






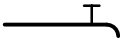
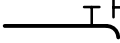
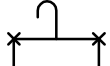

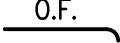





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LIST OF SYMBOLS

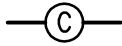
	LOOSE JUMPER TYPE STOPCOCK
	GATE VALVE
	STORAGE CISTERN
	FLOAT SWITCH
	BALL VALVE / FLOAT OPERATED VALVE
	NON-RETURN VALVE / CHECK VALVE
	WATER METER
	DRAW OFF POINTS - COLD WATER
	DRAW OFF POINTS - HOT WATER
	DRAW OFF POINT - COLD & HOT WATER
	WASHOUT PIPE
	OVERFLOW PIPE
	PUMP SET
	CALORIFIER
	BOILER



SINK



FLUSHING CISTERN & WATER CLOSET



CHECK METER POSITION (FOR CHECKING AND WASTE DETECTION PURPOSES)



INSTANTANEOUS GAS WATER HEATER



PRESSURE REDUCING VALVE (SMALL END DENOTES LOW PRESSURE)



PRESSURE RELIEF VALVE / SAFETY VALVE



TEMPERATURE RELIEF VALVE



COMBINED TEMPERATURE AND PRESSURE RELIEF VALVE



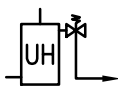
ANTI-VACUUM VALVE



EXPANSION VESSEL



BUTTERFLY VALVE



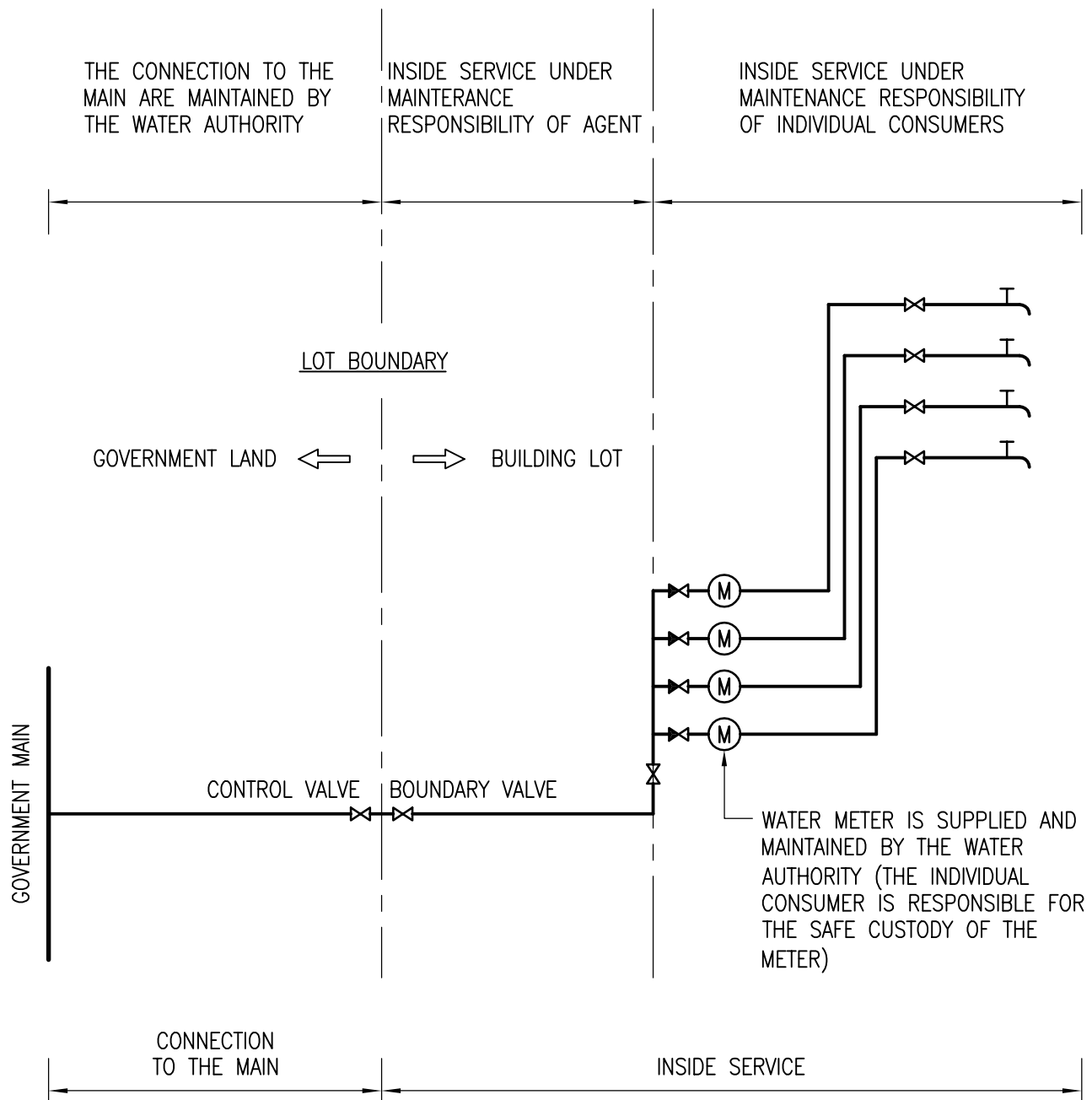
UNVENTED ELECTRIC THERMAL STORAGE WATER HEATER



PRESSURE TYPE THERMAL STORAGE WATER HEATER



NON-PRESSURE TYPE HEATER



NOTE :

1. THE INSIDE SERVICE WITHIN THE LOT BOUNDARY IS MAINTAINED BY THE CONSUMER, EXCEPT THE COMMON PARTS OF THE INSIDE SERVICE BEING THE RESPONSIBILITY OF THE AGENT.

AREAS OF RESPONSIBILITY OF
WATER AUTHORITY/AGENT/CONSUMERS
 (DIRECT SUPPLY SYSTEM)

FIG. 1

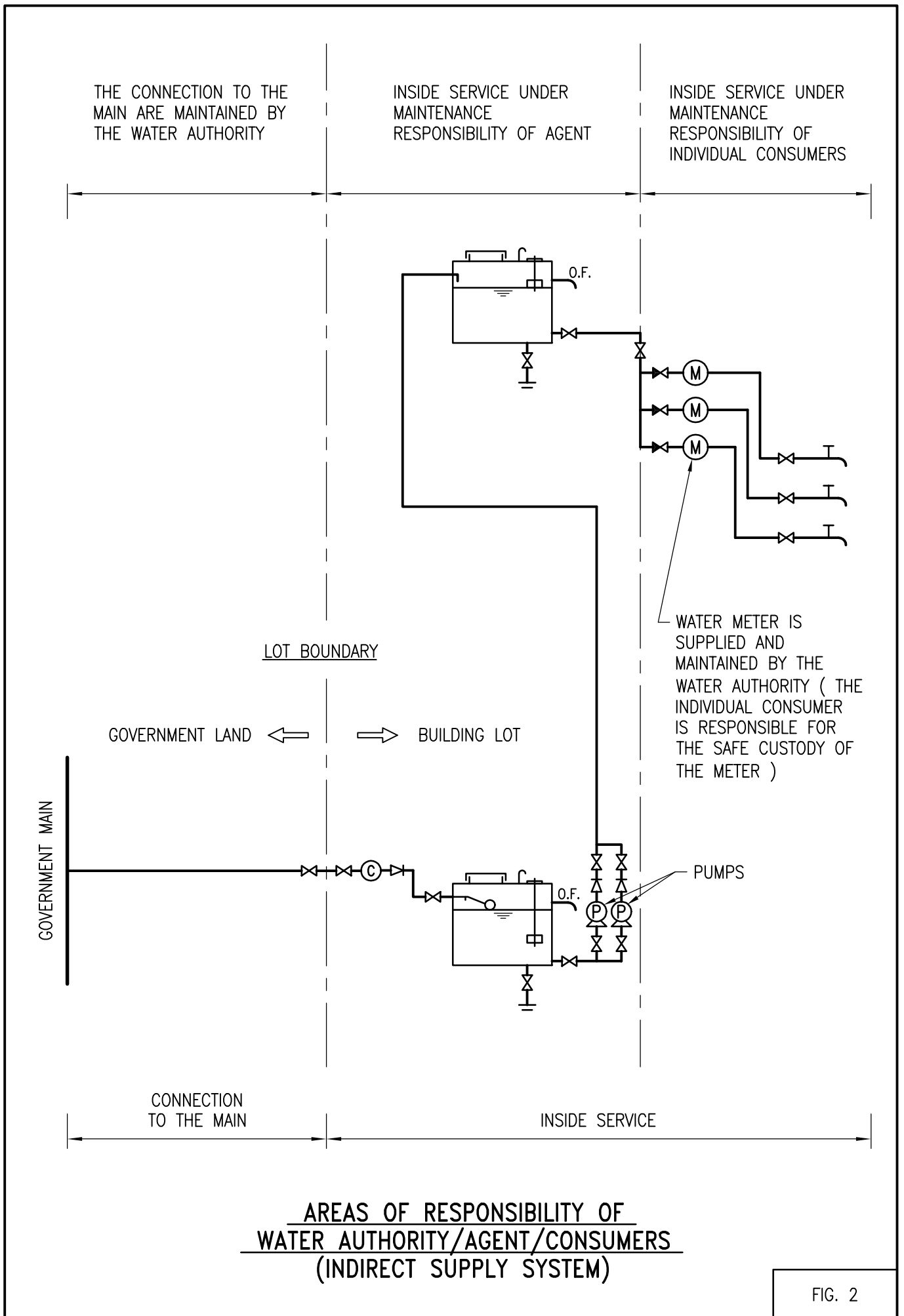
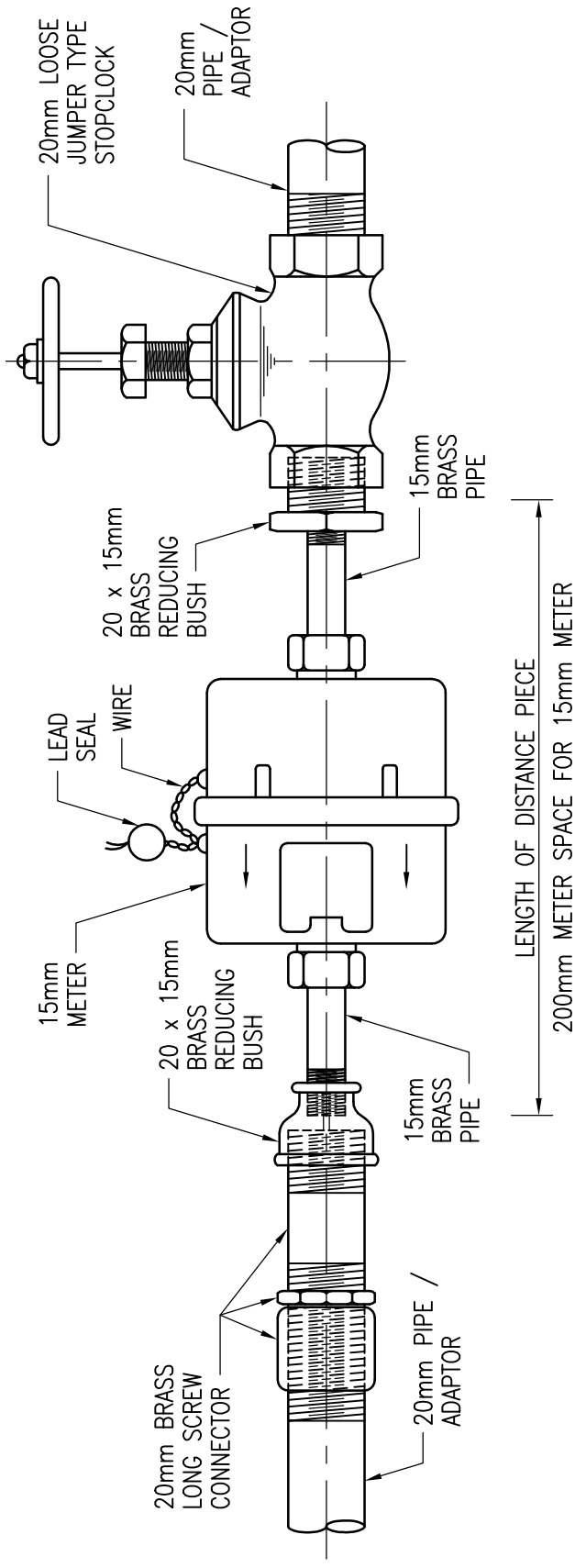


FIG. 2

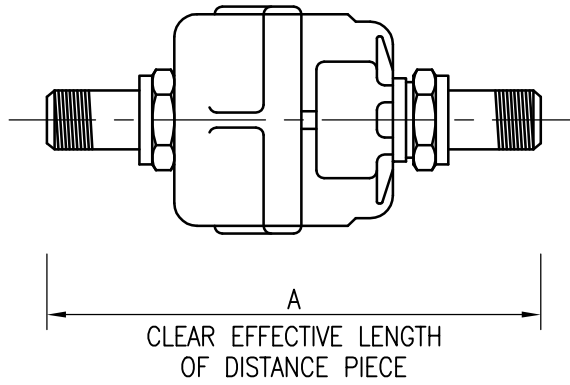


NOTES:

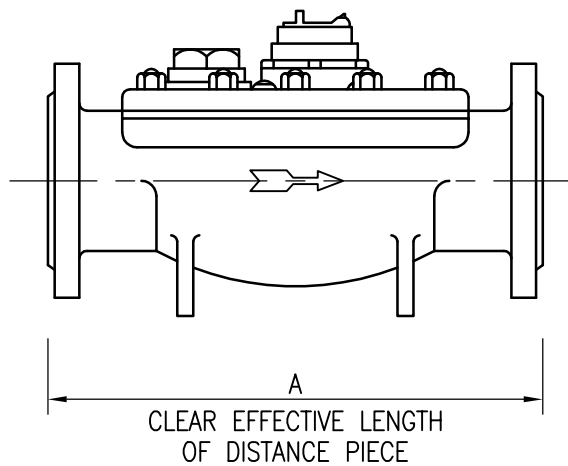
1. ALL THREADING TO BS 21.
2. METER POSITION TO BE USED FOR LINED G.I., COPPER AND THERMOPLASTIC INSIDE SERVICE.

