

Kent and Medway Structure Plan  
mapping out the future

Working Paper 13

Water Supply and  
Waste Water Treatment

September 2003





# WATER SUPPLY AND WASTE WATER TREATMENT

## Contents

Section	Page
1.0 Introduction	2
2.0 The Current Water Demand and Supply Balance	2
• Water Resources Strategy for the South East	
• Kent Perspective	
• Abstraction	
• Effluent Reuse	
• Demand Management	
• Water Transfer	
3.0 Wastewater	10
4.0 Disposal of Surface and Storm Water	11
5.0 Infrastructure	12
6.0 Review of Previous Plan	12
7.0 Future Policy Directions	14

## **Water Supply and Waste Water Treatment**

### **1.0 Introduction**

1.1 Water supply, wastewater disposal and surface water disposal are essential services required by domestic, commercial and industrial users. With the scale of new development proposed for the South East (RPG9) and increasing usage per head, water management issues and the capacity of existing and planned infrastructure is clearly a key consideration for the Structure Plan.

1.2 The existing Kent Structure Plan includes a series of robust policies dealing with water resource issues. There is, however, a need to review the policies to reflect rising public and political expectations relating to water quality and other environmental concerns related to water, the need to use resources more efficiently and to respond to the needs of future development.

1.3 This paper has been prepared to inform the preparation of the Deposit Kent and Medway Structure Plan. It has been informed by discussions with the Environment Agency and Water Companies and comments made during the consultation on "Mapping Out The Future" in 2002.

### **2.0 The Current Water Demand/Supply Balance**

2.1 Any forecasts of supply and demand balances will be subject to a number of key influences, notably:

- The final outcome of planned urban growth across the region
- Climate change and its effect on water demand, resource availability and environmental sustainability
- The Environment Agency's programme for low flow alleviation
- The outcome of the review of abstractions under EU Habitats Directive
- The implementation of water company resource development plans
- Effectiveness of demand management programmes

2.2 Water companies have a statutory obligation to meet demand in response to growth and also to promote the efficient use of water by customers. They have therefore implemented a twin track approach to resource planning as part of a regional strategy led by the Environment Agency (see para 2.5 below). This seeks to reduce demand by demand management measures whilst planning to meet future water demands through resource development where necessary. A guiding principle is that surplus water resources should be transferred to companies/areas in deficit before new resources are developed. Resource development and water transfers can have environmental impacts and it is important that water supply and treatment requirements associated with the development strategy set out in the Deposit Plan can be met in a sustainable way.

2.3 The exceptional rainfall in the autumn of 2000 and the resultant floods may create an impression of ample water supplies. However, predictions for climate change envisage wetter winters and more severe summer droughts. Climate change is likely to have an effect on water supply (both ground and surface) and waste water issues, but the overall effect is difficult to predict. One or two winters of below average rainfall combined with a hot dry summer can lead to a shortage of water. Pumped storage reservoirs such as Bewl Water should be easier to fill because of wetter winters but this could be offset by higher demand and evaporation from reservoirs in the summer. Peak demand can place a strain on water resources

especially during summer months when surface and ground water resources are receding.

2.4 Predicted increases in winter rainfall, flooding, drier summers and rising sea levels will lead to changes in ground water and river regimes and the availability of water for abstraction. Kent has traditionally relied on 75% of its drinking water coming from ground water sources. Coastal groundwater and surface water abstractions will be more vulnerable to sea level rise with salt-water intrusion raising particular concerns.

### ***Water Resources Strategy For The South East***

2.5 The Environment Agency published this strategy in March 2001. Strategic water supply issues are considered largely on a regional rather than county-wide basis. The Strategy, which covers Sussex, Kent and Hampshire, took into account regional planning guidance and identified a range of economic, regulatory and environmental scenarios to test future water supply/demand balance. These scenarios included different assumptions on abstraction and leakage recovery and an assumption for climate change.

