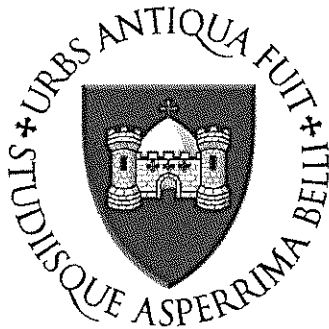


Limerick City Council



Water Services Programme/Assessment of Needs

Pat Dromey
Director of Services

October 2009

Limerick City Council Water Services Programme/Assessment of Needs

Recent Capital Achievements in water

The water supply for Limerick City and environs is drawn from the river Shannon and treated in the City Council Waterworks at Clareville in Castleconnell. It is pumped from here to a reservoir in Newcastle, Castletroy from where it gravitates to the Limerick City Distribution System via a number of trunk mains. There have been many major capital funded works carried out within the last five years to maintain this service and to bring it in line with current trends . These include

(a) Newcastle reservoir :-

The old reservoir at Newcastle had a capacity of 22,500m³, was open topped and in very poor condition. In 1996, a major development saw the construction of a new 50,000m³ reservoir and water tower under the Limerick Water Improvement Supply Scheme, Contract 9. The high level water tower has a capacity of 900m³ and serves the local area of Castletroy and Newcastle, while the reservoir itself continues to serve the needs. With the additional requirement to supply the greater County area a study is required to maintain a similar storage capacity to ensure security of supply to the City. **The estimated cost of this study is in the region of €100,000.00**

(b) New distribution mains :-

- Long Pavement . Completion of a 1km new 300mm diameter watermain along the Kileely Road to Hassetts Cross, eliminating 200mm asbestos with a large burst history
- Galvone Road Main.. Completion of a 700m new 125mm diameter insertion watermain along the Galvone Road eliminating a 150mm asbestos with a large burst history
- A 300mm/250mm D.I. watermain from Howleys Quay to Wickham Street replacing a 100mm cast Iron with a large burst history and high friction losses.
- A 300mm D.I. main crossing the River Shannon from Dock Road 300mm watermain to new 300mm D.I. water on O' Callaghan Strand.
- A 300mm D.I. water main on O' Callaghan Strand. **€350,000**

(c) Water Conservation Project :-

The City Council's Water Conservation programme consists of

- Upgrading of records, development of Mapnet GIS and Epanet based hydraulic model, calibrated to current conditions

- Design and implementation and management of district meter zones where practicable,
- Implementation of leakage control plan including the establishment of a leakage team, provision of leakage detection equipment and training and implementation of a concentrated detection and repair programme
- Completion of a commercial metering project in parallel with a programme of upgrading existing industrial/commercial
- Provision of a telemetry monitoring system to cover the established district meter zones and the supply and distribution system as a whole.
- Advance works on Find & fix Water Conservation programme. **€125,000**

(d) General maintenance & New Connections

On-going maintenance on a regular basis is necessary but projects of this nature would not normally exceed £0.25m on any single scheme. Included in this would be small schemes, targeting black spots with low water pressure or an irregular supply.

Objectives of outcomes sought/outputs required for Water

Limerick City Council's objective with respect to water, in the short to medium term, is to continue to produce, store and distribute potable water, within the necessary guidelines, to consumers (current and future) within Limerick City and City environs and to ensure economic and social development. It is also envisaged that Unaccounted For water (UFW) currently in the region of 50% be reduced in the short term to 35% and in the long term to further reduce this to 20%.

Requirements for Water over medium term (2010 to 2012)

(a) Clareville water treatment plant refurbishment

Limerick City Council in association with the DOEHLG has undertaken a Public Private Partnership under a DBO type contract for the upgrading and refurbishment of the Clareville Water Treatment Works, at Castleconnell Co. Limerick. The Contractor is a Consortium of Veolia Water Irl and Ascon

Key elements of the project are as follows:

1. a new Raw Water Intake be provided at Cloonlara
2. a new Water Intake and Pumping Station be provided at Clareville
3. a new system of inlet flow control be provided at the Clareville Works

4. a complete re-organisation and consolidation of the bulk chemical storage and dosing facilities be provided at the Clareville Works
5. the Paterson Plant be abandoned and that the settlement and filtration processes be consolidated at the Degremont Laing Plant with the provision of an Actiflow process of water treatment
6. a new system of sludge drying to be installed

The operating period is for 20 years having commenced in April 2007

The Estimated Total Cost of Stage 1 (up to 87MLD) of the works is €35.0M including VAT.

