



SCOPE OF WORK

RENOVATION WORKS IN POLICE DISTRICT-3,4,11 and 17

1. Description of Services:

The UNDP, LUTFA plan to renovate some of the existing building facilities and utility infrastructures in Police District-3,4,11 and 17 (PD-3,4,11 and 17) which is located in **Kabul** City Afghanistan. The areas recommended for renovation work under this scope of work, include renovations of communication rooms (Radio room office), accommodation building, and male and female latrines (toilets, showers, and ablutions). The renovation works consists: painting exterior and interior surfaces of all areas/rooms recommended for renovations, establishment of new partition wall in communication rooms; and repairing service, provisions, and upgrading of electrical, IT, and electrical systems for the recommended areas of renovations.

The works shall be done as per scope of work, specifications and general contract conditions. This project requires an experienced registered contractor to design and execute the job. The Contractor shall provide all labor, material tools, equipment, supervision services, and other related items required to complete the project as per the scope of work and specifications. Contractors are advised to visit the site, verify the existing site conditions to develop their proposal. SITE VISITING DATE: / / 2021, 10:00 a.m. Local times

2. Summary of the Major Tasks

- Exterior and interior surfaces painting of recommended areas of renovations
- Renovation of communication rooms radio room office, accommodation building and male and female latrines (toilet, showers, and ablutions)

3. Painting Works3.1. Exterior and Interior Painting of Recommended Areas of Renovations

I. Preparations

Observe manufacturer's recommendations in regard to preparation of surfaces to receive paint and application of paint itself. Procedures shall include, but not necessarily be limited to, the following

- a. **Cleaning** – Pressure clean and remove oil, grease and loose foreign matter, including, mold mildew, dirt and corrosion products, in a manner which causes neither undue

damage to the substrate nor damage to, or contamination of, the surroundings or the paint system to be applied;

b. Glossy Surfaces - Adequately scuff and/or solvent or chemically etch as appropriate to provide satisfactory adhesion for subsequent paint coats;

c. Filling - Fill cracks and holes with fillers, sealers or grouting cements as appropriate for the finishing system and substrate, and sand smooth, to ensure all coats finish smooth;

d. Drying - Unless otherwise specified, ensure that surfaces are cured and dry before applying additional coats of paint;

e. Generally - Remove weld spatter, slag, burrs, or any other objectionable surface irregularities. Remove any rust and apply rust primer;

f. Apply an oil-based primer to any bare timber surfaces;

g. Light sanding between coats for the perimeter walls painting, no sanding is required for the main house painting.

II. Paint Application

a. Apply paint and related material with an undercoat plus two coats of selected finish color or with the number of coats specified in accordance with the manufacturer's recommendations. Allow each coat to harden for the drying time (or time between coats) recommended by the manufacturer.

b. Finish - Ensure each coat of paint is uniform in color, gloss, thickness and texture and free of runs, sags, blisters, or other discontinuities.

c. Wet Paint Warning - Place notices and do not remove until paint is dry.

III. Colors:

a. Main color to the exterior of house and perimeter walls should be the same as existing, weather guard white color for the walls and black for skirting. Preferably "Galaxy Paint" or "Goldstar" manufacturers.

a. All balustrades, painted timber, and front entry doors and frames: should be painted with the same colors as existing one.

b. Repaint/Varnish all fascia and soffits, windows, window frames, doors and door frames: with same color.

- c. Repaint downpipes, railings and gates on all buildings.
- d. Repaint all cable runs, conduits and pipe work.
- f. Final paint shall be applied in two coats and according to the manufacturer's instructions.

IV. Work Area Protection

Before painting in any section of the building, use drop sheets and masking tape wherever necessary to protect finished work or other surfaces liable to damage during painting.

V. Touch Up

Clean off marks, paint spots and stains throughout including on glass, restoring damaged surfaces to their original condition.

VI. Paint Types and Specifications

Where SAA (Society of American Archivists) Standard Specifications describe and define the standards required for specific materials, the materials used in the works shall conform to all applicable requirements of the relevant standard specification.

Use only premium quality lines from approved manufacturers. Use only unadulterated paint except as per manufacturer directions. Do not combine paints from different manufacturers. On clear timber finishes use only combinations of putty, stain and sealer recommended by the Manufacturer of the topcoats. Use only the type and quantity of thinners recommended by the paint manufacturer.

Provide finish coats, which are compatible with prime and undercoat paints used. Provide barrier coats over incompatible primers or remove and reprise as required.

Do not apply paints when surrounding temperatures and the paint manufacturer exceeds humidity conditions beyond that recommended.

Do not store or mix paint in areas or on surfaces liable to damage.

VII. Surface preparations

All painted surfaces are to present a clean and even appearance with no evidence of poor workmanship. Finished paint surfaces shall be free from sags, wrinkles, drips and other defects or imperfections.

Do not paint over dirt, dust, scale, grease, moisture or conditions detrimental to the formation of a durable and acceptable finish.

VIII. Filling

All holes, cracks and marks should be repaired with fillers, sealant, putties or grouting cements as appropriate for the finishing system and substrate, and treat to achieve the required finish in accordance with industry standards before painting. Tint the filler to match substrate if the finish is transparent. Walls should be wiped down as necessary before painting.

