

Water and Sewerage Regulations

SAINT LUCIA

STATUTORY INSTRUMENT, 1995, No. 47

ARRANGEMENT OF REGULATIONS

PART I

PRELIMINARY

Regulation

1. Short title.
2. Interpretation.
3. Exclusion of liability.
4. Authorisation for inspection.
5. New connections for public supply of water.
6. Multiple or common services.
7. Discontinued supplies, disconnections and re-connections.
8. Damage to property vested in the Authority.
9. Water rates and charges.
10. Erection on and around property of the Authority.

PART II

PREVENTION OF WASTE, UNDUE CONSUMPTION,
MISUSE OR CONTAMINATION OF WATER

11. Waste and undue consumption.
12. Prevention of contamination by contact with unsuitable substances.
13. Prevention of contamination by backsiphonage, backflow or cross connection.
14. Prevention of waste or contamination of stored water.
15. Prevention of waste of water from damage to water fittings from causes other than corrosion.
16. Prevention of waste from contamination by unsuitable or improperly installed water fittings.
17. Stopvalves, etc.
18. Waterclosets and urinals.
19. Prevention of waste, misuse and contamination of water from draw-off taps, baths, basins, sinks and other fittings.
20. Prevention of waste or contamination of water from any hot water system.
21. Taps for drawing drinking water.
22. Notices to the Authority under Part II.
23. Penalties.

PART III

DRAINAGE INTO THE PUBLIC SEWERAGE SYSTEM

24. New connections to the public sewerage system.
25. Obligation to connect to the public sewer.

Water and Sewerage Regulations

- 26. Multiple or common connections.
- 27. Domestic and industrial waste water, surface water and permitted and prohibited discharges to the sewers.
- 28. Industrial discharges to sewers.
- 29. Termination of connections, transfer of agreements.
- 30. Private sewers and conditions for adoption by the Authority.
- 31. Sewerage rates and charges.
- 32. Damage to public sewerage system, and penalties.

PART IV

SPECIFICATION OF DRAINS
CONNECTED TO THE PUBLIC SEWERAGE NETWORK

- 33. Prevention of leakage or infiltration into drainage system.
- 34. Sealing of appliances connected to the drainage system.
- 35. Ventilation of the drainage system.
- 36. Branch pipes and discharge stacks.
- 37. Foul drainage.

FIRST SCHEDULE

SECOND SCHEDULE

THIRD SCHEDULE

Water and Sewerage Regulations

SAINT LUCIA

STATUTORY INSTRUMENT, 1995, No. 47.

[8th July, 1995]

The Authority, in exercise of the power conferred by section 33 of the Water and Sewerage Authority Act 1984, No 18 and with the approval of the Minister, makes the following Regulations:

PART I

PRELIMINARY

Short title

1. These Regulations may be cited as the Water and Sewerage Regulations, 1995.

Interpretation

2. In these Regulations:

“Authority” means the Water and Sewerage Authority;

“backflow” means flow in a direction contrary to the intended normal direction of flow;

“backflow prevention device” means either a type ‘A’ or type ‘B’ air gap, a check valve, a double check valve assembly, a combination of check valve and vacuum breaker, a pipe interrupter, or some other water fitting or arrangement of water fittings designed to prevent the backflow or backsiphonage of water;

“backsiphonage” means backflow caused by the siphonage of liquid from a cistern or appliance into the pipe feeding it;

“boiler” means an enclosed vessel in which water is heated by the direct application of heat;

“check valve” means a mechanical device which

- (a) by means of a resilient elastic seal or seals permits water to flow in one direction only, is closed when there is no flow; and

Water and Sewerage Regulations

(b) is resistant to corrosion, is immune from or resistant to dezincification, will continue to operate in a water temperature not exceeding 65°C and when closed (that is, when there is no flow) will prevent the passage of water from the inlet to the outlet of the valve where water pressure at the inlet does not exceed 10 mbar;

“cistern” means a fixed container for holding water at atmospheric pressure;

“closed circuit” means any system of pipes and other water fittings through which water circulates but from which no water is drawn for use, and includes any vent pipe fitted to it but not the feed cistern or the cold water feed pipe;

“combined feed and expansion cistern” means a cistern for supplying cold water to a hot water system without a separate expansion cistern;

“communication pipe” means that part of a service pipe which is owned by the Authority and is laid within a street;

“critical water level” in relation to a type ‘B’ air gap means the steady water level in a cistern, vessel or other water fitting when there is a steady inflow of water and all outlets, except any overflow are closed;

“cylinder” means a cylindrical closed vessel capable of holding water under pressure greater than atmospheric pressure;

“distributing pipe” means any pipe (other than an overflow pipe or flush pipe) conveying water from a storage cistern, or from a hot water apparatus supplied from a feed cistern, and under pressure from that cistern;

“domestic waste water” means all liquid wastes normally generated from dwellings and includes the discharges from domestic clothes washing machines, dishwashers, wash basins, sinks, waterclosets, baths, showers, bidets and other water using domestic appliances or similar liquid wastes discharged from industrial, commercial and agricultural premises which fall within the definition of domestic waste water;

“double check valve assembly” means a mechanical device comprising two check valves with a test cock between them;

“double feed indirect cylinder” means an indirect cylinder which has separate cold feed pipe connections for both the primary circuit and the secondary circuit;

“drain” means an individual pipe designed to carry waste water from or within premises or land which is not public land;

“drainage” means a system of drains within premises or land which is not public land;

“expansion cistern” means a cistern connected to a water heating system which accommodates the increase in volume of water in that system when it is heated from cold;

Water and Sewerage Regulations

- “storage cistern” means any cistern storing water for subsequent use, other than a flushing cistern;
- “street” includes a highway, a public bridge, road, land, footway, square, court, alley, passage or other thoroughfare over which the public have a right of passage, whether or not there are houses in the street;
- “supply pipe” means so much of any service pipe, as is not a communication pipe;
- “surface water” is defined as water draining from the ground surface following natural precipitation, the watering of gardens, fields or public open spaces, the irrigation of agricultural crops or the washing of public or private streets;
- “tank” means a non-cylindrical closed vessel capable of containing water under pressure greater than atmospheric pressure;
- “type ‘A’ air gap” is achieved where there is an arrangement of water fittings whereby water is discharged into a cistern, vessel or other fitting which has at all times an unrestricted overflow to the atmosphere, and the pipe discharging into that cistern, vessel or other water fitting is not obstructed, and water discharges downwards at not more than 15° from the vertical and the vertical distance between the lowest point of any pipe or fitting discharging into the cistern, vessel or fitting and the spill-over level of the receiving vessel is not less than the figure indicated in the First Schedule in relation to a pipe of the appropriate bore;
- “type ‘B’ air gap” is achieved when water is discharged into a cistern, vessel or other water fitting which is open at all times to the atmosphere, and the vertical distance between the lowest point of discharge into that cistern, vessel or water fitting and its critical water level is either sufficient to ensure that, if there were a vacuum in that discharge pipe or fitting, no water in the cistern, vessel or water fitting would be siphoned back into that pipe or fitting or not less than the figure specified in the First Schedule in relation to a pipe of the appropriate bore;
- “unvented primary circuit” means a primary circuit which is not provided with a vent pipe;
- “vacuum breaker” means a mechanical device with an air inlet which is closed when water flows past it at or above atmospheric pressure but which opens to admit air if there is a vacuum in the pipe and closes so as to be water tight when the flow of water is resumed at normal pressure;
- “vent pipe” means a pipe open to the atmosphere and used in connection with a hot water system for the escape of air or steam;

Water and Sewerage Regulations

- “vented primary circuit” means a primary circuit which is provided with a vent pipe;
- “warning pipe” means an overflow pipe so fixed that its outlet, whether inside or outside the building, is in a conspicuous position where the discharge of water can be readily seen;
- “washing trough” means a wash basin, wash trough or sink measuring internally more than four feet over its longest or widest part, and in which two or more persons can wash at the same time;
- “water fittings” include pipes (other than mains), taps, cocks, valves, ferrules, meters, cisterns, baths, waterclosets, soil pans, and other similar apparatus used in connection with the supply and use of water;
- “water rates and charges” mean the rates and charges which the Authority is authorised to recover from consumers as consideration for the supply of water and the collection of sewage through the public sewerage system;
- “water supplied for domestic purpose” means water supplied by the Authority for drinking, washing, cooking and sanitary purposes and includes, where water is drawn from a tap inside a building and no hosepipe or similar apparatus is used, watering a garden or livestock kept for private use and washing vehicles kept for private use;
- “water supplied for non-domestic purpose” means water supplied by the Authority for domestic purposes which has been drawn off for use, water which is unfit for human consumption or water from any source, other than the Authority’s mains;
- “water supplied for industrial purpose” means water supplied by the Authority for use in connection with any trade, profession, business or industrial or commercial enterprise;

Exclusion of liability

3. The Authority shall endeavour to maintain a continuous supply of potable water to consumers but it will not be liable for compensation in respect of any damage or loss caused by or attributable to any failure or disruption of supply.

Authorisation for inspection

4.—(1) Any employee of the Authority authorised by the General Manager to carry out inspections may enter any premises connected to the public water supply system or any premises for which an application for connection has been made for the purpose of inspecting the plumbing installation of the premises.

(2) Any employee authorised to enter a premises under subsection (1) shall carry some form of identification bearing the signature of the General Manager and the authorisation to enter the premises.

Water and Sewerage Regulations

(3) The power of authorisation under paragraph (1) shall not be delegated to any other officer of the Authority or any person.

(4) An employee required to enter premises for the purpose of inspection under this Regulation shall give reasonable notice of his intention to carry out such inspection to the occupier of the premises.

New connections for public supply of water

5.—(1) An owner of any premises who requires a supply from the public water supply system for domestic, industrial or commercial purpose shall complete an application form obtainable from the Authority.

(2) Upon receipt of a completed application form, and an administration fee, the Authority will prepare an estimate of the cost of providing a supply of water to the premises.

(3) The Authority will normally require the person requesting the works to pay to it a sum equal to the estimated cost of the works or give security for payment to the satisfaction of the General Manager.

