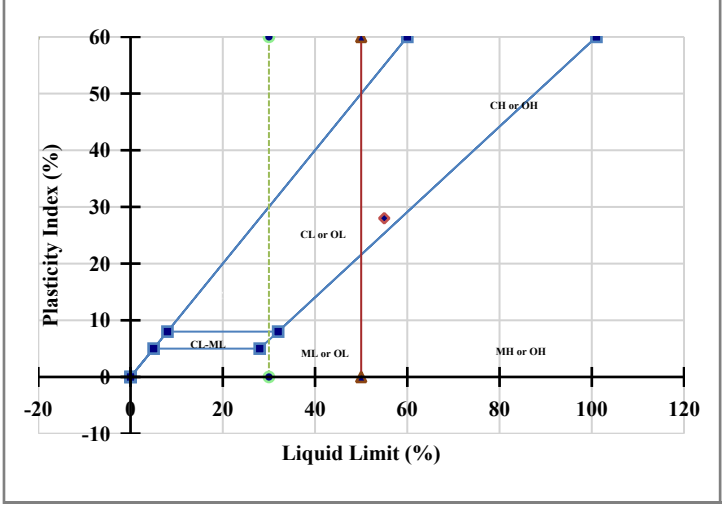
Test Procedure: ASTM D4318
Boring No: B-3 **Depth (ft):** 48-50
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Brown - 10YR 5/3
Soil Description: Fat Clay
Specimen Preparation: Dry (Air) **Mixing Water:** Distilled
Method of Removing Particles > #40 sieve: Dry Sieved on No 40 Sieve
Rolling Procedure: Mechanical Rolling Device **LL Apparatus:** Mechanical **Grooving Tool:** Plastic
Retained #40 Sieve (%) (Calculated) : 2.70

GRAPHICAL SUMMARY

Flow Curve



Plasticity Chart



TEST RESULTS

Liquid Limit (LL): **55**	Plastic Limit (PL): **27**	Plasticity Index (PI): **28**	USCS: **CH** AASHTO: **A-7-6**

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Cert No:BN# 3242 / TN# 9687

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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 011-L2

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

ASTM D4318 / AASHTO T89 & 90					
	Liquid Limit (s)			Plastic Limit (s)	
	Trial 1	Trial 2	Trial 3	Trial 1	Trial 2
Number of Blows	35	25	15		
Tare No.	14	17	27	43	56
Tare Mass (g)	31.62	31.48	31.26	31.48	31.25
Tare + Wet Soil (g)	52.18	52.5	52.06	39.6	39.74
Tare + Dry Soil (g)	45.07	44.99	44.44	37.9	37.92
Mass of Dry Soil (g)	13.45	13.51	13.18	6.42	6.67
Mass of Water (g)	7.11	7.51	7.62	1.7	1.82
Moisture Content (%)	52.86	55.59	57.81	26.48	27.29

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Wash 200 Analysis (ASTM D1140/D2216)

Report #: 011-L3

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/02/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-3 **Depth (ft):** 48-50
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Brown - 10YR 5/3
Test Procedure: ASTM D1140

MOISTURE CONTENT & PERCENT FINES (ASTM D1140/D2216)

MOISTURE CONTENT & PERCENT FINES		
Pan #	114	
Pan Weight (g)	272.3	
MOISTURE CONTENT		
Wet Weight (g)	635.8	363.5
Original Dry Mass (g)	635.8	363.5
Moisture Percent (%)	0.00	
PERCENT FINES		
Dry Weight (g)	635.8	363.5
Dry Mass Retained on the (No. 200)	319.3	47
Percentage of material finer than the 75-µm (No 200) (%)	87.1	
Recorded according to ASTM D6026	[X]	
Test Method	Method B (Cohesive Soils)	
Soaking Time (min)	120	
Test performed with the alternative method	[ ]	

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

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Sample Soil Pickup

Report #: 012

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Field Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

FIELD DATA

No. of Samples / Sets: 3
Sample Source/Location: Boring Sample/In-Situ
Boring No: B-4 **Depth (ft):** 0-4
Sample Description / Classification: Light reddish brown - 5YR 6/4 / Pinkish gray - 7.5YR 6/2

SUMMARY OF WORK PERFORMED

LAB TEST SUMMARY

No	Test	Test Method	Status
012-L1	Sieve Test	ASTM D6913 (Sieve)	Completed
012-L2	Atterberg (ASTM4318 / AASHTO T89 & 90)	ASTM D4318	Completed
012-L3	Wash 200 Analysis (ASTM D1140/D2216)	ASTM D1140	Completed

Note: All completed lab tests are attached below.

Report Copied to: Yanira Rivera Ortiz

Field Representative: GEO FIELDTECH

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Sieve Test

Report #: 012-L1

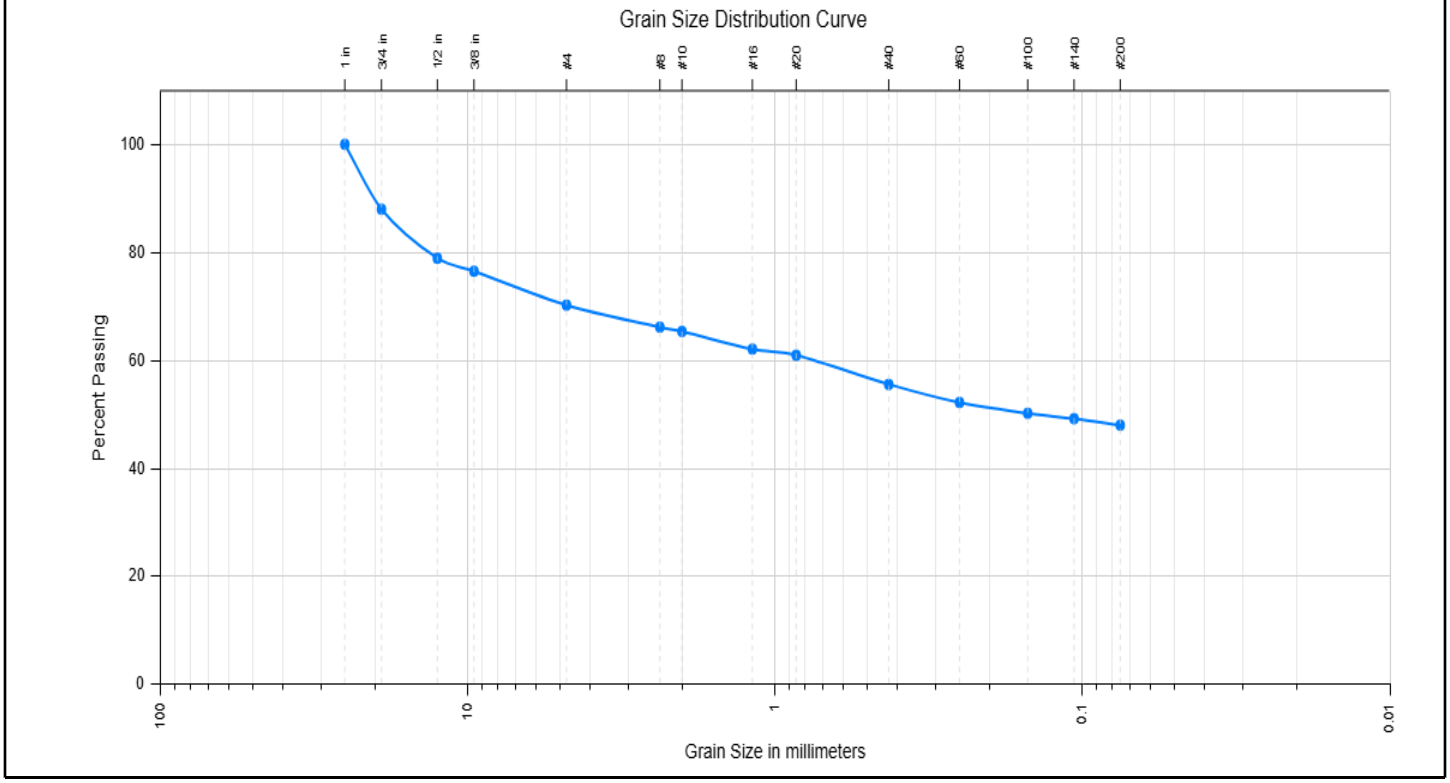
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-4 **Depth (ft):** 0-4
Test Procedure: ASTM D6913 (Sieve)
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Light reddish brown - 5YR 6/4 / Pinkish gray - 7.5YR 6/2

SIEVE ANALYSIS AND TEST RESULTS

Composite Sieve :			**Maximum Particle Size (g) :**								
Tare Wt (g)	274	**Tare #**	138	**Moisture Content (%)**	0.00			**Dry Wt.+ Tare (g)**	536.8		
Water Wt	0.00	**Wet Wt.+ Tare (g)**	536.8	**Dry Wt (g)**	262.90						
Sample Washed	X Yes ☐ No	**Dry Wt.+Tare after Wash**	411.4	**Wt of Soil After Wash**	137.5	**Wash Loss**	125.4	**Passing #200 from Wash**	47.7		
Method: B **Drying Method:** Oven-dried **Process Sieve:** Single sieve											



Sieve Sizes	Wt. Retained (g)	% Retained	% Passing	% Passing Spec Limits
1 in (25mm)		0.0	100.0	
3/4 in (19mm)	31.6	12.0	88.0	
1/2 in (12.5mm)	55.4	21.1	78.9	
3/8 in (9.5mm)	61.9	23.5	76.5	
#4 (4.75mm)	78.4	29.8	70.2	
#8 (2.36mm)	89.2	33.9	66.1	
#10 (2mm)	91.3	34.7	65.3	
#16 (1.18mm)	99.8	38.0	62.0	
#20 (0.85mm)	102.7	39.1	60.9	
#40 (0.425mm)	117.0	44.5	55.5	
#60 (0.25mm)	126.0	47.9	52.1	

Material

% Gravel	% Sand	% Fines
29.8	22.3	47.9

Atterberg Limits

PL = 28 **LL =** 70 **PI =** 42

Coefficients

D_{60} = 0.75 D_{10} = **Cc =**
D_{30} = **Cu =**

Soil Classification

USCS	AASHTO
GC	A-7-6

Clayey Gravel with Sand

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Sieve Test

Report #: 012-L1

Client: Administración de Servicios Médicos de Puerto Rico (ASEM)
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico
Location: Centro Médico de Puerto Rico, San Juan, PR

Report Date: 11/03/2026 **Sample Date:** 09/29/2026
Project #: SB72-26-BD-SJU

Sieve Sizes	Wt. Retained (g)	% Retained	% Passing	% Passing Spec Limits
#100 (0.15mm)	131.1	49.9	50.1	
#140 (0.106mm)	133.9	50.9	49.1	
#200 (0.075mm)	136.9	52.1	47.9	

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687



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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 012-L2

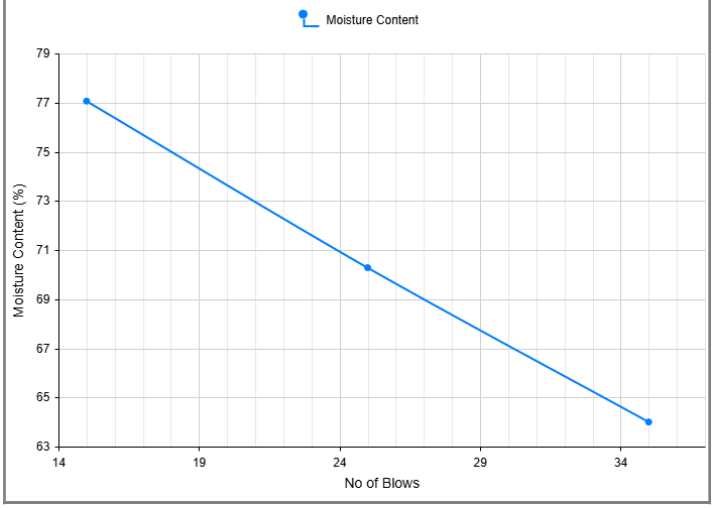
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

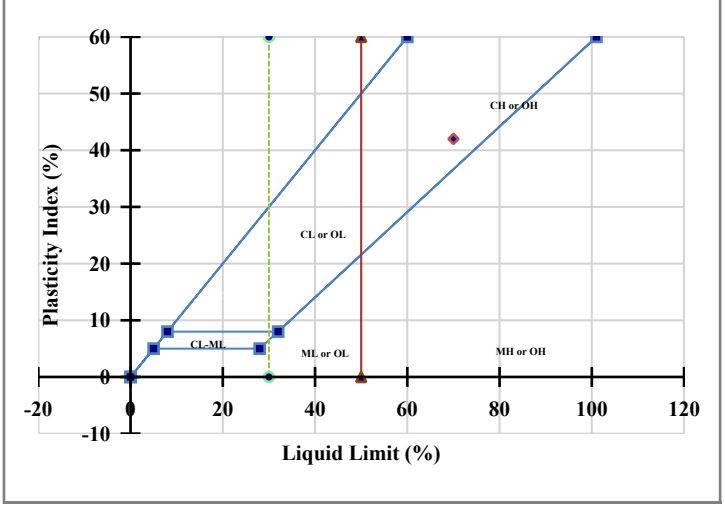
Test Procedure: ASTM D4318
Boring No: B-4 **Depth (ft):** 0-4
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Light reddish brown - 5YR 6/4 / Pinkish gray - 7.5YR 6/2
Soil Description: Clayey Gravel with Sand
Specimen Preparation: Dry (Air) **Mixing Water:** Distilled
Method of Removing Particles > #40 sieve: Dry Sieved on No 40 Sieve
Rolling Procedure: Mechanical Rolling Device **LL Apparatus:** Mechanical **Grooving Tool:** Plastic
Retained #40 Sieve (%) (Calculated) : 44.50

GRAPHICAL SUMMARY

Flow Curve



Plasticity Chart



TEST RESULTS

Liquid Limit (LL): **70**	Plastic Limit (PL): **28**	Plasticity Index (PI): **42**	USCS: **GC** AASHTO: **A-7-6**

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 012-L2

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

ASTM D4318 / AASHTO T89 & 90					
	Liquid Limit (s)			Plastic Limit (s)	
	Trial 1	Trial 2	Trial 3	Trial 1	Trial 2
Number of Blows	35	25	15		
Tare No.	37	42	44	47	64
Tare Mass (g)	31.41	31.22	31.36	31.26	31.31
Tare + Wet Soil (g)	51.73	50.7	51.12	39.94	40.03
Tare + Dry Soil (g)	43.8	42.66	42.52	38.03	38.12
Mass of Dry Soil (g)	12.39	11.44	11.16	6.77	6.81
Mass of Water (g)	7.93	8.04	8.6	1.91	1.91
Moisture Content (%)	64	70.28	77.06	28.21	28.05

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Wash 200 Analysis (ASTM D1140/D2216)

Report #: 012-L3

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-4 **Depth (ft):** 0-4
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Light reddish brown - 5YR 6/4 / Pinkish gray - 7.5YR 6/2
Test Procedure: ASTM D1140

MOISTURE CONTENT & PERCENT FINES (ASTM D1140/D2216)

MOISTURE CONTENT & PERCENT FINES		
Pan #	138	
Pan Weight (g)	274	
MOISTURE CONTENT		
Wet Weight (g)	536.8	262.8
Original Dry Mass (g)	536.8	262.8
Moisture Percent (%)	0.00	
PERCENT FINES		
Dry Weight (g)	536.8	262.8
Dry Mass Retained on the (No. 200)	411.4	137.4
Percentage of material finer than the 75-µm (No 200) (%)	47.7	
Recorded according to ASTM D6026	☐	
Test Method	Method B (Cohesive Soils)	
Soaking Time (min)	120	
Test performed with the alternative method	☐	

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

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Notes: The results above apply only to the specific samples noted using the aforementioned test method(s) and do not represent any other sample. Reports may not be reproduced except in full without permission.

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Sample Soil Pickup

Report #: 013

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Field Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

FIELD DATA

No. of Samples / Sets: 3
Sample Source/Location: Boring Sample/In-Situ
Boring No: B-4 **Depth (ft):** 13-15
Sample Description / Classification: Very pale brown - 10YR 7/3

SUMMARY OF WORK PERFORMED

LAB TEST SUMMARY

No	Test	Test Method	Status
013-L1	Sieve Test	ASTM D6913 (Sieve)	Completed
013-L2	Atterberg (ASTM4318 / AASHTO T89 & 90)	ASTM D4318	Completed
013-L3	Wash 200 Analysis (ASTM D1140/D2216)	ASTM D1140	Completed

Note: All completed lab tests are attached below.

