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Cover image: Glencorse Water Treatment Works during construction phase July 2009



Strategic Asset Capacity and Development Plan 2011

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**Scottish
Water**
Always serving Scotland

strategic asset capacity and development plan 2011

Report on our processes and systems for calculating capacity

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1. executive summary

Ministerial Directions¹ require that Scottish Water must publish a report on an annual basis to outline the capacity associated with our strategic assets, namely our water and waste water treatment works.

The Strategic Asset Capacity and Development Plan (SACDP) report provides a description of our processes and systems for calculating capacity available, at the 1,907 waste water treatment works (WWTW) and 262 water treatment works (WTW) serving Scotland. Scottish Water will publish this document annually to reflect any changes to our systems or our methods of reporting the available capacity.

Scottish Water is committed to meeting the demand of new housing development and the domestic requirements of commercial and industrial developments.

The available capacity at water and waste water treatment works is determined by the ability of the works to carry out treatment to the standard required by the Drinking Water Quality Regulator (DWQR) and/or the terms of their legal licences to either abstract or discharge water, as regulated by the Scottish Environment Protection Agency (SEPA) and available raw water capacity.

The number of new connections able to be accommodated by a water or waste water treatment works is generally determined by considering:

- The demographic characteristics of the area which it serves i.e. growth in the number of houses may not be reflected in a similar growth in population;
- The forecast increase in capacity from programmed capital investment; and
- The current available capacity.

For water assets, the Supply Demand Balance (SDB) is calculated annually using a standard UK Water Industry Research (UKWIR) methodology and is reported in the Annual Return for Security of Supply Index (SOSI), which provides the key data for the preparation of Water Resource Plans (WRP).

The SDB is produced for each individual Water Resource Zone (WRZ) arriving at a calculation of the available volumetric surplus or deficit at each works compared with the target headroom, which is then converted into the available Housing Unit (HU) capacity. The resulting HU capacity is used as a basis for allocating available capacity at WTW level and taking into account of anticipated additional capacity during the SR10 investment period as a result of leakage reduction to the Economic Level of Leakage (ELL), capital project works and local knowledge of individual Scottish Water Asset Planners.

In the 2010 report a localised population equivalent (LPE), based on the Household Projection for Scotland: 2008² has been used. This will reflect the different housing occupancy rates found throughout Scotland.

Where a water or waste water treatment works serves more than one local authority area, the figure for the area with the largest proposed development potential within the investment period has been used.

Scottish Water has an ongoing programme of work which has and will continue to improve the accuracy of our corporate capacity data.

These measures include:

- Basing the report on the current record of assets contained in the corporate asset inventory.
- Entering into a "Memorandum of Understanding" (MOU) with SEPA for waste water treatment works and water treatment works.. Such an approach has released an agreed level of development within areas where our existing assets are at or near their theoretical capacity during the SR06 investment period.
- Using flow and load data collected at waste water treatment works to improve works capacity information.
- Using actual design capacities where new works have been constructed.

We periodically review the development proposals and requirements of each local authority and link them to the individual water and waste water treatment works serving them.

Regulations³ from the Scottish Government set out the elements of investment associated with water and waste water connections that are funded by Scottish Water. They also define the new responsibilities for developers and the part which they must now play in funding improvements to the water mains, sewers and networks which connect their new developments to our treatment works.

Our aim is to ensure that the strategic capacity required by new developments is provided in a timely and efficient way as demand arises, requiring a close working relationship with local authorities and developers.

In determining the requirement and timing of additional strategic capacity, we will take into account the following:

- Developments which are supported by the appropriate planning authority's local plan;
- Indication that reasonable and appropriate time remains on full-planning[#] permissions associated with the development;
- Written commitment from the developer of land ownership; and
- Agreement that any required local infrastructure reinforcement will be funded by the developer, subject to the The Provision of Water and Sewerage Services (Reasonable Cost) (Scotland) Regulations 2006 and;
- The developer demonstrating reasonable proposals in terms of annual build rates.