IX. Workmanship Standards

Care shall be taken to ensure that the base surfaces are properly prepared and that the materials are used correctly. Where SAA or other approved Codes of Practice are applicable, the workmanship and procedures described by the relevant Codes shall be regarded as the minimum standards acceptable. Store and apply paint in accordance with the manufacturer's directions. Use applicators and techniques best suited for the type of material being applied.

"Ridging" at roller overlaps shall not be permitted. Apply finish as heavily as possible without running to provide a uniform finish and color free from brush marks, hairs and other imperfections. Paint surfaces behind mobile equipment and furniture the same as similar exposed surfaces. Paint surfaces behind permanently fixed equipment or furniture. Finish exterior painted doors on tops, bottoms and side edges the same as the exterior face. Sand lightly between each successive coat where recommended by the paint manufacturer. Apply each coat of material at not less than the manufacturer's recommended spreading rate.

X. Remove Hardware

Remove all hardware, hardware accessories and similar items in place and not to be painted or provide surface applied protection prior to surface preparation and painting operations. After completion re-install all removed items. Exceptional care must be taken to assure tidiness of work. Suitable temporary covers, masking, drop sheets, drapes and/or barriers shall be provided and maintained effectively where necessary to protect carpeting and furniture or other finishes that are to be painted or not to ensure what they are not exposed to paint and put at risk. These are to be removed when the protection is no longer required. Provide "Wet Paint" signs as required to protect newly painted surfaces. Carefully remove and reinstate paint splatters from adjacent surfaces.

Upon completion of the work all paint cans, other materials, containers, debris and protective coverings shall be cleaned up and removed from site and the Contractor shall leave the area in a clean, neat, and orderly condition satisfactory to the Contracting Officer.

3.1.1. Wood Work Refinish

- Apply aerosol spray paint stripper for small surface area, Spray the stripper evenly over the surface and let it sit for 5 to 10 minutes. The old finish will start to lift off the wood.

- Use a scraper tool to remove the old finish. Wipe the blade with cloth between scrapes. You may have to apply stripper and scrape more than once in order to remove the majority of the old finish.
- Once stripping is done, and the surface is dry, wipe with mineral spirits using a clean cloth to remove any residual stripper. Allow the surface to fully dry before moving on to sanding.
- To remove the last bits of finish, use a palm sander with medium-grit sandpaper (about 150-grit) until you see the bare wood. Then switch to fine sandpaper (200+ grit) until the entire piece is uniform.
- Wipe down the whole surface with a tack cloth to remove any dust from sanding.
- Staining is easiest to do with a staining pad. Dip the pad in the stain and wipe it on using long, even strokes.
- Then use a clean wiping cloth to remove excess stain. Wipe lightly with the grain to avoid streaking. You'll need to apply multiple coats until you like the color. Keep following the same process but be sure to let the stain dry between coats so you can gauge what it looks like before deciding whether to add another coat.
- Once the coat of stain is totally dry, apply an oil-based clear coat for a final layer of sheen and protection. Spray-on clear coat is easy to use and provides great coverage. Spray with a nice even motion following the natural lines of the piece. Apply two coats, sanding in between with 200-grit or higher sandpaper after the first coat is dry. This technique will smooth any imperfections from first coat and give you a pro grade finish. Then spray on a final layer

4. Renovations

- a) **Renovation of communication radio room, accommodation building and male and female latrines (toilet, showers, and ablutions)** works to be done are as explained below;
- Carefully cleaning floor and walls in the toilets,
 - Carefully cleaning all drain pipes.
 - Dismount all damaged/broken sanitary fixtures, mixers, faucets, fittings, and accessories from existing public male and female latrines (toilets, showers, and ablutions).
 - Dismount all damaged water closet (WC) flush tanks from the public male and female latrines.
 - Dismount all damaged toilet accessories including lavatory mirrors, soap dishes, toilet paper holders, robe hooks, etc. in public male and female latrines.
 - Dismount all damaged electrical water heaters from the existing public male and female latrines.
 - Dismount all damaged exhaust fans from the public male and female latrines.
 - Dismount all damaged split unit air conditioners (ACs) and ceiling fans from the communication rooms (radio room and bedroom) and accommodation building.

- Install new shower and lavatory sink mixers and mixing valves, stainless steel rain shower head, solid brass shower arm, Muslim shower sets, and ablution facets in the existing public male and female latrines (toilets, showers, and ablutions),. (See plumbing procedures in section (, below).
- Install new shower and lavatory sink mixers and mixing valves, stainless steel rain shower head, solid brass shower arm in the two new/proposed latrines (WCs and showers) in accommodation building (See plumbing procedures in section (b) below).
- Install new flush tanks (flush valve assemblies) in public male and female latrines (See plumbing procedures in section 4 below).
- Install new electrical water heaters in the two new/proposed latrines (WCs and showers) in accommodation building and in the existing public male and female latrines (See plumbing procedures in section (b, below).
- Install new stainless-steel floor traps in the proposed latrines in accommodation building. (See plumbing procedures in section 4 below)
- Install new shower bathtubs complete set, Muslim shower, and toilet accessories including soap dishes, toilet paper holders, mirrors, and robe hooks...etc. for the two latrines (toilets and showers) in accommodation building with the all necessary equipment's. (See plumbing procedures in section (b, below).
- Once replacement and new installation work are done, apply touch up paint to the walls and ceilings.
- Install new electrical make up unit heaters in the existing public male and female latrines.
 - Install new duct mounted exhaust fans in the public male and female latrines.
 - Install split unit air conditioners (ACs) and ceiling fans in the communication rooms (radio room) and accommodation building.

b) Tiling/Plumbing and Mechanical Work Procedures;

i. Plumbing Work Execution/Installation.

