Embassy Djibouti - Scope of Work
NEC CHILLER PLATFORM
September - 2015

1. Project Description

1.1. This project work is to fabricate and install a platform in front of the two York chillers at the U.S. Embassy in Djibouti per this Scope of Work.

1.2. Fabricate and install a platform constructed of FRP grating and hot-dipped galvanized or epoxy coated Unistrut supports.

1.2.1. Grating will follow the attached specification for load and construction.

1.2.2. Supports will be Unistrut brand mounting channel.

1.2.3. Sunshade will be galvanized steel or powder coated aluminum.

1.2.4. Deck supports will be spread footings acceptable for rooftop membrane use.

2. General Requirements

2.1. Material shipped into Djibouti for this project may be brought in duty free.

2.2. The Contractor must pay for transportation of all Contractor purchased material to the site and the U.S. Embassy will provide a tax exoneration certificate for customs.

2.3. Packaging and Marking

U.S. Embassy Djibouti
Lot 350 - B Haramous
B.P. 185
Republic of Djibouti

2.4. Contractor will provide airway and shipping bills to the Department of State Procurement and Shipping group for exoneration of duty on material used on this project.

2.5. All costs associated with shipping, transportation to the Embassy, and movement through customs is the responsibility of this contractor.

2.6. Security

2.6.1. A list of employees who will work on this project, to include names (as shown on ID), and ID numbers must be submitted to the COR within one (1) week of the Notice to Proceed (NTP).

2.6.2. Information on any vehicles which must come onto the Embassy Compound as part of this work must be submitted to the COR. This information is to include VIN number, license plate number, vehicle description, and color and must be submitted to the COR within one (1) week of the NTP.

2.7. Tools

2.7.1. All tools must be provided by the contractor.

2.7.2. All tools must be taken off-site every day or stored in a container at the end of the work day.

2.8. Contractor Supplied Personnel Technical Qualifications

2.8.1. Qualified Electrical

2.8.2. Contractor shall have a U.S. Journeyman electrical certification for installation of all electrical work.

2.8.2.1. The name and validation of the certificate must be submitted with the bid.

2.8.2.2. The journeyman electrician must be on the job site at all times when electrical work is being performed.

2.8.3. Contractor's journeyman electrician must have a current OSHA 30 hour training certification.

2.8.3.1. All personnel used in the performance of the electrical work shall be licensed and qualified electricians or electrical professionals as recognized by at least one U.S. State or local jurisdiction.

2.8.3.2. At least one team member must have 10 or more years of applicable electrical experience in the United States.

2.8.3.3. Resumes for all proposed team personnel detailing their experience MUST be submitted with the Cost Proposal or it will not be considered.

2.8.3.4. Similar installation experience must be clearly shown on all resumes submitted.

2.8.3.5. Equipment manufacturer technicians (factory representatives) are exempt from this requirement and may supplement but not replace the U.S. staff.

2.8.4. Electrical Installation Labor

2.8.4.1. All contractor-provided electrical installation labor furnished under this task order and the electrical tasks to be completed thereto shall be executed only by journeyman and master level tradespersons, licensed to the trade which he/she practices.

2.8.4.2. Equipment manufacturer technicians (factory representatives) are exempt from this requirement and may supplement but not replace the U.S. staff and must be under constant direction and supervision from licensed personnel.

2.8.5. Trade Licenses

2.8.5.1. All professional tradesmen licenses for Contractor personnel shall be current and valid at the time of COR review and shall be maintained and remain current and valid for the complete duration of the project execution.

2.8.6. Use of Non-Licensed Labor

2.8.6.1. Contractor use of non-licensed electrical laborers, helpers, etc. to execute, plan, lay out, or otherwise direct the execution of the electrical work activities under this task order is not allowed.

2.8.6.2. Local hired labor shall not perform functions beyond manual labor such as debris removal and must be directly managed and supervised by the contractor.

3. Safety

3.1. Contractor must submit with the bid, a Company Safety Plan including a specific Safety Plan tailored to this project to include an Activity Hazard Analysis (AHA).

3.2. All safety plans must conform to USACE (Army Corps of Engineers) Safety and Health Manual EM-385.

3.3. General. The contractor shall provide and maintain work environments and procedures which will safeguard the public and Government personnel, property, materials, supplies, and equipment exposed to contractor operations and activities; avoid interruptions of Government operations and delays in project completion dates; and, control costs in the performance of this contract. For these purposes, the contractor shall:

3.3.1. Provide appropriate safety barricades, signs and signal lights;

3.3.2. Comply with the standards issued by any local government authority having jurisdiction over occupational health and safety issues; and,

3.3.3. Ensure that any additional measures the contracting officer determines to be reasonably necessary for this purpose are taken.