¹ Direction for Quality and Standard 3: Investment and charging October 3, 2005

² Projected Average (mean) Household Size in Scotland by Local Authority

³ Provision of Water and Sewerage Services (Reasonable Cost) (Scotland) Regulations 2006

[#] Outline planning may be considered whereby full planning permission has been refused on the basis that appropriate treatment capacity is unavailable.

2. establishing current capacity

2.1 Waste water capacity

A primary factor in determining the available development potential of WWTW is the agreement between Scottish Water and SEPA, resulting in a MOU. This examines the impact of proposed development on the public waste water system to maximise the flexibility available to connect new developments to our assets. The output from this process is reviewed by SEPA and Scottish Water on an ongoing basis.

The overall assessment is based on the current performance of the works in terms of:

- Asset failures;
- Current asset headroom;
- The extent to which the asset capability can be stretched to further meet developer needs; and
- The extent to which the receiving watercourse can accommodate additional load.

2.2 Water capacity

For water assets, the assessments are based on the results from the SDB calculations carried out, using a standard UKWIR methodology for each individual WRZ

The SDB is produced for each individual Water Resource Zone (WRZ) arriving at a calculation of the available volumetric surplus or deficit at each works compared with the target headroom, which is then converted into the available Housing Unit (HU) capacity. The resulting HU capacity is used as a basis for allocating available capacity at WTW level and taking into account of anticipated additional capacity during the current investment period (SR10) as a result of leakage reduction to the Economic Level of Leakage (ELL), capital project works and local knowledge of individual Scottish Water Asset Planners.

The following factors are consideration:

- Availability of water resource Scottish Water Level of Service is a 1:40 drought return period);
- Limitations on abstraction from the licence under the Controlled Activities Regulations (CAR)⁵;
- WTW process capability and hydraulic capacity; and
- An agreed water MOU with SEPA which may allow additional abstraction in certain circumstances

N.B The SDB considers the raw water source to the exit of the WTW and does not consider the distribution system.

The water resource assessments are based on the available yield at the source or group of sources which supply a water resource zone. The CAR licence limitations are based on the volume we are legally permitted to abstract from the water resource and the WTW assessment is based on the performance of the asset and the final volume of treated water available from the WTW under all raw water conditions.

2.3 Data presentation

This report sets out:

- The data sources we have used in our assessment;
- The methodology we have adopted in our assessment; and
- Scottish Water's plans for growth.

Scottish Water provides information on available capacity within our WTW and WWTW assets on our web based asset capacity viewer. The information provided is live and reflects the current status of our assets taking account of committed new connections. The asset viewer together with instructions for its use can be found on our website, www.scottishwater.co.uk/capacitysearch. Basic tables for each local authority area that indicate the capacity at works are also available on our website. These tables are a snapshot taken at the beginning of each annual review.

3. objectives

Ministerial Directions⁶ require that Scottish Water shall annually publish a report outlining the capacity and development plans associated with our strategic assets, namely water and waste water treatment works.

Our aim is to ensure that the strategic capacity required by new developments is provided in a timely and efficient way as demand arises. Developers are responsible for funding the local reinforcement required to accommodate new connections although Scottish Water provides a contribution to the costs. The process for obtaining a connection is described in detail in our "guide for obtaining new water and waste water services" at;

www.scottishwater.co.uk/customerguide

In establishing the strategic requirements to accommodate new development, we have worked closely with local authorities and developers.

3.1 Progress so far

Since 1st April 2006 Scottish Water has been specifically funded to enable development. We have continued to build on our development task force initiative that looked at every aspect of making new connections to our infrastructure. New rules from the Scottish Government mean developers are also required to help pay for new infrastructure to service the developments they want to build.

