



# **Statement of Works**

## **Preamble and specification**

**Rehabilitation of Sebha University-Sebha**

Annex-.....

## **Statement of Works**

### **Background**

The stabilization Facility of Libya aims to bridge the critical period of transition from initial period of humanitarian relief towards mid-long term structural and sector-specific support. It includes time bound intervention at the municipality level providing concrete improvements and peace dividends at the community level through rehabilitation of critical infrastructure, building the capacity of local authorities and enhancing local mediation and conflict resolution capacities and processes.

Under this project, UNDP will repair light infrastructure within conflict affected areas to reverse the physical disruption by the conflict and enable Reopening of the key services at the municipal level. It will also support quick recovery of businesses that are critical to survival of whole Community through rehabilitation and provision of equipment. Through these activities, it will also boost the capacities of municipalities

### **PROJECT DESCRIPTION**

The works comprise rehabilitation, completion and maintenance of the project  
“Rehabilitation of Sebha University-Sebha” located in Libya.

The work includes:

Conducting rehabilitation works on the existing school building in Sirt, in order to render the existing school fully functional. The works incorporate various finishing activities such as demolishing works, concrete works, masonry works, repair of plaster and painting, repair of the existing doors and windows, plumbing and electrical works.

### **CONTRACTOR USE OF SITE**

The Contractor shall make his own inquiries and satisfy himself that the position, size, shape, method of construction, colour and usage of temporary buildings and facilities is compatible with all local and national requirements and laws.

All temporary buildings and work areas such as site offices, workshops, stores etc shall be constructed only in positions approved by the Client. Notwithstanding any approval given by the Client to the sitting of any temporary building or facility, responsibility for complying with local and national laws remain with the Contractor.

The bidders should consider and comply with the following requirement and specifications:

1. Ambiguity: In case of ambiguity between any of the Contract Documents, the better quality and/or the greater number will be required.
2. Contract Documents: All work shall comply with the Contract Documents and with all applicable codes, laws, regulations, and ordinances wherever applicable. The most stringent of all the foregoing shall govern.

3. It is understood that the Contractor has examined the Site and made his/her own estimates of the facilities and difficulties attending the execution of the Work, and has based his/her price thereon.
4. Except for unforeseeable concealed conditions as determined by the Engineer, the Contractor shall make no claim for additional cost due to the existing conditions at the site, which, in the opinion of the Engineer, with reasonable diligence could have been ascertained by the Contractor in his/her examination of the Site
5. Contractor, at Contractor's expense, will be responsible for any items not included in bid, but are shown on plans or specified in the General Specifications or required by local codes and ordinances.

#### **DEMOLITION REQUIREMENTS:**

1. Safety conditions shall be maintained at all times, and the contractor shall use all precautions necessary, such as suitable guard rails, barriers, and warning lights necessary, especially at excavations, to provide necessary protection for the owner, the public, and inspectors visiting the site.
2. Debris control shall be maintained at all times, and the Contractor shall provide all necessary drop cloths, dust screens, chutes and water sprays necessary to maintain and limit dust to the lowest possible levels practical. Roofing membranes, shingles and other roofing debris shall be prevented from falling or being blown onto adjacent and neighboring properties. All debris shall be removed each day from the streets, adjoining walks and properties.
3. Disposal of debris shall be removed from the site in approved carrier to legal disposal sites all in accordance with local ordinances and applicable environmental regulations.
4. Adjacent properties and Owner's property shall be protected from damage at all times. All shrubbery and trees in working areas shall be protected by the use of appropriate barriers and/or guard shields of adequate strength to protect same. Contractor is to restore and correct all damage caused in the performance of his work using materials and workmanship matching the quality and type of the damaged area or item.
5. If possible, demolition is to begin at top levels and work down through the building. All items of demolition materials are to be broken down into appropriate sizes convenient for handling and removal. Demolition is to be executed in such manner as to provide clean substrates for new work, free of any obstructions or damage to work that is to remain.
6. All areas that are involved in demolition shall be secured by a barrier (plastic) to prevent the spread of debris/dust into other locations.
7. Shoring is to be provided where demolition of existing (partition removal, masonry wall removal, stairs removal, floor removal) or other elements are required. Shoring shall be provided of adequate framing and timbers with loads spread adequately at the base to protect the existing structure from damage. Shoring is to remain in place until defective removed structural items are replaced with new materials.
8. The dismantled material are the sole properties of the client. The contractor shall collect and keep the dismantled material if the dismantled material in stores designated stores of the Client. Are needed by the Client. The dismantled material should be removed off site to Authorized dumping area if the dismantled material is not required by the Client.

