



KILKENNY COUNTY COUNCIL
Comhairle Chontae Chill Chainnigh

**WATER SERVICES INVESTMENT
PROGRAMME**

ASSESSMENT OF NEEDS

2003-2006



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1. Introduction:

- 1.1. Local Authorities are required to prepare an updated Assessment of Needs for Water Services Capital Projects every five years. This Report addresses the requirements of Department of the Environment, Heritage and Local Government Circular Letter L11/03 which requires such an Assessment for the period 2003-2006.
- 1.2. From the point of view of the overall Water Services Investment Programme, the Report is required in order to:
 - 1.2.1 measure progress since the last Assessment was completed
 - 1.2.2 facilitate phased advancement of the Investment Programme up to and beyond the conclusion of the National Development Plan 2000 - 2006
- 1.3. From the point of view of the Local Authority, the Report is required in order to:
 - 1.3.1 develop an overall strategic plan for their functional areas and
 - 1.3.2 set out a Programme of Works to meet their identified Water Services needs
- 1.4. In preparing an Assessment of Needs, a Local Authority is required to take the following into account:
 - 1.4.1 Relevant National and EU environmental, public health and water quality statutory requirements
 - 1.4.2 The provisions of current and relevant City, Town County and Regional Development Plans
 - 1.4.3 The National Spatial Strategy
 - 1.4.4 The National Water Study
 - 1.4.5 The National Urban Wastewater Study
 - 1.4.6 The Rural Water Strategy
 - 1.4.7 The Sludge Management Plan
 - 1.4.8 The relevant River Basin District Management System plan
 - 1.4.9 The need to support economic and commercial activities and address rural Town infrastructural deficit through the Serviced Land Initiative programme
 - 1.4.10 Annex 12 of the EU Commission's application to the European Court of Justice in respect of Ireland's implementation of the Drinking Water Directive



2. Background:

- 2.1. Kilkenny Co. Council prepared a Report in September 1997 entitled "*Sanitary Services Section Report to Council - County Engineer's Report & Priority List*". This Report assessed the status of all Water and Wastewater Schemes in the County, was adopted by the Council, and was forwarded to the Department of the Environment in January 1998.
- 2.2. To provide the Sanitary Authority with an independent assessment of the state of water supplies in the County and to make a satisfactory response to the requirements of L9/98, an independent Strategic Review of Water Supplies was commissioned in early 1999 and concluded in December 1999. The Strategic Review is very comprehensive and contains:
- 2.2.1 a detailed analysis of all Water Supply Schemes in Kilkenny City and County;
 - 2.2.2 recommendations for addressing existing and future capacity, network and treatment problems and deficiencies;
 - 2.2.3 detailed costings of the Capital Expenditures involved in all of its recommendations;
- Kilkenny County Council adopted the Review, and it was forwarded to the Department of the Environment in January 2000. The Review superseded the 1997 *Report to Council* in relation to Water Supplies. The 1997 Report, however, remains the Council's Policy Document in relation to Sewerage Schemes.
- 2.3. In order to address the requirements of Circular Letters L9/98 and L6/99, Kilkenny County Council prepared a Report in February 2000 entitled "*Water Services Investment Programme - Assessment of Needs*", which has been the basis for Scheme Approval and Scheduling under successive Water Services Investment Programmes. This Report was based on the earlier 1997 *Report to Council* and the 1999 *Strategic Review*.



3. Investment in Sanitary Services 2000-2003

3.1. The following are the principal capital works which have been carried out since 2000:

3.1.1 Water Supply Scheme:

Scheme	Works	Est. Cost
Kilkenny City	Water Conservation Project	€1,452,000
Total		€1,452,000

3.1.2 Wastewater Treatment:

Scheme	Works	Est. Cost
Castlecomer	Treatment Works upgrading and increase in capacity	€250,000
Graiguenamanagh	New Treatment Works and Capacity upgrading	€3,850,000
Thomastown	New Treatment Works and Capacity upgrading	€2,700,000
Urlingford	Treatment Works and Capacity upgrading (Serviced Land Initiative)	€580,000
Total		€7,380,000

