

Annex 2

Technical specifications – Lot 2 (Metal)

1.Residential Caravan 32 m ² Design code: C32		
	<u>Unit</u>	Quantity
Fabricating, delivering and installing of metal housing units. Price includes the followings:		
 Galvanized profiles as indicated below: 3 Main columns: (6 x 6) cm, and 3mm thick. Main beam in the roof (6 x 6) cm, and 3 mm thick. Galvanized steel U angle (7 cm x 5 cm x 7 cm) with thickness of 3mm, welded continuously fixed correctly to the bottom of the gathered zinc boards for each facade. Galvanized steel U angles (1.5mm thick), welded together and fixed correctly on the top (roof side) of the gathered zinc boards for each facade, and same for all internal partitions and where needed. 		
System fixation: It will be pre-prepared, using the CO2 method welding in lines. For the profiles and U angle intersections, welding should be done at the site only when needed; taking into consideration the unit should consist of several complete parts to be joined at the site either by specified welding method or using drilling with 8 mm diameter screws.		
Installing and fixing the metal units to the ground. Using 60 cm long steel bars with 12 mm diameter as shown in attached details drawings (C32) to fix a triangle steel plate (50x50x70) cm with 3 mm thickness in all corners of the structures including the required excavation. If ground is hard bedrock; then use 12 mm diameter jumbo screws drilled into the rock through the plate. (See drawing in C32). All unit's corner should not be less than 40 cm; these steel profiles should be installed to required units corners in order to prevent corner failure.		
External walls and ceiling: - External walls: "sandwich panel" boards consist of double galvanized 0.5 mm thickness steel sheets, with mixed color (silver for external side and white for internal one), separated by 5 cm of high density Polystyrene (Kalkal) with F20 of compression. The boards' dimensions are (230x117x5) cm, and they are fixed with frames of U galvanized steel angle (7 cm x 5 cm x 7 cm) with thickness of 3mm from all sides. All fixed by special screws and elastic rubber to prevent water leakage according to the detailed drawings. Board weight must be at least 10 kg/sqm.		
- Partitions: same as the external wall boards, but with white color for the two faces.		
- Ceiling: same as the external wall boards, but with special shape (corrugated panels from the upper side) and with 112 cm width. The board's weight must be at least 10 kg/sqm and 7 cm of high density Polystyrene (Kalkal) with F20 of compression.	L.S	1
White Aluminum windows: model No.7700 of national industry, and of 4 mm thickness double glass framed by steel profile with a fixed galvanized steel external mosquito netting on the whole window. (Three portions)		
Shower door: Use the same isolated metal boards in fabricating shower door with all required joints, and a door handle of an approved first grade model.		
Shower base: Shower base fabricated from metal sheet coated with PVC layer with a clear resulted area of (90*120) cm, 2mm thickness fixed on steel base with specifications as shown in the attached drawings, (see detail C32).		
Shower tap: Single chrome tap with double use (tap and shower hand) of first grade (Italian or equivalent).		
 Piping: Connecting 2" PVC pipes and needed fitting with suitable length for the shower and kitchen for the purpose of drainage, and 16 mm diameter HDPE pipes for water supplying. The contractor should supply and install buried drilled barrel for drainage. Supply galvanized Steel Stand for Water tank(See the drawings C 32) Connect metal shelter and the mobile latrine with the above-mentioned water tank using HDPE pipes up to 12m long(depends on the real distance in each case). Installing and connecting the system should be implemented correctly to have the system operating. Supply transfer, and install polyethylene water tank Size 1 m3: 		
-The Water Tank must be made by blow molding method. -The water tank must be free of any holes.		
-Water Tank must be made of LLDPE materials in White color. -Water tank must have 7 internal rings at least with 1 cm depth for each ring.		



Water Tank Durability 30 years at least.

-Water Tank wall thickness must not be less than (7) mm, with four layers of polyethylene, (White: 2.8 mm, Black: 1.4 mm, Red: 1.4 mm, Blue: 1.4 mm).

Cotton curtains:

1. For the windows fixed on an aluminum rail frame with cotton curtains.

2. For the purpose of internal partitions, where these curtains have to be of good quality non transparent type and fast burning resistant, fixed correctly on a suitable aluminum rail, and providing smooth movement to protect them from being ruptured. Curtains separators should be of the room height, and a width as indicated in the drawings. Type and color as approved by the Engineer.

Installation of 120 cm long kitchen unit:

Stainless Steel basin 120 cm, and sandwich wooden cabinets, with Italian joints or equivalent as shown in the drawings, a good quality cabinet hand, single Chrome long neck tap of first grade (Italian or equivalent) fixed to the basin, and connecting the required water supplying plastic pipes (20 mm diameter), and 2" PVC sewage pipe connected to the sewer tank.

Main Entrance Door:

Supply and fix correctly a main steel door to all installed units with all accessories; internal steel sections of (4x4) cm and 1.25 mm steel sheets thickness, with door handle of an approved first grade model, the door fixed to the metal unit with special steel frame, and three door joints. All as per Engineer's instructions and approval.

Welding works:

In general it should be of CO2 method implemented in welding line (not points) for the intersection lines of all profiles.

Roof water gutter:

Including steel water gutter and steel pipes and steel rings (see detail AS). (see detail C32).

Supply water tank 1m3 for rainwater harvesting under the gutter outlet .:

-The Water Tank must be made by blow molding method.

-The water tank must be free of any holes.

-Water Tank must be made of LLDPE materials in White color.

-Water tank must have 7 internal rings at least with 1 cm depth for each ring.

Water Tank Durability 30 years at least.

-Water Tank wall thickness must not be less than (7) mm, with four layers of polyethylene, (White: 2.8 mm, Black: 1.4 mm, Red: 1.4 mm, Blue: 1.4 mm).

Windows protections:

Supply and implement spear shaped protection for every window in metal shelter unit, where the protection steel is to be painted with three coats (one primer coat) with the color approved by the Supervisor Engineer. Steel bars; dimensions 12 mm with spacing distance of 12 cm between spears, fixed to shelter with galvanized steel screws of 1 cm diameter.

Roof protection:

All edges of roof boards should be collected after installation with U section galvanized profiles from 4 sides to protect edges from rust , the lower long side that connects to the gutter should be fixed according to details.

Supply and Install a Charged Solar Energy Lamp :

- Type: Ball Bulbs
- Output power: 40W
- Luminous flux: 130LM
- CCT/Wavelength: 6500K
- Voltage(V): DC 5V
- Charging time (by solar panel): 5h
- Using time: 3h
- Lifespan: 30000hrs
- Sheathing material: ABS synthetic plastics
- Size: Solar panel: 50 x 50 cm.

Supply and deliver a Hygiene Kit:

(The following items must be put in a closed cartoon box):

-Hand Sanitizer (Instant hand sanitizer, approved brand by Palestinian MOH, size 400 MI).

-Hand Soap (hypoallergenic, unperfumed, individually wrapped & with far expiry dates). (10 pieces)

- -Toilet rolls (good quality with soft double-layer tissue that can be used for different purposes) (36 pieces)
- -Shampoo (1 bottle with 750 ml capacity)
- -Toothbrush Pack includes: 2 adult size medium hardness, 4 child size soft, each one shall be individually wrapped
- -Toothpaste (2 pieces, with 150ml)).
- -Women hygienic-sanitary disposable pads, packs of 10 pads.
- -Detergent for cleaning dishes, gallon with size (3.75- 4 Liter) (1 Gallon)
- -Face Mask, pack of 50 masks

Supply and deliver of raw material for flooring:

Supply and deliver the following items:

- Black cement bags 50 KG : 15 bags
- Aggregate (Adawsiyya 1-2 cm) : 3 m3

- Sand : 1.5 m3



2. Residential Caravan 45 m²

Design code: C45

Design code: C45		T
	<u>Unit</u>	Quantity
Fabricating, delivering and installing of metal housing units. Price includes the followings:		
 Galvanized profiles as indicated below: 3 Main columns: (6 x 6) cm, and 3mm thick. Main beam in the roof (6 x 6) cm, and 3 mm thick. Galvanized steel U angle (7 cm x 5 cm x 7 cm) with thickness of 3mm, welded continuously fixed correctly to the bottom of the gathered zinc boards for each facade. Galvanized steel U angles (1.5mm thick), welded together and fixed correctly on the top (roof side) of the gathered zinc boards for each facade. 		
System fixation: It will be pre-prepared, using the CO2 method welding in lines. For the profiles and U angle intersections, welding should be done at the site only when needed; taking into consideration the unit should consist of several complete parts to be joined at the site either by specified welding method or using drilling with 8 mm diameter screws.		
Installing and fixing the metal units to the ground: Using 60 cm long steel bars with 12 mm diameter as shown in attached details drawings (C32) to fix a triangle steel plate (50x50x70) cm with 3 mm thickness in all corners of the structures including the required excavation. If ground is hard bedrock; then use 12 mm diameter jumbo screws drilled into the rock through the plate. (See drawing in C32). All unit's corner should not be less than 40 cm; these steel profiles should be installed to required units corners in order to prevent corner failure.		
External walls and ceiling: - External walls: "sandwich panel" boards consist of double galvanized 0.5 mm thickness steel sheets, with mixed color (silver for external side and white for internal one), separated by 5 cm of high density Polystyrene (Kalkal) with F20 of compression .The boards' dimensions are (230x117x5) cm, and they are fixed with frames of U galvanized steel angle (7 cm x 5 cm x 7 cm) with thickness of 3mm from all sides. All fixed by special screws and elastic rubber to prevent water leakage according to the detailed drawings. Board weight must be at least 10 kg/sqm.		
- Partitions: same as the external wall boards, but with white color for the two faces.		
- Ceiling: same as the external wall boards, but with special shape (corrugated panels from the upper side) and with 112 cm width. The board's weight must be at least 10 kg/sqm and 7 cm of high density Polystyrene (Kalkal) with F20 of compression.		
White Aluminum windows: model No.7700 of national industry, and of 4 mm thickness double glass framed by steel profile with a fixed galvanized steel external mosquito netting on the whole window.(Three portions)	L.S	1
Shower door: Use the same isolated metal boards in fabricating shower door with all required joints, and a door handle of an approved first grade model		
Shower base: Shower base fabricated from metal sheet coated with PVC layer with a clear resulted area of (90*120) cm, 2mm thickness fixed on steel base with specifications as shown in the attached drawings, (see detail C32).		
Shower tap: Single chrome tap with double use (tap and shower hand) of first grade (Italian or equivalent).		
 Piping: Connecting 2" PVC pipes and needed fitting with suitable length for the shower and kitchen for the purpose of drainage, and 16 mm diameter HDPE pipes for water supplying. The contractor should supply and install buried drilled barrel for drainage. Supply galvanized Steel Stand for Water tank(See the drawings C 32) Connect metal shelter and the mobile latrine with the above-mentioned water tank using HDPE pipes up to 12m long(depends on the real distance in each case). Installing and connecting the system should be implemented correctly to have the system operating. Supply transfer, and install polyethylene water tank Size 1 m3: 		
-The Water Tank must be made by blow molding method. -The water tank must be free of any holes. -Water Tank must be made of LLDPE materials in White color. -Water tank must have 7 internal rings at least with 1 cm depth for each ring. Water Tank Durability 30 years at least. -Water Tank wall thickness must not be less than (7) mm, with four layers of polyethylene, (White: 2.8 mm, Black: 1.4 mm, Red: 1.4 mm, Blue: 1.4 mm).		
 Cotton curtains: 1. For the windows fixed on an aluminum rail frame with cotton curtains. 2. For the purpose of internal partitions, where these curtains have to be of good quality non transparent type and fast burning resistant, fixed correctly on a suitable aluminum rail, and providing smooth movement to protect them from being ruptured. 		

Curtains separators should be of the room height, and a width as indicated in the drawings. Type and color as approved by the Engineer.		
Installation of 120 cm long kitchen unit: Stainless Steel basin 120 cm, and sandwich wooden cabinets, with Italian joints or equivalent as shown in the drawings, a good quality cabinet hand, single Chrome long neck tap of first grade (Italian or equivalent) fixed to the basin, and connecting the required water supplying plastic pipes (20 mm diameter), and 2" PVC sewage pipe connected to the sewer tank.		
Main Entrance Door: Supply and fix correctly a main steel door to all installed units with all accessories; internal steel sections of (4x4) cm and 1.25 mm steel sheets thickness, with door handle of an approved first grade model, the door fixed to the metal unit with special steel frame, and three door joints. All as per Engineer's instructions and approval.		
Welding works: In general it should be of CO2 method implemented in welding line (not points) for the intersection lines of all profiles.		
Roof water gutter: Including steel water gutter and steel pipes and steel rings (see detail AS). (see detail C32).		
Supply water tank 1m3 for rainwater harvesting under the gutter outlet.:		
-The Water Tank must be made by blow molding method. -The water tank must be free of any holes. -Water Tank must be made of LLDPE materials in White color.		
-Water tank must have 7 internal rings at least with 1 cm depth for each ring. Water Tank Durability 30 years at least.		
-Water Tank wall thickness must not be less than (7) mm, with four layers of polyethylene, (White: 2.8 mm, Black: 1.4 mm, Red: 1.4 mm, Blue: 1.4 mm). Windows protections		
Supply and implement spear shaped protection for every window in metal shelter unit, where the protection steel is to be painted with three coats (one primer coat) with the color approved by the Supervisor Engineer. Steel bars; dimensions 12 mm with spacing distance of 12 cm between spears, fixed to shelter with galvanized steel screws of 1 cm diameter.		
Roof protection: All edges of roof boards should be collected after installation with U section galvanized profiles from 4 sides to protect edges from rust , the lower long side that connects to the gutter should be fixed according to details.		
Supply and Install a Charged Solar Energy Lamp : - Type: Ball Bulbs - Output power: 40W - Luminous flux: 130LM - CCT/Wavelength: 6500K - Voltage(V): DC 5V - Charging time (by solar panel): 5h - Using time: 3h - Lifespan: 30000hrs - Sheathing material: ABS synthetic plastics - Size: Solar panel: 50 x 50 cm.		
Supply and deliver a Hygiene Kit:		
 (The following items must be put in a closed cartoon box): Hand Sanitizer (Instant hand sanitizer, approved brand by Palestinian MOH, size 400 MI). Hand Soap (hypoallergenic, unperfumed, individually wrapped & with far expiry dates). (10 pieces) Toilet rolls (good quality with soft double-layer tissue that can be used for different purposes) (36 pieces) Shampoo (1 bottle with 750 ml capacity) Toothbrush Pack includes: 2 adult size medium hardness, 4 child size soft, each one shall be individually wrapped Toothpaste (2 pieces, with 150ml) Women hygienic-sanitary disposable pads, packs of 10 pads. Detergent for cleaning dishes, gallon with size (3.75- 4 Liter) (1 Gallon) Face Mask, pack of 50 masks 		
Supply and deliver of raw material for flooring: Supply and deliver the following items: - Black cement bags 50 KG : 22 bags - Aggregate (Adawsiyya 1-2 cm) : 4 m3 - Sand : 2 m3		
3. Latrine Design code: L		
	Unit	Quantity
Fabricating, delivering and installing of metal latrine units. Price includes the followings:	<u>Unit</u>	<u>Quantity</u>
with a whole area of 1.52 m2 and dimensions of (1.18x1.20) m taking into consideration the following execifications (See	L.S	1

with a whole area of 1.53 m2 and dimensions of (1.18x1.29)m taking into consideration the following specifications(See drawings for details L):



External walls: "sandwich panel" boards consist of double galvanized 0.5 mm thick steel sheets, with mixed color (silver for external side and white for internal one), separated by 5 cm of high density Polystyrene (Kalkal) with F20 of compression.	
All corners of the latrine walls should be gathered with U galvanized steel angles; dimensions (5x5x0.2) cm and (5x5x0.2) cm to link walls to floor, fixed by special screws and elastic sealing rubber, to prevent water leakage, with distances according to the Engineer instructions and approval.	
Ceiling: same as the external wall boards, but with special shape (corrugated panels from the upper side) and with 112 cm width. The board's weight must be at least 10 kg/sqm and 7 cm of high-density Polystyrene (Kalkal) with F20 of compression.	
Latrine floor: galvanized double steel sheets of 0.5 mm thickness insulated with 5 cm Kalkal boards. The metal boards fixed with U steel angle frames: thickness 2 mm, covered with 5 mm thickness of plastic water resistant layer (PVC), sealed with silicon and tape 5-7 cm height on internal side continuously with the ground sheet to ensure an adequate seal.	
White aluminum window (45*45) cm2 of class A section 4000. Window glass is 4mm thick, wired chipped type (mobazzar) with a fixed external mosquito net; treated where needed with silicon sealant.	
Door: door should be of the same as the wall material, with handle of first grade and toilet cylindrical locks with 15 cm length, and all necessary fixing frames according to the drawings.	
Turkish toilet: (45*55) cm, white color correctly connected to plastic flush tank (Negara 3/6 litters with buttons on top)	
Or European Water toilet: white color correctly connected to ceramic flush tank (Negara 3/6 litters with buttons on top)	
Water tap of type Chrome (long neck), 2 items-one for the basin, and the second for water outlet point.	
Hand Water Spray.	
White Basin (38*45) cm	
Steel barrel with drilled holes; a proportion of the base removed to be fixed and buried at least 2.0 m from the latrine, with 1/4 m3 capacity and of 1.5 mm thickness to be used for drainage.	
 Piping works: Connecting 4" Corrugated PVC pipes, to connect the latrine sewer to the fixed cesspit tank (drilled barrel) or (available sewer system in the area only if approved by the engineer) with correct distance of 4 meters length. A second 4" PVC pipe for ventilation should be fixed, where ventilations pipes are rising vertically 20 cm from the latrine roof; covered with meshed plastic cap. Connecting 2"PVC discharge pipes for waste water from the wash basins. Use ½" steel pipes for internal connections, and 16mm HDPE pipes for connection between the water inlets in the latrine and the available water source (water tank or water network) of the required length to ensure correct water pressure 	
 flow. All necessary pipelines and fittings to ensure that the water supply, sewer and drainage systems all work correctly. 	
Steel skeleton works: galvanized steel profile welded correctly and painting of the welding lines with Anti Rust paint as	
 Floor supporting profiles: (40x40x2) mm Ceiling supporting profiles: (20x20x1.5)mm Latrine legs: (50x50x3) mm galvanized steel profiles, welded (from corner) to Steel plate (120x120x4) mm. Latrine legs stiffener plate (300x50x3) mmSteel angles to fix all latrine legs with ground: dimensions of (50x50x4) mm and 70 cm long. 	
Latrine step; to supply and install all necessary steel profile (4*4) cm as per drawings with (mobazar) galvanized steel sheets 3 mm thickness.	
Protection box under the latrine floor consisting of galvanized steel (dimension according to the needs, approximately (35*40*60) cm) with 1.5 mm steel sheet thickness to protect the pipes and fittings.	
Welding: should be of CO2 method, implemented in lines (not point welds), wherever an intersection line exists between the different steel sections. The welding line should be painted with a similar color to the profiles, using a rust resistance paint.	
WaSH stickers Supply, print and install two colored A3 sticker, the design will be shared with the selected contractors.	
Supply and Install a Charged Solar Energy Lamp : - Type: Ball Bulbs - Output power: 40W - Luminous flux: 130LM - CCT/Wavelength: 6500K - Voltage(V): DC 5V - Charging time (by solar panel): 5h - Using time: 3h - Lifespan: 30000hrs - Sheathing material: ABS synthetic plastics	
- Size: Solar panel: 50 x 50 cm.	