Stage 2 which will see an increase in capacity from 87MLD to 140 MLD is now envisage to commence in the longer term.

(b) Newcastle Reservoir

The old reservoir at Newcastle had a capacity of 22,500m³, was open topped and in very poor condition. In 1996, a major development saw the construction of a new 50,000m³ reservoir and water tower under the Limerick Water Improvement Supply Scheme, Contract 9. The high level water tower has a capacity of 900m³ and serves the local area of Castletroy and Newcastle, while the reservoir itself continues to serve the needs. With the additional requirement to supply the greater County area a study is required to maintain a similar storage capacity to ensure security of supply to the City. **The estimated cost of this study is in the region of €100,000.00**

(c) Distribution System

Limerick City Water Conservation Project deals with the following

- **Leakage control implementation;** to be continuous over a five year period to eliminate the leakage backlog and provide for a sustainable long-term leakage control strategy. The estimated cost is **€500,000** per annum
- **Common services elimination;** to be implemented over a 5 year period at a total cost of **€4.0M**
- **Leakage related renewals;** to provide a programme of phased replacement of those mains which suffer frequent bursts and are demonstrated to be of poor integrity, to be implemented over a 5 year period at a total cost of **€2.0M**. Associated lead services would be replaced in tandem with the renewal of mains
- **Replacement of 3" mains and associated services;** to be implemented over a 3 year period with a total budget cost of **€4.0M**
- **Network reinforcement;** involving provision of strategic new links and cross connections in the supply to improve flexibility and reliability, to be implemented over a 2 year period at an estimated cost of **€1.0M**. This is in the nature of a provisional budget for which specific

projects would require to be identified during the final implementation.

The foregoing categories of work represent the priority areas for investment in the distribution system over the next 2-3 years. Implementation of these works would radically improve the operational management and level of service of the Limerick City and Environs Water Supply System.

(d) Southern trunk main

The primary objective for the new trunk main is to cater for the security of supply in the foreseeable future to the north side of the city.

- 1,000mm trunk main from Newcastle Reservoir via Monaleen and Ballysimon to Rossbrien with the section following the proposed Southern Ring Road.
- 600mm trunk main from Rossbrien to the Dock Road and Caherdavin, crossing the river Shannon. This section coincides with major trunk sewers in the Limerick Main Drainage
- Future spur connections to serve the greater Limerick County area.
- Commissioning and Valving contract. **€1M**

(e) General Items

Limerick City Council will be seeking additional funding for the following further items:-

- Continued and extended monitoring of both raw and treated water
- Additional small schemes as they may arise
- Supply of tanker and other essential emergency equipment.

A provisional sum of €5.0M is included for these items

(f) Mains Rehabilitation

The mains rehabilitation programme must be continued to gradually reline or replace the older cast-iron and other mains in poor condition on a phased basis. This asset renewal programme forms part of an asset management strategy which would be based on regular investment rather than periodic large-scale projects, in the future. A total budget over 20 years approaching **€21.33M** would be required for an average replacement programme equivalent to **1.5%** of the network.

Limerick City Council

Waste Water Services Programme/Assessment of Needs

Objectives of outcomes sought/outputs required for Waste water

Limerick City Council's objective with respect to waste water, in the short and long term, is to comply with the Urban Waste water Directive EC/91/271 and corresponding Irish law to provide Limerick City and City environs with a proper distribution system and waste water primary and secondary treatment facilities to ensure economic and social development.

Achievements in Waste Water in the past 5 years

The major achievements for Limerick City Council in waste water are incorporated in the Limerick Main Drainage and include the following:-

- Major Interceptor Sewers
- Structural and Hydraulic Rehabilitation of the Existing Foul and Combined Sewer Systems
- Extension of the Foul Sewer System
- Extension of the Storm Sewer System
- Construction of new Pumping Stations
- Rehabilitation of Existing Pumping Stations
- Provision of a new Waste Water Treatment Plant and Associated Treated Effluent Outfall into the Shannon Estuary

The treatment works situated at Bunlickey incorporate sludge treatment facilities for waste sludge generated by the process.