3.2. The following are the principal capital works which have commenced, or are being carried out at present

3.2.1 Wastewater Treatment:

Scheme	Works	Est. Cost
Ballyragget	Treatment Works and Capacity upgrading (Serviced Land Initiative)	€594,256
Callan Sewerage	Treatment Works and Capacity upgrading (Serviced Land Initiative)	€1,175,604
Total (carried forward to Water Services Investment Programme Total)		€1,769,860

3.3. In addition, a significant amount of work has been carried out under the Small Schemes Programme:

Scheme	Works	Est. Cost
Bennettsbridge WS	Source Augmentation, metering & Telemetry	
Castlecomer WS	Mains Replacement	
Inistioge WS	Filter upgrading	
Kilkenny City WS	Mains Replacement	
Mooncoin Regional WS	Inlet and Scour	
Piltown-Fiddown WS	Mains Replacement	
Urlingford-Johnstown WS	Source augmentation, pumping, Metering and mains replacement	
Kilkenny Main Drainage SS	Flow and pH metering/Telemetry	
Total		€2,180,000



4. Water Services Investment Programme 2003-2005

4.1. The following are the principal capital works outlined in the Programme which will commence in the period 2003-2005:

4.1.1 Water Supply:

Scheme	Start	Works	Est. Cost
All Schemes	2004	Water Conservation Programme	€1,300,000
Gowran-Goresbridge-Paulstown	2003	Capacity, Treatment, Storage and Distribution System upgrading	€4,000,000
Bennettsbridge Regional	2004	Capacity, Storage and Distribution System upgrading	€3,400,000
Kilkenny City Regional	2004	Linking Radestown and Troyswood; Storage Treatment and Distribution upgrading	€8,500,000
Total			€17,200,000

4.1.2 Wastewater Treatment:

Scheme	Start	Works	Est. Cost
Kilmacow Sewerage	2003	New Scheme	€2,700,000
Mooncoin Sewerage	2003	Treatment Works and Capacity upgrading (Serviced Land Initiative)	€594,300
Kilkenny Sludge Management	2004	Provision of Sludge Treatment centre at Kilkenny	€5,600,000
Kilkenny Main Drainage	2004	Treatment Works and Capacity upgrading	€6,000,000
Gowran Sewerage	2004	Treatment Works and Capacity upgrading (Serviced Land Initiative)	€780,000
Total			€15,674,300

4.2. The following works outlined in the Water Services Investment Programme are approved to commence planning in the period 2003-2005:

4.2.1 Water Supply:

Scheme	Start	Works	Est. Cost
Ballyragget		Capacity, Treatment, Storage and Distribution System upgrading	€1,300,000
Clogh-Castlecomer		Capacity, Treatment, Storage and Distribution System upgrading	€1,500,000
Urlingford-Johnstown	2004	Capacity, Treatment, Storage and Distribution System upgrading	€1,900,000
Total			€4,700,000

4.2.2 Wastewater Treatment:

Scheme	Start	Works	Est. Cost
Freshford, Johnstown and Goresbridge		Treatment Works and Capacity upgrading	€3,000,000
Total			€3,000,000

Total Water Services Investment Programme 2003-2005			€42,344,160
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5. External Factors affecting Future Needs

