

# MITREPLAN PROJECT PLANNER

## Installing a garden watering system



- An easy-to-follow guide to achieving a perfect result.
- Outlines all the tools you will need for the job.
- Includes a materials checklist.

### PLEASE NOTE:

Before starting this project or buying any materials, it is worth your time to read all steps thoroughly first to be sure you understand what is required.

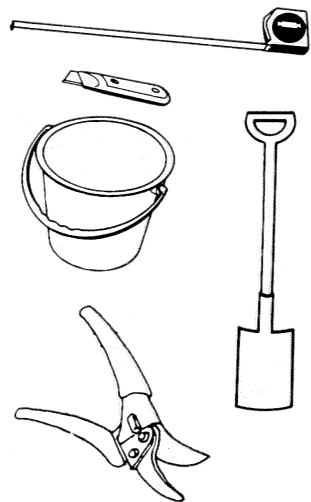
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# MIGHTY HELPFUL™ MITRE 10

## MIGHTY TOOLS FOR YOUR MITREPLAN



Measuring tape

Spade

Utility knife or secateurs

9 litre household bucket

## ✓ MIGHTY HELPFUL CHECKLIST

All systems use polyethylene tubing cut to the length you require, with a wide choice of spray fittings and patterns. Drip and Microspray systems use 13mm poly tubing. Pop-Up Systems require 19mm tubing.

You will also need a variety of parts to connect the tubing together to your desired layout.

These include:

**Nut and Tails** for connecting to the tap.

**Joiners** for straight connectors.

**Tees** for T-junctions.

**End Stops** to seal open ends in tubing.

**Locking Clamps** for all connections to prevent leaks.

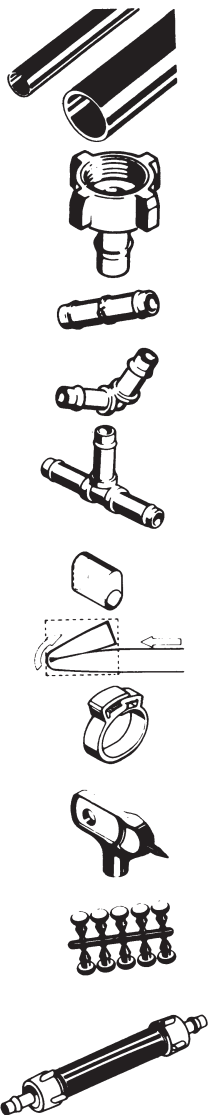
**Punch/Spanner** for fitting sprays etc to tubing.

**Repair Plugs** to seal unwanted holes in tubing.

**Filter** – to take out rust and impurities in pipe line.

There's a wide range of other parts and accessories, but these will depend on which type of system or systems you're installing.

Visit your local Mitre 10 store to talk about your needs - they'll put you on the right track.

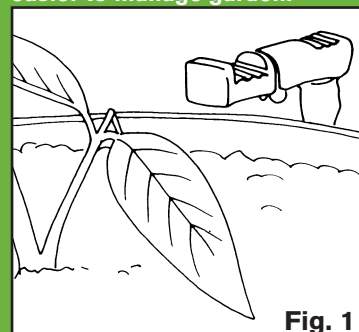


## It's all systems go – with a little help from Mitre 10.

Wouldn't it be nice if you could arrange for it to rain, precisely when your plants and garden needed it. Well, installing a fixed watering system is probably the next best thing. And no matter what stage of development your garden is in, it's easy to design and install your own watering system to suit.

In this MitrePlan, we concentrate on three types of systems – drip feeds, microsprays and pop-up lawn sprays.

A combination of systems can provide good all-round spread and be very economical. Or, you may wish to begin with a starter kit for one system only until you get the hang of it, then add to it as you need. Perhaps most important of all, you'll get a kick out of doing it yourself with the right materials and right advice from Mitre 10. And a lot more enjoyment out of a healthier, easier to manage garden.



## Step 1: Check your water flow rate

Your system will only be as good as your water pressure.

