**SCOPE OF WORK FOR THE DESIGN AND BUILD OF “MEYNA SCHOOL,**

**N. HOLHUDHOO”**

**INTRODUCTION**

The Ministry of Education invites all interested parties for the proposed development of “Meyna School, N. Holhudhoo” under Design Built Contract. The proposed new school is to be designed and constructed on the given site in N. Holhudhoo’. New schools must complete boundary walls, gates, and school compound landscaping with a connection bridge to the existing school building. These buildings are to be designed and developed as Reinforced Concrete (RC) buildings.

The facilities/rooms/spaces required in each of the blocks are shown on the concept drawing. The unit area indicated for each facility/room/space is a minimum value, only to be used as a design guideline. The contractor is allowed to make adjustments to areas when detailing provided that the access requirements are met. The list also includes the floor, wall, and ceiling finish requirements for major facilities. The building is to be completed within 480 days from the commencement date.

The school is designed with two separate blocks which is only connected second-floor and third-floor level over a road cross-connection bridge to the existing building of Maeyna school. The cycle parking area will be common to both buildings. The Area (square meter), Height (Floors), and Maximum Gross Floor Area are also indicated on the drawing.

**PRE-DESIGN STAGE**

The pre-design phase includes site analysis, programming, construction cost analysis, and value engineering.

* Site analysis includes geotechnical reports and a review of existing structures.
* Programming defines the project needs of the user. Programming includes cataloging the spaces and equipment needed, and functional relationships.

The proposed site has an existing building to be demolished and the contractor has to provide a survey map with site layout to the client. Studies are conducted to evaluate existing conditions. These studies include geotechnical reports, hydrology studies, land surveys (including boundaries, topography, and utilities), existing building analysis, and surveys of existing hazardous materials (environmental due diligence). These studies include data compilation, site analysis reports, site analysis drawings, and comparative site analysis.

A geotechnical engineer to produce a geotechnical report that provides the Facility with information about the soils and geologic conditions on and below the surface at a project site.

*Soil Samples*. Soil samples are tested in a laboratory to determine moisture content, soil type, expansion, percolation, bearing capacity, friction, and other factors pertinent to the proposed building. Other important soils information includes:

* Drainage characteristics and permeability.
* Depth to groundwater.
* Depth to bedrock.
* Susceptibility to compaction and erosion.
* Shrink and swell potential.
* Compressive strength and stability (bearing capacity).
* Evidence of fill.

*Recommendations.* The data gathered are then translated into recommendations for:

* Site preparation, such as compacting or replacing existing soils.
* Bearing loads and the corresponding expected amount of settlement.
* Steps to be taken to deal with groundwater and surface water as they may affect construction operations and the finished project.
* Special foundation requirements for the sky bridge connection to the existing school

**DEMOLITION WORK**

The proposed site has an existing building to be demolished. Conduct a thorough site inspection to assess the existing structures, including the Two-Storey Pre-School Building, Two-Storey Gym Building, Single-Storey Office Building, and Youth Center Building (with a steel structure). Note their condition, materials, and any potential hazards.

**Regulatory Compliance:** Ensure compliance with all local regulations and obtain the necessary permits for demolition work.

**Safety Assessment:** Develop a safety plan that includes hazard identification, protective measures, and emergency procedures for the demolition process.

**Methodology and Equipment**

* Select appropriate demolition methods for each building based on their construction type (concrete or steel).
* Acquire the necessary demolition equipment and machinery, such as excavators, wrecking balls, or cutting tools.
* Ensure all equipment is in good working condition.

1. **Two-Storey Pre-School Building with Concrete Structure:**

* This building has two stories and is made of concrete.
* Demolition will involve the removal of the entire structure, including the foundation.

1. **Two-Storey Gym Building with Concrete Structure:**

* Similar to the pre-school building, this gym building also has two stories and is constructed from concrete.
* Demolition will require removing the entire building, including its foundation.

1. **Single-Storey Office Building with Concrete Structure:**

* This is a single-story building made of concrete.
* Demolition will involve taking down the entire structure, including its foundation.

1. **Youth Center Building with Steel Structure:**

* Unlike the previous buildings, the youth center has a steel structure.
* The demolition process will include dismantling the steel components and removing the building's foundation.

**DETAIL DESIGN CONSIDERATION**

Points to be considered during detail design stage

* **Meeting technical requirements of client**

The facilities/rooms/spaces provided should be thoroughly researched for similar facilities and integrated in the detail design.

* **Integration of design to environment**

The landscape should compliment to the surrounding environment, should suggest plants which is low maintenance, adaptable to light conditions, drought tolerant.