- 5.1. One of the factors affecting Sanitary Services Needs can be categorised as "external" from the perspective of supply assets. In this context, external factors are those which impose demands for increases in capacity on Water and Wastewater Schemes, e.g.:
- 5.1.1 Population growth and migration resulting in increased demand for housing
 - 5.1.2 Patterns of industrial development
 - 5.1.3 Patterns of Tourism development
 - 5.1.4 Influence of national, regional and local development policies
- 5.2. External factors can be difficult to assess with any degree of accuracy. For example, the population projections carried out for the current County Development Plan state:
- 5.2.1 "By 2004 the population of the County is forecast to increase to 80,202. Over a twenty-year period the County's population is forecast to increase to 84,530 by the year 2019."
 - 5.2.2 However, the population of the County was found by the 2002 Census to be 80,421. At this rate of increase, the population could reach 100,000 by 2019, a natural increase of about 24% on the 2002 figure. However unlikely this may be thought to be, the following factors are likely to affect significantly City and County growth:
 - Projected development of Kilkenny's City's West Environs
 - Kilkenny's status as a "Hub" in the recently-published National Spatial Strategy
 - Upgrading of national routes in the southeast to motorway or near-motorway standard, which may be expected significantly to affect demand for housing and services.
 - 5.2.3 In view of the foregoing, it would seem prudent to contemplate a projected increase in demand for services in the City and larger towns of at least 15% by 2012.



6. Internal Factors affecting Future Needs

- 6.1. A second set of factors affecting Sanitary Services Needs can be categorised as "internal" from the perspective of supply assets. In this context, internal factors are those which necessitate improvement and upgrading of existing schemes and thereby require capital expenditures because of:
- 6.1.1 Condition of existing assets
 - 6.1.2 Quality-of-product requirements
 - 6.1.3 Health and Safety requirements
 - 6.1.4 System Management and Control requirements
 - 6.1.5 Application of the National Water Pricing Policy
- 6.2. All systems suffer deterioration due to usage, wear and tear etc., necessitating works that are considered under the heading of maintenance. However, the rate at which supply and treatment systems become obsolete has undoubtedly increased over time, and this rate is generally agreed to be in turn becoming more rapid. Accordingly, capital investment in each Scheme has to be evaluated from this perspective.
- 6.3. A number of Schemes cannot produce an end product which meets current requirements, both from the perspective of the Drinking Water Regulations, and the Urban Wastewater Treatment Regulations. In addition, new regulations and the outcome of studies currently being carried out for the South East River Basin District Management Project may have implications for existing water and wastewater treatment systems. There are specific points of note regarding quality of product:
- 6.3.1 Drinking Water Quality in Kilkenny City and County has been noted as being generally satisfactory in its compliance with the requirements of the Drinking Water Regulations. Bacteriological quality continues to improve and specific bacteriological problems, which occurred some years ago, have been overcome. Water quality issues regarding deposition in the Kilkenny City Schemes, which arose two years ago and which were caused by the mixing of two different types of treated water in the City mains network, have been controlled by improvements in treatment processes and operational management. In addition, planned capital investment under the Water Services Investment Programme in the Scheme will bring both City supplies together for treatment in a single Treatment works, thus eliminating the source of this particular problem.
 - 6.3.2 Wastewater quality in Kilkenny is generally satisfactory, and will improve further as new Treatment Works are brought into service. The Purcellsinch Treatment Works in the City is the largest inland plant in Ireland, and outfalls to the River Nore. This is a salmonid river, which creates specific difficulties in operating the Works under fluctuating hydraulic loading and influent quality.
- 6.4. Health and Safety requirements impose a considerable investment requirement on all schemes, many of which were constructed at a time when such requirements were a great deal less strict than today. Additionally, a changing Public Liability environment is imposing ever-increasing expenditure requirements on public assets.
- 6.5. Modern Management and Control Systems, involving the provision of Supervisory Data Control and Acquisition systems, are required for all major Water Services assets, and it may



be assumed that all Water Services systems will in future need such systems for their proper management. This will involve:

- 6.5.1 the provision of data logging and transmission systems and appropriate hardware and software
- 6.5.2 the establishment of comprehensive databases of all system components
- 6.6. The application of the National Water Pricing Policy will require that
 - 6.6.1 all water and wastewater networks are mapped comprehensively
 - 6.6.2 a comprehensive customer database for each service is established and maintained
 - 6.6.3 all non-domestic water and wastewater customers are metered

The Complete Information System Project will go some of the way towards meeting the requirements of 6.6.1 and 6.6.2 above. However, the scope of the Project will need to be extended and additional funding provided.