The effluent quality standards are determined with respect to the Shannon Estuary Water Quality Management Plan and the EC Urban Waste Water Directive, given effect in Irish Law by SI 419, 1994, and other relevant legislation.

To meet the standards so determined, the treatment process proposed is designed to achieve a high removal efficiency of biodegradable organic matter and also nitrification, to assist with control of

ammonia levels in the Shannon Estuary.

The waste water treatment plant includes the following:

- Preliminary Treatment, Screenings and Grit Removal
- Main Treatment Process
- Primary Settlement and Activated Sludge and Secondary Settlement or
- Lamella Primary Settlement followed by Biological Aerated Filtration
- Sludge Treatment
- Sludge Thickening
- Sludge Dewatering
- Thermal Drying

The facility incorporates extensive facilities for odour containment and foul air scrubbing to ensure there is no doour nuisance outside the boundary of the waste water treatment plant. Further design features include the following:

- Landscaping (to provide for screening of the facility) and security fencing.
- Measures to control noise and vibration.
- Measures to protect operator health and safety.

Limerick Main Drainage is broken down into the following contracts:-

Contract 1.1:	W.W.T.P. – Accommodation Works
Contract 1.2:	W.W.T.P. – Civil Works
Contract 1.3:	W.W.T.P. – Mechanical & Electrical
Contract 1.4:	W.W.T.P. – Sludge Treatment
Contract 2.1:	Corcanree P.S. – Civil Works
Contract 2.2:	Corcanree P.S. – Mechanical & Electrical
Contract 3.1:	Inner Southern Interceptor Lower
Contract 3.2:	Inner Southern Interceptor Upper
Contract 3.3:	Loggers
Contract 3.4:	Structural Rehabilitation
Contract 3.5:	Lower Cecil Street Sewer Replacement
Contract 3.6:	Abbey River Navigation Scheme
Contract 4.1:	Northern Interceptor Lower

Contract 4.2:	Northern Interceptor Upper
Contract 5.1:	Southern Interceptor
Contract 5.2:	Southern Interceptor
Contract 5.3:	Kilmallock Road Pumping Station
Contract 5.4:	Mungret/Gouldavoher Advance Scheme

Requirements for Waste water over short term (2- 5 years)

PHASE 2

Inner Southern	Trunk and Collector Sewers
Northern Catchment	Trunk and Collector Sewers
Inner Southern	Trunk and Collector Sewers
Northern Catchment	Trunk and Collector Sewers
Castletroy	Trunk and Collector Sewers
Inner Southern	Structural Rehabilitation
Northern Catchment	Structural Rehabilitation
Inner Southern	Hydraulic Rehabilitation
Inner Southern	Hydraulic Rehabilitation
Northern Catchment	Hydraulic Rehabilitation
All Catchments	Data Base Upgrading
Southern Catchment	Trunk and Collector Sewers
Southern Catchment	Storm Sewers
Southern Catchment	Hydraulic Rehabilitation
Southern Catchment	Hydraulic Rehabilitation
Southern Catchment	Structural Rehabilitation
Southern Catchment	Miscl.
All Catchments	Local Authority Metering

Budget costs of individual Wastewater schemes short term

SCHEME	WORK	TYPE	COST
PHASE 2			
Inner Southern	Trunk and Collector Sewers	Foul	€6.4M
Northern Catchment	Trunk and Collector Sewers	Foul	€7.2M
Inner Southern	Trunk and Collector Sewers	Storm	€1.0M
Northern Catchment	Trunk and Collector Sewers	Storm	€8.0M
Castletroy	Trunk and Collector Sewers	Storm	€1.0M
Inner Southern	Structural Rehabilitation		€12.0M
Northern Catchment	Structural Rehabilitation		€1.0M
Inner Southern	Hydraulic Rehabilitation	Combined	€1.5M
Inner Southern	Hydraulic Rehabilitation	Storm	€1.0M
Northern Catchment	Hydraulic Rehabilitation	Combined	€1.0M
All Catchments	Data Base Upgrading		€0.15M
Southern Catchment	Trunk and Collector Sewers	Foul	€5.0M
Southern Catchment	Storm Sewers		€5.0M
Southern Catchment	Hydraulic Rehabilitation	Combined	€1.2M
Southern Catchment	Hydraulic Rehabilitation	Storm	€0.32M
Southern Catchment	Structural Rehabilitation		€1.6M
Southern Catchment	Misc.		€0.1M
All Catchments	Local Authority Metering		€0.25M
Total			€53.72 M