We have established a programme of work across Scotland that will deliver strategic growth to meet anticipated demand. Currently* we have delivered strategic capacity equivalent to 144,919 population equivalents (PE) at our water treatment works and 59,340 population equivalents (PE) at our waste water treatment works, thus ensuring as many connections as possible can be made to our systems. While we wait for growth projects to be delivered in many cases we have agreed with SEPA that connection should be allowed knowing that investment will go ahead. This position is reflected in the following report.

⁵ The Water Environment (Controlled Activities) (Scotland) Regulations 2005, also known as (CAR)

⁶ Direction for Quality and Standard 3: Investment and charging October 3, 2005

* SR06 to March 2010 position (total PE claimed)

3.2 Requirements for additional strategic capacity

In determining the requirement and time for additional strategic capacity, we take into account the following:

- Developments which are supported by the appropriate planning authority;
- Indication that reasonable and appropriate time remains on full planning permissions associated with the development;
- Written commitment from the developer of land ownership;
- Agreement that any required local infrastructure reinforcement will be funded by the developer, subject to the Provision of Water and Sewerage Services (Reasonable Cost) (Scotland) Regulations 2006; and
- The developer demonstrating reasonable proposals in terms on annual build rates.

The number of new connections able to be accommodated by a treatment works is generally determined by considering:

- The demographic characteristics of the area which it serves i.e. growth in the number of houses may not be reflected in a similar growth in population;
- The forecast increase in capacity from programmed capital investment; and
- The current available capacity.

The information that is available on our website represents the current available capacity or headroom at existing WTW and WWTW assets.

Capacity is represented as the number of additional housing unit equivalents based on a localised population equivalent, which could be accommodated at the treatment works.

This data is based on information available at the time and is refreshed on an ongoing basis.

3.3 Objectives of this report

This report provides an overview of our processes that define the capacity available, at the 1,973 Waste Water Treatment Works (WWTW) and 279 Water Treatment Works (WTW) serving Scotland and our plans to deliver future capacity.

The available capacity at these works is determined by their ability to treat water or waste water to the standard required by the Drinking Water Quality Regulator (DWQR) and/or the terms of the site licences to either abstract or discharge water, as regulated by the Scottish Environment Protection Agency (SEPA). For water assets, available capacity is determined as stated in Section 2.2.

It is important to emphasise that this report relates to strategic assets (termed Part 4 assets, see Figure 1). Local connection, distribution and trunk main assets (termed Part 1, 2, and 3 assets, see Figure 1) are outside the scope of this report.

Our connections process for establishing the extent of local reinforcement work required to accommodate new connections is described in our "guide for obtaining new water and waste water services", available on our website.

3.4 Explanation of strategic assets

Water and waste water connections are split statutorily into 4 elements – termed Parts 1, 2, 3 and 4 infrastructure. These are illustrated in figure 1 below.

