Saint Vincent and the Grenadines OECS Regional Health Project

Terms of Reference

For the Consultancy Services for Design & Construction Supervision for Public Health and Emergency Operating Centre Building

SVGRHP-C-LCS-1

OECS Regional Health Project Economic Planning Division Ministry of Finance, Economic Planning and Information Technology Kingstown, Saint Vincent and the Grenadines

TERMS OF REFERENCE

1. BACKGROUND

The Government of St. Vincent and the Grenadines has received financing from the World Bank in the sum of US\$10.5 million for the OECS¹ Regional Health Project and intends to apply part of the proceeds for the payment of goods, works, related services and consultancy services to be procured under the project. The project is implemented jointly with three other OECS Countries – Dominica, Grenada, and St. Lucia, together with the Caribbean Public Health Agency (CARPHA) and the OECS Commission. In St. Vincent and the Grenadines, the project is implemented by the Ministry of Finance, Economic Planning, and Information Technology with technical support from the Ministry of Health, Wellness and the Environment (MoHWE). The project aims to improve preparedness capacities of health systems for public health emergencies in the OECS region, and (ii) provide a response in the event of eligible crises or emergencies. The project consists of four components as follows:

Component 1: Improved Health Facilities and Laboratory Capacity. This component focuses on improving the resilience and capacity of select health facilities and laboratories to provide services to manage a public health emergency, including an emerging disease outbreak, extreme weather event or other disaster. The component will support the refurbishment and equipping of select health facilities to ensure continuity of care and improve laboratory infrastructure and equipment with corresponding training.

Component 2. Strengthening Public Health Surveillance and Emergency Management. This component supports efforts to strengthen public health preparedness, including surveillance and emergency response through improvement of national and regional capacities and promotion of cross-border collaboration. This component aims to improve the completeness and quality of the reporting chain for surveillance activities from the national to regional level, including improvements in interoperability and the development of a regional dashboard to monitor trends. The project works to address vulnerabilities at the national level, in areas such as port health and development of national health emergency response mechanisms and operations centers. Similar efforts are made in regional preparedness and response. Improved surveillance activities will allow for better monitoring of climate-sensitive diseases and their evolution over time, thereby reducing the vulnerability of the population to climate change.

Component 3: Institutional Capacity Building, Project Management and Coordination. This component supports the critical building blocks for strong implementation and coordination required for implementing this regional project. Specific institutional capacity building activities include technical assistance for contract management, procurement, financial management, environmental and social safeguards, construction supervision (e.g., engineer and/or architect), monitoring and evaluation, and project audits. This component finances personnel for project management and regional coordination platforms for knowledge sharing among the implementing entities and collective monitoring of implementation. Related operating expenses and equipment

¹ Organisation of Eastern Caribbean States

are also financed under this component.

Component 4. Contingency Emergency Response Component (CERC). This component provides immediate surge funding in the event of a public health emergency, such as a disease outbreak. The CERC is only activated in the case of a public health emergency and when certain actions, as agreed by the Government and Bank teams, are met. These actions can include: (i) the country declares a national public health emergency; and (ii) presents a sound and actionable country-level response plan. Having the CERC in place provides a compelling platform for country-level discussions on the importance and need for country-level readiness to respond to disease outbreaks. The CERC was activated to respond to the COVID-19 pandemic on April 16, 2020 for Saint Vincent and the Grenadines in the amount of US\$4.5 million.

Procurement under the project will be carried out in accordance with the 'World Bank Procurement Regulations for IPF Borrowers for Goods, Works, Non-Consulting and Consulting Services' dated July 2016 and revised in November 2017, August 2018 and November 2020 ('Procurement Regulations') and applicable to Investment Project Financing (IPF). The project is subject to the World Bank's Anticorruption Guidelines, dated October 15, 2006, and revised in January 2011 and as July 1, 2016. As required, a comprehensive Project Procurement Strategy for Development (PPSD) has been prepared by the Project. These procurement regulations are available on the World Bank website (www.worldbank.org).

2. **OBJECTIVES**

The overall objective of this consultancy is to build a new Public Health Building that will house a national public health laboratory and health emergency operating centre (EOC). Services will be procured from a consulting firm to provide technical support to the Economic Planning Division (EPD) of the Ministry of Finance, Economic Planning and Information Technology in the preparation of detailed designs/construction drawings, technical specifications, development of the Environmental and Social Management Plan, consultations with key stakeholders, bills of quantities (BOQs), preparation of bidding documents and construction supervision of works during construction. (See Appendix A-1/A-2 for design requirements).

