HARP Ribble and Hodder Water Quality Monitoring

STRABAG I Charlie Eddington I Version 1
16th June 2026

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Agenda

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02	HARP overview
03	Initial Activities
04	Monitoring Overview and Current Monitoring
05	Proposed Monitoring
06	Questions and AOB

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HARP Overview

The Haweswater Aqueduct (HA)

Our **largest** potable water delivery system

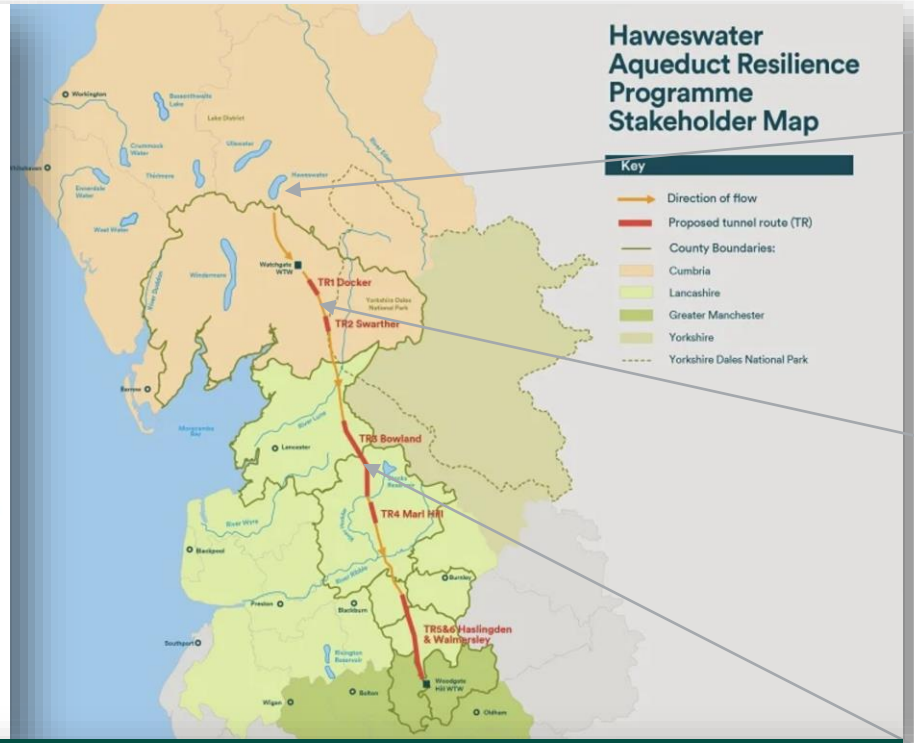
Up to **2.6m** diameter

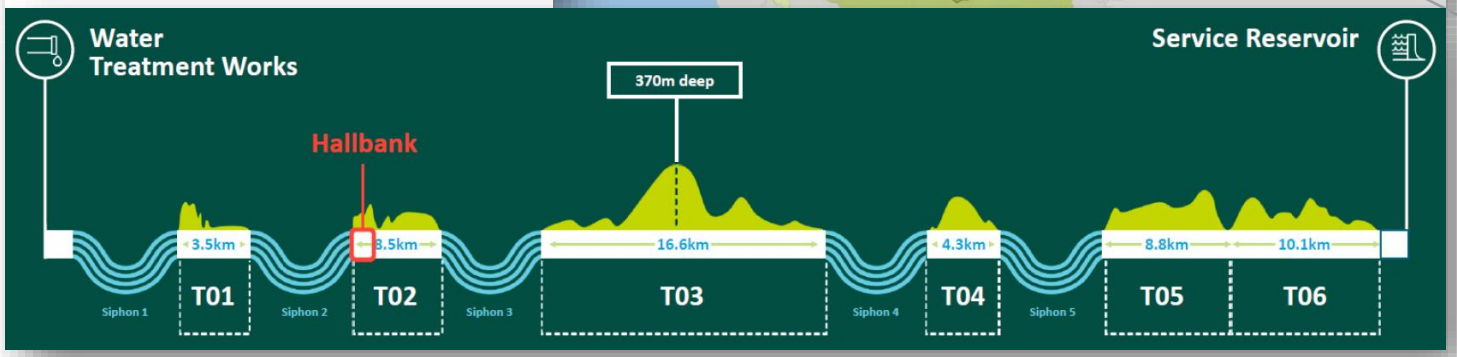
110km long

Delivery of up to **570 million litres per day** to **2.5 million people**

Through **18** separate off takes

As well as supplying **Manchester**





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CHANGE BACKGROUND PICTURE: CLICK ON THE PICTURE, GO TO MENU: *PICTURE FORMAT > CHANGE PICTURE*

Tunnel Sections and Sites

TR 01	TR 02	TR 03	TR 04	TR 05	TR 06
Tebay Kinn Road	Beela Stangana	Lower Houses Newton in Bowland	Bonstone Braddup	Bolton Avenue Haslingden	Haslingden Woodgate Hill

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Ribble Crossing &
Park and Ride

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Initial activities

Initial works are focussed on building the crossings and haul roads. The strategy will not cover other site locations/activities until a later update.

Activities include:

- Haul road construction
- Earthworks
- Bridges over Ribble and Hodder (no supports in rivers)
- Drainage and outfalls
- No in-river works, or high vibration (sheet piling) activities, undertaken in or immediately adjacent to watercourses between October and May.

- To be managed under requirements of EA discharge permits and flood risk permits.