All non-domestic water connections must be fitted with a meter by the end of 2005. Measures to implement this requirement are currently under consideration at national and local level.



7. Estimate of Needs 2003-2012:

7.1. Water Supply Schemes:

The following is an estimate of Needs, based on the works outlined in the 1999 Strategic Review, appropriately updated and with an allowance for factors outlined in the foregoing sections:

Priority	Scheme	Works	Estimated Cost €
1	Mooncoin Regional	Raw water storage at intake to improve raw water quality; provide pre-coagulation pH correction; wastewater treatment plant at the Works; modernisation of existing equipment; metering and telemetry; additional capacity.	€3,500,000
2	Piltown-Fiddown	Additional long-term service storage; mains replacement; modernisation of existing equipment; metering and telemetry; additional capacity.	€7,500,000
3	Callan	Additional long-term service storage; modernisation of existing equipment; metering and telemetry; additional capacity.	€2,300,000
4	Thomastown	Additional source capacity; additional long-term storage; modernisation of existing equipment; metering and telemetry; additional capacity.	€1,500,000
5	Graiguenamanagh	Additional long-term service storage; modernisation of existing equipment; metering and telemetry; additional capacity.	€1,200,000
6	Inistioge	Integration with Thomastown WS Scheme; new service reservoir; additional short-term service storage; metering and telemetry; additional capacity.	€3,000,000
7	Glenmore	Additional short-term service storage; metering and telemetry; additional capacity.	€600,000
Total			€19,600,000

7.2. Wastewater Schemes:

The following is an estimate of Needs, based on the works outlined in the 1997 Report, appropriately updated and with an allowance for factors outlined in the foregoing sections:

Priority	Scheme	Works	Estimated Cost €
1	Ballyhale-Knocktopher	Increase capacity (Serviced Land Initiative)	€300,000
2	Inistioge	Provide Secondary Treatment; upgrade pumping and network	€220,000
3	Urlingford	Increase capacity and extend network	€250,000
4	Bennettsbridge	Upgrading to full secondary treatment (Serviced Land Initiative); improve network	€750,000
5	Thomastown	Increase capacity and extend network	€750,000
6	Fiddown	Provide Secondary Treatment; increase capacity (Serviced Land Initiative)	€450,000
7	Tullaroan	Provide Treatment Works for Group Sewage Scheme	€150,000
8	Castlecomer	Increase Capacity; Improve Network; Upgrade Pumping	€350,000
9	Piltown	Increase capacity (Serviced Land Initiative)	€300,000
10	Stonyford	Increase capacity and extend network	€150,000



Priority	Scheme	Works	Estimated Cost €
11	Mullinavat	Refurbish existing plant & system & increase capacity	€150,000
12	Kells	Provide new treatment works with increased capacity; extend network (Serviced Land Initiative)	€200,000
13	Paulstown	Increase capacity (Serviced Land Initiative)	€350,000
14	Clogh-Moneenroe	Renovate equipment & extend to unserviced areas	€400,000
15	Kilmoganny	Provide Secondary Treatment	€250,000
16	Glenmore	Provide Secondary Treatment	€150,000
17	Deerpark (Castlecomer)	Provide secondary treatment	€150,000
18	Dungarvan	Provide Treatment Works for Group Sewage Scheme	€250,000
19	Kilmanagh	Provide Secondary Treatment	€250,000
20	Ballygriffin	Upgrade to secondary treatment	€100,000
21	Coon	increase capacity & extend to unserviced areas	€75,000
22	Skeoghvosteen	Increase capacity and extend system to unsewered areas	€75,000
Total			€6,070,000

7.3. The following is a list of small unserviced settlements. It is not possible to provide a valid estimate of the cost of providing services to these locations.