3. DURATION

It is estimated that the initial duration of the consulting firm services will be twenty-four (24) months broken down as follows:

- Phase 1: Design Eight (8) months
- Phase 2: Construction Supervision Sixteen (16) months
- Possibility of contract extension for another twelve (12) months would be based on progress of construction of works which would cover the defects liability period.

4. GENERAL REQUIREMENTS

The EPD as the client, will be contractually responsible for the consulting firm's assignment, however, the consulting firm will work closely with the MoHWE, which will be responsible for the health-related construction requirements. The consulting firm will be responsible for carrying

out all necessary services to ensure compliance with the approved designs, bills of quantities (BOQs), working drawings and technical specifications for all works in accordance with acceptable international design standards and engineering codes of practice.

The consulting firm will provide all the necessary technical support staff to administer, manage, and supervise the project and fulfill the requirements of the EPD, according to the drawings and contract documents. The consulting firm will also carry out any additional services, which the EPD may reasonably require, relating to the design and supervision of the project.

To ensure adequate project management and the implementation of agreed quality assurance/quality control procedures, the consulting firm must include in the technical proposal, a suitable Design and Construction Supervision Management Program emphasising project organisation, set-up to meet its budget and schedule objectives, resources management, environmental, traffic and safety administration, engineering value analysis, performance and critical path planning and monitoring, and project reporting systems.

5. SCOPE OF SERVICES

The scope of services shall include, but not be limited to, the following main activities:

General Services

The services shall be carried out in accordance with generally accepted standards of professional practice, following recognized engineering and management principles and practices for Pre and Post Contract Services. The firm's scope of work is understood to cover all activities necessary to accomplish the stated objectives of these services while adhering to the afore mentioned principles and practices, whether or not a specific activity is cited in this Terms of Reference (TOR).

Phase 1: Preparation of Design and Bidding Documents.

1. Task 1: Inception Report

- (a) Review and conduct independent site visit to collect data to inform design (civil, structural, electrical, mechanical, architectural);
- (b) Develop an assessment report for the location. The report must include, but not limited to, soil testing, site /topographic survey;
- (c) The consulting firm shall provide an **Inception Report** within two weeks of contract signing. The suggested template for the report is shown in Appendix B.

2. Task 2: Preliminary Designs

- a) Based on Appendix A-1/A-2, prepare preliminary drawings for the location.
- b) Submit a design report indicating recommendations regarding the designs, including preliminary bills of quantities (BOQs) and a cost estimate based on local rates.

- c) Develop an Environmental and Social Management Plan (ESMP) with identification of potential environmental and social impacts and mitigation measures, based on the template provided by the EPD, as well as the local implementation of the Grievance Redress Mechanism (GRM) of the Project. The ESMP will inform the design, BOQs, costs, and schedules, as well as the associated Environmental, Social, Health and Safety (ESHS) requirements for all bidding and contracting documents.
- d) The consulting firm shall be responsible to make a PowerPoint presentation of the **Preliminary Design report** to the EPD.

3. Task 3: Stakeholder Consultations

- a) Develop a stakeholder engagement map identifying key stakeholders.
- b) Following approval of Preliminary Design report by the EPD, the consulting firm shall undertake consultations with key stakeholders to inform them on preliminary designs, potential environmental and social impacts as well as mitigation measures. The consulting firm will liaise closely with the EPD to ensure that the community is consulted, informed and forewarned of planned site activities in a timely manner. The community is to be given opportunities to ask questions and kept informed of the nature, timing/duration, extent of activities and likely short, medium and long-term impacts on them. These consultations shall be documented, and a log kept of all such communications.
- c) The community shall be informed about the Project's GRM including the channels available to submit complaints, comments or suggestions.

4. Task 4: Preparation of Final Detailed designs

- a) Following the client's approval of the recommendations and taking into consideration feedback received from the community during consultations, the consulting firm shall revise the designs of the infrastructure and related works, as necessary, for the proper completion and/or functioning of the works.
- b) The consulting firm shall update the ESMP based on the final detailed designs and the results of the consultations.
- c) The consulting firm is expected to revise the BOQs in accordance with the design recommendations and provide more accurate BOQs based on the final detailed design of the works. Current costs for similar works in SVG will be used as a basis for all unit rates and estimates. The consulting firm is expected to proceed with these BOQ adjustments using marked up drawings.
- d) The consulting firm shall be responsible to make a PowerPoint presentation of the **Final Detailed Design report** to the EPD.

