

QUALITY CONTROL PLAN



PR/MAR #: PR SYD 842

Tender #:

PR/MAR Description: Mercy Corps is seeking to contract Supplier(s) for the delivery and supply of Livelihoods Kitchen Gardens - household drip irrigation Kits.

Essential Specifications and Testing Requirements:

Smart water management is the only way to healthy, happy plants and trees. Among the many methods and tools available to manage water wisely, drip irrigation remains one of the most popular and effective. Also referred to as low-volume or micro irrigation, drip systems are ideal for virtually all Kitchen garden applications!

Supplier should confirm to adhere to the specification listed below:

Required Drip irrigation system Specifications:

The items of the Agriculture Drip Irrigation kits that match the specification in the BoQ (Flat dripper drip tape).

Sometimes this drip irrigation system called: Laser Drip Irrigation System.

Definition of Drip Irrigation system:

Drip irrigation system:

It is the most efficient water and nutrient delivery system for growing crops. It delivers water and nutrients directly to the plant's roots zone, in the right amounts, at the right time, so each plant gets exactly what it needs, when it needs it, to grow optimally. When applying the drip irrigation system, farmers can produce higher yields while saving on water as well as fertilizers, energy and even crop protection products.

The major drip line in this drip irrigation system is Flat dripper drip tape and The drippers are in the form of a slide, not a hole, and equipped with internal pores

Components of a Drip Irrigation System:

There are three primary components to any drip system:

➤ **Tubing:**

Plastic tubing is the backbone of any drip system. All tubing should be manufactured from: High-quality, UV-resistant Materials (Flat emitter drip tape, the drippers are in the form of a slide, not a hole, and equipped with internal pores). This designed to help eliminate pipe failures due to UV light damage and environmental stress cracking.

➤ **Fittings to connect tubing:**

Tubing and emitters alone will deliver water, but without fittings a drip system is little more than a leaky hose. Fittings allow for an irrigation system of greater complexity and efficiency. Drip Tubing Couplings is used to connect to things like PVC pipe and drip tapes.

➤ **The emitters that deliver water.**

Drip Emitters (Drippers) — The most precise option, delivering water directly to the soil at the root zone at very slow rates. Drip emitters are suited to most vegetable gardens, trees, etc. Because of the low discharge rate.

How does it work?

Water and nutrients are delivered across the field in pipes called 'dripper lines' featuring smaller units known as 'drippers'. Each dripper emits drops containing water and fertilizers, resulting in the uniform application of water and nutrients direct to each plant's root zone, across an entire field.

Specification of the performance of the Drip Irrigation System:

WATER EFFICIENCY: Drip irrigation applies water only when and where it is needed, with less runoff and evaporation from leaves and soil. Drip irrigation systems can conserve great amounts of water when compared to sprinkler systems.

EASE OF INSTALLATION: Installation is a very simple process; no special tools or glue are needed.


VERSATILITY: Low volume irrigation systems are designed for placement in both new and existing landscapes. They are also ideal for installation on difficult terrain such as on slopes, in oddly shaped areas, and sites with high winds.

LONG LIFE: All products are designed to withstand the harshest conditions in both home and commercial installations. They are manufactured from high quality, durable plastics and contain added quantities of the compound Carbon Black, making them resistant to the damaging effects of ultraviolet rays.



APPLICATIONS:

- To be used for vegetables planting in the ground, multi Agriculture seasonal irrigation.
- To be installed in the different types and shapes of agriculture lands.

Supplier should confirm to adhere to the specification listed below:









#	Item	Unit	Specifications	Photos	Pass / Fail
1	Tubing Couplings	Pc	<p>Drip Tubing Couplings (hose clamps) for kitchen garden - drip irrigation, as shows in the picture:</p> <ul style="list-style-type: none"> - plastic drip Tape Couplings – Used to connect two pieces of Drip Tape. - to connected the pieces of Drip pipe, with one nuts per each end of the tube coupling. 		

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			<ul style="list-style-type: none"> - Diameter 17 mm per each side. - Polypropylene/PVC connector fittings use with drip Pipes 		
2	Black Mulch film	Kg	<p>Black mulch film:</p> <ul style="list-style-type: none"> • Length 1100 Meter. • Covering area of 900 M2 at least. • Width: minimum 80 cm - maximum 100cm. • UV material absorbs UV rays, anti UV rays. • coiled in roll form, thickness minimum 20 Micron. 		
3	Drip pipe Rolls	Meter	<p>Flat emitter drip tape:</p> <ul style="list-style-type: none"> - The fourth generation of drip irrigation tapes. - Roller weight is 9.7 kg. - Tube diameter is 16 mm, flexible. - Leaching system working draining 15 l / m / h. - The drippers are in the form of a slide, not a hole, and equipped with internal pores. 		




