

# Halfway Houses Pilot Summary

## Introduction:

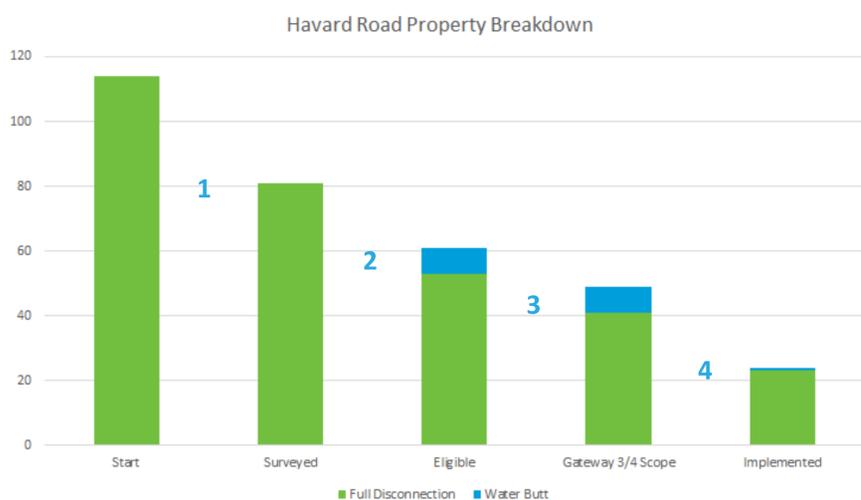
The Welsh Water Capital Delivery Alliance has conducted a pilot encouraging customers to disconnect their roof drainage from the combined sewer. The aim is to understand customer incentives, uptake and cost benefit of three different approaches to inform future investment. All pilots were voluntary, although Approach 1 could have been enforced with Section 116 powers. Refer to the Halfway Houses Pilot Report for a full analysis of the pilot approaches with recommendations.

## Approach 1 - Havard Road

Welsh Water proposed to fully disconnect properties from the combined sewer and connect them into the newly upsized surface water sewer in the highway at no cost to the customer. A school was also separated from the combined sewer.

**Reasons for customer drop off** (refer to drops in graph below)

1. Customers not contactable (less drop off than approach 2 & 3 as more resources went into communicating with the customers)
2. Customers already separate
3. Customers not cost effective to be part of pilot
4. Customers not wanting construction or scars due to having their driveways recently renovated or the inconvenience of construction works.



### Advantages

- Highest uptake & could enforce with S116
- Definite permanent separation
- Risk and quality in Welsh Water's control

### Disadvantages

- Likely to require an upsize or new surface water sewer
- Highest Welsh Water cost and resources

### Conclusion

This approach is most suited where surface water removal is relied upon to solve the flooding or pollution problem as removal is guaranteed. It is most suited to properties where there is access to the rear garden and where the existing surface water sewer has additional capacity. Uptake could be improved by funding reinstatement to not leave scars or resulting to using Section 116 to enforce participation.

	Approach 1: Havard Road Houses & Sewer Upsize	Approach 1: Havard Road Houses Only	Approach 2: Gelli Road	Approach 2: Capel Isaf Road
<b>Uptake of Targeted Houses</b>	20%	20%	0%	11%
<b>Uptake of Eligible Houses*</b>	43%	43%	0%	22%
<b>Cost per Hectare</b>	£6,553,056	£3,314,156	No properties in pilot	£9,454,000

\*Eligible houses are the targeted houses that were confirmed to be combined and suitable for the pilot.

## Approach 2 - Gelli Road

Welsh Water proposed to fund customers to design and build their own rain garden through employing a contractor to attenuate flow in their gardens. Three contractor details were provided alongside a rain garden design guide and calculator. Customers would receive a grant covering the work, £500 for project management responsibilities and £800 for solicitors fees. No soakaways were permitted, only no dig options were allowed for high mine risk properties.

**Reasons for customer drop off** (refer to drops in graph below)

1. Customers not contactable
2. Customers already separate
3. Customers not wanting the hassle, not wanting to change their gardens, not wanting scars, being willing to attenuate part but not all of their rain water, not being confident in instructing the contractor and being wary of the risks involved if design or construction went wrong.