9. The contractor shall coordinate implementation of his daily work activities with the client and the supervising engineer (working hours), throughout the construction period.
10. The contractor shall protect and safe guard the existing facilities and building finishes, including the painting, the floor tiles, ...etc.
11. The contractor shall make the necessary temporary water, electrical power connections, etc to prevent interruption of the power and water supply for the existing functioning building.
12. The contractor shall take all necessary measures to protect and minimize environmental hazards including pollution, noise, dust ...etc

## **CONCRETE WORKS:**

### **MATERIALS AND METHODS**

Concrete curing and protection shall be accomplished by preventing loss of moisture, rapid temperature change, and mechanical injury or injury from rain or flowing water for a period of seven (7) days. Curing shall be started soon after placing and finishing, and when free water has disappeared from the surface of the concrete.

### **INTERIOR SLABS**

When required by the Contract Document or Code, four (4) inches of lime waste or road stone, as needed, shall be placed on undisturbed or compacted fill. Rake sand level to a uniform thickness. Fill as needed base course of clean graded gravel, no larger than two (2) inches and not smaller than ¼ inch.

### **EXTERIOR SLABS**

When required by the Contract Document or Code, area shall be filled with four (4) inches of sand or a mixture of sand and gravel uniformly compacted.

A four (4) inch slab with #3 rebar 18". If applicable, see Drawings for slab detail. Control joints and expansion joints shall be used to divide slabs into approximate "squares" not exceeding 12 feet by 12 feet.

### **CONCRETE REINFORCEMENT**

- Reinforced concrete work shall comply with building code requirements for reinforced concrete (ACI-318) of American Concrete Institute. Reinforcing material shall be new material conforming to the following:
  - A. Deformed Steel Bars - ASTM A-305.
  - B. Billet Steel Bars - ASTM A-15.

The rates for all concrete work shall include for the following:

- Concrete test cubes and testing costs wherever required
  - Mixing, hoisting and placing and compacting on the surfaces of any material or on formwork
  - All necessary keys to concrete surfaces to receive in-situ finishes

## **MASONRY:**

## GENERAL

- This section covers all work, labor, materials, accessories, scaffolding and appliances necessary for the completion of all, block, anchoring, reinforcing and miscellaneous masonry work.
- Repair: includes replacement of loose, missing or deteriorated elements, as identified by area in the Bid Document and the Engineer's instructions.
- Install: includes all work necessary to provide complete masonry wall.
- Block works shall be measured in meter square. The net measurement of the seen elevations, excluding all openings and voids more than 0.1 M. S. in area.

## PRODUCT DELIVERY, STORAGE AND HANDLING

- Store materials under cover in a dry place and in a manner to prevent damage or intrusion of foreign matter. During freezing weather, protect all masonry units with tarpaulins or other suitable materials. Store concrete masonry units under covers that will permit circulation of air and prevent excessive moisture absorption. Concrete masonry units shall be protected against wetting prior to use.

## JOB CONDITIONS:

- Masonry shall be kept to temperatures above freezing until mortar has attained sufficient strength and set so that it will not be damaged by freezing. Warm all materials in freezing weather to a minimum of 40° F and protect work by appropriate covering to prevent damage from freezing. The ambient temperature in the sheltered area shall not be less than 40° F for a minimum of 48 hours.
- Protect walls against staining and keep top soils of walls covered when work is not in progress. Use non-staining, waterproofed covers, overhanging walls at least two feet.

## MATERIALS

- Concrete blocks shall be Grade 35 of the required dimensions and comply with the relevant applicable Quality Standards and approved product.
- All stored materials at the job site will be under cover and in a dry place. All concrete masonry units shall be covered at all times. During erection, all walls shall be kept dry by covering at the end of each day or shut down period with a strong water-proof membrane, and the membrane will be securely anchored so that it will remain in place during high winds or inclement weather.