- Outfall designs to be confirmed, will be permitted/consented by local flood authority (Ordinary Watercourse Consent) and EA.

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Monitoring Overview

- Monitoring and water treatment focussed on runoff from enabling earthworks at the Ribble bridge crossing site and Newton in Bowland.
- Current approach at Newton in Bowland only covers the bridge and haul road construction. Tunnelling to be added later.

Monitoring types

- Continuous monitoring with sondes.
- Periodic water quality samples for laboratory testing.
- Periodic invertebrate sampling.

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Surface water flows

Ribble Crossing

Contributing Area	Area (Hectare)	Flow rate 1 year (l/s)	Max discharge volume/day m^3	Document reference	Monitoring and Flow Point	
					x	y
1	2.701	34.03	2940	West Basin	373543	443765
2	0.903	11.38	983	Centre West Basin	373919	443624
3	0.251	3.16	273	Centre East Basin	374061	443696
4	1.029	12.97	1121	Compound 2 Basin	374230	443779
5	1.233	15.54	1343	Compound 3 Basin	374381	443841
Total	6.117	77.08	6600			

Hodder Crossing

Contributing Area	Area (Hectare)	Flow rate 1 year (l/s)	Max discharge volume/day m^3	Document reference	Monitoring and Flow Point	
					x	y
1	0.853	12.03	1039	West Basin	369051	450026
2	0.558	7.87	680	Centre West Basin	369282	449856
3	1.291	18.2	1572	Centre East Basin	369353	449867
4	1.188	16.75	1447	East Basin	369765	450000
Total	3.89	54.85	4738			

Current WQ monitoring - Ribble

Quarterly parameters:

- pH
- Electrical Conductivity
- Turbidity
- Dissolved Oxygen

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Current WQ monitoring – Ribble catchment

Quarterly parameters:

- pH
- Electrical Conductivity
- Turbidity
- Dissolved Oxygen

WQ monitoring also being carried out in Worston Brook upstream and downstream of Pimlico Link Road P&R site.