Supply and deliver a Hygiene Kit:



 (The following items must be put in a closed cartoon box): -Hand Sanitizer (Instant hand sanitizer, approved brand by Palestinian MOH, size 400 MI). -Hand Soap (hypoallergenic, unperfumed, individually wrapped & with far expiry dates). (10 pieces) -Toilet rolls (good quality with soft double-layer tissue that can be used for different purposes) (36 pieces) -Shampoo (1 bottle with 750 ml capacity) -Toothbrush Pack includes: 2 adult size medium hardness, 4 child size soft, each one shall be individually wrapped -Toothpaste (2 pieces, with 150ml). -Women hygienic-sanitary disposable pads, packs of 10 pads. -Detergent for cleaning dishes, gallon with size (3.75- 4 Liter) (1 Gallon) -Face Mask, pack of 50 masks 		
 Supply galvanized Steel Stand for Water tank (See the drawings L). Supply transfer, and install polyethylene water tank Size 1 m3: 		
 -The Water Tank must be made by blow molding method. -The water tank must be free of any holes. -Water Tank must be made of LLDPE materials in White color. -Water tank must have 7 internal rings at least with 1 cm depth for each ring. Water Tank Durability 30 years at least. -Water Tank wall thickness must not be less than (7) mm, with four layers of polyethylene, (White: 2.8 mm, Black: 1.4 mm, Red: 1.4 mm, Blue: 1.4 mm). 		
4.PWD Latrine Design code: PL		
	Unit	Quantity
Fabricating, delivering and installing of metal latrine units for people with disabilities (PWD). Price includes the followings:		
with a whole area of 3.70 m2 and dimensions of (2.39x1.55)m taking into consideration the following specifications(See drawings for details L):		
External walls: "sandwich panel" boards consist of double galvanized 0.5 mm thick steel sheets, with mixed color (silver for external side and white for internal one), separated by 5 cm of high density Polystyrene (Kalkal) with F20 of compression.		
All corners of the latrine walls should be gathered with U galvanized steel angles; dimensions (5x5x0.2) cm and (5x5x0.2) cm to link walls to floor, fixed by special screws and elastic sealing rubber, to prevent water leakage, with distances according to the Engineer instructions and approval.		
Ceiling: same as the external wall boards, but with special shape (corrugated panels from the upper side) and with 112 cm width. The board's weight must be at least 10 kg/sqm and 7 cm of high-density Polystyrene (Kalkal) with F20 of compression.		
Latrine floor: galvanized double steel sheets of 0.5 mm thickness insulated with 5 cm Kalkal boards. The metal boards fixed with U steel angle frames: thickness 2 mm, covered with 5 mm thickness of plastic water-resistant layer (PVC) of Italian type, sealed with silicon and tape 5-7 cm height on internal side continuously with the ground sheet to ensure an adequate seal.		
White aluminum window (45*45) cm2 of class A section 4000. Window glass is 4mm thick, wired chipped type (mobazzar) with a fixed external mosquito net; treated where needed with silicon sealant.		
Door: door should be of the same as the wall material, with handle of first grade and toilet cylindrical locks and all necessary fixing frames according to the drawings	L.S	1
European Water toilet: white color correctly connected to ceramic flush tank (Negara 3/6 litters with buttons on top) Italian brand or equivalent. The toilet shall be designed for people with special needs and not normal like normal toilets.		
Water tap of type Chrome (long neck), 2 items-one for the basin, and the second for water outlet point.		
White Basin (38*45) cm		
Hand Water Spray		
Grab handles: three Stainless steel handles, according to the following details: - GH1 95 x 65 cm : should fixed on the right side of the toilet (one side on the wall and the other on the ground). - GH2 65 x 65 cm : should fixed on the left side of the toilet (both sides on the wall) - GH3 60 cm : should be fixed on the door from inside.		
All grab handles should to be supported with steel angles when required. Steel barrel with drilled holes; a proportion of the base removed to be fixed and buried at least 2.0 m from the latrine, with 1/4 m3 capacity and of 1.5 mm thickness to be used for drainage.		
Piping works: • Connecting 4" Corrugated PVC pipes, to connect the latrine sewer to the fixed cesspit tank (drilled barrel) or (available sewer system in the area only if approved by the engineer) with correct distance of 4 meters length. A second 4"		



PVC pipe for ventilation should be fixed, where ventilations pipes are rising vertically 20 cm from the latrine roof; covered with meshed plastic cap.		
 Connecting 2"PVC discharge pipes for waste water from the wash basins. Use ½" steel pipes for internal connections, and 16mm HDPE pipes for connection between the water inlets in the latrine and the available water source (water tank or water network) of the required length to ensure correct water pressure 		
 All necessary pipelines and fittings to ensure that the water supply, sewer and drainage systems all work correctly. 		
 Steel skeleton works: galvanized steel profile welded correctly and painting of the welding lines with Anti Rust paint as follows: Floor supporting profiles: (40x40x2) mm Ceiling supporting profiles: (20x20x1.5)mm Latrine legs: (50x50x3) mm galvanized steel profiles, welded (from corner) to Steel plate (120x120x4) mm. Latrine legs stiffener plate (300x50x3) mm Steel angles to fix all latrine legs with ground: dimensions of (50x50x4) mm and 70 cm long. 		
Latrine Ramp; to supply and install all necessary steel Ramp (200x100)cm as per drawings with (mobazar) galvanized steel sheets 3 mm thickness.		
Protection box under the latrine floor consisting of galvanized steel (dimension according to the needs, approximately (35*40*60) cm) with 1.5 mm steel sheet thickness to protect the pipes and fittings.		
Welding: should be of CO2 method, implemented in lines (not point welds), wherever an intersection line exists between the different steel sections. The welding line should be painted with a similar color to the profiles, using a rust resistance paint of National type.		
Supply and Install a Charged Solar Energy Lamp : - Type: Ball Bulbs - Output power: 40W - Luminous flux: 130LM - CCT/Wavelength: 6500K - Voltage(V): DC 5V - Charging time (by solar panel): 5h - Using time: 3h - Lifespan: 30000hrs - Sheathing material: ABS synthetic plastics - Size: Solar panel: 50 x 50 cm.		
Supply and deliver a Hygiene Kit:		
 (The following items must be put in a closed cartoon box): -Hand Sanitizer (Instant hand sanitizer, approved brand by Palestinian MOH, size 400 Ml). -Hand Soap (hypoallergenic, unperfumed, individually wrapped & with far expiry dates). (10 pieces) -Toilet rolls (good quality with soft double-layer tissue that can be used for different purposes) (36 pieces) -Shampoo (1 bottle with 750 ml capacity) -Toothbrush Pack includes: 2 adult size medium hardness, 4 child size soft, each one shall be individually wrapped -Toothpaste (2 pieces, with 150ml). -Women hygienic-sanitary disposable pads, packs of 10 pads. -Detergent for cleaning dishes, gallon with size (3.75- 4 Liter) (1 Gallon) -Face Mask, pack of 50 masks 		
 Supply galvanized Steel Stand for Water tank (See the drawings PL). Supply transfer, and install polyethylene water tank Size 1 m3: 		
-The Water Tank must be made by blow molding method. -The water tank must be free of any holes.		
 -Water Tank must be made of LLDPE materials in White color. -Water tank must have 7 internal rings at least with 1 cm depth for each ring. Water Tank Durability 30 years at least. -Water Tank wall thickness must not be less than (7) mm, with four layers of polyethylene, (White: 2.8 mm, Black: 1.4 mm, Red: 1.4 mm, Blue: 1.4 mm). 		
-Water tank must have 7 internal rings at least with 1 cm depth for each ring. Water Tank Durability 30 years at least. -Water Tank wall thickness must not be less than (7) mm, with four layers of polyethylene, (White: 2.8 mm, Black: 1.4 mm, Red:		
-Water tank must have 7 internal rings at least with 1 cm depth for each ring. Water Tank Durability 30 years at least. -Water Tank wall thickness must not be less than (7) mm, with four layers of polyethylene, (White: 2.8 mm, Black: 1.4 mm, Red: 1.4 mm, Blue: 1.4 mm). 5. Water Tank 1 m³ - Vertical	Unit	Quantity
-Water tank must have 7 internal rings at least with 1 cm depth for each ring. Water Tank Durability 30 years at least. -Water Tank wall thickness must not be less than (7) mm, with four layers of polyethylene, (White: 2.8 mm, Black: 1.4 mm, Red: 1.4 mm, Blue: 1.4 mm). 5. Water Tank 1 m³ - Vertical	Unit	Quantity
-Water tank must have 7 internal rings at least with 1 cm depth for each ring. Water Tank Durability 30 years at least. -Water Tank wall thickness must not be less than (7) mm, with four layers of polyethylene, (White: 2.8 mm, Black: 1.4 mm, Red: 1.4 mm, Blue: 1.4 mm). 5. Water Tank 1 m³ - Vertical <i>Design code: W1-V</i>	Unit	Quantity
-Water tank must have 7 internal rings at least with 1 cm depth for each ring. Water Tank Durability 30 years at least. -Water Tank wall thickness must not be less than (7) mm, with four layers of polyethylene, (White: 2.8 mm, Black: 1.4 mm, Red: 1.4 mm, Blue: 1.4 mm). 5. Water Tank 1 m³ - Vertical <i>Design code: W1-V</i> Supply transfer, and install polyethylene water tank Size 1 m3:	Unit	Quantity
-Water tank must have 7 internal rings at least with 1 cm depth for each ring. Water Tank Durability 30 years at least. -Water Tank wall thickness must not be less than (7) mm, with four layers of polyethylene, (White: 2.8 mm, Black: 1.4 mm, Red: 1.4 mm, Blue: 1.4 mm). 5. Water Tank 1 m³ - Vertical <i>Design code: W1-V</i> Supply transfer, and install polyethylene water tank Size 1 m3: - The Water Tank must be made by blow molding method.	<u>Unit</u> No.	Quantity 1
-Water tank must have 7 internal rings at least with 1 cm depth for each ring. Water Tank Durability 30 years at least. -Water Tank wall thickness must not be less than (7) mm, with four layers of polyethylene, (White: 2.8 mm, Black: 1.4 mm, Red: 1.4 mm, Blue: 1.4 mm). 5. Water Tank 1 m³ - Vertical <i>Design code: W1-V</i> Supply transfer, and install polyethylene water tank Size 1 m3: - The Water Tank must be made by blow molding method. -The water tank must be free of any holes.		