3.3.4. For overseas construction projects, the contracting officer shall specify in writing additional requirements regarding safety if the work involves:

3.3.4.1. Scaffolding;

3.3.4.2. Work at heights above two (2) meters;

3.3.4.3. Trenching or other excavation greater than one (1) meter in depth;

3.3.4.4. Earth moving equipment;

3.3.4.5. Temporary wiring, use of portable electric tools, or other recognized electrical hazards. Temporary wiring and portable electric tools require the use of a ground fault circuit interrupter (GFCI) in the affected circuits; other electrical hazards may also require the use of a GFCI;

3.3.4.6. Work in confined spaces (limited exits, potential for oxygen less than 19.5 percent or combustible atmosphere, potential for solid or liquid engulfment, or other hazards considered to be immediately dangerous to life or health such as water tanks, transformer vaults, sewers, cisterns, etc.);

3.3.4.7. Hazardous materials—a material with a physical or health hazard including but not limited to, flammable, explosive, corrosive, toxic, reactive or unstable, or any operations which creates any kind of contamination inside an

occupied building such as dust from demolition activities, paints, solvents, etc.; or

3.3.4.8. Hazardous noise levels.

3.4. Records. The contractor shall maintain an accurate record of exposure data on all accidents incident to work performed under this contract resulting in death, traumatic injury, occupational disease, or damage to or theft of property, materials, supplies, or equipment. The contractor shall report this data in the manner prescribed by the contracting officer.

3.5. Subcontracts. The contractor shall be responsible for its subcontractors' compliance with this clause.

3.6. Written program. Before commencing work, the contractor shall:

3.6.1. Submit a written plan to the contracting officer for implementing this clause. The plan shall include specific management or technical procedures for effectively controlling hazards associated with the project; and,

3.6.2. Meet with the contracting officer to discuss and develop a mutual understanding relative to administration of the overall safety program.

3.7. Notification. The contracting officer shall notify the contractor of any non-compliance with these requirements and the corrective actions required. This notice, when delivered to the contractor or the contractor's representative on site, shall be deemed sufficient notice of the non-compliance and corrective action required. After receiving the notice, the contractor shall immediately take corrective action. If the contractor fails or refuses to promptly take corrective action, the contracting officer may issue an order suspending all or part of the work until satisfactory corrective action has been taken. The contractor shall not be entitled to any equitable adjustment of the contract price or extension of the performance schedule on any suspension of work order issued under this clause.

4. Submittals

4.1. Fiberglass Reinforced Plastic (FRP) grating.
4.2. Hot-dipped or Epoxy coated Unistrut supports.
4.3. Shade cover material
4.4. Design drawings

5. Scope of Work

5.1. Construct a platform (1.20m x 2.50m) in front of two (2) main chillers.
5.1.1. Platform height will be level with the bottom of the chiller frame (approximately 50cm above roof deck).
5.1.2. Platform shade cover will be level with the top of the chiller frame.

5.2. Construct a walkway platform over the 4" conduit bank next to chiller #2. This will be the access to the chiller platform.

5.3. Chiller Platform

5.3.1. Platform supports will be constructed of hot-dipped galvanized or epoxy coated Unistrut.

5.3.2. Platform decking will be 5mm (2") Fiberglass Reinforced Plastic (FRP) grating with a rough sand surface finish for traction.

5.3.3. Intermediate support channels will be installed to increase load bearing of the platform.

5.3.4. Platform will have access stairs and handrails (handrail height 42" per OSHA)

5.3.5. The sunshade will cover the platform and be fabricated of galvanized steel sheeting or powder coated aluminum.

5.3.6. Sunshade support will be integral with the platform supports and constructed of the same Unistrut material.

5.3.7. Platform grating will be locked to the frame using Unistrut grating mounting hooks and will be removable.

5.3.8. Platform grating will be constructed to support a minimum of 150 lbs per square foot.

5.4. Walkway Platform

5.4.1. Walkway platform will be constructed of the same material as the chiller platform.

5.4.2. The walkway platform will be integral with the chiller platform and act as an access for the chiller platform.

5.4.3. The walkway platform will not be covered.

5.5. Contractor is responsible for replacing any broken or damaged hardware damaged by this Contractor during this Work.

6. AFTER IMPLEMENTATION

6.1. Provide 1 year installation warranty

7. POINTS OF CONTACT

7.1. CONTRACTING OFFICER: The Contracting Officer (CO) shall be the Embassy General Services Officer, Griffin LeNoir (LenoirGP@state.gov)

7.2. CONTRACTING OFFICER REPRESENTATIVE (COR) shall be the Embassy Facility Manager, Michael Wilson (WilsonMR4@state.gov)

8. PROPOSAL SUBMITTAL: proposal shall be submitted to Procurement Group, U.S. Embassy Djibouti (DjboutiProcurement@state.gov)

END SOW

8.1.