Location	
Aglish	
Ballycabus	
Ballycallan	
Ballyfoyle	
Ballyousskill	
Bigwood	
Bonnettstown	
Carrigeen	
Castleinch	
Castlewarren	
Clontubrid	
Cloone	
Conahy	
Crettyard	
Crosspatrick	
Cuffesgrange	
Dunamaggan	
Dunkitt	
Dunmore	
Galmoy	
Gathabawn	

Location	
Hugginstown	
Johnswell	
Kilfera	
Killinaspick	
Licketstown	
Lisdowney	
Luffany	
Lukeswell	
Muckalee	
Newmarket	
Newtown (Kells)	
Owning	
Sevenhouses	
Shellumstrath	
Templeorum	
Tennypark	
The Rower	
Tullahought	
Tullogher	
Windgap	



8. Stormwater Management:

- 8.1. It is an objective of the Council to secure the disposal of Surface Water associated with developments to avoid any increase in the risk of flooding. This objective is to be achieved in keeping with modern good practice and having regard to the characteristics and attributes of each site.
- 8.2. It is the policy of the Council to seek positive surface water drainage incorporating discharge flow attenuation for all green-field site developments other than those that are isolated, small in scale, and unlikely to increase the risk of flooding. This means that:
- 8.2.1 All storm water shall be collected and attenuated in a storm water pipe network and disposed of to a watercourse, and shall not be directed to a soakpit
- 8.2.2 It will be the responsibility of the developer to prove that the pipe network and/or watercourse into which he is discharging, has an adequate capacity, and will not lead to flooding off site.
- 8.2.3 Ground percolation for roof water from houses may be permitted subject to the developer establishing that site is suitable.
- 8.3. In order to provide developers and others with Stormwater Best Management Practice (BMP) Guidelines and information and guidance on stormwater systems for particular areas, it will be necessary to carry out relevant studies and investigations. It is estimated that these will involve expenditures as set out hereunder:

Scheme	Works	Estimated Cost €
Stormwater Management	Carry out studies; develop Stormwater BMPs; develop stormwater management schemes	€500,000
Total		€500,000

9. Groundwater Protection:

- 9.1. A Groundwater Protection Scheme, which included Source Protection Schemes for major public water supplies, was drawn up for the Environment Section of Kilkenny Country Council by the Geological Survey of Ireland, and policy recommendations for development control in the associated Source Protection Zones drawn up.
- 9.2. Source Protection Schemes also need to be carried out for Group Water Supply Schemes; in addition, the original Source Protection Schemes need to be revised and updated, as a number of new sources have been added since the original Source Protection Schemes were drawn up.
- 9.3. The costs associated with Source Protection Studies are set out in the following table:

Scheme	Works	Estimated Cost €
Source Protection	Carry out Source Protection studies; draw up protection schemes for Public and Group Water Supply Schemes	€750,000
Total		€750,000



10. Summary:

10.1. Expenditure 2000-2003:

Service	Expenditure
Water	€3,612,000
Sewerage	€7,400,000
Total	€11,012,000

10.2. Water Services Investment Programme 2003-2005:

Service	Expenditure
Water	€21,900,000
Sewerage	€20,444,160
Total	€42,344,160

10.3. Needs 2006-2012

Service	Expenditure
Water	€19,600,000
Sewerage	€6,070,000
Stormwater	€500,000
Source Protection	€750,000
Total	€26,920,000

10.4. Total Investment in Water Services 2003-2012:

Heading	Expenditure
Expenditure 2000-2003	€11,012,000
Water Services Investment Programme	€42,344,160
Needs 2006-2012	€26,920,000
Total	€80,276,160



11. Public Consultation

- 11.1. This Assessment was available for public consultation and comment for a one-month period commencing 12th November 2003 at County Hall, John Street, Kilkenny and on the County Council Website at <http://www.kilkennycoco.ie/sanitary/default.aspx>
- 11.2. No submissions were received, and the Assessment was presented to the County Council's monthly meeting for December 2003, at which it was adopted without addition or amendment.
- 11.3. It was forwarded to the Department of the Environment, Heritage and Local Government on 17th December 2003.
- 11.4. Any further communications regarding the Assessment of Needs should be directed to:
**Director of Services (Transportation and Sanitary),
Kilkenny Co. Council,
County Hall,
John Street,
Kilkenny**