2.6 The Strategy predicts that the transfer of water between supply areas will be able to meet deficits in the short term but as demand increases over the medium/long-term new sources of supply may be needed. The extent and timing of these will depend upon the spatial distribution of growth and the effectiveness of water demand management and other strategies, including leakage control. The Strategy allows for resource developments of 115MI/d by 2010 (including 50MI/d from enhancement of local source outputs and 40MI/d by enlarging either Bewl or Darwell Reservoirs) and a further 50 MI/d by 2025 (primarily through resource sharing).

2.7 The Strategy suggests (para 4.6) that it may be difficult to justify a case against development on water resource grounds but considers that there are areas in the region where it may be inadvisable to develop too quickly or too extensively until water resource and environmental impacts are understood and water supply is properly planned. Although specific areas are not identified in the strategy Ashford and Thanet are likely to come within this category.

2.8 The strategy emphasises (para 6.8.3) the role of demand management in harnessing supply. If extra resources do prove necessary, the strategy suggests that the choices available will include reservoir development, strategic transfers and effluent reuse.

2.9 Reservoir development is identified as a key component within the strategy. After 2010 and before 2015 it suggests that either Darwell or Bewl may need to be enlarged. The other may need to be enlarged before 2025. A new reservoir, for example at Broad Oak, may be required beyond 2025<sup>1</sup>. While the strategy recognises that reservoirs do have environmental impacts, including the loss of land, visual impact and construction disruption, it argues that they can help to address peaks in demand and have other positive benefits including providing recreational opportunities, biodiversity and the potential for power generation.

2.10 The Strategy identifies a number of areas for further work as part of its assessment of future resource requirements e.g. per capita consumption, monitoring

---

<sup>1</sup> The draft Business Plan published by Mid Kent Water in September 2003 suggests a potential completion date of 2019 but this is subject to OFWAT approval and more detailed appraisal.

efficiency savings, demand management climate change, population projections, price impacts and conjunctive use. The EA's Kent Area Planning Guidance, March 2001 (Principle 8), states that new sources of supply should not be pursued unless all sustainable options for maximising existing resources have been implemented

**Summary of Water Demand Scenarios For The South East Region (Table 5.5 From EA Strategy)**

	Scenarios to 2010					Scenarios to 2025				
	Alpha	Beta	Gamma	Delta	1999 WRP <sup>s</sup> *	Alpha	Beta	Gamma	Delta	1999 WRP <sup>s</sup>
<b>1. Public Water Supply</b>										
Household	90	89	21	44	50	210	144	-167	-136	135
Non-household	20	39	2	-29	-28	13	76	-61	-101	-26
Target headroom	-	-	-	-	13	-	-	-	-	26
<b>Total</b>	<b>110</b>	<b>128</b>	<b>23</b>	<b>15</b>	<b>35</b>	<b>223</b>	<b>220</b>	<b>-228</b>	<b>-237</b>	<b>135</b>
<b>2. Direct abstractors</b>										
Industrial	-24	-16	-44	-47	-	-42	-61	-117	-104	-
Agricultural	9	8	5	9	-	16	13	0	8	-
<b>3. RPG9 – housing and economic growth beyond 1999 WRP<sup>s</sup></b>	Assume included	Assume included	-	-	20-40	Assume included	Assume included	-	-	30-60
<b>4. Environmental need</b>	20-50	20-50	20-50	20-50	80-180	80-180	80-180	80-180	80-180	80-180

NB household growth projections account for an increase in water demand of 23 megalitres per day by 2016 in Kent and 40MI/d for the region as a whole (table 4.4 in the Strategy). Climate change assumptions equate to 16 MI/d (section 5.3.3 of the strategy).