### Advantages

- Low Welsh Water resources as customer led
- Opportunity to 'green up' a catchment

### Disadvantages

- No customer uptake
- High cost for grant and incentive
- Risk and quality not in Welsh Water's control
- Customers may remove the rain garden in the future
- Only suited for houses with large gardens

### Conclusion

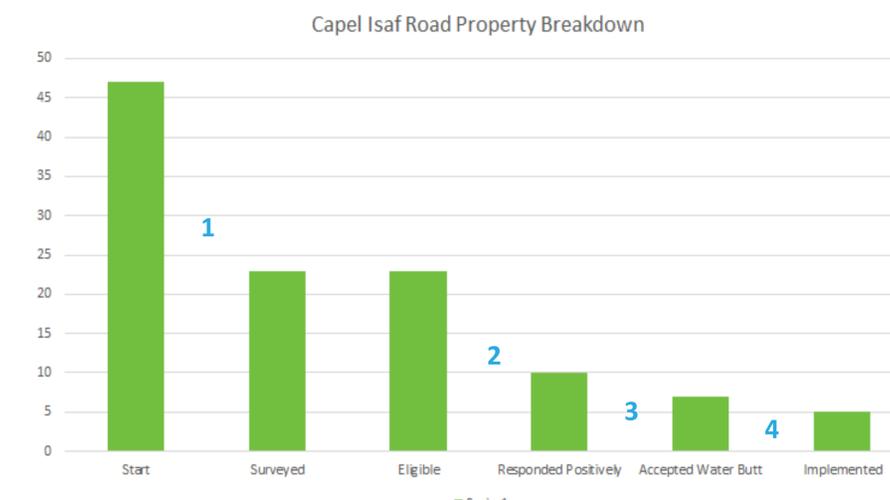
This approach is most suited for properties with large gardens where geotechnical risks are low and soakaways are permitted. The booklet and calculator could be used in any catchment with minor amendments. Uptake may be improved by providing design assistance, funding reinstatement to not leave scars or removing the requirement to remove all their surface water flow.

## Approach 3 - Capel Isaf Road

Welsh Water proposed to provide free 220 litre water butts to homeowners to install to attenuate flow on their property. Customers could have as many water butts as they wanted.

**Reasons for customer drop off** (refer to drops in graph below)

1. Customers not contactable
2. Customers not interested, not wanting the water butt in their small garden, not wanting the hassle of installation.
3. Customers changing their mind once seeing the water butt.
4. Customers returning the water butt because it was too large



### Advantages

- Low Welsh Water cost and resources
- Suited to quick large scale roll out
- Can be used on any property type

### Disadvantages

- Low customer uptake
- Attenuates small volume as customers only want one water butt
- Customers may remove the butt in the future