(4) The applicant shall be responsible for the negotiation of all rights of passage and for the payment of all fees, compensation for damage, and all other expenses arising from such rights in relation to any part of the service pipe to his premises which is laid in private land not in his ownership.

(5) The General Manager may require to have satisfactory evidence that a full and secure agreement exist between the applicant and the owner of any land not in the ownership of the applicant through which the service pipe will be laid, before commencing work.

(6) Confirmation by the owner in writing of his acceptance of the estimated costs of providing the service or receipt of payment as specified in paragraph (3), shall be construed to be an instruction to proceed with the works and the Authority shall, as soon as is reasonably practicable lay any necessary pipes.

(7) When the General Manager of the Authority is satisfied that all plumbing work which will be connected to the new service has been installed in accordance with these Regulations, and in particular, Part II, the new service will be connected to the Authority's mains.

(8) The Authority shall lay all the communication pipes but may require the person requesting the supply to lay the whole of the service pipe or part of it at his own expense.

Water and Sewerage Regulations

(9) The Authority may elect to lay a main in lieu of all or part of the communication pipe for such distance as it thinks fit but the additional expense of laying such a main, in lieu of communication pipe, will be borne by the Authority.

(10) Where payment made to the Authority under paragraph (3) exceeds the final cost of the works then the excess payment will be returned to the applicant but free of any interest or fee, but if the final cost of the work exceeds any previously paid sum, then the additional cost of the work may be recovered from the owner by the Authority free of any interest or fee.

(11) Upon completion of the work, that part of the service pipe which is a communication pipe will be owned and maintained by the Authority including any meter, and that part of the service pipe which is a supply pipe will be vested in the owner of the premises being served and will be maintained at his expense, except that for a period of three months after the service has been connected to the mains, the Authority will replace or make good, at its expense, any faulty materials in any part of the supply pipe which was installed by the Authority.

(12) Prior to the connection of premises to the main water supply system an inspection of the plumbing system may be carried out at a fee to ensure compliance with Part II of these Regulations.

Multiple or common services

6.—(1) The Authority may, by notice to the owner of any premises supplied or to be supplied by it with water, but who does not have a separate service pipe, require the owner to provide and lay (within three months of the notice) as much of the necessary service pipe as will constitute a supply pipe, and the Authority will lay so much of that service pipe as will constitute a communication pipe and make all necessary connections.

(2) If an owner upon whom a notice has been served under paragraph (1) fails to comply with such a notice, the Authority may itself execute the work which he was required to undertake and the expenses incurred by the Authority in taking such action shall be a debt due from the owner to the Authority and recoverable by action.

(3) Where two or more premises were connected to the public water supply system by a single service immediately before the commencement of these Regulations, the Authority will not require the provision of separate service pipes to these premises until —

- (a) the existing pipe becomes so defective as to require renewal, or is no longer of sufficient hydraulic capacity to meet the needs of the consumers supplied through it;

Water and Sewerage Regulations

- (b) the premises are, by structural alteration to one or more of them, converted into a larger number of separately occupied premises;
- (c) one or more of the premises are transferred into new ownership, in which case those premises which are being transferred may be required to be separately supplied with water;
- (d) the owner or occupier of any of the premises has caused or permitted interference with the existing supply pipe in such a way as to interrupt the supply of water to another premises supplied by such existing service pipe; or
- (e) any charges or rates in respect of water supplied to any of the premises remain unpaid ninety days after payment is due.

Discontinued supplies, disconnections and re-connections

7.—(1) A consumer who wishes to discontinue the supply of water to his premises shall give two working days notice of his intention to the Authority.

(2) No consumer shall connect or disconnect any meter or communication pipe of the Authority.

(3) A consumer who wants connection or disconnection of any meter or communication pipe shall give not less than two working days notice in writing to the Authority indicating in his notice the date and time he wishes the disconnection or re-connection to be carried out.

(4) A fee may be charged for each disconnection or re-connection carried out under this Regulation.

(5) A consumer who contravenes paragraph (2) commits an offence and shall be liable on summary conviction to a fine not exceeding five hundred dollars.

Damage to property vested in the Authority

8.—(1) If any person wilfully or negligently damages or destroys or causes to be damaged or destroyed any water fitting belonging to the Authority, he commits an offence and is liable on summary conviction to a fine not exceeding five hundred dollars.

(2) The Authority shall do all such work as is necessary to repair any damage or loss and any expenses incurred in so doing shall be a debt due from the offender to the Authority and shall be recoverable by action.

(3) If a person wrongfully takes, uses or diverts water belonging to the Authority or supplied by it, he commits an offence and is liable, on summary conviction to a fine not exceeding five hundred dollars.

Water and Sewerage Regulations

(4) These Regulations shall not repeal any section of the Criminal Code and a person found guilty of an offence under these Regulations may also be charged under the relevant section of the Criminal Code.

(5) Any person who —

- (a) fraudulently alters the index of any meter used by the Authority for measuring the water supplied by the Authority; or
- (b) prevents any such meter from registering correctly the quantity of water supplied;

notwithstanding any other right or remedy of the Authority, commits an offence and is liable on summary conviction to a fine not exceeding ten thousand dollars or to imprisonment for a period not exceeding three months or both.

(6) The Authority may do all such work as is necessary for securing the proper working of the meter and the expenses incurred in so doing together with the calculated value of any water fraudulently abstracted or used shall become a debt due from the offender to the Authority and recoverable by action.

(7) For the purpose of these Regulations, if it is proved that a consumer has altered the index of a meter, the burden of proving that he did not alter it fraudulently shall rest on him.

(8) The existence of any artificial means under the control of a consumer for preventing a meter from registering correctly, or for enabling him to abstract or use water shall be evidence that he has fraudulently prevented the meter from registering correctly or, has fraudulently abstracted or used water.

(9) If any person wilfully or negligently and without the consent of the Authority damages any valve, stopcock or other work or apparatus belonging to the Authority or attaches any pipe or apparatus to a main or service pipe, he commits an offence and is liable, on summary conviction to a fine not exceeding five thousand dollars and, whether proceedings are taken against him in respect of the offence or not, the costs of repairing any damage suffered by the Authority together with the value of any water lost as a result of the offence, and calculated by the Authority, shall become a debt due to the Authority from the offender and shall be recoverable by action.

(10) Paragraph (9) shall not apply to a consumer operating a stopcock fixed on the service pipe supplying his premises so long as he has obtained the consent of any other consumer whose supply might be affected by his action.

(11) Any person who uses any unauthorised pipe or apparatus which has been attached to a main or service pipe shall be liable as if he himself had made the attachment, unless he can prove that he did not know or had no grounds for suspecting that it was not a legally installed piece of pipe or apparatus.

Water and Sewerage Regulations

Water rates and charges

9.—(1) Water rates and charges shall be levied and varied by the Authority from time to time in accordance with the Water and Sewerage Authority Act, 1984 and shall be payable and recoverable in accordance with these Regulations.

(2) The charges shall be paid within fifteen days of the date of the invoice at the office of the Authority or other designated payment point.

(3) Any person who disputes the amount due in respect of water rates and charges or his liability to pay any part or all of the charges levied shall give notice in writing of any such dispute within fifteen days of the date of the invoice.

(4) Failure to give notice of dispute will render the consumer liable to pay the full amount due.

(5) Where notice of a dispute has been given in accordance with paragraph (3), then payment shall be made within fifteen days of the date on which the dispute is withdrawn or settled by agreement or, on the application of either party, has been settled by due process of law.

(6) Payment may be made over some longer period in a manner specified by the General Manager.

(7) Where a person fails to make payment of the amount due within fifteen days of the due payment date, or an alternative payment date established under paragraph (6), the Authority may cut off the supply of water to his premises.

(8) Any expenses incurred by the Authority in disconnecting the water supply together with any outstanding water charges shall be a debt due from the disputee to the Authority and recoverable by action.

(9) Where the Authority supplies water by meter, the register of the meter shall be *prima facie* evidence of the quantity of water consumed.

(10) In the event of a dispute arising as to the quantity of water consumed the Authority may arrange for the meter to be tested.

(11) If the test indicates that the meter is registering within five percent of a true reading then the index reading shall be deemed to show the quantity of water consumed and the Authority may recover any costs it has incurred in carrying out the test.

(12) If the meter index is in error to a greater degree than five percent then the meter shall be deemed to have been in error to that degree during two accounting periods prior to the date of the disputed reading.

(13) If the actual date upon which the meter commenced to read inaccurately can be determined then that date shall be taken as the date from which the meter readings should be adjusted.

Water and Sewerage Regulations

(14) Any underpayment or overpayment of charges calculated as a consequence of meter error will normally be carried over to the next accounting period, except that in the event of overpayment in excess of fifty dollars, a refund payment may be made, at the discretion of the General Manager, at an earlier time.

(15) No owner or occupier of any premises shall be exempted from the payment to the Authority of water charges in respect of any water supplied to him by the Authority or in respect of any other charge, fee, rental or expense which the Authority is entitled to receive under these Regulations.

(16) Each registered customer shall be liable for the payment of all services rendered to the premises under his name.

(17) The liability under paragraph (16) shall continue even if the customer has ceased to use the service and it continues to be used by another person, with or without the registered customer's consent and the registered customer's liability shall cease only when he requests the Authority to discontinue the service.

(18) The Authority may transfer any debt for services rendered under one account to any other account held by the customer.

(19) The Authority may refuse an application made to it for any of its services if the applicant is indebted to the Authority in any respect.

Erection on and around property of the Authority

10.—(1) No person shall erect any building, wall or other permanent structure over mains, communication pipes or other property of the Authority.

(2) No person shall erect any building, wall or other permanent structure within six feet of any main or within three feet of any communication pipe without the permission of the General Manager.

(3) Such permission is dependent upon the general Manager being satisfied that any property in the ownership of the Authority will be adequately protected against damage during and after completion of the structure.

(4) In the event of any person wishing to build over or within the distances indicated in paragraph (2) of any main, communication pipe or other property of the Authority he shall bear all the costs of diverting the Authority's property along an alternative route or of providing some other form of protection to the Authority's property which shall be carried out to the specification of the General Manager.