Install the pipes, fittings & joints to connect to the existing system as following the instructions listed below.

- Install pipes, joints & fittings, in accordance with recognized industry practices which will achieve permanently leak-proof piping systems, capable of performing each indicated

service without piping failure. Install each run with minimum joints and couplings, but with adequate and accessible unions for disassembly and maintenance/replacement of valves and equipment. Align piping accurately at connections, within 2 mm (1/16") misalignment tolerance.

- Locate piping runs except as otherwise indicated, vertically and horizontally (pitched to drain) and avoid diagonal runs wherever possible. Orient horizontal runs parallel with walls and column lines.
- Clean exterior surfaces of installed piping system of superfluous materials. During construction, properly cap all lines and equipment nozzles so as to prevent the entrance of sand, dirt, etc. Each system of piping to be flushed prior to testing for the purpose of removing grit, dirt, sand, etc., from the piping for as long as time is required to thoroughly clean the system.
- In erecting pipe, friction wrenches and risers shall be used exclusively; any pipe cut, dented or otherwise damaged shall be replaced.
- Install plumbing fixtures and accessories as indicated, in accordance with manufacturer's written instructions, applicable codes and regulations, and in accordance with recognized industry practices to ensure that installation complies with requirements and serves intended function.
- Fasten plumbing fixtures securely to supports on building structure. Secure water supplies behind or within wall construction to provide rapid installation.
- Provide a stop valve in an accessible location in the water connection to each fixture.
- Seal (caulk) all fixtures to walls and floors using G.E. silicone sealant. Match sealant color to fixture color.
- Replace washers of leaking or dripping faucets and stops at guest and upper bathrooms washing basins.
- Clean fixtures, trim, and strainers using manufacturers recommended cleaning methods and materials.
- Upon completion of installation of plumbing fixtures and trim, and after fixtures are water pressurized, test fixture to demonstrate compliance with requirements. Where possible correct malfunctioning units, retest to demonstrate compliance, otherwise remove and replace with new equipment and retest at no cost to Owner.

- Apply the proper joint sealant and silicone for all joints around all the finished fixtures and accessories as required to provide sealed installations.

ii. Tiling Work Execution

- Lay tiles from the centerline of each space outward to obtain border tile of equal width and larger dimension.
- Lay tiles in grid pattern. Align joints if adjoining tiles on floor and walls are the same size. Joints shall be uniform in width.
- Set tile firmly on the mortar bed. Strings or pegs may be used to space tiles that have no spacers. Bring all surfaces to a true plane at the proper position or elevation. Thoroughly beat-in all tiles while the mortar bed is still plastic.
- Make adjustment of tile before initial set of the mortar takes place.
- Terminate work neatly at obstructions, edges, and corners without disturbing the pattern or joint alignment.
- Grouting: before grouting, wet the joints between tiles if tiles have become dry, force a maximum amount of grout into the joints, and fill all gaps and skips. The finished grout shall be uniform in color, smooth, and without voids, pinholes or low spots.
- Cleaning: Upon completion of installation, clean all tile surfaces so they are free of foreign matter and leave finished installation clean and free of cracked, chipped, broken, non-bonded, or otherwise defective tile work.

iii.

- **AIR CONDITIONERS**

- **Split-System Type**

Provide separate assemblies designed to be used together. Base ratings on the use of matched assemblies. Provide performance diagrams for units with capacities not certified by ARI to verify that components of the air conditioning system furnished will satisfy the capacity requirement specified or indicated.

HEATING/COOLING & VENTILATION

A. To supply all labor, material, supervision, tools and equipment for a complete heating and ventilation system for all units including common areas, parade, mechanical and electrical rooms, storage areas, Toilets etc., in accordance with the Architectural and Mechanical drawings, (latest revisions) and in accordance with all Provincial and Civic

regulations and satisfactory to the OWNER.

B. The CONTRACTOR shall be responsible to ensure that any revisions and/or alternates to the contract plans and specifications proposed by the CONTRACTOR are submitted to, and approved by the OWNER's mechanical consultant.

C. The CONTRACTOR confirms that he is an expert in this field of work and is fully knowledgeable and experienced in all aspects of procedures, methods, regulations, codes and municipal requirements and the CONTRACTOR further acknowledges that the OWNER is relying on this expertise.