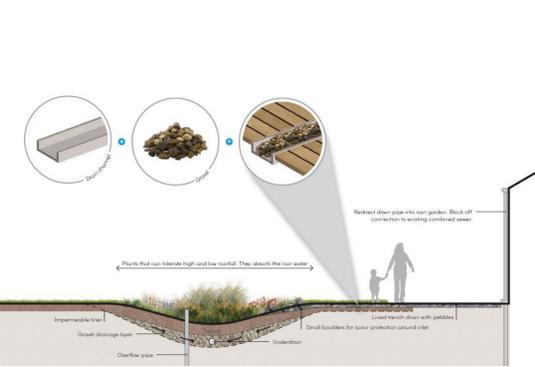
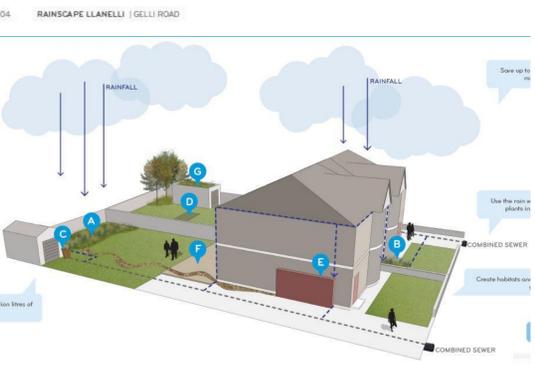
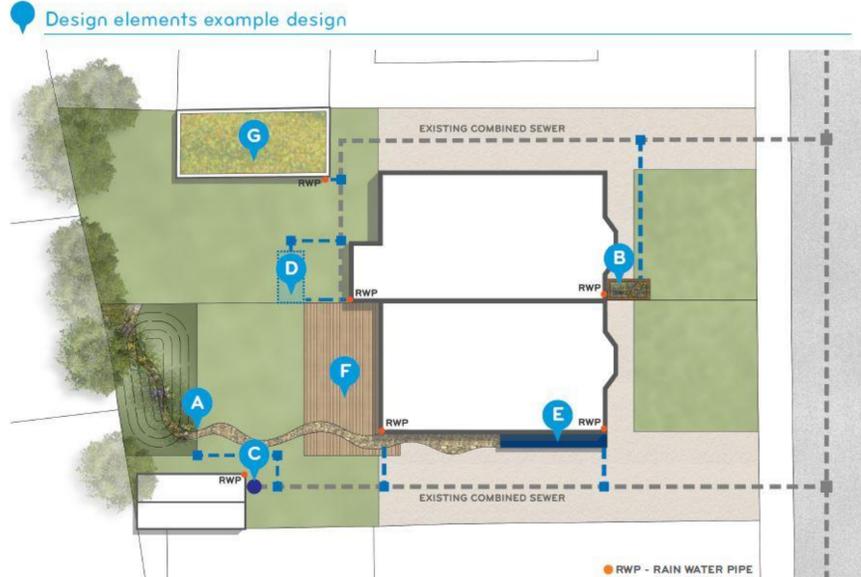
### Conclusion

This approach is suited to alleviating a local flooding problem, as customers are more likely to receive a water butt when they directly benefit. For pollution reduction it is most suited to bolster other interventions in a large catchment, as attenuation volume is small and not guaranteed. Uptake could be improved by offering different sizes of water butts and offering to install them.

# Approach 1 - Havard Road



# Approach 2 - Gelli Road



Storage Volume (m3)	Approximate Size	Maintenance	Select	Storage Volume (m3)	Approximate Size	Maintenance	Select
1.0 m3	9.0 - 24.0 m2	High	[+]	0.235 m3	1.8(H)x0.2(W)x0.8(L)m	Medium	[+]
2.0 m3	15.0 - 38.0 m2	High	[+]	0.470 m3	1.8(H)x0.2(W)x1.6(L)m	Medium	[+]
3.0 m3	22.0 - 52.0 m2	High	[+]	0.705 m3	1.8(H)x0.2(W)x2.4(L)m	Medium	[+]
0.5 m3	1.2(H)x1.2(W)x1.0(L)m	High	[+]	0.2 m3	5.0 m2	Low	[+]
1.0 m3	1.2(H)x1.2(W)x2.0(L)m	High	[+]	0.4 m3	10.0 m2	Low	[+]
1.5 m3	1.2(H)x1.2(W)x3.0(L)m	High	[+]	0.8 m3	20.0 m2	Low	[+]
2.0 m3	1.2(H)x1.2(W)x4.0(L)m	High	[+]	1.0 m3	25.0 m2	Low	[+]
0.10 m3	0.9(H)x0.4(W)x0.4(L)m	Low	[+]	0.4 m3	10.0 m2	High	[+]
0.15 m3	0.9(H)x0.5(W)x0.5(L)m	Low	[+]	0.8 m3	20.0 m2	High	[+]
0.25 m3	1.0(H)x0.5(W)x0.5(L)m	Low	[+]	1.0 m3	25.0 m2	High	[+]
1.5 m3	0.65(H)x1.2(W)x2.4(L)m	Medium	[+]				
3.0 m3	0.65(H)x2.4(W)x2.4(L)m	Medium	[+]				
5.0 m3	0.90(H)x2.2(W)x2.9(L)m	Medium	[+]				
7.0m3	1.10(H)x2.3(W)x3.3(L)m	Medium	[+]				

Please select Storage Combination

# Approach 3 - Capel Isaf Road



## Approach Location Plan



# Halfway Houses Pilot Photomontage