So the first thing is to measure the flow in litres per second from the garden tap. You need to know this to tell how many and what type of sprays can be serviced at any one time. This is easy to find out. First, turn off all taps. Then turn one garden tap on full into a 9 litre bucket, but not through the hose. With your watch ready, time how long it takes to fill the bucket in seconds.

Then divide the bucket size by the time to fill in seconds, and multiply by 60. This will give you your flow rate in litres per minute. For example:

**9 litre bucket ÷ 20 seconds x 60 = 27 litres per minute**

The types and number of sprays you can use at any one time varies according to brand. So use your flow rate and check the manufacturer's brochure in planning your system.

## Step 2: Pick your system

**Drip** systems, available as fixed or variable types, deliver just the right amount of water to vegetables, pot plants, trees and shrubs at a rate the soil can readily absorb (Fig. 1). In allowing the right number of drippers, think about your soil type and what the plants need. As a rule of thumb, allow about 1 dripper for every 50cm of foliage diameter, but for sandy soils space about 35cm apart. For larger trees, form a loop around the base (Fig 2 – aerial view).

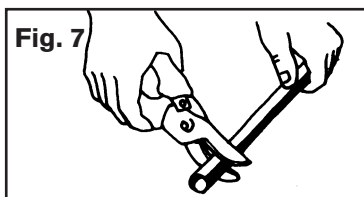
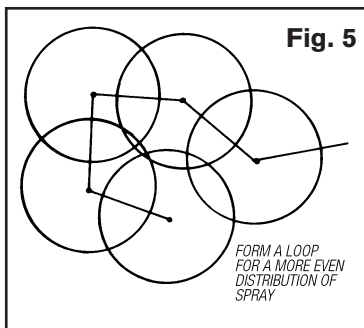
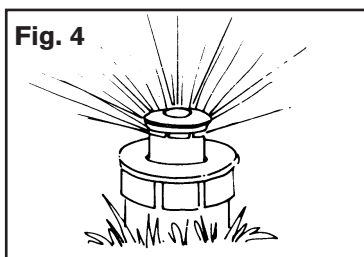
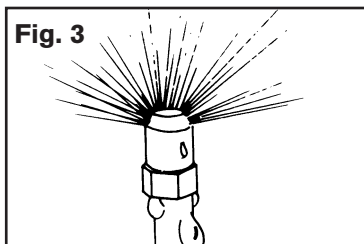
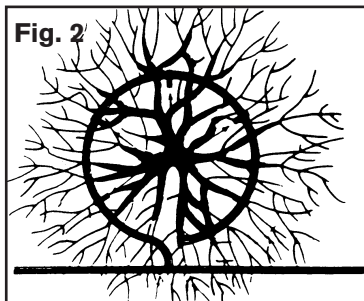
**Microspray** systems are the most popular and provide a spray or mist (Fig. 3). They come in quarter circle, half circle and full circle, and are ideal for flowers, vegetables and plants that require moisture on their leaves and in areas such as flower beds, rockeries, compact gardens and rows of crops. They also avoid the problems of soil compaction and water run-off, spraying the water where it is wanted, not on fences, walls, paths or driveways.

**Pop-Up Sprays** are a neat, effective way to water lawns. Not only do they provide good even spread of water, but think of the time it'll save you (Fig. 4). No more shifting sprinklers, no more hand held hoses. Pop-ups generally come in four pattern types – quarter circle, half circle, 3/4 circle and full circle. The number you'll need will depend a lot on your water pressure. When setting out your system, it is a good idea to form a loop (Fig. 5) for a more even distribution of spray.

## Step 3: Sketch yourself a plan

Draw up a plan of your garden. The easiest way is on graph paper. Sketch in building outlines, position of pathways, width of garden beds, location of trees and any obstacles so you can see the actual areas you want to water. Then mark in where the main poly tubing from the tap is to go (Fig. 6). Off this, mark where distribution lines are to go for the areas to be watered and mark where drippers or microsprays are needed. The main tubing can be a larger diameter than the tubing used as distribution lines so that more than one distribution line can be run at a time. However, you cannot place a dripper and a





microspray on the same line. They are designed for different types of plants and different watering rates.

Then, using the manufacturer's brochure, write up a shopping list of how many sprayheads, drippers, tubing and accessories you need. Or take your plan to your Mitre 10 store and ask them to give you a hand.