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Field Representative: GEO FIELDTECH



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Sieve Test

Report #: 013-L1

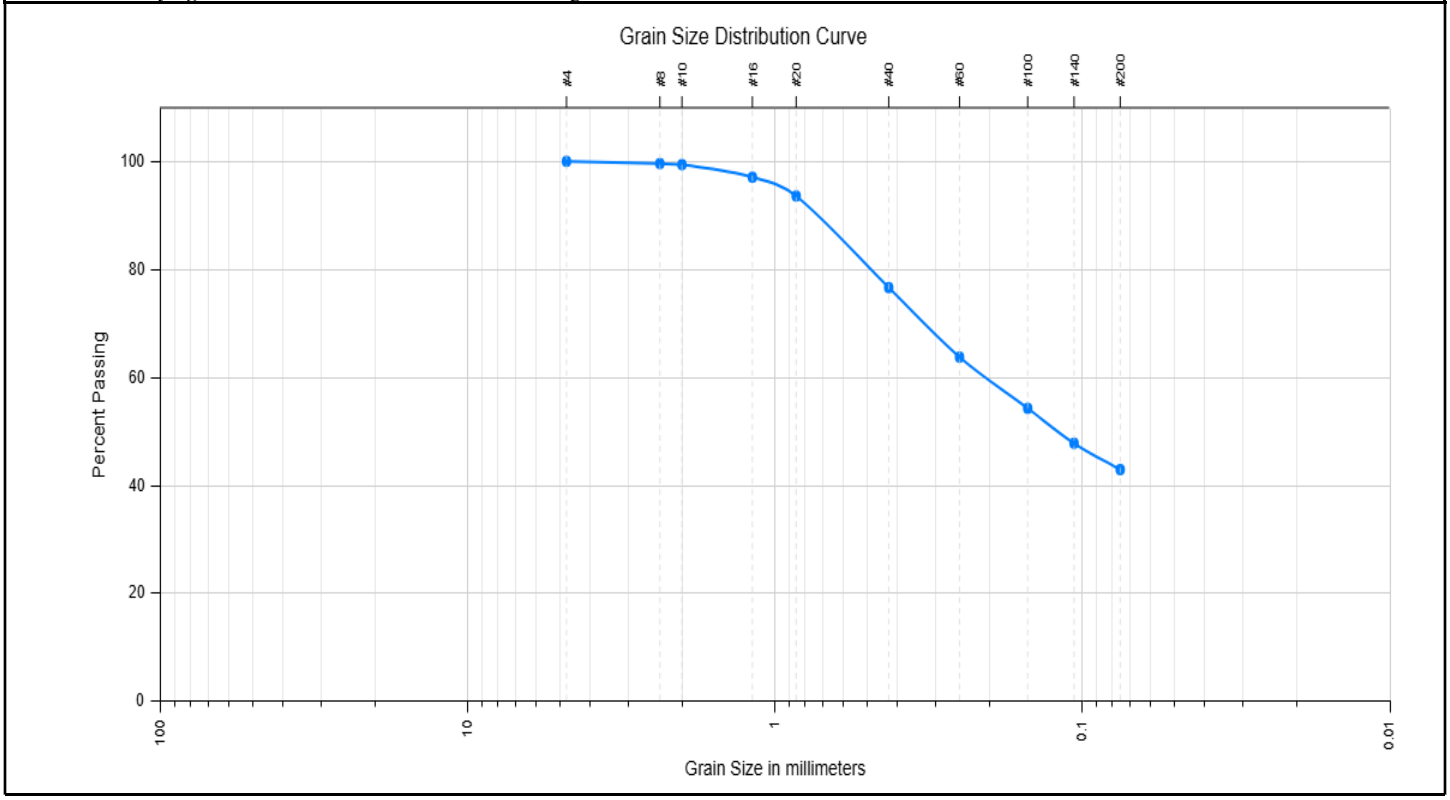
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-4 **Depth (ft):** 13-15
Test Procedure: ASTM D6913 (Sieve)
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Very pale brown - 10YR 7/3

SIEVE ANALYSIS AND TEST RESULTS

Composite Sieve :		**Maximum Particle Size (g) :**							
Tare Wt (g)	267.5	**Tare #**	106	**Moisture Content (%)**	0.00			**Dry Wt.+ Tare (g)**	573.2
Water Wt	0.00	**Wet Wt.+ Tare (g)**	573.2	**Dry Wt (g)**	305.70				
Sample Washed	X Yes ☐ No	**Dry Wt.+Tare after Wash**	444.5	**Wt of Soil After Wash**	177	**Wash Loss**	128.7	**Passing #200 from Wash**	42.1
Method: B **Drying Method:** Oven-dried **Process Sieve:** Single sieve									



Sieve Sizes	Wt. Retained (g)	% Retained	% Passing	% Passing Spec Limits
#4 (4.75mm)		0.0	100.0	
#8 (2.36mm)	1.1	0.4	99.6	
#10 (2mm)	1.9	0.6	99.4	
#16 (1.18mm)	8.9	2.9	97.1	
#20 (0.85mm)	19.7	6.4	93.6	
#40 (0.425mm)	71.4	23.4	76.6	
#60 (0.25mm)	111.0	36.3	63.7	
#100 (0.15mm)	140.0	45.8	54.2	
#140 (0.106mm)	159.8	52.3	47.7	
#200 (0.075mm)	174.9	57.2	42.8	

Material

% Gravel	% Sand	% Fines
0.0	57.2	42.8

Atterberg Limits

PL = 36 LL = 44 PI = 8

Coefficients

D_{60} = 0.20 D_{10} = Cc =
D_{30} = Cu =

Soil Classification

USCS	AASHTO
SM	A-5

Silty Sand

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Sieve Test

Report #: 013-L1

Client: Administración de Servicios Médicos de Puerto Rico (ASEM)
Report Date: 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico
Project #: SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687



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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 013-L2

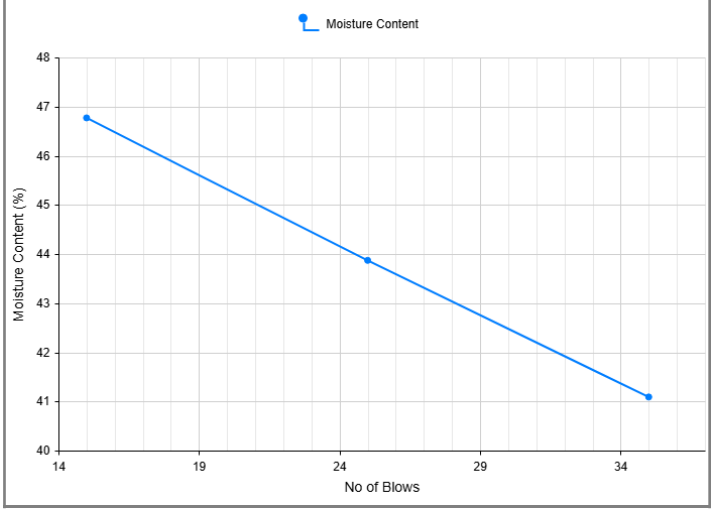
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

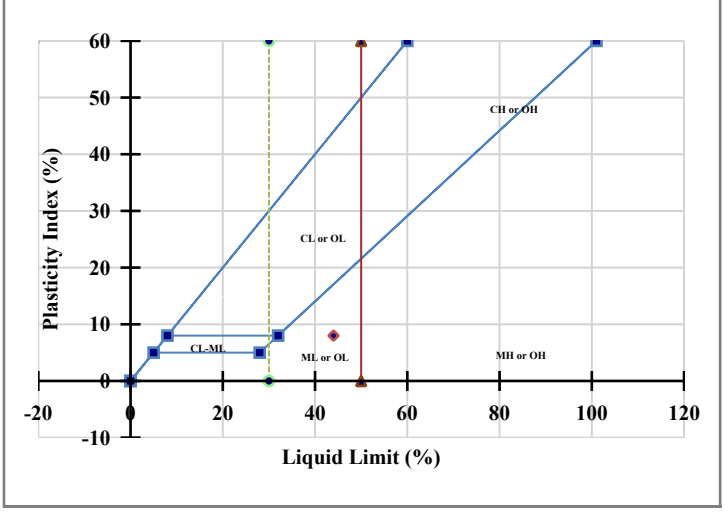
Test Procedure: ASTM D4318
Boring No: B-4 **Depth (ft):** 13-15
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Very pale brown - 10YR 7/3
Soil Description: Silty Sand
Specimen Preparation: Dry (Air) **Mixing Water:** Distilled
Method of Removing Particles > #40 sieve: Dry Sieved on No 40 Sieve
Rolling Procedure: Mechanical Rolling Device **LL Apparatus:** Mechanical **Grooving Tool:** Metal
Retained #40 Sieve (%) (Calculated) : 23.40

GRAPHICAL SUMMARY

Flow Curve



Plasticity Chart



TEST RESULTS

Liquid Limit (LL): **44**	Plastic Limit (PL): **36**	Plasticity Index (PI): **8**	USCS: **SM** AASHTO: **A-5**

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 013-L2

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

ASTM D4318 / AASHTO T89 & 90					
	Liquid Limit (s)			Plastic Limit (s)	
	Trial 1	Trial 2	Trial 3	Trial 1	Trial 2
Number of Blows	35	25	15		
Tare No.	6	9	11	26	33
Tare Mass (g)	31.22	31.68	31.4	31.48	31.44
Tare + Wet Soil (g)	51.72	50.93	51.83	41.4	41.42
Tare + Dry Soil (g)	45.75	45.06	45.32	38.77	38.78
Mass of Dry Soil (g)	14.53	13.38	13.92	7.29	7.34
Mass of Water (g)	5.97	5.87	6.51	2.63	2.64
Moisture Content (%)	41.09	43.87	46.77	36.08	35.97

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Wash 200 Analysis (ASTM D1140/D2216)

Report #: 013-L3

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-4 **Depth (ft):** 13-15
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Very pale brown - 10YR 7/3
Test Procedure: ASTM D1140

MOISTURE CONTENT & PERCENT FINES (ASTM D1140/D2216)

MOISTURE CONTENT & PERCENT FINES		
Pan #	106	
Pan Weight (g)	267.7	
MOISTURE CONTENT		
Wet Weight (g)	573.2	305.5
Original Dry Mass (g)	573.2	305.5
Moisture Percent (%)	0.00	
PERCENT FINES		
Dry Weight (g)	573.2	305.5
Dry Mass Retained on the (No. 200)	444.6	176.9
Percentage of material finer than the 75-µm (No 200) (%)	42.1	
Recorded according to ASTM D6026	[X]	
Test Method	Method B (Cohesive Soils)	
Soaking Time (min)	120	
Test performed with the alternative method	[ ]	

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

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Sample Soil Pickup

Report #: 014

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Field Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

FIELD DATA

No. of Samples / Sets: 3
Sample Source/Location: Boring Sample/In-Situ
Boring No: B-4 **Depth (ft):** 28-30
Sample Description / Classification: Pale yellow - 2.5Y 7/4

SUMMARY OF WORK PERFORMED

LAB TEST SUMMARY

No	Test	Test Method	Status
014-L1	Sieve Test	ASTM D6913 (Sieve)	Completed
014-L2	Atterberg (ASTM4318 / AASHTO T89 & 90)	ASTM D4318	Completed
014-L3	Wash 200 Analysis (ASTM D1140/D2216)	ASTM D1140	Completed

Note: All completed lab tests are attached below.

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Field Representative: GEO FIELDTECH

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Sieve Test

Report #: 014-L1

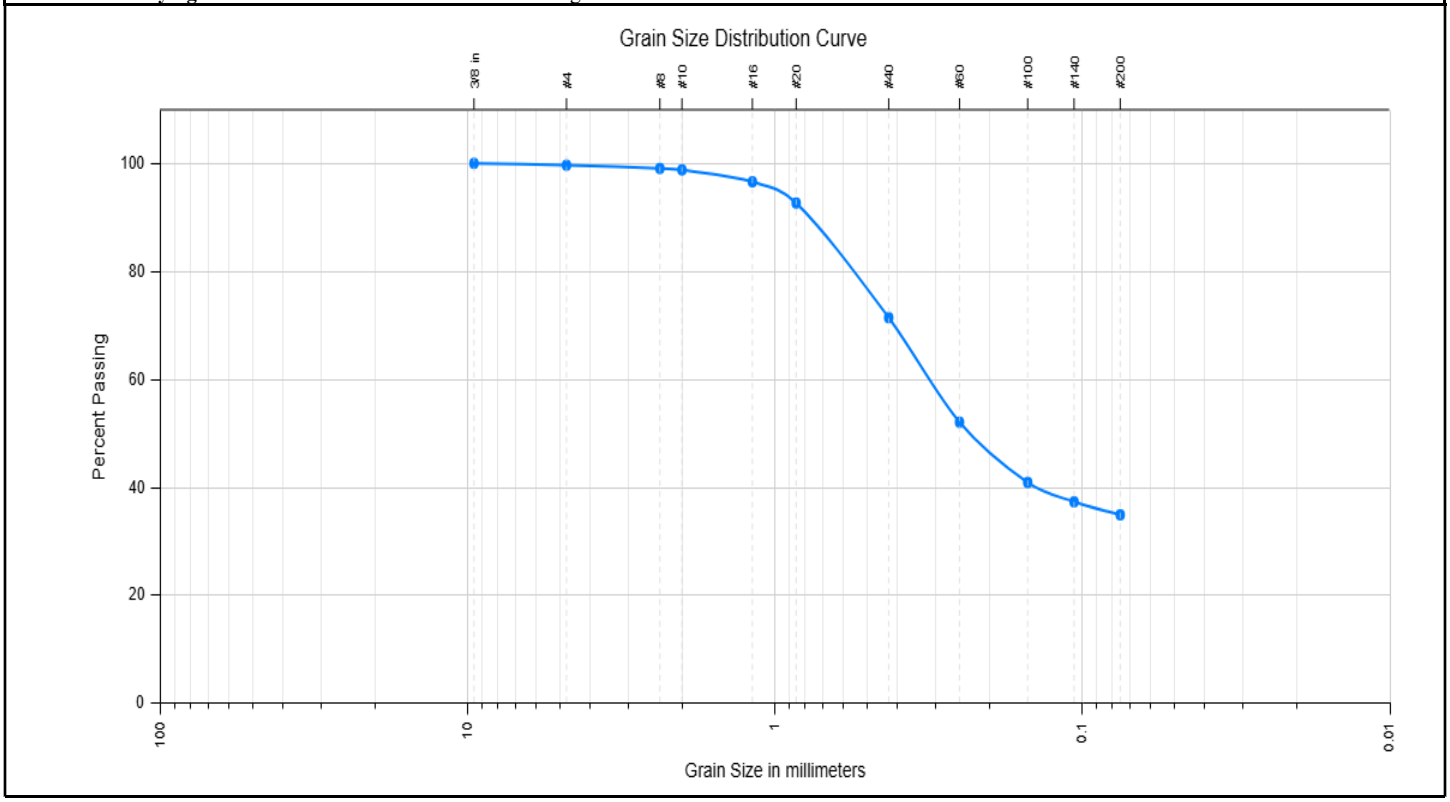
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-4 **Depth (ft):** 28-30
Test Procedure: ASTM D6913 (Sieve)
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Pale yellow - 2.5Y 7/4

SIEVE ANALYSIS AND TEST RESULTS

Composite Sieve :			**Maximum Particle Size (g) :**								
Tare Wt (g)	274.8	**Tare #**	146	**Moisture Content (%)**	0.00			**Dry Wt.+ Tare (g)**	591.6		
Water Wt	0.00	**Wet Wt.+ Tare (g)**	591.6	**Dry Wt (g)**	316.80						
Sample Washed	X Yes ☐ No	**Dry Wt.+Tare after Wash**	481.8	**Wt of Soil After Wash**	207	**Wash Loss**	109.8	**Passing #200 from Wash**	34.66		
Method: B **Drying Method:** Oven-dried **Process Sieve:** Single sieve											



Sieve Sizes	Wt. Retained (g)	% Retained	% Passing	% Passing Spec Limits
3/8 in (9.5mm)		0.0	100.0	
#4 (4.75mm)	0.8	0.3	99.7	
#8 (2.36mm)	2.8	0.9	99.1	
#10 (2mm)	3.8	1.2	98.8	
#16 (1.18mm)	10.7	3.4	96.6	
#20 (0.85mm)	23.0	7.3	92.7	
#40 (0.425mm)	90.7	28.6	71.4	
#60 (0.25mm)	152.2	48.0	52.0	
#100 (0.15mm)	187.4	59.2	40.8	
#140 (0.106mm)	199.1	62.8	37.2	
#200 (0.075mm)	206.5	65.2	34.8	

Material

% Gravel	% Sand	% Fines
0.3	64.9	34.8

Atterberg Limits

PL = 22 **LL =** 62 **PI =** 40

Coefficients

D_{60} = 0.31 D_{10} = Cc =
D_{30} = Cu =

Soil Classification

USCS	AASHTO
SC	A-2-7

Clayey Sand

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Sieve Test

Report #: 014-L1

Client: Administración de Servicios Médicos de Puerto Rico (ASEM)
Report Date: 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico
Project #: SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687



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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 014-L2

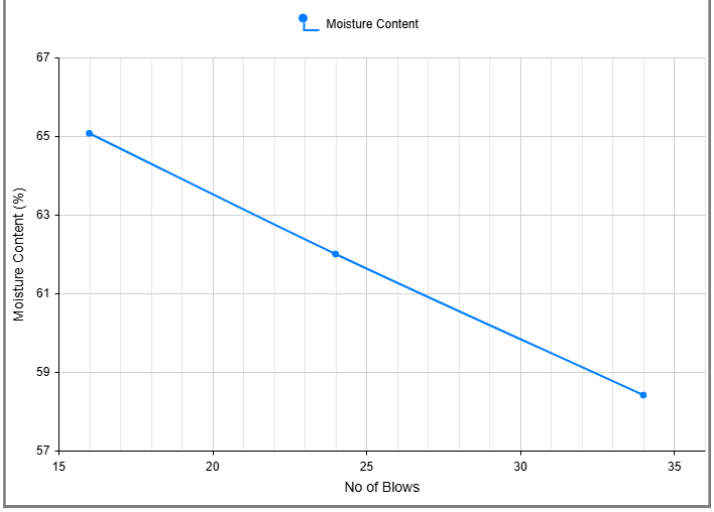
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

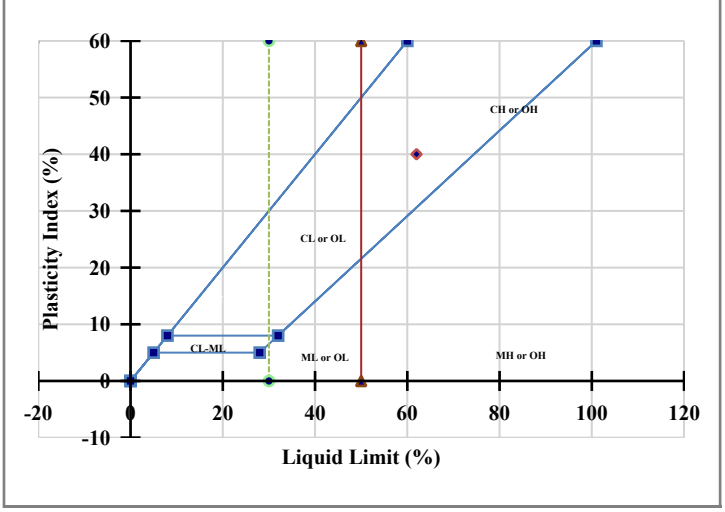
Test Procedure: ASTM D4318
Boring No: B-4 **Depth (ft):** 28-30
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Pale yellow - 2.5Y 7/4
Soil Description: Clayey Sand
Specimen Preparation: Dry (Air) **Mixing Water:** Distilled
Method of Removing Particles > #40 sieve: Dry Sieved on No 40 Sieve
Rolling Procedure: Mechanical Rolling Device **LL Apparatus:** Mechanical **Grooving Tool:** Plastic
Retained #40 Sieve (%) (Calculated) : 28.60

