Developer Day Water Design and Quality

October 2024

United Utilities

Water for the North West

Developer Services Water

Developer Day Briefing

Water - Design and Quality

Water Business update

CW Developer Services Technical Design Team

Customer Area Manager (Design)

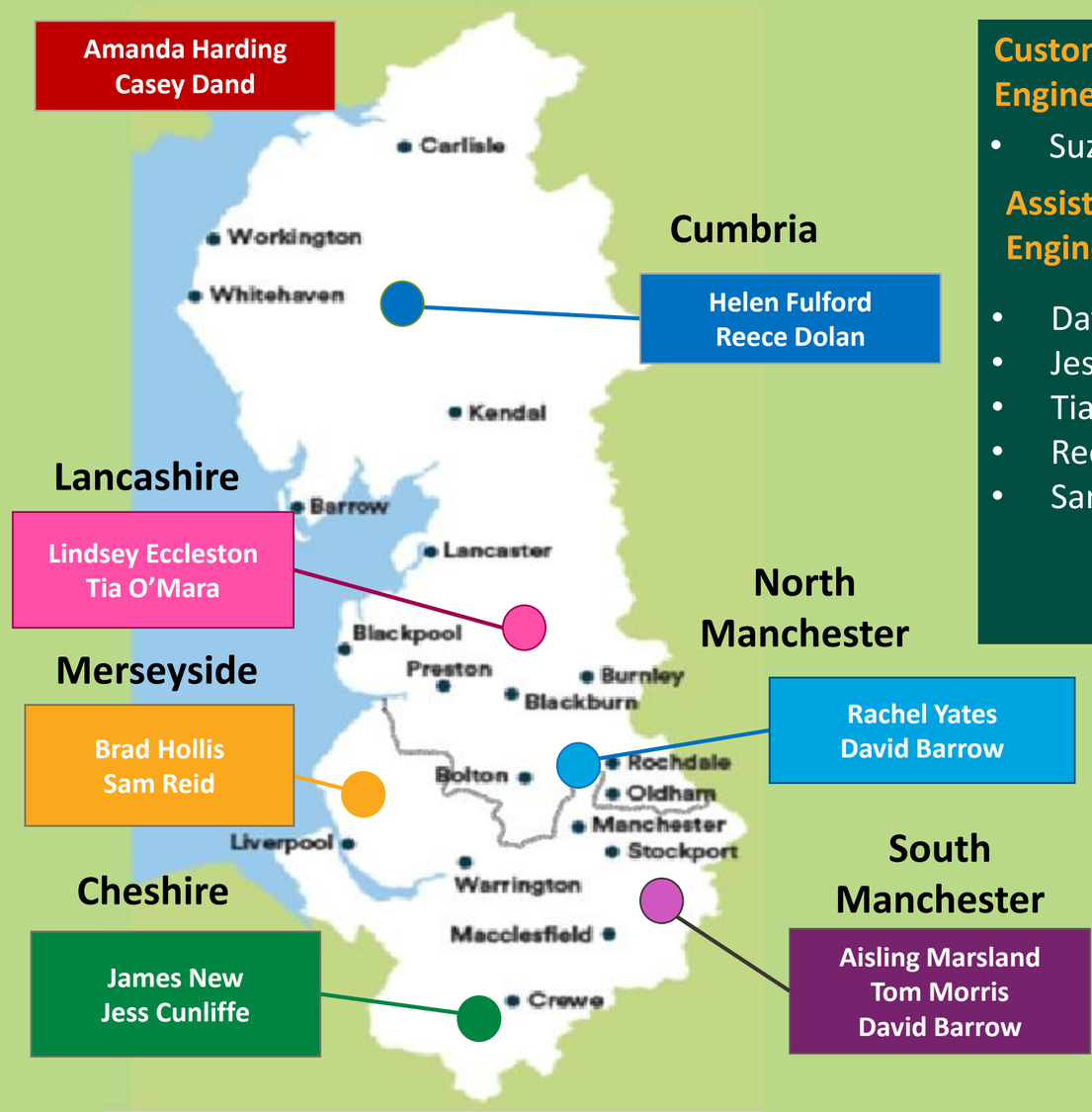
- Andrew Smith

Developer Services Engineers

- Helen Fulford
- Lindsey Eccleston
- Brad Hollis
- Rachel Yates
- Aisling Marsland
- James New
- Tom Morris

Assistant Developer Engineers (NAV – Whole Region)

- Amanda Harding
- Casey Dand



Customer Area Manager (Assistant Engineers)

- Suzanne Kearley (seconded)

Assistant Developer Engineers (South)