TYPICAL INSTALLATION OF A 15mm DIAMETER WATER METER

METER SIZE (mm)	15	25	40
<u>DIMENSION (mm)</u>			
A	200	311	346

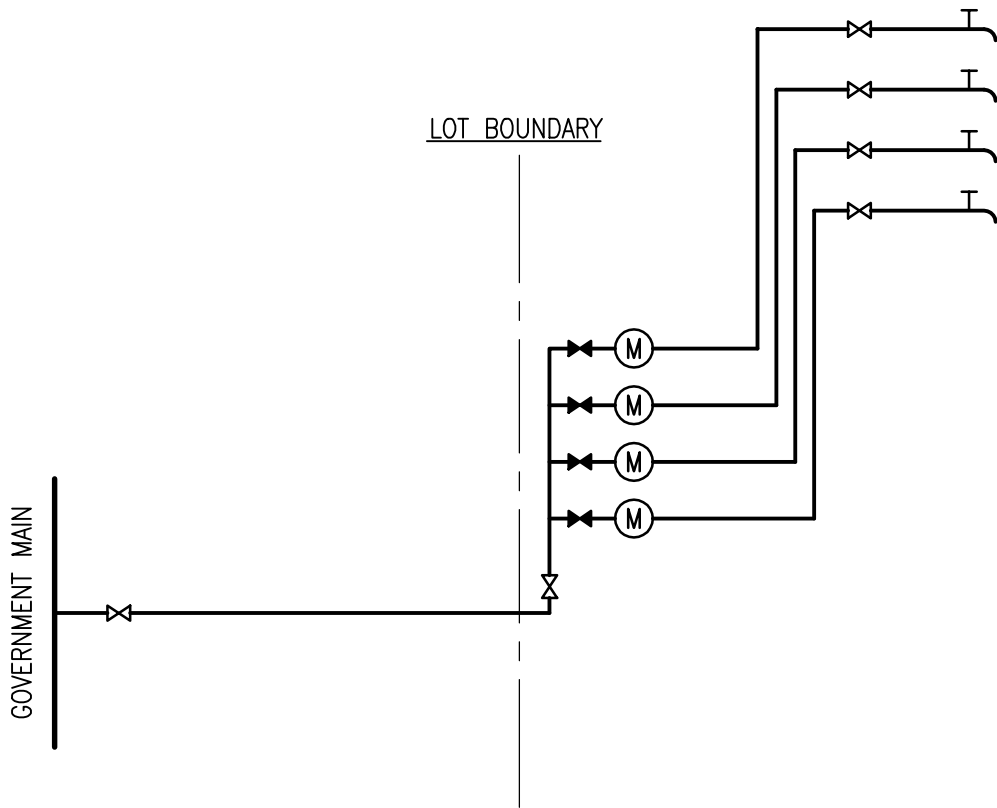


METER SIZE (mm)	50	80	100	150
<u>DIMENSION (mm)</u>				
A	310	413	483	500

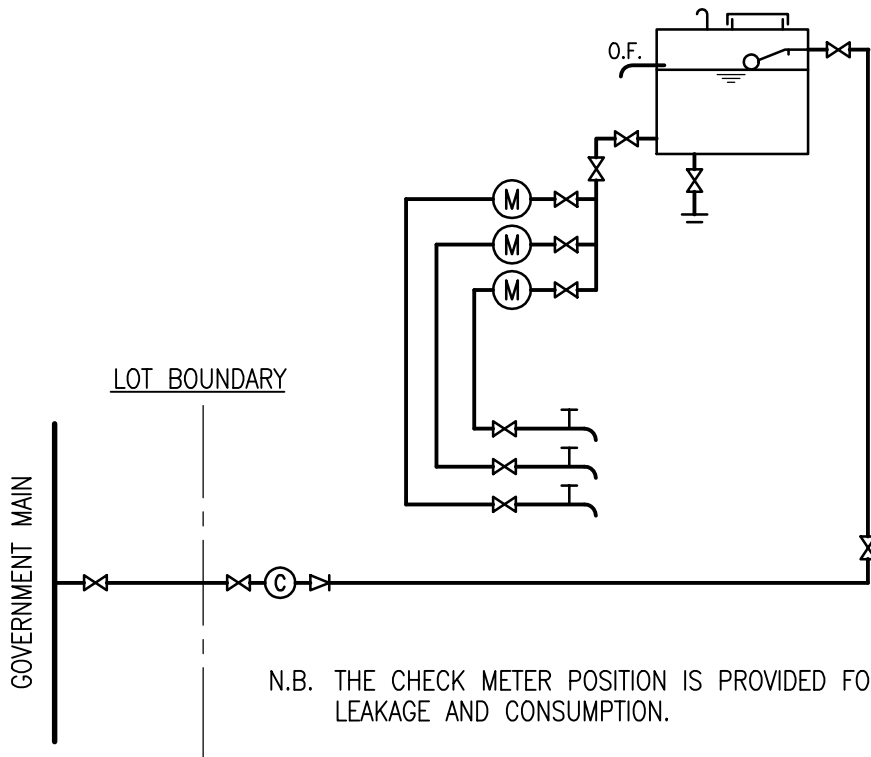


METER DIMENSIONS

FIG. 4



WITHOUT STORAGE TANK

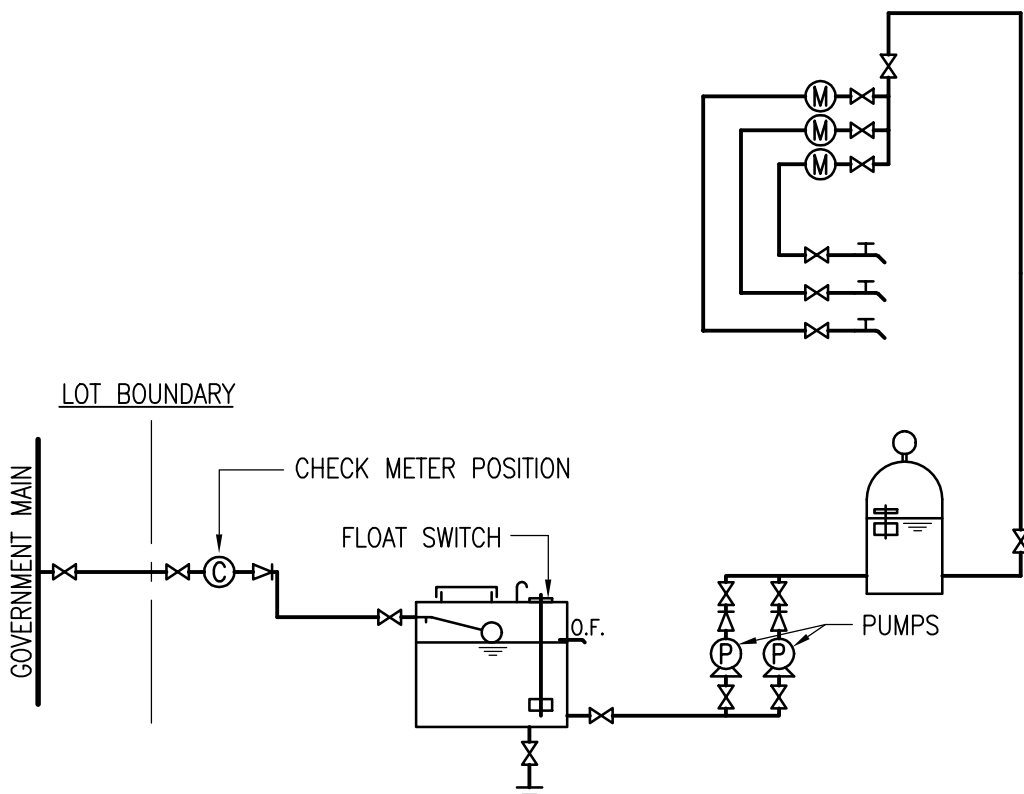


N.B. THE CHECK METER POSITION IS PROVIDED FOR CHECKING LEAKAGE AND CONSUMPTION.