5. Task 5: Bid Documentation and Procurement

- a) Review and submit documents to be included in the standard procurement documents for the contract to allow the EPD to solicit bids from contractors (local & regional). The documents will include:
 - i. Working Drawings
 - ii. Technical Specifications
 - iii. Bills of Quantities (BOQs)
 - iv. ESHS requirements
 - v. Provide input for the Completed Bid Data Sheet (Section II), Evaluation and Qualification Criteria (Section III), and Particular Conditions (Section IX) of the Standard Procurement Document.
- b) Prepare ESHS requirements to be included in the bid documents, with emphasis on the construction operations, taking into account the findings from the ESMP, including code of conduct with Gender Based Violence provisions.
- c) Participate in the pre bid meeting, accompany contractors on the site visit, provide clarifications to the bidding documents if raised by the potential bidders, and prepare minutes of the pre bid meeting and amend the bidding document as needed.
- d) Provide technical advice to the client during the procurement process including clarification requests received from the bidders, technical support in the preparation of the bid evaluation report and recommendation for award.

Phase 2: Construction Supervision

- a) Advise the contractor on the interpretation of the construction drawings and technical specifications and prepare and issue supplementary drawings, specifications and instructions during the construction period, as required.
- b) Review the contractor's work plan including construction schedule and comment on the procedures, methods and sequence of the work.
- c) Review construction drawings and prepare amendments, if necessary, with the prior approval of the EPD.
- d) Consider and advise on alternative methods, equipment and materials proposed by the contractor and provide clearance to the contractor with the prior approval of the EPD.
- e) Provide advice to the EPD on the validity of any changes proposed by the contractor for additions or deletions to the contract and advise on the cost and issue of variation orders to the contractor.
- f) Process contractor's interim payment claims and final payments and issue progress certificates (IPC) for the client's acceptance.

- g) Maintain records related to the contract.
- h) Arrange and prepare minutes of the monthly site visit meetings.
- i) Review monthly progress reports, make comments and recommend any appropriate action as required.
- j) Provide technical advice to the client and recommend appropriate actions if needed during construction phase on planning and scheduling.
- k) Conduct budgeting, estimating, and "cost and quality" control.
- 1) Ensure implementation of the ESMP.
- m) Submit monthly progress reports to include:
 - Planned and actual progress of works
 - Status of incomplete works
 - Material, labour, plant availability
 - Revised schedules
 - Variations and change orders
 - Financial particulars
 - Quality Assurance and Quality Control
 - Progress photographs
 - Environmental and Social monitoring (ESMP implementation)
 - Health and Safety monitoring
 - Factors adversely affecting progress of project
 - Outstanding decisions
 - Weather conditions
 - Accidents on site and any other relevant details.
 - Compliance with Code of Conduct
 - Grievances submitted at each location, including channels used for submission, status of resolution and any pending decision to respond a grievance.
- n) 3- monthly Financial Report
 - Contract particulars
 - Contractor's claims
 - Projected final costs of projects (Revised BOQ)
 - Projected net variances
 - Expenditure to date
 - Cash-flow projections.
- o) Project Management Information System: The consulting firm will propose the setting up of a new computer-based Project Management Information System (PMIS), which will keep an up to date record of the design reports, procurement process for the award of civil

work contracts, signed contract, BOQs, quality control management system, environmental and social management system, progress reports, minutes of the meetings, certification of contractor's invoices, completion reports and any other project related information on a web-based share point information system, which can be used by all parties: the consulting firm, the client, the contractor and the funding agency. The EPD will provide the list of authorized users to whom a password would be given for access to the PMIS.

Resident Services during Construction

- a) Provide full-time resident staff services during construction phase.
- b) Ensure that the contractor is carrying out the work in accordance with the contract documents and communicate with the contractor and the client regarding deficiencies in the work and other matters of direct interest or concern. Where necessary, check contractor's survey lines, levels, grade, and the results of laboratory testing.
- c) Monitor and report on the contractor's compliance with the ESMP and associated ESHS requirements as well as GRM implementation.
- d) Arrange for all necessary testing required from the material testing laboratory for the samples collected from the completed works and carry out technical inspection of materials to ensure that they are consistent with the approved technical specifications.
- e) Investigate and report on all unusual circumstances that may arise during construction.
- f) Carry out final inspection at the conclusion of the construction contract as part of the acceptance program of the client.
- g) Ensure that the contractor prepares all necessary maintenance manuals.
- h) Ensure that the contractor prepares accurate "as-built" drawings of the works.
- i) Prepare a Project Completion Report on the construction contract, including the as-built drawings, implementation of the ESMP and confirmation that all grievances have been satisfactorily resolved.

6. INPUTS

The Client

a) All plans, pictures, reports, topographical surveys, etc. of the proposed works that might be necessary and applicable in the execution of the work required under this TOR.