-Water Tank wall thickness must not be less than (7) mm, with four layers of polyethylene, (White: 2.8 mm, Black: 1.4 mm, Red: 1.4 mm, Blue: 1.4 mm).		
6. Agricultural Water Tank 1 m ³ - Horizontal Design code: W1-H	1	
	Unit	Quantity
Supply transfer, and install polyethylene horizontal water tank Size 1 m3:		
-The water tank must be free of any holes.		
-Water Tank must be made of LLDPE materials in White color.	No.	1
-Water Tank wall thickness must not be less than (6) mm, with three layers of polyethylene at least.		
7. Water Tank 1.5 m ³ Design code: W1.5	<u> </u>	<u> </u>
	Unit	Quantity
Supply transfer, and install polyethylene water tank Size 1.5 m3:		
- The Water Tank must be made by blow molding method.		
The water tank must be free of any holes.		
-Water Tank must be made of LLDPE materials in White color.	NI-	
Water tank must have 7 internal rings at least with 1 cm depth for each ring.	No.	1
- Water Tank Durability 30 years at least.		
-Water Tank wall thickness must not be less than (7) mm , with four layers of polyethylene, (White: 2.8 mm, Black: 1.4 mm, Red: 1.4 mm, Blue: 1.4 mm).		
8. Water Tank 5 m ³ Design code: W1.5		1
	Unit	Quantity
Supply transfer, and install polyethylene water tank Size 5 m3:		
The water tank must be free of any holes.		
-Water Tank must be made of LLDPE materials in Black color.	No.	1
-Water Tank wall is made with one black layer.		
9. Caged Water Tank 1000 Liter Design code: CWT		
	Unit	Quantity
 Supply, deliver and install a Caged Water Tank 1000 Liter according to the following specifications: 		
The plastic container comes with a top opening wide with a screw-topped.		
The plastic container wrapped around with metal mesh frame as show in the picture below.		
The weight of the caged water tank is not less than 40 KG when empty.		
Tank is equipped with a 2" NPT valve	No.	1
Dimensions (metal frame and surface):		
Length 120 cm Width 100 cm Height 110 cm Diameter 45 mm tap internal		
Diameter 58 mm tap screw		





10. Mobile Water Tank 3500 Liter

Design code: MWT

Supply and deliver a licensed Mebile Water Tark 2500 Liter according to the following appreciations:	<u>Unit</u>	Quantity
Supply and deliver a licensed Mobile Water Tank 3500 Liter according to the following specifications:		
- The water tank jar must be made from HS galvanized steel 3 mm		
- The tank chassis (الشصبي) must be HS 52 416		
- A protection must be installed at the top of the tank		
- Installing and fixing steps on the tank made of mubazzar galvanized steel		
- The tires size must be 22.5/270 with 10 bolts		
- The shaft between the wheels must be U/4		
 Installing and fixing a base for the water pump The Mobile water tank specification shall be matched the international standards and the ministry of transportation standards. 		
-The Mobile water tank should be officially produced from a certified metal company and has an approved serial no.		
-The Mobile water tanks must be registered in the licensing department and has a Palestinian license for one year with Palestinian plate including the insurance.		
- The water tank capacity shall minimum be 3500 liters.		
- The tank and all fasteners, fittings shall be fabricated from galvanized steel 3 mm and shall be easily washable.		
- Manhole, sized 40 cm is to be installed for cleaning, inspection purposes		
 Manhole cover shall be hinged and latched locked type, adhesive or seal used on the cover must be approved type used for water tank. 	L.S	1
- The tanks shall be mounted on a separate steel structural frame to be pulled by tractors.		
- Drain valve 2" shall be provided for rapid draining of water. Valve Handle (controller) shall be easily accessible, located at left side and rear end of the water tank.		
- The tank top surface shall be slightly convex and covered with a non-skid material to prevent slipping.		
-Two Layers painting for all the steel components (Primer and a chosen color)		
-Suitable wheels covered with Diamond Tread Fender in both sides.		
-The Mobile water tank should have double brake system with axe on each side, which are connected with electrical back lights.		
-Side wind jack shall be installed in the front side of the tank.		
- The bottom of the tanks shall be sloped towards the drain hole.		
- The tanks shall be vented in a manner to avoid spillage		
- The tanks shall have liquid level indicator suitably protected.		
- The tanks shall be mounted on the chassis by means of a floating type suspension to absorb the impacts and the vibrations during operation.		
- The unit shall be designed in such a way that the tank and other components be easily removable for repairs or replacement.		
	1	1



- The tank fill point shall have a quick connect water fill coupling with cap. The size and type of coupling shall be compatible only with the approved

filling point 11. Agricultural Structure 22 m² Design code: AS22 Unit Quantity Fabricating, delivering and installing of metal housing units. Price includes the followings: Galvanized profiles as indicated below: - 3 Main columns: (6 x 6) cm, and 3mm thick. - Main beam in the roof (6 x 6) cm, and 3 mm thick. - Galvanized steel U angle (7 cm x 5 cm x 7 cm) with thickness of 3mm, welded continuously fixed correctly to the bottom of the gathered zinc boards for each facade. - Galvanized steel U angles (1.5mm thick), welded together and fixed correctly on the top (roof side) of the gathered zinc boards for each facade, and same for all internal partitions and where needed. System fixation It will be pre-prepared, using the CO2 method welding in lines. For the profiles and U angle intersections, welding should be done at the site only when needed; taking into consideration the unit should consist of several complete parts to be joined at the site either by specified welding method or using drilling with 8 mm diameter screws. Installing and fixing the metal units to the ground. Using 60 cm long steel bars with 12 mm diameter as shown in attached details drawings (AS) to fix a triangle steel plate (50x50x70) cm with 3 mm thickness in all corners of the structures including the required excavation. If ground is hard bedrock; then use 12 mm diameter jumbo screws drilled into the rock through the plate. (See drawing in AS). All unit's corner should not be less than 40 cm; these steel profiles should be installed to required units corners in order to prevent corner failure. External walls and ceiling: - External walls: "sandwich panel" boards consist of double galvanized 0.5 mm thickness steel sheets, with mixed color (silver for external side and white for internal one), separated by 5 cm of high density Polystyrene (Kalkal) with F20 of compression .The boards' dimensions are (230x117x5) cm, and they are fixed with frames of U galvanized steel angle (7 cm x 5 cm x 7 cm) with thickness of 3mm from all sides. All fixed by special screws and elastic rubber to prevent water leakage according to the detailed drawings. Board weight must be at least 10 kg/sqm. - Ceiling: same as the external wall boards, but with special shape (corrugated panels from the upper side) and with 112 cm width. The board's weight must be at least 10 kg/sqm and 7 cm of high density Polystyrene (Kalkal) with F20 of compression. L.S White Aluminum windows 1 model No.7700 of national industry, and of 4 mm thickness double glass framed by steel profile with a fixed galvanized steel external mosquito netting on the whole window. (Three portions) **Main Entrance Door** Supply and fix correctly a main steel door to all installed units with all accessories; internal steel sections of (4x4) cm and 1.25 mm steel sheets thickness, with door handle of an approved first grade model with 15 cm locker, the door fixed to the metal unit with special steel frame, and three door joints. All as per Engineer's instructions and approval. Welding works In general, it should be of CO2 method implemented in welding line (not points) for the intersection lines of all profiles. Roof water gutter Including steel water gutter and steel pipes and steel rings (see detail AS). Supply water tank 1m3 for rainwater harvesting under the gutter outlet .: -The Water Tank must be made by blow molding method. -The water tank must be free of any holes. -Water Tank must be made of LLDPE materials in White color. -Water tank must have 7 internal rings at least with 1 cm depth for each ring. Water Tank Durability 30 years at least. -Water Tank wall thickness must not be less than (7) mm, with four layers of polyethylene, (White: 2.8 mm, Black: 1.4 mm, Red: 1.4 mm, Blue: 1.4 mm). Windows protections Supply and implement spear shaped protection for every window in metal shelter unit, where the protection steel is to be painted with three coats (one primer coat) with the color approved by the Supervisor Engineer. Steel bars; dimensions 12 mm with spacing distance of 12 cm between spears, fixed to shelter with galvanized steel screws of 1 cm diameter. Roof protection All edges of roof boards should be collected after installation with U section galvanized profiles from 4 sides to protect edges from rust, the lower long side that connects to the gutter should be fixed according to details. 12.Residential Metal Shed 26 m²