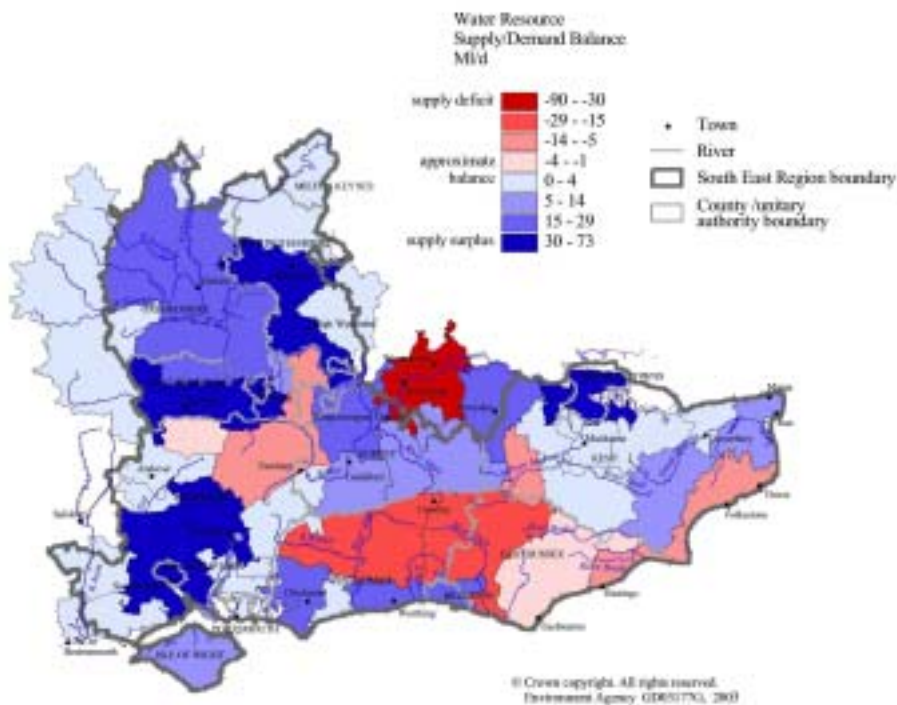
\*WRP – Water Resource Plans

## Kent Perspective

2.11 There are six water companies in Kent. Their latest Water Resource Plans (WRPs), feed into the EA's overall Water Resource Strategy. Their demand assumptions reflect the guidance on the distribution of housing provision in Regional Planning Guidance. The Water Resources Plans are reviewed annually. The impact of climate change on both resources and demand is also considered.



**Map of Water Supply Balance**



2.12 Surface water abstraction accounts for 25% of Kent's water supply and comes mainly from the River Medway abstraction at Maidstone. This is supported by releases from Bewl Reservoir which is filled during periods of high river flow during the winter from the River Teise at Smallbridge, near Goudhurst and from the Medway at Yalding. Both Yalding and Smallbridge abstractions are tied to control flows based on a Minimum Residual Flow in the Medway at Teston gauging station.

2.13 In line with the Water Resources Strategy, water companies predict being able to meet overall water supply requirements up until 2010, subject to detailed scenario testing. They acknowledge some local capacity and water quality concerns but conclude that these could be overcome by investment. Beyond 2010/2015, they consider that most areas will need to rely on new resources. The timing of these will depend on a number of factors including the scale of water provision for the environment (managing abstraction), customer demand, legislative change, the sequence, scale and lead in time of development.

2.14 Water Resources Plans, prepared by the Water Companies and the Environment Agency, can inform and be informed by the Structure Plan process. The schemes being proposed by Water Companies to increase water resources over the next 25 years include:

- Increasing the yield of existing sources eg by treatment
- Improved seasonal use of water sources
- Leakage reduction
- Efficiency savings/demand management eg grey water recycling
- Increasing the storage capacity of existing reservoirs eg Bewl Reservoir
- Bulk transfers between companies
- Groundwater enhancement - aquifer storage recovery/recharge
- Effluent reuse
- Desalination – testing long term feasibility

2.15 Small water supply surpluses are currently identified in Medway and Swale and transfers are currently made from Medway into Thanet where there is a water supply deficit.

2.16 Ashford has been identified by the EA as an area where the supply of water resources to meet future demand is an issue. Low flows in the river Stour and falling rainfall may lead to a cutback of output from public boreholes which will need to be replaced by resources from elsewhere, possibly by raising Bewl reservoir or the construction of a new reservoir at Broad Oak.

2.17 Parts of Sevenoaks, Tonbridge and Tunbridge Wells are supplied by South East Water and its current Resource Plan demonstrates an appropriate level of planned supply (25% increase) over the 25 year period. This will be achieved by enhancing local groundwater abstraction, the conjunctive use of sources (where several sources are used in combination) and through the regional transfer of water from neighbouring areas. These resource schemes are in addition to ongoing progress with water management, leakage control and efficiency initiative.