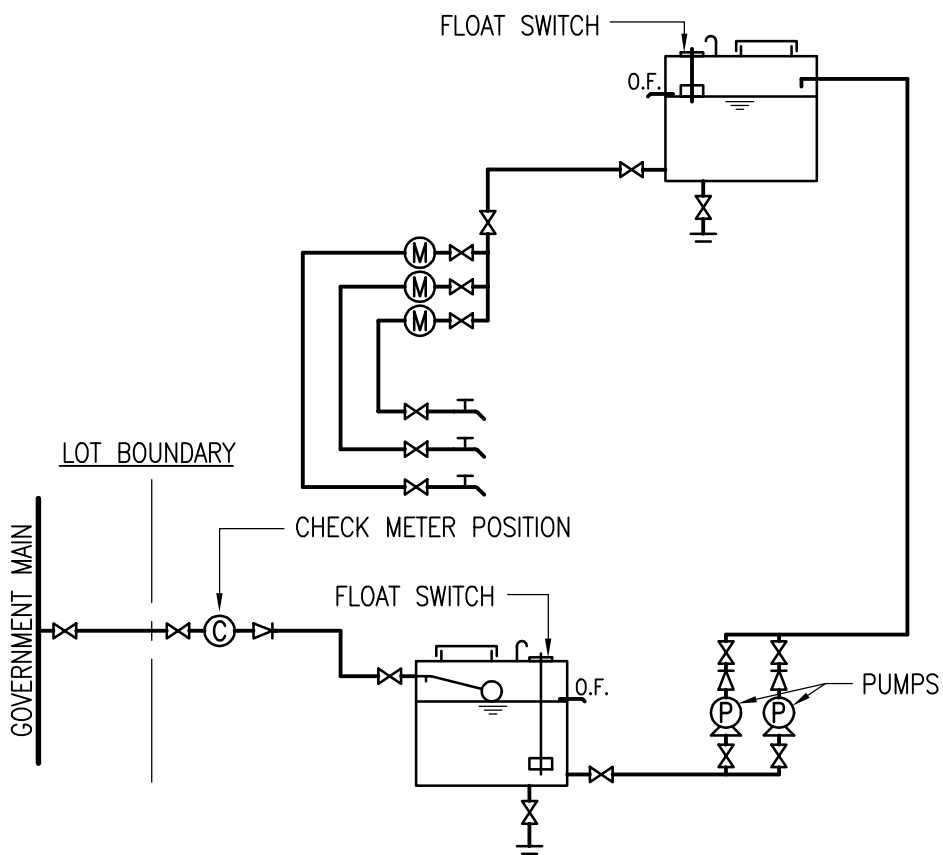
WITH STORAGE TANK

DIRECT SUPPLY SYSTEM

FIG. 5

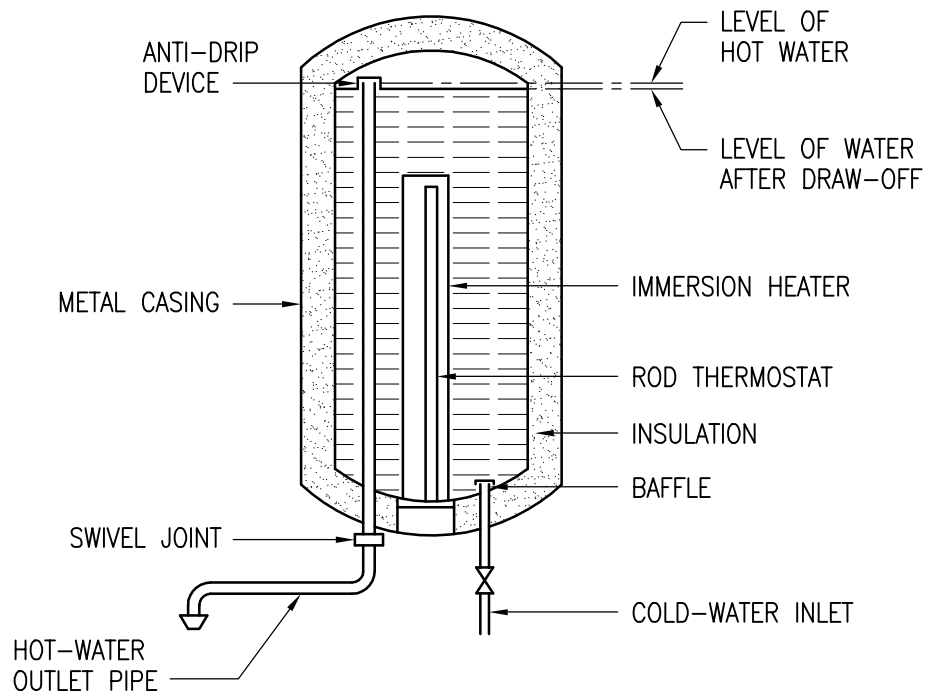


HYDRO PNEUMATIC PUMP SYSTEM

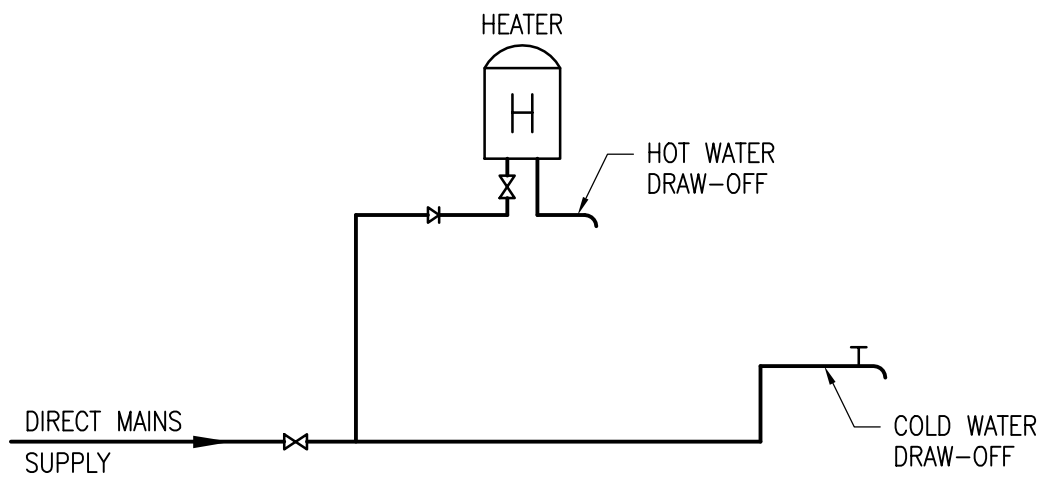


SUMP AND PUMP SYSTEM

INDIRECT SUPPLY SYSTEM

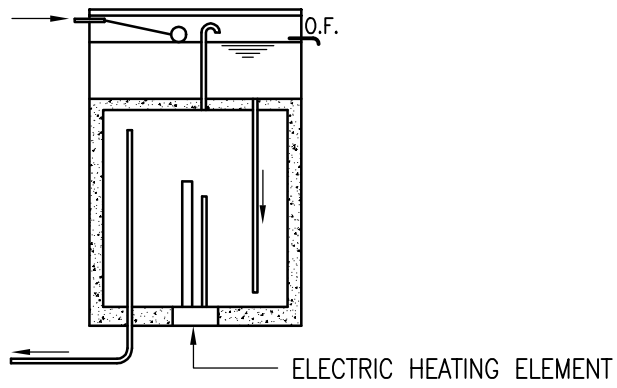


ESSENTIAL COMPONENTS OF A NON-PRESSURE TYPE HEATER

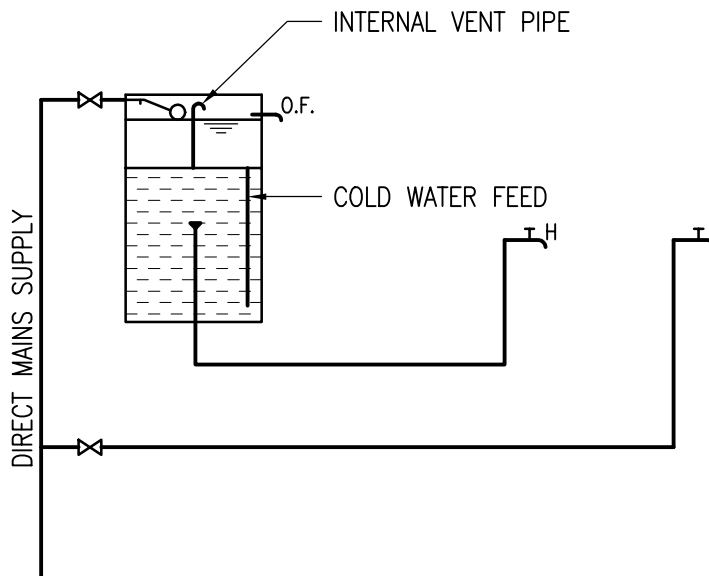


LAYOUT OF A NON-PRESSURE TYPE HEATER

NON-PRESSURE TYPE HEATER

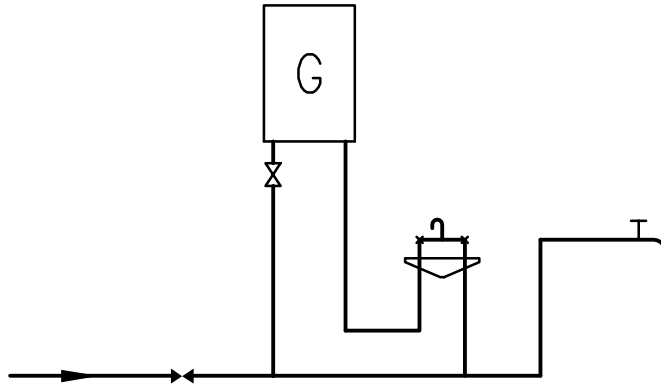


SECTION THROUGH A CISTERN TYPE WATER HEATER

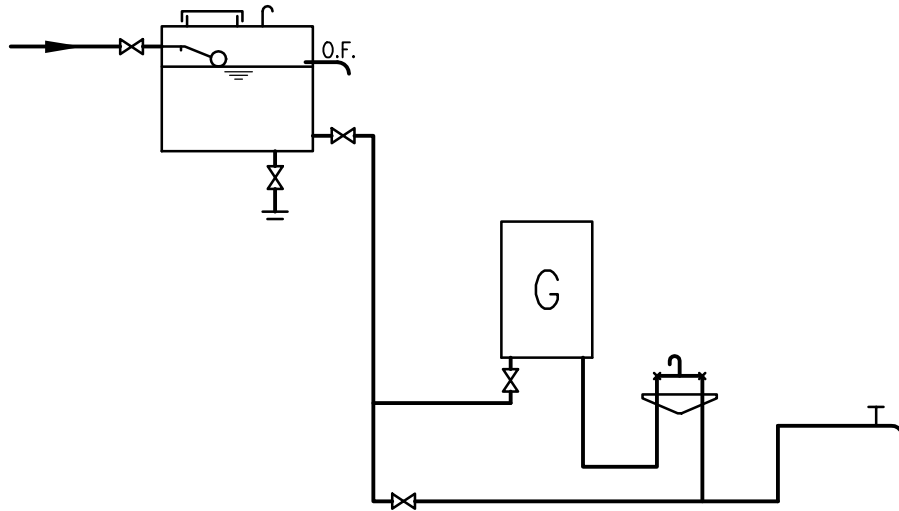


LAYOUT OF A CISTERN TYPE WATER HEATER

CISTERN TYPE WATER HEATER

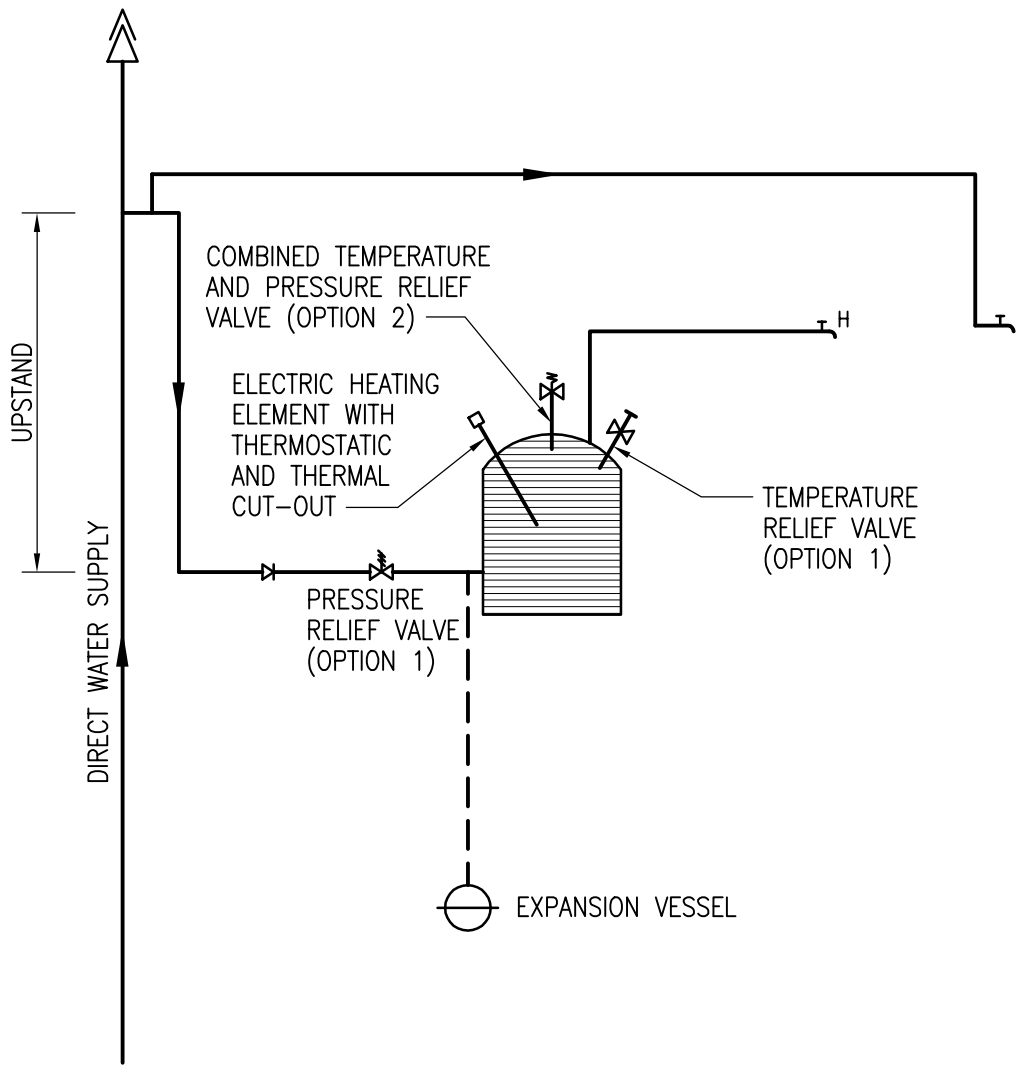


INSTANTANEOUS GAS WATER HEATER
CONNECTED DIRECTLY TO MAINS SUPPLY



INSTANTANEOUS GAS WATER HEATER
CONNECTED INDIRECTLY TO MAINS SUPPLY

INSTANTANEOUS GAS WATER HEATER



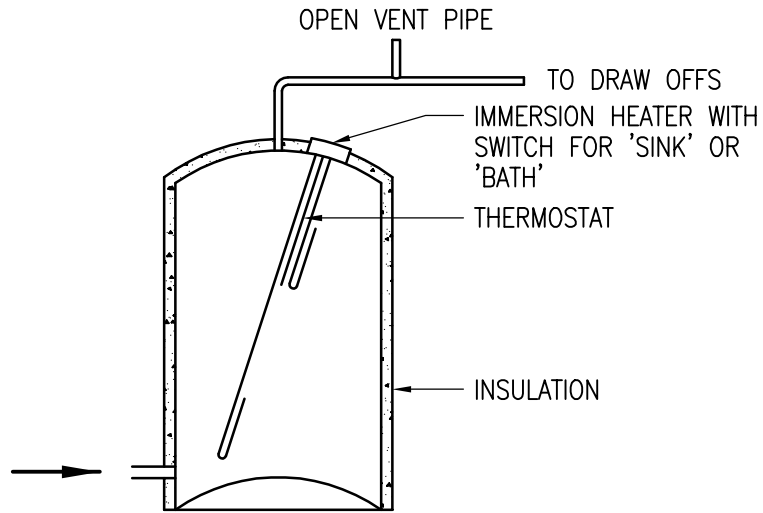
LEGEND :

--- OPTIONAL

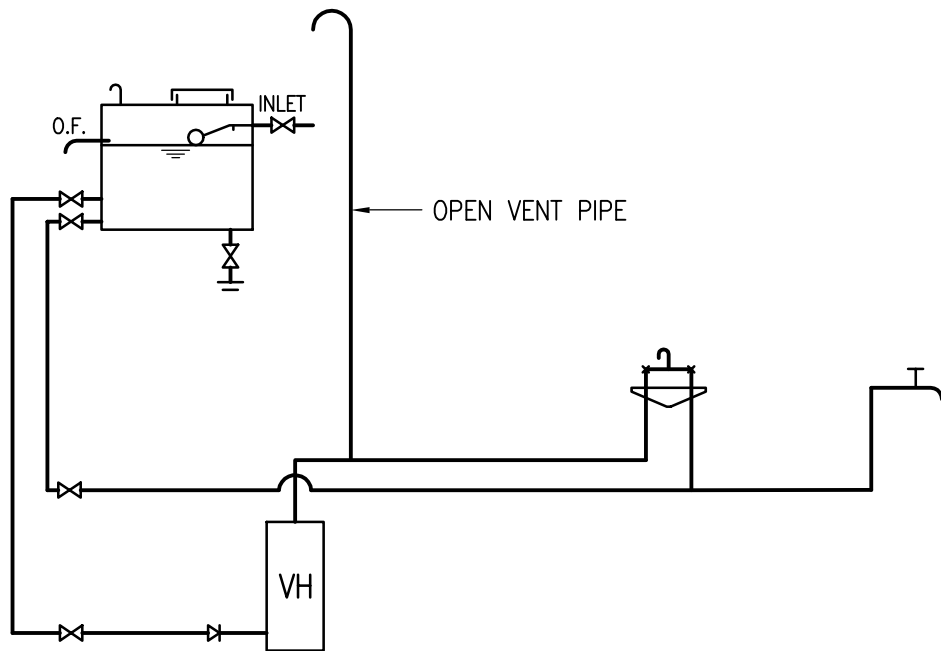
NOTES :

1. THE FACTORY TEST PRESSURE OF THE HEATER SHALL BE IN EXCESS OF 1.5 TIMES THE MAXIMUM STATIC PRESSURE AT THE MAINS WATER SUPPLY POINT.
2. A COMBINED TEMPERATURE AND PRESSURE RELIEF VALVE (OPTION 2) MAY BE USED IN LIEU OF A TEMPERATURE RELIEF VALVE AND A PRESSURE RELIEF VALVE (OPTION 1).
3. THE SAFETY DEVICES ARE UNDER THE CONTROL OF THE ELECTRICAL PRODUCTS (SAFETY) REGULATION ADMINISTERED BY THE ELECTRICAL AND MECHANICAL SERVICES DEPARTMENT.
4. EXPANSION VESSEL IS ONLY REQUIRED WHEN A NON-RETURN VALVE OR A PRESSURE REDUCING VALVE OF THE NON-BACKFLOW TYPE IS FITTED IN THE COLD WATER INLET.

LAYOUT OF UNVENTED ELECTRIC THERMAL STORAGE TYPE WATER HEATER



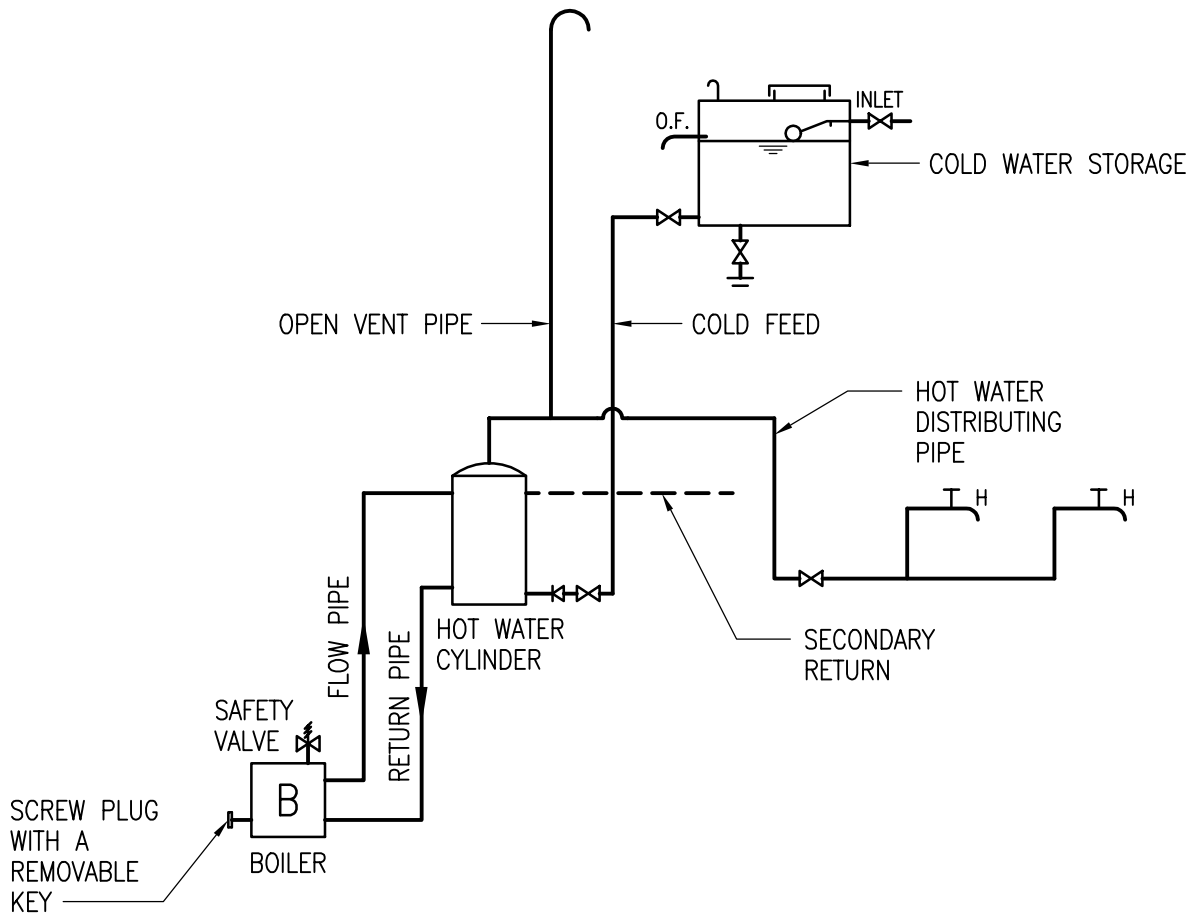
ESSENTIAL COMPONENTS OF A PRESSURE TYPE THERMAL STORAGE WATER HEATER



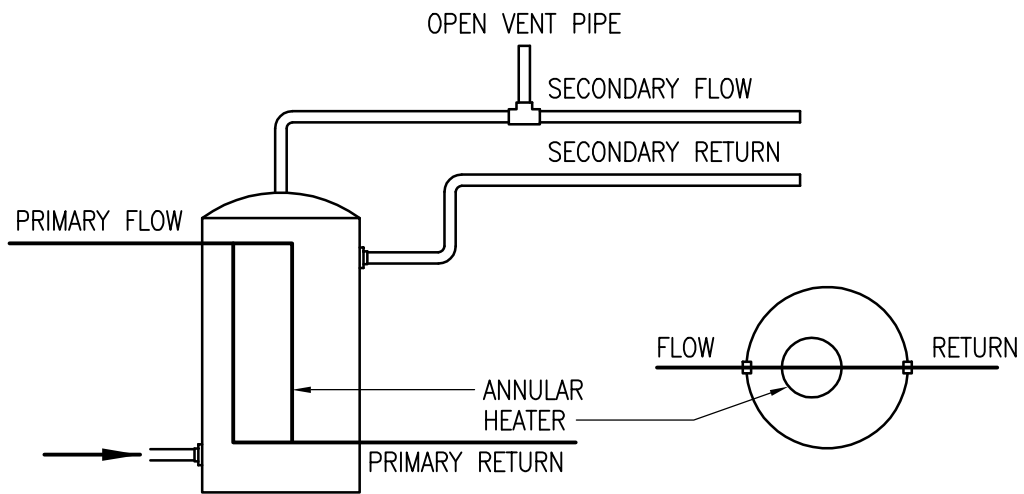
LAYOUT OF A PRESSURE TYPE THERMAL STORAGE WATER HEATER

NOTE: THIS TYPE OF HEATER SHALL BE SUPPLIED FROM A STORAGE CISTERN, EXCEPT IT IS INSTALLED IN FLATS SUPPLIED THROUGH THE INDIRECT OR SUMP AND PUMP SYSTEM.

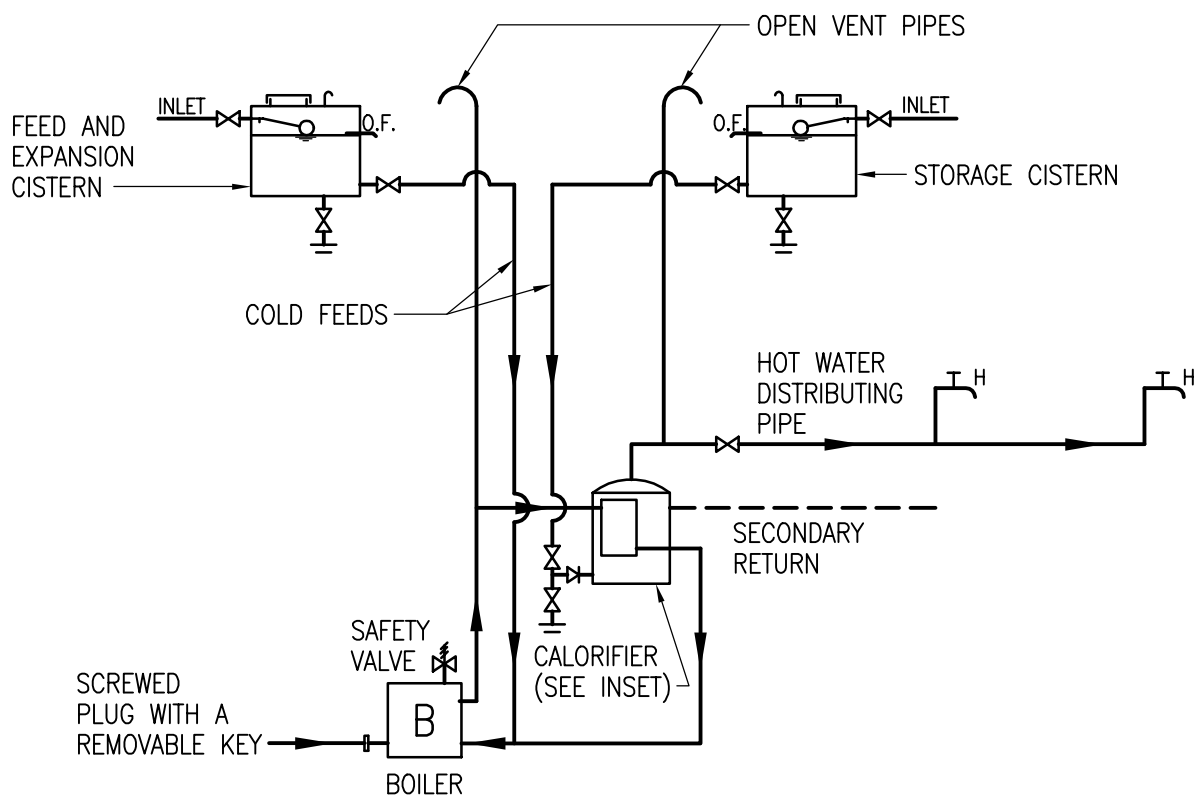
PRESSURE TYPE THERMAL STORAGE WATER HEATER



