

## **Statement of Work (SOW)**

**Client:** US Embassy, Addis Ababa, Ethiopia.

**Type of Work:** Decorative type of Security Grilles

**Objectives:** The U.S. Mission Regional Security Office (RSO) requires the services of an experienced construction company to fabricate and install decorative type of security grilles at the embassy leased residences for fixed term. The Contractor will provide all labor, equipment, and materials necessary to fabricate and install the grilles according to the requirements specified in this Statement of Work.

### **Scope of Works:**

1. Fabricate and install fixed grilles.
2. Fabricate and install single leaf grilles gate with hinges and key locks.
3. Fabricate and install double leaf grilles gate with hinges and key locks.
4. Fabricate and install window and/or door grilles with emergency release mechanisms.
5. Fabricate and install sliding grilles gate with rolling mechanism and locks.
6. Fabricate and install safe haven door with hinges and key locks.
7. Modify the existing fixed grill gate to emergency release mechanisms.

### **Specifications and Standards:**

#### ▪ **Grilles:**

1. All door and window grille designs must be based on the following criteria.
  - a. Grill bars must be minimum diameter 14mm round or square solid steel bar.
  - b. Horizontal spacing (vertical members): a maximum of 150mm on center
  - c. Vertical spacing (horizontal members): a maximum of 300mm on center

- d. All grille joints and intersections must be welded continuously at all points, both above and below points of intersection.
- e. The Contractor may propose an alternative grille design. The proposed design must meet the same general specifications and must be approved **in advance by the RSO**.
- f. See *Attachment* for an example of an approved grille design.

2. Grille frame criteria:

- a. Continuous 40x40mm, 5mm thick steel angle iron or 50x50mm flat bar.
- b. Corners shall be miter cut with continuous weld joints.

3. Grille frames shall be anchored to the surrounding structural members using the following specifications:

- a. Frame anchor points shall be 60mm (minimum) from any edge of a structural opening.
- b. The maximum distance between horizontal anchors is 406mm (may be less).
- c. The maximum distance between vertical anchors is 508mm (may be less).
- d. The anchoring system will be 10x90mm (minimum) drop-in expansion anchors.
- e. If necessary, the anchors shall be reinforced with epoxy resin (*see Attachment*).
- f. Anchor bolt heads must be smooth (or cut after installation) and welded to the frame.
- g. Any anchoring method not listed above must be **approved in advance** by the RSO on a case-by-case basis.

4. General grille requirements:

- a. Grilles may be installed on the interior or the exterior of the window and/or door opening, depending on the window/door operation and surrounding structures.
- b. Grilles may be either recessed or surface mounted.
- c. Special attention should be paid to the marble window/door sills when designing, fabricating and installing the grilles so as to avoid damage to the marble.
- d. All grilles shall be installed in such a way as to preserve complete window functionality.

e. All grilles (to include all metal supports) must be completely covered in one (1) quality coat of primer and two (2) coats of anti-corrosion paint, prior to installation. After installation, grilles shall be touched up to prevent any exposed metal from rusting. The paint color must be **approved in advance** by RSO and must match the general aesthetic of the residence. The paint shall be applied smoothly and uniformly, with no bubbling, or smearing, or rough patches, nor exposed metal.

5. Door grille criteria:

a. All specifications listed above shall apply to door grilles as well.

b. Door grilles will match in dimension, as closely as possible, the existing residence doors.

c. Each grille door will have at a minimum, a mortise lock with a double cylinder, un-duplicable keys and a substantial hinge assembly. All locks and hinges must be **approved in advance** by RSO.

d. For external door grilles, all locks must be rated for outdoor use.

e. For double leaf grill gates, one part of grille frame will have, two (2) heavy duty door anchor throw-bolts (one at the top and one at the bottom) to ensure that the co-dependent doors cannot be pulled apart, thus defeating the function of the key lock. Door anchor throw-bolts must be **approved in advance** by RSO.

f. The throw-bolt assembly shall be designed to allow it to remain locked in either the open or the closed positions.

g. All mortise locks and anchor throw-bolts will be covered and welded directly to the grill. This will ensure that neither the locks nor throw-bolts can be manipulated and/or defeated from the outside.

h. All associated mounting hardware shall be rated for the type of door/grille on which it's installed.

▪ **Emergency Release Devices:**

1. **Purpose:** All bedrooms must have a secondary exit in the event of a fire. This secondary exit, when installed onto grille work, is known as an emergency release device. The purpose of this device is to make it easy for the occupants to escape during a fire. Because of this, the emergency release device must not require the use of a key, nor

tool, nor special knowledge to be operated. Examples of approved devices are included in *Attachment F*.

