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<b>Organisation</b>	Hull and East Yorkshire Hospitals NHS Trust
<b>Category</b>	Water

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HULL AND EAST YORKSHIRE HOSPITALS NHS TRUST

The Project (Sustainability National award 2014 submission)

The site

CHH hospital is supplied by single water supply that is delivered to break tanks on site; from there the water is pumped in the site water distribution system. The water system is buried underground and consists of cast iron and plastic lines.

The site has always had small leaks occurring that were dealt with by the Estates Department. The site then suffered a number of leaks that caused major spikes in the supply to site. As one was located another would spring up.

Monitoring

A water balance was carried out to indicate the level of water consumption and that required on site. To carry out the water balance a number of buildings had estimated use as they did not have water meters installed this was based on a number of factors for example floor area patient numbers and similar areas that were metered.

When looking back at the, past 20 years water consumption, a steady increase in water delivery through the supply meter was identified. Work was carried out to identify major changes to the site infrastructure, these changes were compared to increases in water use over the years. At the same time the site night line for water consumption was monitored and found to have periods of high usage.

**Please detail your project below**

Find the leaks

To identify the areas of site where the higher than expected consumption was occurring, the Estates department carried out a program of valving off sections of the water distribution system and monitoring the night lines. These indicated that when some sections were closed off the night line for consumption could drop as low as 2 l/s. A specialist water contractor was brought in to pin point and repair any leaks on these sections.

Six major leaks were discovered on the newest sections of the system and repaired. Since then three more large leaks have occurred. This has heightened the awareness of the system weaknesses and prompted the Trust to invest in district metering for the water distribution and step up the program of metering the buildings and equipment attached to the water.

The figures

Following the location and repair of water leaks on the water distribution system the Trust has reduced its consumption of water on the CHH site by 30% in the first financial year despite the suffering leaks in the 1st quarter April to July 13/14. The leak extenuation scheme continues but now with an established base line the detection of leaks using the 24 hour base line monitoring alarm the Estates team now response rapidly and therefore reduce the waste of water and the cost there in.

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In the financial year 2013/14 the trust reduced its water cost by £110,000 compared to 2012/13 in the last 9 month of the financial year.

The Water profile

The site water profile for CHH has gone from the roller coaster of spikes and troughs of multiple leaks to a soft and undulating line. Although the Trust still has leaks occurring on site, consumption is being kept initially below 10,000m<sup>3</sup> a month and from December 2013 to June 2014 the average monthly consumption fell below 9000m<sup>3</sup>. The Trust night lines for water consumption have now fallen to less than 0.9litres per second and are monitored by the site Building Management system (BMS). The BMS alarm monitors the water use if the system does not record at least one incident of 1 litre per second in consumption thought the meter an alarm will be displayed on the engineers BMS computer at 09:00 each morning. This brings into action the estates team and procedures that are now in place to achieve a rapid and controlled response.

The Future

The work carried out by the Trust Sustainability team and Estates team on water has led to a change in the way water is looked at by those who work on and maintain the water systems. As less water is now going to ground and is reaching the buildings the overall water usage has dropped this has allowed the Trust to continue the required flushing regime but still see a major reduction in use and cost when an increase was anticipated. The monitoring on a daily based by the Estates team will need to be maintained as this is a key point indicator (KPI) that will become part of the introduction of ISO 14001 into the Estates Department.

**How has your project improved sustainable development within your organisation or community setting?**

Within the Trust has to work with different partners to deliver the serve in this case these were the Estates department (in house) and the PFI FM supplier. Water as proprietor has always been seen as apriority but from the position of infection control (legionella etc.). As utility water was seen as relatively inexpensive so was not high on the list, once the problems where identified the use of water and in particular leaks came into focus and also the strategies to deal with them. This has strengthened the arguments for further work to be carried out in other areas for utilities.

**What role does sustainable development play within patient and staff services within your organisation?**

The Sustainability team is responsible for Transport, Waste Management, Energy, Biodiversity, Corporate Social Responsibility, ISO14001 and Voluntary Services. The Sustainability team is directly involved with all theses areas and is committed to increasing efficiency and reducing the Trust's impact on the environment.



The Trust is committed to increasing sustainability of healthcare, whilst improving standards in every area.

Sustainability encompasses everything we do, from the energy we use, the way we travel, the food we eat and the waste we produce. By doing things more efficiently not only will this benefit our environment but will also help deliver a cost effective solution helping to deliver a truly sustainable healthcare service.

<b>Who has led the way on sustainable development within your organisation?</b>	Head of Sustainability Marc Beaumont Head of Sustainability, Infrastructure and Development
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