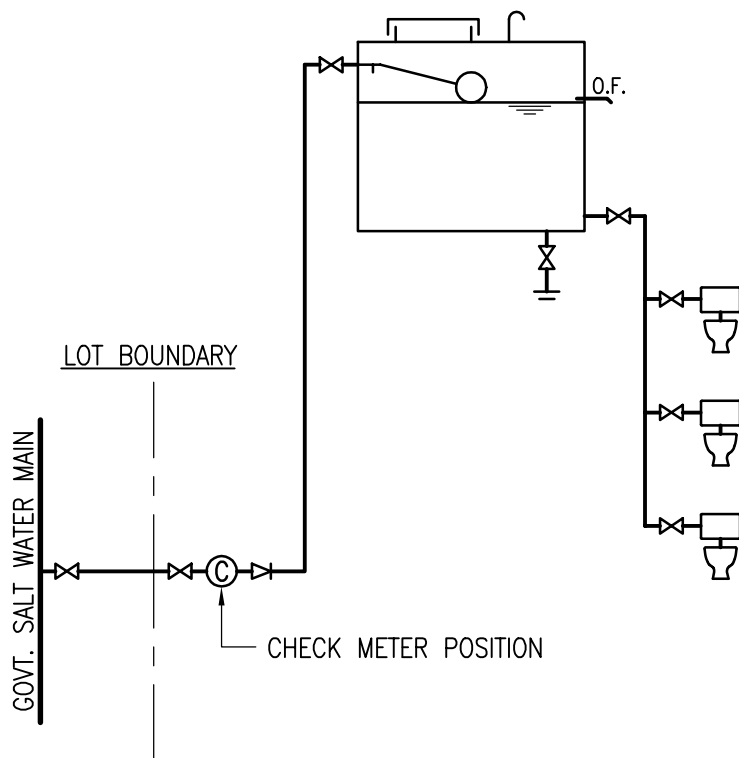
DIRECT CENTRALISED HOT WATER SYSTEM



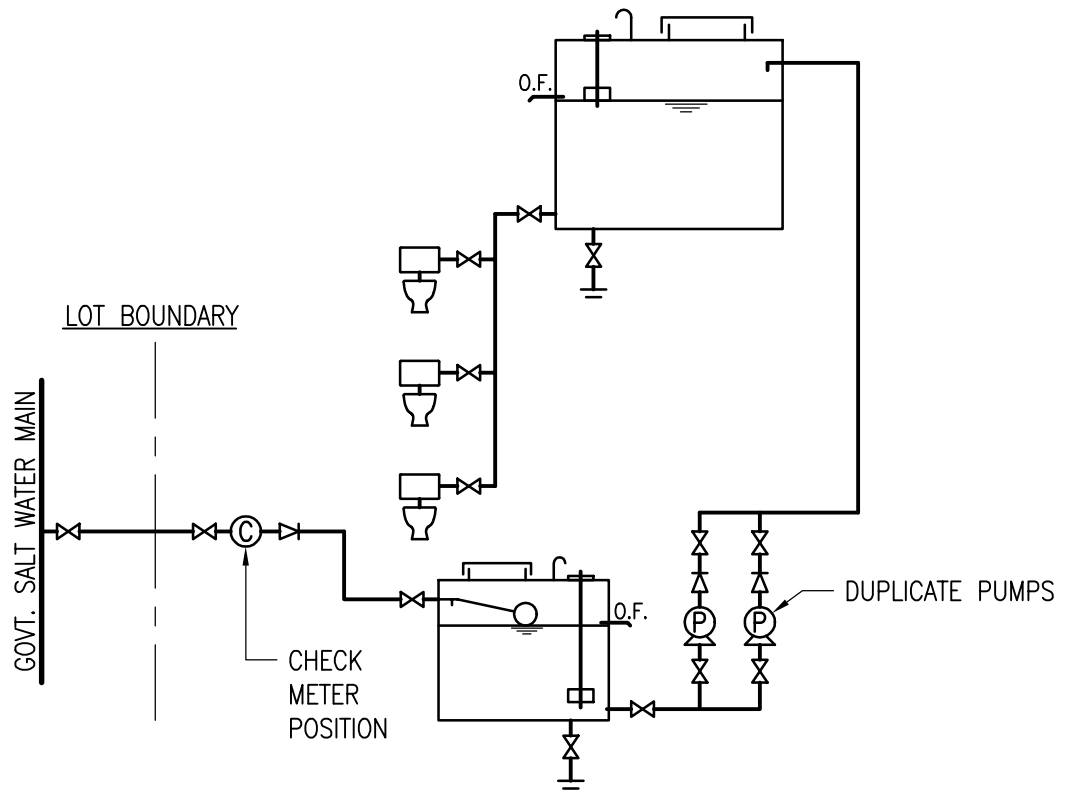
ESSENTIAL COMPONENT OF A CALORIFIER



INDIRECT CENTRALISED HOT WATER SYSTEM

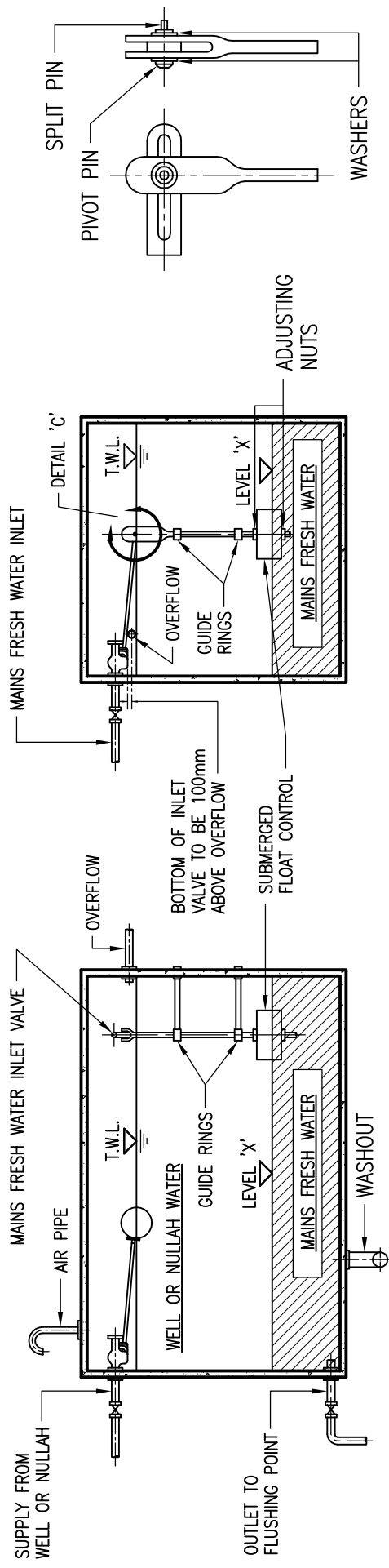


DIRECT SALT WATER FLUSHING SUPPLY SYSTEM



INDIRECT SALT WATER FLUSHING SUPPLY SYSTEM

SALT WATER FLUSHING SUPPLY SYSTEM



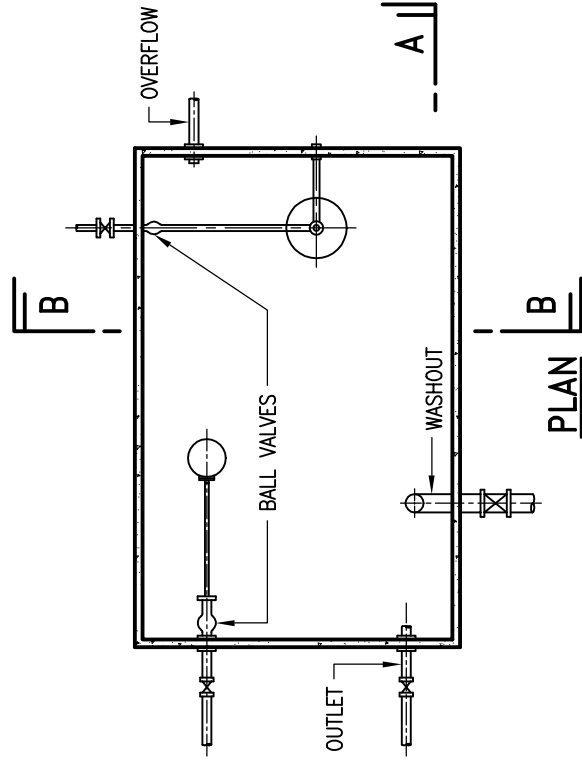
SECTION A-A

SECTION B-B

DETAIL 'C'

NOTES :

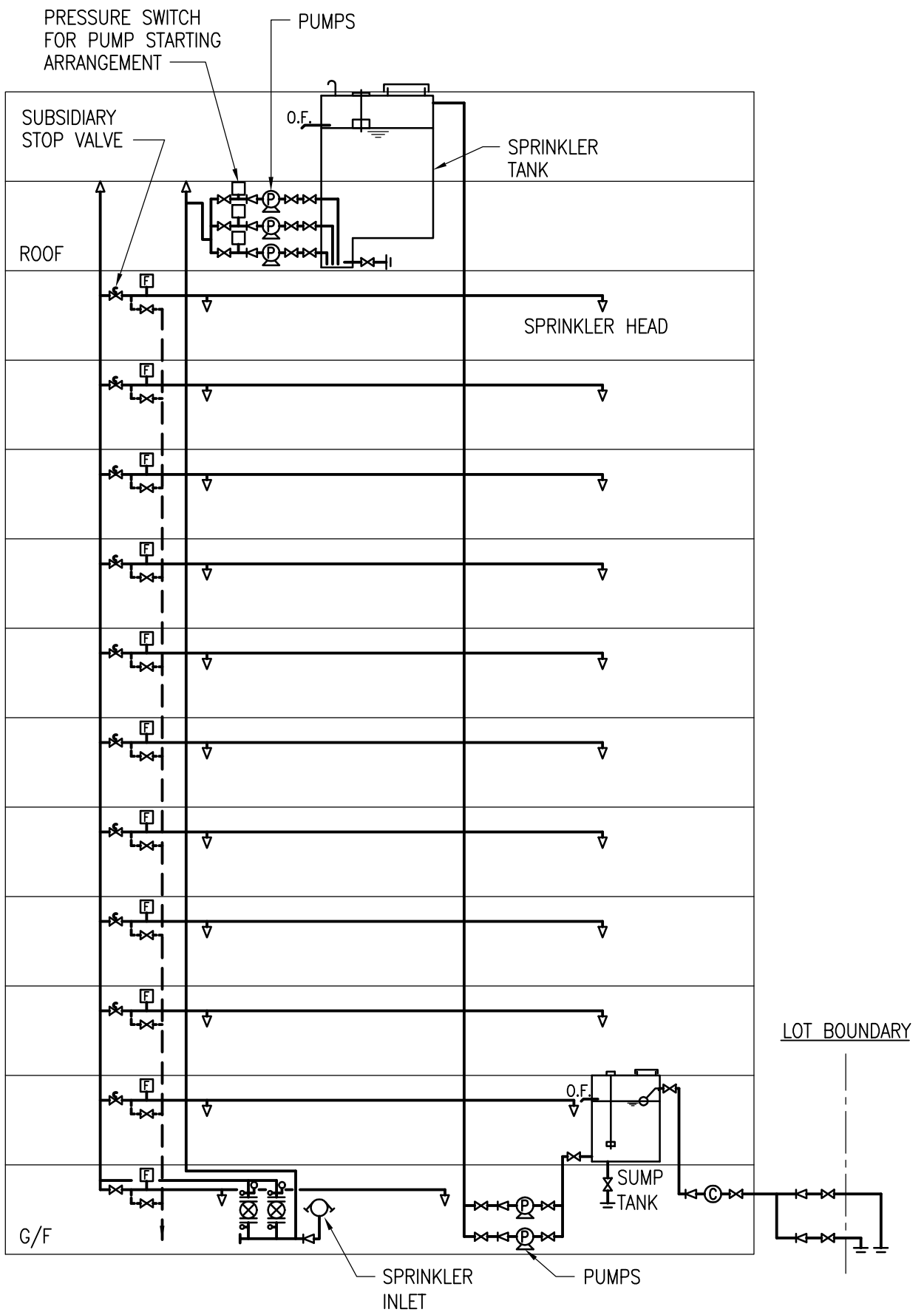
1. VOLUME BELOW LEVEL 'X' FOR MAINS FRESH WATER STORAGE SHALL BE APPROVED BY WATER AUTHORITY.
2. OVERFLOW SHALL BE TWICE THE DIAMETER OF LARGEST INLET OR 40mm DIAMETER WHICHEVER BE THE GREATER.
3. MATERIALS USED SHALL BE CAPABLE OF WITHSTANDING THE CORROSIVE ACTION OF SALT WATER.
4. THIS DRAWING IS EXTRACTED FROM W1543/5B.



FLUSHING SUPPLY STORAGE CISTERN - MIXED SUPPLY

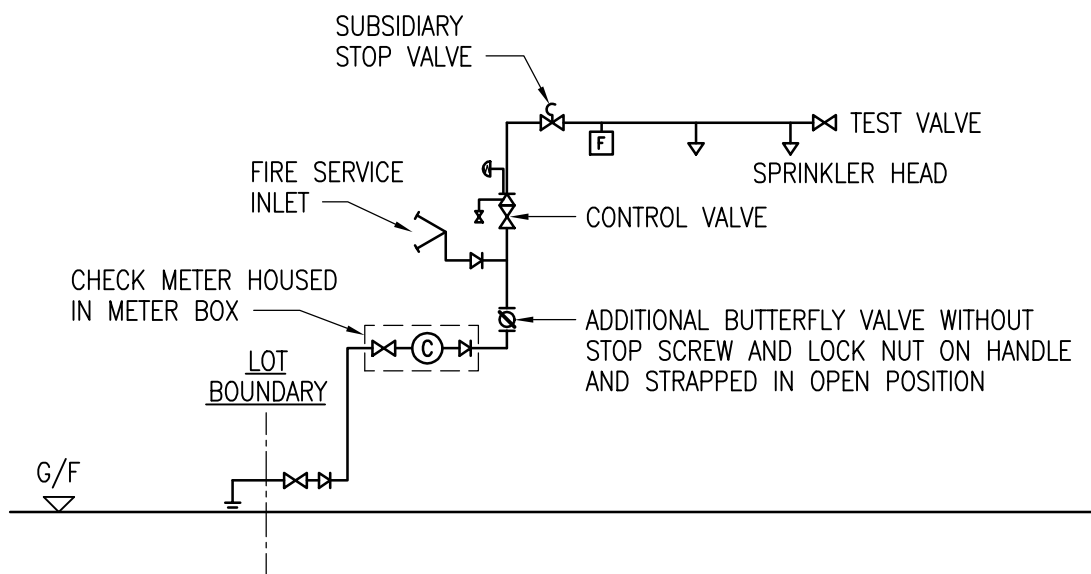
(NOT TO SCALE)