Requirements for Waste Water over long term (20 years)

The rehabilitation of existing sewers must continue to repair or replace the older sections of sewers or sections in poor condition, on a phased basis. An asset renewal programme forming part of an asset management strategy should be implemented, which would be based on regular investment rather than periodic large-scale projects, in the future. A figure of **£20.0M** over a 20 year period is included for this.

WATER SERVICES- ASSESSMENT OF NEEDS

Local Authority		Limerick City Couc.		Balance of Allocation Available					
Water Services Allocation		€385,195,520.00							
Estimated Additional Allocation Required to Fund Projects Included in Assessment		€79,276,408.00							
PART 1 - Completed Contracts for which Grant Aid is required									
1	2	3	4	5	6	7	8	9	
Contract	TYPE - Stage 1, 2 or 3	Scheme	Date Contract Completed	Contract Costs €	Approved Grant €	Balance of Grant Available €	Additional Grant Funding Required €	Total Grant Requirements (7 + 8) €	(7)
Clareville to Newcastle Rising Main		Limerick City Water Supply		5,403,964	4,920,681		483,283	483,283	483,283
Trunk Mains PR		Limerick City Water Supply	not approved	20,000			20,000	20,000	20,000
Monaleen Road Trunk Main		Limerick City Water Supply		1,990,128	1,787,439		202,689	202,689	202,689
Caherdavin to West of Shannon Route Selection		Limerick City Water Supply	not approved	19,162	0		19,162	19,162	19,162
Sir Henry's Wall Flood Alleviation		Limerick City Flood Alleviation Programme		530,322			530,322	530,322	530,322
Clancy Strand Flood Alleviation		Limerick City Flood Alleviation Programme		598,467			598,467	598,467	598,467
Limerick City Main Drainage		Limerick City Main Drainage		350,647,390	340,042,872		10,604,518	10,604,518	10,604,518
					346,750,992			12,458,441	
PART 2 - Contracts in Progress									
1	2	3	4	5	6	7	8	9	
Contract	TYPE - Stage 1, 2 or 3	Scheme	Contract Dates Start Finish	Contract Costs €	Approved Grant €	Balance of Grant Available €	Additional Grant Funding Required €	Total Grant Requirements (7 + 8) €	(7)
Clareville Water Treatment Plant Upgrade		Limerick City Water Supply	2007 2008	35,000,000	30,269,678		4,740,322	4,740,322	4,740,322
Limerick City Trunk Mains Rosbrien to Deck Road		Limerick City Water Supply	2009	3,300,000	2,540,355		759,645	€759,645	€759,645
					32,800,033			5,499,967	5,499,967

WATER SERVICES- ASSESSMENT OF NEEDS

PART 1 - Contracts to Start 2010 - 2012

1	2	3	4		5	6	7	8	9
Contract	TYPE - Stage 1, 2 or 3	Scheme	Contract Dates Start	Contract Dates Finish	Estimated Contract Costs €	Approved Grant €	Balance of Grant Available €	Additional Grant Funding Required €	Total Grant Requirements (7 + 8) €
Trunk Mains Dock Road to Ennis Road		Limerick City Water Supply	2010	2010	€2,500,000	€1,748,097			2,500,000
Trunk Main Commissioning and Valving		Limerick City Water Supply	2010	2010	€1,000,000	nil			1,000,000
Water Storage PR		Limerick City Water Supply	2010	2010	€100,000	nil			100,000
						€1,748,097			3,600,000

PART 4 - Stage 3 Schemes in Planning

1	2	3	4	5
Scheme	Scheme Dates Start	Scheme Dates Finish	Estimated Scheme Costs €	Approved Grant €
Limerick City Main Drainage Phase 2 Preliminary Report	2010	2011	€3,000,000	Nil
Caherdavin/Coonagh Strategic Study	2010	2011	€500,000	Nil
Water Services Strategic Report	2010	2011	€500,000	Nil
Limerick City Main Drainage Phase 2 Contract works	2012		€53,720,000	Nil
				€53,720,000