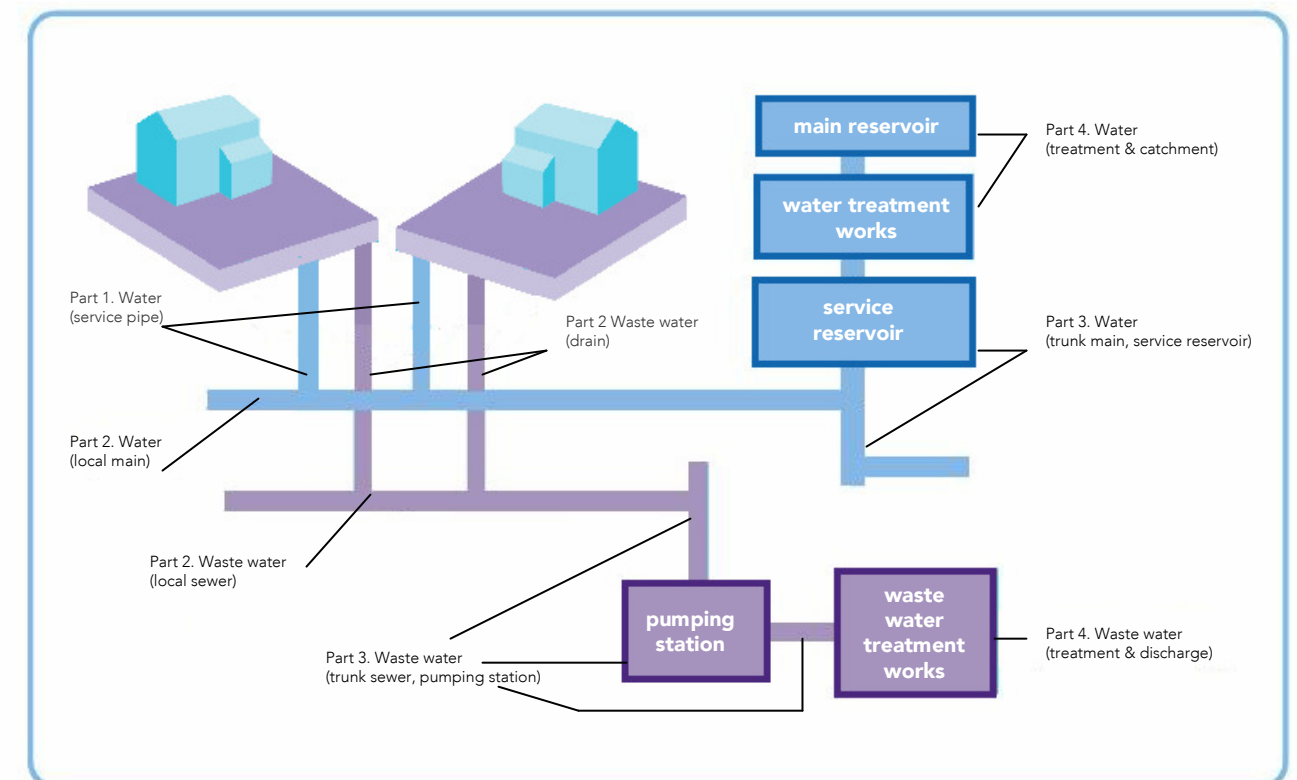


Figure 1: Water and waste water assets: pictorial representation of parts 1 to 4 assets

- | | | | |
|---------|--|---------|---|
| Part 1: | The connection from individual premises to a water main or sewer. | Part 3: | The local bulk infrastructure, such as trunk mains and trunk sewers, water service reservoirs, waste water pumping systems and some SUDS systems. |
| Part 2: | The water mains and sewers that connect developments e.g. a street of houses to trunk mains and trunk sewers and some sustainable urban drainage systems (SUDS). | Part 4: | The strategic assets such as raw water intakes, water impounding reservoirs, water pumping stations and aqueducts, and water and waste water treatment works. |

4. available capacity

4.1 Available capacity at strategic assets

Available capacity at WTW and WWTW is quoted in terms of the number of additional housing units that can currently be accommodated.

Details of capacity are provided in 2 formats:

The annually published Strategic Asset Capacity and Development Plan (SACDP) report provides a static snapshot of capacity at a single point in time and is presented in a tabular format, split by local authority area.

The information within our asset capacity viewer is live at the time of viewing and represents the current capacity at the treatment works.

The information will be updated on an ongoing basis based on:

- The impact of new development on available capacity;
- The creation of new capacity as a result of investment; and
- Improvements in the quality of the information used to ascertain available capacity.

4.2 Memorandum of Understanding (MOU)

Scottish Water and SEPA recognise the importance of supporting urban and rural development through the provision of water and waste water services, whilst protecting human health and promoting sustainable development.

Clear lines of communication exist between both agencies in identifying assets which can be maximised to allow for new development across the country and this has historically allowed connections in areas where capacity was previously limited.

Scottish Water and SEPA have been working closely throughout 2009 in reviewing the existing MoU arrangements to further expand its potential use, particularly where water assets are concerned.