FIG. 15

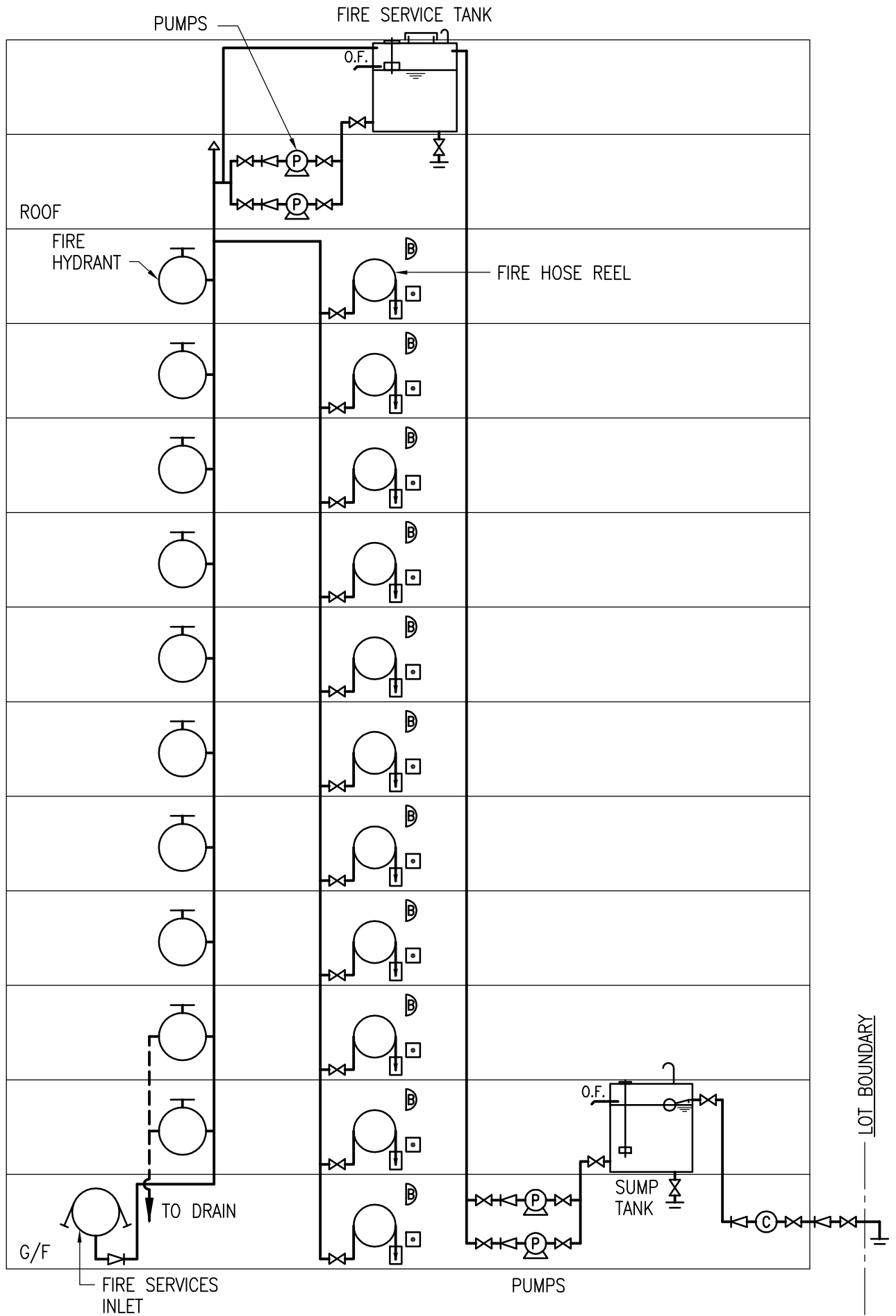


LAYOUT DRAWING FOR SPRINKLER SYSTEM

FIG. 16

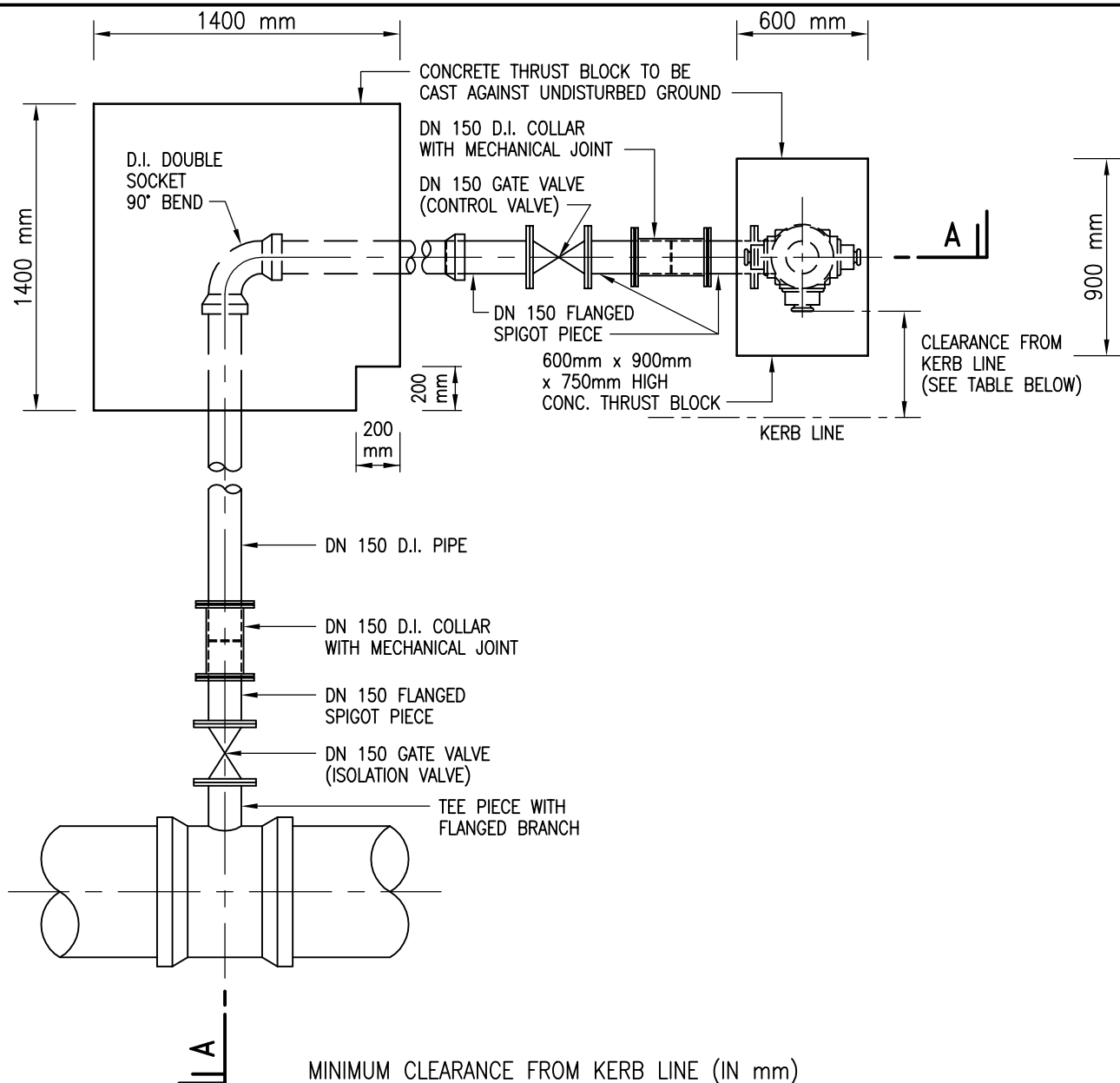


LAYOUT DRAWING FOR IMPROVISED SPRINKLER SYSTEM



LAYOUT DRAWING FOR FIRE HYDRANT/HOSE REEL SYSTEM

FIG. 18

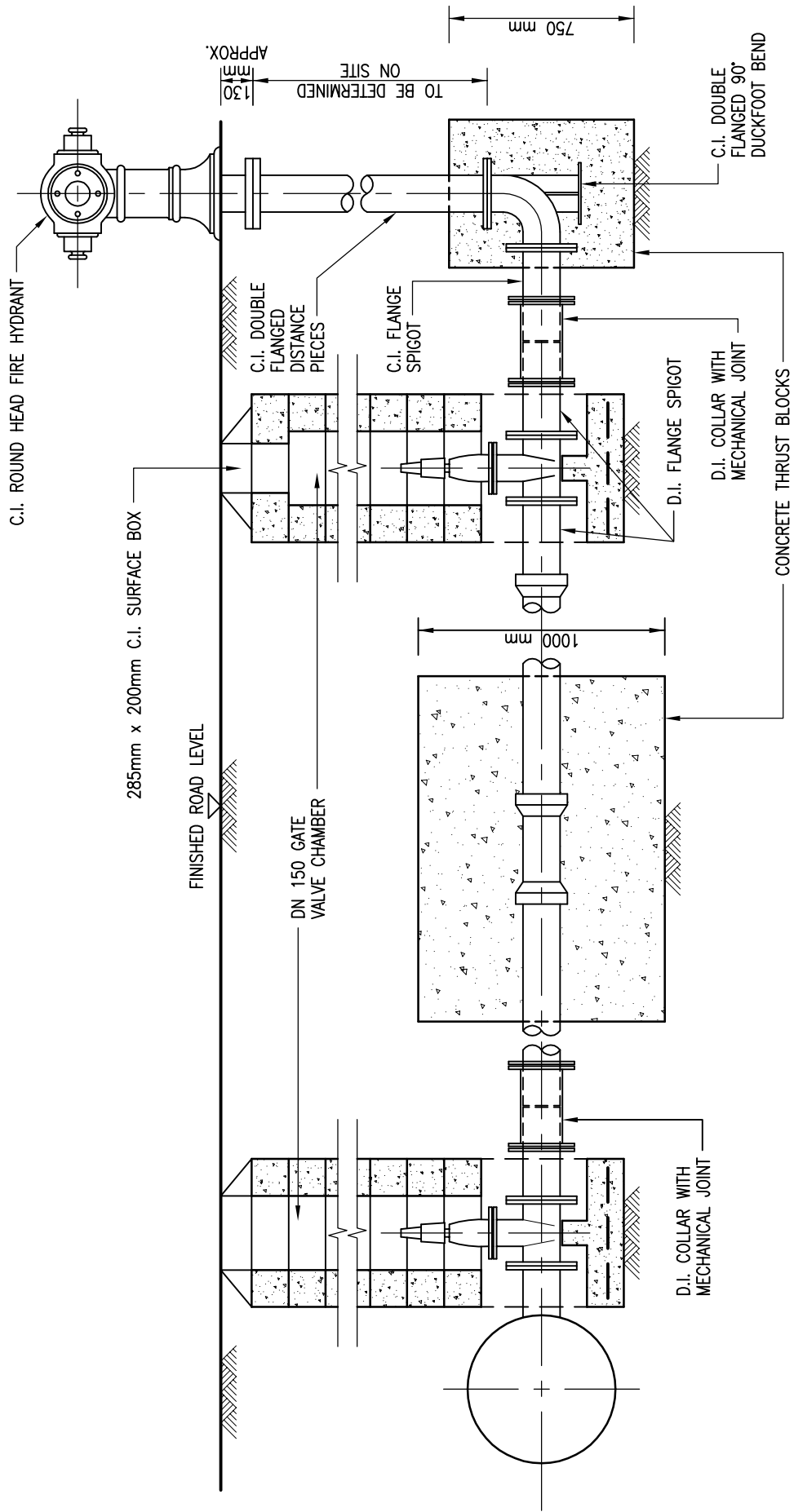


MINIMUM CLEARANCE FROM KERB LINE (IN mm)

CARRIAGEWAY DESIGN SPEED (IN km/h)	WHERE CARRIAGEWAY CROSS FALL IS	
	AWAY FROM HYDRANT OR TOWARDS HYDRANT BUT NOT STEEPER THAN 2.5%	TOWARDS HYDRANT AND STEEPER THAN 2.5%
≤50	500	600
>50 AND <80	600	600
≥80	1000	1000

NOTES : FOR ROADS (SUCH AS DISTRICT AND LOCAL DISTRIBUTOR ROADS, RURAL ROADS B AND FEEDER ROADS) WITH FOOTWAY ONLY AND WITHOUT VERGE, HYDRANTS CAN BE ERECTED CLOSER TO THE EDGE OF THE CARRIAGEWAY BUT NOT LESS THAN 200mm FOR ANY PART OF THE INSTALLATIONS. FOR ROADS WITH A SPEED LIMIT OF 70km/h OR ABOVE. STRICT COMPLIANCE WITH THE REQUIREMENTS OF THE ABOVE TABLE IS REQUIRED.

LAYOUT PLAN OF THE TYPICAL INSTALLATION OF DN 150 STREET FIRE HYDRANT



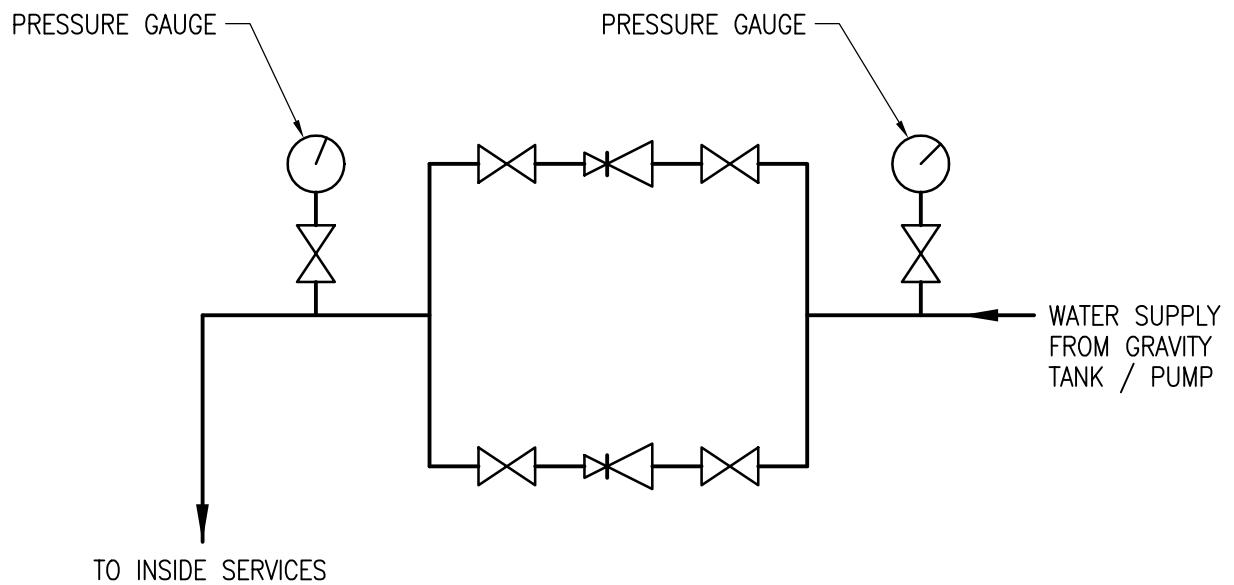
SECTION A - A

NOTES :

1. THE CAP OF THE CONTROL VALVE SPINDLE SHOULD BE AT 250mm APPROX. BELOW THE VALVE COVER AND IN NO CASE SHOULD THE DISTANCE BE MORE THAN 500mm.

FIG. 20

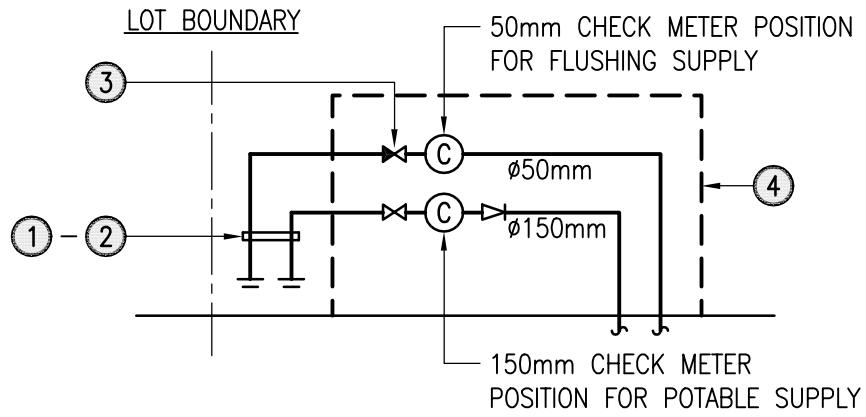
SECTION OF THE TYPICAL INSTALLATION OF DN 150 STREET FIRE HYDRANT



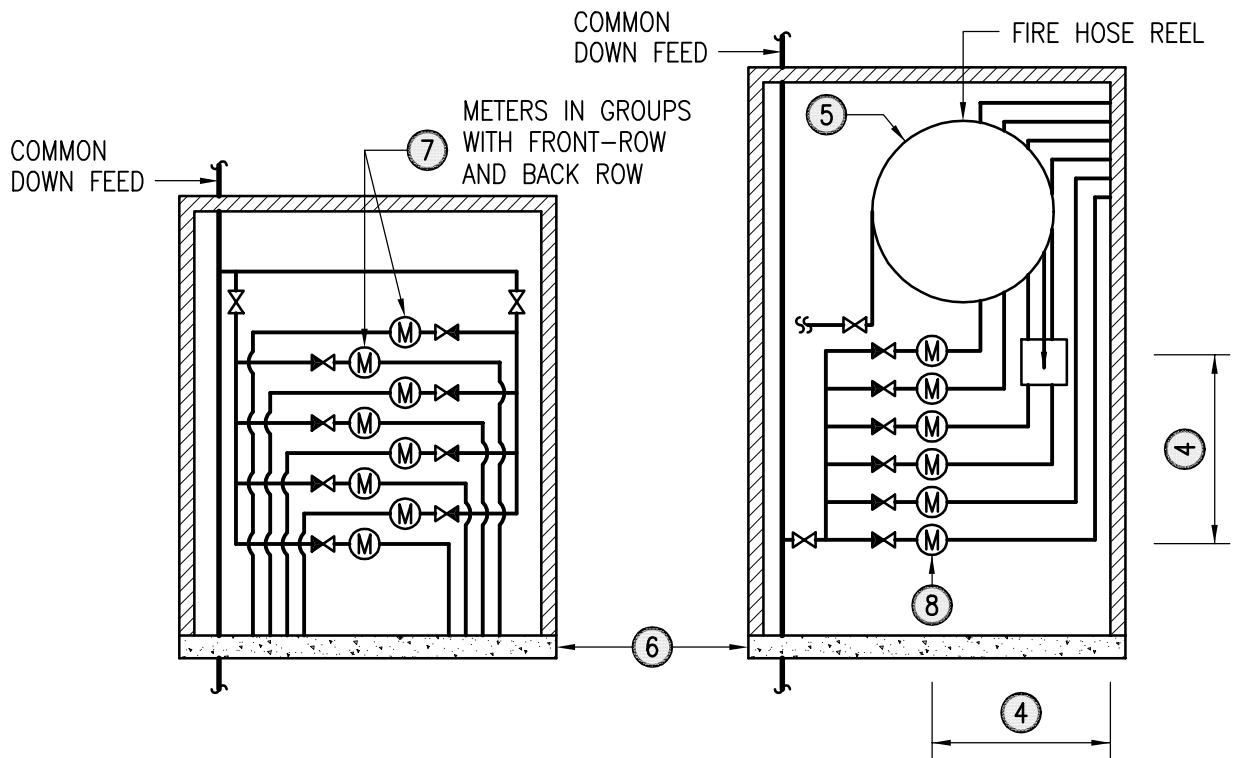
NOTES :

1. A BYPASS ARRANGEMENT WITH THE PROVISION OF A SECOND PRESSURE REDUCING VALVE TO ENABLE ISOLATION OF ANY DEFECTIVE PRESSURE REDUCING VALVE FOR REPAIR AND REPLACEMENT IS USED.
2. THE PRESSURE REDUCING VALVES FOR USE WITH FRESH WATER SHOULD BE MANUFACTURED FROM MATERIALS SUITABLE FOR USE IN CONTACT WITH PORTABLE WATER.
3. THE PRESSURE REDUCING VALVES FOR USE WITH SALT WATER SHOULD BE MANUFACTURED FROM MATERIALS CAPABLE OF WITHSTANDING THE CORROSIVE EFFECT OF SALT WATER.