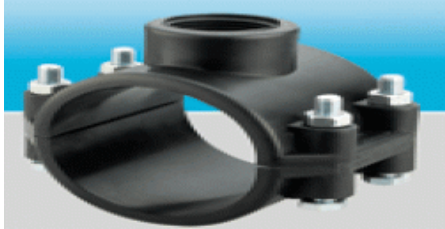


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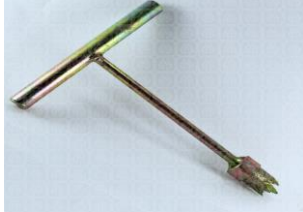




4	mini valve for drip irrigation tape (Laser Type)	Pc	<ul style="list-style-type: none"> - Mini valve (16 mm) for drip tape/agriculture drip irrigation pipe, (Suitable for PE, PVC, Drip tape, layflat hose). 			
5	Irrigation rubber seal ring	Pc	<ul style="list-style-type: none"> - Ring 16mm. - To hold water linking between main pipe and valve 			
6	PVC Flush valve end cap	Pc	<ul style="list-style-type: none"> - PVC end stop 2 Inch. - PVC with 1 inch exit with 1 inch plastic stopper. 			
7	PVC Flush valve end cap of GR 16	Pc	<ul style="list-style-type: none"> - For the end of PE Drip tube irrigation 16 mm, material PVC. 			
8	Reducer 1-3/4	Pc	<ul style="list-style-type: none"> - Reducer hard plastic (1>3/4 inch). - 3/4 side is serrated , 1 inch side not serrated, hard plastic. 			
9	Hex pipe nipple	Pc	<ul style="list-style-type: none"> - Hex pipe nipple with 3/4 inches size. - Male double sides made of PVC or galvanized metal 			
10	Hose connector	Pc	<ul style="list-style-type: none"> - 2 inches PVC pipe connector 			
11	Drip Irrigation Water-Filter	Pc	<ul style="list-style-type: none"> - A 2-inch mesh filter with an external serrated tip that contains a network that filters the water out of impurities 			

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			before entering the drip network		
12	2 inches nut	Pc	<ul style="list-style-type: none"> - Inner-side hardened 2 inch made of PVC or galvanized metal 		
13	line starter	Pc	<ul style="list-style-type: none"> - The beginning of a 2-inch line is serrated externally from one end and the other end is a thorn - The 2-inch main tube is made of hard plastic/PVC 		
14	Threaded PVC Ball Valve	Pc	<ul style="list-style-type: none"> - Serrated 2 inch with two fingers with a key 		
15	PVC 2 inches lin	Pc	<ul style="list-style-type: none"> - A 2-inch stud has a 3/4-inch slot that is fitted with two pieces and contains a cylinder inside - To prevent water leakage and equipped with bolts and fasteners for fastening and tightening 		
16	Tap	Pc	<ul style="list-style-type: none"> - The 3/4 inch tap is used as a thinner for network pressure of PVC or galvanized metal. 		
17	Plastic hose with linen fibers for fertilizer injector	Meter	<ul style="list-style-type: none"> - Clear plastic hose Linen fibers threaded bearing with a pressure of 1 inch 		

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18	3/4 ball valve	Pc	- Serrated from both sides 3/4 inch made of PVC or galvanized metal			
19	Hose clamp	Pc	- Hose clamp mental size 1 inch with Phillips Drive screw head			
20	Agro Drip Irrigation 16mm Hole Drill Bit	Pc	- Agro Drip Irrigation 16mm Hole Drill Bit iron Hand or plastic hand Tool to Make Hole in 2 inches PVC Pipes			
21	Teflon	Pc	- Big size special usage for drip irrigation systems			
22	PVC Main irrigation pipe 2 inches	Meter	- Made of 2-inch polyethylene with an external. - diameter of 55 mm and internal diameter of 5 cm diameter			
23	Non-woven fabric for Agriculture	Meter	- Non-woven fabric for crop greenhouse flowers and plants. - anti-insect eco-friendly cold-proof. - The length 400 M , the , width 2.5 M , the weight 17 g/m2			
24	Plastic Pipe	Pc	- PVC Plastic pipes. - 3/4 Inch. - the length of each pipe is 4 M			



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25	Metal bars (Iron)	Pc	<ul style="list-style-type: none"> - Metal Bars with : 50 cm length, 10 mm thick. 		
26	Plastic for vegetable nurseries	Meter	<ul style="list-style-type: none"> - Anti UV White Plastic for vegetables seedling. - Thickness of 60 microns and width of 4 meters. 		
27	Peat Moss	Liter	<ul style="list-style-type: none"> - Peat Moss with good quality preserved / Europe origin or equivalent. - minimum 70 litter, packed in a woven polyethylene bag. - All natural Sphagnum peat moss for organic gardening. - Helps retain moisture, aerates soil and promotes root growth. 		
28	Seedling plastic tray	Pc	<ul style="list-style-type: none"> - Ultra-Durable, High-Quality, 72 Cells, made to last many seasons - Domes and Trays are NOT flimsy or brittle. Won't crack or break while handling - Tray: Length 53.5 cm, width 28 cm, weight of dish approximately 120 grams 		