- David Barrow
- Jess Cunliffe
- Tia O'Mara
- Reece Dolan
- Sam Reid

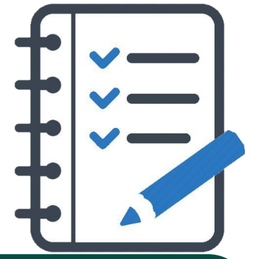
Water Guidance Update

Missing Fire hydrants on SLP Designs	**Working on a process to highlight these and resolve** If identified During site audit or informed by another party that F/H requirements requested by local F/A have been missed and there is no other option other than UU having to rectify, we will be looking to recharge the costs back
Wholesaler/retailer Disconnection Process	**New process went live 1st April 2024.** **If retailer not responding they can contact Dev Services, you will need to provide specific info via email (Retailer ref no./ Site Address/site contact/meter/account details). We will then process and manage request via UU market services team on your behalf.**
Common Metering	**From 1st April 24: Permitted in specific cases** • Student accommodation with shared facilities and wholly domestic or commercial premises with Combined Hot water systems. • Domestic & Commercial premises MUST have their own designated supplies.

Reminder regarding the Selflay mailbox

- When sending applications or queries always send to the mailbox (selflay@uuplc.co.uk) and not individual emails so we can monitor requests effectively (you can copy individuals in if you wish).
- This will allow us to monitor effectively, also always create a new email for new development and never forward and just change the email title.

Water Guidance Update



Online Application Forms	**Currently Working on a process to highlight which current application forms that can be submitted Online** Workshops planned to start with the POC & PDE Applications
Building water	**1st April 24 Building water should be from a** • metered temporary supply or • existing metered supply. Any water used from a standpipe (i.e. filling a bowser) must be through an approved metered standpipe (Aquam water services)
Combined Tanks for Domestic props	**United Utilities preferred option is to have separate tanks for Domestic & Fire supplies.** Combined tanks maybe potentially allowed in exceptional circumstances however these will be reviewed on a case by case basis and all documentation be submitted for review.

Investing in our people

- Busy Working on Training packages to improve quality and consistency of water designs.
- These Include: Hydraulic Modelling, Connection Sizing, Meter Sizing & Basic Internal plumbing Schematics

Surface Water Drainage Plans

- Wil be asking for a copy of these to be provided will applications going forward

90mm -110mm branch connection contestability – Went live 1st April 2024

The proposal does not represent an increased risk to UU Network

No proposal to increase the size of the host main this will remain at 12” any larger main will automatically non contestable

If volumes reached a level that make a CE being on site for every connection unattainable, a risk-based approach would be followed based on the connection.

The only thing changing is the size of the connection being made (90mm and 110mm)

No change to any criteria with regard to UU’s existing assets or the techniques used to make the connection

Risk based approach

- Host main size / material
- Number of props which could be impacted
- Experience of SLP (DS knowledge)

The “rules” will remain the same as the current for up to 63mm branch connections

Construction Engineers would be onsite at the time the branch connection is made.

Mains hygiene rules apply
Sump hole
Correct equipment to remove soures of ingress to the water main

Rules - mitigation of risk

Only SLPs with CRUPMC* are allowed to carry out 25mm, 32mm, or 63mm branch and service connections to host mains up to 12” diameter

Host main must be DI/ CI/SI/AC/PE/ Barrier Pipe /Steel

Only under pressure connections are allowed

The host main must not be strategic and must serve less than 500 properties otherwise the branch connection is non-contestable