## MORTAR

- Mortar to be of an approximate mixture of one part Portland Cement, one-half part lime, and five parts sand, maximum.
- Tint mortar to match existing if required.

## **REPAIR BLOCK WALL**

- Remove and replace all deteriorated masonry or stone units which are no longer securely held with mortar.
- Remove all deteriorated mortar from stone/block/brick surfaces back to a depth of at least ¾-inch. Brush out joints free from dust and moisten slightly. Force mortar into joint, strike or rake and tool to match existing conditions. Tint mortar, if required, to match existing as closely as possible.

## **LINTELS**

- All concrete lintels shall be reinforced with a minimum of two rods, sized as loading and Code requires.

## **PLASTERING WORKS:**

### **PLASTER REPAIR**

- Remove all loose, spalling, or damaged plaster and lathing materials. At areas of loose plaster or damaged apply plaster the required coats of plaster and as instructed by the Engineer.
- Provide backing at holes and large cracks prior to filling and finishing. Cracks are to be repaired by widening existing cracks to form a “V” groove. Use patching plaster at crack repairs when appropriate. Spackle minor cracks and fissures as required to provide surface ready for painting.
- Plastering to all areas shall be measured net, including openings that are less than 0.25-Meter Sq. The price shall include for running rolls, all narrow widths, for taking out joints on block walls or backing concrete face for key, for making good to frames around pipes and other fittings, plastering to jambs and reveals of openings, side of columns, window sills; all of which shall be measured as plastering.
- Mix and proportion cement plaster in accordance with ASTM C926.

Rates shall include, but not limited to, the following:

- Fixing of galvanized metal lath over the joints, angle beads at all free corners and plaster stops at opening edges, expansion joints, sills, covering all conduits of electricity, water supplies, etc
- Plaster curing, additives, pigments and all incidentals required as specification and engineer approval.
- Scaffolding, maintenance all existing plaster after removal specified area, preparing the surface to install the new plaster coating.

## **PAINTING WORKS:**

### **PAINTING/LEAD-BASED PAINT HAZARD REDUCTION**

- The contractor should allow in his pricing that the engineer may use as many different colors or combination of colors to meet an approved color scheme.
- All paint works should conform to manufacturer’s instructions regarding number of coats, rate of application or drying time.

- Painting to be carried out on new or old surfaces. Price shall include surface preparation, peeling off old defective paint, batching, ..etc. on new or old existing walls & ceiling.
- The work should include surface preparation, clean, remove dust and foreign matter, sanding with sand paper, checking the walls, all as instructed and approved by the site engineer. Type of paint shall be of the best quality as approved by the Engineer
- Unless specifically noted elsewhere in the bid document, all repairs to interior and exterior surfaces shall be included in the bid for painting unless specifically noted in the Bid Document. All new drywall surfaces must be thoroughly clean, dry, and completely cured. New surfaces shall also be primed. Paint material shall be applied in a consistency adequate enough to give thorough and acceptable coverage. All materials shall be completely free of all lead or lead compounds.

## **Materials**

All materials shall be of best quality **Deliver all materials in original containers bearing manufacturer's labels.** Follow manufacturer's label instructions completely.

Interior Work ALL WALL AND CEILING SURFACES, AT FINAL, SHALL HAVE A UNIFORM TEXTURE. IF EXISTING SURFACES ARE NOT UNIFORM, A LIGHT COAT OF TEXTURE SHALL BE APPLIED TO ALL WALL AND CEILING SURFACES, WHEN REQUIRED IN THE BID DOCUMENTS.

- Keep premises as clean and orderly as possible, and well ventilated. Remove waste daily and at completion of job. Protect all adjoining surfaces by covering or moving.
- Wash all surfaces with a solution of trisodium phosphate (or equal) in water. Prior to painting, all surfaces shall be free of dirt and grease.
- Sand enamels and varnishes with 220 or finer sandpaper between coats.
- Coat all knots, gaps, streaks, or stains, with one (1) coat of shellac based primer or other approved sealer before painting.
- Putty nail holes, cracks and blemishes after primer coat has been applied, but before application of finish coats.
- All coats are to be thoroughly dry before applying succeeding coats.
- Where painting is required on concrete and masonry surfaces, it shall be done on a clean, dust and scale free surface, (wire brushed) and in full compliance with specifications of manufacturer of finishing material.
- Spackle and spot prime walls as necessary.