2.18 Within Mid Kent Water's supply area, water is abstracted from numerous small groundwater sources, located in 2 main aquifers. These are the Chalk and Lower Greensand aquifers in the North and, in the South, Bewl reservoir and 2 small groundwater sources abstracting water from the local Ashdown Beds aquifer. With Ashford identified as a growth point, water surpluses at Bewl Reservoir and in the Canterbury Area will need to be transferred to meet increased demand in the short

term. New supplies will be required in the medium term. Currently there are slight water surpluses in Canterbury and Maidstone Areas.

2.19 Thames Water is the statutory water undertaker for Dartford and Sevenoaks Districts. There are no water resource problems at present but planned growth at Thames-side may need to rely on water transfers from the Thames Region, although there are costs and other issues associated with this option. Resource development is under investigation at Swanscombe Quarry/aquifer, to replace resources lost as part of the Alleviation of Low Flows programme for the Darent, and may help to augment supplies in the medium term.

2.20 Folkestone and Dover Water Company relies wholly on underground water resources for its public supply from an unconfined aquifer. This is a groundwater unit where the saturated zone has a free surface or water table with no underlying impermeable cover. They are particularly vulnerable to winter drought and there are potentially problems associated with saline intrusion and low river flow in addition to pollution. Dover and surrounding area is the best area in resource terms within the Company's area of supply. Folkestone and Hythe and surrounding areas are less well served in resource terms and rely heavily on water transfers. The Dungeness area is the most limited area in resource terms due to the structure of the shingle aquifer (Denge Beach) on the Dungeness Peninsula. This is at the limit of sustainable resource development and is particularly vulnerable to saline intrusion at depth and by storm-tide inundation.

2.21 Southern Water Services response to "Mapping Out The Future" suggested that investment in local infrastructure is likely to be required in a most areas where significant growth is proposed, eg Swale (Iwade and North Sittingbourne), Thanet and Medway. More detailed studies will be required as policy requirements are taken forward through Local Development Documents. These studies should consider both infrastructure requirements and phasing/delivery mechanisms.

### ***Abstraction and the Environment***

2.22 Much of Kent is over licensed during dry months. Peak demand causes particular problems as this is when summer ground and surface waters are receding. Winter storage is encouraged by the Environment Agency (EA) as a means of maximising a catchment's potential resources by encouraging abstraction from rivers at times of high flow. This creates additional reserves that can be drawn on during the succeeding summer months when demand is at or near peak levels. The quality of abstracted water from a small number of boreholes in Kent can vary for many reasons including levels of rainfall hence this requires careful management and monitoring.

2.23 The EA have a duty to safeguard environmental interests having particular regard to the requirements of the EU Habitats and Birds Directive, UK and Local Biodiversity Action Plans and the United Nations Environment programme, which refers to Swale and Medway, Sandwich Bay and Hacking Marshes, River Dour, Darent and Little Stour. The Water Framework Directive, which is to be enshrined in UK legislation, also refers to the ecological status of surface and ground water. The date for compliance will vary according to specific legislation.

2.24 A number of important sites are being harmed because of current levels of abstraction that result in low river flows or dryer conditions in traditional wetlands. A fundamental component of the EA's Water Resource Strategy for the South East is to terminate unused licences by up to 500 MI/d (up to 350MI/d in Kent) and also to reduce actual abstraction by between 80-180MI/d (45-75 MI/d in Kent). The latter is

dependent on finding replacement resources or achieving demand savings. The EA requires environmental impact assessments before issuing new or revised abstraction licences. In some cases aquifer exploitation may still be appropriate, for example, to achieve other environmental objectives such as river flow alleviation.

2.25 Investigations are underway by the EA to better understand the sustainability of both licensed and actual abstractions and the ability of aquifers to recharge. There are concerns about the sustainability of aquifers over a broad swathe of North and East Kent, from Dartford to Folkestone, between the crest of the North Downs and the North Kent coast. The Thanet Towns, the foot of the North Downs including Maidstone and the Weald are considered to be at their sustainable limit. Both the Darent and Medway Valley have been heavily exploited for sand and gravel extraction which has impacted on aquifers used for water supply and the impact of mineral extraction practices needs to be given consideration.