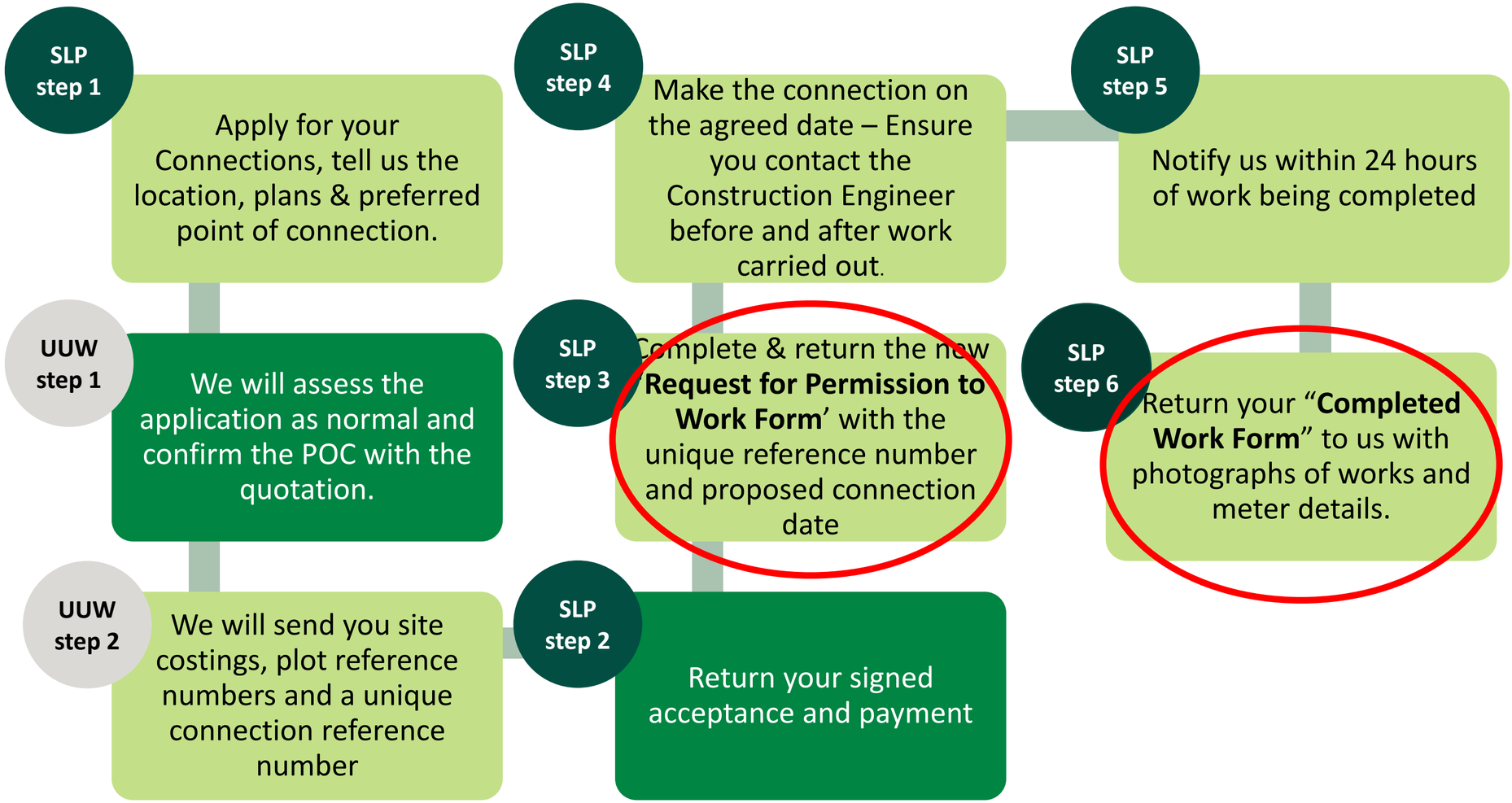
Shut off required - branch connection is non-contestable

Method statement
All risks associated with works have been considered and documented

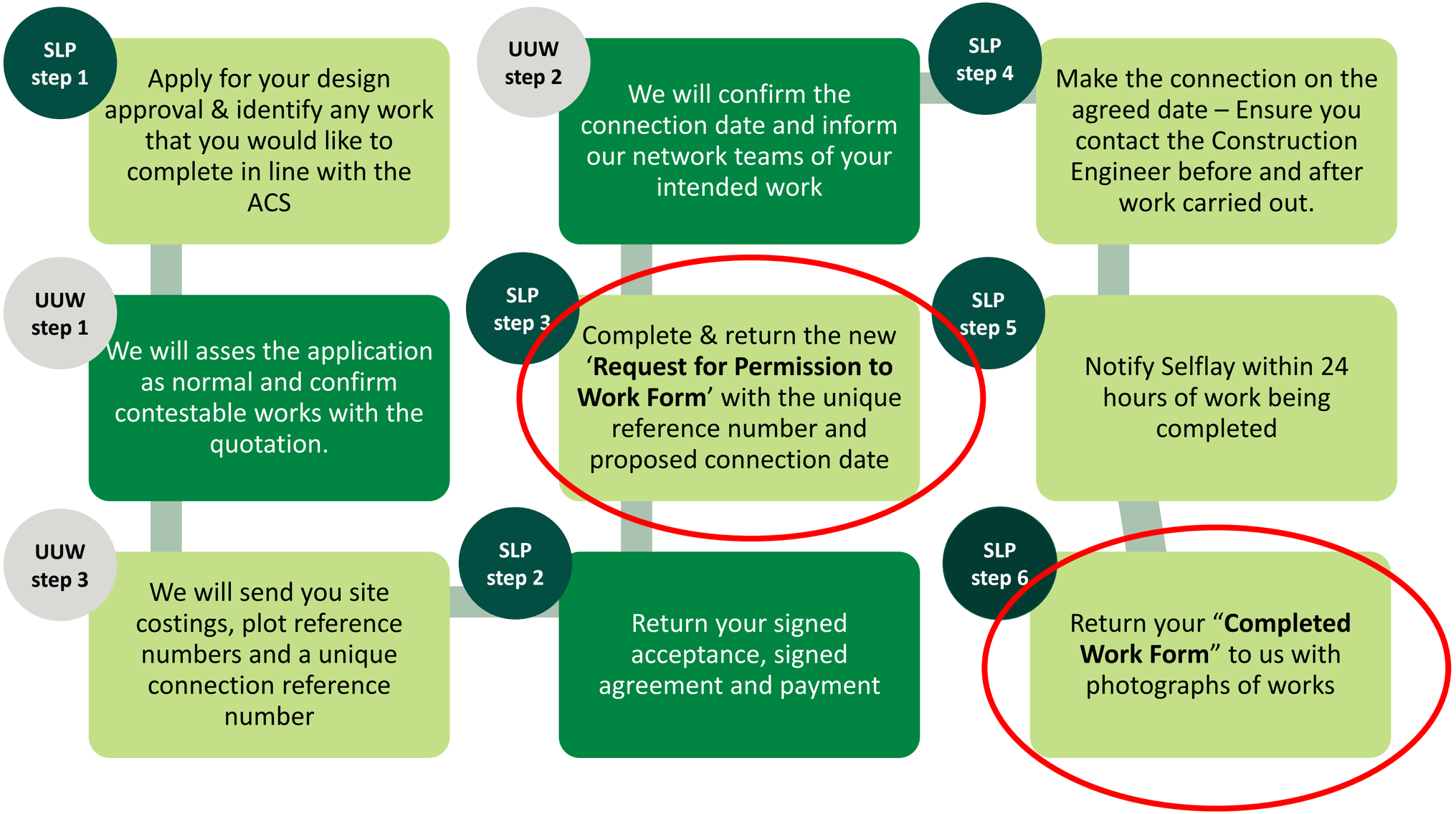
Approporiate and suitable equipment on site to carry out the work