GRAPHICAL SUMMARY

Flow Curve



Plasticity Chart



TEST RESULTS

Liquid Limit (LL): **62**	Plastic Limit (PL): **22**	Plasticity Index (PI): **40**	USCS: **SC** AASHTO: **A-2-7**

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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 014-L2

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

ASTM D4318 / AASHTO T89 & 90					
	Liquid Limit (s)			Plastic Limit (s)	
	Trial 1	Trial 2	Trial 3	Trial 1	Trial 2
Number of Blows	34	24	16		
Tare No.	3	10	20	31	41
Tare Mass (g)	31.21	31.37	31.59	31.29	31.31
Tare + Wet Soil (g)	52.31	52.56	52.67	39.04	39.41
Tare + Dry Soil (g)	44.53	44.45	44.36	37.68	37.95
Mass of Dry Soil (g)	13.32	13.08	12.77	6.39	6.64
Mass of Water (g)	7.78	8.11	8.31	1.36	1.46
Moisture Content (%)	58.41	62	65.07	21.28	21.99

GEO | geotechnical engineering construction materials testing

Wash 200 Analysis (ASTM D1140/D2216)

Report #: 014-L3

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-4 **Depth (ft):** 28-30
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Pale yellow - 2.5Y 7/4
Test Procedure: ASTM D1140

MOISTURE CONTENT & PERCENT FINES (ASTM D1140/D2216)

MOISTURE CONTENT & PERCENT FINES		
Pan #	146	
Pan Weight (g)	274.7	
MOISTURE CONTENT		
Wet Weight (g)	591.6	316.9
Original Dry Mass (g)	591.6	316.9
Moisture Percent (%)	0.00	
PERCENT FINES		
Dry Weight (g)	591.6	316.9
Dry Mass Retained on the (No. 200)	481.8	207.1
Percentage of material finer than the 75-µm (No 200) (%)	34.6	
Recorded according to ASTM D6026	[X]	
Test Method	Method B (Cohesive Soils)	
Soaking Time (min)	120	
Test performed with the alternative method	[ ]	

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

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Sample Soil Pickup

Report #: 015

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Field Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

FIELD DATA

No. of Samples / Sets: 3
Sample Source/Location: Boring Sample/In-Situ
Boring No: B-5 **Depth (ft):** 13-15
Sample Description / Classification: Light gray - 10YR 7/2

SUMMARY OF WORK PERFORMED

LAB TEST SUMMARY

No	Test	Test Method	Status
015-L1	Sieve Test	ASTM D6913 (Sieve)	Completed
015-L2	Atterberg (ASTM4318 / AASHTO T89 & 90)	ASTM D4318	Completed
015-L3	Wash 200 Analysis (ASTM D1140/D2216)	ASTM D1140	Completed

Note: All completed lab tests are attached below.

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Field Representative: GEO FIELDTECH

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Sieve Test

Report #: 015-L1

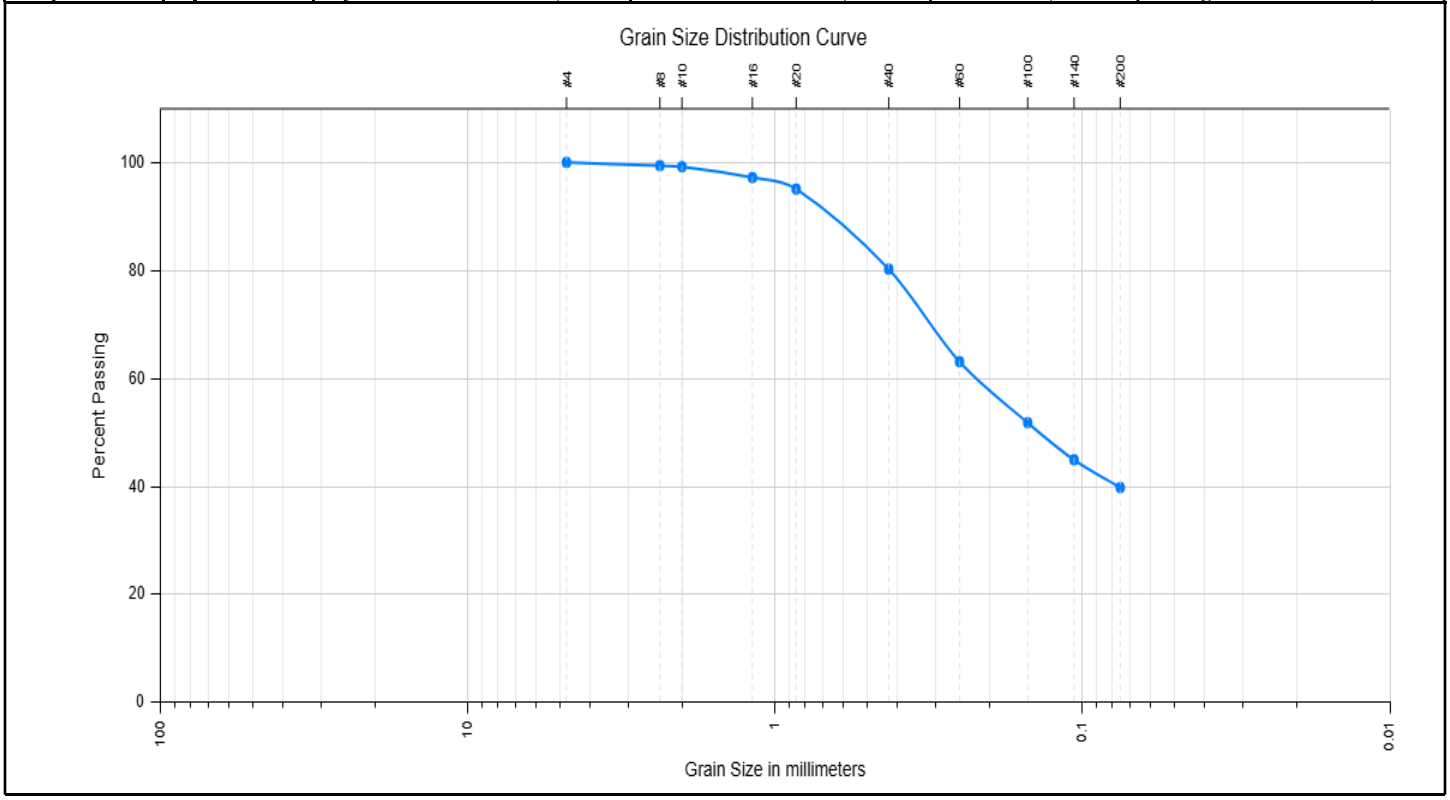
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-5 **Depth (ft):** 13-15
Test Procedure: ASTM D6913 (Sieve)
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Light gray - 10YR 7/2

SIEVE ANALYSIS AND TEST RESULTS

Composite Sieve :				**Maximum Particle Size (g) :**							
Tare Wt (g)	274.2	**Tare #**	139	**Moisture Content (%)**	0.00			**Dry Wt.+ Tare (g)**	541.9		
Water Wt	0.00	**Wet Wt.+ Tare (g)**	541.9	**Dry Wt (g)**	267.70						
Sample Washed	X Yes ☐ No	**Dry Wt.+Tare after Wash**	437.7	**Wt of Soil After Wash**	163.5	**Wash Loss**	104.2	**Passing #200 from Wash**	38.92		



Sieve Sizes	Wt. Retained (g)	% Retained	% Passing	% Passing Spec Limits
#4 (4.75mm)		0.0	100.0	
#8 (2.36mm)	1.6	0.6	99.4	
#10 (2mm)	2.2	0.8	99.2	
#16 (1.18mm)	7.6	2.8	97.2	
#20 (0.85mm)	13.0	4.9	95.1	
#40 (0.425mm)	53.1	19.8	80.2	
#60 (0.25mm)	99.1	37.0	63.0	
#100 (0.15mm)	129.2	48.3	51.7	
#140 (0.106mm)	147.7	55.2	44.8	
#200 (0.075mm)	161.5	60.3	39.7	

Material

% Gravel	% Sand	% Fines
0.0	60.3	39.7

Atterberg Limits

PL = 33 **LL =** 45 **PI =** 12

Coefficients

D_{60} = 0.22 D_{10} = **Cc =**
D_{30} = **Cu =**

Soil Classification

USCS	AASHTO
SM	A-7-5

Silty Sand

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Sieve Test

Report #: 015-L1

Client: Administración de Servicios Médicos de Puerto Rico (ASEM)
Report Date: 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico
Project #: SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687



Alejandro Torres, P.E.
Engineer (#28734)
GEO-Engineering
Date Signed: 11/03/2026 10:50 AM

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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 015-L2

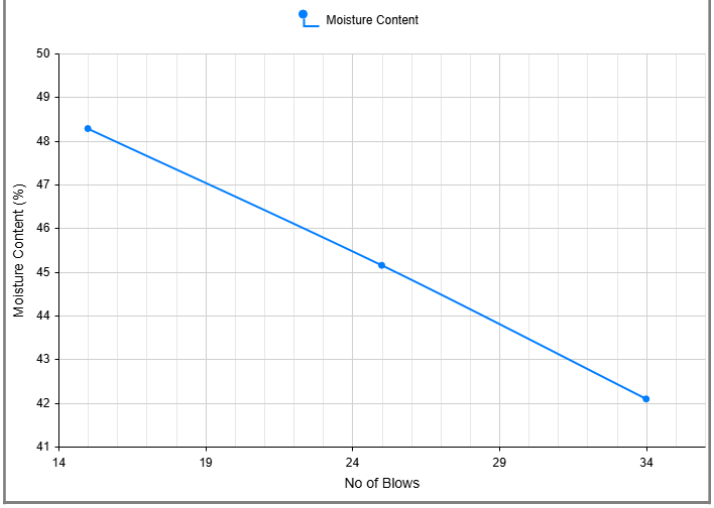
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

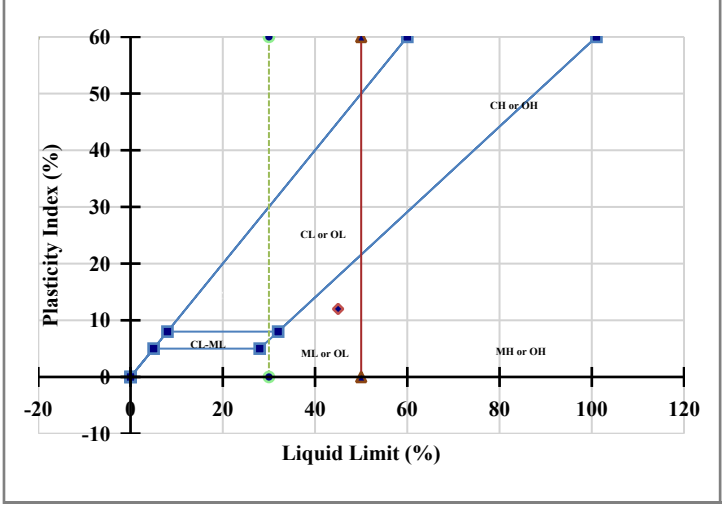
Test Procedure: ASTM D4318
Boring No: B-5 **Depth (ft):** 13-15
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Light gray - 10YR 7/2
Soil Description: Silty Sand
Specimen Preparation: Dry (Air) **Mixing Water:** Distilled
Method of Removing Particles > #40 sieve: Dry Sieved on No 40 Sieve
Rolling Procedure: Mechanical Rolling Device **LL Apparatus:** Mechanical **Grooving Tool:** Metal
Retained #40 Sieve (%) (Calculated) : 19.80

GRAPHICAL SUMMARY

Flow Curve



Plasticity Chart



TEST RESULTS

Liquid Limit (LL): **45**	Plastic Limit (PL): **33**	Plasticity Index (PI): **12**	USCS: **SM** AASHTO: **A-7-5**

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 015-L2

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

ASTM D4318 / AASHTO T89 & 90					
	Liquid Limit (s)			Plastic Limit (s)	
	Trial 1	Trial 2	Trial 3	Trial 1	Trial 2
Number of Blows	34	25	15		
Tare No.	17	37	43	45	46
Tare Mass (g)	31.48	31.42	31.47	31.35	31.26
Tare + Wet Soil (g)	54.1	53.25	53.4	41.13	41.22
Tare + Dry Soil (g)	47.4	46.46	46.26	38.69	38.78
Mass of Dry Soil (g)	15.92	15.04	14.79	7.34	7.52
Mass of Water (g)	6.7	6.79	7.14	2.44	2.44
Moisture Content (%)	42.09	45.15	48.28	33.24	32.45

GEO | geotechnical engineering construction materials testing

Wash 200 Analysis (ASTM D1140/D2216)

Report #: 015-L3

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-5 **Depth (ft):** 13-15
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Light gray - 10YR 7/2
Test Procedure: ASTM D1140

MOISTURE CONTENT & PERCENT FINES (ASTM D1140/D2216)

MOISTURE CONTENT & PERCENT FINES		
Pan #	139	
Pan Weight (g)	274.2	
MOISTURE CONTENT		
Wet Weight (g)	541.9	267.7
Original Dry Mass (g)	541.9	267.7
Moisture Percent (%)	0.00	
PERCENT FINES		
Dry Weight (g)	541.9	267.7
Dry Mass Retained on the (No. 200)	437.7	163.5
Percentage of material finer than the 75-µm (No 200) (%)	38.9	
Recorded according to ASTM D6026	[X]	
Test Method	Method B (Cohesive Soils)	
Soaking Time (min)	120	
Test performed with the alternative method	[ ]	

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

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Sample Soil Pickup

Report #: 016

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Field Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

FIELD DATA

No. of Samples / Sets: 3
Sample Source/Location: Boring Sample/In-Situ
Boring No: B-5 **Depth (ft):** 23-25
Sample Description / Classification: Pale yellow - 2.5Y 7/3

SUMMARY OF WORK PERFORMED

LAB TEST SUMMARY

No	Test	Test Method	Status
016-L1	Sieve Test	ASTM D6913 (Sieve)	Completed
016-L2	Atterberg (ASTM4318 / AASHTO T89 & 90)	ASTM D4318	Completed
016-L3	Wash 200 Analysis (ASTM D1140/D2216)	ASTM D1140	Completed

Note: All completed lab tests are attached below.

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Field Representative: GEO FIELDTECH

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Sieve Test

Report #: 016-L1

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

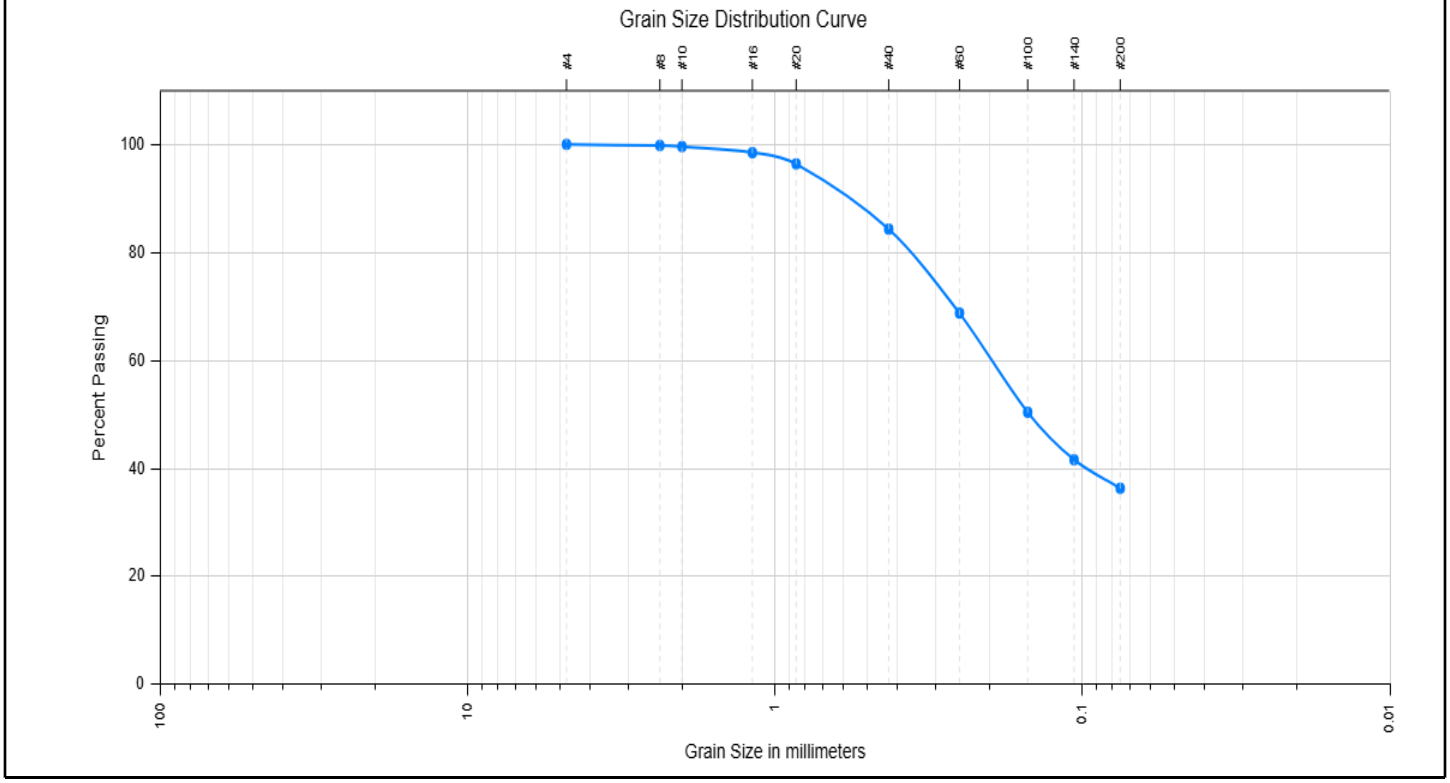
SAMPLE DATA

Boring No: B-5 **Depth (ft):** 23-25
Test Procedure: ASTM D6913 (Sieve)
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Pale yellow - 2.5Y 7/3

