Susdrain Seminar
February 2017

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— Background & Drivers
— What has been delivered
— Challenges
— Performance & Outcomes
— Customer Engagement
— Future Plans

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Fergus O’Brien, Dwr Cymru Welsh Water
Since 2001, the UK’s only non-shareholder utility company: all gains go to customers

Provide a safe and reliable drinking water supply and deal effectively with wastewater for:

1.4 million household customers
110,000 business customers
By 2015, some £300 million returned to customers

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Investment Drivers

— High levels of rainfall runoff causing issues such as:
  — Sewer flooding in residential areas
  — Frequent CSO operation
  — Water quality impact
  — Restraints on development
— As much storm water as Swansea
— Comply with permits & AMP2 guidelines

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Why use a sustainable approach?

International experience of retrofitting

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Achievement to Date - Investment that is Affordable, Sustainable & Innovative

RainScape - stop water from mixing with sewage by retrofitting sustainable drainage

Reduce the impact of what we have to discharge to protect customers

Treat more during storms

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Mixture of Optimisation, Green and Grey Infrastructure

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Understanding and articulating the multiple benefits of SuDS

Challenges - Construction

Initial maintenance issues
- Early ponding issues resolved
- Managing GI for evapotranspiration & biodiversity
- Interim maintenance in place
- Pilot in April with Carmarthen CC
  - Confirm costs
  - Confirm who is best placed to do the maintenance
  - Need to balance risk against cost

Challenges - Maintenance

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Understanding and articulating the multiple benefits of SuDS

**Challenges - Statutory Powers / Legal Status**

- Queen Mary’s Walk: Swale and below ground conveyance deemed a public sewer
- Glevering Street: Highway drainage. Agreement with Highways Authority under s278 of Highways Act 1980
- Stebonheath Primary School: Private drainage system in private property. Private agreement with local authority

**Challenges - RainScape**

- What stops us going further?
  - Have to target smaller areas
  - Increased complexity & cost
  - Customer
    - Disruption
    - Affordability

- What are we doing about it?
  - Customer roof drainage trial
  - Smart networks
    - Optimise existing assets
    - Novel approaches to handling & treating storm flows
Understanding and articulating the multiple benefits of SuDS

RainScape Performance

Typical storm event series; pre AMP5 (green) vs. post construction (red)

Impact of scheme on local CSO spills

Performance of GI – Improvement Over Time

Fergus O’Brien, Dwr Cymru Welsh Water
Performance of GI - Evapotranspiration vs Modelled Runoff

- % Reduction in peak runoff flow - Nov 13 to Sept 16

Outcomes for Customers

- Sewage flooding:
  - By Dec 2015 – 37 to 0 properties at risk of internal flooding
- Climate change resilience:
  - 25,000 roof equivalents removed across Wales by 2020
  - Reduced vulnerability to urban flooding
- Growth:
  - Facilitated by MOU
- Bills:
  - Lowest cost & most robust solution
Outcomes for the Environment

- CSO discharge reduction - 40% by 2015, 80% by end of 2020
- Shellfish water quality improved
- Reduced risk for WFD & Habitats
- Pumping less water
- Biodiversity

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<thead>
<tr>
<th>Water Body Name</th>
<th>WFD Status</th>
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<tbody>
<tr>
<td>Llan - headwaters to tidal limit</td>
<td>Good</td>
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<tr>
<td>Dulais - headwaters to confluence with Loughor</td>
<td>Moderate</td>
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<td>Lliw - headwaters to confluence with Llan</td>
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<td>Gwili - headwaters to tidal limit</td>
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<td>Loughor - confluence with Aman to tidal limit</td>
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<tr>
<td>Loughor Estuary Inner</td>
<td>Bad</td>
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<tr>
<td>Loughor Estuary Outer</td>
<td>Moderate</td>
</tr>
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Customer/Community Engagement

- Targeting Llanelli events to increase awareness
- Raising awareness among the youth
- Taking events to the customer
- Giving something back
  - RainScape Community Fund

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susdrain - Understanding and articulating the multiple benefits of SuDS

RainScape awareness survey

- 72% were aware that Welsh Water was responsible for RainScape.
- Average of 87% of people said it didn’t affect their day-to-day lives.
- 71% of people said they believed RainScape would benefit their community.

RainScape awareness survey taken in April 2016 – 250 people in Llanelli and Burry Port were asked to take part.

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Investment Strategy / Future Plans

- RainScape strategy
  - Safeguard the service we provide our customers and the environment....
- Around 100 projects in AMP6
  - A business as usual approach to sustainably improving service
- MOS to reduce customers’ vulnerability to climate change
  - 25,000 roof equivalents by 2020
  - 2050 vision

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Questions

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