* **Aesthetic quality of design**

The overall accessibility of design, standards of materials and finishes, complimenting sustainability and safety of the building are key aspects that defines the overall quality of the building and this should be considered when construction drawings are finalized

* **Sustainable design**

The ideologies of sustainable building should be taken into account when detailing. The concept facilitates energy efficiency of the building, including lighting, air-conditioning, ventilation,

maintenance, etc., and should strive for maximum exploitation of natural resources (such as sunlight, rainwater harvesting, and wind flow).

**DETAIL DESIGN REQUIREMENTS**

* Construction drawing sets but not limited to:
* Floor plans fully annotated
* All dimensions
* Room, wall, door and window identification
* Sections, Elevations and detail indicators
* General notes and detail notes
* Exterior elevations fully annotated
* All building sections required for construction
* Wall sections at all conditions
* Structural plans, details and notes
* Connection Bridge structural design with installation manual.
* Plumbing plans, schedules, details and notes
* AC plans, schedule, details and notes
* Electrical power and lighting plans, schedules, details and notes
* Fire drawings, notes
* Details of spaces but not limited to (Stage, lab, ablution area, toilets)
* Schedule of material
* 3D renders to be submitted on areas not limited to: Entrance, Playground, Cafeteria, Class room, Lab, Library, Hall, Nursery, Exterior view of the building from 3 roads.
* Submission of as-built drawing at the end of the project.

**CONTRACTOR’S DOCUMENTS**

The Contractor shall submit detailed design once the contract is signed. The detail design shall be signed and stamped by a locally registered Architect and Engineer. The fire drawing shall be signed by a certified fire engineer for the approval from MNDF requirement. The materials used for construction shall be of high quality, with a design life of 50 years.

**The contractor shall submit the following**

1. Project costing – The ‘Schedule of Activities’ to be **submitted as per the format provided** by the Employer, **no changes are to be made to the format**. **All elements should be quoted for**. If any **additions/omissions** are proposed, a detail of breakdown of these elements should be provided.
2. List of personals demonstrating capacity to undertake the project of this scale including verifiable documents, experience and key positions in the relevant forms included in Tendering documents (Form PER – 1: Proposed Personnel)
3. Proposed items of key equipment’s for the project using the relevant forms included in the Tender documents (Forms for Equipment)
4. Work schedule - The work schedule proposed **shall correspond with the time period stated in employer’s requirement**. The work schedule shall indicate the major works to be carried out under the scope of the project. The work schedule shall clearly show the proposed start and end date the project and the major activities.

