

SCOPE OF WORK FOR THE DESIGN AND BUILD OF “CENTRE FOR HIGHER SECONDARY EDUCATION MALE',

INTRODUCTION

The Ministry of Education invites all interested parties for the proposed development of “Centre for Higher Secondary Education Male’” under Design Built Contract. The proposed new school is to be designed and constructed on the given site in Male’. New schools must complete boundary 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 365 days from the commencement date.

The school is designed with extension blocks to the existing building of CHSE Male’ classroom block at east side and west side hall building classroom block. 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.

Demolition Works

Demolition works outlines the scope of works related to the demolition of the existing toilet block located at the rear side of the hall building. The proposed demolition is part of a redevelopment effort to optimize the use of available space and improve infrastructure conditions. Given the toilet block’s proximity and potential connection to the hall building, special attention is required to identify and relocate any electrical distribution boards (DBs), plumbing lines, or other utility services that may be shared with or integrated into the hall block.

The works described herein shall be executed with strict adherence to safety regulations and shall ensure that no disruption occurs to the ongoing functions or structural integrity of the main hall building. All demolition and relocation activities must be carried out under the supervision of qualified personnel and in accordance with approved architectural, structural, and MEP (Mechanical, Electrical, and Plumbing) drawings.

- Dismantle and remove the entire existing toilet block structure including:
 - Roof sheeting and framing
 - Internal partitions
 - Sanitary fixtures (toilets, wash basins, urinals, etc.)
 - Plumbing pipelines and fittings
 - External walls attached or adjacent to the main hall building
- Ensure safe demolition practices with proper barricading and debris handling to avoid disruption or damage to the main hall block and nearby structures.

Electrical Disconnection & Relocation

- Identify and inspect all electrical Distribution Boards (DBs), sub-DBs, or conduits that are:
 - Mounted on or passing through the toilet block walls
 - Connected to the main hall block or other nearby facilities
- Coordinate with a licensed electrician to:
 - Disconnect and isolate all electrical connections before demolition
 - Reroute or relocate the DBs and associated wiring to a secure, accessible area, preferably within or near the hall building
 - Reconnect necessary circuits with updated cable routing as per approved electrical drawings
- Verify if emergency lighting, exhaust fans, or outdoor lighting systems are fed from the toilet block DBs and ensure their reconnection post-relocation.

Plumbing Disconnection

- Cut and seal all incoming water supply and outgoing drainage/sewage lines before structural demolition.
- Identify if any lines are shared with the main hall block and reroute or reconnect accordingly to avoid service disruptions.

4. Structural and Wall Treatment

- Carefully dismantle shared or adjoining walls between the toilet block and the main hall building without damaging the integrity of the hall structure.
- Reinstall or repair any exposed surfaces of the hall building after demolition with appropriate plastering, painting, or sealing works.

Waste Disposal

- Transport all demolition debris, including sanitary fittings and electrical waste, to designated disposal locations approved by the local authority.

Documentation & Handover

- Submit a demolition report including photographs and DB relocation sketches.
- Update electrical as-built drawings to reflect changes to DB location and cable routing.

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 on both side. 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.

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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 any cantilever or long-span beam.

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

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- 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 (classrooms, lab, toilets)
 - Schedule of material all area.
- 3D renders to be submitted on areas not limited to: Entrance, Playground, Class room, Lab, Hall, 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**)

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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)

AREA	MATERIAL	SPECIFICATION
Connection bridge	Skyways/Skybridges	Proposal for specifications and design to be submitted by the contractor
	Structure	Concrete structure bridges consist of enclosed or covered between two buildings.
	Flooring	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.
	Cladding	Enclosed structural glass façade which match to existing CHSE male’ Building façade design.
Lift	Varies	Proposal for specifications and design to be submitted by the contractor (minimum 20-person lift) and two small size lift(08 Person lift) Lift door shall be structural glass panels supported by a stainless steel frame Minimum one Stretcher lift to be installed.
Staircase	Tile flooring	600 x 600 Homogenous non-skid floor tiles with grooves
	Emulsion paint wall finish	

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	Ceiling Finish	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.
	Railing	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 GI Metal railing (material to be proposed by the contractor)
Walkway	Tile flooring	600 x 600 Homogenous non-skid floor tiles
	Emulsion paint wall finish	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.
	Ceiling finish	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
	Railing	GI Metal railing (material to be proposed by the contractor)
Toilets	Tile flooring	600 x 600 Homogenous non-skid floor tiles
	Tile wall finish	Homogenous wall tile on all walls up to ceiling height All accessories to be submitted with specification for client's approval
	Ceiling finish	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.

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Doors	Glass / Aluminium / Aluminum cladding sheet	Proposal for specification and design to be submitted by the contractor based on the areas used as per the Technical Specification.
Windows	Glass	Proposal for specification and design to be submitted as per the Technical Specification and 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 the contractor. LED fittings to be used in all areas Minimum lighting (in Lux) <ul style="list-style-type: none"> • General Office: 300-500 lux • Classroom: 300-500 lux • Laboratories: 500-750 lux • Corridors and Walkways: 50-100 lux • Lobbies and Entrances: 200 lux • Changing Rooms and Toilets: 100 lux • Computer Workstations: 300-500 lux Color Temperature : A cool white colour temperature of 4000K to 6500K is recommended for interior and exterior warm light 2700K to 4000K is recommended as selective areas.
PA System		Proposal for specification and design to be submitted by the IT requirements of the client.
Landscaping/ Hardscaping		Proposal for specification and design to be submitted by contractor. Must blend well with proposed design
Façade’	Glass/Aluminium Cladding	High-quality aluminum composite cladding shall be provided on the perimeter of the building. All AC outdoor units must be covered with aluminum cladding as well. The cladding design must be finalized and approved prior to installation.
Classrooms	Floor finish Emulsion paint	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.

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	wall finish Ceiling finish	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
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

MINIMUM SERVICE REQUIREMENTS

SERVICES	REQUIREMENT
Water Supply	Water Supply shall be according to URA Regulation Requirements. Separate pumps shall be provided for both water and irrigation.

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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.
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 conditioning shall be provided in all interior spaces. A separate exhaust hood shall be provided for the laboratory fume hoods. The exhaust pipeline shall provide upto the lift room roof slab.
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 URA(Utility Regulatory Authority Republic of Maldives) regulation 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: <ul style="list-style-type: none"> - 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

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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 05 years design experience. Must have designed at least 2 schools of similar scale within this period.
- Civil/Structural Engineer – Minimum Bachelor’s Degree and 05-year experience in structural design of buildings of similar scale.
- Services Engineer - Minimum Bachelor’s Degree and 05-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.