## **Exterior Work:**

- Wash off heavy dirt accumulations with water and tri-sodium phosphate.
- Clean up and remove all debris daily and at completion.
- Allow solvent-thinned paints to dry 24 hours or longer between coats.
- Coat all knots, gaps, streaks, or stains, with one (1) coat shellac-based primer or other approved sealer before painting.
- Putty nail holes, cracks, and blemishes after primer coat has been applied, but before application of finish coats.

- Where storm windows exist, the contractor shall remove all storm windows, prepare surface, back putty as required, replace broken glass, paint main window and trim, and reinstall storm window.
- Remove scale or rust from metal surfaces by wire brushing, scraping, or sandblasting, down to bright metal, and prime as soon as possible with rust preventative paint. Remove oil and grease with mineral spirits.
- Old painted surfaces on wood shall be wire brushed or sandpapered, and where scaling, scraped or loose paint removed. Hard, glossy, and non-chalking surfaces should be dulled, and surfaces washed or rinsed.
- Exterior paint should be suitable for the external application and is not to be done during or immediately following foggy, rainy or frosty weather. Avoid painting surfaces while they are exposed to the hot sun.
- All coats are to be thoroughly dry before applying succeeding coats in accordance with manufacturer's recommendations.
- Where painting is required on concrete and masonry surfaces, it shall be done on a clean, dust and scale free surface (wire brushed) and in full compliance with specifications of manufacturer of finishing material.
- Unless otherwise set forth in the Bid Document, all painting shall include any number of coats needed to achieve good cover and hide.

#### Oil-based paint:

- Paint with the required number of coats of quality oil-based. First coat to be thinned according to manufacturer's directions. Second coat to be applied 24 hours later, or longer, from first application unless otherwise specified by paint manufacturer.

#### Paint Metal:

- Scrape all loose paint, remove dirt and/or oxidized paint. Dust clean. Spot prime all bare spots with primer as recommended by finish paint manufacturer. Allow to dry as per manufacturer's directions, with one (1) coat primer and one (1) finish coat of paint. All paint to be brush applied unless prior Engineer's approval has been received.

### **TILING WORKS: CERAMIC WALL TILE**

Ceramic tile shall be standard grade All tile shall be set true, level and plumb. Standard wall tile adhesive shall be used unless otherwise specified. Wall surface shall be free of defects before applying tile, and surface preparation shall conform to manufacturer's specifications. All tile around bathtubs or shower stalls shall be installed over ½" light weight concrete board or green rock

### **ACOUSTICAL SUSPENDED CEILINGS**

Acoustical suspended ceilings shall be installed level and true in complete accordance with manufacturer's instruction. Use Armstrong or written approved equal. Hanger wires to be minimum 12 ga. galvanized soft annealed steel wire spaced as required by



manufacturer's instructions with lag hangers only. Layout of ceiling to be started at center of room to provide like sizes at room perimeter for uniform appearance and balance. Ceiling panels to be 2' x 2' or 2' x 4". Installation in high moisture areas shall be scrubbable vinyl coated type. Finished ceiling height, installation and materials shall conform to code. Fill any holes in plaster with sheetrock or plaster before installing suspended ceiling. Remove all loose plaster.

#### **FLOOR TILE REPAIR –**

Furnish all labor and materials necessary to repair existing floor tile. All surfaces shall be clean, dry, and free from excessive adhesive. Surfaces shall be smooth and straight.

#### **FLOOR CLEANING –**

- Furnish and install all labor and materials necessary to clean floor, base, and/or vinyl base. Cleaning products shall not be abrasive as to damage surface, or hazardous to the applicator or residents. Surfaces shall be clean of grease, dirt, and residue.
- All tiling works shall be measured net in square meters, deducting all openings and voids more than 0.25 m.s.
- Rate shall include preparation of surfaces under tiles, sand with cement mortar, finish to falls and cross falls, special tile pieces for edges and plastic spacers, pointing and cleaning; all as per specifications and Engineer approval.