- b) Access to the project sites.
- c) The client shall provide liaison with other ministries, departments, and authorities, etc. in order to introduce the consulting firm. The consulting firm however shall be fully responsible for collecting data, information, etc. from these agencies,
- d) The client may assign staff to the consulting firm for training in the various aspects of the work,
- e) The client will assist the consulting firm in obtaining visas, work permits, driving licenses, car registration, etc. and any other formalities found necessary for the consulting firm's personnel entering or leaving Saint Vincent and the Grenadines for the purpose of carrying out the services.
- f) The client would make available its laboratory facilities and staff for use by the consulting firm in performing tests, both in the laboratory and in the field to the extent that they are capable of or have the necessary equipment to undertake such tests.
- g) The client will provide a template for the elaboration of the ESMP and information on the GRM.
- h) The client will confirm that lands are government-owned and unencumbered.

Consulting firm

The consulting firm will be required to undertake the various activities outlined in Section 5 of this TOR. The consulting firm will provide the equipment and software required to carry out the assignment and be responsible for obtaining all additional information for the execution of the services necessary for the project.

7. **REPORTING REQUIREMENTS**

The consulting firm shall submit the following products to EPD's satisfaction:

Phase 1: Preparation of Design and Bidding Documents.

- a) **Inception Report**: Within two (2) weeks of contract signing, the consulting firm shall submit an inception report in line with the template suggested in Appendix B.
- b) **Preliminary Design report**: Within six (6)weeks after acceptance of the Inception Report, the consulting firm is required to submit a **Preliminary Design report** and make a presentation to the EPD. The EPD should forward comments on the report to the consulting firm within two (2) weeks of receipt.
- c) **Stakeholder Consultations report**: within four (4) weeks after acceptance of the Preliminary Design report, the consulting firm is required to submit a report informing of the stakeholder consultation process and results for each of the locations.
- d) **Final Detailed Design Report**: within six (6) weeks after acceptance of the Preliminary Design report, the consulting firm is required to submit the final designs report make a presentation to the EPD. The EPD should forward comments on the report to the consulting firm within two (2) weeks of receipt.
- e) Bid Document and ESHS requirements: within four (4) weeks after acceptance of the

final detailed design report, the consulting firm is required to submit the documents needed to prepare the standard bidding documents for works.

f) **Bid Evaluation Report (BER)**: Assist in preparing the BER, check for Arithmetical errors and analysis Report, two (2) weeks after the bid opening.

Phase 2: Construction Supervision

- a) **Monthly Construction Progress Reports**: Prepare detailed monthly reports on the progress of the construction, indicating any engineering difficulties affecting efficient, timely execution and compliance with ESHS requirements, and implementation of the ESMP and GRM, commencing one (1) month after the start date as defined in the contract.
- **b) Operations and Maintenance plan:** Prepare a detailed operational manual including function, duties and labour associated with the daily operations of the building. The plan must include the normal repairs required, scheduling of inspection and repairs to the structural components of the buildings. This plan must include indicative cost estimates
- c) **Project Completion Report**: Prepare a completion report (in line with the template suggested in Appendix C) on construction of the project, operation and maintenance manual and as-built drawings, and compliance with Environmental and Social requirements (including final status of grievances) within three (3) months after the date of issue of a certificate of completion of the project.

Four (4) hard copies and one (1) CD copy of all reports are to be submitted to the EPD. Drawings are to be submitted on 11" x 17" paper and in AutoCAD format (CD).

A suggested template for the report is included in Appendix C. The report shall address all aspects of the project implementation, including financial summaries, suggestions and recommendations for future design and construction methods, technical specifications, any changes in Special Conditions of Contract and photographs. Three (3) sets of 'as-built' drawings and CDs/DVDs containing all the information contained in the Final Report are to be presented.

8. MANPOWER SCHEDULING AND COSTS

In estimating man – month requirements and cost of the services, the consulting firm should ensure that the proposal takes full account of all the above requirements and the following items.

- Consultants' remuneration
- Consultants' out of pocket expenses
- Support staff services
- Equipment hires
- Communication costs
- Report reproduction costs
- Contract documentation costs
- Supervision costs

- Survey costs
- Accommodation / Lodging
- Transportation (international travel as well as in-country transport)

9. WORKING TEAM MINIMUM REQUIREMENTS

General Areas of Expertise/Experience of the Consulting Firm

Firms should have experience in building design and supervision with at least two (2) successfully completed similar assignments (complexity and financial of XCD 2,500,000.00) during the past five (5) years, particularly experience with assignments related to the health/laboratory sector that demonstrate the quality of works; time of the project; scope of works; ability to conduct structural assessments related to natural hazards; ability to conduct non-structural checks related to government compliance and environmental greening, and OECS Building Code 7th Edition 2016.