SIEVE ANALYSIS AND TEST RESULTS

Composite Sieve :		**Maximum Particle Size (g) :**							
Tare Wt (g)	450.1	**Tare #**	2005	**Moisture Content (%)**	0.00			**Dry Wt.+ Tare (g)**	819.7
Water Wt	0.00	**Wet Wt.+ Tare (g)**	819.7	**Dry Wt (g)**	369.60				
Sample Washed	X Yes ☐ No	**Dry Wt.+Tare after Wash**	691	**Wt of Soil After Wash**	240.9	**Wash Loss**	128.7	**Passing #200 from Wash**	34.82

Method: B **Drying Method:** Oven-dried **Process Sieve:** Single sieve



Sieve Sizes	Wt. Retained (g)	% Retained	% Passing	% Passing Spec Limits
#4 (4.75mm)		0.0	100.0	
#8 (2.36mm)	0.9	0.2	99.8	
#10 (2mm)	1.3	0.4	99.6	
#16 (1.18mm)	5.6	1.5	98.5	
#20 (0.85mm)	13.4	3.6	96.4	
#40 (0.425mm)	57.9	15.7	84.3	
#60 (0.25mm)	115.7	31.3	68.7	
#100 (0.15mm)	183.7	49.7	50.3	
#140 (0.106mm)	216.4	58.5	41.5	
#200 (0.075mm)	235.8	63.8	36.2	

Material

% Gravel	% Sand	% Fines
0.0	63.8	36.2

Atterberg Limits

PL = 23 LL = 38 PI = 15

Coefficients

D_{60} = 0.20 D_{10} = Cc =
D_{30} = Cu =

Soil Classification

USCS	AASHTO
SC	A-6

Clayey Sand

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Sieve Test

Report #: 016-L1

Client: Administración de Servicios Médicos de Puerto Rico (ASEM)
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico
Location: Centro Médico de Puerto Rico, San Juan, PR

Report Date: 11/03/2026 **Sample Date:** 09/29/2026
Project #: SB72-26-BD-SJU

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687



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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 016-L2

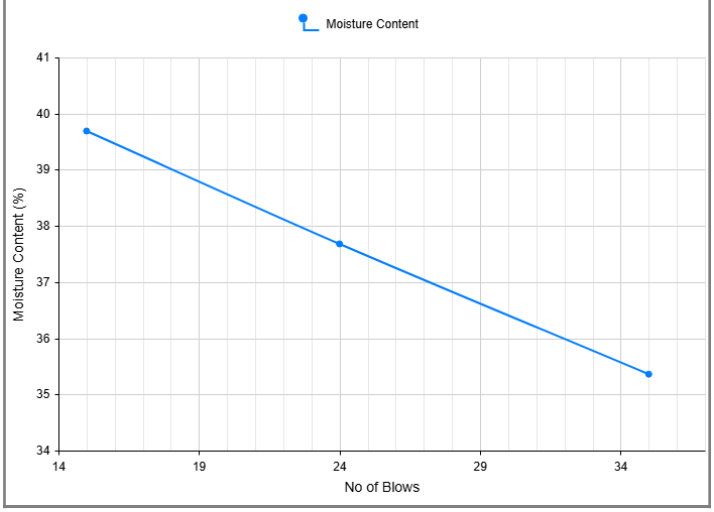
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

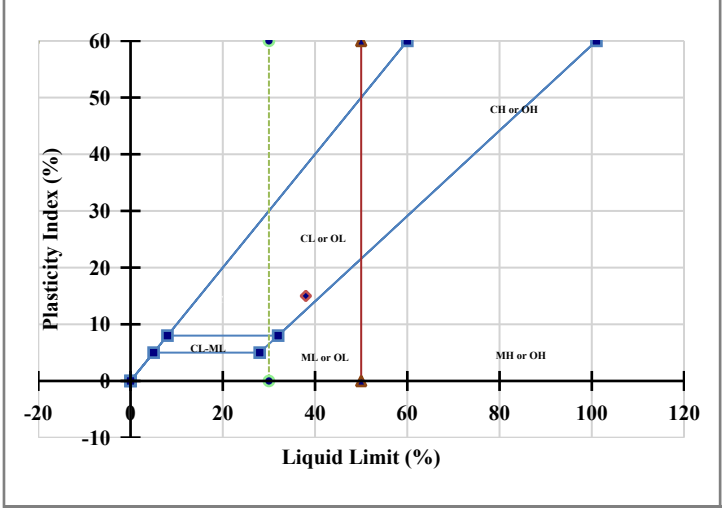
Test Procedure: ASTM D4318
Boring No: B-5 **Depth (ft):** 23-25
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Pale yellow - 2.5Y 7/3
Soil Description: Clayey Sand
Specimen Preparation: Dry (Air) **Mixing Water:** Distilled
Method of Removing Particles > #40 sieve: Dry Sieved on No 40 Sieve
Rolling Procedure: Mechanical Rolling Device **LL Apparatus:** Mechanical **Grooving Tool:** Plastic
Retained #40 Sieve (%) (Calculated) : 15.70

GRAPHICAL SUMMARY

Flow Curve



Plasticity Chart



TEST RESULTS

Liquid Limit (LL): **38**	Plastic Limit (PL): **23**	Plasticity Index (PI): **15**	USCS: **SC** AASHTO: **A-6**

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 016-L2

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

ASTM D4318 / AASHTO T89 & 90					
	Liquid Limit (s)			Plastic Limit (s)	
	Trial 1	Trial 2	Trial 3	Trial 1	Trial 2
Number of Blows	35	24	15		
Tare No.	8	58	63	80	87
Tare Mass (g)	31.38	31.52	31.85	31.12	31.13
Tare + Wet Soil (g)	56.95	57.9	57.05	40.74	41.02
Tare + Dry Soil (g)	50.27	50.68	49.89	38.96	39.17
Mass of Dry Soil (g)	18.89	19.16	18.04	7.84	8.04
Mass of Water (g)	6.68	7.22	7.16	1.78	1.85
Moisture Content (%)	35.36	37.68	39.69	22.7	23.01

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Wash 200 Analysis (ASTM D1140/D2216)

Report #: 016-L3

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-5 **Depth (ft):** 23-25
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Pale yellow - 2.5Y 7/3
Test Procedure: ASTM D1140

MOISTURE CONTENT & PERCENT FINES (ASTM D1140/D2216)

MOISTURE CONTENT & PERCENT FINES		
Pan #	2005	
Pan Weight (g)	450.1	
MOISTURE CONTENT		
Wet Weight (g)	819.7	369.6
Original Dry Mass (g)	819.7	369.6
Moisture Percent (%)	0.00	
PERCENT FINES		
Dry Weight (g)	819.7	369.6
Dry Mass Retained on the (No. 200)	690.9	240.8
Percentage of material finer than the 75-µm (No 200) (%)	34.8	
Recorded according to ASTM D6026	☐	
Test Method	Method B (Cohesive Soils)	
Soaking Time (min)	120	
Test performed with the alternative method	☐	

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687



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Sample Soil Pickup

Report #: 017

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Field Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

FIELD DATA

No. of Samples / Sets: 3
Sample Source/Location: Boring Sample/In-Situ
Boring No: B-5 **Depth (ft):** 33-35
Sample Description / Classification: Olive yellow - 2.5Y 6/6

SUMMARY OF WORK PERFORMED

LAB TEST SUMMARY

No	Test	Test Method	Status
017-L1	Sieve Test	ASTM D6913 (Sieve)	Completed
017-L2	Atterberg (ASTM4318 / AASHTO T89 & 90)	ASTM D4318	Completed
017-L3	Wash 200 Analysis (ASTM D1140/D2216)	ASTM D1140	Completed

Note: All completed lab tests are attached below.

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Field Representative: GEO FIELDTECH



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Sieve Test

Report #: 017-L1

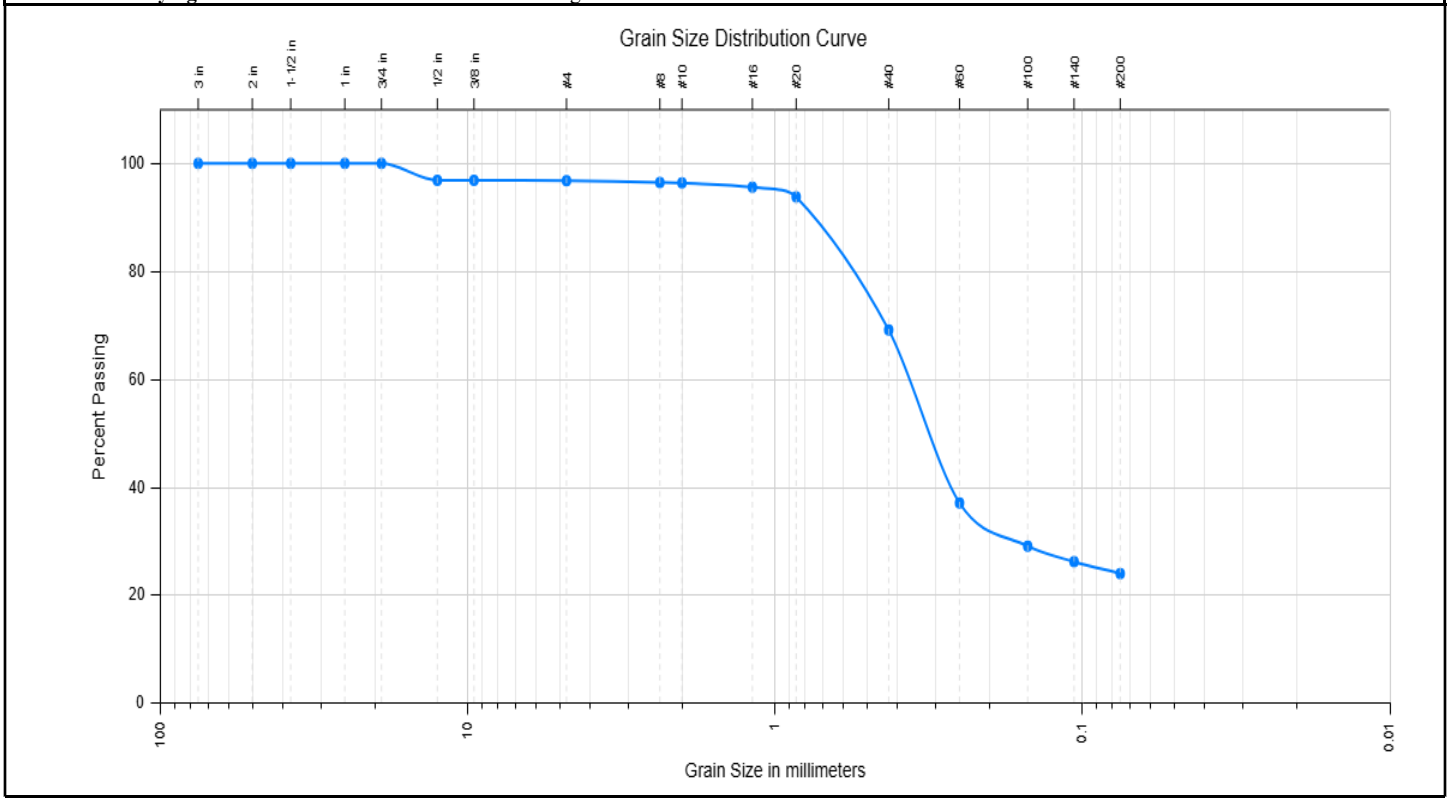
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-5 **Depth (ft):** 33-35
Test Procedure: ASTM D6913 (Sieve)
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Olive yellow - 2.5Y 6/6

SIEVE ANALYSIS AND TEST RESULTS

Composite Sieve :			**Maximum Particle Size (g) :**								
Tare Wt (g)	452.4	**Tare #**	9066	**Moisture Content (%)**	0.00			**Dry Wt.+ Tare (g)**	774.1		
Water Wt	0.00	**Wet Wt.+ Tare (g)**	774.1	**Dry Wt (g)**	321.70						
Sample Washed	X Yes ☐ No	**Dry Wt.+Tare after Wash**	698.1	**Wt of Soil After Wash**	245.7	**Wash Loss**	76	**Passing #200 from Wash**	23.62		
Method: B **Drying Method:** Oven-dried **Process Sieve:** Single sieve											



Sieve Sizes	Wt. Retained (g)	% Retained	% Passing	% Passing Spec Limits
3 in (75mm)		0.0	100.0	
2 in (50mm)		0.0	100.0	
1-1/2 in (37.5mm)		0.0	100.0	
1 in (25mm)		0.0	100.0	
3/4 in (19mm)		0.0	100.0	
1/2 in (12.5mm)	10.1	3.1	96.9	
3/8 in (9.5mm)		0.0	96.9	
#4 (4.75mm)	10.4	3.2	96.8	
#8 (2.36mm)	11.3	3.5	96.5	
#10 (2mm)	11.6	3.6	96.4	
#16 (1.18mm)	14.3	4.4	95.6	

Material

% Gravel	% Sand	% Fines
3.2	72.9	23.9

Atterberg Limits

PL = 21 **LL =** 33 **PI =** 12

Coefficients

D_{60} = 0.37 D_{10} = **Cc =**
D_{30} = 0.16 **Cu =**

Soil Classification

USCS	AASHTO
SC	A-2-6

Clayey Sand

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Sieve Test

Report #: 017-L1

Client: Administración de Servicios Médicos de Puerto Rico (ASEM)
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico
Location: Centro Médico de Puerto Rico, San Juan, PR

Report Date: 11/03/2026 **Sample Date:** 09/29/2026
Project #: SB72-26-BD-SJU

Sieve Sizes	Wt. Retained (g)	% Retained	% Passing	% Passing Spec Limits
#20 (0.85mm)	20.1	6.2	93.8	
#40 (0.425mm)	99.3	30.9	69.1	
#60 (0.25mm)	202.6	63.0	37.0	
#100 (0.15mm)	228.3	71.0	29.0	
#140 (0.106mm)	237.8	73.9	26.1	
#200 (0.075mm)	244.9	76.1	23.9	

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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 017-L2

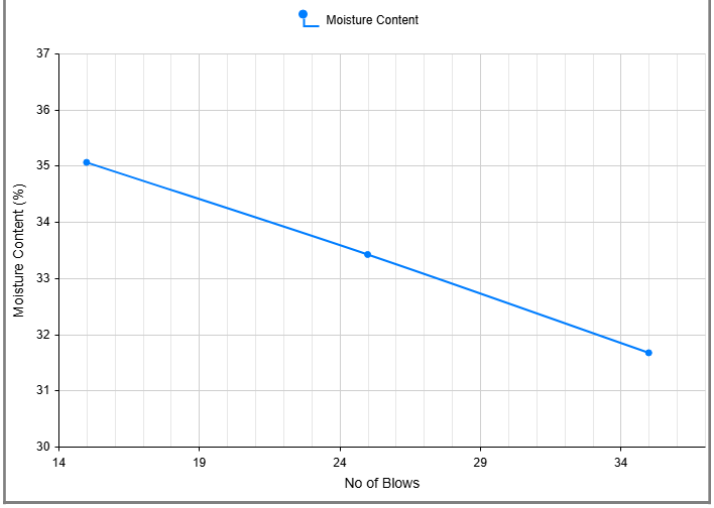
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

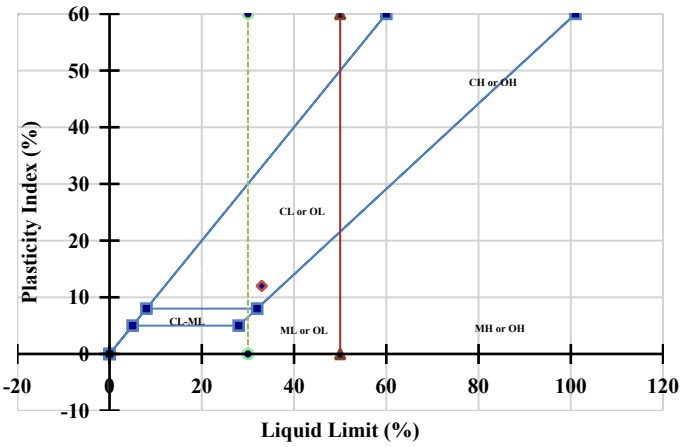
Test Procedure: ASTM D4318
Boring No: B-5 **Depth (ft):** 33-35
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Olive yellow - 2.5Y 6/6
Soil Description: Clayey Sand
Specimen Preparation: Dry (Air) **Mixing Water:** Distilled
Method of Removing Particles > #40 sieve: Dry Sieved on No 40 Sieve
Rolling Procedure: Mechanical Rolling Device **LL Apparatus:** Mechanical **Grooving Tool:** Metal
Retained #40 Sieve (%) (Calculated) : 30.90

GRAPHICAL SUMMARY

Flow Curve



Plasticity Chart



TEST RESULTS

Liquid Limit (LL): **33**	Plastic Limit (PL): **21**	Plasticity Index (PI): **12**	USCS: **SC** AASHTO: **A-2-6**

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

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Alejandro Torres, P.E.
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GEO-Engineering
Date Signed: 11/03/2026 10:50 AM

Notes: As requested, a representative from our company arrived on site as scheduled and performed the above test. These test results apply only to the specific locations noted and do not represent any other location. Reports may not be reproduced except in full, without permission.