Rates shall include:

- Samples for approval and all the required tests.
- Cleaning, mechanical polishing and pointing using grout

#### **WOODEN DOORS:**

- The work shall include: supply, fabricate and installation of doors, windows, made out of approved timber to be finish as per the respective specification and the existing doors and windows.
- The contractor shall submit shop drawings for the approval of the Engineer, prior to fabrication.
- Samples shall be provided for Engineer's approval prior to purchase of material.
- The work shall include: supply, fabricate and installation of doors, windows, made out of approved timber to be finish as per the respective specification and the existing doors and windows.
- The contractor shall submit shop drawings for the approval of the Engineer, prior to fabrication.
- Samples shall be provided for Engineer's approval prior to purchase of material.

Rates shall include;

- Hoisting and fixing in position, drilling and making good.
- Brass Nails, Brass screws, glue, plugs etc.,.
- Framing together all work in accordance with the best practices.

- Priming backs & applying two coats of an approved wood preservative before fixing.
- Rate to include for providing sundry items related to the door & windows.
- Rate shall include for 5mm thick clear float glass/ wired glass /tinted glass /translucent glass as appropriate to suit the respective doors and windows as similar to the existing doors and windows, where required.
- Rates shall include for fixing timber frame, door sash / window casement brass fixing screws, lock sets with 3 keys manufactured in Europe.
- Preservative treatment for back of door & door frame in contact with masonry or concrete.
- Sizes
- The sizes as existing doors and windows and description of bill of quantities are finished sizes and subject to same permitted in the specifications.
- The contractor shall check the measurement of openings physically at the existing doors and windows before fabricating the doors & windows.
- All the locks shall be ISO certified or approved equivalent supplied by authorized dealer appointed by the manufacturer & approved by the Engineer.
- All ironmongery shall be heavy duty of approved European manufacture, ironmongery samples should be submitted for approval.
- Painting / Final Finish
- Unless otherwise stated all surface of timber doors & windows and casements and door sashes shall be applied with two coat of wood preservative, two coats of prime, two coats of approved paint, paint type and finishing shall be similar to the paint finishing of the existing doors and windows.
- The term door unit shall mean the installation of jambs, casing (both sides) if needed, butt hinges, lock set and the door, including aluminum or wood threshold.
- The choice of door, including glass requirements, shall be made by the Engineer.
- When pre-hung metal clad doors are to be installed, the price shall include all needed modification to opening, trims, moldings, repair to exterior and interior wall surface. Replacement metal clad door may be substituted with written approval.
- All exterior doors shall be made weathertight. A watertight threshold shall be provided. Doors shall be weather-stripped to prevent infiltration of dust, snow, and weather.
- All new doors shall be finished inside and out with two coats of paint or stain and varnish at owner's option unless specified in the painting portion of the Bid Document.

## **INSTALLATION:**

- Wood Doors (exterior, interior) - shall be installed with door and frame set plumb, straight and true. All doors shall be undercut, including closet doors to allow for carpeting, thresholds, and weather-stripping. Doors shall be cut and planed to allow 1/8" clearance at head and jambs. Door and frame shall be primed and be finished with two coats of paints. All hardware shall be of a high quality approved by the Engineer. Mount door and hardware so door shall swing freely without springing of door hinges or binding of door. One screw at each hinged shall be replaced with a screw capable of penetrating 1" into framing.

## **REPAIR EXISTING DOORS:**

- Existing doors shall be repaired with matching parts and hardware as required to restore weather integrity, soundness and smooth operation. Broken joints shall be doweled, glued and clamped.
- Remove deteriorated stops, casing, trim, and jambs, and replace with new (as required in the bid document). Repair and/or replace damaged door and missing hardware (as required in the bid document) with materials of matching design and finish, or existing hardware. Install new locksets at existing exterior doors, over old cutouts with new cover escutcheon plates (as required in the bid document). Where casing trim is to be retained, remove existing deteriorated finishes, sand surfaces, and fill holes and dents to provide a smooth surface ready for new paint. Provide new weather-stripping at exterior door.

## **ADJUSTING DOORS:**

- Adjust door to open, close and lock properly. Trim any edges necessary for even reveal or fit. Adjust latch keeper (plug and re-drill old holes as needed). Sand and touchup affected surfaces to match existing.