2.26 Protecting water quality within aquifers is an important issue and the Environment Agency has produced aquifer protection maps, which indicate where potentially polluting developments should be avoided. It is important not just to consider the impact on aquifers during construction phases but also to consider their long-term protection/maintenance throughout the life of the development.

### ***Effluent re-use***

2.27 Within the EA's South East region 52 % of sewage treatment works effluent is discharged into sea (an additional 14 % is discharged to estuaries). Reusing it has benefits both in terms of increasing supply and reducing the need for disposal. Treatment and the energy costs of treating effluent to enable reuse may be high but could be justified infrequently to address peak/drought periods. It is not envisaged that effluent treated for reuse would be used for direct consumption by public. Instead it is likely to be mixed with reservoir/river water to dilute before further treatment or as a source for irrigation or river/upper estuary augmentation thereby leaving more high quality water available for public supply.

### ***Demand Management***

2.28 Water demand management has a critical role to play in the overall supply and demand equation. Even if water were plentiful, treating, supplying and disposing of it is a costly process using scarce resources and energy. Water companies and the Environment Agency promote water efficiency but the development plan process can play a role in promoting efficiency improvements.

2.29 Evidence suggests that water usage is reduced by metering. The government has been reluctant to impose metering on existing properties, although new homes are normally metered. Around 20% of existing homes are metered but by 2025 the EA expects that most will be. In 1998 the Folkestone and Dover water company was able to reduce demand to lower than 1985 levels by introducing selective metering. Water costs can also influence usage. If water is under priced it may be used inefficiently. Water pricing is sensitive and pricing policies must be approved by OFWAT but imaginative tariffs (for example relating to seasonal/peak usage and block tariffs) can have a significant effect on demand without compromising the public interest.

2.30 Legislation may be the key to more effective demand management. The 1999 Water Regulations introduced a number of guidelines on water conservation in the home. They advocate that developers use water efficient technology and offer water efficient appliances, including low flow showers, water efficient taps, single flush

toilets, rain water collection, drought tolerant turf, mulching mats and micro irrigation systems. Systems must be well designed and constructed to ensure savings can be sustained.

### ***Water Transfer***

2.31 Cross catchment transfers are the backbone of the Environment Agency's Water Resources Strategy. The proximity principle is important for water supply as transporting water over long distances can have significant environmental impacts, particularly in terms of infrastructure provision. Cross-catchment transfers however, can provide an important means of reconciling supply surpluses and shortfalls in different parts of the region. While there may be environmental and resource implications in terms of infrastructure provision and a risk of moving alien species/diseases where natural water courses are used in the transfer, it may be preferable in impact and cost terms to other alternatives, such as the development of new resources.

## **3.0 Wastewater**

3.1 The impact of development on wastewater treatment is a material planning consideration. Southern Water and Thames Water are responsible for wastewater treatment and disposal in Kent. This includes the provision and maintenance of public sewers. Once built, water companies have a duty to connect properties to the sewage network and capacity issues therefore need to be addressed early in the planning process to ensure appropriate infrastructure is provided.

3.2 Wastewater and sludge treatment works are essential requirements for servicing the community. The requirements for wastewater treatment works need to be identified and planned to enable them to meet demand and minimise the environmental effects of such uses. The proposed spatial strategy is likely to require increased capacity in a number of areas and it will be appropriate to carry out further studies of specific requirements and implementation strategies as development options are taken forward into Local Development Frameworks.

3.3 The Ashford Area has particular issues in view of its role as a regional growth area. The Ashford Discharge at Bybrook is operating close to its consented limits. Even in relation to current demand, there is insufficient dilution in the Stour to meet river standard objectives, particularly concerning phosphorous. It has been failing these objectives since 1996. Average dilution of wastewater from Bybrook works is 5 to 1 but can be as low as 1 to 1 during the summer. There is little scope for increasing the river's base flow, which has been depleted in recent years. Coastal out-fall options are constrained by distance and are contrary to the objective of reducing out-fall disposal. Southern Water has completed feasibility studies to assess investment options for the provision of sewerage and wastewater treatment required to meet growth in Ashford to 2030. A key issue to be determined by the Environment Agency is whether waste water treatment for the major growth area should be centred on Bybrook or a search made for an additional site to construct a separate treatment works to treat wastewater flows arising from the south of the town. When the location and quality standards required for effluent discharges have been defined by the Environment Agency, Southern Water will finalise its medium and long term investment plans for the Ashford Area.