D. Work shall include but not necessarily be limited to the following:

1. Provide all layout for all aspects of the ventilation design and duct work installation;

2. Supply and install all specified roof top HVAC units;

3. Supply, install and hook-up all required bathroom fans as per mechanical specifications, mechanical design and to the satisfaction of the OWNER's mechanical consultant;

4. Supply and install ventilation for all kitchen hood fans, (fans supplied by others) and hook up all ventilation duct work to the fans following fan installation;

5. Supply and install all required dryer vent ducting. Such ducting shall be roughed-in with due consideration to the appliance vent location of the OWNER supplied dryer;

6. Supply, install and activate, following electrical hook-up by others, all required parked exhaust fans in accordance with mechanical drawings and specifications and to the satisfaction of the OWNER's mechanical consultant;

7. Supply to the project electrical contractor for installation and hook-up all required CO detectors for the underground parking as per Mechanical design and to the satisfaction of the OWNER's mechanical consultant;

8. Supply and install all fire dampers, louvers and grilles as per Mechanical design and to the satisfaction of the OWNER's mechanical consultant;

9. Supply and install combustion air supply for boilers as per Mechanical design and to the satisfaction of the OWNER's mechanical consultant;

10. The CONTRACTOR is responsible to provide sound/vibration suppressors for the roof-top units and insure there is no sound or vibration transferred to any units.

11. The CONTRACTOR must obtain permission from the site superintendent prior to cutting any structural members or joist work;

12. Supply, install and make necessary connections for all required gas lines for all equipment as per Mechanical design and to the satisfaction of the OWNER's mechanical consultant;

13. The CONTRACTOR shall be responsible for and must ensure that all equipment installed by the CONTRACTOR is inspected by the CONTRACTOR's engineer and all required reports and schedules are submitted in a timely manner to the OWNER.

14. This CONTRACTOR SHALL submit three sets of as-built drawings and manuals all to the approval of the OWNER prior to the release of the lien holdback;

15. The CONTRACTOR acknowledges that this scope of work has been prepared with intention that all aspects of a complete ventilation system, as required for the project and by the Architect, Mechanical Engineer and the City of Vancouver are included herein.

iv. Mechanical Equipment and Fixtures

Disconnect mechanical hardware at the nearest connection to existing services to remain, unless otherwise noted. Mechanical equipment and fixtures must be disconnected at fittings. Remove service valves attached to the unit. Salvage each item of equipment and fixtures as a whole unit; listed, indexed, tagged, and stored. Salvage each unit with its normal operating auxiliary equipment. Transport salvaged equipment and fixtures, including motors and machines, to a designated-on station storage area as directed by the Contracting Officer. Do not remove equipment until approved.

Material and Equipment Qualifications

- Provide materials and equipment that are standard products of manufacturers regularly engaged in the manufacture of such products, which are of a similar material, design and workmanship. Standard products shall have been in satisfactory commercial or industrial use for 2 years prior to bid opening. The 2-year use shall include applications of equipment and materials under similar circumstances and of similar size. The product shall have been for sale on the commercial market through advertisements, manufacturers' catalogs, or brochures during the 2-year period

ELECTRICAL REQUIREMENTS FOR RENOVATON

1. SCOPE OF WORK

Work under this section shall include the supply of materials, installation, testing and delivery in perfect running conditions of the electrical installations for subject project, consisting the electrical system renovation of radio room, dormitories, toilets, shower rooms and vehicle sheds in most effective and efficient manner in accordance with the entire requirements of contractual agreement to the full stratification of UNDP electrical engineer.

The electrical system installations comprise, but are not limited to, the followings items:

- Main and Sub Distribution Board (MDB & SDB)
- Cabling, Electrical wiring, EMT Conduits and fittings
- Lighting fixtures, Switches, Sockets, and Power outlets
- Complete electrical wiring installations for all lighting fixtures, sockets, and power outlets

The supply shall include all the equipment, accessories and other materials not enumerated in these specifications but found necessary for the completion and perfect functioning of the installations.

Electrical works shall be executed in a first-class work-manlike manner in accordance with these specifications, the drawings and notes indicated therein, the instructions of UNDP Electrical Engineer, the provisions of the Bill of Quantities delivered in place and tested to the full satisfaction of the Electrical Engineer.

2. ACTUAL ROUTE OF CABLES AND CONDUITS

The location of conduits, cables, switchboards, cable trucking, etc.... is shown on the drawings approximately, therefore the actual route of cables and conduits may differ from the plans according to the details or the building construction and the conditions of execution of the installation.

The Contractor shall supply and install at his expense all secondary materials and special fittings found necessary to overcome the interference and to apply the modifications on the route of cables and conduits that are found necessary during the work to the complete satisfaction of the Engineer.

3. DRILLING AND CUTTING

The Contractor shall have to do all drillings and cutting of walls or other parts of the building for the complete proper installation of the conduits, cables, switchboards and other parts of equipment.

Beams, girders and other principal structural members shall not be cut or drilled unless permission has been granted by the Engineer.

If such drilling and cutting is made on finished surfaces, any marring of the surface shall be made good by repair or replacement at the Contractor's expense.

5.0 Kitchen Renovation

- Install new (00 x 00) m by 80cm high, kitchen base and top cabinet of the kitchen with storage cabinets below.
- The highland should have Granit stone countertop similar to others installed and cabinets framing made of (Russian Khar hard wood) preferably Mninga Wood at lower portion, upper made of high quality Malisa or Turkey MDF plywood.
- Replace the existing dish washing sink with new deeper and wider sink placed on the same location as existing one (the sample to be approved by COR before installing).