Throughout 2010 and beyond, both agencies will be embarking on a programme of incorporating the principles of the MoU throughout all areas of Scotland in order to support development by taking a joined up approach, embracing the principles of planning reform and playing our part in delivering long term development and a smarter, safer, stronger and healthier Scotland as outlined in the Scottish Government's "National Planning Framework for Scotland 2" proposals.

4.3 Data accuracy

We continue to promote a number of initiatives throughout our business to improve our confidence in the data that we base our capacity calculations on. This has involved:

- Using the record of assets contained in the corporate asset inventory;
- Entering into a "Memorandum of Understanding" (MoU) with SEPA for waste water treatment works and water treatment works – this will allow the release of an agreed level of development within areas where there is currently a lack of strategic capacity;
- Using flow and load data collected at waste water treatment works to improve works capacity information; and
- Using actual design capacities where new works have been constructed.

5. development of the growth programme

Ministerial Direction given in 2006 required Scottish Water to establish a plan to deliver new strategic capacity for up to 40,000 population equivalents (PE) at waste water treatment works and up to 18,784 population equivalents (PE) at water treatment works, in support of new housing development and the domestic requirements of commercial and industrial developments. Having out-performed these targets, we will continue to determine the timing for providing additional strategic capacity so that we can maximise the effectiveness of this provision during SR10.

5.1 Septic tanks

In excess of 1200 areas across Scotland are currently serviced by septic tanks. For these areas, the septic tank assets will be extended when there is clear evidence that development will occur. At that point, construction of a new tank to meet the new demand can progress relatively quickly, subject to SEPA's agreement.

5.2 Water treatment works

There are a significant number of small WTW, which serve a population of less than 250. In many cases the associated cost of upgrading these small works can be significant. In such circumstances developers are encouraged to make contact with Scottish Water to discuss the options available to serve committed development.

5.3 Local Authority consultation

Following the preliminary consultation with Local Authorities in 2003 to capture their development plan information, Scottish Water undertakes regular reviews. The latest review was completed in January 2008. This review covers the development demand across each of the 32 Local Authorities and the 2 new National Park Authorities. The information gathered by Scottish Water is incorporated within our strategic growth model,

taking into account the local authorities plans for development along with data relating to net projected growth, consistent with local demographic and population trends.

This has allowed Scottish Water to identify the critical areas for growth investment and the related activity to maximise connections via the Memorandum of Understanding (MOU) with SEPA.

In addition to the consultations with the Local Authorities, Scottish Water also consults with the development community via Homes for Scotland. This allows the development community to highlight their specific concerns and their changing priorities.

5.3 Proposed SR10 growth projects

By taking into account the following considerations, a number of our water and wastewater treatment works are being considered for additional strategic capacity within the investment period 2010-2015 (SR10).

- Available capacity at our treatment works
- Projections from the corporate growth modelling system (Growth Model) including;
- General Register Office for Scotland GRoS population/migration projections
- Government Actuarial Department data
- MOU Agreements
- Local planning intelligence

WTW and WWTW being considered for possible investment are identified in the accompanying data tables.

6. future reporting improvements

6.1 Planned improvements

The information contained within this document is available on our website www.scottishwater.co.uk along with capacity tables for each local authority within Scotland.

Scottish Water has been and continues to improve this data through a number of initiatives which include undertaking flow and load surveys, routine monitoring of corporate data and ongoing integration of our IT systems.

Such IT integration will also help improve our online capacity search function available at www.scottishwater.co.uk/capacitysearch with future enhancement and upgrading within the investment period 2010-2015.

6.2 Section 29E departures

Non-household premises can be significant users of water and waste water services within Scotland with potential to have significant impact on the availability of treatment capacity at our water and waste water treatment works and networks.

Section 29E of the Water Industry (Scotland) Act 2007 ("Section 29E") offers the opportunity for departures from the wholesale scheme of charges, where a wholesale customer has done or agrees to do something to reduce Scottish Water's costs in supplying customers.

As well as reducing costs these Section 29E actions may also release capacity in our assets. It is intended that capacity gains achieved through Section 29E departures will be incorporated within our capacity calculations and will be reviewed and adjusted in line with future changes.