## Step 4: Installing is easy

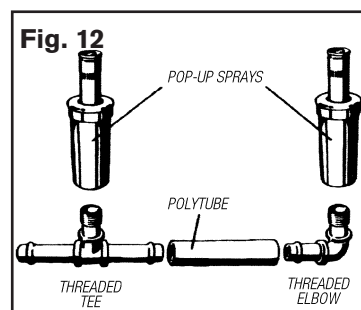
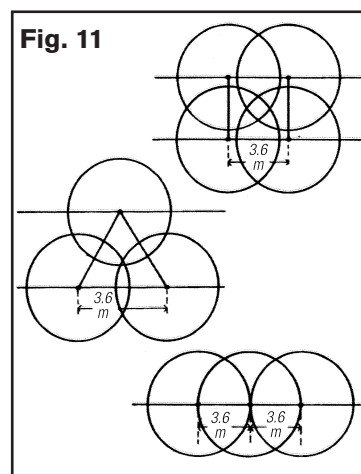
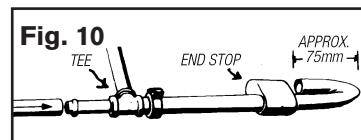
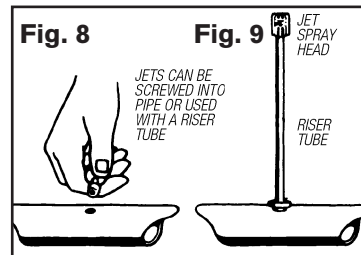
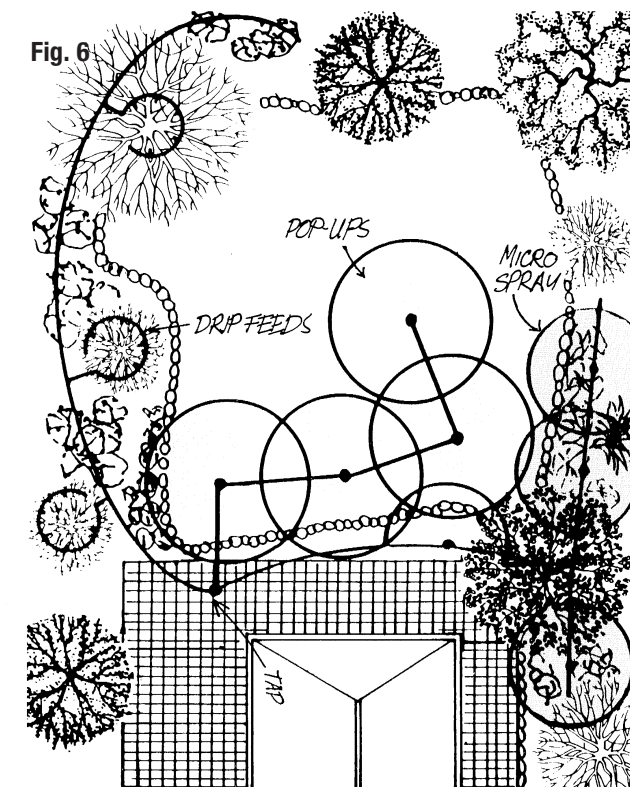
### Drip & Microspray Systems

Using your plan, lay out all the parts where you intend to install them. Use bricks or stakes to hold the poly tubing in position. Working from the tap in the direction of the water flow, adjust the layout till the main tubing and distribution lines are suitably located and cut the poly tubing to length with your utility knife or secateurs (Fig. 7). Connect all tubing with joiners, elbows or tees to form the desired layout. Secure each connection with a locking clamp and be sure there are no kinks in the poly tubing.

For Drip and Spray systems, seal the open end with an end stop (Fig. 10). Pierce the poly tubing with the hole punch – this must be a straight, clean punch with no wobbling side to side. Then, push the Dripper or Spray inlet into the hole (Fig. 9). Cover the tubing with soil leaving the drippers exposed.

For Microspray systems, screw the spray head into the top of a riser tube. Puncture the poly tubing (Fig. 8) and screw in the adaptor end of the riser. Stakes are available to give risers extra support.