SCHEMATIC LAYOUT OF PRESSURE REDUCING VALVES

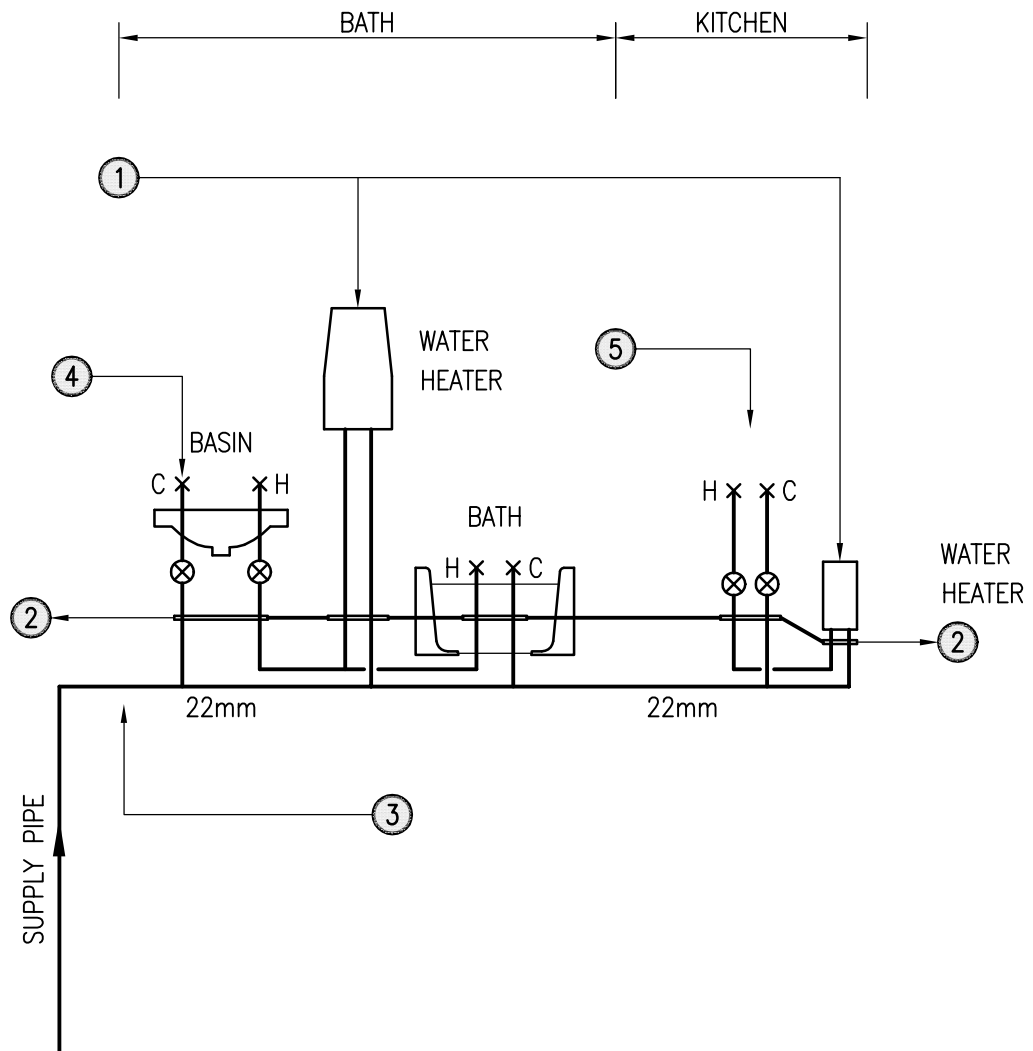


TYPICAL INSTALLATION DETAIL FOR METER/
CHECK METER POSITIONS IN METER CABINET



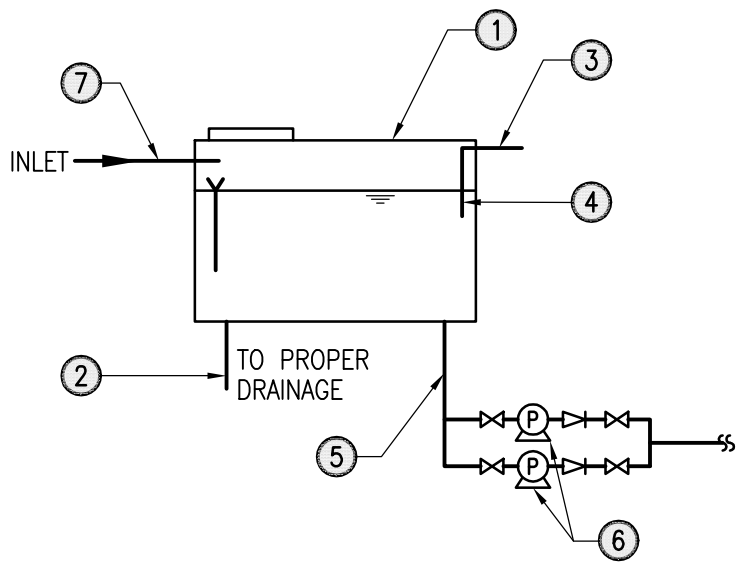
TYPICAL INSTALLATION DETAILS FOR METER
ARRANGED IN GROUP IN METER ROOM ON CORRIDOR

COMMON MISTAKES FOR METER/CHECK METER POSITIONS



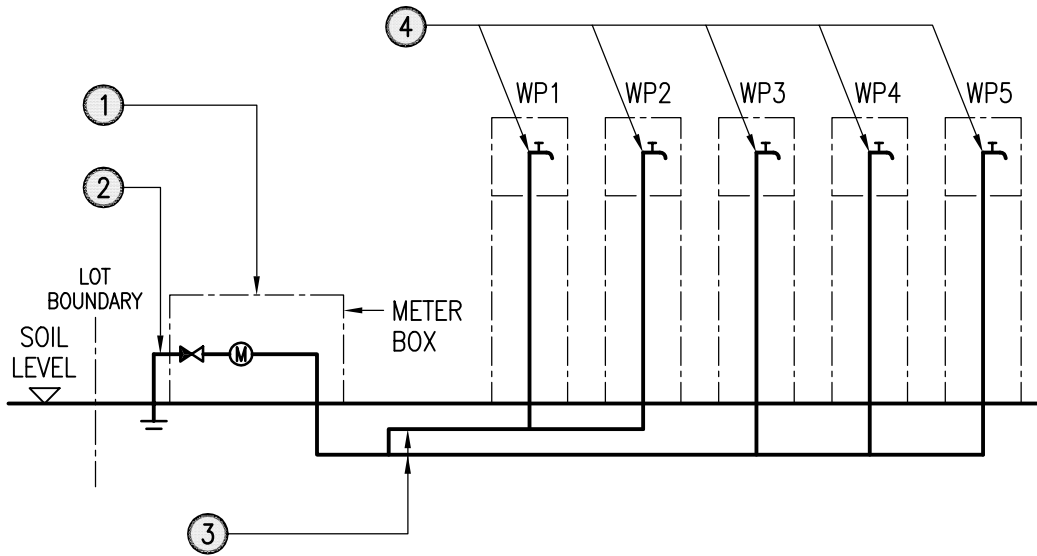
TYPICAL ARRANGEMENT FOR INDIVIDUAL
UNIT/FLAT IN RESIDENTIAL BUILDING

COMMON MISTAKES FOR INSIDE SERVICE

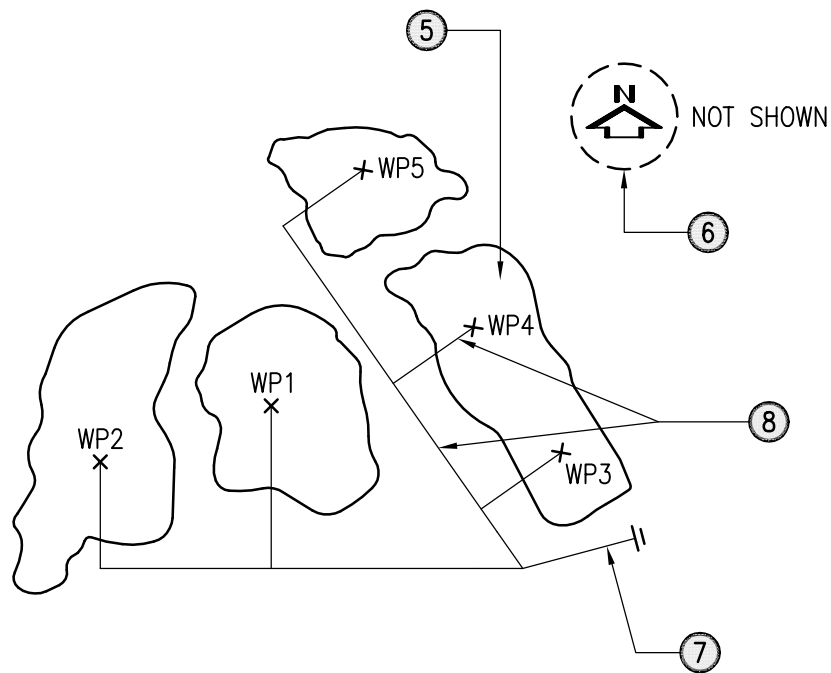


TYPICAL INSTALLATION DETAILS FOR
STORAGE CISTERN AND WATER PUMPS

COMMON MISTAKES FOR SUMP AND PUMP SYSTEM



VPLD FOR WATERING FLOWER BEDS

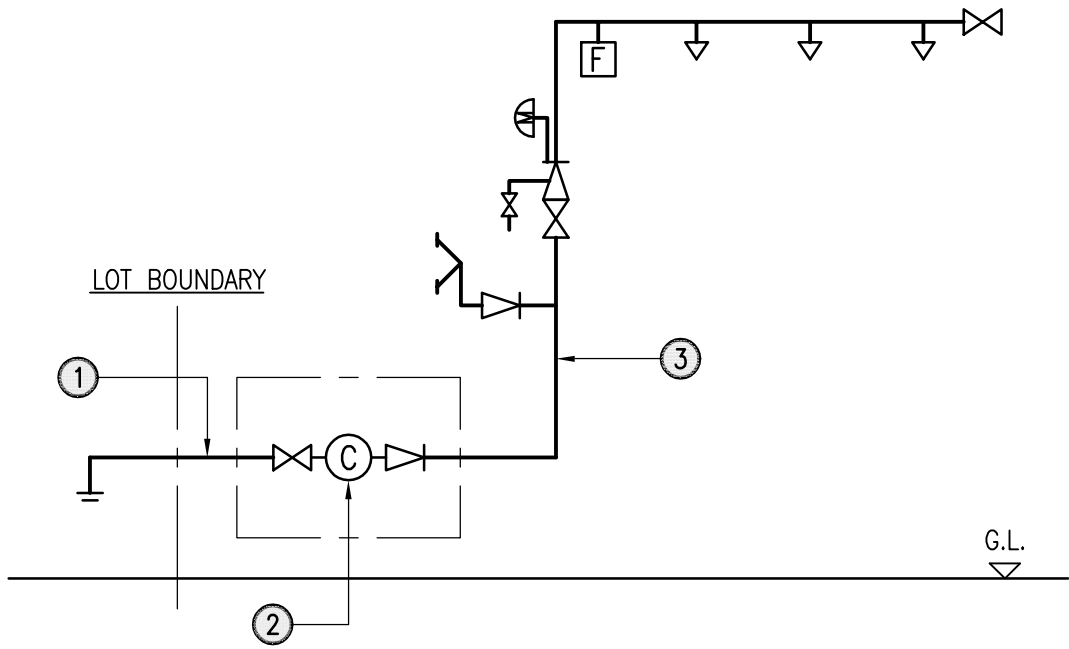


LAYOUT PLUMBING ALIGNMENT PLAN FOR WATERING FLOWER BEDS (NOT TO SCALE)

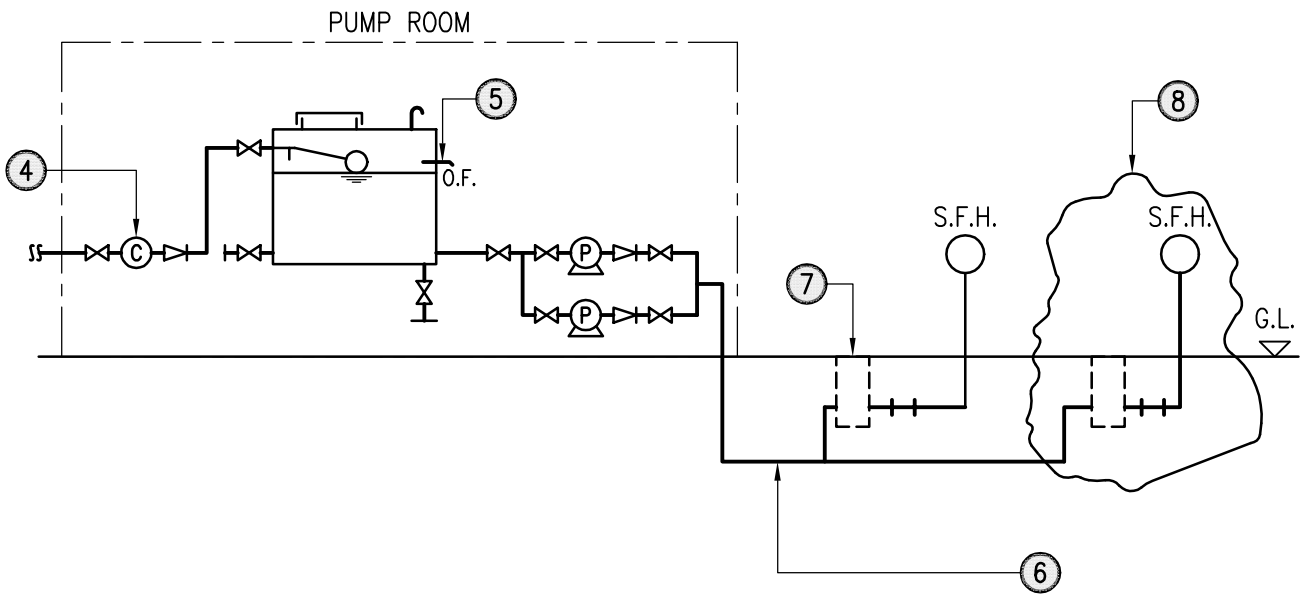
ABBREVIATION :