*Construction Routine Under Pressure Mains Connection

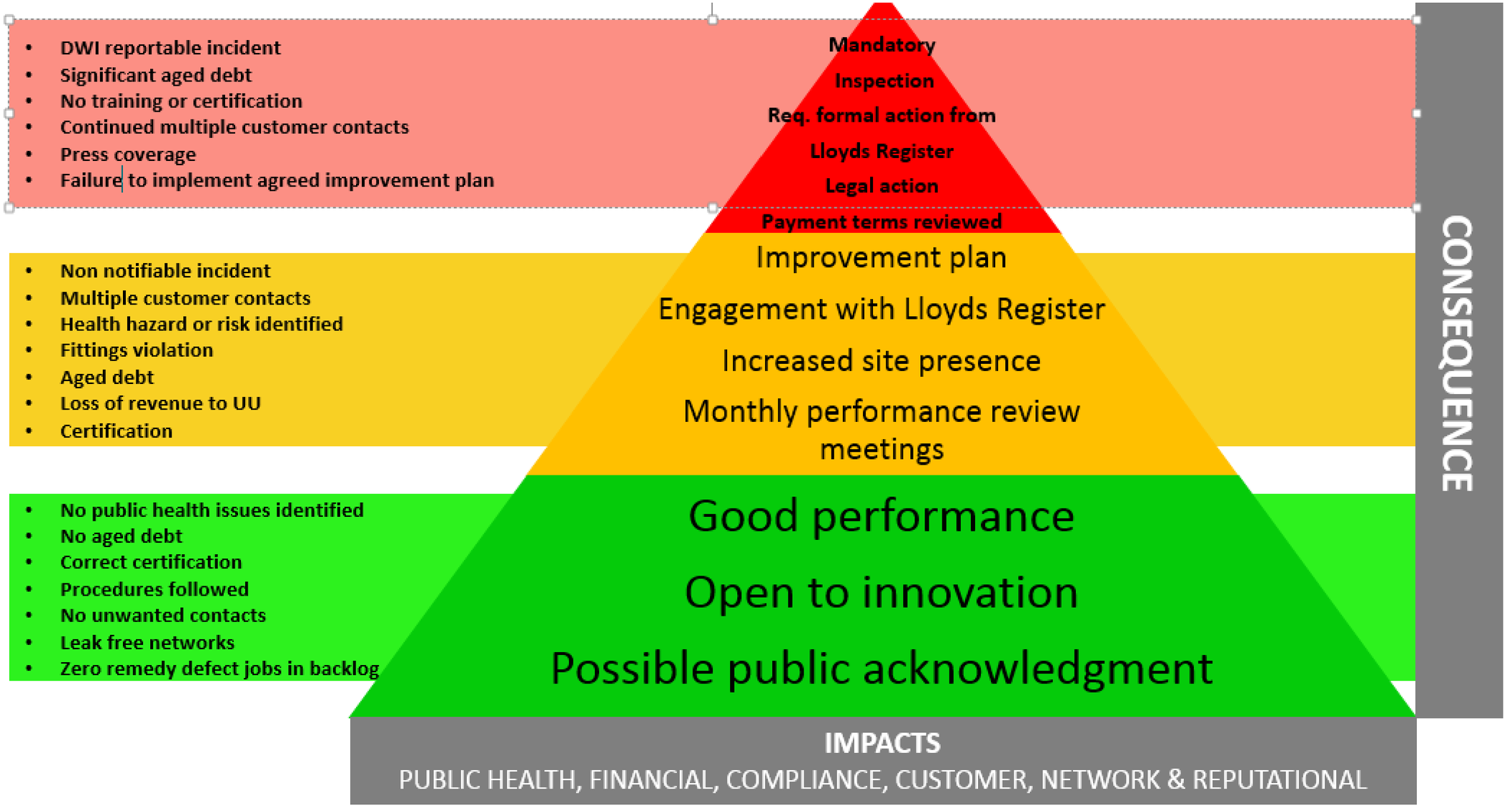
Connections to Existing – What's the process?