Water and Sewerage Regulations

PART II

PREVENTION OF WASTE, UNDUE CONSUMPTION, MISUSE OR CONTAMINATION OF WATER

Waste and undue consumption

11.—(1) No person shall —

- (a) install, alter, disconnect or use a pipe or fitting to convey or receive water supplied by the Authority; or
- (b) cause a pipe or fitting to be installed, altered, disconnected or used —

in such a damaged, faulty or worn condition that the pipe would waste, unduly consume, misuse or contaminate water supplied by the Authority or contravene any of these Regulations.

(2) These Regulations shall not require any person to remove, replace, alter, disconnect or cease to use any water fitting lawfully installed or lawfully used or capable of use before the commencement of these Regulations except that if in the opinion of the General Manager, waste, misuse or undue consumption is occurring or is likely to occur then he may request that the installation is altered by the consumer to comply with the Regulations within three months.

(3) Notwithstanding paragraph (2), if in the opinion of the General Manager, pipes, fittings or other apparatus which were lawfully in use or capable of use before the coming into force of these Regulations are causing a hazard or potential hazard to the health of the occupants of the premises or to other consumers connected to the public water supply system, he may require an immediate alteration of the installation to comply with the Regulations.

(4) If the owner or occupier of premises of which the water installation, in the opinion of the General Manager, poses a threat to the health of the occupants or others, as described in paragraph (3), refuses to make the appropriate alterations within a reasonable period of time, then the General Manager may arrange the disconnection of the property from the public water supply system.

(5) The owner of any property disconnected under paragraph (4) who wishes to have his property reconnected will be considered as an applicant for a new supply and the entire water installation of his premises will be considered as an application for a new supply and the entire water installation of his premises will be subject to these Regulations except paragraph (2).

(6) Subject to any express provision to the contrary, these Regulations shall not apply in respect of any pipe or fitting installed or used in connection with water supplied for non-domestic purpose where the water supplied is metered and is taken for a period not exceeding one month, or for a longer period specified by the General Manager in writing.

*Water and Sewerage Regulations***Prevention of contamination by contact with unsuitable substances**

12.—(1) No supply pipe, distributing pipe or other water fitting shall be laid or installed in, on or pass into or through any foul soil, refuse, sewer, drain, cesspool, or any manhole connected with any sewer, drain or cesspool.

(2) No supply pipe, distributing pipe or other water fitting made of any material which is susceptible to permeation by any gas which causes or is likely to cause contamination of the water in that pipe or fitting shall be laid in a place or position where such permeation can occur or is reasonably likely to occur.

(3) No supply pipe, distributing pipe or other water fitting made of any material which is susceptible to deterioration by contact with any substance which causes or is likely to cause contamination of the water in that pipe or fitting shall be laid in a place or position where such deterioration can occur or is reasonably likely to occur.

(4) No material or substance which causes or is likely to cause contamination of the water shall be used in the construction or installation of any pipe or water fitting which conveys or receives water supplied for domestic purpose.

(5) Paragraph (4) shall not apply to:

- (a) any hosepipe used in connection with a clothes washing machine or dishwasher or for watering a garden or washing a vehicle kept for private use where the pipe or fitting to which the hosepipe is or may be connected incorporates a check valve or some other no less effective device to prevent the backflow or backsiphonage of water through that hosepipe;
- (b) any flushing cistern;
- (c) any feed cistern connected to a primary circuit;
- (d) any closed circuit; or
- (e) any warning pipe.

(6) No pipe, pipe fitting or storage shall be internally lined or coated with coal tar or any substance which contains coal tar.

(7) No lead pipe or other water fitting or storage cistern made from or internally lined with lead shall be installed, whether or not by way of replacement or repair of a similar pipe or cistern, after the commencement of these Regulations.

(8) No copper pipe shall be connected to or incorporated with any lead pipe, whether or not by way of replacement or repair, unless suitable means are employed to prevent, as far as is reasonably practicable, corrosion through galvanic action.

Prevention of contamination by backsiphonage, backflow or cross connection

13.—(1) No supply or distributing pipe which conveys, or cistern which receives water supplied for domestic purpose shall be connected so that it can convey or receive water supplied for non-domestic purpose.

Water and Sewerage Regulations

(2) The requirement under paragraph (1) shall not apply to a cistern or any pipe conveying water from such a cistern to a point of use if water is discharged into that cistern through a type 'A' air gap.

(3) No pump or other apparatus shall be connected in or to a supply pipe for the purpose of increasing the pressure in or rate of flow from a service pipe or any water fitting connected on or to a service pipe, except with the prior written consent of the General Manager.

(4) No supply pipe or pump delivery pipe drawing water from a supply pipe shall convey or be connected so that it can convey water from a distributing pipe, a storage or flushing cylinder, a pump delivery pipe drawing water from a distributing pipe or cistern or a pipe or vessel pressurised by compressed air or gas.

(5) No closed circuit shall be connected to a supply pipe except through a temporary connection installed for the purpose of charging the closed circuit, provided that the connection is made through a combination of a check valve and vacuum breaker or a double check valve assembly which is permanently connected to that circuit and the temporary connection is removed after use.

(6) No pipe forming part of a cistern fed vented primary circuit shall be connected to any pipe forming part of a secondary system.

(7) Subject to paragraph (8), every draw off-tap or similar fixed fitting (other than a shower hosepipe) installed to discharge into a bath, sink, wash basin or similar fixed appliance (other than a bidet) shall:

- (a) incorporate a double check valve assembly;
- (b) have fitted as close as is practicable to the point of draw-off or use some other no less effective device to prevent the backflow or backsiphonage of water; or
- (c) ensure that the vertical distance between the point of discharge of a draw-off tap or other fixed fitting and the spill-over level of the bath, sink, basin or other water receiving fitting is not less than the amount indicated in the Second Schedule in relation to the size of the tap of the appropriate size.

(8) Paragraph (7) shall not apply to any draw-off tap or other water fitting where:

- (a) the tap or fitting draws water by gravity only from a cistern, cylinder or tank having a vent pipe open at all times to the atmosphere;
- (b) the vertical distance between the point at which the pipe supplying water to that tap or fitting connects to the cistern, cylinder or tank and the spill-over level of the relevant bath, sink or other appliance is not less than one inch;
- (c) the pipe supplying water to that tap or fitting does not supply any other tap or fitting (other than a draining tap) at a lower level.

Water and Sewerage Regulations

(9) Subject to paragraph (10) every draw-off tap or other water fitting which incorporates a shower hosepipe (whether or not operated manually or fitted with an automatic diverter) installed to discharge water into a bath, shower tray, sink, wash basin or similar fixed appliance (other than a bidet) shall:

- (a) incorporate a double check valve assembly;
- (b) incorporate a check valve and vacuum breaker; or
- (c) have fitted as close as is practicable to the point of draw-off or use, some other no less effective device to prevent the backsiphonage or backflow of water.

(10) Paragraph (9) shall not apply to any draw-off tap or other water fitting where:

- (a) the tap or fitting is installed in accordance with paragraph (8);
- (b) the showerhead of any shower hosepipe is constrained by a fixed or sliding attachment so that it can only discharge water at a point above the spill-over level of the relevant bath, shower tray, or other fixed appliance; or
- (c) the vertical distance between the showerhead of any unconstrained shower hosepipe and the spill-over level of the relevant bath shower tray or other fixed appliance is not less than the figure specified in the table in the Second Schedule in relation to the tap of the appropriate size.

(11) No hosepipe other than a hosepipe used in accordance with Regulation 12(5) or a shower hosepipe fixed in accordance with paragraphs (9) and (10) shall be connected to a draw-off tap or other similar fitting for use either inside or outside the premises unless the draw-off tap or other fitting to which the hosepipe is attached:

- (a) draws water by gravity only, from a cistern by means of a pipe which does not supply water to a draw-off tap or similar fitting (other than a draining tap) at a lower level; or
- (b) is on domestic premises, or elsewhere with the written consent of the General Manager and incorporates as close as is reasonably practicable to the point of draw-off or use either a double check valve assembly or some other, no less effective backflow prevention device.

(12) No bidet which is equipped with any type of submersible spray, or any draw-off fitting to which a hand held flexible spray is or can be attached shall be connected to any supply pipe.

(13) Subject to paragraph (12) every bidet connected to a supply pipe shall be of the over-rim water feed type and shall be installed so that the vertical distance between the outlet point of any draw-off tap or similar fitting and the spill-over level of the bidet is not less than the figure specified in the Second Schedule.

Water and Sewerage Regulations

(14) No hot water pipe or water heater which supplies hot water, and no distributing pipe which supplies cold water to a bidet shall also supply water to any other draw-off tap or similar fitting except a draining tap which can discharge water at a point below the spill-over level of the bidet.

(15) Paragraph (14) shall not apply to —

- (a) a supply pipe supplying water to a bidet which complies with the requirements of paragraphs (13) and (14);
- (b) a distributing pipe which supplies cold water only to a flushing cistern or to a urinal; or
- (c) a hot water pipe which supplies hot water only to a bidet and which is fitted with a check valve and vent pipe arranged to prevent the backflow or backsiphonage of water from a bidet or is fitted with some other no less effective backflow prevention device.

(16) Every clothes washing machine, dishwasher or tumbler drier connected permanently or temporarily to the water service in any premises shall incorporate either a Type 'B' air gap or pipe interrupter, which if removed, renders the machine inoperable.

(17) Subject to paragraph (18), every machine of the kind specified in paragraph (16) which is either temporarily or permanently connected to the water service, elsewhere than in a domestic dwelling, shall in addition to being fitted with a Type 'B' air gap or pipe interrupter, draw water by gravity only from a storage cistern.

(18) The requirements for machines in non-domestic premises shall not apply where the supply pipe to a storage cistern feeding the machine is fitted with a backflow prevention device and that cistern supplies water only to one or more machines of the type listed in this Regulation.

(19) The inlet pipe of every ion-exchange common salt regenerated type water softener used in connection with a clothes washing machine or dishwasher shall be fitted with a check valve and vacuum breaker except where the supply of water to such a softener passes first through the backflow prevention device incorporated with that washing machine or dishwasher in accordance with paragraph (16).