Current WQ monitoring – Hodder & catchment

Quarterly parameters:

- pH
- Electrical Conductivity
- Turbidity
- Dissolved Oxygen

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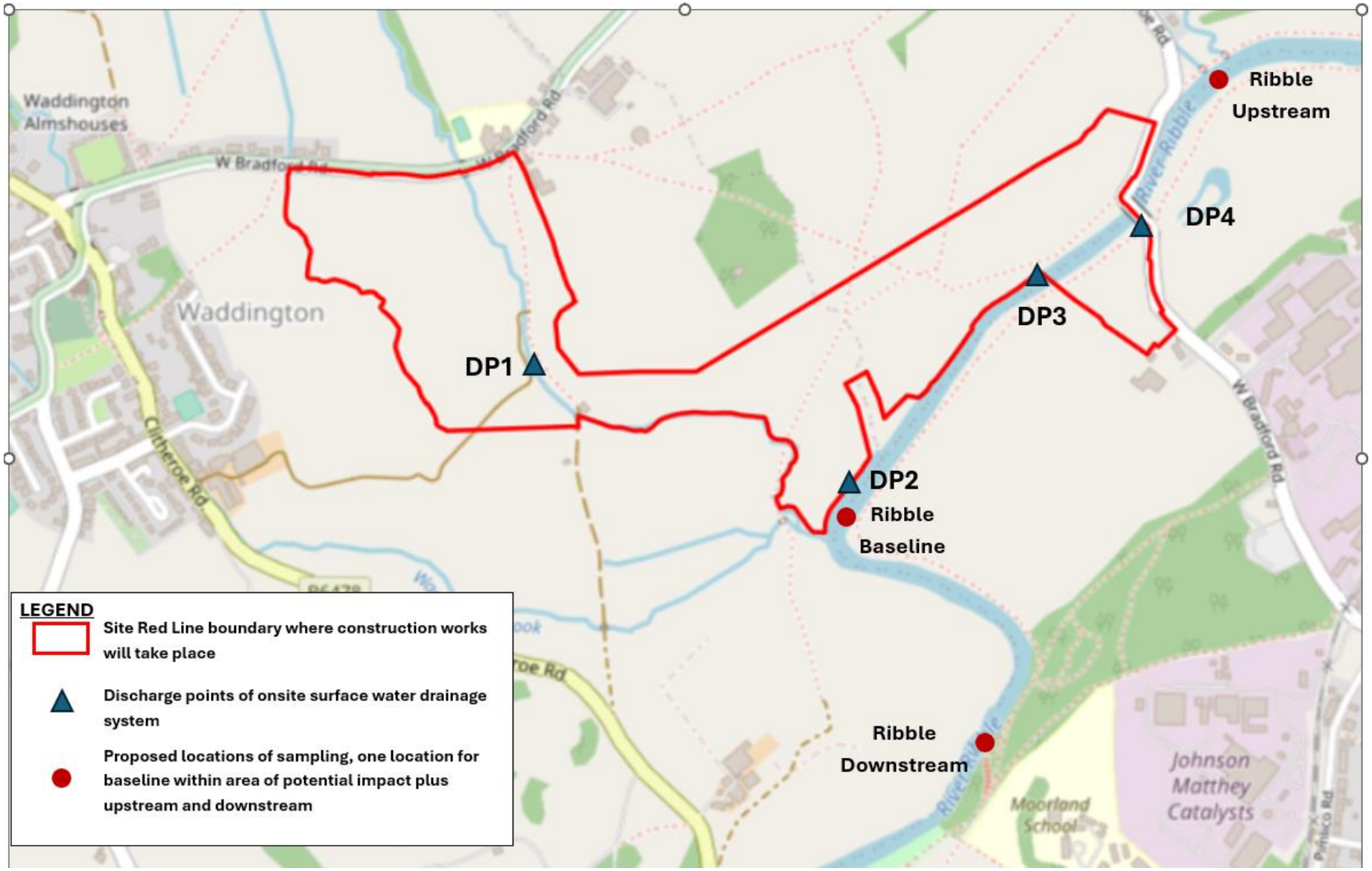
Current invertebrate monitoring – Ribble