## **2. Specifications:**

- a. The emergency escape opening for window grilles must be a minimum of 800mm wide and 800mm high. This is a minimum only – the preference is for the emergency opening to match the size of the window opening. If the window is smaller than 800x800mm, then the emergency escape opening must match the window opening in size.
- b. For emergency openings on doors, one entire side of the door frame will function as the emergency escape. The other side of the door shall be secured with throw-bolts that lock with padlocks or other locking mechanism.
- c. All emergency release devices installed must continue to provide protection from intruders while allowing the occupants easy exit in case of an emergency.
- d. The cable from the lock to the release device must be shrouded in such a way so as not to allow it to be pulled by hand to release the grille lock (see Attachment F).
- e. The emergency release device must be located at a distance away from the window/door so that it cannot be reached by a reasonable arm's length. The emergency release device, if located less than 800mm from the window/door opening, should be shrouded or protected in 1.5mm mesh wire or in some other way to avoid manipulation from someone reaching in (see Attachment G for examples).
- f. The emergency release device should not provide a hazard to occupants as they move about the room (for example, a metal rod that sticks straight out at eye level).
- g. The device must operate smoothly and require no more than 10 pounds of force to operate.

### **▪ Modify the existing fixed grill to emergency release mechanisms:**

1. **Purpose:** All bedrooms must have a secondary exit in the event of a fire. However, there are some existing residences have only fixed grill at their bedrooms and these grilles must modify to emergency release mechanisms to make it easy for the occupants to escape during a fire.

a. All specifications listed above in emergency release devices shall apply to modify the existing fixed grill as well.

▪ **Safe haven door:**

**1. Purpose:** Each residence is provided a safe haven room, which is generally located in the master bedroom. A safe haven is a secure room or area within a residence that affords an additional level of protection. The entrance to the Safe haven required substantial door.

**2. Specifications:** Construction and installation of safe haven door, frame, anchors, hinges, locks, door viewer and accessories shall meet the following requirements.

**1. Frame:**

The door frame to be fabricated in hollow section (HS), Mild Steel (MS) galvanize sheet with thickness 2mm. The frame should flow the size of previously removed door opening (*See Attachment*).

**2. Anchors:**

Frame anchor points shall be 60mm (minimum) from any edge of a structural opening.

**3. Door:**

a. The door to be fabricated with 1.5mm thick sheet metal panel in both side and with 40x 40 x2mm RHS frame. Also, the internal structure of the door shall be 40 x 20 x 1mm RHS with 300mm c/c vertical & horizontal spacing, before covered by sheet metal panel the internal structure of the door must be approved in advance by RSO technician.

b. Decorative Faces- The door faces shall be fabricated of textured and/or embossed plywood HDF/ MDF Laminated Veneer Door Skin. The plywood color and type must be approved in advance by RSO and must match the general aesthetic of the residence (*See Attachment*).

**3. Hinges:**

a. The door to be installed on four 125mm power load hinges type UNION ASSA ABLOY HN-601-U-SSF, Other type hinges **must be approved in advance** by RSO.

b. The hinges should be inside but if there are exterior hinges, they should be secured to preclude removal.

**6. Locks:**

a. The door will have, a mortise lock with a double cylinder and non-duplicable key assembly. All locks **must be approved** in advance by RSO.

b. Two (2) sliding bolts type Sergeant & Greenleaf SM181 must be installed at the top and bottom and one deadbolt lock type Yale lock at the center shall be

installed from the interior side. (Since these two lock types are not available in the local market, RSO will provide).

**7. Door Viewer:**

One (1) wide angle door viewer must be installed to provide one way viewing.

**8. Finishing:**

- a. All metal parts must be sanded and applied with two coats of primer and auto-paint to match the color of the wooden part.
- b. The woodwork must be sanded and applied with two (2) coats of wood vanish.
- c. Doors and frames shall be thoroughly cleaned and chemically treated to insure maximum paint adhesion. All surfaces of the door and frame exposed to view shall receive a factory applied coat of rust inhibiting primer, either air-dried or baked-on. After installation, door shall be touched up to prevent any exposed metal from rusting.
- d. The door must operate smoothly, easily, properly, and without binding. Locks should engage accurately and securely without forcing or binding.

**General Requirements:**

- a. All works shall be of the highest standard. All material and equipment required shall be of the highest quality. Sample of the material must be provided by RSO before installation/application (i.e. including lock, anchor throw-bolts and the paint to be applied).
- b. Any damaged finishes must be repaired/ repainted during the installation time

**Period of Performance:**

The manufacturing work will start after issuance of the Notice to Proceed, and the duration of the works will be depending on the size of the house. The Contractor shall submit a Schedule for the work, with all critical activities and dates clearly identified.