(20) Every supply pipe conveying water to a cistern (whether or not fitted with a float operated valve) shall, if the cistern receives or contains, or is likely to contain any substance which is or is likely to be harmful to health, incorporate a type 'A' air gap.

(21) Every supply pipe conveying water to a cistern (whether or not fitted with a float operated valve) shall, if the cistern supplies water to a primary circuit, or is a flushing cistern, incorporate either a Type 'B' air gap, a pipe interrupter, a check valve and vacuum breaker, or a double check valve assembly.

Water and Sewerage Regulations

(22) The requirement under paragraph (21) shall not apply to a supply pipe conveying water to a cistern which complies with Regulations 14(1) and (2) or is fitted with a float operated valve of a reducing flow type which will prevent backsiphonage through it if a vacuum occurs in the feed pipe.

(23) Every pipe through which water is supplied for domestic purpose to a point of use or draw-off where backflow or backsiphonage is, or is likely to be harmful to health by reason of a substance which is continuously or frequently present in contaminated water, shall incorporate a type 'A' air gap.

(24) If such a substance is present in contaminated water, then every pipe through which water is supplied to the point of use or draw-off shall incorporate

- (a) a type 'A' or type 'B' air gap;
- (b) a pipe interrupter;
- (c) a combination of check valve and vacuum breaker;
- (d) double check valve assembly; or
- (e) some other, no less effective, backflow prevention device.

(25) Every pipe through which water is supplied for domestic purpose to a point of use or draw-off where backflow or backsiphonage is not, or is not likely to be harmful to health shall incorporate a check valve or some other, no less effective backflow prevention device.

(26) Paragraphs (23), (24) and (25) shall not apply where a pipe supplying water to a point of draw-off or use is supplied from a cistern which supplies water only to the point of use or draw-off and is installed so that:

- (a) the vertical distance between the spill-over level of any vessel containing used or contaminated liquid and the invert level of the warning pipe in the cistern, is not less than twelve inches;
- (b) the vertical distance between the spill-over level and the lowest point inside the cistern is not less than half an inch; and
- (c) the cistern is fed with water fitted with a type 'A' or type 'B' air gap, a pipe interrupter, a combination of check valve and vacuum breaker, double check valve assembly or some other no less effective backflow prevention device.

(27) Where the contents of any cistern installed to comply with this Regulation are likely to be contaminated by any disturbance or splashing of contaminated liquid in any vessel at a point of draw-off or use it shall be closely covered.

(28) Every:

- (a) supply or distributing pipe which conveys water to two or more separately occupied premises (whether or not they are separately chargeable by the Authority for supply of water); and

Water and Sewerage Regulations

- (b) supply pipe which conveys water to premises, in which either voluntarily or under any enactment have installed or are required to install a storage cistern capable of holding sufficient water for not less than twenty-four hours ordinary use

shall be fitted with a combination or combinations of check valves, vacuum breakers, double check valve assemblies or some other no less effective backflow prevention device, as will effectively prevent the backflow or backsiphonage of water from one premises to another or from any floor or level of a building to a lower floor or level.

(29) In any premises, other than a domestic dwelling, every supply pipe and pipe for supplying water solely for fire-fighting purposes shall be clearly and indelibly marked so that such pipes are readily distinguishable from each other and from every other pipe in those premises.

(30) No water fitting shall be connected to any pipe installed solely for the supply of water for fire-fighting purpose except a water fitting or other equipment installed solely for those purposes.

(31) Every backflow prevention device shall, so far as is reasonably practicable, be installed so that it is accessible for examination, repair or replacement.

Prevention of waste or contamination of stored water

14.—(1) Every storage cistern for water supplied for domestic purposes shall

- (a) be installed in a place or position which will prevent the entry into that cistern of surface or ground water, foul water or water which is otherwise unfit for human consumption;
- (b) be insulated against heat;
- (c) if constructed of a material which will or is likely to contaminate stored water, be lined or coated with an impermeable material designed to prevent such contamination; and
- (d) have a rigid, close fitting and securely fixed cover which
 - (i) is not airtight;
 - (ii) excludes light and insects from the cistern;
 - (iii) is made of material which does not shatter or fragment when broken and which will not contaminate any water which condenses on its underside.

(2) Covers for cisterns of a capacity greater than two hundred and fifty gallons shall be constructed so that the cistern may be inspected and cleansed without having to be wholly uncovered and be made to fit closely around any vent or expansion pipe installed to convey water into the cistern.

Water and Sewerage Regulations

- (3) Every storage cistern shall be installed in a place or position such that —
 - (a) the inside can be readily inspected and cleansed;
 - (b) any float-operated valve or any other device used for controlling the inflow of water may be readily installed, repaired, renewed or adjusted; and
 - (c) it is adequately supported to avoid distortion or damage to it or to any water fitting connected directly to it.
- (4) Every pipe supplying water to a storage cistern shall be fitted with a float operated valve or some other no less effective device for controlling the inflow of water by preventing any overflow, except that this Regulation shall not apply to a pipe connecting two or more storage cisterns each of which has the same overflow level.
- (5) Every float operated valve or other device which controls the inflow of water to a storage cistern shall be securely and rigidly fixed to that cistern and installed so that the inflow of water is shut off when the level of water in the cistern is not less than one inch below the overflowing level of that cistern or, where the cistern is fitted with a device specified in paragraphs (11), (12) or (14), is not less than two inches below the overflowing level of that cistern.
- (6) Every feed pipe supplying water to a valve or other device specified in paragraph (5) shall be connected, braced and supported so as to prevent it from moving or buckling as a consequence of the thrust force generated at the valve due to water pressure when the valve or device is closed.
- (7) No vent pipe connected to a cistern-fed primary circuit shall be installed to convey water into a cistern which supplies water to a secondary system and no warning or overflow pipe from any cistern connected to a vented primary circuit shall be installed to convey water to any cistern from which water may be drawn for domestic purposes.
- (8) In every double feed indirect cylinder from which stored hot water is, or may be drawn for domestic purposes, the pressure in the primary heater, within the cylinder shall not exceed the pressure of the stored water under normal operating conditions, except that this requirement shall not apply if the primary heater has no joints or is constructed so that any joints will withstand the differential pressure between the primary heater and the inside of the cylinder under normal operating conditions.
- (9) No single feed indirect cylinder shall be connected directly to any supply pipe and every such cylinder shall have a permanent vent to the atmosphere and be so constructed and installed so that no water in the primary circuit shall mix with water in the secondary circuit when operating at a sustained temperature not exceeding 80°C.

Water and Sewerage Regulations

(10) Every storage cistern which has a capacity exceeding two hundred and fifty gallons shall subject to paragraphs (11), (12) or (14) be fitted with an overflow pipe and a warning pipe and every other storage cistern shall be fitted with a warning pipe only.

(11) The fitting of both an overflow pipe and a warning pipe shall not be required for cisterns having a capacity exceeding one thousand two hundred and fifty gallons but not greater than two thousand five hundred gallons if the cistern is fitted with an instrument which indicates when the water level is not less than one inch below the overflowing level of the lowest overflow pipe.

(12) In the case of cisterns having a storage capacity in excess of two thousand five hundred gallons the fitting of both an overflow pipe and a warning pipe will not be required provided that the cistern is fitted with an audible or visual alarm operating independently of the valve or device controlling the inflow of water and indicated when the water in the cistern is about to overflow.

(13) The storage capacity under paragraph (12) means the volume of water which the cistern is capable of holding measured to its overflowing level.

(14) Storage cisterns of a capacity greater than five hundred gallons into which water may be delivered from either a supply pipe or from some other source shall be fitted with a device or designed in such a manner that an independent warning of overflow resulting from the failure of the mains supply control valve is possible.

(15) Every warning pipe is to be installed so as to discharge immediately when the water level in the cistern reaches overflowing level.

(16) No warning or overflow pipe shall comprise or include or have connected to it any flexible hose.

(17) No warning pipe shall be connected to any other warning or overflow pipe except in the case of two or more flushing cisterns, each of which has the same overflowing level and where two or more such flushing cisterns are fitted with a common warning pipe it shall be so connected as to readily identify the source of any overflow.

(18) Every float operated valve installed in any cistern or other apparatus shall

- (a) be capable of controlling the flow of water into that cistern or apparatus;
- (b) be watertight when closed;
- (c) be fitted with a renewable seat and washer which are resistant to both corrosion and erosion by water; and
- (d) on installation, be capable of withstanding, without leaking when closed, an internal water pressure 1.5 times the pressure to which it will ordinarily be subjected.

Water and Sewerage Regulations

(19) The float of any float operated valve shall be constructed of a material capable of withstanding any water temperature in which it operates or is likely to operate without leaking and shall have a volume, lever arm length and mass such that it is capable of holding the valve to a droptight closure against the highest pressure to which the valve is subject whilst no more than half submerged.

(20) The lever of any float operated valve shall be capable of resisting any significant bending or distortion when subjected to a bending moment of twice that to which it is normally subjected and, in the case of a half inch valve, designed and constructed so that the water shut-off level may be adjusted without bending the float lever.

(21) No float-operated valve shall be installed to convey hot water to any cistern unless:

- (a) it is constructed with materials capable of withstanding, without leaking, any normal operating temperatures to which it is or may be subjected; and
- (b) so far as is reasonably practicable, its operation is not, and is not likely to be impaired or prevented by the deposition of solids coming out of solution in the water as a result of the heating process; and
- (c) having regard to any solids which are or are likely to be deposited on the valve or float, it is adjusted to prevent any overflow.

(22) Every valve or device for controlling the inflow of water into any storage cistern (other than a float valve) shall be capable of controlling the flow of water into that cistern.

(23) No storage cistern for water supplied for non-domestic purposes and no cylinder or water fitting used in connection with it shall be installed in a place or position which may result in the stored water becoming unfit for its intended purpose.

(24) Every pipe which conveys water supplied by the Authority to a drinking trough or drinking bowl for animals or poultry shall be fitted with a float-operated valve or some other, no less effective device to control the inflow of water and prevent any overflow.