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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 017-L2

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

ASTM D4318 / AASHTO T89 & 90					
	Liquid Limit (s)			Plastic Limit (s)	
	Trial 1	Trial 2	Trial 3	Trial 1	Trial 2
Number of Blows	35	25	15		
Tare No.	3	10	11	14	20
Tare Mass (g)	31.23	31.37	31.4	31.62	31.59
Tare + Wet Soil (g)	52.02	52.85	53.01	40.65	40.93
Tare + Dry Soil (g)	47.02	47.47	47.4	39.09	39.3
Mass of Dry Soil (g)	15.79	16.1	16	7.47	7.71
Mass of Water (g)	5	5.38	5.61	1.56	1.63
Moisture Content (%)	31.67	33.42	35.06	20.88	21.14

GEO | geotechnical engineering construction materials testing

Wash 200 Analysis (ASTM D1140/D2216)

Report #: 017-L3

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-5 **Depth (ft):** 33-35
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Olive yellow - 2.5Y 6/6
Test Procedure: ASTM D1140

MOISTURE CONTENT & PERCENT FINES (ASTM D1140/D2216)

MOISTURE CONTENT & PERCENT FINES		
Pan #	9066	
Pan Weight (g)	452.4	
MOISTURE CONTENT		
Wet Weight (g)	774.1	321.7
Original Dry Mass (g)	774.1	321.7
Moisture Percent (%)	0.00	
PERCENT FINES		
Dry Weight (g)	774.1	321.7
Dry Mass Retained on the (No. 200)	698.2	245.8
Percentage of material finer than the 75-µm (No 200) (%)	23.6	
Recorded according to ASTM D6026	[X]	
Test Method	Method B (Cohesive Soils)	
Soaking Time (min)	120	
Test performed with the alternative method	[ ]	

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

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Notes: The results above apply only to the specific samples noted using the aforementioned test method(s) and do not represent any other sample. Reports may not be reproduced except in full without permission.

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Sample Soil Pickup

Report #: 018

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Field Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

FIELD DATA

No. of Samples / Sets: 3
Sample Source/Location: Boring Sample/In-Situ
Boring No: B-6 **Depth (ft):** 2-4
Sample Description / Classification: Dark grayish brown - 10YR 4/2

SUMMARY OF WORK PERFORMED

LAB TEST SUMMARY

No	Test	Test Method	Status
018-L1	Sieve Test	ASTM D6913 (Sieve)	Completed
018-L2	Atterberg (ASTM4318 / AASHTO T89 & 90)	ASTM D4318	Completed
018-L3	Wash 200 Analysis (ASTM D1140/D2216)	ASTM D1140	Completed

Note: All completed lab tests are attached below.

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Field Representative: GEO FIELDTECH

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Sieve Test

Report #: 018-L1

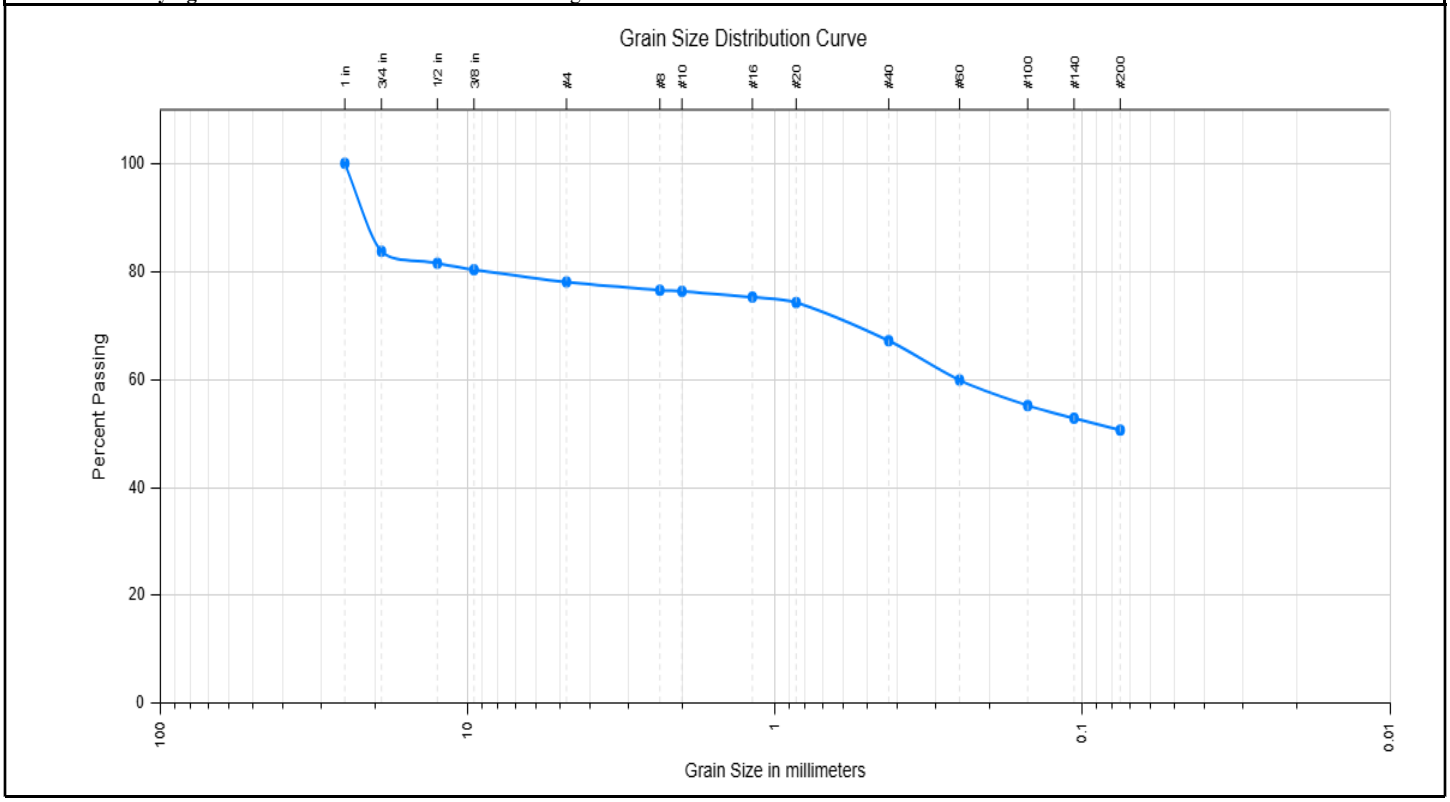
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-6 **Depth (ft):** 2-4
Test Procedure: ASTM D6913 (Sieve)
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Dark grayish brown - 10YR 4/2

SIEVE ANALYSIS AND TEST RESULTS

Composite Sieve :		**Maximum Particle Size (g) :**							
Tare Wt (g)	448.4	**Tare #**	2004	**Moisture Content (%)**	0.00			**Dry Wt.+ Tare (g)**	725.4
Water Wt	0.00	**Wet Wt.+ Tare (g)**	725.4	**Dry Wt (g)**	277.00				
Sample Washed	X Yes ☐ No	**Dry Wt.+Tare after Wash**	586.8	**Wt of Soil After Wash**	138.4	**Wash Loss**	138.6	**Passing #200 from Wash**	50.04
Method: B **Drying Method:** Oven-dried **Process Sieve:** Single sieve									



Sieve Sizes	Wt. Retained (g)	% Retained	% Passing	% Passing Spec Limits
1 in (25mm)		0.0	100.0	
3/4 in (19mm)	45.2	16.3	83.7	
1/2 in (12.5mm)	51.3	18.5	81.5	
3/8 in (9.5mm)	54.5	19.7	80.3	
#4 (4.75mm)	60.9	22.0	78.0	
#8 (2.36mm)	65.0	23.5	76.5	
#10 (2mm)	65.7	23.7	76.3	
#16 (1.18mm)	68.7	24.8	75.2	
#20 (0.85mm)	71.5	25.8	74.2	
#40 (0.425mm)	91.2	32.9	67.1	
#60 (0.25mm)	111.4	40.2	59.8	

Material

% Gravel	% Sand	% Fines
22.0	27.5	50.5

Atterberg Limits

PL = 31 **LL =** 64 **PI =** 33

Coefficients

D_{60} = 0.25 D_{10} = **Cc =**
D_{30} = **Cu =**

Soil Classification

USCS	AASHTO
CH	A-7-5

Sandy Fat Clay with Gravel

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Sieve Test

Report #: 018-L1

Client: Administración de Servicios Médicos de Puerto Rico (ASEM)
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico
Location: Centro Médico de Puerto Rico, San Juan, PR

Report Date: 11/03/2026 **Sample Date:** 09/29/2026
Project #: SB72-26-BD-SJU

Sieve Sizes	Wt. Retained (g)	% Retained	% Passing	% Passing Spec Limits
#100 (0.15mm)	124.5	44.9	55.1	
#140 (0.106mm)	131.1	47.3	52.7	
#200 (0.075mm)	137.2	49.5	50.5	

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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 018-L2

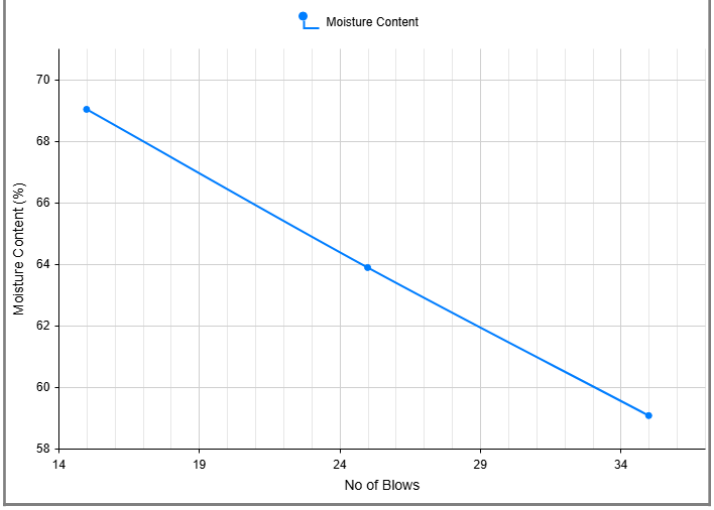
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

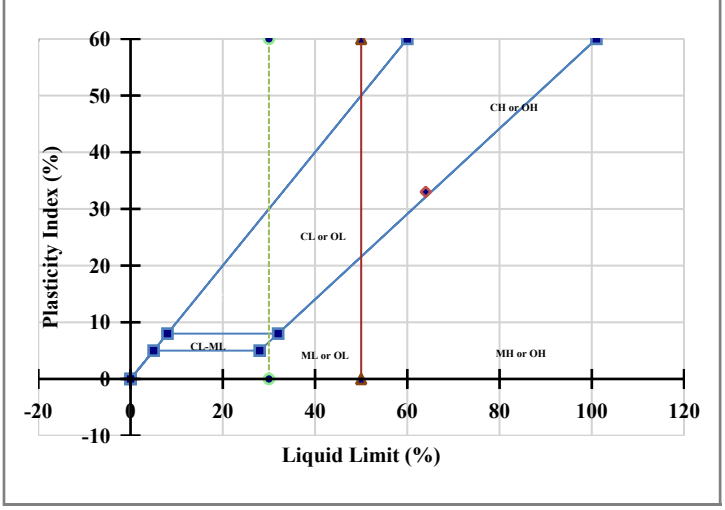
Test Procedure: ASTM D4318
Boring No: B-6 **Depth (ft):** 2-4
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Dark grayish brown - 10YR 4/2
Soil Description: Sandy Fat Clay with Gravel
Specimen Preparation: Dry (Air) **Mixing Water:** Distilled
Method of Removing Particles > #40 sieve: Dry Sieved on No 40 Sieve
Rolling Procedure: Mechanical Rolling Device **LL Apparatus:** Mechanical **Grooving Tool:** Metal
Retained #40 Sieve (%) (Calculated) : 32.90

GRAPHICAL SUMMARY

Flow Curve



Plasticity Chart



TEST RESULTS

Liquid Limit (LL): **64**	Plastic Limit (PL): **31**	Plasticity Index (PI): **33**	USCS: **CH** AASHTO: **A-7-5**

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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 018-L2

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

ASTM D4318 / AASHTO T89 & 90					
	Liquid Limit (s)			Plastic Limit (s)	
	Trial 1	Trial 2	Trial 3	Trial 1	Trial 2
Number of Blows	35	25	15		
Tare No.	33	24	15	47	56
Tare Mass (g)	31.43	31.3	31.22	31.26	31.24
Tare + Wet Soil (g)	54.94	54.26	54.19	40.42	40.45
Tare + Dry Soil (g)	46.21	45.31	44.81	38.29	38.23
Mass of Dry Soil (g)	14.78	14.01	13.59	7.03	6.99
Mass of Water (g)	8.73	8.95	9.38	2.13	2.22
Moisture Content (%)	59.07	63.88	69.02	30.3	31.76

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Wash 200 Analysis (ASTM D1140/D2216)

Report #: 018-L3

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-6 **Depth (ft):** 2-4
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Dark grayish brown - 10YR 4/2
Test Procedure: ASTM D1140

MOISTURE CONTENT & PERCENT FINES (ASTM D1140/D2216)

MOISTURE CONTENT & PERCENT FINES		
Pan #	2004	
Pan Weight (g)	448.3	
MOISTURE CONTENT		
Wet Weight (g)	725.4	277.1
Original Dry Mass (g)	725.4	277.1
Moisture Percent (%)	0.00	
PERCENT FINES		
Dry Weight (g)	725.4	277.1
Dry Mass Retained on the (No. 200)	586.8	138.5
Percentage of material finer than the 75-µm (No 200) (%)	50.0	
Recorded according to ASTM D6026	[X]	
Test Method	Method B (Cohesive Soils)	
Soaking Time (min)	120	
Test performed with the alternative method	[ ]	

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

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Sample Soil Pickup

Report #: 019

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Field Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

FIELD DATA

No. of Samples / Sets: 3
Sample Source/Location: Boring Sample/In-Situ
Boring No: B-6 **Depth (ft):** 8-10
Sample Description / Classification: Brownish yellow - 10YR 6/6

SUMMARY OF WORK PERFORMED

LAB TEST SUMMARY

No	Test	Test Method	Status
019-L1	Sieve Test	ASTM D6913 (Sieve)	Completed
019-L2	Atterberg (ASTM4318 / AASHTO T89 & 90)	ASTM D4318	Completed
019-L3	Wash 200 Analysis (ASTM D1140/D2216)	ASTM D1140	Completed

Note: All completed lab tests are attached below.

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Field Representative: GEO FIELDTECH

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Sieve Test

Report #: 019-L1

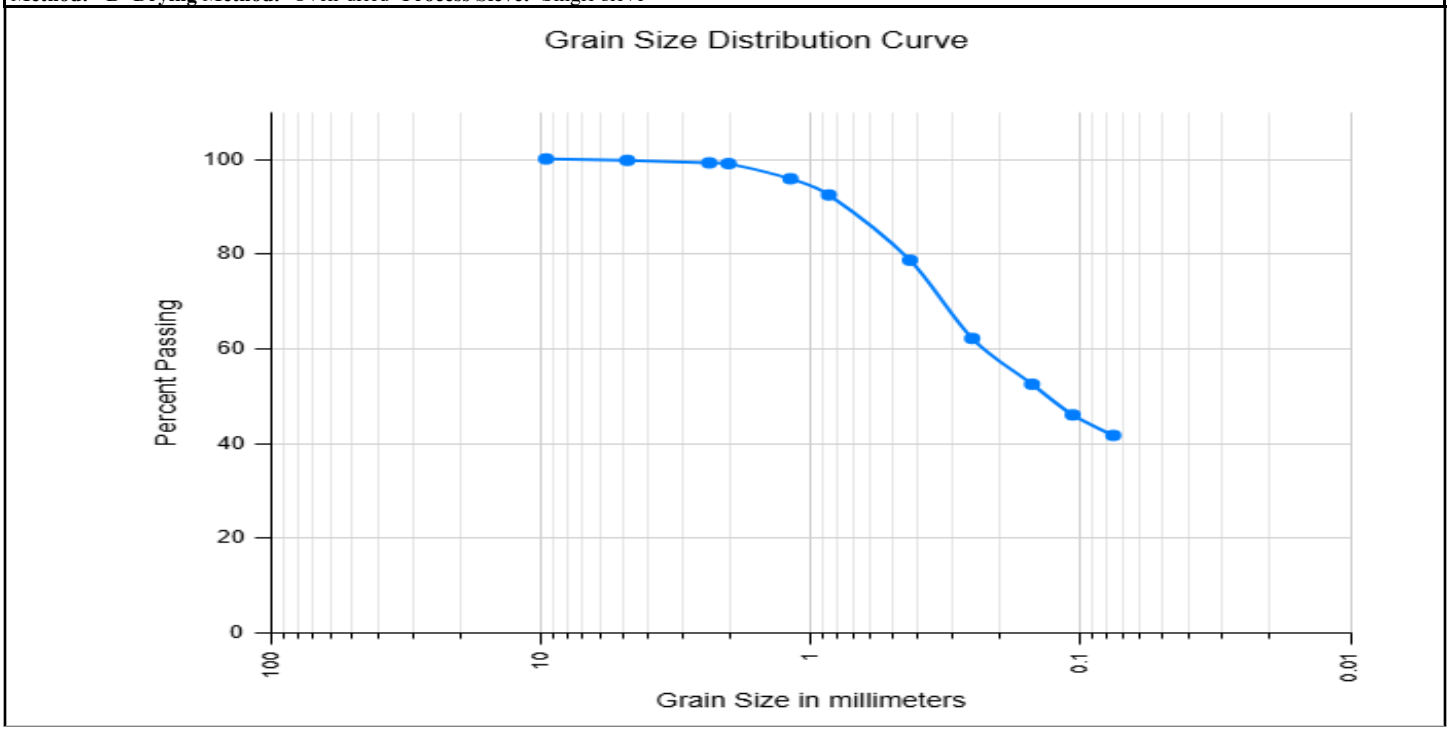
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-6 **Depth (ft):** 8-10
Test Procedure: ASTM D6913 (Sieve)
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Brownish yellow - 10YR 6/6

SIEVE ANALYSIS AND TEST RESULTS

Composite Sieve :			**Maximum Particle Size (g) :**								
Tare Wt (g)	106.7	**Tare #**	9018	**Moisture Content (%)**	0.00			**Dry Wt.+ Tare (g)**	316.6		
Water Wt	0.00	**Wet Wt.+ Tare (g)**	316.6	**Dry Wt (g)**	209.90						
Sample Washed	X Yes ☐ No	**Dry Wt.+Tare after Wash**	229.7	**Wt of Soil After Wash**	123	**Wash Loss**	86.9	**Passing #200 from Wash**	41.4		
Method: B **Drying Method:** Oven-dried **Process Sieve:** Single sieve											