3.4 The European Directive on Urban Wastewater Treatment 1991, which is incorporated into the Urban Waste Water (England and Wales) Regulations 1994, requires that all sewage discharged is given treatment before final disposal. It is the

responsibility of the Environment Agency to advise the Government on the required level of treatment, and all wastewater treatment works are now required to have primary and secondary treatment and, in some cases, tertiary treatment. With the exception of the treatment works serving Margate and Broadstairs, the Water Companies have completed a major investment programme to upgrade the treatment processes provided. However, as environmental standards continue to improve it may be appropriate to safeguard sites required for the provision of additional treatment processes. Southern Water has been unable to acquire land required to construct a new treatment works to serve Margate and Broadstairs where untreated wastewater is currently discharged to coastal waters. Securing a site for this essential works represents a major challenge.

3.5 Large volumes of sewage sludge are produced as a result of the wastewater treatment process and have increased with the construction of secondary/tertiary treatment plants. Current strategies focus on the recycling of sewage sludge to land, particularly agriculture, as the preferred outlet. Treatment standards have been raised and the disposal of untreated sludge to agriculture has been eliminated. Future standards relating to the disposal of sludge may require Water Companies to adopt alternative disposal strategies. Future sludge arising from wastewater treatment works may need to be transported for treatment and disposal outside the Plan area.

3.6 By their nature waste water treatment works are not ideal neighbours and PPG 23 on Pollution (para 2.19) states that "*Local plan policies should aim to keep apart housing and other developments sensitive to pollution from polluting or potentially polluting uses.... failure to achieve this separation may lead to pressure for the imposition of higher standards at considerable expense to the industry, or revocation or refusal to renew the authorisation, and closure of the business.*" In order to avoid conflict local planning authorities should identify areas/buffer zones around polluting land uses, such as wastewater treatment works, in which other development should be subject to special consideration.

3.7 In some locations there may be a role for sustainable waste disposal systems which do not rely on main drainage eg reed beds but these should only be adopted where they will not pose a risk to ground water and appropriate provision is made for long term maintenance.

#### **4.0 Disposal of Surface and Storm Water**

4.1 Inadequate provision for surface water drainage can lead to excess water entering the sewer system leading to sewer overload and surcharge flooding. It is important to ensure that new connections to the public sewerage system do not pose an unacceptable threat of surcharge flooding or pollution. Where practical, disposal of surface water 'on site', for example via soakaways, should be encouraged. Separate provision should be made for foul and surface water sewerage. Sustainable Urban Drainage Systems (SUDS) are promoted in PPG 25. These avoid piped drainage and mimic natural drainage processes helping to restore river and groundwater flows. They may not however be applicable in all locations and they have long term maintenance implications that need to be considered/addressed.

4.2 As a consequence of prolonged wet weather in 2000, extensive flooding was experienced throughout the county. Many catchments were so saturated that even modest rainfall resulted in further flooding. This brought the risk of flooding to properties and, in some places, overwhelmed the public sewerage systems.

4.3 When land drainage systems become overloaded it is essential to ensure that excess natural surface water is not discharged into public foul sewers as this can cause overloading and the operation of storm overflows to the detriment of river quality and possible flooding of property from foul sewers.

4.4 Total surface water disposal involves a number of non-public sewerage systems. The need to co-ordinate drainage systems will become increasingly important, particularly in low-lying sites with a potential to flood. Redevelopment of existing urban sites, where intermittent flooding might have been acceptable historically, may not now be acceptable if there is a risk of overloading sewerage systems.

