

## Appendix A2: Common Mistakes by Practitioners

Plumbing systems shall be designed, constructed, operated and maintained to prevent contamination, wastage and misuse of mains water. Plumbing arrangement shall be so designed as to minimize concealed piping as far as possible, and all pipes and fittings shall be properly supported.

The following shall be observed when submitting the plumbing submissions:

- Some of the plumbing layout plans submitted are illegible for vetting. Magnified the characters and the plumbing alignment in the revised drawings are required.
- Detailed meter schedule with its respective address should be provided for our easy identification.
- For trade purposes, estimated daily consumption should be provided so as to determine the size of water meter.

The followings are some common mistakes found in the plumbing submissions.

A) Common Mistakes for Meter/Check Meter Positions (Fig 22)	
	<b>WSD Requirement</b>
1. The check meter positions are not located close to the lot boundary and connection to the Government mains.	HKWSR 1.11 & 1.16
2. Size of potable and flushing supply connections is not indicated.	
3. A loose jumper type valve in lieu of a fullway gate valve is fixed at the inlet side of the salt water flushing supply check meter position. A non-return valve has not been fitted on the delivery side as close as possible to the check meter position.	HKWSR 8.17
4. Detailed drawing with dimensions showing the arrangement of meter position in meter box/cabinet and the fitting at the meter position is not given, e.g. a clear side distance from the centre of meter position on the delivery side to the internal wall of the meter cabinet/room should be indicated and the vertical distance space between each meter position should be indicated.	
5. The meters are housed in a multi-function room used for other purpose, e.g. fire service.	HKWSR 1.4
6. No proper floor drain is provided in the meter room.	HKWSR 1.4

- |     |  |            |
|-----|--|------------|
| 7.  | The meter positions in the meter room are arranged in groups with front-row and back-row making meter reading and maintenance difficult. |            |
| 8.  | Meter sizes are not indicated. The premises that the meters are serving to are not specified.  |            |
| 9.  | All pipework before meter positions are not exposed or laid in a proper service duct to facilitate inspection and repairs.               | HKWSR 1.1  |
| 10. | No safe, free and uninterrupted access to the meter room/box is provided as an entrance at communal area .                               | HKWSR 1.4D |
| 11. | For meters arranged in groups, no meter position shall be lower than 300mm nor higher than 1500mm above the floor level.                 | HKWSR 1.5  |
| 12. | Meter/check meter position is not close to the connection point.   |            |
| 13. | The clear effective pipe length and interval height at check meter position are not indicated.   |            |

#### B) Common Mistakes for Inside Service (Fig 23)

- |     |   |           |
|-----|---|-----------|
| 1.  | Types of water heaters to be used are not indicated.  |           |
| 2.  | Sizes of supply pipes are not specified.  |           |
| 3.  | Stop valve is not provided to the supply pipe serving the series of draw-off points.                                    | HKWSR 1.7 |
| 4.  | The hot-water draw-off point is not at the left hand side according to the conventional practice.                       |           |
| 5.  | A receptacle, e.g. a sink is not indicated at the draw-off point.   |           |
| 6.  | The piping which solely serve a particular flat/unit is not avoided running through other flats/units.                  |           |
| 7.  | Size of proposed incoming connection(s)/metered connection/ water meter(s) are not correctly sized in the whole system. |           |
| 8.  | Flushing water pipe spans across and over the fresh water tank.   |           |
| 9.  | Tee-branch valve is missing.  |           |
| 10. | Number of domestic units in village house is not indicated clearly.   |           |
| 11. | Types of water using apparatus to be used are not indicated.  |           |