Sieve Sizes	Wt. Retained (g)	% Retained	% Passing	% Passing Spec Limits
3/8 in (9.5mm)		0.0	100.0	
#4 (4.75mm)	0.7	0.3	99.7	
#8 (2.36mm)	1.7	0.8	99.2	
#10 (2mm)	2.2	1.0	99.0	
#16 (1.18mm)	8.9	4.2	95.8	
#20 (0.85mm)	16.0	7.6	92.4	
#40 (0.425mm)	45.0	21.4	78.6	
#60 (0.25mm)	79.5	37.9	62.1	
#100 (0.15mm)	99.9	47.6	52.4	
#140 (0.106mm)	113.6	54.1	45.9	
#200 (0.075mm)	122.5	58.4	41.6	

Material

% Gravel	% Sand	% Fines
0.3	58.1	41.6

Atterberg Limits

PL = 32 **LL =** 41 **PI =** 9

Coefficients

D_{60} = 0.22 D_{10} = Cc =
D_{30} = Cu =

Soil Classification

USCS	AASHTO
SM	A-5

Silty Sand

GEO | geotechnical engineering construction materials testing

Sieve Test

Report #: 019-L1

Client: Administración de Servicios Médicos de Puerto Rico (ASEM)
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico
Location: Centro Médico de Puerto Rico, San Juan, PR

Report Date: 11/03/2026 **Sample Date:** 09/29/2026
Project #: SB72-26-BD-SJU

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687



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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 019-L2

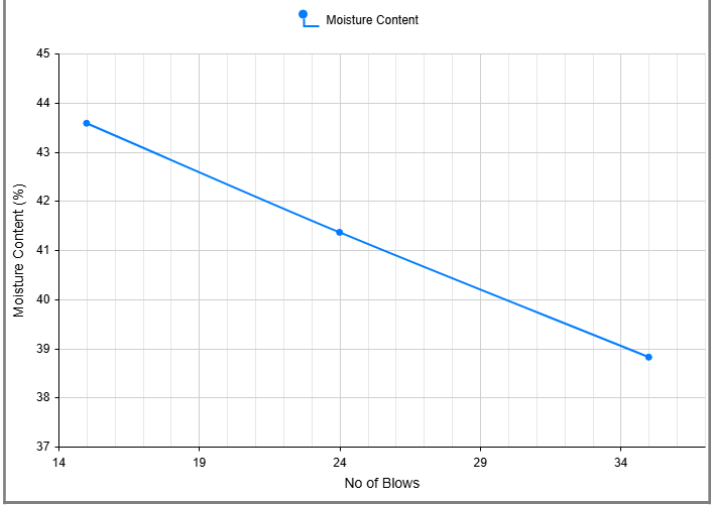
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

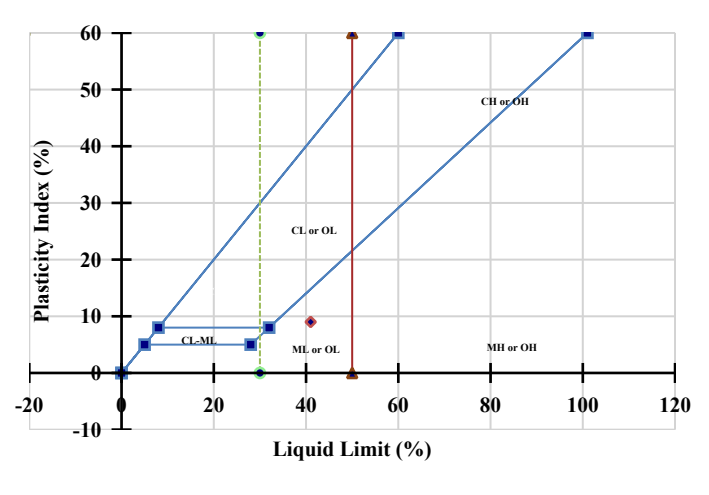
Test Procedure: ASTM D4318
Boring No: B-6 **Depth (ft):** 8-10
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Brownish yellow - 10YR 6/6
Soil Description: Silty Sand
Specimen Preparation: Dry (Air) **Mixing Water:** Distilled
Method of Removing Particles > #40 sieve: Dry Sieved on No 40 Sieve
Rolling Procedure: Mechanical Rolling Device **LL Apparatus:** Mechanical **Grooving Tool:** Metal
Retained #40 Sieve (%) (Calculated) : 21.40

GRAPHICAL SUMMARY

Flow Curve



Plasticity Chart



TEST RESULTS

Liquid Limit (LL): **41**	Plastic Limit (PL): **32**	Plasticity Index (PI): **9**	USCS: **SM** AASHTO: **A-5**

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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 019-L2

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

ASTM D4318 / AASHTO T89 & 90					
	Liquid Limit (s)			Plastic Limit (s)	
	Trial 1	Trial 2	Trial 3	Trial 1	Trial 2
Number of Blows	35	24	15		
Tare No.	8	17	26	27	38
Tare Mass (g)	31.38	31.49	31.48	31.26	31.4
Tare + Wet Soil (g)	51.69	52.92	52.83	41.29	41.27
Tare + Dry Soil (g)	46.01	46.65	46.35	38.83	38.87
Mass of Dry Soil (g)	14.63	15.16	14.87	7.57	7.47
Mass of Water (g)	5.68	6.27	6.48	2.46	2.4
Moisture Content (%)	38.82	41.36	43.58	32.5	32.13

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Wash 200 Analysis (ASTM D1140/D2216)

Report #: 019-L3

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-6 **Depth (ft):** 8-10
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Brownish yellow - 10YR 6/6
Test Procedure: ASTM D1140

MOISTURE CONTENT & PERCENT FINES (ASTM D1140/D2216)

MOISTURE CONTENT & PERCENT FINES		
Pan #	9018	
Pan Weight (g)	106.7	
MOISTURE CONTENT		
Wet Weight (g)	316.6	209.9
Original Dry Mass (g)	316.6	209.9
Moisture Percent (%)	0.00	
PERCENT FINES		
Dry Weight (g)	316.6	209.9
Dry Mass Retained on the (No. 200)	229.7	123
Percentage of material finer than the 75-µm (No 200) (%)	41.4	
Recorded according to ASTM D6026	[X]	
Test Method	Method B (Cohesive Soils)	
Soaking Time (min)	120	
Test performed with the alternative method	[ ]	

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

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Alejandro Torres, P.E.
Engineer (#28734)
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Date Signed: 11/03/2026 10:50 AM

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Sample Soil Pickup

Report #: 020

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Field Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

FIELD DATA

No. of Samples / Sets: 3
Sample Source/Location: Boring Sample/In-Situ
Boring No: B-6 **Depth (ft):** 18-20
Sample Description / Classification: 10YR 6/8 Brownish Yellow

SUMMARY OF WORK PERFORMED

LAB TEST SUMMARY

No	Test	Test Method	Status
020-L1	Sieve Test	ASTM D6913 (Sieve)	Completed
020-L2	Atterberg (ASTM4318 / AASHTO T89 & 90)	ASTM D4318	Completed
020-L3	Wash 200 Analysis (ASTM D1140/D2216)	ASTM D1140	Completed

Note: All completed lab tests are attached below.

Report Copied to: Yanira Rivera Ortiz

Field Representative: GEO FIELDTECH

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Sieve Test

Report #: 020-L1

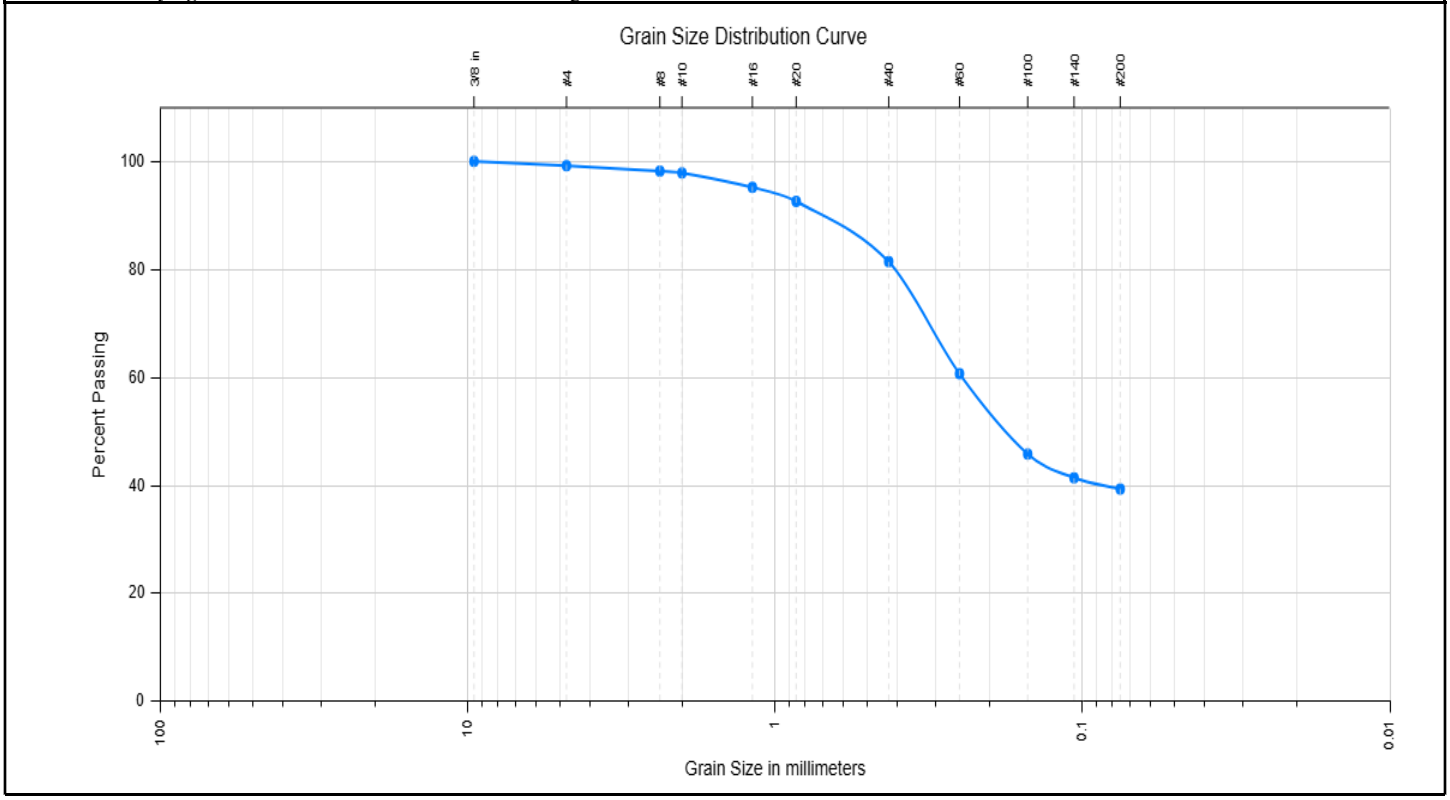
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-6 **Depth (ft):** 18-20
Test Procedure: ASTM D6913 (Sieve)
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: 10YR 6/8 Brownish Yellow

SIEVE ANALYSIS AND TEST RESULTS

Composite Sieve :			**Maximum Particle Size (g) :**						
Tare Wt (g)	108.4	**Tare #**	9021	**Moisture Content (%)**	0.00			**Dry Wt.+ Tare (g)**	454.5
Water Wt	0.00	**Wet Wt.+ Tare (g)**	454.5	**Dry Wt (g)**	346.10				
Sample Washed	X Yes ☐ No	**Dry Wt.+Tare after Wash**	319.9	**Wt of Soil After Wash**	211.5	**Wash Loss**	134.6	**Passing #200 from Wash**	38.89
Method: B **Drying Method:** Oven-dried **Process Sieve:** Single sieve									



Sieve Sizes	Wt. Retained (g)	% Retained	% Passing	% Passing Spec Limits
3/8 in (9.5mm)		0.0	100.0	
#4 (4.75mm)	2.7	0.8	99.2	
#8 (2.36mm)	6.1	1.8	98.2	
#10 (2mm)	7.4	2.1	97.9	
#16 (1.18mm)	16.6	4.8	95.2	
#20 (0.85mm)	25.7	7.4	92.6	
#40 (0.425mm)	64.3	18.6	81.4	
#60 (0.25mm)	136.3	39.4	60.6	
#100 (0.15mm)	187.9	54.3	45.7	
#140 (0.106mm)	203.0	58.7	41.3	
#200 (0.075mm)	210.6	60.8	39.2	

Material

% Gravel	% Sand	% Fines
0.8	60.0	39.2

Atterberg Limits

PL = 28 **LL =** 39 **PI =** 11

Coefficients

D_{60} = 0.24 D_{10} = **Cc =**
D_{30} = **Cu =**

Soil Classification

USCS	AASHTO
SM	A-6

Silty Sand

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Sieve Test

Report #: 020-L1

Client: Administración de Servicios Médicos de Puerto Rico (ASEM)
Report Date: 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico
Project #: SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

Report Copied to: Yanira Rivera Ortiz

Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687



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Date Signed: 11/03/2026 10:50 AM

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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 020-L2

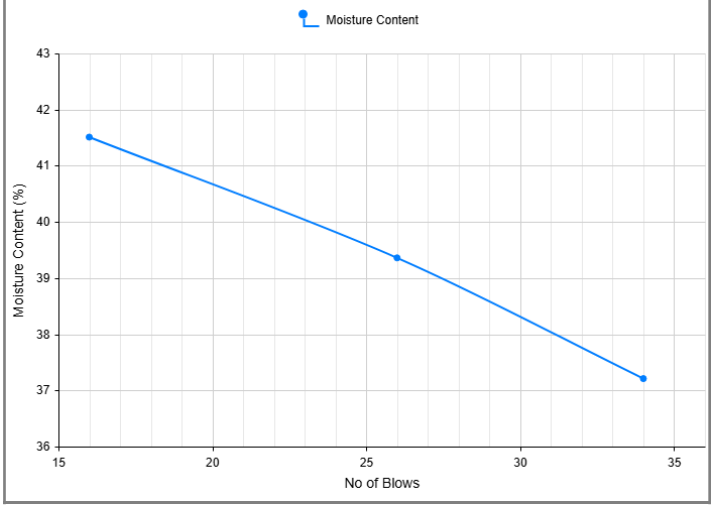
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

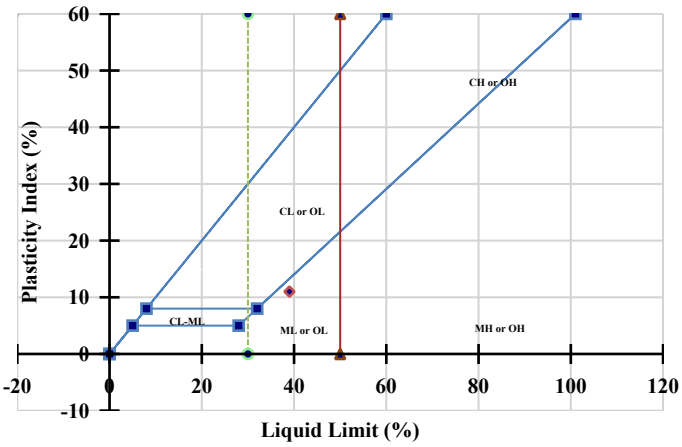
Test Procedure: ASTM D4318
Boring No: B-6 **Depth (ft):** 18-20
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: 10YR 6/8 Brownish Yellow
Soil Description: Silty Sand
Specimen Preparation: Dry (Air) **Mixing Water:** Distilled
Method of Removing Particles > #40 sieve: Dry Sieved on No 40 Sieve
Rolling Procedure: Mechanical Rolling Device **LL Apparatus:** Mechanical **Grooving Tool:** Plastic
Retained #40 Sieve (%) (Calculated) : 18.60

GRAPHICAL SUMMARY

Flow Curve



Plasticity Chart



TEST RESULTS

Liquid Limit (LL): **39**	Plastic Limit (PL): **28**	Plasticity Index (PI): **11**	USCS: **SM** AASHTO: **A-6**

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 020-L2

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

ASTM D4318 / AASHTO T89 & 90					
	Liquid Limit (s)			Plastic Limit (s)	
	Trial 1	Trial 2	Trial 3	Trial 1	Trial 2
Number of Blows	34	26	16		
Tare No.	44	45	58	70	71
Tare Mass (g)	31.26	31.37	31.53	31.44	31.05
Tare + Wet Soil (g)	54.38	56.19	54.2	41.28	40.93
Tare + Dry Soil (g)	48.11	49.18	47.55	39.16	38.79
Mass of Dry Soil (g)	16.85	17.81	16.02	7.72	7.74
Mass of Water (g)	6.27	7.01	6.65	2.12	2.14
Moisture Content (%)	37.21	39.36	41.51	27.46	27.65

GEO | geotechnical engineering construction materials testing

Wash 200 Analysis (ASTM D1140/D2216)

Report #: 020-L3

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-6 **Depth (ft):** 18-20
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: 10YR 6/8 Brownish Yellow
Test Procedure: ASTM D1140

MOISTURE CONTENT & PERCENT FINES (ASTM D1140/D2216)

MOISTURE CONTENT & PERCENT FINES		
Pan #	9021	
Pan Weight (g)	108.4	
MOISTURE CONTENT		
Wet Weight (g)	454.5	346.1
Original Dry Mass (g)	454.5	346.1
Moisture Percent (%)	0.00	
PERCENT FINES		
Dry Weight (g)	454.5	346.1
Dry Mass Retained on the (No. 200)	319.9	211.5
Percentage of material finer than the 75-µm (No 200) (%)	38.9	
Recorded according to ASTM D6026	[X]	
Test Method	Method B (Cohesive Soils)	
Soaking Time (min)	120	
Test performed with the alternative method	[ ]	

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

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Sample Soil Pickup

Report #: 021

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Field Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

FIELD DATA

No. of Samples / Sets: 3
Sample Source/Location: Boring Sample/In-Situ
Boring No: B-6 **Depth (ft):** 38-40
Sample Description / Classification: Light yellowish brown - 2.5Y 6/4

SUMMARY OF WORK PERFORMED

LAB TEST SUMMARY

No	Test	Test Method	Status
021-L1	Sieve Test	ASTM D6913 (Sieve)	Completed
021-L2	Atterberg (ASTM4318 / AASHTO T89 & 90)	ASTM D4318	Completed
021-L3	Wash 200 Analysis (ASTM D1140/D2216)	ASTM D1140	Completed

Note: All completed lab tests are attached below.