**Place of Performance:**

Installation will take place at the embassy leased residences. All major fabrication and painting will be done off-site. Minor modifications and touch-up painting shall be done on-site.

**Workshop visit:**

The embassy will visit qualified contractor's workshop, to check their workspace, machineries, manpower and workmanship quality.

### **Payment Terms and Schedule:**

The Contractor shall carefully read this Statement of Work and attend the site visit to become fully informed of the requirements, conditions, and limitations that apply to the job. After the site visit, the Contractor shall submit proposal a fixed-cost price per sq. meter (price/m<sup>2</sup>) for fabricate and installation of each works listed under scope of work.

**Miscellaneous:** The U.S. Mission will provide access for the Contractor to the extent required to perform this work during normal working hours (Monday through Saturday, from 0800-1700h). The job is subject to supervision and/or inspection by qualified U.S. Mission RSO staff during the entirety of the project. The job is considered done only upon approval by RSO/RST staff.

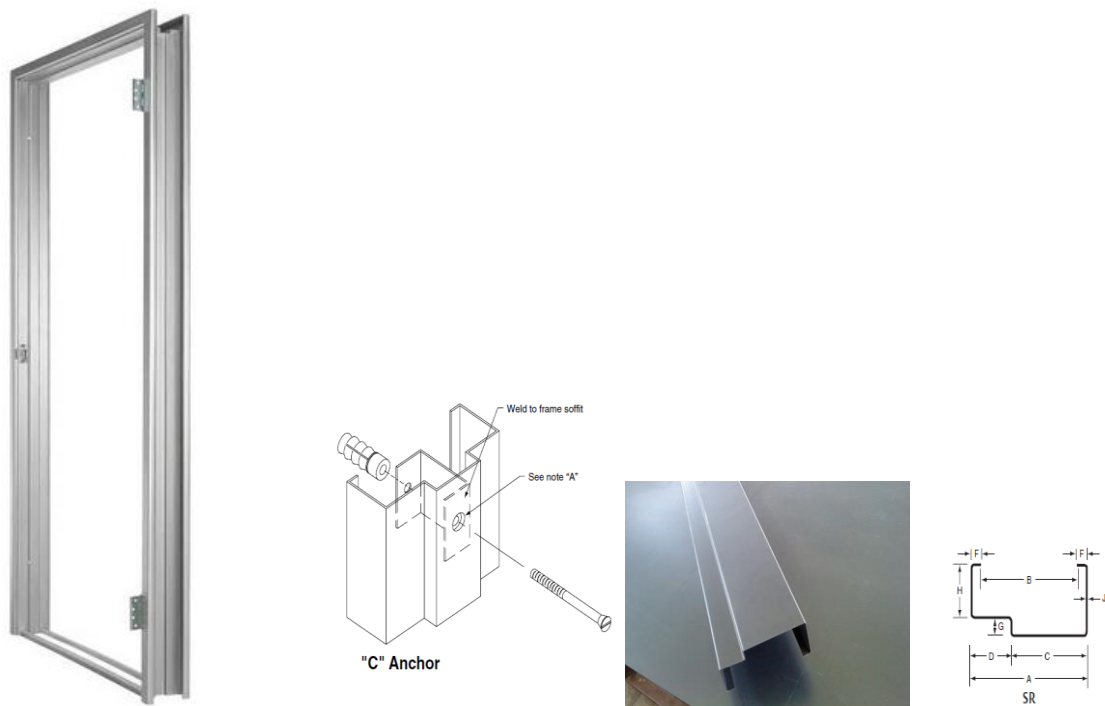
### **Responsibility of the Contractor:**

1. The Contractor must designate a Site Manager/Foreman for the entirety of the job. This person will be responsible for overseeing the project and for answering all questions that arise. The Site Manager must be always reachable by cell phone and/or email, without significant delay, during the workday.
2. The Contractor shall submit a Construction Schedule for the project, with all critical activities and dates clearly identified. For example: grille fabrication will take place from (date) to (date); grille installation will take place from (date) to (date). The Site Manager/Foreman shall give weekly status reports on the Contractor's adherence to this schedule to the RSO.
3. The Contractor shall be responsible for the professional quality, technical accuracy, and the coordination of all construction and other services furnished under this contract. The Contractor shall, without additional compensation, correct or revise any errors or deficiencies in his fabrication and installation.
4. The Contractor must follow all applicable safety regulations and provide his personnel with appropriate safety equipment and machineries.
5. Any waste produced during the job must be removed by the Contractor. This includes the debris, empty paint can and any pieces of metal.
6. Any damage to interior or exterior surfaces caused by the Contractor during the performance of this contract will be repaired by the Contractor to their original state
7. The storage of any equipment on the job site during the installation is at the contractor's own risk.