## **5.0 Infrastructure**

5.1 Government guidance in PPG 12 advises that planning authorities should develop a strategic approach to infrastructure provision, linked to planned development. It also urges authorities (6.18 and 6.19) to consider the land use requirements and the wider environmental affects of meeting increased demand, specifically highlighting the possible need for reservoirs, pipelines or treatment works. It suggests that the adequacy of existing infrastructure may well influence the timing of development as the provision of new infrastructure might take several years to commission. Local authorities are urged to discuss phasing with utility companies (6.21). RPG9 also states that "New development should be located, and its implications planned, in such a way as to allow for sustainable provision of water services and enable timely investment in sewage treatment and discharge systems".

5.2 In order to accommodate new development the requirements for supporting infrastructure will need to be assessed. In most cases this will include water supply, sewerage and land drainage. The environmental implications and the opportunity costs associated with different water supply solutions need to be considered when developing schemes to meet future water demand. If major infrastructure projects are potentially required, then these should be referred to, and where appropriate safeguarded, in relevant Local Development Documents. Liaison with relevant water companies and the Environment Agency will be required to assess the timing/form of such provision.

5.3 Local planning authorities should encourage all developments to be connected to the public sewerage system where available and to design sewerage infrastructure to an adoptable standard. Where adequate sewerage capacity is not available developers should be required to requisition off site sewerage easements to connect to where adequate capacity is available. The provisions of Section 104 of the Water Industry Act 1991 requires sewers to be constructed to standards that are adoptable by the sewerage undertaker but this only comes into operation where a developer voluntarily enters into an adoption agreement. Problems have arisen where sewers have not been offered for adoption and have not been designed to adoptable standards. Pressure is then placed on utility companies to adopt the systems by incoming occupiers.

## **6.0 Review of current policies in Kent Structure Plan 1996**

6.1 There are a number of policies in the resources section of the existing Structure Plan that have bearing on water resources and water treatment. These are:

**NR 1 Development will not be proposed in Local Plans unless the local authority is satisfied, after consulting with the Environment Agency and Water and Sewerage undertakers that adequate provision for waste supply and waste water treatment can be made, consistent with the long-term management of water and waste water services. Local Authorities will also consult and take full account of the advice of the Environment Agency and water and sewerage undertakers when considering proposals which are likely to have significant water or waste water implications**

**NR 2 The Development or expansion of water supply or waste water facilities will normally be permitted, either where needed to serve existing or proposed development in accordance with the provisions of the Development Plan, or in the interests of long term water supply and waste water management, provided that the need for such facilities outweighs any adverse land use or environmental impact, and that any such impact is minimised.**

**NR3 Development will not be permitted which would have an unacceptable effect on the quality or potential yield of groundwater resources.**

**NR 4 Development which will lead to a material deterioration in the quality of surface water will not normally be permitted.**

**NR 5 on Flood Risk (water quality - dealt with in separate technical paper on Flooding)**

6.2 While the 1996 policies provided a robust framework for considering water supply and wastewater issues there have been a number of key policy shifts that need to be reflected in the new plan. A number of these have already been discussed in detail above. They include:

- EU Water Framework Directive (Draft) – improving water quality
- EU Habitats Directive – relationship between abstraction and the environment. Taken forward through Catchment Abstraction Management Strategies
- PPG 1 General Policies and Principles – promoting sustainable development
- PPG23 Planning and Pollution Control – Planning for potentially polluting developments (such as waste treatment works) while safeguarding pollution sensitive developments such as residential property.
- PPG 25 Development and Flood Risk – ensure adequate drainage to avoid risk of pollution caused by overloaded infrastructure
- RPG 9 Regional Planning - the distribution of development to consider water supply and treatment and promote water efficiency and infrastructure provision.
- PPG12 - Role of development plans in identifying need for new infrastructure. Prudent use of natural resources (para 4.1).
- Kent Design 2000 – promotes resource management
- Environment Agency Water Resources Strategy 2001 – Supports development of new sources of supply and water demand management
- Environment Agency Kent Area Planning Guidance March 2001 – Protection of water quality.

6.3 In addition to these policy shifts there have been concerns locally that some policies need strengthening to overcome problems that have continued to arise from development, such as aquifer pollution and impacts on surface water quality.