Firms must also meet the following criteria:

- (i) Proven ability to engage (coordination and working) with national counterparts (including senior government officials at national and state level), partners, stakeholders of Public Health; and
- (ii) Qualified professional staff in the following areas: Civil/Structural Engineering, Architectural, Mechanical, Electrical and Plumbing (MEP), Engineering and Quantity Surveying, and ESHS supervision.

Key Experts

Qualification and Experience Requirements are outlined in the table below. The consulting firm must select and hire other experts, such as laboratory consultants, as required according to the profiles identified in these TOR. All experts must be independent and free from conflicts of interest in the responsibilities they take on under this assignment.

Key Expert	Qualification & Skills	General Experience	Specific Experience
Key Expert 1: Architect (Team Leader for phase 1 only)	BA degree from an accredited university programme in Architecture	10 years spent in design and supervision of infrastructure projects	At least two (2) construction projects in the health sector.
<u>Key Expert 2:</u> Civil Engineer (Phase 1 only)	A BSc from an accredited university programme in Civil Engineering	10 years minimum experience in building construction and associated civil infrastructure	At least two (2) construction projects in the health sector.
<u>Key Expert 3:</u> Mechanical/Plumbing Engineer (Phase 1 only)	A BSc degree from an accredited university programme in Mechanical Engineering	10 years minimum experience in design of building infrastructure projects and environmental greening.	A minimum of 2 similar projects as mechanical designer or similar position, within the last 5 years. Experience must include laboratory design, containment and Biosafety.
<u>Key Expert 4:</u> Electrical Engineer (Phase 1 only)	A BSc degree from an accredited university programme in Electrical Engineering	10 years minimum experience in design of building infrastructure projects.	A minimum of 2 similar projects as electrical designer or similar position, within the last 5 years.
<u>Key Expert 5:</u> Environmental/Social Specialist (Phase 1 & 2)	A BSc degree from an accredited university programme in Earth Science, Environmental Management, or equivalent	5 years minimum experience in the supervision of ESHS and social aspects on construction sites.	 At least 1 similar project as Environmental/Social Monitoring or similar position, within the last 5 years. Experience in World Bank procedures are advantageous
Key Expert 6: Quantity Surveyor (Phase 1 & 2)	A BSc degree from an accredited university programme in Quantity Surveying; RICS chartered; or equivalent	8 years minimum experience in quantification of similar of building infrastructure projects.	A minimum of 2 similar projects as Quantity surveyor or similar position, within the last 5 years.
<u>Key Expert 7</u> : Resident Engineer (Team leader for phase 2)	A BSc from an accredited university programme in Civil Engineering,	5 years minimum experience in the construction in supervision of similar projects.	 A minimum of 2 similar projects as Team Leader or similar position, within the last 5 years Experience in World Bank procedures are advantageous

APPENDIX A-1/A-2

The Public Health Laboratory and Health Disaster Management Unit Building will be constructed on vacant Government owned land and will house the public health laboratory and the health disaster management unit.

Public Health Laboratory

The laboratory which will operate at Biosafety Level II and will function mainly to enhance the country's capacity to provide timely and reliable results for the purpose of disease control and prevention. Specifically, the public health laboratory will be established to perform the following core functions:

- i. Disease prevention, control, and surveillance;
- ii. Integrated data management;
- iii. Reference and specialized testing;
- iv. Environmental health and protection;
- v. Food safety;
- vi. Laboratory improvement and regulation;
- vii. Policy development;
- viii. Emergency response;
- ix. Public health-related research;
- x. Training and education; and
- xi. Partnerships and communication.

Health Disaster Management Unit

Following the December (Christmas) floods of 2013 which heavily impacted the capacity of the health system to deliver some health services, the Ministry of Health established the Health Emergency and Disaster Management Unit. The unit's main purpose is to provide a coordinated approach towards mitigation preparedness and improve the response level for health disaster events. The Unit follows the PAHO/WHO Disaster Risk Reduction for Health Roadmap which is aligned to the Sendai Framework for Risk Reduction, the International Health Regulations, the Paris Declaration, the Sustainable Development Goals, and the Sustainable Health Agenda for the Americas.

The Health Emergency and Disaster Management unit currently operates from the nurses' hostel building, but due to the dilapidated nature of the building and limited space for expansion and storage the unit needs to be relocated and thus will be housed in this new building.