SmartRivers

- Spring and Autumn

Indicated discharge points are still subject to change

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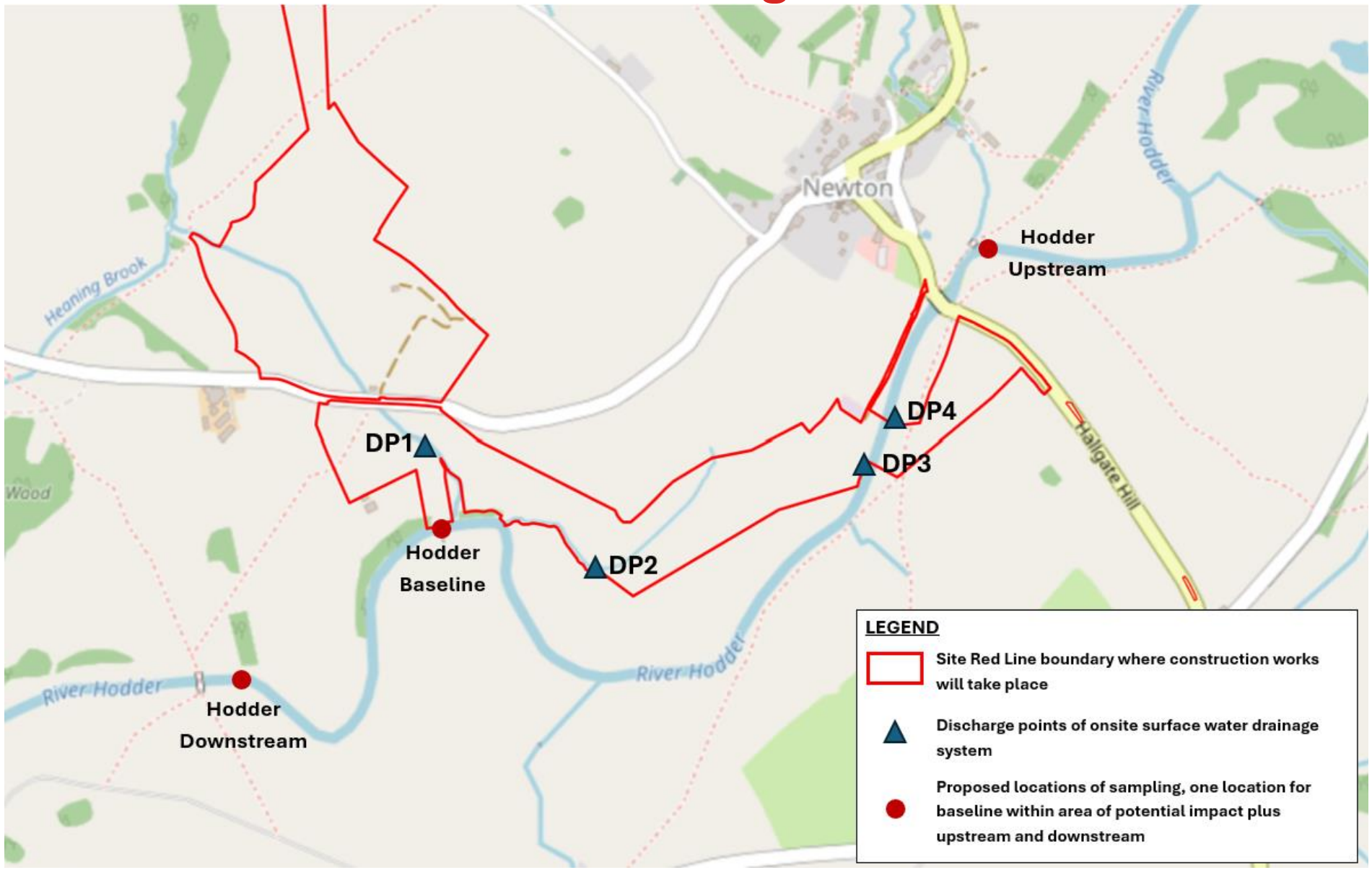
Current invertebrate monitoring – Hodder