WOODEN DOOR

Install one new wooden door Provide doors of the types, sizes, and designs specified in drawings.

1000 mm width by 2000mm high, for the radio room including high quality lock, hedges, stopper

- Flush doors shall conform to WDMA I.S. 1-A. Hollow core doors shall have lock blocks and 25 mm minimum thickness hinge stile. Stile edge bands of doors to receive natural finish shall be hardwood, compatible with face veneer. Stile edge bands of doors to be painted shall be mill option specie. No visible finger joints will be accepted in stile edge bands. When used, locate finger-joints under hardware.
- framing made of (Russian Khar hard wood) preferably, both surfaces is made of high quality Malisa or Turkey MDF plywood.
- After completion installation of door clean very well and after complete the primer finally two Coad polished

PVC DOOR (D4) AND WIDOWS (W9)

Install new PVC doors 700mm width by 1900 high and windows 600X600mm for the Accommodation toilets including locks, handle, Miskito screen.

- The publications listed below form a part of this specification to the extent referenced. The publications are referred to within the text by the basic designation only.
- Submit for each window and door type attesting that identical or larger windows have been tested and meet the requirements specified herein for conformance to AAMA 101 or ASTM D 4099 and the specified minimum Condensation Resistance Factor (CRF).
- Product made of PVC-7000, Turkish standard (or equivalent)
- After completion installation of door clean very well

STEEL DOOR (D5)

Install new steel doors 950mm width by 2300 high for the Accommodation building including high quality lock, hedges, stopper and glassing.

SDI A250.8, except as specified otherwise. Prepare doors to receive hardware specified in Section 08710 DOOR HARDWARE. Undercut where indicated. Doors shall be 44.5 mm thick, unless otherwise indicated.

2.1.1 Classification - Level, Performance, Model

2.1.1.1 Standard Duty Doors

SDI A250.8, Level 1, physical performance Level

c, Model 1, of size(s) and design(s) indicated and core construction as required by the manufacturer for interior doors. Provide where indicated on drawings.

STEEL FRAMES

SDI A250.8, except as otherwise specified. Form frames to sizes and shapes indicated, with welded corners. Provide steel frames for doors, transoms, sidelights, mullions, cased openings, unless otherwise indicated.

- Product made of steel box and 18-gauge steel sheets
- After completion installation of door clean very well and two Coad painted

FURNITURE

Prospective offerors shall provide their best quote for the furniture (delivery and installation fees included):

The contractor shall be providing as per BOQ specification from local market

DOUBLE STEEL BUNK BEDS.

This is high quality bed for the accommodation. This item including Blanket, Pillow, Mattress and Bed cover sheet

The contractor provides the beds as per steel door requirement and standards

Note: Contractor is to submit a simple design of the highland and for approval along with the proposal.

6. Roof Leakage Repair

a) Flat Roof Repair

I. Surface Preparation

- Preparation and cleaning shall be made on the area by removing loose material and using soft broom stick or the like.
- Oil, grease and paints shall be removed by using rug cloth and paint scraper respectively.
- Cracks shall be repaired with approved repairing material.
- In the case of the joints between water proofing membrane cover and wall, the gap between should well sealed with water proofing product (Silicon, Flexatone or Isomat) before applying waterproofing material membrane cover.

II. Water Proofing Membrane

- Carefully remove half of the existing water proofing membrane and properly reinstall it back covering all uncovered concrete parts.

- For horizontal waterproofing membrane application. Two layers of 4mm thick modified bituminous membrane shall be laid fully torched on blinding concrete with minimum of 100mm end laps and 150mm side laps.
- The blinding surface shall be primed with the primer recommended by the manufacturer of the membrane prior to placing the membrane. Prior to succeeding works the applied primer shall be inspected by the Engineer 24 hours after the placement.
- Waterproofing membrane installation shall be performed using cylinder fed propane gas torch, trowel to seal the seams of the membrane and knife for cutting.
- The membrane should then be placed in the correct torching on position then re-rolled for about half of its length without changing its orientation.
- The membrane should then be un-rolled again and torched on pressing the melted area against the substrate.
- Repeat till the entire length of the membrane is bonded firmly onto the surface then the second membrane is laid in the same way with an overlap of 150mm at the end and 100mm at the side.
- For vertical application, two layers of 4mm thick modified bituminous waterproofing membrane shall be applied to all vertical surfaces of walls

b) Wall-Roof flashing Leakage Repair.