(25) Drinking troughs and bowls shall be regarded for the purposes of paragraphs (3), (4) and (5) as if they were storage cisterns.

(26) Every pond, fountain or pool, the capacity of which exceeds two thousand five hundred gallons and which is filled or supplied with water from the Authority's mains shall have an impervious lining or membrane to prevent the leakage or seepage of water.

Water and Sewerage Regulations

Prevention of waste of water from damage to water fittings from causes other than corrosion

15.—(1) The vertical distance between the top of every pipe or other water fitting laid or installed below ground level shall not be less than eighteen inches or more than thirty-six inches except that where it is impracticable to comply with this requirement, a pipe or other water fitting shall be laid or installed as deep as is reasonably practicable below finished ground level.

(2) Paragraph (1) shall not apply to any pipe or other water fitting which is laid or installed in the ground below any building or structure of a permanent nature constructed directly into the ground and affording adequate protection to pipes and fittings laid below ground.

(3) Paragraph (1) shall apply to buildings or structures which are raised above the ground surface and affording no protection to the pipe or fittings.

(4) Every pipe or other water fitting whether installed inside or outside a building or structure shall as far as is reasonably practicable be effectively protected against mechanical damage.

(5) Every pipe made of plastics which is likely to be damaged by exposure to oil or petrol shall, as far as is reasonably practicable, be covered or otherwise be effectively protected against such damage.

Prevention of waste from contamination by unsuitable or improperly installed water fittings

16.—(1) No water fitting which conveys water supplied by the Authority for domestic purposes shall be made, wholly or partly, or coated with any material or substance which contaminates or is likely to contaminate such water by altering its colour, odour, taste or composition.

(2) Every water fitting shall be constructed with materials, the nature, strength and thickness of which (including any internal lining or external coating) will prevent, as far as is reasonably practicable, damage from any external load, vibration, stress, settlement, internal water pressure, internal or external temperatures or corrosion.

(3) Every water fitting which is installed below ground or passes through or under any wall, footing or foundation or is embedded in any wall or solid floors or is enclosed in any chase or duct or is in any other position which is inaccessible or to which access is difficult shall be:

- (a) constructed to withstand without bursting, buckling, fracture or leaking, an internal pressure twice that to which it will normally be subject;
- (b) installed to withstand any reasonably foreseeable movement (including movement caused by thermal changes) in the pipe; and
- (c) except in a closet circuit, resistant to dezincification.

Water and Sewerage Regulations

(4) Every pipe shall be adequately supported and secured so as to avoid damage from any airlock, pressure surge or vibration within the pipe.

(5) Every pipe which supplies or may supply, water for domestic purposes shall be flushed to remove debris before it is first used after installation, renewal or repair.

(6) Every supply pipe installed in a dwelling which supplies cold water for domestic purposes to any tap shall be installed in such a place or position that, as far as is reasonably practicable the water will not be warmed by the proximity of the pipe to any hot water system or water heater when it is drawn from the tap.

(7) No metal pipe which is installed in the ground or passes through or under any wall, footing, or foundation or is embedded in any wall or solid floor or is enclosed in any chase or duct or is in any other place or position to which access is difficult shall be connected to any other water fitting by means of any adhesive.

(8) No pipe or other water fitting shall be embedded in any wall or solid floor or installed in or below a solid floor or under a suspended floor at ground level.

(9) The requirements under paragraph (8) shall not apply to:

- (a) a pipe or fitting installed in a chase or duct in a wall or solid floor which may if necessary be readily exposed;
- (b) a pipe (but not a pipe joint) installed in a pipe sleeve or duct in or under a solid floor which may, if necessary, be readily removed and replaced;
- (c) a pipe installed in an internal wall which is not a solid wall; or
- (d) a pipe under a suspended floor at ground level which may, if necessary, be readily removed and replaced.

(10) Every pipe or part of a pipe which conveys water to a water fitting shall, if the fitting is disconnected be itself disconnected, and shall remain disconnected until the repairs or renewals of the fittings are effected.

(11) No metal pipe or pipe joint or other water fitting shall be connected to any other pipe, pipe joint or other water fitting constructed with a different metal (whether or not by way of repair or replacement) unless deterioration through galvanic action is unlikely to occur or effective measures are taken to prevent such deterioration.

Stopvalves, etc.

17.—(1) In this Regulation

“premises” means any premises to which a separately chargeable supply of water is provided by the Authority and any premises which are occupied as a dwelling, whether or not separately charged for a supply of water.

Water and Sewerage Regulations

(2) Every supply and distributing pipe providing water to premises shall be fitted with a stopvalve to enable the supply to those premises to be shut off without shutting off the supply to any other premises.

(3) Every stopvalve shall as far as is reasonably practicable, be inside the premises, above floor level, as near as possible to the point where the supply first enters the premises, so installed that its closure will prevent the supply of water to any point of use.

(4) Every supply and distributing pipe providing water in common to two or more premises shall be fitted with a stopvalve (whether inside or outside the premises) to which each occupier of the premises has access; and the stopvalve shall be installed so that its closure will prevent the supply of water to all the premises supplied by that common pipe.

(5) Every stopvalve fitted in accordance with paragraphs (2), (3) and (4) shall:

- (a) be watertight when closed;
- (b) be watertight when open and subjected to an internal water pressure of 1.5 times the pressure to which it will normally be subjected;
- (c) except in the case of a plug valve, be so designed or adapted that its seal can be readily renewed;
- (d) not incorporate a loose washer plate; and
- (e) be reasonably resistant to corrosion.

(6) Every supply pipe in a premises shall

- (a) be installed so that when the stopvalve required under paragraphs (2), (3) or (4) in respect of those premises, is closed and any draining tap is open that pipe may be drained; and
- (b) be fitted with a draining tap which is watertight when closed and subjected to an internal hydraulic pressure 1.5 times the pressure to which it is normally subject.

(7) The draining tap specified under paragraph (6) (b) shall be so designed or adapted that its seal can be readily renewed and it is reasonably resistant to corrosion.

(8) No draining tap fitted to a supply pipe shall be buried in or covered with soil or installed so that it is submerged or is likely to be submerged.

(9) Every pipe for conveying water from a cold water storage cistern, the capacity of which exceeds four gallons or a hot water storage cistern, cylinder or tank shall be fitted with a servicing valve as close to that cistern, cylinder or tank as is reasonably practicable.

(10) Every pipe supplying water to a float-operated valve shall be fitted with a servicing valve to shut off the supply of water to the float valve and such servicing valve shall be fitted as close as is reasonably practicable to the float-operated valve.

Water and Sewerage Regulations

(11) No servicing valve shall be installed as the sole means of controlling or preventing the flow of water through any pipe unless that valve complies with paragraph (5).

(12) Every servicing valve shall

- (a) be designed or adapted to operate only by the application of a screwdriver or key except where it complies with paragraph (5) or is installed on a distributing pipe with a static water pressure not exceeding 1 mbar;
- (b) be watertight when closed; and
- (c) be capable of withstanding an internal hydraulic pressure of 1.5 times the pressure to which it will normally be subject, without leaking.

(13) Every vacuum breaker, check valve, double check valve assembly or combination of check valves and vacuum breakers installed in any pipe shall be watertight when closed and capable of withstanding an internal hydraulic pressure of 1.5 times that to which they will be subjected, without leaking.

(14) Every stopvalve and servicing valve installed in accordance with this Regulation shall be placed so that, so far as is reasonably practicable, it can be readily examined, maintained and operated.

Waterclosets and urinals

18.—(1) Every watercloset pan shall be

- (a) supplied with water from a flushing cistern or trough of the valveless type which incorporates siphonic apparatus; and
- (b) so made and installed that after normal use its contents can be cleared effectively by either a single flush or, where the cistern or trough is designed to give flushes of different volumes, the larger or largest of those flushes.

(2) No flushing cistern installed for use with a watercloset pan shall give a flush exceeding one and two-thirds gallons.

(3) Every flushing cistern or trough installed in any premises supplying water to a watercloset pan shall be fitted with a warning pipe and shall be indelibly marked on the inside with a line indicating the water level at which the float-operated valve is to shut off when that cistern or trough operates to comply with the requirements of paragraph (2).

(4) Every flushing cistern or trough designed or adapted to give flushes of different volumes and installed in any premises shall have clearly and permanently marked on it or displayed near it instructions for operating it to obtain different flushes.

Water and Sewerage Regulations

(5) Every urinal which is cleared by water after use shall be supplied with water from a flushing cistern or flushing trough which incorporates siphonic apparatus and is designed or adapted to supply no more water than is necessary.

(6) No cistern or trough used for flushing two or more urinal bowls or stalls or two or more widths of urinal slabs each not exceeding twenty-seven inches in width shall be designed or adapted to fill at a rate not exceeding two and a half gallons per hour for each bowl, stall or twenty-seven inches slab width.

(7) Every pipe which supplies water to a flushing cistern or trough used for flushing a urinal shall be fitted with a flow shut-off device controlled by a time switch and a lockable shut-off valve or some other equally effective automatic device or method for regulating the periods during which the cistern or trough may fill.

(8) The requirements under paragraph (7) shall not apply to a flushing cistern or trough which is manually operated or fills and flushes by the operation of some other fitting, a signal from a photo-electric cell or pressure pad or some other device designed to cause the system to flush only after the urinal has been used.

(9) No pipe shall be installed or arranged to deliver water to any water-closet pan or urinal, bowl, stall or slab except a flush pipe or a warning pipe installed to deliver water into the air not less than six inches above the top edge of a water-closet pan.

Prevention of waste, misuse and contamination of water from draw-off taps, baths, basins, sinks and other fittings

19.—(1) Every bath, wash basin, sink or similar apparatus installed for use in any premises shall be so constructed and arranged that every inlet for water is hydraulically separate from, and unconnected, with any water outlet; and provided with a watertight and readily accessible plug or some other device capable of closing the water outlet.

(2) The requirements under paragraph (1) shall not apply to any

- (a) shower bath or shower tray;
- (b) apparatus to which water is delivered at a rate not exceeding three quarters of a gallon per minute or, in the case of a washing trough three quarters of a gallon per minute to any unit of it, solely from a fitting designed or adapted for that purpose; or
- (c) apparatus installed in any hospital or used in any medical, dental or veterinary practice which is designed or adapted for use with an unplugged outlet.