WATER CONSERVATION - ASSESSMENT OF NEEDS - APPENDIX

Local Authority		Limerick City Coun.		Balance of Allocation Available		€6,589,153.00		
Water Conservation Allocation		€9.0M		€33,991,423.00		PART 1 - Completed Contracts for which Grant Aid is required		
Estimated Additional Allocation Required to Fund Projects Included in Assessment								
1	2	3	4	5	6	7	8	9
Contract	TYPE - Stage 1, 2 or 3	Scheme	Date Contract Completed	Contract Costs	Approved Grant	Balance of Grant Available	Additional Grant Funding Required	Total Grant Requirements (+ 8)
Common Services	3	Limerick City Water Conservation Programme Phase 1A		1,077,881	877,392	200,289	200,289	200,289
Complete Information System	1	Limerick City Water Conservation Programme		97,871	117,737	-13,766	-13,766	-13,766
Advance Contract	1	Limerick City Water Conservation Programme Phase 2		127,735	139,706	-11,971	-11,971	-11,971
Strategic Main Strengthening	3	Limerick City Water Conservation Programme Phase 2	not approved	173,665	0	173,665	173,665	173,665
Corbally Link Rd	3	Limerick City Water Conservation Programme Phase 2		220,820	188,727	32,093	32,093	32,093
Service Replacement at Singland Court	3	Limerick City Water Conservation Programme Phase 2	not approved	31,027	0	31,027	31,027	31,027
Grandy River Water Main Crossing	3	Limerick City Water Conservation Programme Phase 2		49,350	44,415	4,935	4,935	4,935
Dock Road Watermain	3	Limerick City Water Conservation Programme Phase 2	not approved	89,742	0	89,742	89,742	89,742
Garryowen Road Watermain	3	Limerick City Water Conservation Programme Phase 2		375,373	293,765	75,588	75,588	75,588
O'Callaghan Strand Water Main Renewal	3	Limerick City Water Conservation Programme Phase 2		28,851	38,000	-7,149	-7,149	-7,149
Cathedral Place/New Road/Leila Street	3	Limerick City Water Conservation Programme Phase 2		367,792	374,514	53,188	53,188	53,188
Ballaicurra Bridge Watermain	3	Limerick City Water Conservation Programme Phase 2	not approved	83,727	0	83,727	83,727	83,727
Recalibration of Limerick City Network Modal	1	LCC		44,014	39,613	4,401	4,401	4,401
Wolf Tone Street/Ballysimon Road	3	Limerick City Water Conservation Programme Phase 2		73,314	73,314	0	0	0
300mm Shannon River Crossing	3	Limerick City Water Conservation Programme Phase 2		127,805	79,994	47,811	47,811	47,811
Galvone Road	3	Limerick City Water Conservation Programme Phase 2	not approved	271,070	0	271,070	271,070	271,070
Clare Street	3	Limerick City Water Conservation Programme Phase 2		178,395	178,395	0	0	0
				110,181	100,563	9,618	9,618	9,618
				2,419,841				1,117,582

PART 2 - Contracts in Progress

1	2	3	4	5	6	7	8	9
Contract	TYPE - Stage 1, 2 or 3	Scheme	Contract Dates	Contract Costs	Approved Grant	Balance of Grant Available	Additional Grant Funding Required	Total Grant Requirements (+ 8)
			Start Finish	€	€	€	€	€
Main Rehabilitation	3	Limerick City Water Conservation Programme Phase 2	2008/2012 (ongoing)	4,268,000	0	0	0	4,268,000
Leakage Control Crews	2	Limerick City Water Conservation Programme Phase 2	2009/2012 (ongoing)	1,500,000	nil	nil	€1,500,000	€1,500,000
Document Management System	1	Limerick City Water Conservation Programme Phase 2	2009	100,000	nil	nil	€100,000	€100,000
Scada System	1	Limerick City Water Conservation Programme Phase 2	2009	100,000	nil	nil	€100,000	€100,000
								5,966,000

THE EXPLANATORY NOTES SHOULD BE READ BEFORE COMPLETING THIS FORM.