The building will be built using the PAHO SMART² facilities guidelines and will provide the following:

• Storage spaces

² SMART: As defined by the Pan American Health Organization (PAHO), health care facilities are smart when they link their structural and operational safety with green interventions, at a reasonable cost-to-benefit ratio. This is measured by the Health Safety Index (HSI) A and minimum Green 70%, simplified as A70. Low HSI scores such as low B and C, generally correspond to facilities with low structural and non-structural scores. For more information, see: https://www.paho.org/en/health-emergencies/smart-hospitals

- Offices
- Kitchenette and dinning
- Conference/training room
- Health Emergency Operating Centre (EOC)

Site Location and Size

Proposal location of building (Bentick Square - 13.1561, -61.23029)

Photos of Site





Requirements for the EOC Unit

ROOM	PURPOSE	COMMENTS	
Storage spaces	Small and medium size equipment (defibrillators, suction machines, EKG machines, generators, tabletop autoclaves, wheelchairs)	These spaces should be environmentally controlled, free of dirt, excess heat/ moisture/ saline air to maintain the lifespan of this equipment.	
Storage spaces	Medical Supplies – gloves, bandages, gauze, tubes, oxygen masks, first aid kits, NCD kits, MISP kits,	These spaces should be air conditioned to maintain the shelf life of the supplies	
Storage spaces	Non – Medical Supplies – service and maintenance spare parts, pots, pans, water storage containers, trays, back-up kitchen/dietary supplies		
Storage spaces	Non – Medical Supplies – water hose, rakes, shovels, scrub brooms, wheelbarrow		
Storage spaces	Solid waste (with provisions for an autoclave)— with separate area for biomedical and hazardous wastes		
Storage space	Cool room – for heavy electrical equipment such as vaccine fridge, fridge, freezer	This equipment will act as back- up during and after events for vaccines, medication and food supplies as most district facilities do not have back-up power. Currently district gets assistance from the Police stations where vaccines are place in their regular food fridges.	
Kitchen	With appliances – fridge, stove, freezer, microwave, washer, dryer	to accommodate staff, training needs, shift staff during an event	
Lunch space	With dining table, coffee or tea centre	To accommodate staff and participants during training	
Training room #1	With Folding tables and chairs, projector, screen, resus bed, resus Annie, resus baby, television sets	For training in Basic life support, Advanced cardiac life support, neonatal life support etc and emergency care and treatment. All training rooms can be used to accommodate clinical shift staff during events.	
Training room #2 (Should be large enough to deploy or inflate the isolation system for training)	With folding chairs and tables, projector, screens, televisions	Used for training in isolation, mass casualty, decontamination.	
EOC/Training room#3	The Emergency Operating Centre can double as training or meeting room outside of events, must have large wall of screens for met reports, news, virtual EOC		

ROOM	PURPOSE	COMMENTS	
	projection, chairs, tables, laptops, asection allocated for CICOM, section allocated for		
	internal communication		
Communication room		Used for media briefing, preparation of reports and media documents	
Processing/	One area used for printing, photocopying,		
documentation room	bulk preparation of documents		
IT Room	Equipment with GIS mapping equipment		
Offices	Health Disaster Coordinator, Asst HDC,		
	staff 3, epidemiologist, medical		
	epidemiologist, assistant		
Staff dormitory rooms	With bunk beds	To accommodate clinical shift	
(5)		workers before, during and after	
		events	
Common room	Used by staff on call or children of staff	Can be converted to sleep area with cots if necessary	

Building Requirements for the Public Health Laboratory Facilities

Ne	w C	Construction: X Renovation:		
A.	A. Building Design Considerations			
	I.	Fire Protection		
	•	Selection of proper fireproof construction materials for the building.		
	•	 Meet benchmark requirements for NFPA 45- Standard on Fire Protection for 		
	Laboratories Using Chemicals.			
	II.	Laboratory Separation		
	•	Make provisions for the separation of laboratory space from non-laboratory space.		
	•	Make provisions to keep public access corridors separate from laboratory corridors.		
	III	. Corridors		
	•	Configure corridors to keep laboratory activities separate from the non- laboratory		
		activities and allow proper means of egress.		
	•	Configure corridors service corridors, so as to keep completely separate from public		
		access corridors.		
	•	Make provisions for secure access to service corridors.		
	•	Access to shut-off valves, electrical equipment, gas cylinders supply, etc. be maintained		
		in the designated closets or mechanical spaces.		
	IV	. Smart Facility		
	•	Design the building to withstand local hazard conditions such as hurricanes, flash floods,		
		volcanic activities and earthquakes.		
	•	Make provision for three- to five-day potable water storage, rainwater harvesting and		
		use of stored rainwater supply.		
	•	Make provision for harvesting renewable energy from the sun, storing and distribution		
		of the stored energy throughout the building.		
	•	Make provisions for locking control key systems, security surveillance alarm devices,		
		and energy saving lighting systems (including emergency and egress lighting)		
	•	Ensure that adequate liquid wastewater disposal systems are in place, sufficient to		
		accommodate potentially infectious liquid wastes.		
	•	Incorporate energy and water efficiency measures to reduce operational costs, and ensure		
D	C	there is adequate natural ventilation and natural lighting throughout the building.		
В.	Ge	eneral Laboratory Unit Considerations		
	1.			
	•	The laboratory unit, laboratory support areas and chemical storage areas should consist		
	п	Wells		
	<u> </u>	Walls should be pointed with weshable hard non norses cleanable energy material		
	•	Walls should be painted with washable, hard, non-porous, creanable, epoxy material.		
	• []]]	Windows		
	111	Insect screens he installed for windows that eren		
	Insect screens be installed for windows that open.			
	1 V	Floors should be constructed from immerging should be constructed from immerging should be		
	•	FIGOIS should be constructed from impervious, cleanable, seamless, sheet Vinyl, epoxy		