Simplified steps for Contestable branch connections – process?



Proposed stakeholder matrix for compliance



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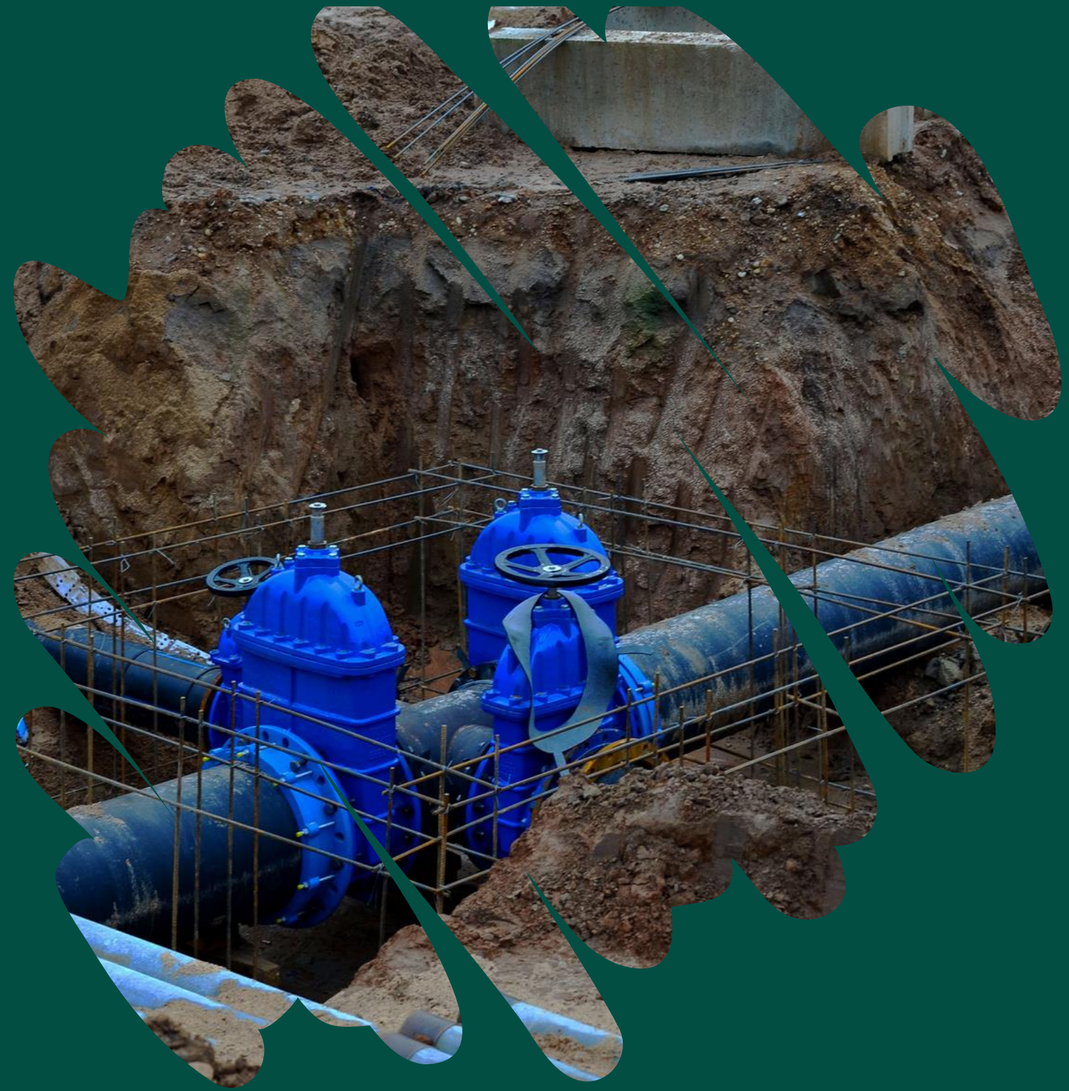
DEVELOPER DAY BRIEFING