WATER CONSERVATION - ASSESSMENT OF NEEDS - APPENDIX

PART 1 - Contracts to Start 2010 - 2012

1 Contract	2 TYPE - Stage 1, 2 or 3	3 Scheme	4 Contract Dates		5 Estimated Contract Costs €	6 Approved Grant €	7 Balance of Grant Available €	8 Additional Grant Funding Required €	9 Total Grant Requirements (7 + 8) €
			Start	Finish					
Water Conservation Fund & Fix	3	Limerick City Water Conservation Programme Phase 2	2010	2012	€3,300,000	€2,630,000			3,300,000
Main Rehabilitation	3	Limerick City Water Conservation Programme Phase 2	2010	2012	€2,133,000	nil			2,133,000
Leak Related Repairs	3	Limerick City Water Conservation Programme Phase 2	2010	2013	€2,000,000	nil			2,000,000
Replacement of 3" Mains	3	Limerick City Water Conservation Programme Phase 2	2010	2013	€4,000,000	nil			4,000,000
Network Reinforcement	3	Limerick City Water Conservation Programme Phase 2	2010	2012	€1,000,000	nil			1,000,000
									12,433,000

PART 4 - Stage 3 Schemes in Planning

1 Scheme	2 Scheme Dates	3 Estimated Scheme Costs €	4 Approved Grant €	5 Balance of Grant Available €
Common Lead Service Replacement	2011 2012	€4,000,000	Nil	€4,000,000
Main Rehabilitation	2012 2030	€17,064,000	Nil	€17,064,000

Water Conservation Staff Resources

List the number, grade and duties of ALL staff employed on water conservation in the Council, and whether full or part time.	
1 No. Senior Executive Engineer	Parttime Approx 5% of time
Co-Ordinator	Full time
3 No. Senior Executive Technician	Full time
3 No. Leak Detection Officers	Available on call
4 no. Crews of 3 men	

THE EXPLANATORY NOTES SHOULD BE READ BEFORE COMPLETING THIS FORM.

WATER CONSERVATION - ASSESSMENT OF NEEDS - APPENDI

Explanatory Notes

<p>Note 1: The categories of works appropriate to Stages 1, 2 and 3 water conservation works are set out in Part 2 of Circular L6/07 of 22 August 2007.</p>	
<p>Note 2: For the purposes of PARTS 1, 2 and 3 of the Form, a local authority's own direct costs (staff, equipment, materials etc) for water conservation works may be regarded as a single contract for the purposes of this Needs assessment. The objective is to identify the key components of a water conservation scheme or phase of a scheme.</p>	
<p>Note 3: The contracts in PART 3 and the schemes in PART 4 of the Form must be listed <u>in order of priority on a county wide basis</u>. This is essential to ensure that the Department is in a position to identify the key contracts or schemes for inclusion in the next phase of the Water Services Investment Programme.</p>	
<p>Note 4: IN PARTS 1, 2 and 3 of the Form, any additional grant funding required must be in respect of eligible works only (see Note 1). Additional funding should not arise at this stage in respect of the schemes in Planning.</p>	
<p>Note 5: The 2003 water conservation allocations notified to many local authorities were intended as seed capital to enable those local authorities to put in place water management (Stage 1) and leakage control (Stage 2) systems. Other local authorities had already received grant funding to put such systems in place under an earlier phase of the national water conservation programme. The Department never intended to continue to fund Stage 1 & 2 works indefinitely. At this stage, the Department assumes that ALL local authorities have some form of water management and leakage control systems in place and that the majority of local authorities are funding such services from their own resources. Accordingly, where a local authority proposes to seek additional funding for Stage 1, 2 or 3 of the Form, clear justification for the additional funding will have to be given to the Department before any such funding will be approved. By the end of the next phase of the Water Services Investment Programme i.e. 2012, ALL local authorities should be funding Stage 1 and 2 works from their own resources. Hence, PART 4 of the Form should list Stage 3 (mains rehabilitation) schemes only.</p>	
<p>Note 6: As regards Stage 3 contracts and schemes listed in PARTS 3 and 4 of this Form, each local authority is reminded of the requirement to adopt a mains rehabilitation strategy as set out in Circular L6/07. Such a strategy represents a detailed appraisal by a council of its district metering areas (DMAs), based on data from its ongoing Stage 1 and 2 water conservation operations. The strategy must be submitted to the Department before any new mains rehabilitation / replacement contract or scheme will be approved.</p>	
<p>Note 7: The water conservation contracts and schemes, especially mains rehabilitation works, included in PARTS 3 and 4 of the Form should be realistic in terms of the scale and scope of the works proposed and the expected timelines for delivery and the works should be phased as far as practicable (ideally, individual contracts or schemes should not exceed €5 million in value) to facilitate the allocation of available capital funding. Local authorities should be in a position to advance the contracts listed in PART 3 of the Form to construction during the period 2010 - 2012, and to advance the schemes listed in PART 4 through planning so that they can start under the next phase of the Water Services Investment Programme post 2012.</p>	
<p>Note 8: in relation to columns 6 - 9 of PART 3 and columns 4 and 5 of PART 4 of the Form, a NIL return should be inserted in those columns where the Department has yet to approve a grant for the contract or scheme in question.</p>	
<p>Note 9: Each local authority involved in the Dublin Region Watermains Rehab Project (DRWRP) should also include the DRWRP contracts in its area when completing its water conservation needs assessment. The DRWRP contracts should be <u>highlighted on the Form</u>. Local authorities are requested to clear DRWRP costs with Dublin City Council, as the lead authority for the DRWRP, to ensure accuracy and consistency in the returns submitted to the Department.</p>	
<p>Note 10: In PARTS 3 and 4 of the Form, mains rehabilitation works that include the replacement of lead mains/connection pipes, <u>where treatment solutions are not sufficient</u>, to meet the 2013 parametric value for the presence of lead in drinking water, based on the approach outlined by the EPA in its Lead Guidance Circular No. 2 of 21 April 2008, <u>should also be highlighted</u>.</p>	
<p>Note 11: The financial data requested in this Form will enable the Department to estimate the national and local capital requirements for water conservation works for the period 2010 - 2012. Accordingly, local authorities are requested to ensure, as far as practicable, the data submitted is as accurate as possible.</p>	