Report Copied to: Yanira Rivera Ortiz

Field Representative: GEO FIELDTECH

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Sieve Test

Report #: 021-L1

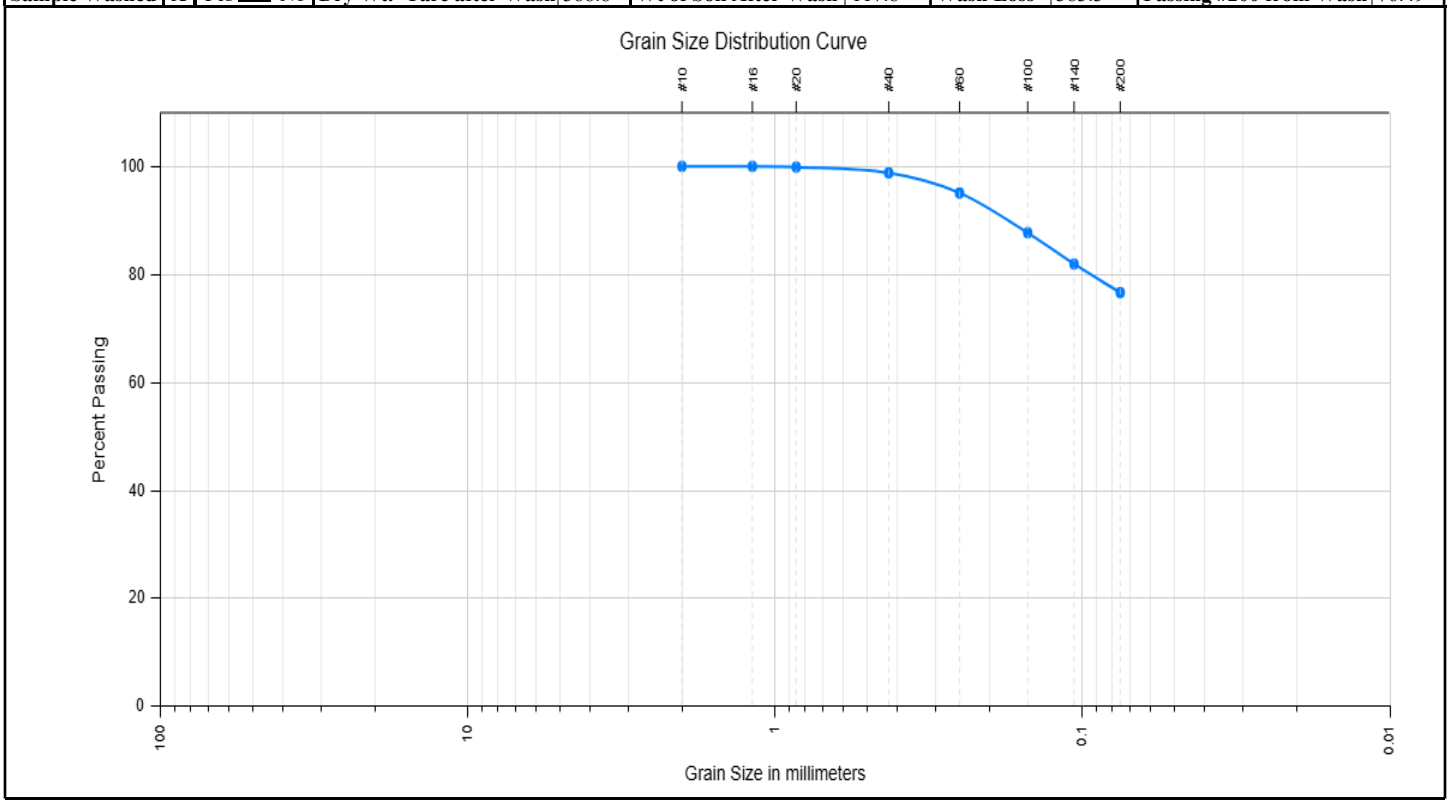
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-6 **Depth (ft):** 38-40
Test Procedure: ASTM D6913 (Sieve)
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Light yellowish brown - 2.5Y 6/4

SIEVE ANALYSIS AND TEST RESULTS

Composite Sieve :				**Maximum Particle Size (g) :**					
Tare Wt (g)	271	**Tare #**	134	**Moisture Content (%)**	0.00			**Dry Wt.+ Tare (g)**	772.1
Water Wt	0.00	**Wet Wt.+ Tare (g)**	772.1	**Dry Wt (g)**	501.10				
Sample Washed	X Yes ☐ No	**Dry Wt.+Tare after Wash**	388.8	**Wt of Soil After Wash**	117.8	**Wash Loss**	383.3	**Passing #200 from Wash**	76.49



Sieve Sizes	Wt. Retained (g)	% Retained	% Passing	% Passing Spec Limits
#10 (2mm)		0.0	100.0	
#16 (1.18mm)	0.1	0.0	100.0	
#20 (0.85mm)	0.6	0.1	99.9	
#40 (0.425mm)	6.2	1.2	98.8	
#60 (0.25mm)	24.7	4.9	95.1	
#100 (0.15mm)	61.8	12.3	87.7	
#140 (0.106mm)	90.8	18.1	81.9	
#200 (0.075mm)	117.3	23.4	76.6	

Material

% Gravel	% Sand	% Fines
0.0	23.4	76.6

Atterberg Limits

PL = 19 **LL =** 43 **PI =** 24

Coefficients

D_{60} = 0.03 D_{10} = **Cc =**
D_{30} = **Cu =**

Soil Classification

USCS	AASHTO
CL	A-7-6

Lean Clay with Sand

Report Copied to: Yanira Rivera Ortiz

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Sieve Test

Report #: 021-L1

Client: Administración de Servicios Médicos de Puerto Rico (ASEM)
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico
Location: Centro Médico de Puerto Rico, San Juan, PR

Report Date: 11/03/2026 **Sample Date:** 09/29/2026
Project #: SB72-26-BD-SJU

Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687



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Date Signed: 11/03/2026 10:50 AM

Notes: The results above apply only to the specific samples noted using the aforementioned test method(s) and do not represent any other sample. Reports may not be reproduced except in full without permission.

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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 021-L2

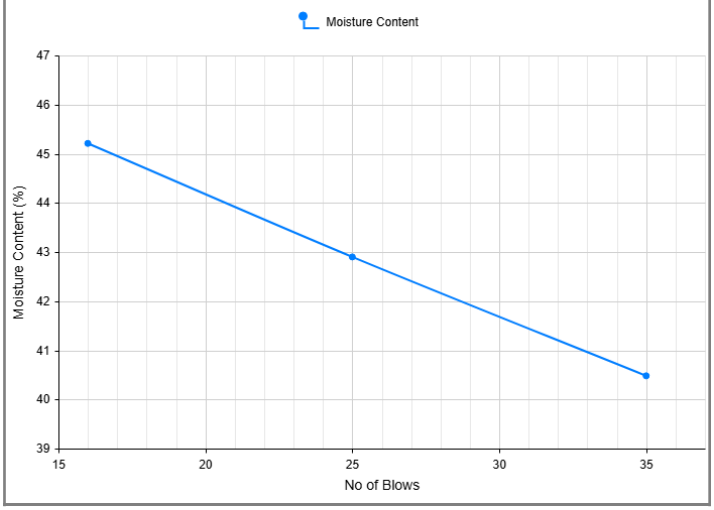
Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

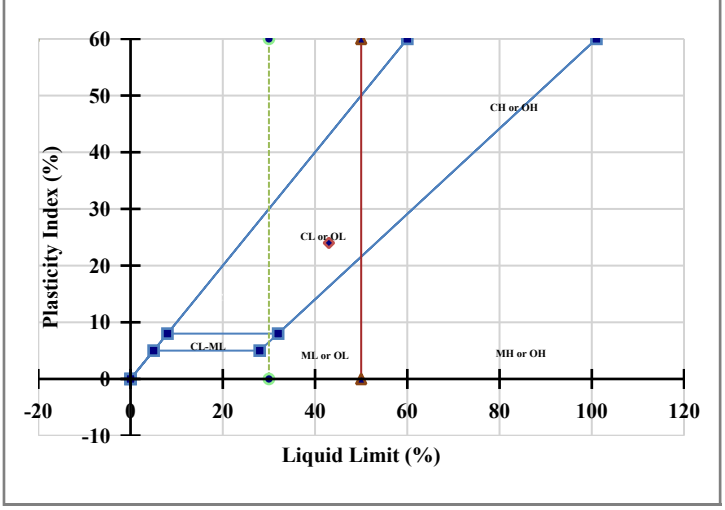
Test Procedure: ASTM D4318
Boring No: B-6 **Depth (ft):** 38-40
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Light yellowish brown - 2.5Y 6/4
Soil Description: Lean Clay with Sand
Specimen Preparation: Dry (Air) **Mixing Water:** Distilled
Method of Removing Particles > #40 sieve: Dry Sieved on No 40 Sieve
Rolling Procedure: Mechanical Rolling Device **LL Apparatus:** Mechanical **Grooving Tool:** Plastic
Retained #40 Sieve (%) (Calculated) : 1.20

GRAPHICAL SUMMARY

Flow Curve



Plasticity Chart



TEST RESULTS

Liquid Limit (LL): **43**	Plastic Limit (PL): **19**	Plasticity Index (PI): **24**	USCS: **CL** AASHTO: **A-7-6**

Report Copied to: Yanira Rivera Ortiz

Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

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Atterberg (ASTM4318 / AASHTO T89 & 90)

Report #: 021-L2

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

ASTM D4318 / AASHTO T89 & 90					
	Liquid Limit (s)			Plastic Limit (s)	
	Trial 1	Trial 2	Trial 3	Trial 1	Trial 2
Number of Blows	35	25	16		
Tare No.	74	81	82	83	84
Tare Mass (g)	31.19	31.29	31.19	31.28	31.09
Tare + Wet Soil (g)	53.47	53.44	54.7	40.29	40.37
Tare + Dry Soil (g)	47.05	46.79	47.38	38.85	38.84
Mass of Dry Soil (g)	15.86	15.5	16.19	7.57	7.75
Mass of Water (g)	6.42	6.65	7.32	1.44	1.53
Moisture Content (%)	40.48	42.9	45.21	19.02	19.74

GEO | geotechnical engineering construction materials testing

Wash 200 Analysis (ASTM D1140/D2216)

Report #: 021-L3

Client: Administración de Servicios Médicos de Puerto Rico (ASEM) **Report Date:** 11/03/2026 **Sample Date:** 09/29/2026
Project: Nuevo Hospital de Trauma Nivel 1 de Puerto Rico **Project #:** SB72-26-BD-SJU
Location: Centro Médico de Puerto Rico, San Juan, PR

SAMPLE DATA

Boring No: B-6 **Depth (ft):** 38-40
Sample Source/Location: Boring Sample/In-Situ
Sample Description / Classification: Light yellowish brown - 2.5Y 6/4
Test Procedure: ASTM D1140

MOISTURE CONTENT & PERCENT FINES (ASTM D1140/D2216)

MOISTURE CONTENT & PERCENT FINES		
Pan #	134	
Pan Weight (g)	270.9	
MOISTURE CONTENT		
Wet Weight (g)	772.1	501.2
Original Dry Mass (g)	772.1	501.2
Moisture Percent (%)	0.00	
PERCENT FINES		
Dry Weight (g)	772.1	501.2
Dry Mass Retained on the (No. 200)	388.8	117.9
Percentage of material finer than the 75-µm (No 200) (%)	76.5	
Recorded according to ASTM D6026	[X]	
Test Method	Method B (Cohesive Soils)	
Soaking Time (min)	120	
Test performed with the alternative method	[ ]	

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Lab Representative: GEO LABTECH testing
Cert No:BN# 3242 / TN# 9687

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APPENDIX FIVE

Drilled Shafts Additional Recommendations

DRILLED SHAFTS

Given below are additional recommendations for drilled shafts:

1. There always exists the possibility that shorter or longer drilled shafts may actually result during installation at some locations of the project site due to unexpected changes in the subsoil conditions with respect to those obtained with the soil exploration program. The actual required length of any drilled shaft can only be determined during installation based on the conditions obtained during the drilling operations. Changes in the drilled shaft length may cause construction delays.

2. The drilled shaft capacities given in the Main Report have been calculated based on skin friction developed along the shaft length (below the depth of scouring, if applicable) and by point-bearing. If changes occur in this length during installation, these capacities must be re-evaluated. If casing is used during drilling, it cannot remain in place. Otherwise, the capacities provided in the Main Report will be significantly reduced and thus must be re-evaluated. The casing inside diameter shall not be less than the minimum specified diameter of the drilled shafts.

3. Proper installation of the drilled shafts is required for the given capacities to remain accurate. The drilled shafts must be installed, as close as possible, to the vertical within a tolerance of 1 inch per 10 ft of drilled shaft length.

   Before installing the steel cage, the holes must be cleaned of debris and sediments. The contractor shall take the required provisions to achieve this task. Cleaning below water may become a difficult task. After cleaning and before installing the steel cage, the hole shall be inspected

to verify its depth and conditions. Dewatering of the hole may be required to achieve these tasks.

The installation of the steel cage and concrete pouring shall be conducted immediately after completing the cleaning operation to prevent sediments from depositing inside the hole. The concrete to be used shall have a slump of 7 to 9 inches to allow proper penetration within the hole (the actual slump will have to be established during construction). Pouring of the concrete may require using tremie concrete.

4. When caving conditions are encountered, no further drilling will be allowed until the contractor defines a construction method that will prevent excessive caving.

5. If casing is used for drilling, it shall be removed while pouring the concrete into the drilled hole and sufficient head of concrete shall be maintained at all times above the bottom of the casing. The casing extraction shall be at a slow, uniform rate with the pull in line with the vertical axis of the drilled shaft.

6. Unless otherwise mentioned in the report, two load tests under compression must be performed on drilled shafts prior to the installation of the production drilled shafts. The load tests shall be performed following the ASTM procedures for this type of tests. The test results will help to verify the estimated drilled shaft capacities provided in the Main Report. Proper evaluation of the test results shall be conducted to estimate the amount of skin friction and point-bearing developed during the tests in the drilled shafts (taking into account the depth of scouring, if applicable).

7. The minimum accepted center-to-center spacing for the drilled shafts is 3 times (preferably 4 times) their diameter or width.

8. The drilled shafts shall be structurally designed to support, following the corresponding structural codes, the compression and uplift provided in the Main Report. The drilled shaft pile contractor shall submit to the project owner or his representative the required information on the structural design and construction of the drilled shafts prior to construction. A Structural Engineer working for the project owner or designer shall conduct a verification of this information.

9. The shaft drilling and construction must be conducted under the services of a Geotechnical Engineer (or his representative) working for the project owner or designer. This person will evaluate the results of any load test performed at the project site and will submit, if required, modifications to the recommendations provided herein.

10. Use flexible connections (joints) in pipes reaching a pile-supported structure.

11. The project owner should pre-qualify the contractors bidding for the installation of the drilled shafts for this project.

Exhibit XVIII: Attachment 3 – Wage Determination (amended)

"General Decision Number: PR20260001 05/18/2026

State: Puerto Rico

Construction Types: Building

Counties: Puerto Rico Counties of
Adjuntas, Aguada, Aguadilla, Aguas
Buenas, Aibonito, Anasco, Arecibo,
Arroyo, Barceloneta, Barranquitas,
Bayamo'n, Cabo Rojo, Caguas, Camuy,
Canovanas, Carolina, Catano, Cayey,
Ceiba, Ciales, Cidra, Coamo, Comerio,
Corozal, Culebra, Dorado, Fajardo,
Florida, Guanica, Guayama, Guayanilla,
Guaynabo, Gurabo, Hatillo, Hormigueros,
Humacao, Isabela, Jayuya, Juana Diaz,
Juncos, Lajas, Lares, Las Marias, Las
Piedras, Loiza, Luquillo, Manati,
Maricao, Maunabo, Mayaguez, Moca,
Morovis, Naguabo, Naranjito, Orocovis,
Patillas, Penuelas, Ponce, Quebradillas,
Rincon, Rio Grande, Sabana Grande,
Salinas, San German, San Juan, San
Lorenzo, San Sebastian, Santa Isabel,
Toa Alta, Toa Baja, Trujillo Alto,
Utuado, Vega Alta, Vega Baja, Vieques,
Villalba, Yabucoa and Yauco

BUILDING CONSTRUCTION PROJECTS (does not include single family
homes or apartments up to and including 4 stories)

Modification Number	Publication Date
0	01/02/2026
1	05/18/2026

SUPR1993-001 10/29/1993

	Rates	Fringes
TRUCK DRIVER	$ 7.25	0.30
SHEET METAL WORKER (INCLUDING HVAC DUCT WORK)	$ 7.25	0.31
POWER EQUIPMENT OPERATORS: (TRAXCAVATOR)	$ 7.25	0.00
POWER EQUIPMENT OPERATORS: (LOADERS)	$ 7.25	0.26
POWER EQUIPMENT OPERATORS: (DIGGERS)	$ 7.25	0.00
POWER EQUIPMENT OPERATORS: (CRANES)	$ 7.25	0.00
PLUMBER (INCLUDING HVAC WORK)	$ 7.25	0.31
PIPEFITTER	$ 7.25	0.00
PAINTER	$ 7.25	0.00
LABORER, UNSKILLED	$ 7.25	0.00
IRONWORKER	$ 7.25	0.00
ELECTRICIAN (INCLUDING HVAC CONTROL WIRING)	$ 7.25	0.00
CEMENT MASON/CONCRETE FINISHER	$ 7.25	0.31
CARPENTER	$ 7.25	0.34
BRICKLAYER	$ 7.25	0.42

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

==========

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

Union Rate Identifiers

A four-letter identifier beginning with characters other than """"SU"""", """"UAVG"""", ?SA?, or ?SC? denotes that a union rate was prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2024. PLUM is an identifier of the union whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

Union prevailing wage rates are updated to reflect all changes over time that are reported to WHD in the rates in the collective bargaining agreement (CBA) governing the classification.