Design code: RS26



Design code: RS44

	Unit	Quantity
Install and fix Residential Metal Shed size 26 m². Price includes man power, welding, screws, and power. All connections between columns, beams and ribs must be by screwed on with steel plates not less than 5mm thick. the highest point in the shed is 250cm.	<u></u>	
As well the bases (the foundations) of the structure should be 30cm in the ground and to be molded in a concrete around it. (Please see drawings).		
Deliver 6 Galvanized Columns. Size: 8x8cm, 2mm thickness, Length 250cm. Deliver 3 Galvanized Main Beams. Size: 5x10cm,2mm thickness, Length 500cm Deliver 4 Galvanized Profile. Size: 3x6cm,2mm thickness, Length 500cm Deliver 8 Galvanized Profile. Size: 3x6cm,2mm thickness, Length 300cm Deliver 5 Galvanized Profile. Size: 4x8cm,2mm thickness, Length 600cm Deliver the required painted Steel Sheets. Size: 500x105 cm, .05cm thickness, matte grey color.		
Supply and fix Steel Galvanized Stiffener Profile between all the Columns and the beams. Size: 5x5cm, 2 mm thickness.		
Supply and fix Roof water gutter at the end of metal housing unit roof to collect rain water, it must be installed with all its accessories and discharge water away from the shelter by lining pipe with enough length to discharge water to the water tank, Including steel water gutter and steel pipes and steel rings (see detail AS).	LS	1
Supply water tank 1m3 for rainwater harvesting under the gutter outlet.:	L.3	I
-The Water Tank must be made by blow molding method. -The water tank must be free of any holes. -Water Tank must be made of LLDPE materials in White color. -Water Tank must have 7 internal rings at least with 1 cm depth for each ring. Water Tank Durability 30 years at least. -Water Tank wall thickness must not be less than (7) mm, with four layers of polyethylene, (White: 2.8 mm, Black: 1.4 mm, Red: 1.4 mm, Blue: 1.4 mm).		
Fix door and windows with smooth metal sheets 0.05 cm, with handles and hangers, door and windows frames should be fixed to vertical columns		
Supply and deliver of raw material for flooring Supply and deliver the following items: - Black cement bags 50 KG : <u>15 bags</u> - Aggregate (Adawsiyya 1-2 cm) : <u>2 m³</u> - Sand : <u>1 m³</u>		

	<u>Unit</u>	Quantity
Install and fix Residential Metal Shed size 44m² , Price includes man power, welding, screws and power. All connections between columns, beams and ribs must be by screwed on with steel plates not less than 5mm thick. the highest point in the shed is 250cm.		
As well the bases (the foundations) of the structure should be 30cm in the ground and to be molded in a concrete around it. (Please see drawings).		
Deliver 6 Galvanized Columns. Size: 8x8cm, 2mm thickness, Length 250cm. Deliver 3 Galvanized Main Beams. Size: 5x10cm,2mm thickness, Length 500cm Deliver 12 Galvanized Profile. Size: 3x6cm,2mm thickness, Length 500cm Deliver 10 Galvanized Profile. Size: 4x8cm Length 500cm, 2mm thickness Deliver the required painted Steel Sheets. Size: 500x105 cm, .05cm thickness, matte grey color.		
Supply and fix Steel Galvanized Stiffener Profile between all the Columns and the beams. Size: 5x5cm, 2 mm thickness.	L.S	1
Supply and fix Roof water gutter at the end of metal housing unit roof to collect rain water, it must be installed with all its accessories and discharge water to the water by lining pipe with enough length to discharge water, Including steel water gutter and steel pipes and steel rings (see detail AS).		
Supply water tank 1m3 for rainwater harvesting under the gutter outlet .:		
-The Water Tank must be made by blow molding method. -The water tank must be free of any holes. -Water Tank must be made of LLDPE materials in White color. -Water tank must have 7 internal rings at least with 1 cm depth for each ring. Water Tank Durability 30 years at least. -Water Tank wall thickness must not be less than (7) mm, with four layers of polyethylene, (White: 2.8 mm, Black: 1.4 mm, Red; 1.4 mm, Blue; 1.4 mm).		



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Fix door and windows with smooth metal sheets 0.05 cm, with handles and hangers, door and windows frames should be fixed to vertical columns		
Supply and deliver of raw material for flooring Supply and deliver the following items: - Black cement bags 50 KG : <u>22 bags</u> - Aggregate (Adawsiyya 1-2 cm) : <u>4 m³</u> - Sand : <u>2 m³</u>		
14. Isolated Residential Metal Shed 26 m ² Design code: RS26		
	Unit	Quantity
Install and fix Residential Metal Shed size 26 m². Price includes man power, welding, screws, and power. All connections between columns, beams and ribs must be by screwed on with steel plates not less than 5mm thick. the highest point in the shed is 250cm.		
As well the bases (the foundations) of the structure should be 30cm in the ground and to be molded in a concrete around it. (Please see drawings).		
Deliver 6 Galvanized Columns. Size: 8x8cm, 2mm thickness, Length 250cm. Deliver 3 Galvanized Main Beams. Size: 5x10cm,2mm thickness, Length 500cm Deliver 4 Galvanized Profile. Size: 3x6cm,2mm thickness, Length 500cm Deliver 8 Galvanized Profile. Size: 3x6cm,2mm thickness, Length 300cm Deliver 5 Galvanized Profile. Size: 4x8cm,2mm thickness, Length 600cm Deliver the required painted Steel Sheets. Size: 500x105 cm, .05cm thickness, matte grey color.		
Supply and fix Steel Galvanized Stiffener Profile between all the Columns and the beams. Size: 5x5cm, 2 mm thickness.		
 Internal insulation: Supplying and spray a layer of Polyurethane Spray Foam thickness 3 cm covering all internal roof and side walls. Supplying and installation a layer of O.S.B wood sheets for the sides and roof, the size of each board is 244*122 cm, the thickness is 11 mm thickness. To be fixed using self-driven steel screw with rubber and washer 4.0X45mm .the maximum distance between each two screws is 30 cm. 		
White Aluminum windows: model No.7700 of national industry, and of 4 mm thickness double glass framed by steel profile with a fixed galvanized steel external mosquito netting on the whole window. (Three portions)		

Steel Door (100x200x5)cm:

Supply and install a steel door with the following details:

- The door shall be made from Galvanized steel sheets 2 mm in both sides consisting (Internal and external), in addition to two steel frames from outside.

- The surface shall be painted twice (Primer layer and grey color)

- Frames shall be manufactured out of (2 mm) Galvanized Steel box 6x3 cm.

- Good quality of door handle attached with lever lock operated by key and lockable from both inside and outside

Supply and fix Roof water gutter at the end of metal housing unit roof to collect rain water, it must be installed with all its

accessories and discharge water away from the shelter by lining pipe with enough length to discharge water.

Supply and fix Roof water gutter at the end of metal housing unit roof to collect rain water, it must be installed with all its accessories and discharge water away from the shelter by lining pipe with enough length to discharge water to the water tank, Including steel water gutter and steel pipes and steel rings (see detail AS).

Supply water tank 1m3 for rainwater harvesting under the gutter outlet .:

- -The Water Tank must be made by blow molding method.
- -The water tank must be free of any holes.
- -Water Tank must be made of LLDPE materials in White color.
- -Water tank must have 7 internal rings at least with 1 cm depth for each ring.
- Water Tank Durability 30 years at least.
- -Water Tank wall thickness must not be less than (7) mm, with four layers of polyethylene, (White: 2.8 mm, Black: 1.4 mm, Red: 1.4 mm, Blue: 1.4 mm).