WP WATER POINT

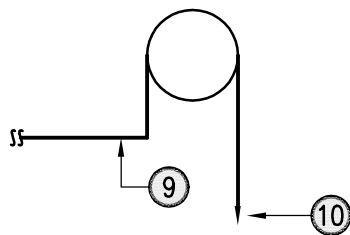
COMMON MISTAKES FOR WATERING FLOWER BEDS PLUMBING SYSTEM



VPLD FOR IMPROVISED SPRINKLER SYSTEM



VPLD FOR STREET FIRE HYDRANT SYSTEM

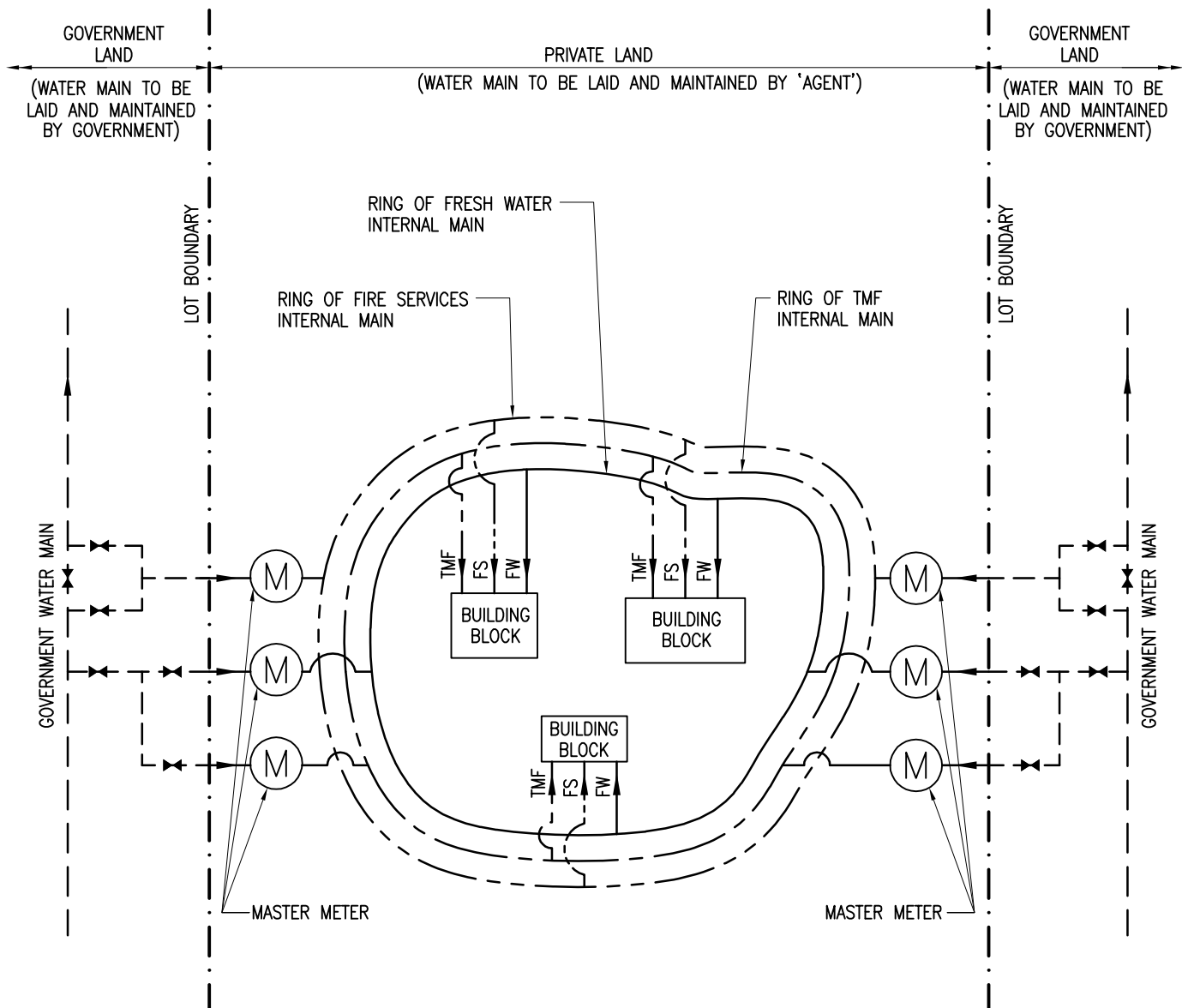


TYPICAL INSTALLATION DETAIL FOR FIRE HOSE REEL

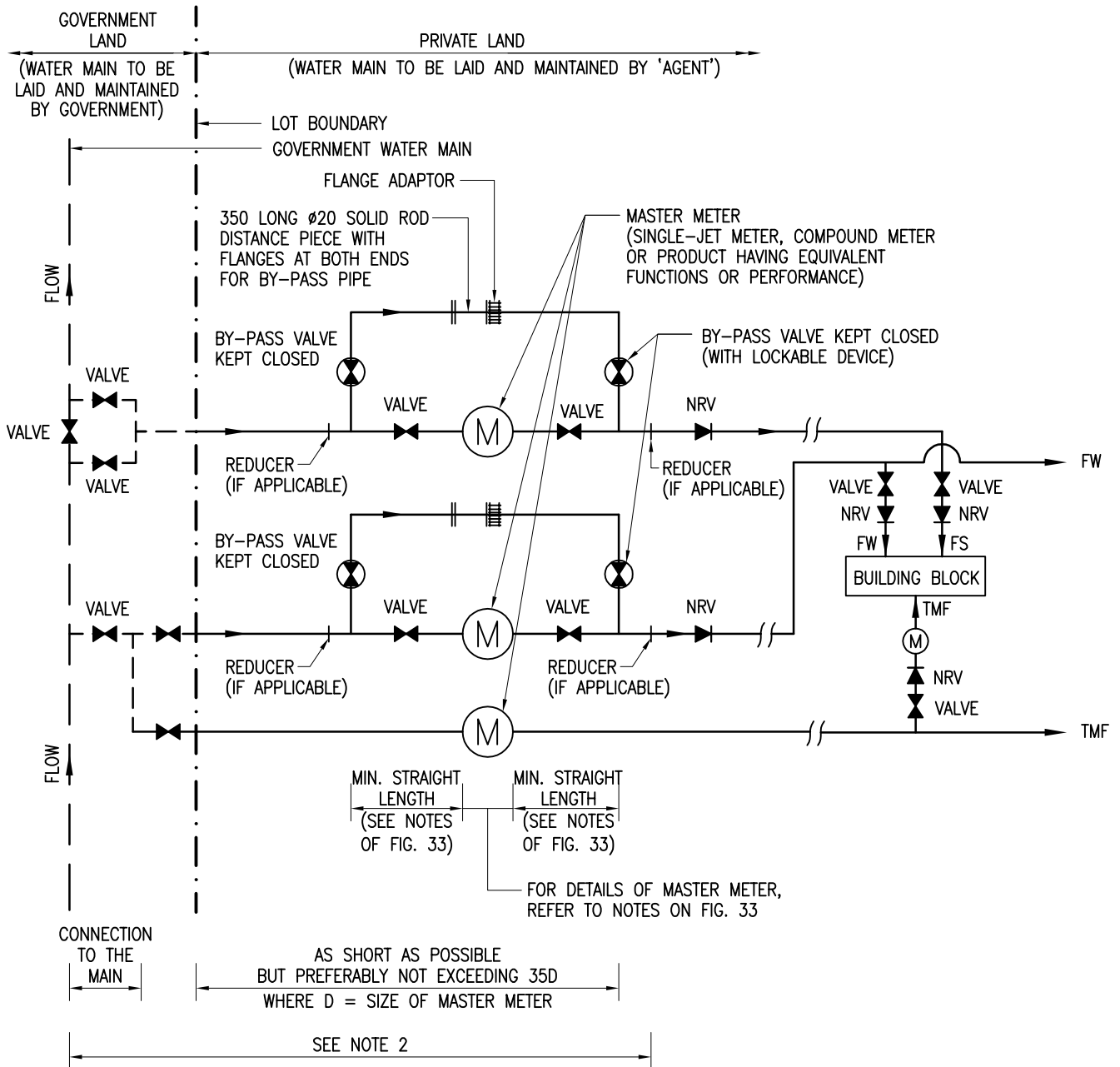
ABBREVIATION :

S.F.H. STREET FIRE HYDRANT

COMMON MISTAKES FOR FIRE SERVICE



TYPICAL CONFIGURATION OF MASTER METER
(AND OPTIONALLY WITH TMF)
 (DUAL FIRE SERVICES CONNECTION CASE SHOWN AS EXAMPLE ONLY)



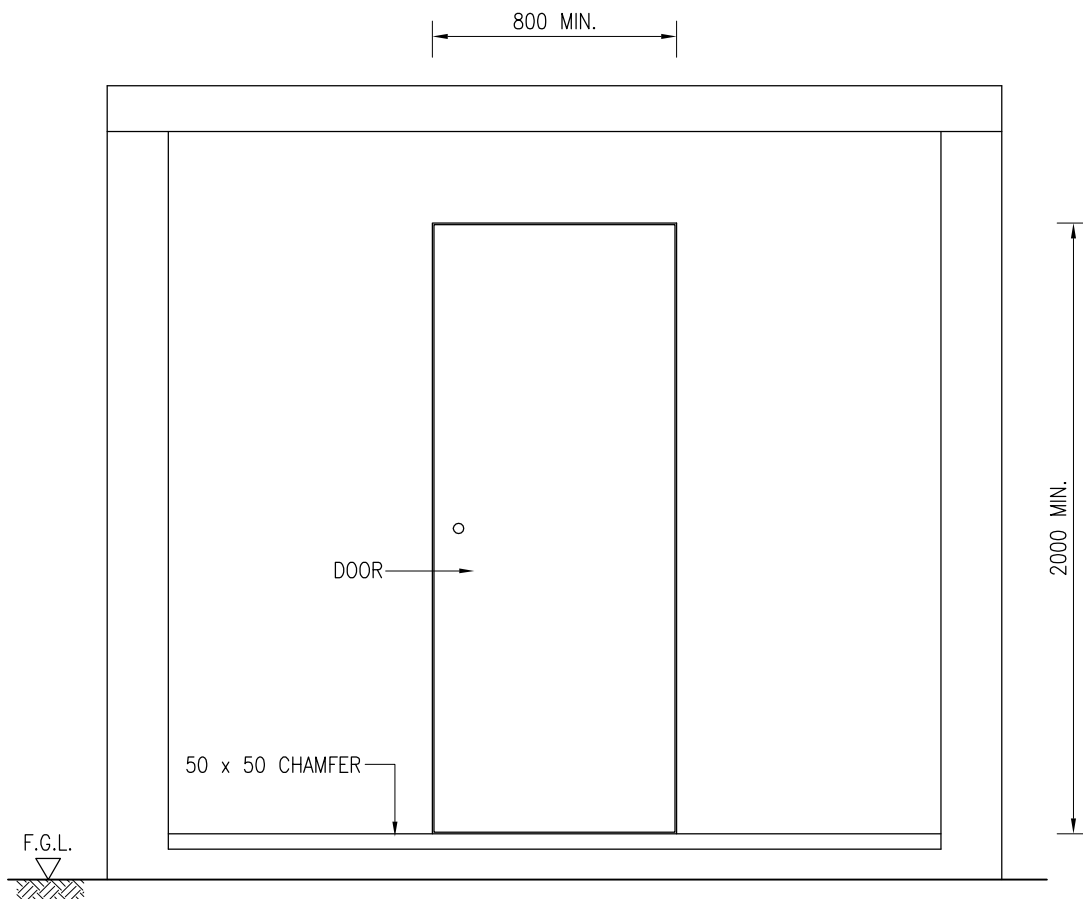
**TYPICAL CONFIGURATION OF MASTER METER
(AND OPTIONALLY WITH TMF)**
(DUAL FIRE SERVICES CONNECTION CASE SHOWN AS EXAMPLE ONLY)

NOTES :

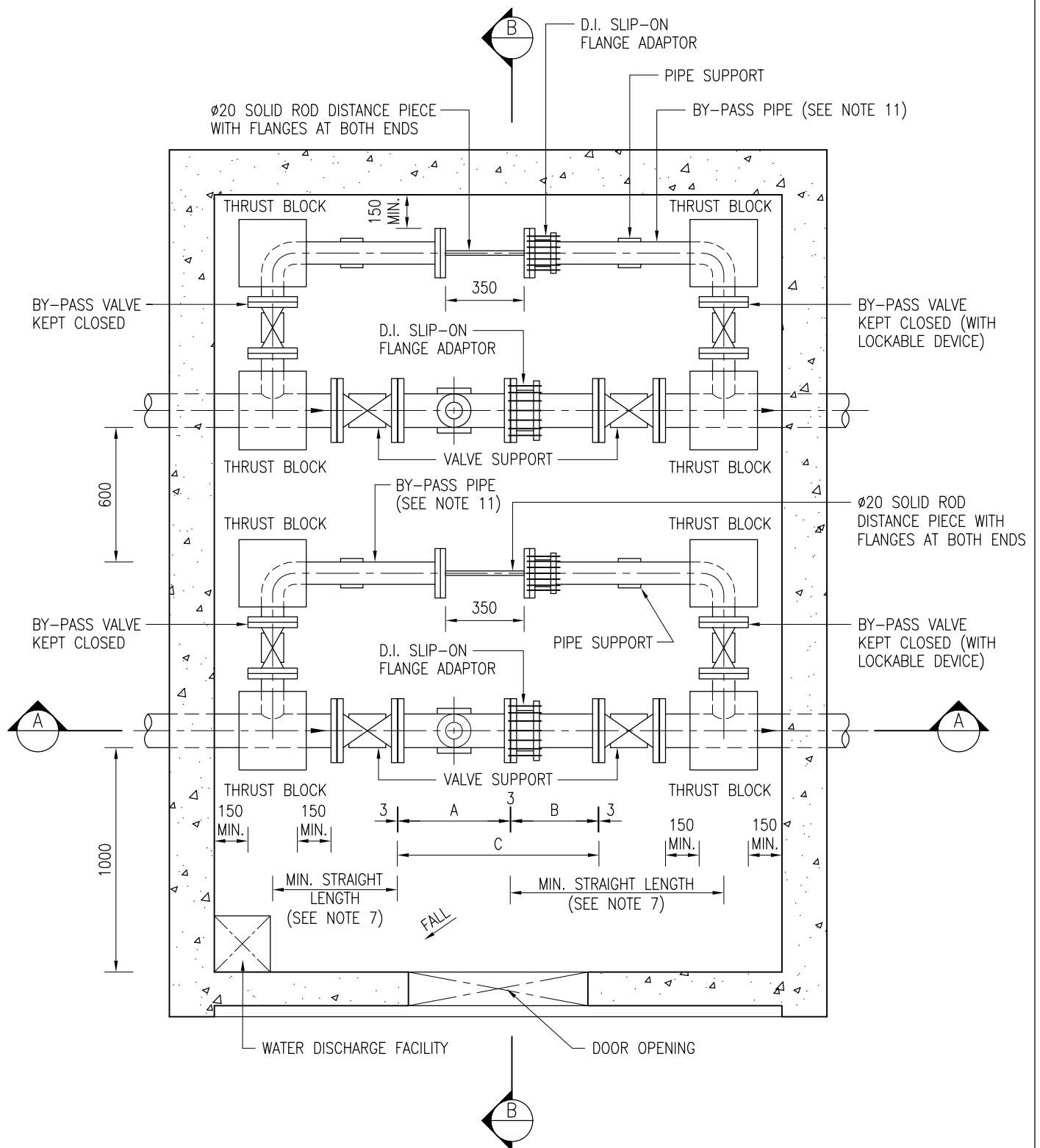
1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
2. THE SIZING OF THE PIPE IS DETERMINED BY THE FLOW RATE FOR FRESH WATER SUPPLY (PLUS TMF SUPPLY WHERE APPROPRIATE).

ABBREVIATIONS :

FW	FRESH WATER MAIN
FS	FIRE SERVICES MAIN
TMF	TEMPORARY MAIN FOR FLUSHING
NRV	NON-RETURN VALVE

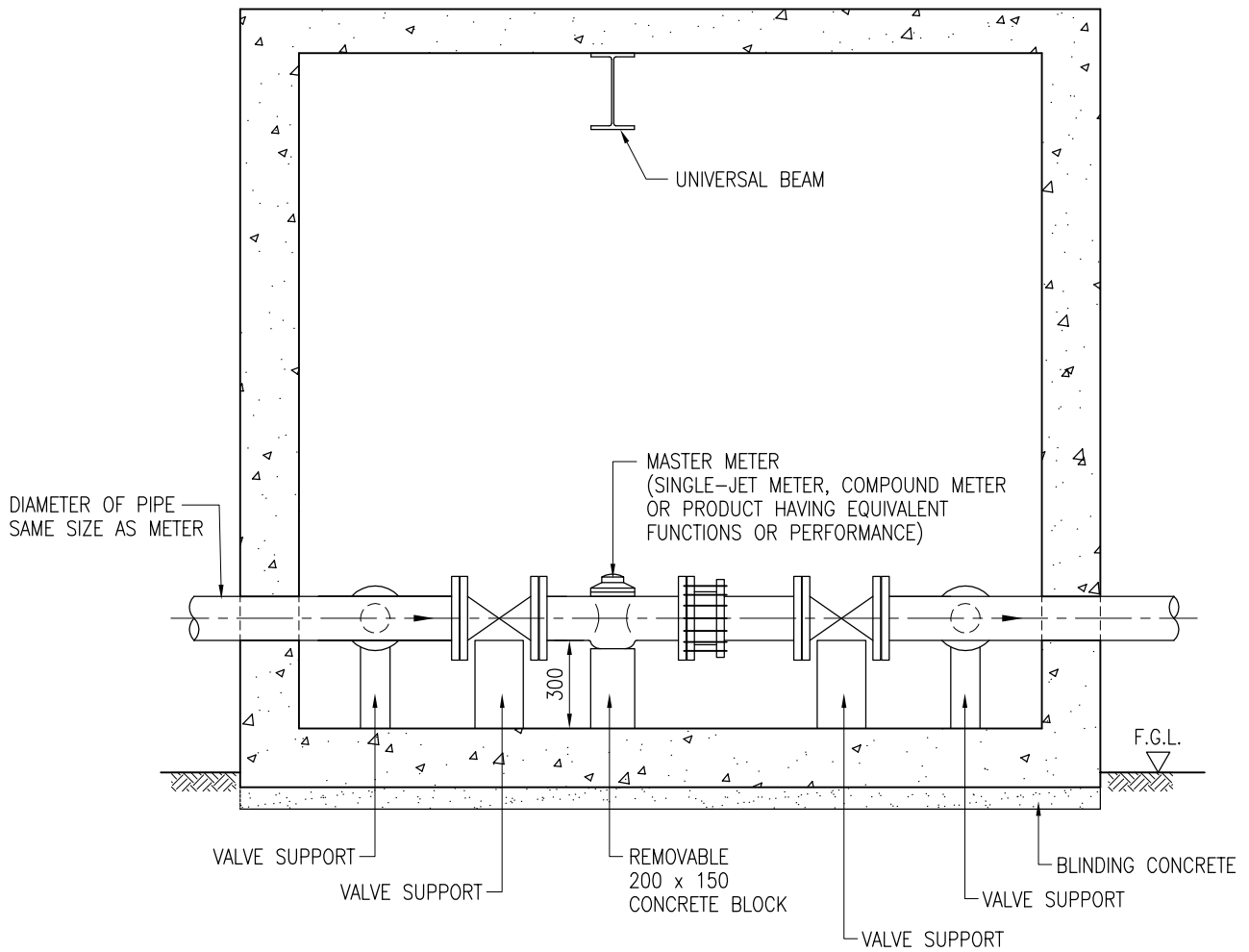


FRONT ELEVATION OF MASTER METER ROOM



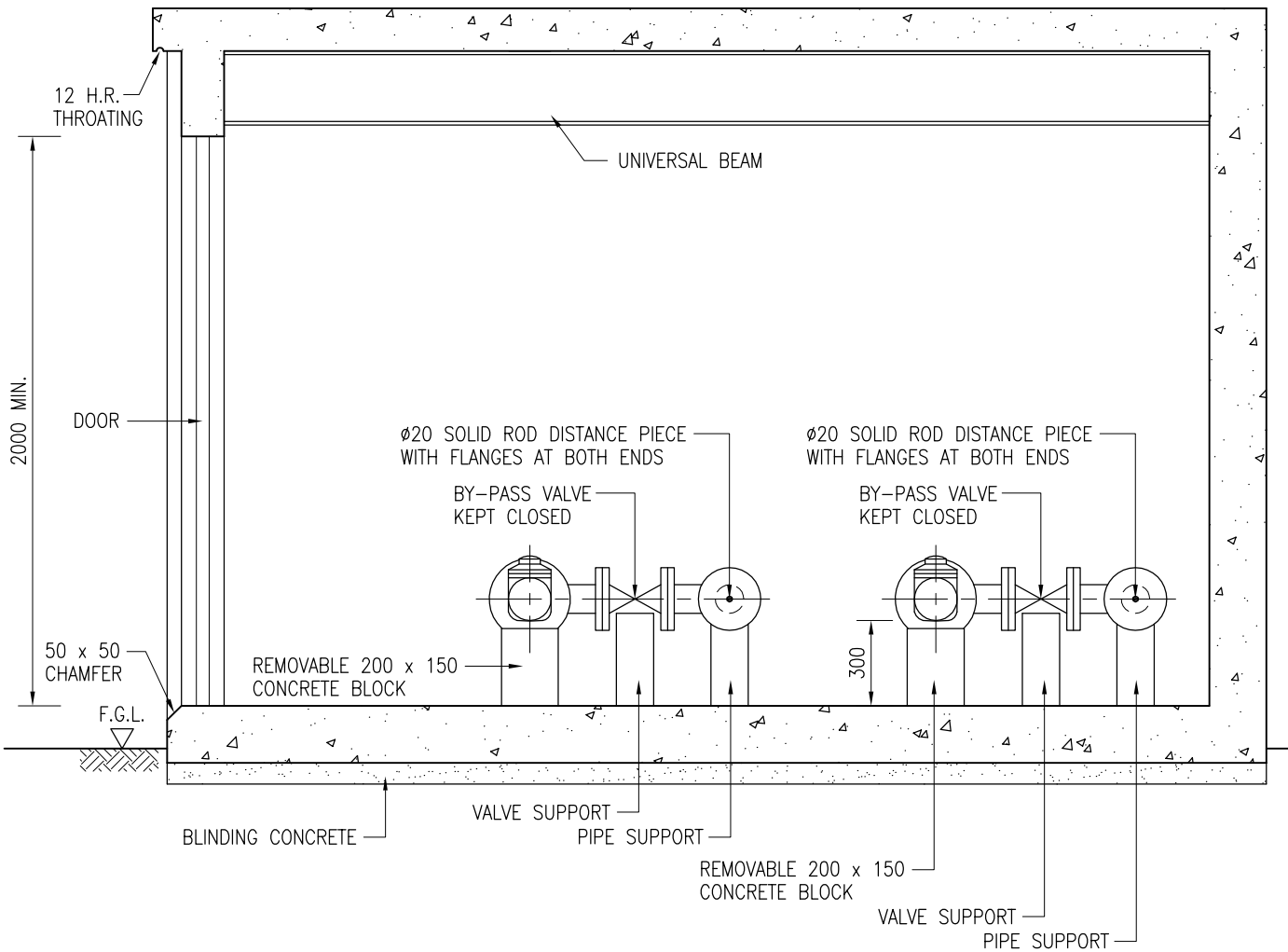
SECTIONAL PLAN OF MASTER METER ROOM
(NON-RETURN VALVE NOT SHOWN)

