



## Technical Specifications

### Renovation and Extension of Digital Literacy Training Centre for Persons with Disabilities - Phase 1

**Transaction no.:** 7000005613  
**Project processing number:** G-012069-001  
**Internal order:** 12069030000  
**Country:** Rwanda

#### 1. Context:

The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH is a federally owned international cooperation enterprise for sustainable development with worldwide operations. GIZ has worked in Rwanda for over 30 years. The primary objectives between the Government of Rwanda and the Federal Republic of Germany are poverty reduction and promotion of sustainable development. To achieve these objectives, GIZ Rwanda is active in the sectors of Decentralization and Good Governance, Economic Development and Employment Promotion, Energy, and ICT (Information and Communications Technology).

The DigiCenter is a newly created Digital4Rwanda project unit dedicated at delivering impact driven digital solutions, developing the capacities of the local innovation ecosystem, and replicating/scaling-up digital solutions at regional and continental level.

Among the activities proposed in this project is to support digital literacy for people with disabilities (PwDs) through training sessions and establishment of accessible training centers, the initiative steered by Ministry of ICT and Innovation (MINICT) with contributions from other different development partners. The training center for people with disabilities will be established in Kicukiro District by renovating and extending the existing building/training center. The current building/training center to be renovated is an open space with different rooms that are currently used to train women and to host one of the organizations of persons with disabilities (UWEZO). The goal is **to establish a *Digital Literacy Training Center for People with Disabilities***.

**These Technical specifications concern only the works of the phase 1 of the programmed works.**

#### Preliminary note:

- All materials supplied by the Contractor must be new, of the best quality and free of any defects that could compromise the strength, appearance or duration of the works

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- The Contractor must justify, at the request of the Employer or his representative, the origin of the materials by the presentation of invoices or by any other means.
- The Contractor must provide, free of charge for examinations, any samples that the Employer or his representative deems useful to request.
- The Employer or his representative may authorize the use of products similar to those prescribed, if he considers these products of qualitative performance at least equal. The request to use of similar products shall be mentioned within the Contractor's offer or can be introduced during the implementation of the works but at least one month before the implementation of the concerned product. The request with all required documentation and sample, must be submitted in writing with acknowledgement of receipt signed by the Employer or his representative. The Employer or his representative will give an answer to the Contractor within five open days.
- The Contractor is required to check the Bill of Quantities (BoQ) before bidding. If he/she notices any discrepancies with the works to be implemented and/or with the quantities reported in the BoQ, he/she must indicate this in his offer. Once the bid is submitted, the scope of work and the quantities are considered accepted by the Contractor, who cannot contest them or ask for any revision of the quantities during the implementation of the works.
- The Contractor will be expected to fill in the costs of each of the items listed in the excel sheet (Bill of Quantities) with clear specifications for each product provided by GIZ upon request and submit it alongside his/her offer.
- Before starting any demolition works, the Contractor shall identify the type of materials used to construct the walls to be demolished, and according to the type of masonry, bricks or concrete blocks, the Contractor shall take all required provision to secure the structure of the walls during all the process of demolition or opening in the masonry.
- Concrete Tests: The minimum number of tests is 3 per 30 m<sup>3</sup> of concrete of the same composition. The grain size curves will also be provided.
- The formwork will be made using formwork panels made of plywood filmed (bakelized) on both sides, 18 mm thick.
- The Contractor must respect the concrete curing times before removing the formwork.

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### a. Demolition works

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Some parts of the existing building will have to be demolished according to the instructions that will be given to the Contractor on site and following the demolition drawings.

Demolition works shall include:

- Demolition of brickwork and reinforced concrete tie beams, as indicated on the plans, including removal of rubble from authorized sites
- Removal of existing roofing and disposal of metal sheets
- Demolition of existing tiles including removal of rubble
- Demolition of exterior slabs and sidewalks, including removal of rubble

### **b. Earthworks**

Earthworks shall include:

- Soil stripping to a depth of 15 cm, including soil removal and evacuation
- Excavations for foundations down to suitable soil (assumption: to a depth of 1.5 m) including storage of suitable soils on site for backfilling and removal of unsuitable soils for backfilling.
- Anti termite treatment

### **c. Foundations and ground beams**

Foundations and ground beams works shall include:

- Lean concrete pad footings. The lean concrete, at least 5 cm thick, with a mix of 150 kg/m<sup>3</sup>, class 32.5 cement. The lean concrete extends at least 5 cm beyond each side of the future reinforced concrete structures.
- Footing pads. Reinforced concrete dosed at 350 kg/m<sup>3</sup>, class 42.5 cement, perfectly vibrated, including formwork, protective works, waterproofing, required reinforcements, and all constraints.
- Stone rubble masonry foundations: Masonry executed with hard and sound stone rubble, the origin of which will be approved by the Contracting Authority or his representative, cement mortar dosed at 300 kg / m<sup>3</sup> of sand, maximum joint thickness of 3 cm, including all implementation constraints.
- Reinforced concrete sub-columns dosed at 350 kg/m<sup>3</sup>, class 42.5 cement, perfectly vibrated, including formwork, protective works, waterproofing, required reinforcement, and all constraints.

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- Lean concrete for ground beams. The lean concrete, at least 5 cm thick, with a mix of 150 kg/m<sup>3</sup>, class 32.5 cement. The lean concrete extends at least 5 cm beyond each side of the future reinforced concrete structures.
- Ground beams. Reinforced concrete dosed at 350 kg/m<sup>3</sup>, class 42.5 cement, perfectly vibrated, including formwork, protective works, waterproofing, required reinforcements, and all constraints.
- Layer of bitumen on the footing pads and sub-columns.

### d. Concrete columns and beams works

Concrete columns and beams works shall include:

- Concrete 20x20 columns - Reinforced concrete dosed at 350 kg/m<sup>3</sup>, class 42.5 cement, perfectly vibrated, including formwork, protective works, waterproofing, required reinforcements, and all constraints.
- Reinforced concrete beams - Reinforced concrete dosed at 350 kg/m<sup>3</sup>, class 42.5 cement, perfectly vibrated, including formwork, protective works, waterproofing, required reinforcement, and all constraints.

### e. New ground slab works

New ground slab works shall include:

- 10 cm layer of sand + 2 crossed layers of polyethylene film
- Ground slab, 10 cm thick concrete reinforced with 15x15 cm welded mesh

New sidewalk slab works shall include:

- 10 cm layer of sand
- Ground slab, 8 cm thick concrete reinforced with 15x15 cm welded mesh

### f. Elevations works

Elevations works shall include:

- Bituminous felt. Strips of bituminous felt will be laid between the foundation wall and the first course of masonry. It is required under all masonry walls 20 cm thick. The minimum overlap between strips is 20 cm.
- 20 cm thick cement block masonry
- 15 cm thick cement blocks masonry
- 10 cm thick cement blocks masonry

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- Note regarding cement block masonry: Cement blocks shall be manufactured in a workshop, perfectly vibrated, with sharp edges, delivered to the site and laid in a full bed of mortar mixed at a ratio of 300 kg of cement per m<sup>3</sup> of sand, with a maximum joint thickness of 15 mm. The strength of the blocks must meet the requirements related to the slenderness of the walls. The exterior and interior faces are intended to be plastered.
- Solid Color Reinforced Composite (SCRC) Toilet partitions (24.36 m<sup>2</sup>) including all accessories and all constraints

### g. Roof works

Roof works shall include:

- Existing metal trusses and purlins renovation including anti rust painting
- Additional metal trusses made of appropriately sized tubes, minimum thickness 1.5 mm, including anti-rust paint and all constraints.
- Metallic roofing / Self-Lock Roof Sheets (Mr. Roof system (<https://mister-roof.com/2023/10/27/revolutionizing-roofs-mr-roof-introduces-self-lock-roof-sheets-in-rwanda/>) or similar with at least identical or superior characteristics).
- Metal gutter including anti-rust painting, two layers of painting and all constraints.
- PVC rainwater downpipe, including necessary clamps and all necessary fittings.

### h. Metal works

Metal works shall include:

- Aluminium glazed simple door and Aluminum sliding windows: aluminium frame (minimum thickness of aluminium profile: 1.8 mm) dim according to the drawings, 8.36 mm laminated glasses, including ironmongery, locks, all implementation constraints - the color of the aluminium frame will be decided by the Project Owner or his Representative.
- Aluminum solid doors (Aluminum minimum profiles thickness 1.8 mm) including ironmongery, locks, all implementation constraints - the color of the aluminium frame will be decided by the Project Owner or his Representative.
- Metallic tubes for pilar. 2 mm minimum thickness tubes, including anti-rust painting and two layers of metallic painting
- Vertical metallic breeze-view 1.5 minimum thickness tubes, including finishing and painting for metal.