APPENDIX 3 - Status of implementation of Water Conservation on public schemes in the Sanitary Authority area.

Sanitary Authority: Limerick City Council Date: 22 / 10 / 2009 Page 1 of 1

Ref. No.	Scheme Name	Indicate status of implementation of water conservation programme [Y= yes, N = no, P= partial (>50%)]										No. of leaks detected (from (from 1.1.2000)	No. of DMA's	No. of PRV's						
		Bulk flows metered	DMA's established	Hydraulic model	Asset register/CIS	GIS recorded	Active leakage control	Pressure control	Mains length (km)	Properties served	Distribution Input [m ³ /d]				Water use ¹ [m ³ /d]	UFW %	UFW [m ³ /km/d]	UFW l/property/d	Minimum Night Flow, MNF [m ³ /h]	No. of leaks detected (from
	Limerick City Water Supply	Y	Y	Y	Y	Y	P	N	223	21K	33K	16.5K	50	.07	785	500	1286	1286	17	2

¹ "Water Consumption" is water delivered from the public supply, i.e. at point of transfer to private supply.

APPENDIX 4 – Prioritisation of DMAs / Ranking System

Scheme Name	DMA Name	Scheme/ DMA ref. No.	Length of main [km]	No. of leaks repaired (from 1..1.2000)	Data		Parameters (see Appendix 6 for guidance)							SCORE	OVERALL RANK
					LEAKAGE	%	Properties of mains	Connections	Structural and Leakage	Water Quality	Hydraulic Performance	Other factors			
													m ³ /km/y		
							<i>Weighting</i> →								
	Ballinacurra	L9	28.86	120	9,782	37.6	4	5	5	3	2	4	2	35.5	1
	Corbally/Sth	L5	20.45	100	16,826	52	4	5	5	2	3	3	2	34	2
	Garryowen	L11A	9.13	110	29,200	61.2	4	5	5	3	2	2	2	31.5	3
	Janesboro	L8	9.83	90	21,754	50.2	4	4	4	2	2	2	1	28	4
	Moyross	L2	10.19	75	17,556	51.4	4	4	4	3	2	2	1	26.5	5
	City C Sth	L12	7.76	65	40,150	52.3	3	3	3	3	2	2	2	22	6
	O'Callaghan Strand	L03	14.70	63	20,403	41.2	3	3	3	2	2	2	2	20	7
	West of Shannon	L1B	6.42	68	29,930	56.8	2	4	4	3	0	1	1	20.5	7
	City C East	L11	12.65	89	48,545	65.4	3	3	3	2	1	2	2	20	8
	City/Docks	L10	14.31	70	45,406	59.2	3	3	2	2	1	2	2	17	9
	Corbally/Nth East	L6	3.10	72	11,461	49.6	3	3	3	2	1	2	2	17	9
	Rhebogue	L6A	14.14	54	8,431	39.3	4	2	2	3	2	1	1	16.5	10
	City Central	L13	12.09	54	23,214	29	2	2	2	2	1	2	2	14	11
	City C Nth	L14	8.07	63	45,260	57.9	2	2	2	2	0	2	2	13	12