(3) Every washing trough which consists of two or more units shall be fitted with separate draw-off taps or similar apparatus for each such unit.

Water and Sewerage Regulations

(4) Notwithstanding Regulation 16 (2), every draw-off tap to which water is supplied by the Authority shall

- (a) be capable of operating effectively at any water temperature not exceeding 65°C, at any internal water pressure to which it is likely to be subjected to; and
- (b) be made and designed so that it may be easily closed to shut off the flow of water.

(5) Where the draw-off tap incorporates a renewable seal or washer, it shall:

- (a) be made or adapted so that the seal or washer can be readily renewed or replaced;
- (b) be resistant to corrosion; and
- (c) be designed to withstand, without leaking, an internal water pressure of 1.5 times that to which it will normally be subjected.

(6) With the exception of the machines listed in paragraph (7), no clothes washing machine, tumble drier or dishwasher shall be connected to any supply pipe or distributing pipe to which water is supplied by the Authority.

(7) Paragraph (6) shall not prevent the connection of:

- (a) a clothes washing machine which in any complete washing cycle uses not more than six and a half gallons of water for each cubic foot of machine drum or tub volume;
- (b) a clothes washing machine incorporating a tumble drier which, in any complete washing and drying cycle uses not more than twelve gallons of water for each cubic foot of machine drum volume;
- (c) a tumble drier which incorporates a water spray which uses not more than two gallons of water for each pound weight of dry load; or
- (d) a dishwasher which in any complete washing cycle uses not more than one and a half gallons of water for each place setting.

Prevention of waste or contamination of water from any hot water system

20.—(1) No vent pipe from any secondary system shall be connected to or arranged to discharge water into any combined feed and expansion cistern connected to a primary circuit.

(2) Every unvented apparatus or cylinder which stores hot water to be drawn off for use and is supplied with water from a storage cistern shall

- (a) be capable of accommodating any expansion water;
- (b) be connected to a separate expansion cistern or vessel; or
- (c) be so arranged that expansion water can pass back through a feed pipe to any storage cistern to which that apparatus or cylinder is connected.

Water and Sewerage Regulations

(3) Every unvented water heater connected to a supply pipe which is not an instantaneous water heater shall

- (a) be capable of accommodating any expansion water; or
- (b) be connected to a separate expansion cistern or vessel; or
- (c) be installed so that any expansion of water can be accommodated in the pipework of any secondary system, provided that no hot water can enter any communication pipe or supply pipe to which a cold water draw-off is connected.

(4) Every expansion cistern or vessel and every cold water combined feed and expansion cistern connected to a primary circuit shall be

- (a) able to accommodate any expansion water from the primary circuit to which it is connected; and
- (b) installed so that in normal operation the water level is not less than one inch below the overflowing level of the warning pipe connected to it.

(5) Every boiler shall be constructed of materials the nature, strength and thickness of which is capable of withstanding the internal water pressure and operating temperature to which it is or is likely to be subject.

(6) Every pressure relief valve, expansion valve, temperature relief valve or combined temperature and pressure relief valve connected to any boiler or hot water cylinder or storage tank shall

- (a) close automatically after discharging water;
- (b) be watertight when closed;
- (c) be resistant to corrosion;
- (d) be constructed and installed so that the discharge of water from the valve (or from any pipe connected to it) is readily visible; and
- (e) except in the case of a temperature relief valve or the temperature function of a combined temperature and pressure relief valve, discharge water only when it is subject to water pressure 0.5 mbar above the water pressure to which the boiler is or is likely to be subject.

(7) Every unvented hot water cylinder or storage tank which is supplied with water by the Authority (whether or not by means of a storage cistern) and which is fitted with a non-mechanical safety device shall be fitted with a temperature relief valve which

- (a) operates or is designed to operate at a temperature not less than 5°C below that at which the non-mechanical safety device operates or is designed to operate;
- (b) closes automatically after operating; and
- (c) is watertight when closed.

*Water and Sewerage Regulations***Taps for drawing drinking water**

21. In every premises which is supplied with water by the Authority and in which water is or is likely to be drawn for drinking, a draw-off tap shall be fitted to

- (a) a service pipe;
- (b) a pump delivery pipe drawing water from a service pipe; or
- (c) a distributing pipe drawing water exclusively from a storage cistern which is installed in accordance with Regulation 14(1) and supplied with water from a service pipe, or pump delivery pipe drawing water from a service pipe.

Notices to the Authority under Part II

22.—(1) A person who wishes to carry out work specified under paragraph (2) on any premises to which water is supplied by the Authority shall give written notice to the Authority, not less than seven days before he commences the work.

(2) Notice under this Regulation is required in respect of:

- (a) the installation or alteration (other than repair or renewal) of:
 - (i) any bidet;
 - (ii) any flushing cistern;
 - (iii) any hose union tap or tap to which a hose may be connected; or
 - (iv) any water fitting which if there is a backflow or backsiphonage of waste through it will or may contaminate water supplied by the Authority;
- (b) backfilling any excavation in which any pipe which conveys or is intended to convey water supplied by the Authority is laid;
- (c) threading a pipe through any duct which enters a building below ground level;
- (d) embedding a pipe in any solid floor or wall; or
- (e) laying a pipe underground by means of a mole-plough or similar apparatus.

Penalties

23.—(1) Any person who contravenes any of the Regulations under Part II shall be liable on summary conviction to a fine not exceeding five hundred dollars in respect of each offence and fifty dollars in respect of each continuing offence for each day during which the offence continues after conviction.

(2) It shall be a defence for a person charged under paragraph (1) to show that he took all reasonable steps and exercised due diligence to avoid commission of that offence or that he had a reasonable excuse for his act or failure to act.

Water and Sewerage Regulations

PART III

DRAINAGE INTO THE PUBLIC SEWERAGE SYSTEM

New Connections to the public sewerage system

24.—(1) The owner or occupier of any premises who wishes to connect the foul water drainage of his premises to the public sewerage system shall complete an application form obtainable from the Authority.

(2) Upon receipt of a completed application form under paragraph (1) the Authority shall prepare an estimate of the cost of making a connection to the sewerage system to the owner.

(3) If the applicant wishes to discharge industrial waste water to the sewers, then a draft discharge agreement in which the terms and conditions for such a connection are specified shall be written.

(4) Confirmation in writing by the owner of his acceptance of the estimated costs of making the connection to the sewer or receipt of payment under paragraph (8) and, if applicable, his acceptance of the terms and conditions of the draft discharge agreement in the case of industrial waste water, shall be construed to be an instruction to proceed with the works.

(5) The Authority shall, after receiving such an instruction to proceed and as soon as is reasonably practicable, construct any necessary manholes, lateral drains and connections, where the General Manager is satisfied that the drainage system to be connected and the discharges to be made into the sewerage system meet all the requirements of these Regulations.

(6) The Authority shall make the connection into the sewer and construct all those works which are required to complete the connection and which lie within the street and may construct part of the drainage system on the owners land or across part or all of any land in the ownership of others through which the drain may need to be laid but may require or permit the owner to construct some or all of the work required outside the street at his expense.

(7) The Authority may decide to lay a main sewer in lieu of part of the lateral drain in the street required to make a connection to the sewer but any additional expense thereby incurred shall be borne by the Authority.

(8) The Authority shall normally require the person requesting the works to pay to it a sum equal to the estimated cost of the works or give some security for payment to the satisfaction of the General Manager.

(9) Where payment made to the Authority under paragraph (8) exceeds the final cost of the work, then the excess payment shall be borne by the owner but without any interest or fee.

Water and Sewerage Regulations

(10) Where the final cost of the work exceeds a previously paid sum then the additional cost of the work shall be recovered from the owner free of any interest or fee.

(11) Upon completion of the work the frontage manhole, normally sited in the street at a point as close as is reasonably practicable to the boundary of the property being connected, together with the lateral drain from that manhole to the sewer and any works at the point where the lateral is connected into the sewer will be owned by the Authority.

(12) All drainage works upstream of the frontage manhole shall be vested in the owner of the premises being drained and will be maintained at his expense, except that for a period of three months after the connection has been completed the Authority will replace or make good, at its expense, any faulty materials in any part of the drainage system installed by the Authority but vested in the owner.

(13) The conditions under which connections may be made to public sewers laid within land in private ownership will be determined by the General Manager.

(14) The applicant shall be responsible for the negotiation of all rights of passage and for the payment of all fees, compensation for damage and all other expenses arising from such rights in relation to any part of the drain from his premises which is laid in private land not in his ownership.

(15) The General Manager may require to have satisfactory evidence that a full and secure agreement exists between the applicant and the owner of land through which the drain will be laid and which is not in the ownership of the applicant, before permitting the connection to the sewer to be made.

Obligation to connect to the public sewer

25.—(1) All domestic premises or premises discharging domestic waste water, to which a public water supply is connected or from which domestic waste water may be discharged and situated

- (a) adjacent to a street in which a public sewer has been constructed; or
- (b) within a drainage area approved by resolution of the Board of the Authority.

shall be connected to the sewer, at the expense of the owner of the premises, within two years of the sewer being put into service.

(2) Where the owner of premises, which meets the criteria under paragraph (1) does not connect his premises to the public sewer within two years of the sewer being put into service, he will be liable to pay to the Authority a sum at least equal to the rates or charges which he would have incurred if the premises had been connected to the public sewer from the time the sewer was first put into service, or from some later date when the premises was first occupied.

Water and Sewerage Regulations

(3) The obligation on the owner to pay to the Authority a sum based upon the rates or charges which he would have paid if his premises had been connected to the sewer, will continue for so long as the premises remain unconnected to the sewer and the owner of the premises will be charged rates and charges as if the premises were connected to the sewer.

(4) It may be deemed possible for premises adjacent to a street in which a sewer has been laid to be connected to the sewer even if the premises lie at a lower level than the sewer; in such circumstances however the pumping equipment necessary to raise sewage to the frontage manhole will be provided and installed at the expense of the owner and will be subject to part IV of these Regulations.