Water - Design and Quality

Water Fittings

Nicola Miller BSc(Hons), PGDip, MRSPH
Water Fittings Manager



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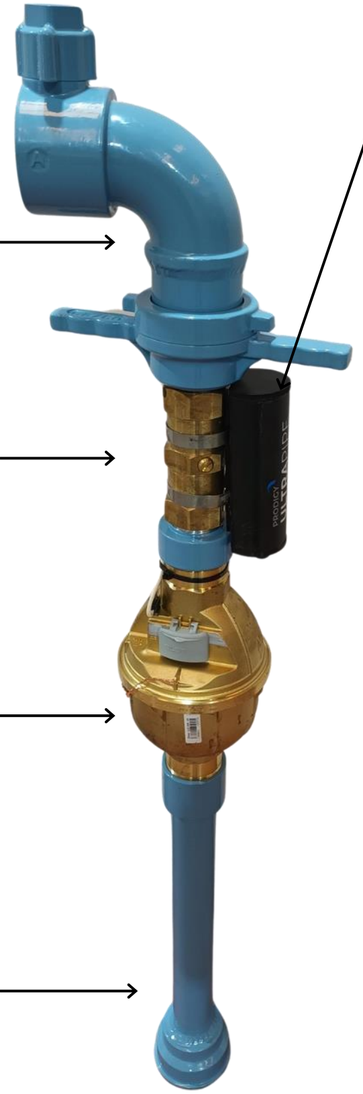
Standpipe hire

- Hydrants are located underground on our water distribution mains, so aren’t visible. Standpipes on the other hand, when fitted to a hydrant are easy to spot and come in all shapes and sizes.
- Standpipes which connect to United Utilities network can be easily identified due to them being a powder blue colour.
- From 1st April 2024, Aquam Water Services became an approved UU supplier for standpipe hire, for customers who need access to a water supply, outside of our normal supply arrangements.
- Moving this activity, comes with the additional benefit of new standpipes being GSP enabled, providing real time data of:
  - location,
  - time
  - water volume and flow rate.

Standpipe hire



STANDPIPE

Standpipes manufactured in different sizes and types ranging from small (25mm) to large (40-60mm)

DOUBLE CHECK VALVE

Backflow prevention device protecting water supply from contamination

METER

Collecting standard water consumption data for billing

IDENTIFICATION

Each water utility has their own unique coloured standpipe associated with their region facilitating detection and compliance

INTELLIGENT GPS-ENABLED STANDPIPE

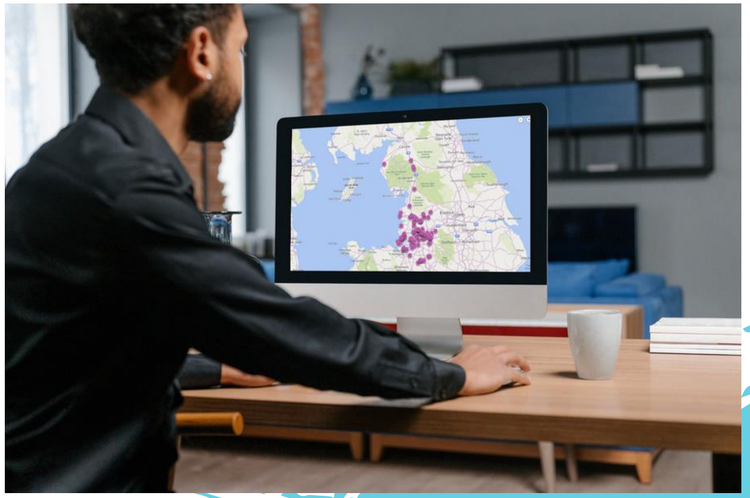
Intelligent module transforms any standpipe into an automated IoT device allowing for real-time monitoring of precise time, water volume, flow rate and location

Data sent out every 15 minutes

Ability to retrofit standpipes already deployed across the network

WEB PORTAL

Web portal provides data analysis across the following KPIs: use by employee/contractor; location, date and time water was removed; daily, weekly, monthly or yearly volume of water used; key large users of water



AQUAM

Help stop water theft

See it
Snap it
Report it www.
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Each time a customer contacts us because there is a change to the taste, smell, or appearance UU potentially face a penalty of £3,300. Not only that, but non approved standpipes connected to our network pose a risk of contamination of the drinking water which can impact everyone. We are also unable to account for the water being stolen, which can have a negative impact on our leakage figures.