**MAJOR AREA (MINIMUM REQUIREMENT)**

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| **AREA** | **MATERIAL** | **SPECIFIATION** |
| **Connection bridge** | Skyways/Skybridges  Structure    Flooring  Cladding | Proposal for specifications and design to be submitted by the contractor  Steel and concrete structure bridges consist of enclosed or covered between two buildings.  Non-Slip Floor Sheets for the bridges concrete floor, pedestrian walkways, and footpaths. Nonslip floor sheets are a quick and easy way to create a safer walking surface, that minimizes slippage in both dry and wet weather. An anti-slip solution that can withstand high traffic and last a long time.  Enclosed structural glass façade which match to existing Meyna School aluminum façade design. |
| **Football pitches** | Artificial Turf  Benches  Light | FIFA and CAF quality standards . Turf type: infilled artificial turf, straight tufting, Gauge 5/8\* or equivalent.  Two benches for substitute players    16 Led Arena light to be at the building parapet wall column |
| **Staircase** | Tile flooring  Emulsion paint wall finish  Ceiling Finish  Railing | 600 x 600 Homogenous non-skid floor tiles with grooves  Walls finished with preparatory primer and sealants, 2 coats of washables weather proof emulsion paint. Proposal for Specifications and design to be submitted by the contractor.  Slab soffit as the ceiling shall be smooth and finished with preparatory primer and sealants, 2 coats of weather proof emulsion paint. Proposal for Specifications and design to be submitted by the contractor  Metal railing (material to be proposed by the contractor) |
| **Walkway** | Tile flooring  Emulsion paint  wall finish  Ceiling finish | 600 x 600 Homogenous non-skid floor tiles  Walls finished with preparatory primer and sealants, 2 coats of washables weather proof emulsion paint. Proposal for Specifications and design to be submitted by the contractor.  Gypsum board ceiling finished with preparatory primer and sealants, 2 coats of weather proof emulsion paint. Proposal for Specifications and design to be submitted by the contractor |
| **Toilets** | Tile flooring  Tile wall finish  Ceiling finish | 600 x 600 Homogenous non-skid floor tiles  Homogenous wall tile on all walls up to ceiling height  All accessories to be submitted with specification for client’s approval  Cement board ceiling finished with preparatory primer and sealants, 2 coats of weather proof emulsion paint. Proposal for Specifications and design to be submitted by the contractor |
| **Exterior wall finishes** | Emulsion paint wall finish | Walls finished with preparatory class A exterior primer and exterior sealants, 2 coats of washables weather proof emulsion paint. Proposal for Specifications and design to be submitted by the contractor.  Decorative cladding with design as proposed on the drawing area for the connection bridge with the facade. Proposal for Specifications and design to be submitted by the contractor. |
| **Doors** | Glass / Aluminium / Timber | Proposal for specification and design to be submitted by contractor based on the areas used. |
| **Windows** | Glass | Proposal for specification and design to be submitted by contractor based on the areas provided for the type of glass use in different areas.  Minimum 6mm glass to be used in all areas |
| **Railings** | Metal | Proposal for specification and design to be submitted by contractor |
| **Fixtures and Fittings** | Ceiling recessed lights, Wall mount lights, Garden lights, Toilet fixtures, Chandelier | Proposal for specification and design to be submitted by contractor.  LED fittings to be used in all areas |
| **PA System** |  | Proposal for specification and design to be submitted by contractor based on the minimum requirement. |
| **Landscaping/ Hardscaping** |  | Proposal for specification and design to be submitted by contractor. Must blend well with proposed design |
| **Façade’** | Aluminium Cladding | High quality Aluminum composite cladding finish. Design to be finalized before installation including bridge façade. |
| **Classrooms** | Floor finish  Emulsion paint  wall finish  Ceiling finish | 600x600 Homogeneous non-skid floor tiles  Walls finished with preparatory primer and sealants, 2 coats of washables weather proof emulsion paint. Proposal for Specifications and design to be submitted by the contractor.  Gypsum board ceiling finished with preparatory primer and sealants, 2 coats of weather proof emulsion paint. Proposal for Specifications and design to be submitted by the contractor |
| **Office Area** | Floor finish  Emulsion paint  wall finish  Ceiling finish | 600x600 Homogeneous non-skid floor tiles  Walls finished with preparatory primer and sealants, 2 coats of washables weather proof emulsion paint. Proposal for Specifications and design to be submitted by the contractor.  Gypsum board ceiling finished with preparatory primer and sealants, 2 coats of weather proof emulsion paint. Proposal for Specifications and design to be submitted by the contractor |
| **Laboratory** | Floor finish  Emulsion paint  wall finish  Ceiling finish | 600 x 600 Homogenous non-skid floor tiles  Up to 1.2m high 300 x 600  homogenous wall tiles with paint finished with preparatory primer and sealants, 2 coats of washables weather proof emulsion paint. Proposal for Specifications and design to be submitted by the contractor  Gypsum board ceiling finished with preparatory primer and sealants, 2 coats of weather proof emulsion paint. Proposal for Specifications and design to be submitted by the contractor  Gas lines to be installed and designed for all the stations |
| **Library** | Floor finish  Emulsion paint  wall finish  Ceiling finish | 600x600 Homogeneous non-skid floor tiles  Walls finished with preparatory primer and sealants, 2 coats of washables weather proof emulsion paint. Proposal for Specifications and design to be submitted by the contractor.  Gypsum board ceiling finished with preparatory primer and sealants, 2 coats of weather proof emulsion paint. Proposal for Specifications and design to be submitted by the contractor |
| **Stores** | Floor finish  Emulsion paint  wall finish  Ceiling finish | 600x600 Homogeneous non-skid floor tiles  Walls finished with preparatory primer and sealants, 2 coats of washables weather proof emulsion paint. Proposal for Specifications and design to be submitted by the contractor.  Gypsum board ceiling finished with preparatory primer and sealants, 2 coats of weather proof emulsion paint. Proposal for Specifications and design to be submitted by the contractor |
| **Soccer Pitch** | Turf carpet | FIFA certified grade or equivalent turf for soccer pitch |
| **Computer lab** | Floor finish  Emulsion paint  wall finish  Ceiling finish | 600x600 Homogeneous non-skid floor tiles  Walls finished with preparatory primer and sealants, 2 coats of washables weather proof emulsion paint. Proposal for Specifications and design to be submitted by the contractor.  Gypsum board ceiling finished with preparatory primer and sealants, 2 coats of weather proof emulsion paint. Proposal for Specifications and design to be submitted by the contractor |
| **Canteen, Kitchen** | Floor finish  Emulsion paint  wall finish / Tile  Ceiling finish | 600 x 600 Homogenous non-skid floor tiles  Up to 1.8m high 300 x 600  homogenous wall tiles with paint finished with preparatory primer and sealants, 2 coats of washables weather proof emulsion paint. Proposal for Specifications and design to be submitted by the contractor  Gypsum board ceiling finished with preparatory primer and sealants, 2 coats of weather proof emulsion paint. Proposal for Specifications and design to be submitted by the contractor |
| **Meeting Room** | Floor finish  Emulsion paint  wall finish  Ceiling finish | 600 x 600 Homogenous non-skid floor tiles  Walls finished with preparatory primer and sealants, 2 coats of washables weather proof emulsion paint. Proposal for Specifications and design to be submitted by the contractor.  Gypsum board ceiling finished with preparatory primer and sealants, 2 coats of weather proof emulsion paint. Proposal for Specifications and design to be submitted by the contractor |
| **Prayer Room** | Carpet / Tile  Emulsion paint  wall finish  Ceiling finish | Carpet / Homogenous non-skid floor tiles  Walls finished with preparatory primer and sealants, 2 coats of washables weather proof emulsion paint. Proposal for Specifications and design to be submitted by the contractor.  Gypsum board ceiling finished with preparatory primer and sealants, 2 coats of weather proof emulsion paint. Proposal for Specifications and design to be submitted by the contractor |
| **Entrance Canopy** |  | Proposal for specification and design to be submitted by contractor based on the conceptual design before installation |