Supply and deliver of raw material for flooring

- Supply and deliver the following items:
- Black cement bags 50 KG : 15 bags
- Aggregate (Adawsiyya 1-2 cm) : 2 m3
- Sand : 1 m³

15. Isolated Residential Metal Shed 44 m²

Design code: RS44

L.S

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	<u>Unit</u>	Quantity
Install and fix Residential Metal Shed size 44m² , Price includes man power, welding, screws and power. All connections between columns, beams and ribs must be by screwed on with steel plates not less than 5mm thick. the highest point in the shed is 250cm.		
As well the bases (the foundations) of the structure should be 30cm in the ground and to be molded in a concrete around it. (Please see drawings).		
Deliver 6 Galvanized Columns. Size: 8x8cm, 2mm thickness, Length 250cm. Deliver 3 Galvanized Main Beams. Size: 5x10cm,2mm thickness, Length 500cm Deliver 12 Galvanized Profile. Size: 3x6cm,2mm thickness, Length 500cm Deliver 10 Galvanized Profile. Size: 4x8cm Length 500cm, 2mm thickness Deliver the required painted Steel Sheets. Size: 500x105 cm, .05cm thickness, matte grey color.		
 Supply and fix Steel Galvanized Stiffener Profile between all the Columns and the beams. Size: 5x5cm, 2 mm thickness. Supplying and spray a layer of Polyurethane Spray Foam thickness 3 cm covering all internal roof and side walls. Supplying and installation a layer of O.S.B wood sheets for the sides and roof, the size of each board is 244*122 cm, the thickness is 11 mm thickness. To be fixed using self-driven steel screw with rubber and washer 4.0X45mm .the maximum distance between each two screws is 30 cm. 		
White Aluminum windows model No.7700 of national industry, and of 4 mm thickness double glass framed by steel profile with a fixed galvanized steel external mosquito netting on the whole window.(Three portions)		
Supply and fix Roof water gutter at the end of metal housing unit roof to collect rain water, it must be installed with all its accessories and discharge water away from the shelter by lining pipe with enough length to discharge water, Including steel water gutter and steel pipes and steel rings (see detail AS).		
Steel Door (100x200x5)cm Supply and install a steel door with the following details: - The door shall be made from Galvanized steel sheets 2 mm in both sides consisting (Internal and external), in addition to two steel frames from outside. - The surface shall be painted twice (Primer layer and grey color) - Frames shall be manufactured out of (2 mm) Galvanized Steel box 6x3 cm. - Good quality of door handle attached with lever lock operated by key and lockable from both inside and outside	L.S	1
Supply and fix Roof water gutter at the end of metal housing unit roof to collect rain water, it must be installed with all its accessories and discharge water away from the shelter by lining pipe with enough length to discharge water to the water tank, Including steel water gutter and steel pipes and steel rings (see detail AS).		
Supply water tank 1m3 for rainwater harvesting under the gutter outlet.:		
 -The Water Tank must be made by blow molding method. -The water tank must be free of any holes. -Water Tank must be made of LLDPE materials in White color. -Water tank must have 7 internal rings at least with 1 cm depth for each ring. Water Tank Durability 30 years at least. -Water Tank wall thickness must not be less than (7) mm, with four layers of polyethylene, (White: 2.8 mm, Black: 1.4 mm, Red: 1.4 mm). 		
Supply and deliver of raw material for flooring Supply and deliver the following items: - Black cement bags 50 KG : <u>22 bags</u>		
- Aggregate (Adawsiyya 1-2 cm) : <u>4 m³</u> - Sand : <u>2 m³</u>		
16.Livelihood Metal Shed 18 m ² Design code: LS18	1	
Install and fix Livelihood Metal Shed size 18m ² . Price includes man power, welding, screws, and power. All connections between columns, beams and ribs must be by screwed on with steel plates not less than 5mm thick. the highest point in the shed is 250cm.	<u>Unit</u>	Quantity
As well the bases (the foundations) of the structure should be 30cm in the ground and to be molded in a concrete around it. (Please see drawings).	L.S	1
Deliver 4 Galvanized Columns. Size: 8x8cm, 2mm thickness, Length 250 cm Deliver 2 Galvanized Main Beams 5x10cm 2mm thickness, Length 500 cm. Deliver 4 Galvanized Profile. Size: 3x6cm Length 460 cm		

Deliver 4 Galvanized Profile. Size: 3x6cm Length 460 cm Deliver 9 Galvanized Profile. Size: 3x6cm Length 400 cm Deliver the required painted Steel Sheets. Size: 500x105 cm, .05 cm thickness, matte gray color.

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Supply and fix Steel Galvanized Stiffener Profile between all the Columns and the beams. Size: 5x5cm, 2 mm thickness.		
Supply and fix Roof water gutter at the end of metal housing unit roof to collect rain water, it must be installed with all its accessories and discharge water away from the shelter by lining pipe with enough length to discharge water to the water tank, Including steel water gutter and steel pipes and steel rings (see detail AS).		
Supply water tank 1m3 for rainwater harvesting under the gutter outlet.:		
-The Water Tank must be made by blow molding method. -The water tank must be free of any holes. -Water Tank must be made of LLDPE materials in White color. -Water tank must have 7 internal rings at least with 1 cm depth for each ring. Water Tank Durability 30 years at least. -Water Tank wall thickness must not be less than (7) mm, with four layers of polyethylene, (White: 2.8 mm, Black: 1.4		
mm, Red: 1.4 mm, Blue: 1.4 mm). Fix door with smooth metal sheets 0.05 cm, with handles and hangers, door frames should be fixed to vertical columns	r	
17. Livelihood Metal Shed 44 m ²		
Design code: LS44		
	Unit	Quantity
Install and fix Livelihood Metal Shed size 44m² , Price includes man power, welding, screws and power. All connections between columns, beams and ribs must be by screwed on with steel plates not less than 5mm thick. the highest point in the shed is 250cm.		
As well the bases (the foundations) of the structure should be 30cm in the ground and to be molded in a concrete around it. (Please see drawings).		
Deliver 6 Galvanized Columns. Size: 8x8cm, 2mm thickness, Length 250cm. Deliver 3 Galvanized Main Beams 5x10cm, 2mm thickness, Length 500 cm. Deliver 12 Galvanized Profile. Size: 3x6cm Length 500cm		
Deliver 10 Galvanized Profile. Size: 4x8cm Length 500cm, 2mm thickness Deliver the required painted Steel Sheets. Size: 500x105 cm, .05cm thickness, matte gray color.		
Supply and fix Steel Galvanized Stiffener Profile between all the Columns and the beams. Size: 5x5cm, 2 mm thickness.		
Supply and fix Roof water gutter at the end of metal housing unit roof to collect rain water, it must be installed with all its accessories and discharge water away from the shelter by lining pipe with enough length to discharge water to the water tank, Including steel water gutter and steel pipes and steel rings (see detail AS).	L.S	1
Supply water tank 1m3 for rainwater harvesting under the gutter outlet.:		
-The Water Tank must be made by blow molding method. -The water tank must be free of any holes.		
-Water Tank must be made of LLDPE materials in White color. -Water tank must have 7 internal rings at least with 1 cm depth for each ring.		
Water Tank Durability 30 years at least. -Water Tank wall thickness must not be less than (7) mm, with four layers of polyethylene, (White: 2.8 mm, Black: 1.4 mm, Red: 1.4 mm, Blue: 1.4 mm).	L .	
Fix door with smooth metal sheets 0.05 cm, with handles and hangers, door frames should be fixed to vertical columns		
18. Storage Metal Shed 18 m ² Design code: SS18		
	Line's	Overstitue
Install and fix Storage Metal Shed size 18m ² . Price includes man power, welding, screws, and power. All connections	Unit	<u>Quantity</u>
between columns, beams and ribs must be by screwed on with steel plates not less than 5mm thick. the highest point in the shed is 250cm.		
As well the bases (the foundations) of the structure should be 30cm in the ground and to be molded in a concrete around it. (Please see drawings).		
Deliver 4 Galvanized Columns. Size: 8x8cm, 2mm thickness, Length 250cm Deliver 2 Galvanized Main Columns. Size: 5x10cm,2mm thickness, Length 500cm Deliver 4 Galvanized Profile. Size: 3x6cm,2mm thickness, Length 460cm Deliver 9 Galvanized Profile. Size: 3x6cm,2mm thickness, Length 400cm Deliver the required painted Steel Sheets. Size: 500x105 cm, .05cm thickness, matte grey color.	L.S	1
Supply and fix Steel Galvanized Stiffener Profile between all the Columns and the beams. Size: 5x5cm, 2 mm thickness.		
Supply and fix Roof water gutter at the end of metal housing unit roof to collect rain water, it must be installed with all its accessories and discharge water away from the shelter by lining pipe with enough length to discharge water to the water tank, lockwing steel water auther and steel pipes and steel pipes (see detail AS).		
Including steel water gutter and steel pipes and steel rings (see detail AS).	Page 14 of 20	I



