



# Cleaning and maintaining our big water pipes

A circular inset image showing a scenic landscape of a river flowing through a valley. The river is dark and surrounded by green grass and rocks. In the background, there are rolling hills under a cloudy sky.

*Improving water  
quality for  
Lancashire*

# Improving water quality for Lancashire

In July 2007 we are starting work on cleaning and repairing some of the main water pipes that supply customers in parts of Lancashire. We will be working on two pipes in the Lancashire area – the Hodder large diameter trunk main and the Lancashire conjunctive use scheme (LCUS). Between them these pipelines supply up to 219 million litres of water a day to 850,000 people in Lancashire.

Since the pipes were first put in place up to 90 years ago, deposits of iron and manganese which occur naturally in raw water from our upland reservoirs have built up on the inside of the pipes. Although not harmful to health these deposits can result in discolouration of our drinking water.

It is because of these deposits that we need to carry out work to clean and repair the insides of the Hodder and LCUS pipelines. The work is due to be complete by spring 2010.

This project is part of a major cleaning and maintenance programme that we are undertaking across the North West.

## ***The Hodder large diameter trunk main***

Large diameter trunk main is the term we give to the giant water pipes that feed the vast majority of our customers in the main conurbations of the North West. Some sections of these pipes are big enough for an adult to stand up in. The Hodder large diameter trunk mains system consists of two cast iron pipes which run from Hodder water treatment works and Stocks reservoir near the Forest of Bowland to the Fylde coast. The first pipe is 27" in diameter and was laid in the 1920's. The second pipe is 36" in diameter and was laid in the 1950's. The Hodder pipeline is 84km long and supplies water to customers in the Ribble Valley, Blackburn, Preston, Blackpool and the Fylde coast.

## ***The LCUS large diameter trunk main***

The LCUS runs from Franklaw water treatment works at Catterall to our reservoir at Hoghton. It measures between 48" and 57" in diameter and is about 22km long. The pipe was constructed in the late 1970's and opened in 1980 to take water abstracted from the River Lune and the River Wyre to customers in Preston and South Ribble.

***Hodder water  
treatment works***



# What we are doing

We are cleaning the Hodder and LCUS trunk mains to remove the build-up of deposits inside the pipes using the most up-to-date technology available to limit the amount of disruption to our customers. These pipes have never been cleaned before and this is the first time that work on this scale has been undertaken in the water industry.

We will clean and repair the pipes in five phases between July 2008 and April 2010, using a range of state-of-the art techniques.

## Clean

We will be carrying out our cleaning programme using pressure jetting and 'pigs'.

The pig is a bullet shaped object made from polyurethane foam, which is pushed through the water pipe using water pressure. As it moves forward, the surface of the pig scrapes away soft deposits from the walls of the pipe.



Pressure jetting involves purpose-built equipment travelling down the inside of the pipeline directing jets of water against the internal surface of the pipe to remove any deposits. We may need to carry out this process more than once depending on the amount of deposit.

## Repair

We will repair pipes using techniques known as 'sliplining' and 'thin wall lining'.

Sliplining is the term we use for when we insert new plastic pipes into existing cast iron mains. This can be a more cost effective way of replacing or repairing a corroded pipe (and a lot less disruptive) as we don't have to dig up a highway to lay a new one. An access hole is created to gain entry to the existing main and the new pipe is 'inserted' into it.

Thin wall lining is similar to sliplining. A thinner, more flexible polyethylene pipe is inserted inside the existing pipe in a folded position. Once in place water pressure causes the new pipe to open up and create a lining against the inside wall of the old pipe.

After the clean and repair work, we will use CCTV surveys and other tests to make sure we have been successful.

# How will it affect you?

To ensure that we maintain your water supply during this work, we are going to clean one of the Hodder pipes whilst maintaining supplies through the other. It is unlikely that you will notice any change in your water supply as we will continue to use the same water source. Although during peak periods we may use water from boreholes to supplement water supplies in some areas.

Please be assured that the quality of your drinking water will be to the same high standard as your current supply.

As the work we are doing will be concentrated on the route of the pipelines most customers should not be affected by the work. However if you do live along the route of the pipelines you may notice an increase in traffic and construction related noise.

Occasionally we may also need to divert traffic for short periods. If we need to do this in your area we will let you know in advance.