**MINIMUM SERVICE REQUIREMENTS**

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| **SERVICES** | **REQUIREMENT** |
| **Water Supply** | Water Supply shall be according FENAKA Requirements. Separate pumps shall be provided for both water and irrigation. |
| **Rainwater Harvesting** | Rainwater tanks shall be provided with capacities sufficient for irrigation |
| **Storm water drainage** | Adequate Stormwater Drainage System shall be provided and incorporated with rainwater harvesting system. |
| **Kitchen drainage** | Oil Traps shall be provided according to FENAKA requirements |
| **Laboratory Drainage** | Dilution Tanks shall be provided |
| **Ventilation** | Adequate Air conditioning and Ventilations systems shall be provided according to client requirements and consultants approval.  Air Conditions shall be provided in Office Areas, Laboratory, Computer Lab, Meeting Room, AV rooms.  Sperate exhaust hood shall be provided for the laboratory fume hoods |
| **Fire Safety** | Fire Detection and Protection Systems shall be provided according to MNDF guidelines and approval |
| **Power & Lighting** | Power outlets and lighting shall be provided according to minimum requirements and consultants’ approval on detail design.  Design, provide and install electrical network for the entire building complete in accordance to standards set by the local governing body STELCO / FENAKA  The rates shall include for screws, nails, bolts, nuts, standard cable fixing or support clips, brackets, straps, rivets, plugs and all incidental accessories. |
| **Public address System** | Public address systems shall be provided according to minimum requirements |
| **IT System** | IT Network and systems Shall be Provided according to minimum requirements based on areas.  Class rooms should include:   * Server room rack * Network switch * Computer network outlet * Data points * Telephone outlet * HDMI / VGA & RAC AV SOCKETS * TV socket * Speaker |
| **Security Systems** | Camera system shall be provided covering all corridors, stairs, Lifts and grounds  All drawings to be submitted for client’s approval |
| **Service Ducts** | All Service Ducts shall be Accessible for Maintenance |

**GENERAL DESIGN OBLIGATION OF A CONTRACTOR**

The Contractor shall carry out, and be responsible for the design of the Works. Basic design shall be in accordance with the drawings as presented in Employer’s Requirement. Design shall be prepared by qualified designers who comply with the following criteria:

* Architect – A registered architect at his/her country with minimum 10 years design experience. Must have designed at least 2 schools of similar scale within this period.
* Civil/Structural Engineer – Minimum Bachelor’s Degree and 10-year experience in structural design of buildings of similar scale.
* Services Engineer - Minimum Bachelor’s Degree and 10-year experience in service design of buildings of similar scale.

All designs shall be to the relevant and latest International Standards similar or equivalent to the British Standards.

The designs should comply with the Technical Specifications provided.

The Contractor shall maintain the exterior design of the school that is shown in the drawing provided with this Employer’s requirement. As for the interior of the buildings, the contractor shall maintain the overall uses specified for each of the floors.

**TEST’S ON COMPLETION**

Upon completion of the building Contractor shall allow for testing of the services installed in the building as part of commissioning.