Edge Flashing:

- i.** Properly re-install existing wall- roof flashing around the main house to correct all leakage areas make sure it is well inserted into the wall and properly sealed with appropriate flash sealant to avoid water from passing through the wall.
- ii.** Eave edge flashing: Install prior to underlayment installation. Underlayment shall extend past horizontal face of edge flashing. Horizontal face of edge flashing shall extend over 9 the roof deck for 100mm (minimum); vertical face of edge flashing shall turn down and extend to gutter, terminating in drip edge.
- iii.** Rake (barge) edge flashing: install after underlayment installation. Underlayment shall extend past horizontal face of edge flashing. Horizontal face of edge flashing shall extend over the roof deck for 100mm (minimum); vertical face of edge flashing shall turn down 25mm (minimum) to cover edge of deck boards, and shall terminate in angled drip edge

7.EXCAVATION

1. The any type Excavation work shall include, but shall not necessarily be limited to, the following:
 2. The CONTRACTOR is to provide all supervision, equipment, and labor to complete all excavation, trucking and off-site disposal as per the Architectural and Structural drawings, (latest revisions) including the shoring design and general notes, as prepared by Geo Pacific Consultants Ltd.
 - a. The CONTRACTOR is to excavate and dispose offsite of all bulk excavated material to 8” below the bottom of slab on grade elevation and insure it is taken to the CONTRACTOR supplied, legally permitted dumpsite
 - b. The CONTRACTOR is to provide detailed excavation to the base of all tranches and pad footings as may be required by the forming contractor. All of this excess material is to be disposed of at the CONTRACTOR’s offsite dumpsite.
 - c. The CONTRACTOR shall supply and place 1” to 1 ½” of gravel at the base of the detail excavation for Tranches and pad footings as required by the geotechnical and structural engineers.
 - d. The CONTRACTOR is to excavate and trim for shoring in accordance with the site condition plans.
 - e. The CONTRACTOR is to provide on-site supervision at all times for all of their work to be performed.
 - f. The Contractor shall provide ongoing site and street cleaning as required on a daily basis and as required by the site superintendent and to the satisfaction of the City of Vancouver regulations.
 - g. The CONTRACTOR is to provide traffic control for all of their related work and ensure their work is schedule coordinated as required by the site superintendent.
 - h. The CONTRACTOR is to provide all weather temporary road access as required and high-grade entry ramps into the underground parking excavation. Gravel materials for such temporary roads and/or entry ramps shall be supplied by the OWNER.

3. Excavation Exclusions

- a. Excavation and removal of rocks or concrete in excess of one cubic meter in size.
- b. Relocation of existing utilities conflicting with specified excavation.

- c. Haulage and disposal costs resulting from the handling of contaminated soils and/or water.
- d. Over excavation due to poor ground conditions.
- e. . The locating of any underground services
- f. Dewatering

4.Trench Excavation Requirements

The trench shall be excavated as recommended by the manufacturer of the pipe to be installed. Trench walls below the top of the pipe shall be sloped, or made vertical, and of such width as recommended in the manufacturer's installation manual. Where no manufacturer's installation manual is available, trench walls shall be made vertical. Trench walls more than 0.5 meters high shall be shored, cut back to a stable slope, or provided with equivalent means of protection for employees who may be exposed to moving ground or cave in. Vertical trench walls more than 0.5 meters high shall be shored. Trench walls which are cut back shall be excavated to at least the angle of repose of the soil. Special attention shall be given to slopes which may be adversely affected by weather or moisture content. The trench width below the top of pipe shall not exceed 600 mm (24 inches) plus pipe outside diameter (O.D.) for pipes of less than 600 mm (24 inches) inside diameter and shall not exceed 900 mm (36 inches) plus pipe outside diameter for sizes larger than 600 mm (24 inches) inside diameter. Where recommended trench widths are exceeded, redesign, stronger pipe, or special installation procedures shall be utilized by the Contractor. The cost of redesign, stronger pipe, or special installation procedures shall be borne by the Contractor without any additional cost to the Government

a. Removal of Unyielding Material

Where over depth is not indicated and unyielding material is encountered in the bottom of the trench, such material shall be removed 100 millimetres below the required grade and replaced with suitable materials as provided in paragraph BACKFILLING AND COMPACTION.

b. Removal of Unstable Material

Where unstable material is encountered in the bottom of the trench, such material shall be removed to the depth directed and replaced to the proper grade with select granular material as provided in paragraph BACKFILLING AND COMPACTION. When removal of unstable material is required due to the Contractor's fault or neglect in performing the work, the resulting material shall be excavated and replaced by the Contractor without additional cost to the Government.

8. Plain concrete (PCC)

1. PRODUCTS

2.1 CONCRETE

Concrete shall conform to the applicable requirements of Section 03300A CAST-IN-PLACE STRUCTURAL CONCRETE Section 02754 CONCRETE PAVEMENTS FOR SMALL PROJECTS except as otherwise specified. Concrete shall have a minimum compressive strength of 24 MPa at 28 days. Maximum size of aggregate shall be 37.5 mm.

2.1.2 CEMENTITIOUS MATERIALS

Cementitious materials shall be Portland cement and pozzolan Portland-pozzolan cement Portland blast-furnace slag cement only Portland cement in combination with pozzolan ground granulated blast furnace slag and shall conform to appropriate specifications listed below.

2.1.3 Portland Cement

Portland cement shall conform to ASTM C 150 Type II, low-alkali Type V, low-alkali

2.2 AGGREGATES

Aggregates shall consist of clean, hard, uncoated particles meeting the requirements of ASTM C 33, including deleterious materials, abrasion loss and soundness requirements of ASTM C 33, and other requirements specified herein. Aggregate not having a satisfactory demonstrable service record shall have a durability factor of 50 or more when subjected to freezing and thawing in concrete in accordance with ASTM C 666/C 666M.