Help stop water theft

We're calling on everyone to help protect our drinking water and reduce the number of customers reporting issues with their water quality, by reporting possible illegal standpipe use.

SCAN ME

to report hydrant misuse

See it

Snap it

Report it www.

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The key information we need is:

- Date and time
- Detailed location of the event
- Name of the company connected to the water supply*
- What was witnessed
- Snap a photo or video as evidence

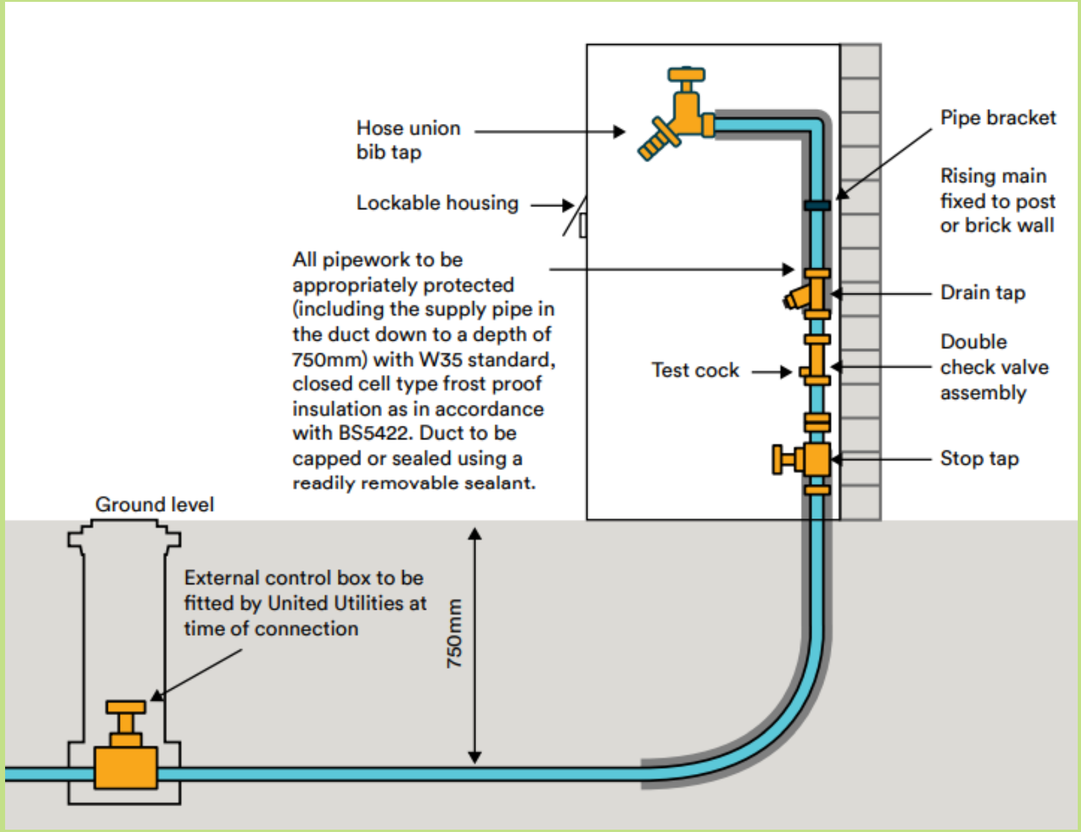
The more information you are able to provide us, the better we will be able to investigate your query.

*Please note that we are unable to use vehicle registration numbers to identify users of unknown companies.

What good, usable evidence looks like

Temporary supplies

- If you need a water supply while developing a site, you could apply for a temporary supply. This would be valid for 12 months.
- You’re responsible for laying the new service pipe to the boundary of the site.
- You'll need to install a tap at the end of the service pipe and ensure it is within a lockable box.
- A temporary connection can either be disconnected when the work is complete or it can be used for a domestic water supply once the property is constructed.



Approved contractors

- Under the water fittings regulations, approved contractor schemes are voluntary organisations for plumbers and plumbing contractors set up in accordance with Regulation 1(2).

- Approved contractors are either approved by a water undertaker or an organisation appointed by a regulator.

- There are currently six approved contractor schemes, some operate nationally and others in defined areas.

- An approved contractor is a qualified plumber belonging to an approved contractor scheme. They can certify all types of plumbing work in any premises as being compliant with the water fittings regulations/byelaws.