**Phase 1** *May 2007 – September 2007*

**Phase 2** *July 2007 – March 2008*

**Phase 3** *April 2008 – October 2008*

**Phase 4** *September 2007 – February 2009*

**Phase 5** *March 2009 – March 2010*

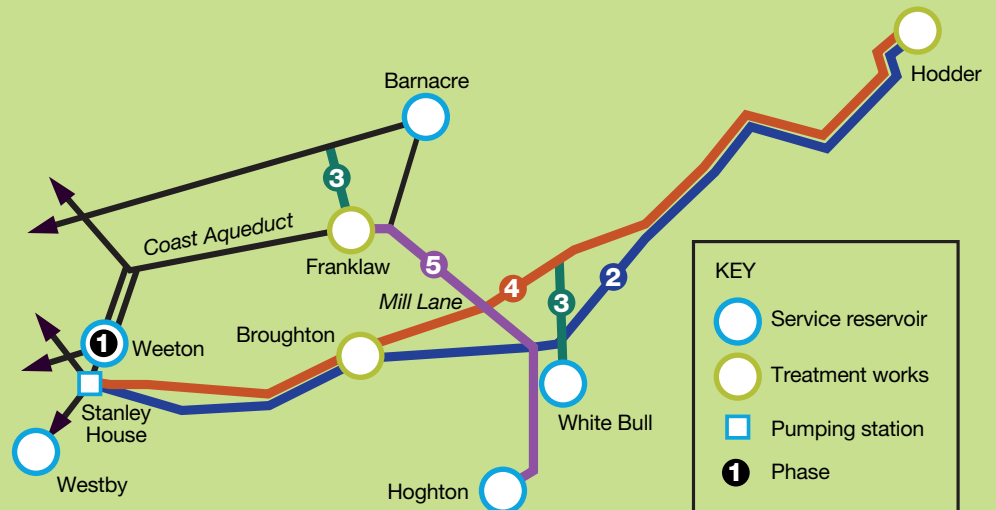
‘Enabling’ works at our service reservoir at Weeton

Repair pipeline between Stanley House pumping station and Hodder water treatment works

Install new pipelines at Franklaw water treatment works and at White Bull service reservoir

Clean second Hodder pipeline between Hodder water treatment works and Stanley House pumping station

Clean LCUS pipeline between Franklaw water treatment works and Hoghton service reservoir



# Aqueduct maintenance and large diameter trunk main cleaning programme

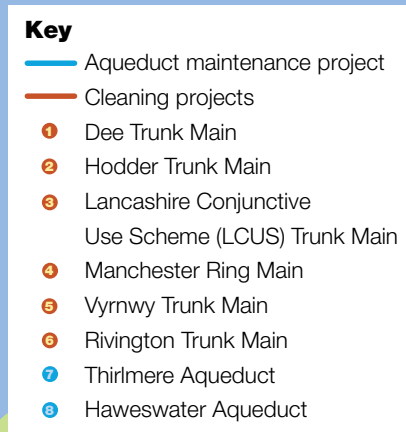
As part of our on-going investment work to improve our existing water network, over the eight years 2006 – 2014 we will clean and refurbish our largest and most important water pipes and aqueducts which provide water to five million customers every day. These large pipes (or mains) have never been cleaned before and this is the first time that work on this scale has ever been undertaken within the water industry.

*We are cleaning and refurbishing our largest water mains measuring a total of 619km*

*We are inspecting and repairing our major aqueducts measuring a total of 235km*

*We are investing £356 million in the clean-up and maintenance of both the mains and aqueducts*

*The programme will benefit over 5 million customers throughout the North West, leading to a reduction in discoloured water and improved water quality*



# Q&A

**Q: What are large diameter trunk mains?**

A: These are large diameter water mains carrying potable (drinking) water. In this case between 27" and 57" in diameter.

**Q: Why are you carrying out this work?**

A: The large diameter trunk mains systems in Lancashire have been in place for up to 90 years. During this period deposits of manganese and iron, which occur naturally in the raw water, have built up to an extent where discolouration of the water supply could occur during changes in flow. We now need to clean or repair these pipes. The deposits are not harmful to health.

**Q: Will my drinking water be affected during the work?**

A: Your water supply should not be affected as water will continue to be supplied from the same source although other sources may be used to supplement supplies to some areas during peak periods.

**Q: Where can I get more details?**

A: If you have access to the internet, visit our website where you will find a dedicated section concerning our overall cleaning and maintenance programme:  
[www.unitedutilities.com/cleanandmaintain](http://www.unitedutilities.com/cleanandmaintain).  
Alternatively phone us on 0845 746 2035



Haweswater House, Lingley Mere Business Park,  
Lingley Green Avenue, Great Sankey, Warrington WA5 3LP  
[www.unitedutilities.com](http://www.unitedutilities.com)

## Further information

**Website:** Visit

[www.unitedutilities.com/cleanandmaintain](http://www.unitedutilities.com/cleanandmaintain) to access information on the programme including any project-specific issues.

**Email:** If you have any specific questions please email [cleanandmaintain@uuplc.co.uk](mailto:cleanandmaintain@uuplc.co.uk)

**Telephone:** 0845 746 2035

**Letter:** Please address your correspondence to:

Alan Duncan, United Utilities, Thirlmere House,  
Lingley Mere Business Park, Warrington WA5 3LP

We also have a brochure that explains the clean-up and maintenance programme in greater detail. Telephone our automated leaflet request line on 0845 303 7711 to order a copy or visit our website (address above).