(5) Where the circumstances relating to any individual premises are such that it is not technically possible to connect the premises to the sewer then the owner may seek exemption from his obligation under paragraphs (3) and (4).

(6) The exemption shall be determined by the General Manager and the exemption shall be confirmed to the owner, in writing, by the General Manager.

(7) The owners of buildings adjacent to a street but constructed after the installation of sewers in the street, shall connect those buildings to the sewer, at the time of construction of the buildings, if the building is or will be connected to the public water supply on its completion or the use and occupation of the building is such that domestic waste water will be, or is likely to be generated.

(8) The owners of buildings connected to the sewer, under paragraph (7) may be required to pay, in addition to the direct costs of connecting the building to the sewer, a contribution towards the costs of constructing the sewage disposal works to which sewage from their property will be drained.

(9) The contribution under paragraph (8) shall be limited to a maximum of 80% of the estimated cost of providing a hypothetical individual sewage treatment plant of a design approved by the General Manager and of a capacity to treat the sewage generated by the new property.

Multiple or common connections

26.—(1) The frontage manhole and lateral drain connecting the frontage manhole to the sewer will normally only accept the drainage from a single building and each individual building shall have an individual frontage manhole and lateral drain.

(2) In some circumstances and at the discretion of the General Manager, two or more buildings may drain to a single manhole known as a junction manhole and serving the same purpose as a frontage manhole.

(3) All such junction manholes to which two or more premises or buildings may drain, shall be owned by the Authority and shall be constructed so that each of the drains connected to it shall drain directly to the junction manhole and shall not be connected to any other drain outside the manhole.

*Water and Sewerage Regulations***Domestic and industrial waste water, surface water and permitted and prohibited discharges to the sewers**

27.—(1) Domestic waste water discharged from any premises will not be subject to any individual discharge agreement between the owners of premises and the Authority where the discharge is less than three thousand gallons per day from the premises.

(2) Before industrial waste water is discharged to the public sewers a discharge agreement will be made between the owner of the premises and the Authority specifying:

- (a) the quantity and content of industrial waste water which may be discharged to the sewer; and
- (b) other terms and conditions which the General Manager deems necessary in the interests of:
 - (i) safeguarding the integrity and effectiveness of the public sewerage and sewage disposal system;
 - (ii) the health and safety of employees of the Authority and members of the general public; and
 - (iii) the legal obligations of the Authority.

(3) If either the nature or quantity of industrial waste water discharge under a discharge agreement change, then the discharge agreement may be modified by an addendum to the agreement.

(4) The classification of particular discharges as industrial or domestic will be determined by the General Manager.

(5) Where it is not practicable, on technical grounds, to avoid the discharge of surface waters into a sewerage system which was, at the commencement of these Regulations, a combined system, an application for such discharge shall be made to the Authority in writing and the General Manager shall decide whether surface water discharges to any sewerage system shall be made.

(6) The discharges referred to under paragraph (5) shall be the subject of a special agreement between the person requesting the connection to the sewer and the Authority and may be subject to such terms and conditions as the Authority shall determine.

(7) Any water abstracted from the ground or from rivers for use in any industrial, commercial or agricultural process, with the exception of water abstracted for the purposes of irrigation, for which a request is received to discharge such water to the sewerage system, will be regarded as industrial waste water.

Water and Sewerage Regulations

(8) The only waste waters which may be discharged into separate sewerage systems, that is sewerage systems from which surface water is excluded, are domestic waste water and industrial waste water as defined in an industrial waste water discharge agreement drawn up between the Authority and the owner of the premises from which the discharge is made.

(9) The only waste waters which may be discharged into combined sewerage systems, that is sewerage systems from which surface water is not excluded, are domestic waste water, industrial waste water as defined in an industrial waste water discharge agreement drawn up between the Authority and the owner of the premises from which the discharge is made, and surface water.

(10) The following shall not be discharged into the sewerage system:

- (a) the contents of cess-pits;
- (b) the contents of septic tanks;
- (c) corrosive liquids or vapours, acids, flammable matter, substances liable to produce an explosion, cyclic hydroxyl compounds and their derivatives, fuels and lubricants;
- (d) chlorinated solvents;
- (e) any other substance which would damage the fabric of the sewers; and
- (f) any disposal works and any substances which would be harmful to the health or safety of employees of the Authority engaged in operating the system.

(11) The temperature at which discharges into the sewerage system will be acceptable shall be specified in the discharge agreement made under this Regulation.

(12) The Authority may at any reasonable time enter any premises for the purpose of taking samples of discharges from the sewerage system.

(13) Each sample taken under paragraph (12) shall be divided into two sealed sample bottles, one of which will be given to the owner of the premises, or his representative and which he may use to carry out his own independent analysis; the other part of the sample will be used by the Authority to carry out its own analysis of the discharge.

(14) Where such samples indicate that the discharge to the sewer conforms with the requirements of these Regulations, the terms and conditions of a relevant discharge agreement and any other current legislation, the costs of taking and testing samples shall be borne by the Authority.

(15) Where the tests on the samples indicate any breach of these Regulations, discharge agreement or other legislation, then the Authority may recover the costs of taking and testing the samples from the owner of the premises.

*Water and Sewerage Regulations***Industrial discharges to sewers**

28.—(1) The connection of industrial, commercial or agricultural premises is not obligatory for the purpose of discharging industrial waste water to the sewers except that the connection of such premises for the discharge of domestic waste water is obligatory under Regulation 25 (1) and (7).

(2) Industrial, commercial or agricultural premises may be connected to the public sewerage system when discharges are compatible with the general conditions applying to such discharges as are made under a discharge agreement and the capacity of the sewage disposal works is sufficient to accept the additional discharge.

(3) The Authority may require the owners of premises discharging both domestic and industrial waste water into a sewer to provide separate connections to the sewer.

(4) A discharge agreement under this Regulation shall specify

- (a) the details of all connections to be undertaken; and
- (b) the quantity and quality of effluents discharged to the sewer; and

may include an obligation on the applicant

- (a) to install and maintain at his expense, a sewage treatment plant to improve the quality of effluent prior to its discharge to the sewer; or
- (b) to make provision for the creation of holding tanks to modulate the flow of effluent to the sewer.

(5) Any pre-treatment plant under paragraph (4) shall be

- (i) constructed or installed;
- (ii) maintained in good order;
- (iii) emptied of separators installed to remove hydrocarbons, oils and greases, grit chambers and grease traps at the expense of the owner.

(6) The owner of a pre-treatment plant may be required to furnish evidence from time to time that maintenance is regular and appropriate.

(7) In the event of a change of use of industrial, commercial or agricultural premises which modifies the discharge of effluent to the sewers, a new discharge agreement may be required by the Authority prior to the change of discharge.

(8) If premises discharging domestic waste water to the sewer undergo a change of use which results in a potential discharge of industrial waste water, a discharge agreement shall be concluded prior to the discharge taking place.

(9) Where the Authority refuses to accept the proposed discharge the applicant shall then be required to adopt some form of private disposal of the industrial waste water from his premises.

Water and Sewerage Regulations

(10) In the circumstances specified in paragraphs (7) and (8), application shall be made to the Authority as if the applicant were making an application for a new connection.

Termination of connections, transfer of agreements

29.—(1) In the event of a building being demolished or altered to such an extent that the sewer connection needs to be terminated, the Authority shall be notified in writing at least fourteen days prior to the demolition, for the Authority to disconnect the premises from the sewer and recover the expense involved from the owner.

(2) In the event of a change of ownership of premises to which a discharge agreement applies and there is no change of use then the discharge agreement will be deemed to have been transferred to the new owner, who will be deemed to have accepted all the obligations under the agreement, provided only that the change of ownership will be notified to the Authority in writing and such notice of change of ownership will be attached as an addendum to the discharge agreement.

(3) When a new connection is made to the sewerage system which connects existing premises to the system, any cess-pit, septic tank or other drainage installation formerly serving the property and rendered redundant by the new connection shall be taken out of operation and rendered incapable of causing nuisance in the future, and in accordance with the provisions of any relevant public health legislation.

Private sewers and conditions for adoption by the Authority

30.—(1) In the event of the owners of private sewerage networks wishing to have such systems transferred to, owned and operated by the Authority, then the network will be inspected and if the system does not conform to the requirements of these Regulations, the Authority may refuse to accept responsibility for the network unless the owner makes repairs, alterations and any other changes which, in the opinion of the General Manager are required to make the system conform to the Regulations.

(2) If private developers, upon their own initiative construct sewerage systems to be taken over by the Authority then such sewers will have to be constructed or altered to conform to the requirements of the Authority.

(3) The Authority shall be under no obligation to adopt such sewers if the standards of design, materials and workmanship are not, in the opinion of the General Manager, of a standard acceptable to the Authority.

(4) Developers who construct private sewerage systems for eventual adoption by the Authority may be required to make a contribution towards the construction, extension or improvement of sewage disposal works proposed or operated by the Authority.

Water and Sewerage Regulations

- (5) The Authority may charge a fee for the inspection of
- (a) sewerage systems which are proposed for adoption by the Authority; and
 - (b) drainage systems, prior to their connection to the public sewerage system.

Sewerage rates and charges

31.—(1) Sewerage rates or charges shall be levied and varied from time to time by the Authority in accordance with the Water and Sewerage Act, 1984; and they shall be payable and recoverable in accordance with these Regulations and not otherwise.

(2) The charges shall be paid within fifteen days of the date of the invoice at the office or offices of the Authority or other designated payment point.

(3) Any person who disputes the amount due in respect of sewerage rates and charges or his liability to pay any part or all of the charges levied shall give notice in writing of any such dispute within ten days of the invoice date.

(4) Failure to give notice of dispute will render the person liable to pay the full amount due.

(5) If a dispute has been notified in accordance with paragraph (3) then payment shall be within fifteen days of the date on which the dispute is determined

- (i) by the withdrawal of the dispute;
- (ii) by the agreement of both parties;
- (iii) on the application of either party, by settlement through the due process of law; or
- (iv) in some manner determined by the General Manager.

(6) The charges for sewerage and sewage disposal may be linked to the quantities of water taken from the public water supply system.

