

Annex A: Bill of Quantities (BOQ) & Technical Specifications

Construction of Football Pitch (7-a-side) in Ashti IDP Camp, Sulaymaniyah.			
N°	Description of Work	Qty.	Unit
A	Civil work		
A.1	Earthwork: Provide machines and manpower to cut and grade the natural soil up to 30cm of any type of soil including the complete removal and disposal to a location, which is indicated by supervision engineer. The sub-grade should be compacted up to 95% MDD. All works should be done according to the instructions of supervision engineer.	2,000	M ²
A.2	Sub-base: Provide materials and manpower to lay an approved layer of sub-base (type B) at least 20cm thickness with slope 0.5% to sides, the sub-base should be compacted up to 97% MDD. All works should be done according to the instructions of supervision engineer.	2,000	M ²
A.3	Drainage system: Provide materials and manpower to install 3" dia. PVC drainage pipe on the top of the sub-base each with slope 0.5% (It is covered by crushed stone) towards to one of the football pitch sides. The price includes construction five cement plastered masonry manholes (including concrete cover) with dimensions (60*60cm) on a BRC reinforced concrete base and connections between the manholes with 6" dia PVC pipe with proper slope. All works should be done according to the instructions of supervision engineer.	350	M.L
A.4	Crushed stone: Provide materials, machines and manpower to lay a layer of 20cm thickness of (15-25mm) crushed gravel/ stone with proper compaction. All works should be done according to the instructions of supervision engineer.	335	M ³
A.5	Crushed stone: Provide materials, machines and manpower to lay a layer of 10cm thickness of (9-15mm) crushed gravel/ stone with proper compaction. All works should be done according to the instructions of supervision engineer.	165	M ³
A.6	Football Pitch Fence: Supply materials, equipment and skilled manpower to install green Chain link fence (50*50, 3.5mm) around the pitch, with all necessary requirements such as (pole caps, clips, tension bars, tension bands, sleeves, etc.). The price includes supplying and installing 3" dia. of support vertical poles in 8m height from top of the tie beams at 3.0 meter c/c, and it is braced with horizontal 2" dia. HSS pipes as per attached drawings. All the poles and pipes should be coated with two layers of anti-rust and three layers of Dark Green oil paint. The price also includes a (1.0*2.0m) door with the same materials and closing the roof of the pitch with wire mesh as per drawings. All works should be done according to the instructions of supervision engineer.	1,344	M ²
A.7	Football Pitch Grass (artificial turf): Provide materials, equipment and skilled manpower to install a best quality of magic grass, 55 mm thickness on the each of SBR granular 8 kg/m ² , Quarts Sand, Joint Tape (Helmettin Band), adhesive and Geo-textile (synthetic felt) layer as per attached the drawings. The price includes marking the pitch with the same materials in white and yellow colors as well as supplying and installing goal stands. All works should be done according to the instructions of supervision engineer.	1,664	M ²
A.8	Curbstone: provide materials and manpower to construct 30cm height Curbstone around the pitch's walkway with adequate slope on a layer of 10cm of plain concrete on a strong sheet of nylon. The price includes coating the Curbstone in yellow and white color painting according to the specifications and instructions of supervision engineers.	180	M.L
A.9	Brick Stone walkway: Provide materials, equipment and manpower to install colored interlock brick stone (Behartone) (King type) 6cm thickness on minimum 8cm thickness of well compacted sand layer and filling the linear gaps between bricks. The price includes lay a layer of 15cm thickness of sub-base under the sand and should be compacted appropriately up to (95% MDD). All works should be done according to the instructions of supervision engineer.	270	M ²