Supply water tank 1m3 for rainwater baryesting under the gutter outlet :		
Supply water tank 1m3 for rainwater harvesting under the gutter outlet.:		
-The Water Tank must be made by blow molding method. -The water tank must be free of any holes.		
-Water Tank must be made of LLDPE materials in White color.		
-Water tank must have 7 internal rings at least with 1 cm depth for each ring. Water Tank Durability 30 years at least.		
-Water Tank wall thickness must not be less than (7) mm, with four layers of polyethylene, (White: 2.8 mm, Black: 1.4 mm, Red: 1.4 mm, Blue: 1.4 mm).		
Fix door with smooth metal sheets 0.05 cm, with handles and hangers, door frames should be fixed to vertical columns		
19.Storage Metal Shed 44 m ² Design code: SS44		
	Unit	Quantity
Install and fix Storage Metal Shed size 44m ² , Price includes man power, welding, screws and power. All connections between		
columns, beams and ribs must be by screwed on with steel plates not less than 5mm thick. the highest point in the shed is 250cm.		
As well the bases (the foundations) of the structure should be 30cm in the ground and to be molded in a concrete around it. (Please see drawings).		
Deliver 6 Galvanized Columns. Size: 8x8cm, 2mm thickness Length 250 cm		
Deliver 3 Galvanized Main Beams. Size: 5x10cm,2mm thickness, Length 500cm Deliver 12 Galvanized Profile. Size: 3x6cm,2mm thickness, Length 500cm		
Deliver 10 Galvanized Profile. Size: 4x8cm Length 500cm, 2mm thickness		
Deliver the required painted Steel Sheets. Size: 500x105 cm, .05cm thickness, matte grey color.		
Supply and fix Steel Galvanized Stiffener Profile between all the Columns and the beams. Size: 5x5cm, 2 mm thickness.	L.S	1
Supply and fix Roof water gutter at the end of metal housing unit roof to collect rain water, it must be installed with all its accessories and discharge water away from the shelter by lining pipe with enough length to discharge water to the water tank, including steel water gutter and steel pipes and steel rings (see detail AS).		
Supply water tank 1m3 for rainwater harvesting under the gutter outlet.:		
-The Water Tank must be made by blow molding method. -The water tank must be free of any holes.		
-Water Tank must be made of LLDPE materials in White color.		
-Water tank must have 7 internal rings at least with 1 cm depth for each ring. Water Tank Durability 30 years at least.		
-Water Tank wall thickness must not be less than (7) mm, with four layers of polyethylene, (White: 2.8 mm, Black: 1.4 mm, Red: 1.4 mm, Blue: 1.4 mm).		
Fix door with smooth metal sheets 0.05 cm, with handles and hangers, door frames should be fixed to vertical columns		
20. Livelihood Metal Shed - Large size 88 m ²	1	I
Design code: LSL88		
	<u>Unit</u>	Quantity
Install and fix Livelihood Metal Shed size 88 m ² , Price includes man power, welding, screws and power. All connections between columns, beams and ribs must be by screwed on with steel plates not less than 5mm thick. the highest point in the shed is 430cm.		
As well the bases (the foundations) of the structure should be 60 x 60 cm with reinforcement concrete. (Please see drawings).		
Deliver 14 Galvanized Columns. Size: 15x15cm, 3mm thickness, Length 5m. Deliver 5 Galvanized H Beams 20x9cm, 8mm thickness, Length 7.3m.		
Deliver 8 Galvanized Profile. Size: 4x8cm Length 6m, 2mm thickness for the long side. Deliver 8 Galvanized Profile. Size: 4x8cm Length 4m, 2mm thickness for the short side.		
Deliver 14 Galvanized Profile. Size: 4x8cm Length 6m, 2mm thickness for the roof. Deliver the required painted Steel Sheets. Size: 500x105 cm, .05cm thickness, matte gray color.`	L.S	1
Supply and fix Steel Galvanized Stiffener Profile between all the Columns and the beams. Size: 5X5, 2 mm thickness.		
Supply and fix Roof water gutter at the end of metal housing unit roof to collect rain water, it must be installed with all its accessories and discharge water away from the shelter by lining pipe with enough length to discharge water to the water tank, Including steel water gutter and steel pipes and steel rings (see detail AS).		
Supply water tank 1m3 for rainwater harvesting under the gutter outlet.:		
-The Water Tank must be made by blow molding method. -The water tank must be free of any holes.		
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-Water Tank must be made of LLDPE materials in White color. -Water tank must have 7 internal rings at least with 1 cm depth for each ring.		
Water Tank Durability 30 years at least. -Water Tank wall thickness must not be less than (7) mm, with four layers of polyethylene, (White: 2.8 mm, Black: 1.4 mm, Red:		
1.4 mm, Blue: 1.4 mm).		
21. Storage Metal Shed - Large size 88 m ² Design code: SSL88	·	
	Unit	Quantity
Install and fix Storage Metal Shed size 88 m ² , Price includes man power, welding, screws and power. All connections between columns, beams and ribs must be by screwed on with steel plates not less than 5mm thick. the highest point in the shed is 430cm.		
As well the bases (the foundations) of the structure should be 60 x 60 cm with reinforcement concrete. (Please see drawings SSL88).		
Deliver 14 Galvanized Columns. Size: 15x15cm, 3mm thickness, Length 5m. Deliver 5 Galvanized H Beams 20x9cm, 8mm thickness, Length 7.3m. Deliver 20 Galvanized Profile. Size: 4x8cm Length 6m, 2mm thickness for the long side. Deliver 20 Galvanized Profile. Size: 4x8cm Length 4m, 2mm thickness for the short side. Deliver 14 Galvanized Profile. Size: 4x8cm Length 6m, 2mm thickness for the roof. Deliver 14 Galvanized Profile. Size: 500x105 cm, .05cm thickness, matte gray color.`		
Supply and fix Steel Galvanized Stiffener Profile between all the Columns and the beams. Size: 5X5, 2 mm thickness.		
Supply and fix Roof water gutter at the end of metal housing unit roof to collect rain water, it must be installed with all its accessories and discharge water away from the shelter by lining pipe with enough length to discharge water to the water tank, Including steel water gutter and steel pipes and steel rings (see detail AS).	L.S	1
Supply water tank 1m3 for rainwater harvesting under the gutter outlet.:		
 -The Water Tank must be made by blow molding method. -The water tank must be free of any holes. -Water Tank must be made of LLDPE materials in White color. -Water tank must have 7 internal rings at least with 1 cm depth for each ring. Water Tank Durability 30 years at least. -Water Tank wall thickness must not be less than (7) mm, with four layers of polyethylene, (White: 2.8 mm, Black: 1.4 mm, Red: 1.4 mm, Blue: 1.4 mm). 		
The structure contains four windows 1.5 x 1.5 m, and one main door with two movable segments 2 x 2 m		
22.Trough Design code: E		
	Unit	Quantity
Supply and Deliver feeding troughs made of galvanized 3 mm thick steel sheets of 13 cm height, 40 cm width and 180 length. The trough legs consist from galvanized steel 40x40 mm profile with a total height of 75 cm from the top of the trough. All sheets must be bent from the top 2cm. Price includes perfect welding for all connection lines so that the trough is impermeable to water. (Please see drawings).	No.	1
23. Drinker Design code: E		
	Unit	Quantity
Supply and deliver drinkers made of galvanized 2mm thick steel sheets of 12 cm height, 30 cm top width and 150 length. The drinker legs consist from 20x40mm galvanized steel profile with height 45 cm from the top of the drinker. All sheets must be bent from the top 2cm. Price include perfect welding for all connection lines so that the drinker is impermeable to water. (Please see drawings).	No.	1
24. Barrier Design code: E		
	<u>Unit</u>	Quantity
Supply and deliver galvanized cattle barriers made of thermal painted steel. Size: 1.5x1.2 m. They consist of solid bars 2x2 cm fixed vertically. Spaces between bars must not exceed 12cm.	No.	1



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25. Fence Design code: F		
	<u>Unit</u>	Quantity
Supply and deliver galvanized steel fence 1.5 m high and 2.8 mm thick, with 6x6 cm openings.		
Supply and deliver steel angles (10 pieces/ 25 meter) with 200 cm long, with a triangle shape.		
Supply, deliver galvanized strong steel wire 2mm thick. (4 KG / 25 meter)	LM	1
Supply, deliver galvanized fine steel wire 1.2 mm thick. (2 KG / 25 meter)		
26. Mechanism of Fixing Caravan Design code: FC	1	1
	<u>Unit</u>	Quantity
•Casting reinforcement B250 concrete slab on grade, thickness not less than 10 cm, the size of the slab exceeding the shelter size with 60 cm all around the shelter. The edge of the slab is concrete hollow blocks of 40*20*20 cm (two rows at least).		
•Before casting concrete, obtaining the approval of the supervisor is mandatory.		
•Use Ø8mm steel bars in both directions, the distance between longitudinal and transverse direction is 20 cm. The price includes, supplying, formwork, reinforcement works, and shuttering, curing, shoring and all other related works to finalize the surfaces according to engineer instructions.	M2	1
•The shelter to be fixed to the ground with T shape steel plate 50x50 cm, 3 mm thickness, the maximum distance between each plate is 100 cm .The contractor should casting at the corners of the shelter 60*60*40 cm foundation using natural stones and concrete.		
• Provide and install a plastic sheet under the steel net, from inside and outside the structure.		
Price includes scaffolding for works and covering the cost of workers as well.		
• The measured quantity unit is based on casting of concrete only. (The price includes: Block, concrete, workers, steel net, PVC sheet, workers, scaffolding)		
27. Extra Items		
	Unit	Quantity
27.aa Ceiling Sandwich panel 7 cm :		
- Ceiling Sandwich panel (<u>corrugated</u> boards from the upper side) consist of double galvanized 0.5 mm thickness steel sheets, with mixed color (silver for external side and white for internal one), separated by 7 cm of high density Polystyrene (Kalkal) with F20 of compression .and they are fixed with frames of U galvanized steel frame 0.5mmfrom all sides. All fixed by special screws and elastic rubber to prevent water leakage. Board weight must be at least 10 kg/sqm.	M2	1
- Each Roof should be installed on steel frame (8 x 4)cm with 2mm thick.	IVIZ	
- Two main beams should be installed (500 x 6 x 6) cm with 2 mm thick, supported with one column (6 x 6 x 3) with 2 mm thick for each room		
- Galvanized steel U angles (0.2mm thick), welded together and fixed correctly on the top (roof side) of the gathered zinc boards for each facade, and same for all internal partitions and where needed.		
27.ab Ceiling Sandwich panel 5 cm :		
- Ceiling Sandwich panel (<u>corrugated</u> boards from the upper side) consist of double galvanized 0.5 mm thickness steel sheets, with mixed color (silver for external side and white for internal one), separated by 5 cm of high density Polystyrene (Kalkal) with F20 of compression .and they are fixed with frames of U galvanized steel frame 0.5mmfrom all sides. All fixed by special screws and elastic rubber to prevent water leakage. Board weight must be at least 10 kg/sqm.	Mo	
- Each Roof should be installed on steel frame (8 x 4)cm with 2mm thick.	M2	
- Two main beams should be installed (500 x 6 x 6) cm with 2 mm thick, supported with one column (6 x 6 x 3) with 2 mm thick for each room		
- Galvanized steel U angles (0.2mm thick), welded together and fixed correctly on the top (roof side) of the gathered zinc boards for each facade, and same for all internal partitions and where needed.		