2.2.2 Fine Aggregate

Fine aggregate shall consist of natural sand, manufactured sand, or a combination of the two, and shall be composed of clean, hard, durable particles. Aggregate used for paving compass calibration hardstands shall be free of materials having magnetic properties. All fine aggregate shall be composed of clean, hard, durable particles meeting the requirements of ASTM C 33 and the requirements herein. The amount of deleterious material in the fine aggregate shall not exceed the limits in ASTM C 33and

.2.2.4 Backfilling

After curing, debris shall be removed and the area adjoining the concrete shall be backfilled with the mix soft soil fine aggregates, graded, and compacted to conform to the surrounding area in accordance with lines and grades indicated.

MASONRY PRODUCTS

1 GENERAL REQUIREMENTS

The source of materials which will affect the appearance of the finished work shall not be changed after the work has started except with Contracting Officer's approval. The Contractor has the option to use either hard metric or substitute inch-pound (soft-metric) CMU products. If the Contractor decides to substitute inch-pound CMU products, the following additional requirements shall be met:

- a.** The metric dimensions indicated on the drawings shall not be altered to accommodate inch-pound CMU products either horizontally or vertically. The 100 mm building module shall be maintained, except for the CMU products themselves.
- b.** Mortar joint widths shall be maintained as specified.
- c.** Rebars shall not be cut, bent or eliminated to fit into the inch-pound CMU products module.
- d.** Brick and inch-pound CMU products shall not be reduced in size by more than one-third (1/3) in height and one-half (1/2) in length. Cut CMU products shall not be located at ends of walls, corners, and other openings.
- e.** Cut, exposed brick and CMU products shall be held to a minimum and located where they would have the least impact on the architectural aesthetic goals of the facility.
- f.** Other building components, built into the CMU products, such as window frames, door frames, louvers, grilles, fire dampers, etc., that are required to be metric, shall remain metric.
- g.** Additional metric guidance shall conform to Section 01415 METRIC MEASUREMENTS.

2 CLAY OR SHALE BRICK

Color range and texture of clay or shale brick shall be as indicated and shall conform to the approved sample. Brick shall conform to ASTM C 62; Grade SW shall be used for brick in contact with earth or grade and for the first six exterior courses above grade all exterior work and for all nonvertical surfaces. Grade SW or MW shall be used in other brickwork. Average dimensions of brick shall be 90 mm thick, 57 mm high, and 190 mm long (standard), subject to the tolerances specified in ASTM C 62. Brick shall be tested for efflorescence. Clay or shale brick units shall be delivered factory-blended to provide a uniform appearance and color range in the completed wall.

3 Solid Clay or Shale Brick

Solid clay or shale brick shall conform to ASTM C 62 ASTM C 216, Type FBS FBA FBX . Brick size shall be modular and the nominal size of the brick used shall be 92 mm thick, 57 mm high, and 200 mm long (nominal) or 100 mm thick, 68 mm high and 200 mm long (nominal). Minimum compressive strength of the brick shall be 4.9 MPa.

4 MASONRY MORTAR

Type M mortar shall conform to ASTM C 270 and shall be used for foundation walls, basement walls, and piers . Mortar Type S N shall conform to the proportion specification of ASTM C 270 except Type S cement-lime mortar proportions shall be 1-part cement, 1/2-part lime and 4-1/2 parts aggregate; Type N cement-lime mortar proportions shall be 1-part cement, 1-part lime and 6 parts aggregate. Type N or S mortar shall be used for non-load-bearing, non-shear-wall interior masonry; approved commercial fire clay mortar or refractory cement (calcium-aluminate) mortar for fire brick and flue liners; and Type S for remaining masonry work; except where higher compressive strength is indicated on structural drawings. When masonry cement ASTM C 91 is used the maximum air content shall be limited to 12 percent and performance equal to cement-lime mortar shall be verified. Verification of masonry cement performance shall be based on ASTM C 780 and ASTM C 1072. Pointing mortar in showers and kitchens shall contain ammonium stearate, or aluminum tri-stearate, or calcium stearate in an amount equal to 3 percent by weight of cement used. Cement shall have a low alkali content and be of one brand. Aggregates shall be from one source.

NOTE: ALL THE DIMENSIONS WILL BE TAKEN AND AGREED UPON SITE VISITING.

9 Condition of Contract

i. General

This is a firm fixed price turnkey job for the entire work and amount quoted shall include all work described in attached drawing, scope of work and general condition of contract. The lump sum price quoted shall be fixed and nothing extra will be entertained on any account.

Contractor's staff is subject to such restriction for entry and exit as are required by the EUNDPs security requirement. Contractor's staff will be subject to security cleared as

required by the UNDP.

Contractor shall restore all surfaces disturbed by construction to match with existing finish.