Section 06600
Fiberglass Reinforced Plastic Grating and Structural Fabrications

Part 1. General

1.01 Related documents:
- A. Contract drawings, including general drawings and addenda drawings.
- B. General specification sections.

1.02 Summary
- A. This section includes:
  1. FRP Grating and Stair Treads
  2. FRP Grating Embed Frames
  3. FRP Structural Fabrications
  4. FRP Stairs
  5. FRP Handrail
  6. FRP Ladders and Cages

1.03 Scope of Work
- A. The Contractor shall furnish all labor, materials, equipment, and incidentals as required to properly install all of the FRP Products specified herein.

1.04 Quality Assurance
- A. All FRP Products and Fabrications shall be supplied by an experienced firm who has continually engaged in the manufacture and/or fabrication or fiberglass reinforced plastic. Any firm not listed in this specification must clearly document a minimum of five years experience with similar projects with equal scope or design.
- B. The Installing Contractor shall; assure that all field dimensions are taken accurately and communicated properly to the FRP Fabricator, that other trades will not affect a proper installation of the FRP, and that all manufacturer's instruction and recommendations are followed.
- C. No substitution of materials will be accepted unless they are submitted for review and the Architect/Engineer approves their use.

1.05 Design Requirements
- A. OSHA – 29 CFR as it pertains to worker safety and walking-working surfaces for stairs, ladders, handrail, and platforms.
- B. FRP Grating shall designed to support 100 lbs. per square foot Uniform Load. Deflection shall not exceed .25 inch.
- C. FRP Structural Shapes shall be designed into structures that will support all applicable loads. Deflection shall not exceed L/D of 180.

1.06 Submittals

A. Submit complete shop drawings and engineering data for all FRP materials and fabrications as required by this scope of work.
B. Product data:
   1. Manufacturers catalog data with load charts for all FRP Gratings.
   2. Manufacturers catalog data for all FRP Structural Shapes.
C. Shop drawings:
   1. Shop drawings shall show all FRP materials as required and include all dimensions, connections, fasteners, tolerances, assembly and installation details as required.

Part 2. Products

2.01 General

A. All FRP materials shall be manufactured with ***(select either Isophthalic-Polyester or Vinylester)*** resins.
B. All pultruded grating and structural shapes shall be constructed of strand roving, transverse mat, and a synthetic surface veil. Including ultraviolet (UV) light inhibitors.
C. All pultruded grating and structural shapes shall be flame retardant per ASTM E-84 Class 1 Flame Spread of less than 25.
D. After fabrication of FRP, all cuts, holes, and abrasion shall be sealed to prevent corrosion.

2.02 FRP Grating and Stair Treads

A. FRP grating to be ***(select either Isophthalic-Polyester or Vinylester)*** pultruded and shall meet ASTM E-84 Class 1 Flame Spread of less than 25 and ASTM D-635 self-extinguishing.
B. Grating shall be GatorDeck ***(select part number from catalog)*** with bearing bars centers spaced at ***(select corresponding bearing bar spacing from catalog)***.
C. Color shall be ***(Safety Yellow or Gray)***.
D. Grating and Stair Treads shall be made from pultruded bearing bars and cross rods.
E. Grating shall be assembled using a locking cross-rod design that makes a permanent connection between the cross-rod and bearing bar, and shall completely bonded into a one-piece panel.
F. Stair Treads shall have a square tube nosing.
G. Grating shall have a slip resistant epoxy grit surface.
H. Grating clips shall be 316 stainless steel. Minimum of 4 clips per piece.
I. Manufacturers

Seasafe Inc., Lafayette LA, (800) 326-8842
or approved equal

2.03 FRP Grating Embed Frames

A. All FRP Grating set in concrete openings shall have a FRP embed angle frame.

B. Embed angle frame to be EBA-10, EBA-15, or EBA-20 as required for the grating specified above.
C. Embed angle have continuous integral anchor.
D. FRP embed angle frames shall be Vinylester.
E. Manufacturers

Seasafe Inc., Lafayette LA, (800) 326-8842
or approved equal

2.04 FRP Structural Fabrications

A. FRP structural shapes shall be ***(select either Isophthalic-Polyester or Vinylester)*** pultruded fiberglass shapes. All shapes shall meet ASTM E-84 Class 1 Flame Spread of less than 25 and ASTM D-635 self-extinguishing.
B. The minimum physical properties shall be:

Property	ASTM	Longitudinal Direction	Transverse Direction
Tensile Stress	D-638	30,000 psi	7,000 psi
Tensile Modulus	D-638	2.5×10^6 psi	0.8×10^6 psi
Compressive Stress	D-695	30,000 psi	15,000 psi
Compressive Modulus	D-695	2.5×10^6 psi	1.0×10^6 psi
Flexural Stress	D-790	30,000 psi	10,000 psi
Flexural Modulus	D-790	1.8×10^6 psi	0.8×10^6 psi
Modulus of Elasticity, E	Full Section	2.8×10^6 psi	

C. All structural shapes shall be fabricated per the drawings with good workmanship, closely fitted joints, and finished true to line and in accurate position to permit installation and proper joining of parts in the field.
D. Use 316 stainless steel bolts and washers.
E. All joint surfaces to be bonded shall be abraded to remove surface gloss and be free of burrs or other foreign materials that would prevent proper adhesion.
F. Use high-strength epoxy adhesives designed for FRP use and mechanical fasteners.
G. All pieces to have easily identified part numbers or piece marks.
H. Shop assemble pieces into the largest practical assembly suitable for shipping.
I. Manufacturers

Seasafe Inc., Lafayette LA, (800) 326-8842
or approved equal

2.05 FRP Stairs

A. Fabricate from FRP structural shapes as noted in section 2.04.
B. Use OSHA standards for rise and run.
C. Use Stair Treads as specified in section 2.02.
D. Use FRP handrail as specified in section 2.06.
E. Use 316 stainless steel bolts throughout.
F. Manufacturers

Seasafe Inc., Lafayette LA, (800) 326-8842
or approved equal

2.06 FRP Handrail

A. The handrail system shall be made from ***(select either Isophthalic-Polyester or Vinylester)*** resin.
B. All handrail components shall be flame retardant per ASTM E-84 Class 1.
C. Handrail posts and rail shall be 2 x 2 x ¼ square tube. All posts and rails shall use the same tube size. All tubing for handrail to have a minimum ¼" wall thickness.
D. All handrail to be safety yellow.
E. All post to rail connection to be fully bonded with an epoxy adhesive and shall have a 1-1/2" square solid internal connection plug for added strength and durability. All connections to have a smooth transition between post and rail.
F. FRP handrail to standard 2-rail design unless noted otherwise.
G. Manufacturers

Seasafe Inc., Lafayette LA, (800) 326-8842
or approved equal

2.07 FRP Ladders and Cages

A. Ladders and cages shall be made from ***(select either Isophthalic-Polyester or Vinylester)*** resin.
B. All ladder and cage components shall be flame retardant per ASTM E-84 Class 1.
C. Ladder rails shall be 2 x 2 x ¼ square tube. Ladder rungs shall be 1 inch diameter solid round.
D. Ladders and cages are to be safety yellow.
E. Ladder rungs are to penetrate inside wall of ladder rail tube and be countersunk into outside wall of ladder rail tube, providing support for the ladder rung in 4 places. This connection is to be fully bonded and with epoxy adhesives and pinned to prevent rung rotation.
F. Ladder rungs to have slip-resistant quartz epoxy grit surface.
G. Ladder stand-off brackets are to be FRP and are to be installedd at a maximum of 6'-0 on center. Ladder base mount brackets are to be FRP. All bolts are to be 316 stainless steel.
H. Ladder cages, if required per OSHA, shall be fabricated from FRP Hoops and Straps. FRP Hoops are to be 3 x ¼ preformed FRP. Hoop spacing shall be a max. of 4'-0 on center. FRP Straps are to be 2 x ¼ FRP and are to be spaced at 9" on center. Hoops and Straps are to be bonded with epoxy adhesives and riveted with 316 stainless steel rivets.
I. Manufacturers

Seasafe Inc., Lafayette LA, (800) 326-8842
or approved equal

Part 3. Execution

3.01 Inspection

A. Upon receipt of material at job site, the Contractor shall inspect all materials for shipping damage.

3.02 Handling and Storage.

A. Handle all FRP materials with reasonable care to prevent damage. Use shipping pallets to move material. Do not drag FRP material.
B. If FRP materials are not to be installed immediately, then store to prevent twisting, bending, breaking, or damage of any kind. Keep material covered to prevent unnecessary exposure to UV.

3.03 Installation

A. Installing contractor to coordinate and verify that other construction trades and materials have been installed per the contract drawings, and, that they are accurate in location, alignment, elevation, and are plumb and level.
B. Install FRP materials in accordance with the installation drawings supplied by the FRP Supplier.
C. Install materials accurately in location and elevation, level, and plumb. Field fabricate as necessary for accurate fit.
D. All field cuts, holes or abrasions must be sealed with sealing resin to prevent corrosion.

End of Section