	Childers/West	L7	24.19	45	8,431	40.5	2	2	2	2	1	1	1	13	12
	Galvone	L4	12.75	67	6,205	20.2	2	1	1	1	2	0	0	6.5	13
	Corbally/Nth West	L6B	9.20	54	7,310	21.0	2	1	1	1	0	0	0	4.5	14
	Galvone/East	L4A	5.02	27	5,800	18.0	1	0	0	1	2	0	0	3.5	15

APPENDIX 5 – Summary Assessment of Mains within DMAs

Scheme Name	DMA name	Scheme/ DMA/ Works ref.	Data (existing pipe)		Burst Frequency	Leakage	Physical Condition	Soil Corrosivity	Head loss	Age	Importance	Total Weighted Score	Indicative rating	Estimated cost	Indicative payback	Proposed to proceed at this stage
			Length [Km]	Material												
			<i>Weighting</i> →		2	2	3	1	1	1	1					
	Ballinacurra	L9	26.02	C.I & PVC	4	5	5	1	4	4	2	44	1			
			2.84	C.I	1	2	2	1	1	4	5	23	1			
	Corbally/ South	L5	19.03	CI & DI	4	4	4	1	4	4	1	38	2			
			1.42	CI	1	2	2	1	1	4	1	19	2			
	Garryowen	L11A	7.99	CI	4	5	4	1	5	3	1	40	3			
			1.14	CI & DI	1	1	2	1	1	3	5	20	3			
	Janesboro	L8	9.83	CI & DI	3	4	4	1	4	3	1	35	4			
	Moyross	L2	10.19	PVC & CI	3	4	4	1	4	3	1	35	5			
	City South	L12	7.76	CI & PVC	3	3	3	1	4	3	1	30	6			
	O'Callaghan n Strand	L03	14.70	CI & PVC	3	3	3	1	4	2	3	31	7			
	City Centre East	L11	11.60	CI & DI & PVC	2	3	3	1	3	2-5	3	28.5	7			
	Trunk	L11	1.05		1	1	3	1	3	2	3	22	8			

APPENDIX 5 – Summary Assessment of Mains within DMAs

Scheme Name	DMA name	Scheme/ DMA/ Works ref.	Data (existing pipe)		Parameters / Scores (0 – 5)								Total Weighted Score	Indicative rating	Estimated cost	Indicative payback	Proposed to proceed at this stage
			Length [Km]	Material	Burst Frequency	Leakage	Physical Condition	Soil Corrosivity	Head loss	Age	Importance						
<i>Weighting</i> →																	
	City Docks	L10	11.23	CI & PVC, HDP	2	2	3	1	1	1	1	1	1	18	9		
		L10	3.08	Trunk DI & CI & AC	2	2	2	0	0	0	0	0	5	19	9		
	Corbally N/East	L6	3.10	CI	2	2	2	0	0	0	0	3	5	22			
	Rhebogue	L6A	14	CI & PVC	2	2	2	0	4	4	2	1	21				
	City/Central	L13	10.33	CI & DI	1	2	3	0	2	2	2	3	22				
			1.76	CI	0	2	3	0	0	0	3	5	21				
	Childers Rd West	L7	21.98	CI & DI & PVC	0	2	2	0	2	2	2-3	2	16				
	Trunk	L7	2.21	DI & PVC	0	1	1	0	0	0	1	5	8				
	Galvone	L4	12.75	PVC & HDPE & DI	0	2	2	0	0	0	2	2	14				