or similar material.
• Floors should consist of gently rounded cove base to the walls and up to a minimum
height of six inches on the wall
V. Lighting
• Make provisions for minimum lighting levels in respective work spaces for sufficient
visibility, based on Smart standards
• Interior lighting should consist of energy saving LED (light emitting diodes) light
fixtures.
VI. Sinks
Make provisions for sinks designated for hand washing and eye-washing
Make provisions for medical grade sinks designated for laboratory work.
• Work sinks should have lips that protect drains from chemical spills.
• Work sinks should have a cleanable and removable strainer in the drain basin.
• Sinks should be constructed of stainless steel or epoxy resins that are chemical resistant.
• Sinks basin should be sufficient height and the sink consists of a low-profile faucet to
reduce splashing.
• Sinks cannot be discharged to open air drains exterior to the building
VII. Laboratory Furniture
• Make provision to construct all working surfaces such as bench tops and counters with
sturdy and chemical resistant materials.
• Ensure that all furniture is designed with basic ergonomic specifications.
VIII. Laboratory Access and Security
• The laboratory support area and storage areas (chemical and biological) must have
means to secure regulated items.
• Make provisions for locking control key systems or equivalent to prevent unauthorized
personnel entrance into laboratory spaces.
IX. Chemical Storage and Shelving
Design laboratory to allow for temporary storage of chemicals (as needed use)
• Storage cabinets should be designed with partitions to separate incompatible chemicals.
• Flammable liquid storage cabinets must be provided for storage of flammable liquids.
• The laboratory shelving design must not require the laboratory personnel to reach greater
then twelve inches to the highest shelf.
All shelves should have fall-proof lip or strap
X. Solid Waste Storage
• Solid waste storage areas should accommodate separate area for hazardous or biomedical
waste.
XI. Laboratory Fume Hoods
Conduct an evaluation to assess the appropriate type and number of fume hoods needed.
• Consideration must be been given to the location of the fume hood with respect to open
windows, doorways, traffic, and other factors that influence the containment ability of
the hood.
• Make provisions for adequate supply of make-up air in the laboratory for the fume hood
exhausts.
Make provisions to install drying ovens or drying cabinets in the laboratory.

XII. Emergency Eyewashes and Safety Showers
• Make provisions to install an emergency eyewash station in areas where contamination
of the eye by corrosive materials and materials that are toxic by skin absorption is likely
• The emergency eyewash station should be located to allow the user to reach it in ter
seconds or less on the same level of the building.
• The emergency eyewash station should be designed to deliver water to both eye simultaneously at a volume of at least 1.5 litres/minute.
• Make provisions to install drench hoses in the laboratory, laboratory support area, o chemical storage area?
• The water that will be plumbed in the emergency eyewash station should be "tepid."
• Floor drains should be provided on all fixed eyewash stations.
XIII. Emergency Safety Showers
• Provisions are made to install emergency safety shower in areas where gross chemica contamination of the body is likely.
• Emergency safety shower must be located as to allow the user to reach it in ten second or less on the same level of the building.
• Provisions are made to locate electrical apparatuses, telephones, thermostat, powe outlets, etc. near the safety shower.
• Emergency safety shower should have a minimum volume of 75.7 litres/minute (20 gallons/minute)
• Emergency safety shower should be designed to be activated in less than one second when needed.
• The water that is plumbed in the emergency safety shower be "tepid".
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- Standard for Electrical Safety in the Workplace be incorporated into the design of the laboratory, laboratory support area and chemical storage areas.
- Outlets should be located on every open wall such that there are no more than six feet of wall space to any given outlet. Outlet heights should account for work table heights, equipment heights and/or flood water height.
- Laboratory benches should be equipped with a continuous outlet moulding with outlets spacing about every six to twelve inches.
- Provisions must be in place to fit the laboratory and laboratory support area with electrical outlets that can accommodate current requirements with an additional twenty to forty percent capacities of its intended use.
- Electrical receptacles above countertops, on bench tops, and within six feet of any wet areas such as a sink must contain GFCl circuit protection.