### C) Common Mistakes for Sump and Pump System (Fig 24)

- |     |  |                 |
|-----|--|-----------------|
| 1.  | Details of the storage tank, e.g. storage capacity, materials of the tank and the silencer pipe in the storage tank are not specified.   |                 |
| 2.  | A fullway gate valve is not provided on the drain-off pipe.  | HKWSR 4.2       |
| 3.  | Details of overflow pipe, e.g. size, alignment are not indicated.  | HKWSR 4.3       |
| 4.  | The overflow pipe was submerged inside the storage cistern and sited above the inlet.  | HKWSR 4.3       |
| 5.  | Fullway gate valves have not been provided to the outlet of the storage cistern. The outlet was not positioned at the opposite side to the inlet supply pipe. Size of outlet pipe was not shown.   | HKWSR 4.2 & 4.8 |
| 6.  | Pump rate and head are not specified.  |                 |
| 7.  | Cistern is not fitted with a ball valve and a fullway gate valve at the inlet in the case of a gravity supply or with an automatic control switch and without any stop valve in the case of a pumped supply. Size of inlet pipe was not shown. | HKWSR 4.1       |
| 8.  | The drain-off pipe is not properly plugged.  | HKWSR 4.2       |
| 9.  | The overflow pipe is not at least one commercial size larger than the inlet pipe, or less than 25mm in diameter.   | HKWSR 4.3       |
| 10. | Fittings installed at pumped feeder.   |                 |
| 11. | Overflow pipe size is not twice the diameter of largest inlet for flushing water tank with more than one inlet.  | HKWSR 6.3.2.3   |

### D) Common Mistakes for Watering Flower Beds Plumbing System (Fig 25)

- |    |  |            |
|----|--|------------|
| 1. | Detailed dimensions showing the arrangement of the water meter in a meter box and the fittings at the meter position are not shown.                                  |            |
| 2. | No check meter position is provided. The check meter position is not located close to the lot boundary and connection to the Government mains.                       | HKWSR 1.11 |
| 3. | Tee-branch valves are not provided at the branch pipe serving a series of supply points.   | HKWSR 1.9  |
| 4. | A stop valve is not installed on each vertical supply standpipe.   | HKWSR 1.7  |
| 5. | The total aggregate planting area and the estimated daily consumption are not given. The flower beds are not highlighted on the layout plan for easy identification. |            |

- |     |   |             |
|-----|---|-------------|
| 6.  | The orientation of the site is not indicated.   |             |
| 7.  | Meter position is not indicated on the layout plan.   |             |
| 8.  | Sizes of supply pipes is not specified.   |             |
| 9.  | The layout plan is not drawn to scale.  |             |
| 10. | The aggregated area of watering flower bed under concessionary usage is less than 30 square meters. | HKWSR 6.2.9 |
| 11. | The height of draw-off standpipe is not indicated.  |             |

#### E) Common Mistakes for Fire Service (Fig 26)

- |     |  |            |
|-----|--|------------|
| 1.  | A fullway gate valve and a non-return valve are not installed on the fire service close to the government water supply connection.     | HKWSR 9.6  |
| 2.  | Size of check meter is not indicated. Detailed drawing showing the arrangement of check meter position is not given.                   |            |
| 3.  | No additional butterfly valve is provided for the direct fed sprinkler system.   | HKWSR 9.10 |
| 4.  | The check meter is housed inside a pump room, not in a designated meter room.  |            |
| 5.  | The overflow pipe is not discharged to a conspicuous position outside the pump room.   | HKWSR 4.3  |
| 6.  | A tee-branch valve is not provided to the underground water pipes to facilitate maintenance and repair.                                | HKWSR 1.9  |
| 7.  | Individual stop valve is not provided for the street fire hydrant.   |            |
| 8.  | No typical installation details for the street fire hydrant is given.  |            |
| 9.  | No fullway gate valve is provided to the supply pipe of each hose reel.  |            |
| 10. | The fire hose reel outlets is not housed in glass-fronted cabinets secured under lock and key.   | HKWSR 9.14 |
| 11. | Check meter position is not provided for each of the systems such as fire hydrant/hose reel, sprinkler, drencher, street fire hydrant. | HKWSR 9.5A |