6.4 A few policy gaps have also been identified, particularly in respect of the following:

- Ensuring water resources/infrastructure is or can be made available – specifying strategic requirements where known.
- Safeguarding sites for water supply/treatment purposes
- Preventing sensitive development near existing/proposed waste treatment works
- Support for water conservation through development
- The impact of abstraction on the environment

## **7.0 Policy Directions**

7.1 Water supply, treatment and disposal are material planning considerations and need to be balanced with other socio-economic and environmental factors when considering the overall development strategy for Kent. The Structure Plan will need to provide a flexible policy framework to encourage the sustainable use and treatment of water while being able to respond to major infrastructure proposals if these prove necessary.

7.2 Kent is required under regional planning guidance to provide for a set level of growth that has been taken into consideration by the Environment Agency and local water companies both in their input to the Deposit Plan and in the preparation of their own plans and strategies. Central Government has also indicated that it expects future growth to be concentrated at Ashford and Thames Gateway and supports regeneration in other areas such as the coastal towns. While this approach does raise some specific issues relating to water supply and treatment capacity the Environment Agency is satisfied that these demands are capable of being met. While some parts of Kent may have more water resources than others, the scale of growth envisaged would be likely to require resource development of some form wherever it was distributed, particularly when taken together with increased demand arising in neighbouring areas.

### ***Water Supply and Demand Management***

7.3 The Environment Agency takes the view that future demand requirements within the region are capable of being met through demand management and resource development and transfer. Water supply is therefore not considered to be an overriding constraint to development.

7.4 Water transfers will be required in the short term. Within the medium term, beyond 2010, there is likely to be a requirement for reservoir enlargement of both Bewl and Darwell reservoirs and beyond 2025 the potential need for a new reservoir that may be in Kent. It will be for the promoters of any scheme to make the specific case in terms of need and environmental impact. Given the long lead-in time for reservoir development, it is appropriate that these options should be identified in the Deposit Plan.

7.5 The extent to which demand management, such as leakage recovery, might assist the water supply equation needs to be kept under review. Changes in legislation on metering, costs and the use of more sustainable systems could have a significant impact on demand and this in turn could influence the timing of infrastructure requirements, but is unlikely to replace the need for new resources to be developed in the medium and long term.

7.6 The role of the Structure Plan should be to promote policies which ensure that new developments are capable of being supplied with water resources in a sustainable way, minimise the need for water resources, encourage sustainable resource development such as aquifer recharge, and set out the criteria against which proposal for resource development will be tested.

### ***Abstraction***

7.7 The Environment Agency is actively promoting a reduction in abstraction, where it is unsustainable, which should bring benefits for the environment in the long term. Policies will still be required to address/mitigate the impact of future development proposals which may rely on abstraction.

### ***Waste Water***

7.8 There are particular concerns about the delay in improvements to wastewater treatment facilities discharging to coastal water. Southern Water has been unable to acquire land required to construct a new treatment works and securing a site for this essential works represents a major challenge. Unless water companies are able to improve the quality of discharge to meet EU requirements this may have a constraining effect on development.

7.9 Existing wastewater facilities at Ashford are under pressure and the plan will need to acknowledge that facilities will need to be enhanced before major growth can proceed there. Localised improvements may be required in other locations depending on the scale of growth envisaged and the plan should provide criteria against which to assess such proposals. Provision will also need to be made to ensure that Local Development Documents allow for new or enhanced wastewater treatment works in order to meet changes in water quality standards and to respond to local development proposals.

### ***Infrastructure***

7.10 The optimum solutions for meeting water and wastewater demand will depend on a number of factors. These factors will vary from location to location, and over time, but generally will include regulatory, economic, environmental and development considerations. The Structure Plan should provide the policy framework for the assessment of potential solutions. Provision should also be made for Local Development Documents to identify specific infrastructure requirements where these are acceptable in environmental terms.

### ***Implementation***

7.11 Ongoing consultation with water companies and the Environment Agency should be encouraged at all stages in decision making to ensure that local water supply/treatment requirements are properly identified in respect of specific development proposals.

7.12 Policy objectives towards water supply and treatment will need to be reinforced by other activity such as partnership working through Local Community Planning process and lobbying government for legislative changes and gap funding.