Any deviation from the original contract/scope of work shall be informed to UNDP before work begins. No additional work or changes will be carried out without a contract modification.

a. Responsibilities of Contractor,

Contractor shall be responsible for procuring, supplying, transporting, and providing all labor, materials, tools and plant and equipment etc., required for completion of the work in all respects and as per the scope of the work. All expenses towards mobilization at site and demobilization including bringing in equipment, workforce and materials, dismantling the equipment, clearing the site etc. shall be deemed to be included in the rates quoted by the contractor against various items of schedule of rates and no separate payment on such expenses shall be entertained. 10 Contractor shall employ and provide one full time engineer to supervise the project and has experienced of carrying out such type of work. Contractor shall not proceed with next activity until previous activity will be checked and approved by UNDP. Contractor shall mention all inspection dates in the schedule chart. Contractor should keep the site clean and accessible to PD-3,4,11and17 employee all time. The duration of the project shall not exceed one month (thirty) working days.

b. Specifications Work under this contract shall be carried out strictly in accordance with specifications attached and will meet US and Local codes.

c. Execution of Work the Contractors are advised to review the material specifications and scope of work. The Contractor should visit and walk through the site to familiarize themselves with the site conditions to understand the exact quantum of work. On award of the work, Contractor shall submit all items below via email:

a. Bar chart within 3 days for approval by the Contracting Officer Representative (UNDP). All dates and time schedule agreed upon should be strictly adhered to. Contractor shall notify the (UNDP). in advance regarding anticipated problems through the project.

b. Proposed start date

c. Weekly schedule/activity plan for the duration of the project prior to the start date.

For dismantling/blocking or making connection to any existing services or any shutdown, contractor shall inform the (UNDP). at least three working days in advance and proceed with the work only after the permission from the (UNDP)..

ii. Materials All materials used on this work shall be new and conforming to the contract

specifications as per International and local codes.

Materials shall conform to the latest International Standards specifications as amended to date and carry certification mark. Contractor shall submit material samples and catalog for preapproval.

All materials used on the project shall be approved by the Contracting Officer Representative (UNDP). before use. Any changes/substitutes on material shall be approved by (UNDP). before proceeding.

10. Storage of Materials

All materials shall be stored in a proper manner protected from natural elements so as to avoid contamination and deterioration.

11. Site Clearance and Cleanup

The Contractor shall clear away all debris and excess materials accumulated at the site and dispose of it away from Embassy premises, maintaining a neat site condition on completion of project, Contractor shall remove all surplus materials and leave the site in a broom clean condition.

12. Workmanship

Workers working on the site shall be skilled in their job and have related job experience.

13. Working Hours

Working hours shall be 8:00 A.M. to 5:00P.M Saturday to Thursday. No work shall be done holidays without prior approval of the Contracting Officer.

14. Security Clearance

The Contractor shall inform and provide in writing transportation details (vehicle registration number, drivers name, and date of delivery) to the (UNDP). at least 24 hours in advance for material deliveries. Contractor shall give workers names at least 3 days in advance to get the security clearance. All the workers shall have an official photo ID or photo ID with the company name on it.

15. Safety

The Government/UNDP assumes no responsibility for injuries or damages suffered by Contractor Contractor is responsible and shall continue management and implementation of a safety and health program throughout construction.

The Contracting Officer and the Post Occupational Safety and Health Officer [OSHO] reserve the right to suspend work when and where Contractor's safety and health program is considered to be operating in an inadequate or non-complying manner. Contractor shall provide all Personal Protective Equipment for the workers as per the requirement of the site. Work will be stopped in case the proper protection equipment is not found with the workers and the lapse of time shall be at the Contractor's expense. Contractor will not leave the work site in an unsafe condition or any other condition that might cause injury to personnel, damage to existing work, plants or equipment. Contractor will use all safety gadgets e.g. hard hats, cotton gloves and goggles as required on site to avoid the accident. Any equipment or work considered dangerous shall be immediately

discontinued.

16.CLEANING:

Remove all surplus materials and debris from a job site at the completion of each day worked. Remove all of our splatters from unfinished surfaces. Leave storage areas in a clean and finished condition, once completion of works, the contractor must clean the site and repair any damage caused during the work.

17. WARRANTY

The contractor shall guarantee that all work performed will be free from all defects in workmanship and materials and that all installation will provide the capacities and characteristics specified. The contract further guarantees that if, during a period of one year from the date of the certificate of completion and acceptance of the work, any such defects will be repaired by the contractor at his own cost.

18.FINAL INSPECTION AND ACCEPTANCE

Contractor shall request from the UNDP Engineer for a final inspection for the project. Contractor attendee must be able to speak on behalf of the company and able to obligate the company. The final inspection shall be attended by the UNDP Engineer, Project Engineer, and Contractor. At this time a comparison of the Statement of Work (SOW) to the completed project shall take place. Any discrepancies will be added to a Punch List for the contractor to complete. The contractor shall have five (7) days to correct and fix the punch list items for final inspection.

19.FINAL DOCUMENTS

Upon completion of the project, the Contractor shall provide the UNDP Engineer, with a complete set of paper as-built drawings, test reports, approved shop drawings and any other pertinent information regarding the operation and maintenance of the facility.

20. BILL OF QUANTITY.

N.B All Dimensions will be taken and agreed during site visit. Site visiting date will be determined and notified later.

ATTACHMENT 1