- A sector scheme member is not recognised as being a plumber but rather someone who does limited specific plumbing work. Sector scheme members can only certify the plumbing within the scope of that sector scheme i.e. some but not all types of plumbing work.

Combing domestic water storage with fire sprinkler supplies

It's becoming more and more popular to combine domestic and sprinkler water storage into one tank. Whilst this can just be to save space, it's often more about saving money.

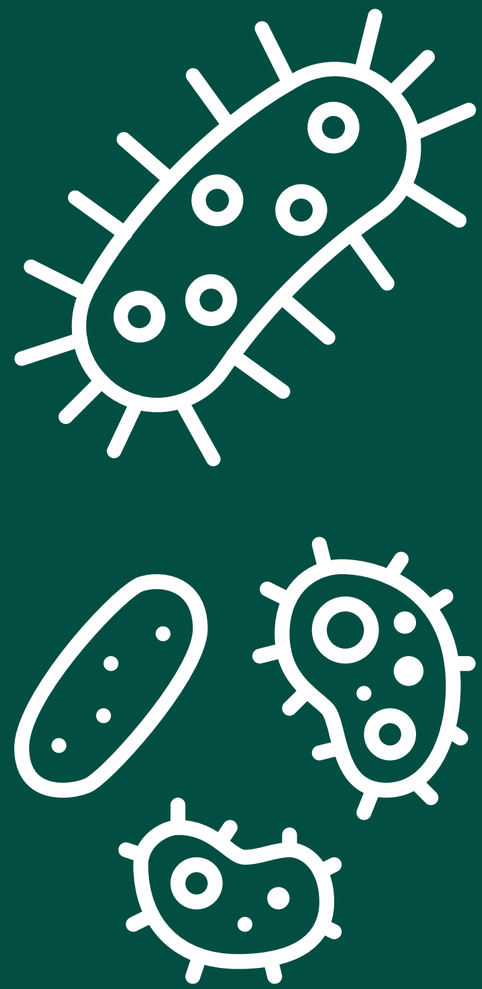
This option comes with it's own risks, and with today's manufacturing and installation methods, you can still put two tanks right next to each other without taking up any more room. So, you don't have to compromise, it's a win-win!

If a combination storage tank really is the only option, there are a number of factors that must be taken account of, before an installation can be made.

Combing domestic water storage with fire supplies

The risks

- Stored water can create an ideal environment for bacteria and other nasties to breed and thrive.
- To prevent this the water must be turned over every 24 hours.
- Water tanks with a poor turnover can lead to deteriorating water quality in other ways too not just from a biological side, as sediment and rust and other metals can leach into the water supply, making it visually unappealing and possibly causing an unpleasant taste and odour.
- In such cases, the water may no longer meet the required wholesomeness standards for drinking and could lead to potential health issues.



Combing domestic water storage with fire supplies

Regulations and standards

Water Supply (Water Fittings) Regulations 1999

Schedule 2, paragraph 16(5)
Every storage cistern shall be so installed as to minimize the risk of contamination of stored water. The cistern shall be of an appropriate size, and the pipe connections to the cistern shall be so positioned, as to allow free circulation and to prevent areas of stagnant water from developing.

Guidance to Paragraph 16
For the water stored in the cistern to remain wholesome it is important to minimise the risk of contamination. Key to this is making sure the water is stored for as short a period as possible. This is achieved through a combination of design and maintenance features and correctly sizing the cistern to ensure the regular turnover of the stored water and avoid stagnation as well as any deterioration of water quality.

Factors which should be considered when sizing a cistern include occupancy (intended and actual) and usage. Suggestions for storage capacity are given in BS EN 806-2.

Combing domestic water storage with fire supplies

Regulations and standards

BS EN 806-2:2005
Specifications for installations inside buildings conveying water for human consumption - Design

19.1.4 Capacity of storage cisterns

BS EN 12845:2015+A1:2019
Fixed firefighting systems. Automatic sprinkler systems. Design, installation and maintenance

Combing domestic water storage with fire supplies

Regulations and standards

Legionnaires' disease ,Technical guidance HSG 274

This guidance is for duty holders, including employers, those in control of premises and those with health and safety responsibilities for others, to help them comply with their legal duties to control the risk from exposure to legionella.

Part 2: The control of legionella bacteria in hot and cold water systems

Cold water systems

2.36 The general principles of design should be aimed at avoiding temperatures within the system that encourage the growth of microorganisms including legionella with the following taken into account:

- Cold water storage tanks should be installed in compliance with The Water Supply (Water Fittings) Regulations 1999 and Scottish Water Byelaws 2004.....
- The volume of stored cold water should be minimised and should not normally exceed that required for one day's water use although in healthcare premises, a nominal 12 hours total onsite storage capacity is recommended.....