Further information on Section 29E Departures can be found on the WICS website:
www.watercommission.co.uk

Alternatively, information can be sought directly through the applicable licensed provider, details of which can be found at:
www.scotlandontap.gov.uk

6.2 Contact details

If you have any queries on this report, feedback or wish to find out more information on this report then please email:
FeedbackSACDP@scottishwater.co.uk

For general planning and connection enquiries, please contact:

Customer Connections
Scottish Water
419 Balmore Road
Glasgow
G22 6NU

Customer Helpline: 0845 601 8855
Email: connections@scottishwater.co.uk

appendix a: identification of capacity

The following section describes the information processes and data which support the production of this report.

A.1.1 Waste water approach

Scotland is served by 1,907 WWTW designed to biologically and/or physically treat sewage prior to discharge to an appropriate water body – such as a stream or river.

These works are consented and monitored by SEPA. Consents can define both the maximum amount of loading which can be received at the works and the standard of treated effluent which can be discharged to the environment. The available capacity is determined by the specific terms of the CAR licence and the general capability of the WWTW asset.

Over the years, there has been a general erosion of treatment capacity across Scotland, resulting from a combination of tightening regulations, population shift and increasing demand. As a result, in many locations our waste water assets which serve the area, have reached or are close to their theoretical capacity. This presents challenges to our management of the performance of these assets until additional asset capacity is provided.

In keeping with Ministerial Objectives for 2006–14, Scottish Water and SEPA have developed a "Memorandum of Understanding on the Impact of Proposed Development on the Public System" the MOU. The purpose of the MOU is to establish clear lines of communication and enable the integration of Scottish Water's arrangements for identifying assets at risk of failure and SEPA's approach to identifying watercourses at risk of environmental degradation. This will maximise the scope for identifying available capacity for new development across the country.

Central to the MOU process was a 'desk top analysis' of 579 WWTW, on a works by works basis to assess available capacity. This was carried out by Scottish Water Asset Planners and our Environment Protection counterparts in SEPA.

The process considered a number of criteria as follows:

- Performance History
- Design Headroom
- Consented Headroom (Biological)
- Consented Headroom (Hydraulic)

The remaining, predominately small WWTW have been analysed by Scottish Water Asset Planners, using their knowledge of the asset and its performance history to review available capacity. The available capacity generated by this process has been presented on our website asset capacity viewer and in the accompanying tables to this report. The specific available capacity generated by the MOU process will be used to plan and allocate growth at a WWTW catchment level.

There is some limitation on waste water information, as follows:

- Population Equivalent data is collected using Scottish Water's geographical information system (GIS) and is based on 2001 census data;
- Accurate capacity information is not currently known for every WWTW and therefore a substantial capacity, flow and load measurement exercise has been initiated to improve the accuracy of WWTW headroom data. This is an ongoing activity but the results are enabling Scottish Water to more accurately predict the available current and future capacity.

appendix b: asset capacity viewer

A.1.2 Water approach

Scotland is served by 262 WTW, which were assessed using the 3 main components of:

- Supply/demand balance: water resource yield;
- Water abstraction limits; and
- Water treatment capability/capacity.

Specific details relating to the calculation of available capacity are discussed within Section 2.2 of this document.

As stated, an MOU developed with SEPA will enable Scottish Water to identify assets which cannot support development within their current abstraction limits.

The MOU includes a RAG (Red, Amber Green) assessment whereby Scottish Water and SEPA individually classify each WTW as to the availability of spare capacity over a series of timescales.

The surplus/deficit is calculated using the estimated peak demand for each WRZ. However, in instances where the critical demand period in question as defined in the Supply Demand Balance (SDB) Methodology is the average demand, any resulting yield deficit identified from using the peak demand figure is ignored for the purposes of the assessment.