#	ROOM NAME	FLOOR	ACTIVITY	ESTIMATED
		SPACE		# OF
		NEEDED		PERSONS
1	Reception area (Sample	12 'x 12'	Receive and accession samples	2
	sorting room)		-	
2	Sample storage room	10' x 10'	Medical Grade fridge and	
			freezers for sample Storage	
3	Cold room (cold storage)	10' x 15'	Medical Grade Fridges and	
			freezers for storage of	
			temperature sensitive reagents	
4	General laboratory supplies	20' x 25'	Storage of general laboratory	
	storeroom		reagent and consumables at	
			ambient temperature	
5	Chemical storage room	10' x 10'	Flammable chemical cabinets	
6	a. 1: 1	101 101		
6	Solid waste storage room	10' x 10'	Storage of biomedical or	
-		1.5. 1.5.	hazardous wastes	1
/	Lab Director office with	15'X15'	Administrative workspace	1
0	adjoining washroom facility	252 202		4
8	General Admin office with	$25^{\circ} \times 20^{\circ}$	Administrative and support	4
0	Secretariat		starr workspace	
9	formale graphes			
10	Vitabanatta & Lunabraam	10, 15,	Maalman and Esting anala for	9 10 at any
10	Kitchenette & Lunchroom	10 X 13	staff	$\delta = 10$ at any
11	Masting room	20' x 25'	Staff mosting conformed	
11		20 X 23	Webinars (AV room)	30
12	Sick bay with adjoining	10 x 10	Webinars (AV 100in)	1
12	washroom facility	10 X10		1
	Microbiology Jaboratory (2	20 x 25	Working with level 2 bacterial	
	room workflow)	$10^{\circ} \times 15^{\circ}$	nathogens from food and	4
		10 110	human specimen	
13	TB rooms (2 room	10' x 15'	Working with level 2 bacterial	2-3
10	workflow)	15'x20'	pathogens	20
14	Media Prep Rom	10' x15'	Culture media preparations	1
15	Molecular laboratory	10' x 10'	DNA extraction and	4 - 6
	(3 adjoining room workflow)	20' x25'	amplification	
		10' x15'	•	
16	Immunology/Serology	15' x 15'	Infectious disease testing	2 - 3
	Laboratory		Serological methods	
17	HPLC laboratory	15' x 15'	Heavy metal analysis	2
18	Water Laboratory	15' x 15'	Water analysis	2
19	Entomology Laboratory	15'x 20'	Mosquito testing and other	2-3
			arthropods vector analysis	

Public Health Laboratory - Rooms and Floor space allocations

#	ROOM NAME	FLOOR	ACTIVITY	ESTIMATED
		SPACE		# OF
		NEEDED		PERSONS
20	Environmental Air	10'x10'	Air quality monitoring	1
	monitoring lab			
21	Janitors room (wash up	10 'x 15'	Wash up area	2
	Room)			
22	IT room	10 x 15	Server and IT related resources	2
			and offices	

APPENDIX B

Inception Report Template

The consulting firm is free to format the Inception Report for their consultancy to their normal presentation, but the report shall contain the following minimum content:

- Executive Summary
- Introduction
- Background and description of various project elements
- Understanding of Project objectives
- Contract signing and Project commencement
- Team mobilization and project activities to date
- Data collection and review
- Data gaps
- Assumptions, Risks and Mitigation Strategy for Data gaps
- Comments on TOR
- Design Review criteria
- Project Organisation / Lines of communication
- Project execution, methodology and scheduling
- Proposed outlines for review, interim, quarterly and final reports
- Appendices e.g., meeting details, Organisation Chart, TOR, Photographs etc.

APPENDIX C

Final Completion Report Template

This report shall address all aspects of the Project implementation, including financial summaries, suggestions and recommendations for future design and construction methods, technical specifications, any changes in Special Conditions of Contract and photographs. Three (3) sets of 'as-built' drawings and CDs/DVDs containing all the information contained in the Final Report are to be presented to the client. This will be prepared by the consulting firm within twelve (12) weeks of completion of the works contract. The consulting firm is free to format the Final Completion Report to his normal presentation, but the report shall contain the following minimum content.

A typical Contents page is as shown below:

Table of Contents

- Acknowledgements
- Executive Summary
- Background
- Aims and Objectives
- Methodology (including codes and standards used)
- Implementation
- Outputs and Results (including any designs and design check calculations)
- Quality Assurance and Quality Control
- Compliance with ESHS requirements
- Implementation of ESMP
- Implementation of GRM, including final status of grievances
- Outcomes
- Conclusions
- Recommendations
- Lessons learnt
- References
- Appendices