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			<ul style="list-style-type: none"> - Dimensions of one cell: 4 cm width, 4 cm length, 5 cm cell depth 		
29	Seedling plastic tray	Pc	<ul style="list-style-type: none"> - Ultra-Durable, High-Quality, 105 Cell, made to last many seasons - Domes and Trays are NOT flimsy or brittle. Won't crack or break while handling - Tray: Length 54 cm, width 28 cm, weight of dish approximately 120 grams - Dimensions of one cell: 3.5 cm width, 3.5 cm length, 5 cm cell depth 		
30	Fertilizer injector	Pc	<ul style="list-style-type: none"> - Fertilizer injector with a minimum 50 liter tank, cylindrical, with 1 inch front exit and inlet 		

Contract Testing Requirements:

1. Accepted drip irrigation system kits are:

The items of the Agriculture Drip Irrigation kits that match the specification in the BoQ (Flat dripper drip tape). Yes/No

2. The QCT will evaluate the quality of all the samples from the bidder during the evaluation stage.

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3. the bidders should provide a samples of their Drip irrigation system equipment and tools or the catalogs of it, these catalogues/pictures should show brand, origin and detailed specifications.

Percent of Drip irrigation system kit to inspection visually - (%)	Frequency	Percent of tested sampling that needs to fail for the entire order to be considered non-conforming (%)
100%	One off – when the delivery of the kits	5%

Essential Specifications and Testing Requirements

1. Tender evaluation committee will check submitted samples of irrigation kits against above specifications during tender selection and evaluation stage (it is recommended to include one person from QC and program during this checking).
2. During supplier site or warehouse inspection, quality survey tool attached as **Annex A** will be used. 5% margin of error will be allowed and all identified items with defects will be replaced by supplier.

Parameter	Target Value	Margin of Error (Absolute or Relative)	Testing Method (Lab Test, Visual, Certificate...)	Performed / Reviewed by:	Comment
All irrigation kit set	100%	+-%5	Visual inspection (Label)	QC + Program Team	All items identified with issues will be replaced by supplier

3. During delivery, all kit content will be subjected to 100% checks against specification. All items identified with issues will be rejected and it supplier will be required to replace all affected items.

Non-Conformance

1. AUTHORIZED SUBSTITUTIONS

- The Supplier shall notify Mercy Corps prior to signing a Purchase Order if the Supplier wishes to deliver Goods that are other than the exact goods contained in the specifications but are

equivalent in price and quality. Mercy Corps may, using its sole discretion, choose to accept such Goods by providing the Supplier with written notice, signed by Mercy Corps' authorized representative, that it will accept the equivalent substitute Goods. Substitute goods are not acceptable unless otherwise acknowledged and accepted by Mercy Corps in writing prior to delivery.

- If the Supplier requests such substitution, the entire Purchase Order signed by Mercy Corps loses its validity unless accompanied by an authorization to substitute issued by Mercy Corps.
- Should Mercy Corps choose to accept the substitute goods, Mercy Corps will determine the market value of substituted commodities and for those commodities will pay no more than the market value established by Mercy Corps.
- In the eventuality that the market value determined by Mercy Corps is higher than the Supplier's bid for the item originally contracted, Mercy Corps will pay no more than the price offered by The Supplier in its original bid.
- In addition, due to the disruption caused to Mercy Corps' supply chain and the additional work required to establish the market value of the substituted items, Mercy Corps will charge a penalty of 2% of the value of the items that The Supplier is attempting to substitute. The value listed in this Agreement will be used as the basis for the computation of penalties.
- In the eventuality that the Supplier wishes the substitution item to become the permanently contracted item until the end of the present Agreement, The Supplier may request that an amendment to Annex C: BoQs (Contents, Specifications, and Packaging List), be drafted. Mercy Corps, at its sole discretion, may or may not grant The Supplier's request.
- Any product substitution which is not communicated to Mercy Corps after the signing of the relevant Purchase Order, will trigger the cancellation of the entire Purchase Order unless Mercy Corps, at its sole discretion, decides otherwise. In the eventuality that Mercy Corps accepts the substitution. In addition, with the exception of the penalty rate, this will be increased to 4% and computed on the same basis, in order to account for the additional delay caused by The Supplier.

2. UNAUTHORIZED SUBSTITUTIONS

- Any product substitution, which is not communicated to Mercy Corps by The Supplier prior to delivery, will trigger the cancellation of the entire Purchase Order unless Mercy Corps, at its sole discretion, decides otherwise. In the eventuality that Mercy Corps accepts the substitution,

Alternatively, Mercy Corps may decide to:

- Reject the entire shipment.
- Reject the substituted goods.