Table 1: Definition of Water MOU RAG

(RAG) Read/Amber/Green Criteria		
Methodology	Classification	Criteria
Supply Demand Balance (SDB)	Red	Deficit Zone
	Amber	0-3% surplus and with a surplus of less than 1 Ml/d
	Green	Greater than 3% surplus

The Strategic Asset Capacity and Development Plan (SACDP) has been developed using a methodology for the whole of Scotland.

Previous editions of the SACDP utilised a standard demand figure of 650 litres/property/day. For the purposes of the 2010 edition the same methodology has been applied using current data and predicted Economic Level of Leakage (ELL) rates along with current occupancy rates from Local Authorities, to provide demand figures at a Local Authority level. These have been observed to vary from 553 to 680 litres/property/day and the incorporation of these rates have been utilised to improve the accuracy of capacity forecasting.

Further refinement is planned to reflect the impact of varying peak factors across Scottish Water's WRZ stock and the new HU leakage allowances applied.

A.1.3 Conclusion

The capacity at our treatment works is now available through our web based asset capacity viewer. Alternatively you may download our summary tables that are presented per local authority area.

If you do not have access to the internet or require additional versions or printed copies of this information please refer to the contact information in Section 6 of this report.

The tables detailing the available capacities at our water and waste water treatment works throughout Scotland which accompany this Strategic Asset Capacity and Development Plan, have now been incorporated within our online Asset Capacity Viewer. This application can be found at the following link

www.scottishwater.co.uk/capacitysearch

Customers and developers who do not have access to the internet should refer to the contact information in section 6 of this report

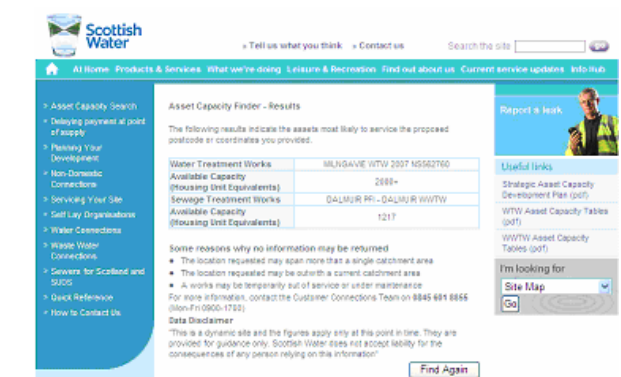
As information relating to the availability of capacity can change on a daily basis, it is always advisable to make direct contact with Scottish Water as to establish the current position before commencing with any development proposals.

Scottish Water is unable to reserve capacity at its water or waste water treatment works and the availability of capacity does not guarantee a connection to the network. Such permission can only be granted once a formal application to connect has been received and formal technical approval has been issued.

Further details of the connection process are available online at:

www.scottishwater.co.uk/customerguide

Figure 2: Asset Capacity Viewer Online Resource



appendix c: local population equivalent table

Local Authority													
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Scotland	2.20	2.18	2.17	2.15	2.14	2.12	2.11	2.09	2.08	2.07	2.06	2.04	2.03
Aberdeen City	1.98	1.96	1.95	1.93	1.92	1.90	1.89	1.87	1.86	1.85	1.84	1.82	1.81
Aberdeenshire	2.36	2.35	2.33	2.32	2.30	2.29	2.27	2.25	2.24	2.22	2.21	2.19	2.17
Angus	2.19	2.18	2.17	2.15	2.14	2.13	2.11	2.10	2.09	2.08	2.06	2.05	2.04
Argyll & Bute	2.15	2.14	2.13	2.12	2.11	2.10	2.09	2.08	2.07	2.06	2.05	2.04	2.03
Clackmannanshire	2.19	2.17	2.16	2.14	2.13	2.12	2.10	2.08	2.07	2.05	2.04	2.03	2.01
Dumfries & Galloway	2.19	2.18	2.16	2.15	2.13	2.12	2.10	2.09	2.07	2.06	2.05	2.04	2.03
Dundee City	2.02	2.01	2.00	1.99	1.98	1.96	1.95	1.94	1.93	1.92	1.91	1.91	1.90
East Ayrshire	2.29	2.27	2.26	2.25	2.24	2.23	2.21	2.20	2.19	2.18	2.16	2.15	2.14
East Dunbartonshire	2.45	2.43	2.41	2.39	2.37	2.36	2.34	2.32	2.30	2.29	2.27	2.25	2.24
East Lothian	2.28	2.27	2.26	2.26	2.24	2.23	2.22	2.21	2.20	2.19	2.18	2.17	2.16
East Renfrewshire	2.49	2.48	2.47	2.46	2.45	2.43	2.42	2.41	2.39	2.38	2.37	2.35	2.34
Edinburgh (City of)	2.10	2.08	2.06	2.05	2.03	2.02	2.01	1.99	1.98	1.97	1.96	1.95	1.94
Eilean Siar	2.25	2.24	2.22	2.20	2.18	2.16	2.14	2.12	2.10	2.08	2.06	2.04	2.03
Falkirk	2.22	2.21	2.19	2.18	2.17	2.16	2.14	2.13	2.12	2.10	2.09	2.08	2.07
Fife	2.23	2.22	2.21	2.19	2.18	2.16	2.15	2.14	2.12	2.11	2.10	2.09	2.08
Glasgow City	2.04	2.02	2.01	1.99	1.97	1.95	1.94	1.92	1.90	1.89	1.87	1.86	1.85
Highland	2.19	2.18	2.17	2.16	2.14	2.13	2.11	2.10	2.08	2.07	2.06	2.05	2.03
Inverclyde	2.19	2.17	2.16	2.14	2.12	2.11	2.09	2.08	2.06	2.05	2.03	2.02	2.00
Midlothian	2.34	2.33	2.32	2.31	2.30	2.28	2.27	2.26	2.25	2.24	2.22	2.21	2.20
Moray	2.26	2.25	2.24	2.23	2.22	2.21	2.19	2.18	2.17	2.16	2.15	2.13	2.13
North Ayrshire	2.22	2.20	2.18	2.17	2.15	2.14	2.12	2.10	2.09	2.07	2.06	2.04	2.03
North Lanarkshire	2.28	2.27	2.25	2.24	2.22	2.21	2.19	2.17	2.16	2.15	2.13	2.12	2.11
Orkney	2.19	2.17	2.15	2.13	2.11	2.08	2.06	2.04	2.02	1.99	1.97	1.95	1.93
Perth & Kinross	2.17	2.16	2.15	2.14	2.12	2.11	2.10	2.09	2.07	2.06	2.05	2.04	2.03
Renfrewshire	2.17	2.16	2.14	2.13	2.12	2.11	2.09	2.08	2.07	2.05	2.04	2.03	2.02
Scottish Borders	2.19	2.18	2.17	2.16	2.16	2.15	2.14	2.13	2.12	2.11	2.10	2.09	2.09
Shetland	2.29	2.27	2.24	2.22	2.19	2.17	2.15	2.12	2.10	2.07	2.05	2.02	2.00
South Ayrshire	2.18	2.17	2.16	2.15	2.14	2.13	2.11	2.10	2.09	2.08	2.07	2.06	2.05
South Lanarkshire	2.30	2.29	2.27	2.26	2.24	2.22	2.21	2.19	2.18	2.16	2.15	2.14	2.12
Stirling	2.26	2.25	2.23	2.22	2.20	2.19	2.18	2.16	2.15	2.13	2.12	2.11	2.10
West Dunbartonshire	2.21	2.19	2.18	2.16	2.14	2.13	2.11	2.09	2.08	2.06	2.05	2.03	2.02
West Lothian	2.34	2.33	2.32	2.31	2.29	2.28	2.26	2.25	2.23	2.22	2.21	2.20	2.19

Projected Average (mean) Household Size in Scotland by Local Authority (Sources: General register office for Scotland website 2008), *Table 17: Projected average household size by Local Authority Area*