(REDUCERS, NON-RETURN VALVES AND RESERVED SALT WATER INTERNAL MAIN WHERE APPROPRIATE NOT SHOWN)



SECTION A - A OF MASTER METER ROOM
 (NON-RETURN VALVE NOT SHOWN)

(REDUCERS, NON-RETURN VALVES AND RESERVED SALT WATER INTERNAL MAIN WHERE APPROPRIATE NOT SHOWN)



SECTION B - B OF MASTER METER ROOM
 (NON-RETURN VALVE NOT SHOWN)

(REDUCERS, NON-RETURN VALVES AND RESERVED SALT WATER INTERNAL MAIN WHERE APPROPRIATE NOT SHOWN)

MASTER METER OF VARIOUS SIZES

METER TYPE	SIZE (mm)	DIMENSIONS (mm)		
		A	B	C
SINGLE JET / COMPOUND (IN-LINE) / PISTON	50	300	141	450
	80	350	360	719
	100	350	370	729
VOLTMAN	150	500	390	899
	200	560	410	979
COMPOUND (BY-PASS)	250	450	440	899
	300	500	450	959

NOTES :

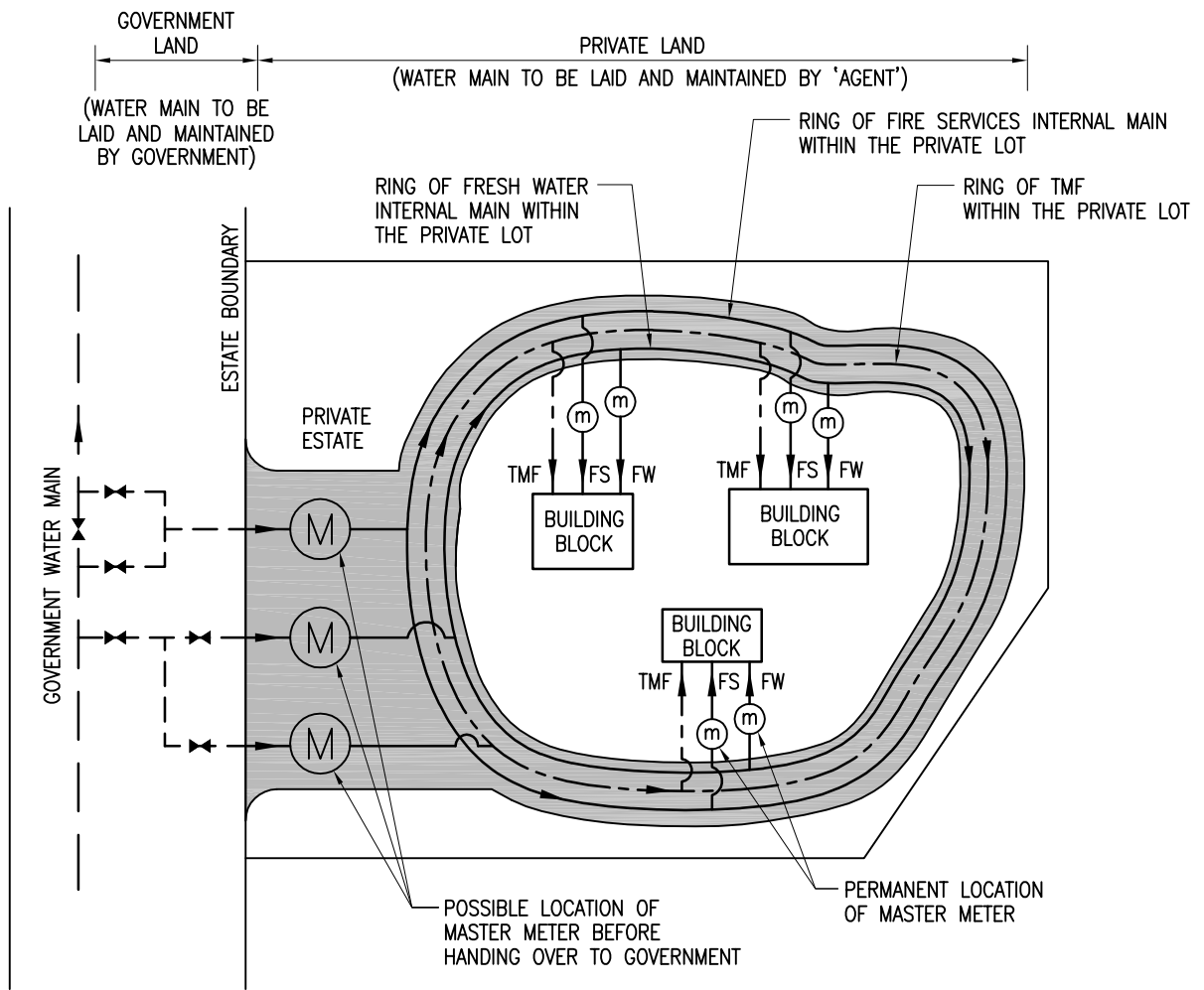
1. ALL DIMENSIONS ARE IN MILLIMETRES.
2. THIS SET OF DRAWINGS SHALL BE READ IN CONJUNCTION WITH THE HONG KONG WATERWORKS STANDARD REQUIREMENT FOR PLUMBING INSTALLATION IN BUILDING. IN PARTICULAR, THE REQUIREMENT RELATED TO INSTALLATION OF METER AS SPECIFIED IN CHAPTER 1.
3. UNIVERSAL BEAM(S) SHALL BE ABLE TO LIFT UP 2.5 TIMES THE WEIGHT OF THE METER.
4. THE CENTRE-LINE OF THE PIPEWORK MUST BE HORIZONTAL.
5. ALL NEWLY LAID WATER MAINS MUST BE CLEANED AND STERILIZED BEFORE THE INSTALLATION OF SPECIFIED METER OR PRODUCT HAVING EQUIVALENT FUNCTIONS OR PERFORMANCE INSIDE THE ROOM.
6. DRAIN PIPE FOR METER ROOM SHALL BE PROVIDED.
7. A MINIMUM OF STRAIGHT PIPE UPSTREAM AND DOWNSTREAM FROM THE FLANGES OF THE MASTER METER POSITION SHALL BE PROVIDED AS FOLLOWS :-

METER TYPE	UPSTREAM	DOWNSTREAM
VOLTMAN / COMPOUND (BY-PASS)	10D	5D
SINGLE JET / COMPOUND (IN-LINE) / PISTON	5D	2D

WHERE D IS THE NOMINAL DIAMETER OF THE MASTER METER.

8. DIMENSION 'A' AND 'B' SHOWN IN THE TABLES ARE FOR INDICATION ONLY, EXACT DIMENSION TO BE DETERMINED ON SITE.
9. A RESERVED SALT WATER INTERNAL MAIN SHALL BE PROVIDED FOR FUTURE CONVERSION OF FLUSHING SUPPLY FROM TMF TO SALT WATER.
10. WHERE TMF SUPPLY IS GIVEN, A COMMUNAL TMF METER SHALL BE PROVIDED TO EACH INDIVIDUAL BLOCK OF BUILDING.
11. SIZE OF BY-PASS PIPE SHALL BE AS FOLLOWS :-

SIZE OF SUPPLY MAIN	SIZE OF BY-PASS MAIN
LESS OR EQUAL TO DN150	DN100
GREATER OR EQUAL TO DN200	DN150



TYPICAL CONFIGURATION OF MASTER METER WHERE
INTERNAL ROAD CONSTRUCTED BY DEVELOPMENT AND TO BE
HANDED OVER TO GOVERNMENT IN A DEFINITE FUTURE
(OPTIONALLY WITH TMF)

NOTES :

- FOR GENERAL ARRANGEMENT OF MASTER METER REFER TO DRAWING NO. SK20268/2.

LEGEND AND ABBREVIATIONS :

- FW FRESH WATER MAIN
- FS FIRE SERVICES MAIN
- TMF TEMPORARY MAIN FOR FLUSHING
- (M) MASTER METER AT TRANSITIONAL PERIOD
- (m) PERMANENT MASTER METER WILL BE INSTALLED JUST BEFORE THE HANDOVERING OF INTERNAL ROAD.
- INTERNAL ROAD TO BE HANDED OVER TO GOVERNMENT

MASTER METER – SCHEMATIC LAYOUT OF
MASTER METER IN PRIVATE ROAD

FIG. 34A

WORKING CLEARANCES FOR CHECK METER POSITION

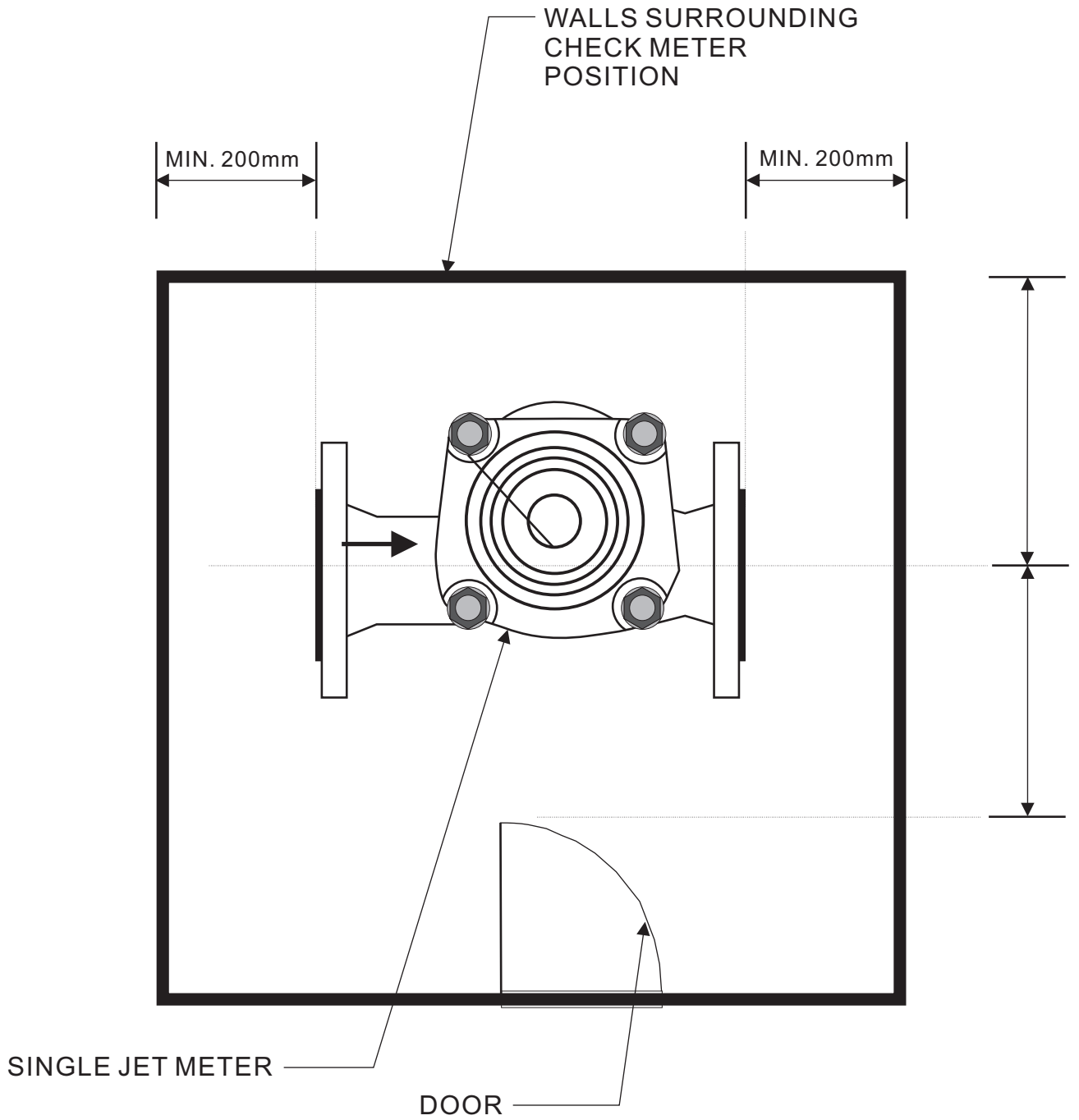
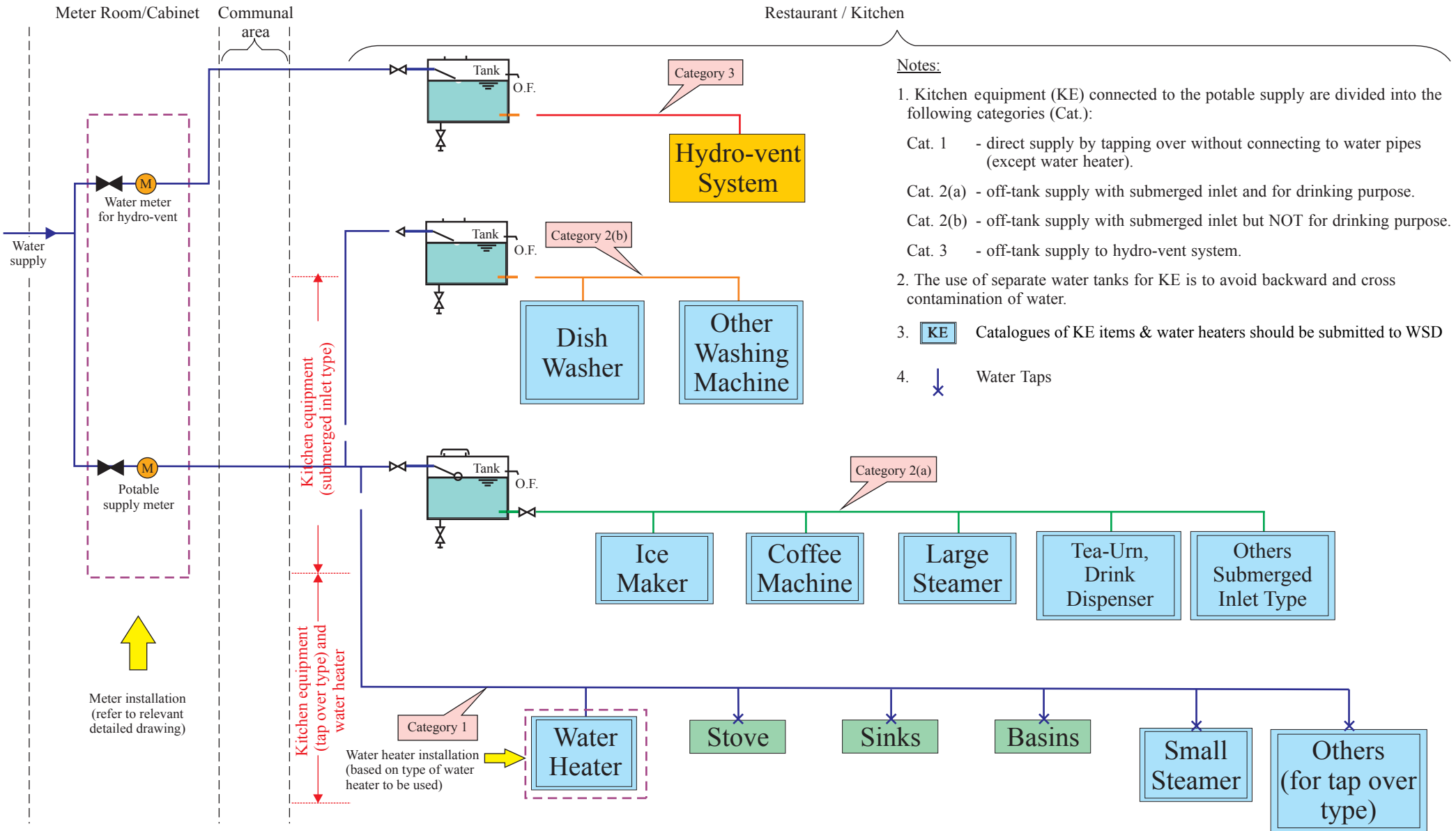


FIG. 35

Typical Schematic Plumbing Diagram (Food Business (Restaurant) / Kitchen)



Notes:

1. Kitchen equipment (KE) connected to the potable supply are divided into the following categories (Cat.):
 - Cat. 1 - direct supply by tapping over without connecting to water pipes (except water heater).
 - Cat. 2(a) - off-tank supply with submerged inlet and for drinking purpose.
 - Cat. 2(b) - off-tank supply with submerged inlet but NOT for drinking purpose.
 - Cat. 3 - off-tank supply to hydro-vent system.
2. The use of separate water tanks for KE is to avoid backward and cross contamination of water.
3. **KE** Catalogues of KE items & water heaters should be submitted to WSD
4. Water Taps