B Concrete Tie Beam and Short Columns			
B.1	Concrete Tie Beam: Provide material, equipment and manpower to cast (1:2:4) type of concrete for tie beam (40*60cm) around the pitch on a layer of 10cm thickness of plain concrete on a strong sheet of nylon. The tie beam is reinforced with 4# main Ø16mm, 6# main Ø12mm and Ø10mm stirrups at 20cm c/c, it is shuttered and leveled properly as per attached drawings. All works should be done according to the instructions of supervision engineer.	41	M ³
B.2	Short Column: Provide materials, equipment and manpower to cast (1:2:4) type of concrete for short columns with dimensions (60*60*80cm) on a layer of 10cm thickness of plain concrete on a strong sheet of nylon. The price includes excavation a (80*80*100cm) of any type of soil, rocks and concrete and install the poles as well as reinforcement with 4# main Ø16mm, 6# main Ø12mm and Ø10mm stirrups at 20cm c/c as per attached drawings. All works should be done according to the instructions of supervision engineer.	20	No.
B.3	Cement plastering: Provide materials and manpower to render cement/sand plastering with Ordinary Portland Cement/sand 1:3 ratio. The sand must be clean and should be sieved before mixing it with the cement. The tie beams and short columns should be cleaned and applied a layer of dash with 1:1.5 cement/course sand ratio before applying the cement plastering. The cement plastering should be done in two layers not less than 2cm thickness with a strong durability and water resistant. All works should be done according to the instructions of supervision engineer.	75	M ²
C Lightings			
C.1	LED Flood Light: Provision, installation, testing, commissioning a set of four LED flood light 200 watt (Philips mark or western manufactured or equivalent), water-proofed, equipped with aluminum reflect, ballast and power factor correction capacitor, completely enclosed type with clear glass cover, fixture IP-65 according to the specifications. The price includes metal standings as well as power connection with all required electrical fittings and accessories to function the flood-lights. All works should be done according to the instructions of supervision engineer.	20	Set
C.2	Power cable: Provide materials, equipment and skilled technician to install (4*16) mm ² cable from the power system of the camp. The price includes all required fittings and accessories to extend the cable as well as crane machine to mount the cables. All works should be done according to the instructions of supervision engineer.	75	M.L
C.3	Main Distribution Board: Provide materials, equipment and skilled technician to install a Main Distribution Board (MDB) (80*40*35cm) wall mounted, protection IP54, using rubber gaskets and equipped with copper busbar 100A for lines & 50A for neutral and Earthing. The price also includes MCCB (63A) 3-ph, MCCB (32A) 3-ph, 3 Phase Digital Kwh Meter, manual Change over switch 80A, cable gland, screws, insulators and all other items to function the board. All works should be done according to the instructions of supervision engineer.	1	No.
C.4	Manhole: Provide materials, equipment and manpower to construct/install masonry/PVC manhole for cable distribution with (40*40cm) with cast iron cover. All works should be done according to the instructions of supervision engineer.	8	No.
C.5	Earthing System: Provide materials, equipment and manpower to install and test Single Earthing system (1 piece of 18mm dia with length 300cm pure Cu rod connect through 1*16 mm ² PVC\PVC Cu cable through Cu clamp with MDB as per the attached drawings. All works should be done according to the instructions of supervision engineer.	1	L.S
D Prefabrication and Sanitation facility			
D.1	Concrete slab: Provide materials and manpower to cast ready mix concrete 21 MPa (1:2:4) mix design, 15cm thickness on a polythene (strong nylon) sheet in 1.0m width around the waiting area. The price includes reinforcement with BRC (100*100*6mm), leveling, centering, shuttering and curing all complete as per drawings and technical Specifications. All works should be done according to the instruction of supervision engineers.	15	M ²