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27.ac Walls Sandwich panel 5 cm : - External walls: "sandwich panel" boards consist of double galvanized 0.5 mm thickness steel sheets, with mixed color (silver	M2	1
for external side and white for internal one), separated by 5 cm of high density Polystyrene (Kalkal) with F20 of compression .The boards' dimensions are (230x117x5) cm. Board weight must be at least 10 kg/sqm.		
27.ad Corrugated Steel sheets:	M2	1
- Galvanized and Painted Steel Sheets. Size: 500x105 cm, .045 cm thickness, matte grey/semi green color.		
27.ae Wooden door (90x200x5)cm:		
- The door shall be made from sandwich boards 17 mm in both sides consisting of pinewood strips placed end to end. The width of each strip shall not exceed 25 mm. The strips shall be placed side by side, which shall then be glued between the two wooden layers from each side (Sandwich and beech layers).		
- The surface shall be made with painted beech (Zan) wood 4mm thickness.	No.	1
- Frames shall be made from Swedish wood with square and flat shape, the corners of frame being fabricated to a true right angle. Both the fixed and opening frames shall be constructed of sections which have been cut to length, mitered and screwed at the corners.		
- Good quality of door handle attached with lever lock operated by key and lockable from both inside and outside		
27.af Steel door (100x210x5)cm:		
 The door shall be made from Galvanized steel sheets 2 mm in both sides consisting . The surface shall be painted twice (Primer layer and grey color) 	No.	1
 Frames shall be manufactured out of (2 mm) Galvanized Steel box 6x3 cm. Good quality of door handle attached with lever lock operated by key and lockable from both inside and outside 		
27.ag Multi-lock door:		
- Open Style: Swing - Position: Exterior		
- Surface Finishing: Finished and painted - Type: Security Doors		
- Door Material: Steel - Steel door standard size: 210x100 cm, or customized	No.	1
- Surface treatment: heat transfer - Steel door leaf thk.: 50mm-60mm		
- Steel panel thk. for frame: 1.5 mm		
 Accessory: Locks, Handle, Hinges, Bolts, Keys, Rubber seal Infilling: rock wool 		
<u>27.ah</u> Steel bar 8 mm	Kg	1
<u>27.ai </u> Steel bar 10 mm	Kg	1
<u>27.aj Rectangular Steel Tube (4x8)cm with 2mm thickness</u> -Price includes supplying, installation, and fixation by welding techniques in the desired location for every unit.	Kg	1
27.ak Rectangular Steel Tube (3x6)cm with 2mm thickness -Price includes supplying, installation, and fixation by welding technique in the desired location for every unit.	Kg	1
27.al Rectangular Steel Tube (6x6)cm with 2mm thickness -Price includes supplying, installation, and fixation by welding technique in the desired location for every unit.	Kg	1
27.am 2" PVC pipes	L.M	1
<u>27.an </u> 4" PVC pipes	L.M	1
27.ao Curtains:	M2	1
	I	1



Curtains have to be of good quality non transparent type and fast burning resistant, attached correctly with a suitable aluminum rail depends on the required width.		
27.ap European Flush Toilet: - Porcelain double flush toilet including pipes. - Size :470X390X370mm	No.	1
27.aq Wash basin with mixer: - Porcelain wash basin including mixers, pipes, etc. - Size: 510*430*155mm	No.	1
27.ar Water mixer: Water mixer of type Chrome with long neck.	No.	1
27.as Shower base: Shower base fabricated from metal sheet coated with PVC layer with a clear resulted area of (90*120) cm	No.	1
27.at Steel stand for Water tanks 1 m ³ : - Supply galvanized Steel Stand for Water tank 1 m ³ , Please see the attached Drawing (SS1)	No.	1
27.au Steel stand for Water tanks 1.5 m ³ : - Supply galvanized Steel Stand for Water tank 1.5 m ³ , Please see the attached Drawing (SS2)	No.	1
27.av Charged Solar Energy Lamp : - Type: Ball Bulbs - Output power: 40W - Luminous flux: 130LM - CCT/Wavelength: 6500K - Voltage(V): DC 5V - Charging time (by solar panel): 5h - Using time: 3h - Lifespan: 30000hrs - Sheathing material: ABS synthetic plastics - Size: Solar panel: 50 x 50 cm.	No.	1
27.aw Supply and deliver a Hygiene Kit: (The following items must be put in a closed cartoon box): -Hand Sanitizer (Instant hand sanitizer, approved brand by Palestinian MOH, size 400 MI). -Hand Soap (hypoallergenic, unperfumed, individually wrapped & with far expiry dates). (10 pieces) -Toilet rolls (good quality with soft double-layer tissue that can be used for different purposes) (36 pieces) -Shampoo (1 bottle with 750 ml capacity) -Toothbrush Pack includes: 2 adult size medium hardness, 4 child size soft, each one shall be individually wrapped -Toothpaste (2 pieces, with 150ml) -Women hygienic-sanitary disposable pads, packs of 10 pads. -Detergent for cleaning dishes, gallon with size (3.75- 4 Liter) (1 Gallon) -Face Mask, pack of 50 masks	No.	1
27.ax Steel barrel - A cylindrical steel container with 200 Liter size.	No.	1
27.ay Wooden Pieces: - 15 x 5 x 244 cm of scaffolding wood	No.	1
27.az WaSH stickers Supply and print a colored A3 sticker, the design will be shared with the selected contractors.	No.	1
27. ba Feeding troughs for cows: Supply and Deliver feeding troughs made of galvanized 3 mm thick steel sheets of 25 cm height, 60 cm width and 3m length. The trough legs consist from galvanized steel 6x6 cm profile with a total height of 75 cm from the top of the trough. All sheets must be bent from the top 2cm. Price includes perfect welding for all connection lines so that the trough is impermeable to water.	No.	1
27. bb Drinkers for cows:	No.	1



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Supply and deliver drinkers made of galvanized 3 mm thick steel sheets of 20 cm height, 60 cm top width and 3m length. The drinker legs consist from 6x6cm galvanized steel profile with height 60 cm from the top of the drinker. All sheets must be bent from the top 2cm. Price include perfect welding for all connection lines so that the drinker is impermeable to water.		
27. bc Portland cement	Ton	1
27. bd Sand		
	M3	1
27. be Aggregates	M3	1
27. bf Nhata	M3	1
27. bg Tile, Spanish or Italian Brands, 60x60 cm	M2	1
27. bh Block 10 cm	No.	1
27. bi Block 15 cm	No.	1
27. bj Block 20 cm	No.	1
27. bk Aluminum windows Dimensions 110 cm width & 100 cm height .Aluminum No. 7700 or 7000, the color is white , 2 parts of glass , the width of frame is 3 cm & the handle included the cost of measurement and installing	No.	
		1
27. bl Super Gryl or Emulsion Paint (Each Gallon =18 Litre)	No.	1
27. bm Tube 16 mm	L.M	1
27. bn Tube 20 mm	L.M	1
27. bo Polyurethane Spray Foam رش مادة البوليپريثان بسماكة 3 سم كحد ادنی	M2	1
27. bp Spotlight (Headlamps) 100 watt	No.	1
27. bq OSP wooden boards, size: 1.22x2.44 m	No.	1
	INU.	I
27. br Electricity Generator: Power: 3500 KVA. Frame type: open frame. Type of switch: Start manual Starter Type: Recoil / Electric Type of Fuel: Gasoline Low Oil Sensor Outlets: European Style Frequency: 50Hz Battery Type: 12V 7Ah Guarantee: 12 months (Official document from the company).	No.	1
27. bs Unskilled worker, working in the desired area within West-Bank for 8 working hours/ day. عامل (غير معلم)، قابلية للعمل في اي منطقة ضمن كافة حدود الضفة الغربية لـ 8 ساعات في اليوم	No. of days	1
المبلغ المقترح هو مبلغ مستحق بالكامل للعامل 27. bt Windows Protections	عدد الايام	
Supply and implement spear shaped protection where the protection steel is to be painted with three coats (one primer coat) with the color approved by the Supervisor Engineer. Steel bars; dimensions 10 mm with spacing distance of 12 cm between spears.	L.M	1