8. All pictures and drawings in this Statement of Work are referential only. Contractor must do his own survey and take all necessary measurements.

9. The Contractor shall warrant for all defects due to material or workmanship for a period of one (1) year from the date of completion of the work for all works performed under this contract in compliance with this Statement of Work.

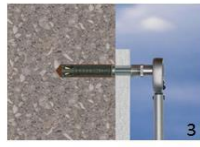
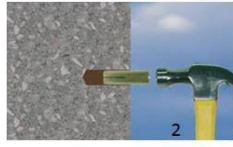
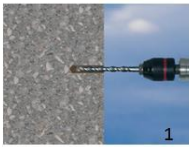
**Attachment A: Safe haven door frame and its section**





## Attachment B: Anchoring method

Steel Anchoring System:  
Anchor with bold 10x90mm



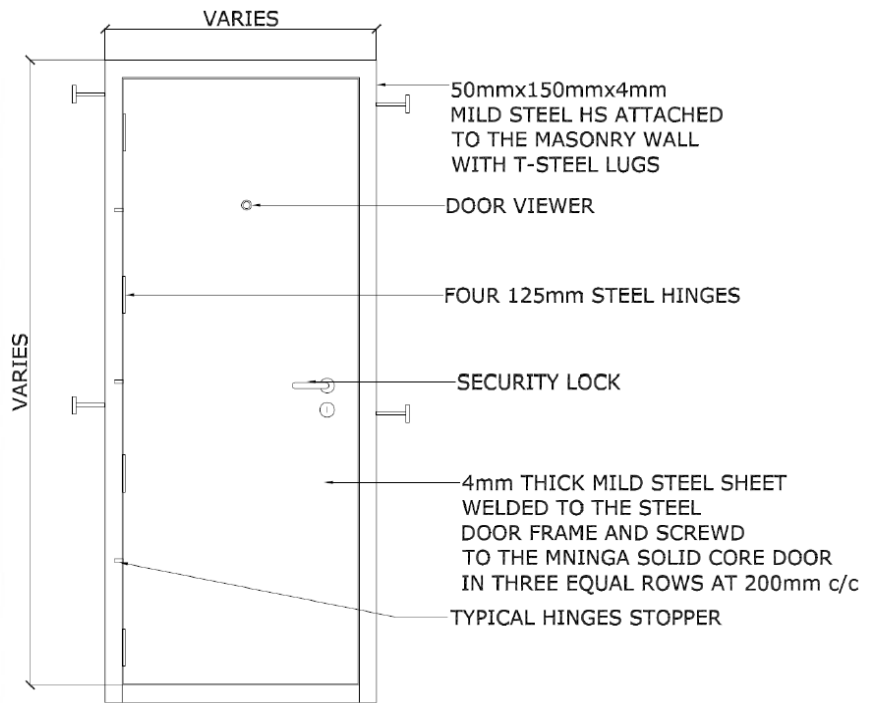
If the anchoring spots are not solid concrete it might be necessary to reinforce with two components epoxy resins like example below:



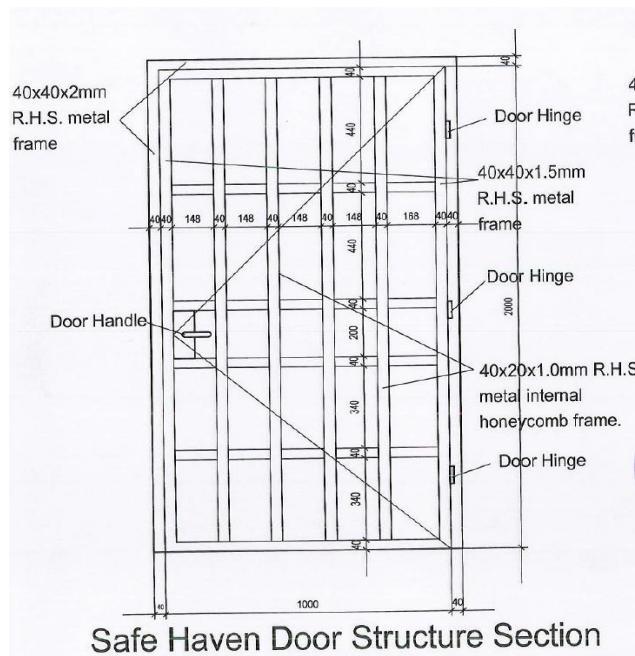
**Attachment C: Safe haven door detail**



METAL DOOR WITH LAMINATION



REAR VIEW



SENSITIVE BUT UNCLASSIFIED

SENSITIVE BUT UNCLASSIFIED

**Attachment E: Emergency escape hatch release mechanism**



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**Attachment F: Fixed grill type of work for all windows and doors.**



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