(7) Regulation 9 shall therefore apply to sewerage charges as well as to water charges.

(8) A charge for sewerage and sewage disposal services shall be made against all owners of premises which are connected to the public sewerage system and no owner of such premises shall be exempted from the charges, or in respect of any other charge, fee, rental, or expense which the Authority is entitled to receive under these Regulations.

Damage to public sewerage system, and penalties

32.—(1) If any person wilfully or negligently damages or destroys or suffers to be damaged or destroyed, any manhole, sewer or fitting belonging to the Authority he commits an offence and is liable on summary conviction to a fine not exceeding one thousand dollars.

Water and Sewerage Regulations

(2) The Authority may do all such work as is necessary to repair any damage or loss done and any expenses incurred in so doing shall be a debt due from the offender to the Authority and is recoverable by action.

PART IV

SPECIFICATION OF DRAINS CONNECTED TO THE PUBLIC SEWERAGE NETWORK

Prevention of leakage or infiltration into drainage system

33.—(1) No pipes, fittings or other drainage works, connected to the public sewerage system shall be installed, altered, repaired or replaced in such a damaged, faulty or worn condition that a breach of these Regulations or leakage from the drainage system or the infiltration of ground or surface waters would result from such action.

(2) These Regulations shall not require any person to remove, replace, alter, or cease to use any drainage system or part of a drainage system connected to the public sewerage system which was lawfully installed, used or capable of use before these Regulations became operative, except that if, in the opinion of the General Manager:

- (a) leakage of waste waters from the drainage system;
- (b) infiltration of surface waters into the public sewerage system; or
- (c) the drainage system;

presents a hazard or potential hazard to the health of the occupants of the premises or to any other person or a public nuisance or causes an excessive discharge to the sewerage system, then he may require that the drainage system is altered by the owner to repair any fault in compliance, as far as is practicable, with these Regulations at the earliest reasonable time.

(3) If the owner does not carry out any alterations required under paragraph (2) the Authority may execute the necessary works at the owners expense.

(4) In the event of the owner disconnecting his drainage system from the public sewerage system then, notwithstanding paragraph (2) Regulation 25 shall apply.

(5) The foul drainage systems of all premises connected to the public sewerage system shall be designed, installed and operated so as to exclude all surface waters, except that those drainage systems which at the commencement of these Regulations were discharging surface waters into a combined sewerage system may, continue to operate under paragraph (2).

Sealing of appliances connected to the drainage system

34.—(1) All points of discharge into the drainage system shall be fitted with a water seal or trap to prevent foul air or sewer gases entering the premises through such points of discharge.

Water and Sewerage Regulations

(2) The minimum diameter of the trap and the minimum depth of the water seal in such traps for a number of the most common appliances are specified in the Third Schedule.

(3) Other appliances may be fitted to the drainage system and in such cases the advice of the General Manager shall be sought on the size of trap and depth of seal which shall be required.

(4) For the purpose of these Regulations a standard urinal slab width shall be twenty seven inches.

(5) Where a trap is an integral part of an appliance, it should be removable for the purpose of clearing blockages within the trap; in all other cases traps shall be of such a design that it is possible to remove the trap for the purpose of cleaning or unblocking the trap.

(6) Traps shall be fitted immediately after the appliance, or as close as is reasonably practicable.

Ventilation of the drainage system

35.—(1) A drainage system shall be ventilated to the atmosphere and there shall be fitted in each drainage system connected to the public sewerage system at least one ventilation pipe through which foul air and gases may discharge into the atmosphere.

(2) The ventilation system of each drainage system shall be designed in such a manner that:

- (a) foul air and gases cannot be trapped within the drainage system, ventilation system or any other point within the premises, except that this Regulation shall not prevent the installation of stub stack discharge systems;
- (b) the point of discharge of any ventilation system fitted to a drainage system shall be at least eight feet above the finished ground level;
- (c) no waste water, soil or any other wastes discharged to the drainage system can be trapped within the ventilation system;
- (d) the point of discharge of the ventilation system is three feet or more above any opening in any building on the premises, if such opening is within ten feet horizontally of the ventilation pipe;
- (e) the point of discharge of the ventilation stack is capped with metal mesh or gauze of such gauge as to reasonably prevent the ingress of fauna; and
- (f) no ventilation stack pipe is less than two inches in diameter.

*Water and Sewerage Regulations***Branch pipes and discharge stacks**

36.—(1) All appliances shall drain to a discharge stack, unless they are on the ground floor; all appliances on a ground floor shall discharge to a discharge stack, an unvented stub stack or to a drain.

(2) A branch pipe discharging to a discharging stack shall do so in such a manner as to avoid any cross flow from one branch pipe to another.

(3) A branch pipe from a watercloset on the ground floor shall only drain directly to a drain if the vertical distance between the watercloset trap and the drain is less than five feet.

(4) A branch pipe shall not discharge into a stack pipe lower than two feet above the invert of the drain into which the stack discharges.

(5) A branch pipe shall not be smaller than the size of the trap fitted to the connected appliance.

(6) A branch pipe from a watercloset shall not be less than four inches in diameter.

(7) Stackpipes shall

- (a) be vertical to the level of the highest branch pipe delivering to the stack;
- (b) connect into the drain to which it is connected by a bend with a radius of not less than eight inches;
- (c) have sizes based upon the number of appliances draining to it but should not in any case be less than two inches in diameter;
- (d) be fitted with rodding points to give access to all parts of the stack pipe which cannot be reached in any other way.

(8) Discharge stacks draining water closets shall not be smaller than four inches in diameter.

(9) Unventilated short or stub discharge stacks may be fitted if the level of the highest branch pipe into the stack is no more than seven feet above the invert of the drain to which it is connected.

Foul drainage

37.—(1) The drainage systems from all premises connected to the public sewerage system shall be designed to have the minimum number of changes of direction and gradient and the number of access points to the drainage system shall be as small as possible and consistent while ensuring that in the event of a blockage in any part of the drainage system, access for the purpose of clearing such blockages is possible.

Water and Sewerage Regulations

(2) Drains shall be laid in straight lines and to regular grades and at each change of direction or grade or at the junction of two or more drains an access point shall be provided.

(3) Where it is not reasonably practicable to make an access point precisely at a change of grade or direction then an access point shall be provided

- (i) as close as possible to the change;
- (ii) in straight runs of drain; and
- (iii) the maximum length of drain between access points shall be one hundred feet.

(4) All access points to the drainage system shall be designed to ensure that they are watertight and any covers, hatches or other means of access will exclude surface waters from the drainage system.

(5) At points where drains pass through walls, an annular space of at least two inches shall be provided around the drain pipe.

(6) The space referred to under paragraph (5) may be filled with an approved flexible material or with flexible joints at points as near as is practicable on each side of the wall through which the drain is laid.

(7) Drains which are laid parallel to the walls of buildings shall be protected from movement by appropriate concrete surroundings to the drain.

(8) Drains shall be sized according to the estimated flows but drains carrying only waste water shall not be less than three inches in diameter and drains which will carry soil water shall be not less than four inches in diameter.

(9) All gravity drains shall be laid to fall in the direction of flow such that, in conditions of no flow, no sewage remains ponded within the drainage system.

(10) All drains passing through access points shall be benched with smoothly finished concrete or cement mortar struck off at least to the level of channel within the access and having a reasonable cross-fall to the channel.

(11) Pre-formed access points shall be permissible on drainage systems and this Regulation shall not apply to such units.

(12) Drain pipes may be of asbestos, cement, vitrified clay, concrete, grey iron, PVC., or any other material approved by the General Manager except that some of those materials may not be permissible for the discharge of some trade effluents.

(13) In circumstances where a drain pipe is made of particular material and therefore will not be suitable for a particular trade effluent and hence will not be permitted, the General Manager shall specify it in the discharge agreement made under Part III.

Water and Sewerage Regulations

(14) Rigid pipes shall have flexible joints and all pipe joints shall remain watertight under a head of water equal to the vertical distance from the invert of the lowest point on each drain run to the ground level of the next access point upstream or three feet, whichever is the greater.

(15) After installation of the drainage system and before discharge of effluents to the frontage manhole the drainage system shall be cleared of all rubbish and debris and all excess jointing material.

(16) The General Manager may require certain tests to be carried out on the drainage system prior to connection of the drains to the sewerage system, to satisfy himself that the system will not leak, be infiltrated by groundwater or accept surface water.

(17) Tests conducted under paragraph (16) shall be at the expense of the owner.

Water and Sewerage Regulations

FIRST SCHEDULE

Regulation 2

Bore of pipe or outlet	Vertical distance between point of outlet and spill-over level
Not exceeding 1/2"	3/4"
Exceeding 1/2" but not exceeding 3/4"	1"
Exceeding 3/4" but not exceeding 1 3/4"	3"
Exceeding 1 3/4"	Twice the bore of the outlet

SECOND SCHEDULE

Regulation 13

Size of tap or combination fitting	Vertical distance between outlet and spill-over level of appliance
Not exceeding 1/2"	3/4"
Exceeding 1/2" but not exceeding 3/4"	1"
Exceeding 3/4"	3"

Water and Sewerage Regulations

THIRD SCHEDULE

Regulation 34

<i>Appliance</i>	<i>Trap diameter</i>	<i>Depth of seal</i>
<i>Washbasin</i>	<i>1 1/4"</i>	<i>3"</i>
<i>Bidet</i>		
<i>Sink</i> <i>Bath</i> <i>Shower</i> <i>Food waste disposal unit</i> <i>Urinal bowl, stall or single slab unit</i>	<i>1 1/2"</i>	<i>3"</i>
<i>Watercloset pan</i>	<i>3"</i>	<i>2"</i>
<i>Two or more urinal stalls</i> <i>or slab unit width</i> <i>draining to a single</i> <i>discharge point.</i>		

Made, this 7th day of July, 1995.

DUNSTAN DUBOULAY,
CHAIRMAN,
Water and Sewerage Authority.

Approved by the Minister this 7th day of July, 1995.

ROMANUS LANSIQUOT,
Minister for Tourism, Public Utilities and National Mobilisation
and Civil Aviation.