Finally, cover the poly tubing with soil.



## Pop-Up Systems

The first thing is to measure and draw up a plan of the lawn area to be watered. Sketch in any trees and shrubs, noting areas which may need more or less water than others, and marking the location of the tap.

Using your plan, determine spacing and position of pop-ups, locating them approx. 3.6 metres apart (Fig. 11) to allow for spray overlap and to prevent dry spots. Large areas may require several lines, but you can add an in-line shut off valve to isolate lines to areas which perhaps don't need as much watering.

To install, lay out the poly tubing according to your plan. Dig a 150 to 200mm deep trench depending on the type of pop-up, and place the tubing in it. Where each pop-up sprinkler is to go, cut the tubing and insert a threaded tee. Use a threaded elbow for the last pop-up. Be sure to secure each connection with a locking clamp to prevent leaking. Screw on the pop-up sprinklers, making sure they are level with the ground, cover the tubing with soil and connect to the garden tap.

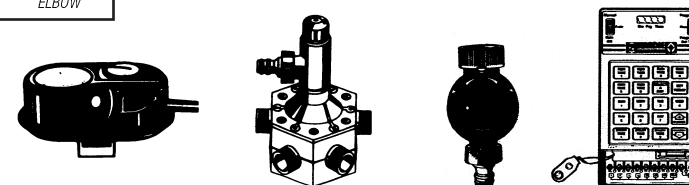
Now, all that's left to do is sit back, relax and think how you will spend all that free time your new watering system will give you.

## Make the most of your water

Have you ever left a spray on for longer then it should have been? For every hour, a forgotten sprinkler wastes more than 1,000 litres. And with "user pays" water consumption, that's money down the drain. Not only that, it's a fact that more plants die from overwatering than underwatering. So adding a tap timer to your newly installed fixed watering system makes perfect sense.

There are several types available and can be manually or electronically set. The reason they are so vital is obvious – they never forget to turn the water off.

Water Distributors are also available that enable you to water up to six different areas in a garden automatically, including a model that allows up to six starts a day and incorporates a flow-control. A Moisture Meter that automatically stops the watering cycle when sufficient moisture in the soil is reached, or during rain periods, is also a good idea. Ask your Mitre 10 store for advice on a timer best suited to your system.



## MIGHTY HELPFUL HINTS TO MAKE THE JOB EASIER

■ Lay your poly tube in the sun – the longer it is left in the sun, the easier it is to handle as it becomes soft.

■ Installation of fittings is easier if your poly tube is dipped in hot water before inserting – never use grease or oil to make your connections.

■ Before fitting drippers, microsprays or pop-ups, flush the poly tube first to clear any dirt which could block your system.

■ To lay poly tubing under a path or driveway, attach a garden hose to a length of metal or PVC pipe long enough to span the distance – turn the tap on maximum pressure and push the pipe under the path – the water will “jet” out debris leaving a tunnel for the poly tube to pass through.

■ If you make a mistake in piercing the poly tube, you can seal it with a repair plug – no glue is necessary.

■ When working out your water flow rate, if it takes longer than 35 seconds to fill a 9 litre bucket, check with your water authority – you may have a pressure problem.

■ Don't wet foliage during hot days because it could result in burning of the foliage.

■ Early morning or late evening watering is best – it helps plants recover from the heat of the day.

**IMPORTANT:** Not all Mitre10 stores stock greenlife.

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**IMPORTANT:** This project planner has been produced to provide basic information and our experienced staff are available to answer any questions you may have. However, this information is provided for use on the understanding that Mitre 10 is not liable for any loss or damage which is suffered or incurred (including but not limited to indirect or consequential loss), for any personal injury or damage to property suffered or sustained as a result of using the information contained in this MitrePlan Project Planner. Mitre 10 advises you to call in a qualified tradesperson, such as an electrician or plumber, where expert services are required, and to independently assess any safety precautions that will need to be followed prior to using the information in this MitrePlan Project Planner.

**WARNING:** There may be by laws or regulations of councils or other statutory bodies that you must comply with when following this MitrePlan Project Planner.

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