Union Average Rate Identifiers

The UAVG identifier indicates that no single rate prevailed for those classifications, but that 100% of the data reported for the classifications reflected union rates. EXAMPLE: UAVG-OH-0010 01/01/2024. UAVG indicates that the rate is a weighted union average rate. OH indicates the State of Ohio. The next number, 0010 in the example, is an internal number used in producing the wage determination. The date, 01/01/2024 in the example, indicates the date the wage determination was updated to reflect the most current union average rate.

A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

The """"SU"""" identifier indicates that either a single non-union rate prevailed (as defined in 29 CFR 1.2) for this classification in the survey or that the rate was derived by computing a weighted average rate based on all the rates

reported in the survey for that classification. As a weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SUFL2022-007 6/27/2024. SU indicates the rate is a single non-union prevailing rate or a weighted average of survey data for that classification. FL indicates the State of Florida. 2022 is the year of the survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 6/27/2024 in the example, indicates the survey completion date for the classifications and rates under that identifier.

?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

State Adopted Rate Identifiers

The """"SA"""" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter
d) an initial conformance (additional classification and rate) determination

On survey related matters, initial contact, including requests for summaries of surveys, should be directed to the WHD Branch of Wage Surveys. Requests can be submitted via email to davisbaconinfo@dol.gov or by mail to:

Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

Regarding any other wage determination matter such as conformance decisions, requests for initial decisions should be directed to the WHD Branch of Construction Wage Determinations. Requests can be submitted via email to BCWD-Office@dol.gov or by mail to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor

200 Constitution Avenue, N.W.
Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

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END OF GENERAL DECISION"

"General Decision Number: PR20260035 05/18/2026

State: Puerto Rico

Construction Types: Heavy

Counties: Puerto Rico Counties of
San Juan

HEAVY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/02/2026
1	05/18/2026

SUPR2019-001 05/14/2024

	Rates	Fringes
TRUCK DRIVER: DUMP TRUCK	$ 10.06	1.16
OPERATOR: BACKHOE/EXCAVATOR/TRACKHOE	$ 11.38	0.94
LABORER: PIPELAYER	$ 7.25	0.33
LABORER: COMMON OR GENERAL	$ 8.48	0.43
ELECTRICIAN	$ 12.00	0.55
CEMENT MASON/CONCRETE FINISHER	$ 9.00	0.83
CARPENTER	$ 10.33	0.50

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

==========

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (iii)).

The body of each wage determination lists the classifications and wage rates that have been found to be prevailing for the type(s) of construction and geographic area covered by the wage determination. The classifications are listed in alphabetical order under rate identifiers indicating whether the particular rate is a union rate (current union negotiated rate), a survey rate, a weighted union average rate, a state adopted rate, or a supplemental classification rate.

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whose collectively bargained rate prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. The date, 07/01/2024 in the example, is the effective date of the most current negotiated rate.

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A UAVG rate will be updated once a year, usually in January, to reflect a weighted average of the current rates in the collective bargaining agreements on which the rate is based.

Survey Rate Identifiers

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?SU? wage rates typically remain in effect until a new survey is conducted. However, the Wage and Hour Division (WHD) has the discretion to update such rates under 29 CFR 1.6(c)(1).

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The """"SA"""" identifier indicates that the classifications and prevailing wage rates set by a state (or local) government were adopted under 29 C.F.R 1.3(g)-(h). Example: SAME2023-007 01/03/2024. SA reflects that the rates are state adopted. ME refers to the State of Maine. 2023 is the year during which the state completed the survey on which the listed classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. The date, 01/03/2024 in the example, reflects the date on which the classifications and rates under the ?SA? identifier took effect under state law in the state from which the rates were

adopted.

WAGE DETERMINATION APPEALS PROCESS

1) Has there been an initial decision in the matter? This can be:

a) a survey underlying a wage determination
b) an existing published wage determination
c) an initial WHD letter setting forth a position on a wage determination matter
d) an initial conformance (additional classification and rate) determination

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Branch of Wage Surveys
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
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Branch of Construction Wage Determinations
Wage and Hour Division
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Washington, DC 20210

2) If an initial decision has been issued, then any interested party (those affected by the action) that disagrees with the decision can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Requests for review and reconsideration can be submitted via email to dba.reconsideration@dol.gov or by mail to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210.

==========

END OF GENERAL DECISION"

Exhibit XIX: Certification of Compliance with the Prevailing Federal Wage Rule Davis Bacon Act 40 USC §3141-3148

EXHIBIT 15 (amended)

Certification of Compliance with the Prevailing Federal Wage Rule Davis Bacon Act 40 USC §3141-3148

I, _____, of legal age, _____ (married/single), and a resident of _____, have been designated as the authorized representative of _____ ("the Proposer") for the procurement process referenced in the title of this document ("RFP Process"). In such regard, I hereby certify that:

1. I will pay or supervise the payment of all persons employed by _____ (Name of the Proposer) and its subcontractors for the Work, and that during each payroll period all persons employed on the Work will receive their full earned weekly wages. No reimbursements have been or will be made, either directly or indirectly, on behalf of the aforementioned Proposer and its Subcontractors, for the full earned weekly wages of any person, other than allowable deductions as defined in the regulations, 29 CFR Part 3, issued by the Secretary of Labor pursuant to the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. §3145).

2. Under the contract to be entered into as a result of this procurement process, the Proposer and its subcontractors will submit accurate and complete payrolls;

3. The wage rates for workers or mechanics contained therein will not be lower than the applicable wage rates contained in any wage determination incorporated into the contract, and that the classifications established therein for each worker or mechanic are appropriate to the work performed.

4. All apprentice employees will be properly registered in a bona fide apprenticeship program registered with a State Apprenticeship and Training Agency recognized by the Bureau of Apprenticeship and Training, U.S. Department of Labor, or if no such recognized agency exists in a State, will be registered with the Bureau of Apprenticeship and Training, U.S. Department of Labor.

Proposer's Initials: _____

EXHIBIT 15 (amended)

In _____, _____ this _____ day of _____ of 20____.

_____
Name of the Proposer's Entity

_____
Printed Name of the Proposer's Authorized Representative

_____ _____
Signature of the Proposer's Authorized Representative Date

Exhibit XX: Annex IV - Design Firm's Qualifications

DESIGN FIRM'S QUALIFICATIONS

INSTRUCTIONS

Proposers must complete this form to demonstrate compliance with the requirements of RFP Sections 9.2.5.7, 9.2.18.2 and 10.1.2.2, as amended by Addendum No. 4, and to document the qualifications and history of the Design Firm. Read all instructions carefully before completing the form.

- All information is subject to verification. The Evaluation Committee or Bid Board reserves the right to contact all listed references. Registrations and licenses (RUP, CAAPPR/CIAPR, SAM) may be verified directly with the issuing agencies.
- Ensure all fields are completed for every project listed.
- Complete Parts I and I-A for the Design Firm (Designer of Record). If the design team is a joint venture or association, complete Parts I and I-A for each member firm and identify the lead design firm. Project experience in Parts 2 through 11 may be presented on a combined basis for the joint venture, identifying for each project the member firm(s) that performed the work.
- A project may be listed in more than one Part when it meets the respective requirement. A project submitted to meet the minimum requirements of Annex III may also be presented in this form. Use the Project Cross-Reference Summary in Part 12 to identify every Part in which each project is presented and the Annex III requirement(s), if any, for which it is submitted.
- For each project, state the firm's percentage of participation in the design services and identify the firm personnel who worked on the project and are also proposed for this Project. Names must match those shown in the Proposer's organizational chart and key personnel resumes, for cross-verification.
- In "Relevance to this Project," relate the project to specific components of the New Trauma Hospital (e.g., Level I trauma services, heliport, surgical suites and intensive care units, resilient and mission-critical systems).
- Where the space provided is insufficient, attach supplemental sheets in the same format, clearly identified with the corresponding Part and Section.

PART I – DESIGN FIRM INFORMATION

Proposer / Firm Name:	
Authorized Representative:	
Title:	
Address:	
Phone:	
Email:	
Date of Submission:	
Design Firm Legal Name (if different):	

Doing Business As (d/b/a):	
Type of Entity (ex: PSC, LLC, Partnership, JV):	
Year Established:	
Years Providing Healthcare Design	
Puerto Rico Office Address:	
RUP Certificate No. / Expiration:	
Professional Registrations (CAAPPR / CIAPR):	
SAM UEI (if applicable):	
Role in the Proposer's Design-Build Team:	
Website:	

PART I-A – DESIGN FIRM QUALIFICATIONS AND HISTORY

Provide the following information for the Design Firm. Information must be current as of the Proposal Submission Deadline and is subject to verification.

A. FIRM HISTORY

Firm History Narrative: *Describe the founding of the firm, ownership history, mergers, acquisitions or name changes, growth, presence in Puerto Rico, and the evolution of the firm's healthcare design practice.*

B. FIRM PROFILE

Ownership Structure / Principals:	
Years in Business (under current name):	
Years in Healthcare Design:	
Office(s) that will perform the work:	
Number of Employees in Puerto Rico:	
Licensed Architects and Engineers (by discipline):	
Healthcare Planners / Medical Equipment Planners:	
Professional Certifications (e.g., LEED AP, EDAC, ACHA, CHFM, NCARB):	
BIM Capability (software, LOD, standards):	
Quality Management System (QA/QC Plan):	
Professional Liability Insurance (carrier / limits / meets contract-required limits (Y/N)):	
Current Workload / Available Capacity (%):	

C. DESIGN DISCIPLINES AND SERVICES

Indicate whether each discipline will be provided in-house or by a subconsultant, and identify the lead professional and license number.

Discipline	In-House (Y/N)	Subconsultant Firm (if applicable)	Lead Professional / License No.
Architecture			
Landscape Architecture			
Medical / Healthcare Planning			
Civil Engineering			
Structural Engineering			
Geotechnical Engineering			
Environmental Engineering			
Mechanical Engineering (HVAC)			
Plumbing / Fire Protection			
Medical Gas Systems			

Discipline	In-House (Y/N)	Subconsultant Firm (if applicable)	Lead Professional / License No.
Electrical Engineering			
Technology / IT / Security / Telecom Systems			
Medical Equipment Planning			
Vertical Transportation			
Heliport Design			
Interior Design			
Land Surveying			
Topographic Survey			
Sustainability / Energy Modeling			
Other:			

D. HEALTHCARE DESIGN EXPERIENCE SUMMARY

"Total Construction Value" means the construction cost of the projects (excluding design fees). Report the firm's design fees for the same projects separately in the "Design Fees" column.

Category	Number of Projects	Total Area (SF)	Total Construction Value (USD)	Design Fees (USD)
Hospital projects (new construction)				
Hospital projects (renovation / expansion)				
Other healthcare facilities projects				
Emergency Department facilities projects				
Operating Room projects				
Intensive Care Environments projects				
Critical Infrastructure and Resilient Systems projects				
Design-Build projects as Designer of Record				
Multidisciplinary Coordination projects				
Federally funded projects (FEMA, HUD CDBG-DR/MIT)				
Project of similar Complexity				
Resilient and Mission-Critical Healthcare Facilities projects				

E. AWARDS, RECOGNITIONS AND PUBLICATIONS

Awards, Recognitions and Publications: *List design awards, recognitions, publications or presentations related to healthcare facilities (year, issuing organization, project).*

F. PRIOR COLLABORATION WITH THE PROPOSER AND DESIGN-BUILD TEAM MEMBERS

Prior Collaboration: *Describe projects previously performed with the Proposer, the Construction Contractor or the key subconsultants proposed for this Project.*

G. CLAIMS, DISPUTES AND LITIGATION (LAST FIVE (5) YEARS)

Claims, Disputes and Litigation: *Report: (a) every professional liability claim, demand or lawsuit related to design services; (b) any contract termination for default or for cause; and (c) any other dispute, arbitration or litigation related to design services. For each, state the project, owner, date, amount claimed and status or resolution. State "None" if none.*

PART 2: HOSPITAL FACILITY PLANNING AND PROGRAMMING EXPERIENCE

List projects in reverse chronological order (most recent first).

PROJECT 1					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Role:		**Gross Square Footage:**		**No. of Stories:**	
Project Delivery Method:	Design-Build Design-Bid-Build CM at Risk Other: _____				
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project) / % of Firm Participation:					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

PROJECT 2					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Role:		**Gross Square Footage:**		**No. of Stories:**	
Project Delivery Method:	Design-Build Design-Bid-Build CM at Risk Other: _____				
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project) / % of Firm Participation:					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

PROJECT 3					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Role:		**Gross Square Footage:**		**No. of Stories:**	
Project Delivery Method:	Design-Build Design-Bid-Build CM at Risk Other: _____				
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project) / % of Firm Participation:					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

PROJECT 4					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Role:		**Gross Square Footage:**		**No. of Stories:**	
Project Delivery Method:	Design-Build Design-Bid-Build CM at Risk Other: _____				
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project) / % of Firm Participation:					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Use the same format to attach additional project sheets.

PART 3: HOSPITAL DESIGN EXPERIENCE

List projects in reverse chronological order (most recent first).

Project 1					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Please provide details of your participation:					
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project):					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Project 2					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Please provide details of your participation:					
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project):					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Project 3					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Please provide details of your participation:					
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project):					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Use the same format to attach additional project sheets.

PART 4: EMERGENCY DEPARTMENT FACILITIES EXPERIENCE

List projects in reverse chronological order (most recent first).

Project 1					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Please provide details of your participation:					
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project):					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Project 2					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Please provide details of your participation:					
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project):					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Project 3					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Please provide details of your participation:					
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project):					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

U*se the same format to attach additional project sheets.*

PART 5: OPERATING ROOM AND INTENSIVE CARE ENVIRONMENTS EXPERIENCE

List projects in reverse chronological order (most recent first).

Project 1					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Please provide details of your participation:					
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project):					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Project 2					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Please provide details of your participation:					
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project):					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Project 3					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Please provide details of your participation:					
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project):					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Use the same format to attach additional project sheets.

PART 6: CRITICAL INFRASTRUCTURE AND RESILIENT SYSTEMS

List projects in reverse chronological order (most recent first).

Project 1					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Please provide details of your participation:					
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project):					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Project 2					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Please provide details of your participation:					
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project):					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Project 3					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Please provide details of your participation:					
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project):					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Use the same format to attach additional project sheets.

PART 7: DESIGN-BUILD DELIVERY EXPERIENCE

List projects in reverse chronological order (most recent first).

Project 1					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Please provide details of your participation:					
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project):					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Project 2					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Please provide details of your participation:					
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project):					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Project 3					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Please provide details of your participation:					
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project):					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Use the same format to attach additional project sheets.

PART 8: MULTIDISCIPLINARY COORDINATION EXPERIENCE

List projects in reverse chronological order (most recent first).

Project 1					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Please provide details of your participation:					
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project):					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Project 2					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Please provide details of your participation:					
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project):					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Project 3					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Please provide details of your participation:					
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project):					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Use the same format to attach additional project sheets.

PART 9: REGULATORY COMPLIANCE EXPERIENCE

List projects in reverse chronological order (most recent first).

Project 1					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Please provide details of your participation:					
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project):					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Project 2					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Please provide details of your participation:					
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project):					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Project 3					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Please provide details of your participation:					
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project):					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Use the same format to attach additional project sheets.

PART 10: PROJECTS OF SIMILAR COMPLEXITY EXPERIENCE

List projects in reverse chronological order (most recent first).

Project 1					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Please provide details of your participation:					
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project):					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Project 2					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Please provide details of your participation:					
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project):					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Project 3					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Please provide details of your participation:					
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project):					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Use the same format to attach additional project sheets.

PART 11: EXPERIENCE WITH RESILIENT AND MISSION-CRITICAL HEALTHCARE FACILITIES

List projects in reverse chronological order (most recent first).

Project 1					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Please provide details of your participation:					
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project):					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Project 2

Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Please provide details of your participation:					
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project):					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Project 3					
Project Name:					
Owner / Client:					
Location:		**Contract Value ($):**		**Completion Date:**	
Percentage of participation/responsibility:		**Gross Square Footage:**		**No. of Stories:**	
Please provide details of your participation:					
Scope of Work / Project Description:					
Relevance to this Project:					
Firm Personnel Involved (also proposed for this Project):					
Owner Reference Contact:	Name / Title:	**Phone / Email:**			

Use the same format to attach additional project sheets.

PART 12 – OTHER RELEVANT INFORMATION

A. PROJECT CROSS-REFERENCE SUMMARY

Mark (X) every Part in which each project is presented, and indicate the Annex III requirement(s) (e.g., A, C, G) for which the same project is submitted, if any.

Project Name	2	3	4	5	6	7	8	9	10	11	Annex III Req.

B. NARRATIVE

Provide a brief narrative of any other information relevant to the evaluation of the Design Firm, such as design innovations, lessons learned, design quality and constructability practices, experience designing within active healthcare campuses, and approach to this Project (maximum two (2) pages).

PART 13 – CERTIFICATION AND SIGNATURE

The undersigned authorized representatives of the Proposer and of the Design Firm (and of each member firm, if the design team is a joint venture) hereby certify, under penalty of disqualification, that:

- All information provided in this form is true, accurate, and complete to the best of the representative's knowledge and belief;
- The firm history, profile and qualifications information provided in Parts I and I-A is current as of the Proposal Submission Deadline;
- The Proposer and the Design Firm understand that the Evaluation Committee and Bid Board reserve the right to verify all submitted information and to contact listed references;
- Any material misrepresentation in this submission may result in disqualification from this procurement and may be grounds for contract termination if discovered after award.

Proposer's Name:	
Authorized Signature:	
Printed Name:	
Title:	
Date:	

Design Firm's Name:	
Authorized Signature:	
Printed Name:	
Title:	
Date:	

If the design team is a joint venture or association, each member firm shall sign; attach additional signature blocks in the same format.

— END OF ANNEX IV —