## **WINDOWS:**

### **General**

- The term window unit shall mean the installation of frame, sill, sash, trim, hardware, screens, and repair to interior and exterior wall surfaces.
- All window units shall be set plumb and level, finished and trimmed as required.
- New window units shall be of quality, type and size as called out in the Bid Document. All frames, sashes, stops and exterior casings shall be of clear pine.
- Exterior side of all wood surfaces shall be painted with one (1) coat of primer sealer before installation, and after installation shall be painted with two (2) finish coats of exterior type paint to match structure and/or trim.

## **REPAIR EXISTING WINDOWS:**

### **Wood windows**

- Remove and replace all broken sash cords and replace with new sash cords at all double hung windows. All deteriorated or damaged stops, sills, aprons, parting stop sash and frame trim are to be replaced.
- Replace all deteriorated sash with matching units.
- Replace all cracked, broken and missing glass "B" quality glass, or glass of thickness as recommended for size of light. Reset loose glass, remove bad glazing, apply new glazing to make airtight seal. Install new sash lifts and locks where missing or broken.
- Clean and prep window, inside and out, for new paint
- All units at final shall be weathertight, operable and lockable.

## **ALUMINUM WINDOWS:**

- Free lower sash so that it opens properly; replace broken glass, as per contract document, reset loose glass; remove bad glazing; apply silicone sealant between frame and glazing; apply new glazing (vinyl) to unit(s) to make airtight seal; replace all rotted sills, casings,

framing members, and trim both inside and out; install new lock and sash stop if existing is not present or cannot be repaired to operate; prep and paint all finish surfaces; all materials shall match existing. All windows shall be cleaned prior to final. All units shall at final be weathertight, operable and lockable.

## **HARDWARE**

- Shall be good quality and shall be suitable for use intended and installed as per manufacturer's printed instructions. Lock sets shall be high quality approved by Engineer. **DOOR/WINDOW CASINGS**
- Furnish and install new casings as specified in Bid Document. Casings are to match those in the structure. All nails are to be set, holes to be filled, stained or painted.

## **PLUMBING:**

- Plasticized polyvinyl chloride (uPVC) pipes shall be used in the plumbing installation and they must conform in every respect to the requirements of BS 4514.
- All fittings and pipe specials used in the plumbing installation shall be suitable and compatible with all respects to the pipe line to which fittings and specials are fixed.
- Rates for plumbing work shall include for:-
- Complying with the relevant British /EC or any other standard as given under the specifications and with the regulations of the Local Authority and or any other relevant authorities.
- Cutting and waste of pipes etc., and joining pipes.
- All specials such as elbows, bends, tees, junctions, plugs, reducers and similar pipe fittings except for valves which will be measured separately.
- Connecting pipes to sanitary fixtures and appliances.
- Necessary screws, nails sockets, connection back nuts standard pipe fixing or supporting clips, saddles, brackets, holder bats, straps etc.
- Connecting of different types of pipes.
- Testing and disinfection after completion.
- Excavation, backfilling, disposal of surplus soil for items which were specifically mentioned.

Rates for sanitary fittings shall also include for:-

- Fittings such as taps, waste water outlet, internal overflows etc. and supporting brackets, incidental materials for fixing, unless otherwise measured separately.
- Assembling, jointing together fixing components parts, and jointing to pipes including necessary coupling and for leaving perfectly clean and in perfect working order on completion.
- Jointing and connecting of pipes to sanitary fittings.
- Testing and commissioning of the installation.
- Making good of the work disturbed.
- Submitting samples for the approval of the Engineer.

- Protecting the works.
- Rates for drainage work shall include for :-
- Laying of pipes to falls.
- Excavation, backfilling, disposal of surplus soil
- All pipe specials such as bends, junctions, elbows, tees etc.
- Connection to sides of manholes etc.
- Providing sleeves etc., when pipes pass through walls, foundations etc.
- Giving notices, obtaining permits, paying fees, fixing, testing and commissioning etc.

#### **ELECTRICAL WORKS:**

- Unless otherwise stated, Rates in Bill of Quantities shall include all necessary materials (Cables, conduits, PVC sunk box, bulbs, switches etc.) and labour required to complete the electrical installation to good working order.