D.2	Concrete Base: Supply materials and manpower to construct concrete base for the caravan legs. The dimension of the concrete base are (40*40*50cm). The base concrete is reinforced with 4# main Ø16mm and Ø10mm stirrups at 10cm c/c, shuttered and leveled properly. The price includes excavation of foundation (50*50*60) cm and backfilling after concreting the base concrete. All works should be done according to the supervisor engineers' instruction.	10	No.
D.3	Guard Prefab: Provide materials and manpower to fabricate a (3.0*3.0m) prefab with 2.65m height from the floor as per attached drawings. The structure is made of (100*100*3)mm steel hollow section for columns and beams and the floor is reinforced with (80*40*2mm) steel hollow section at 1.0 m c/c and its covered by 18mm thk. Plywood and waterproof PVC laminate flooring. The door space should be ramped with chequer plate. The wall is made of 5cm thickness of sandwich panel and installed on a galvanized metal U-shape, which is welded on the columns and beams. The roof is covered by a 5cm (corrugated) sandwich panel on a steel structure as per the attached drawings. The roof is reinforced with two main beams and should be sloped to the back side by 2% with water drain. All the joints between the wall and floor should be sealed properly. The price includes two PVC windows with dimension (1.0*1.0 m) and a PVC doors with dimension (2.0*1.0 m). All internal corners and roof-wall joints should be covered with (3*3) cm aluminum or plastic angels skirting. The price also includes all the required electrical accessories such as circuit breaker, lightings (Internal and water-proof external), switch socket, electrical box, cabling & wiring and any other required electrical fittings. All works should be done according to the instructions of supervision engineers.	9	M ²
D.4	Sanitation facility Prefab: Provide materials and manpower to fabricate a (1.2*1.4m) prefab sanitation facility with 2.65m height from the floor as per attached drawings. The structure is made of (100*100*3)mm steel hollow section for columns and beams and the floor is reinforced with (80*40*2mm) steel hollow section at 0.6cm c/c and it's covered by 18mm thk. plywood and 6mm aluminum chequer plate sheet. The wall is made of 5cm thickness of sandwich panel and installed on a galvanized metal U-shape, which is welded on the columns and beams. The roof is covered by a 5cm (corrugated) sandwich panel on a steel structure as per the attached drawings. The roof should be sloped to the back side by 2% with water drain. All the joints between the wall and floor should be sealed properly. The price includes a PVC windows with dimension (0.4*0.4 m) and a PVC doors with dimension (2.0*0.8 m). All internal corners and roof-wall joints should be covered with (3*3) cm aluminum or plastic angels skirting. The price also includes all the required water, sewerage and electrical accessories such as (circuit breaker, lightings (Internal and water-proof external), switch sockets, electrical box and cabling & wiring), (1M ³ plastic water tank, required plumbing, mixer tap, medium size wash basin with its accessories to function the system properly) and (sewerage piping, a squat ceramic toilet pan, disable handle, flushing systems and connections to the cesspool) as well as any other required water, sewerage and electrical fittings. All works should be done according to the instructions of supervision engineers.	1	L.S
D.5	Cesspool: Provide material, machines and manpower to excavate a cesspool for the latrine as per the attached drawings. The depth of the cesspool is 6m with minimum 1m dia. of approved concrete ring block, the cesspool must be covered by a circle 20cm thickness of concrete. The price includes excavations, installation of concrete rings and backfilling. All works should be done according to the instructions of supervision engineers.	1	L.S

SPECIFIC INSTRUCTION AND GUIDELINES

1- All works should be done according to the International & Iraqi General Technical & Specifications (IGTS), Instructions of the supervision engineer, UNHCR General Conditions of Contracts for Civil Works and UNHCR General Conditions of the provision of mixed goods and services.
2- All materials must be NEW and good quality type as well as samples of materials should be provided UNHCR supervision engineers to get approval prior implementation.
3- The contractor shall submit samples/catalogs of the materials to be used in the project to the supervision engineers for approval, before commencement of works. The supervision engineer can reject any material not complying with the specifications. Rejected materials should be replaced by the contractor without any extra cost
4- All mentioned quantities in the BOQ are estimated and are subject to actual measurements after completion of the project
5- The contractor must check the designs and drawings for accuracy and adequacy. Otherwise, the UNHCR takes no risk of the contractor's failure to accomplish the work.
6- In case of any difference between BOQ, designs and/or drawings; the instructions of supervision engineers will prevail.
7- The contractor shall make fix all damages, if any, to the existing pipeline, electric poles & cables, houses, streets & sewerage channels during the implementation of the project in the area. The contractor shall remove all debris and site waste after completion of works to dumping sites that are approved by the municipality
8- The site must be cleaned from all debris after finishing all the works.
9- The contractor shall install (in full first) TWO steel sign board of 1.0 m x 1.2 m with calligrapher wages to achieve visibility of the project as well as putting CNC UNHCR logo (1.0 * 1.0 m) on the fence of the football pitches in accordance with UNHCR supervision engineers.

