

5 POLICY IMPLEMENTATION

This Section presents the guiding principles and methods by which the policy recommendations identified throughout the document can be practically implemented.

5.1 Details of Implementation

The proposed means of implementation are contained in Table 5.1.

Report Section	Policy Topic	Implementation Details
2.5.1	Reduce erosion of backfill through use of impermeable cut-offs within the bedding and surround	New water industry construction specification, as contained in New Development Policy.
2.5.1 2.9.1	Use of sustainable drainage systems (SuDS)	Principle is contained in New Development and Environmental Management Policies. Local control measures are most applicable to I/I/E.
2.5.1	Reduce I/I/E through improved specification and inspection of sewerage construction	New water industry construction specification, as contained in New Development Policy. Amendments to sewerage inspection procedures made in New Development Policy.
2.5.1 2.8.3 3.9 4.2	Reduce I/I/E through sealing/isolation of abandoned lateral drains	New water industry construction specification, as contained in New Development Policy. Amendments to sewerage inspection procedures made in New Development Policy.
2.5.1	Reduce I/I/E from private drains by requiring construction to public sewer standards	New water industry construction specification, as contained in New Development Policy.
2.8	Recommend I/I/E flow survey procedure	Drainage Departments to adopt proposed procedures.
2.8.3 3.9 4.2	Reduce I/I/E by requiring survey and renovation as condition of sale	Proposed requirement to be imposed by Drainage Department.
2.9.1	Reduce Inflow by maintaining flap valves and locating faulty manhole covers	Requirement for Council Maintenance Department.
2.9.1	Reduce Inflow by protecting low lying gully traps	Public education, included in New Development Policy on SuDS.
4.1	Short-term measures to reduce I/I/E	Adoption of principles of SRM by Drainage Department. Pilot Study to establish cost-effectiveness in the Dublin Region.

Report Section	Policy Topic	Implementation Details
4.2	Medium-term measures to reduce I/I/E	Set up mis-connections programme by Drainage Department.
4.3	Long-term measures to reduce I/I/E	<p>Set up operational records system by Drainage and Operations Department, with data stored on RDGIS.</p> <p>On-going maintenance of sewer system models by Drainage Department.</p> <p>Set up and maintain risk factors for asset management on RDGIS.</p> <p>Impose tighter construction requirements and location constraints for sewerage near aquifers.</p> <p>Set up register of all water source boreholes and control locations near sewer systems.</p>

Table 5.1 Policy Implementation Details

5.2 Actions and Responsibilities for Implementation

Implementation actions and responsibilities can be grouped as follows:

- Changing construction specification: Drainage Departments to agree changes within New Development Policy;
- Adoption of SuDS: Drainage Departments to agree under Environmental Management and New Development Policies;
- Inspection of private drains: Council Drainage Inspectorate to agree changes;
- Procedures for managing I/I/E: Drainage Departments to agree adoption of Infiltration Reduction Procedure from SRM;
- Establishing Cost-effectiveness of I/I/E reduction: Pilot study for the Dublin Region based on results from the GSDSDS;
- Inspection of new construction: Council Drainage Inspectorate to agree more rigorous inspection regime, as contained in the New Development Policy;
- Maintenance of faulty flap valves and faulty manhole covers: reminder to Drainage Operations Department;
- Survey and renovation of lateral drains: Council Legal Department to impose as condition of sale of premises;
- Mis-connections programme: to be set up by Drainage Department and Drainage Inspectorate;
- Future maintenance of sewer system models: to be set up by Drainage Department;
- Risk factors for I/I/E: to be set up by Drainage Department as part of RDGIS;
- Register of water source boreholes: to be set up by Water Service Authorities under the new Water Bill;
- Restrictions on interface between water source boreholes and sewerage: Water Service Authorities and Drainage Departments to manage through RDGIS.

References

- Grand Canal Drainage Scheme; Dublin Corporation; 1968.
- Rainfall-Derived Infiltration and Inflow: An Innovative Approach; Niehaus; Cincinnati, Ohio, 1995.
- The Roof Drain and Sump Pump Removal Program: An Innovative Approach to Inflow Reduction; Reynolds; City of South Portland, Maine, 1995.
- Reliability of sewers in environmentally vulnerable areas; CIRIA Report 44; Misstear, White, Bishop and Anderson; 1996.
- New Zealand Infiltration and Inflow Control Manual; NZ Water and Wastes Association; 1996.
- Modelling dry weather flow (WaPUG User Note No.33); Armstrong; 1996.
- Drain and sewer systems outside buildings, European Standard EN 752, Parts 1 to 7; 1996 to 1998.
- Control of infiltration to sewers; CIRIA Project Report for RP501; White, Johnston, Anderson and Misstear; 1996.
- Dry weather flow in sewers; CIRIA Report 177; Ainger, Armstrong and Butler; 1998.
- Modelling Inflow and Infiltration in Separated Sewer Systems; Swarner and Thompson; Seattle, Washington, 1999.
- Controlling Inflow and Infiltration in Wastewater Collection Systems; Wade; 1999.
- Combined Sewer Overflow Technology Fact Sheet - Inflow Reduction, United States Environmental Protection Agency; 1999.
- Infiltration/Inflow studies in Singapore; Sharpe and Turner; WaPUG Spring Meeting, 1999.
- Lower Liffey Valley Regional Sewerage Scheme, Preliminary Report; P.J.Tobin & Co. Ltd; 2000.
- New Approach to Sanitary Sewer Overflow Evaluation Yields Surprising Results; Keefe; Mentor, Ohio, 2000.
- Dublin Docklands Drainage Study; Doyle and Hennelly; ICE/IEI Meeting, 2001.
- Sewers for Adoption (5th Edition); Water UK/WRC; 2001.
- Edinburgh Long Term Flow Monitoring – The Uses and Benefits; Friend and Hill; WaPUG Spring Meeting, 2001.
- Infiltration and Inflow, Infiltration or Inflow – Which is the Problem; Merrill, Lukas, Swarner and Klusman; Seattle, Washington, 2001.
- Pilot Study for Inflow and Infiltration Reduction Strategy; Atkins China Limited; 2001.
- The Sewerage Rehabilitation Manual (4th edition); WRC; 2001.
- Estimation of Infiltration from Long Term Flow Records; Poole; WaPUG Spring Meeting, 2002.
- Rainfall, Runoff and Infiltration Re-visited; Allitt; WaPUG Spring Meeting, 2002.
- Grand Canal Sewer Stage 1 Report; GSDSDS/NE02057/F002/P3; Dublin Drainage Consultancy; 2002
- Dublin Water New Sources Development Study, McCarthy Hyder Consultants, 2003.
- A Review of the Effects of Sewer Leakage on Groundwater Quality, CIWEM Journal, March 2003.
- Exfiltration from Gravity Sewers – A Pilot Study, Vollertsen, Hvitved-Jacobsen, Aalborg University, Denmark, 2002.
- Groundwater Pollution from Subsurface Excavations, US EPA, 1975.
- The Effects of Sediments on Sewer Exfiltration, Ellis, Revitt, Lister, Willgress, Urban Pollution Research Center, Middlesex University, 2002