### i. Plumbing

Plumbing shall include:

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- Supplying and installation of water supply PPR 3/4" ducts including all accessories and all necessary finishing works.
- Supplying and installation of wastewater drainage - PVC pipes 60mm including all accessories and all necessary finishing works
- Supplying and installation of wastewater drainage - PVC pipes 90mm including all accessories and all necessary finishing works
- Supplying and installation of waste water drainage - PVC pipes 110mm including all accessories and all necessary finishing works
- Required number of manholes 60x60
- A septic tank, a grease trap for the kitchen, two soak pits

### **j. Floring**

Floring works shall include:

- Supplying and installation of tiles and skirting for the entire building
- Bush-hammered screed for sidewalks and the backyard kitchen

### **k. Walls plastering**

Walls plastering shall include all building walls (inside and outside) and one side of the lateral plot walls. Paint-ready finish.

### **G. Environmental/safety requirements:**

The Contractor will establish a clean and organized site, which he will take responsibility of regular maintenance during the entire execution of works. The cleanliness on site is the first preventive measure regarding personnel safety and prevention of accidents in the workplace.

Until the provisional taking-over, the Contractor is in charge of:

- the weekly cleaning of the site and site barracks;
- the regular evacuation from the site, of all unused materials and waste coming from executed works by himself and/or by any subcontractors;
- Measures taken to keep clean all access ways to the site (roads, sewers); all guarantees required by district authorities regarding public area are the responsibility of the Contractor.
- The potential pumping in trench bottom until the building waterproofing.

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On completion of works and before proceeding to the provisional taking-over of the works, the Contractor must perform a thorough cleaning of the entire site, inside and outside constructed buildings, equipped or used during the period of works, whether they were soiled by him or by sub-Contractors. This thorough cleaning includes the cleaning of frames and glasses, stone-made facades, cement, coated or painted doors, floors, window sills, sanitary equipment, etc. The cleaning will be done using appropriate cleaning products and, if necessary, by specialized personnel.

If, within eight days following the written formal demand, the Contractor does not reply, the architect and the client reserve the right to order the site cleaning by third parties and evacuate abandoned materials. Related fees will be entirely deducted from the Contractor's final account.

### ***Prescriptions on environment protection***

#### **Noise pollutions**

The Contractor is required to equip his equipment with all soundproofing was technically available. Particularly in urban environments, noise pollutions must be limited as much as possible. All claims or potential fines are his responsibility.

#### **Nuisances caused by dust**

During the execution of works that are likely to cause dust, the Contractor will take necessary measures to limit the nuisance to the environment. These measures can consist of water spraying and/or the setup of protective tarpaulins.

#### **Waste evacuation**

The Contractor is responsible for the evacuation of all demolition materials and construction garbage towards approved garbage dump or treatment stations. He will provide proof to the Site Supervisor. On no condition, any demolition materials, debris, rubbles and garbage will be abandoned on the site, buried or burnt. To the extent possible, different garbage will be sorted and dumped separately.

Potential dangerous waste will be stored and separately dumped, in consultation with the MW and the waste treatment company.

#### **Security prescriptions**

- Under his responsibility, during the works period, the Contractor will take all technical and organizational necessary measures to ensure the safety of his personnel, the Employer and his Representative, as well as any other authorized persons to enter the site. Any person who will not respect security general prescriptions can be terminated from the site.

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- The following are generally applied: the most recent regulating prescriptions in Rwanda and particularly in Kigali in terms of security, hygiene in the construction, individual protective measures and working equipment.

### **H. Site barracks**

#### ***Staff room/changing room***

The Contractor will provide for his staff, rooms where they can shelter, keep their clothes, look after themselves and eat. Rooms will comply with local authorities' requirements. The barrack will be sufficiently protected from the wind, the dust and will be well lighted. It will be regularly cleaned. Appropriate furniture will be installed. This barrack cannot serve as a storage place for materials or tools.

#### ***Sanitary equipment***

The Contractor will set up necessary sanitary equipment including one toilet and one urinal. These can eventually consist of one integrated area in the staff room. Rooms will be lighted, provided with running water and one evacuation. They will comply with local requirements in terms of safety and hygiene.

#### ***Toilets***

The Contractor will be in charge of supplying, connecting and maintaining toilets on site for personnel needs as well as water and power supply and evacuation of those works.