SmartRivers

- Spring and Autumn

Indicated discharge points are still subject to change

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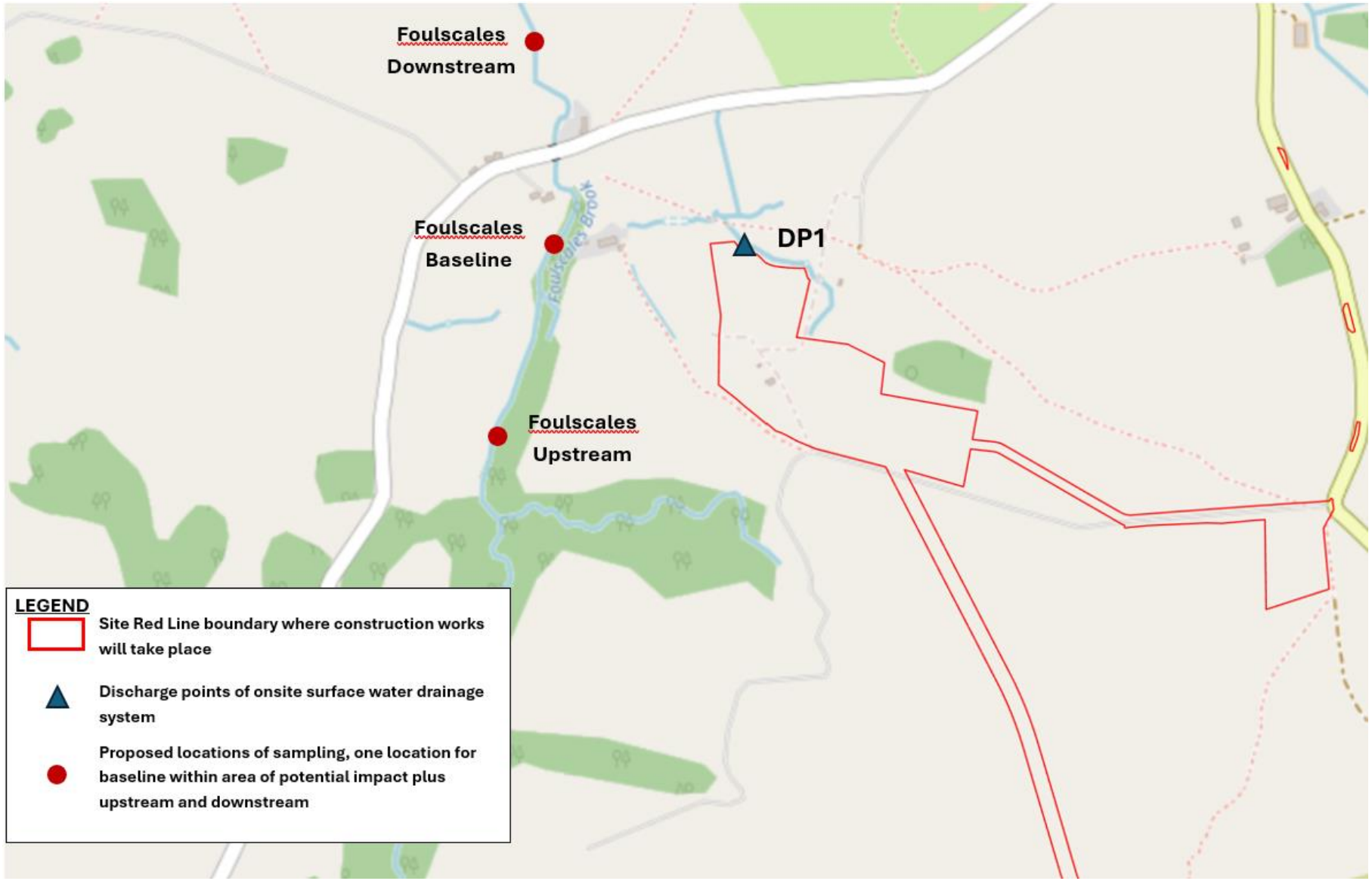
Invertebrate monitoring – Foulscales Brook (Hodder catchment)



SmartRivers

- Autumn followed by next Spring

Indicated discharge points are still subject to change

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Proposed water quality monitoring

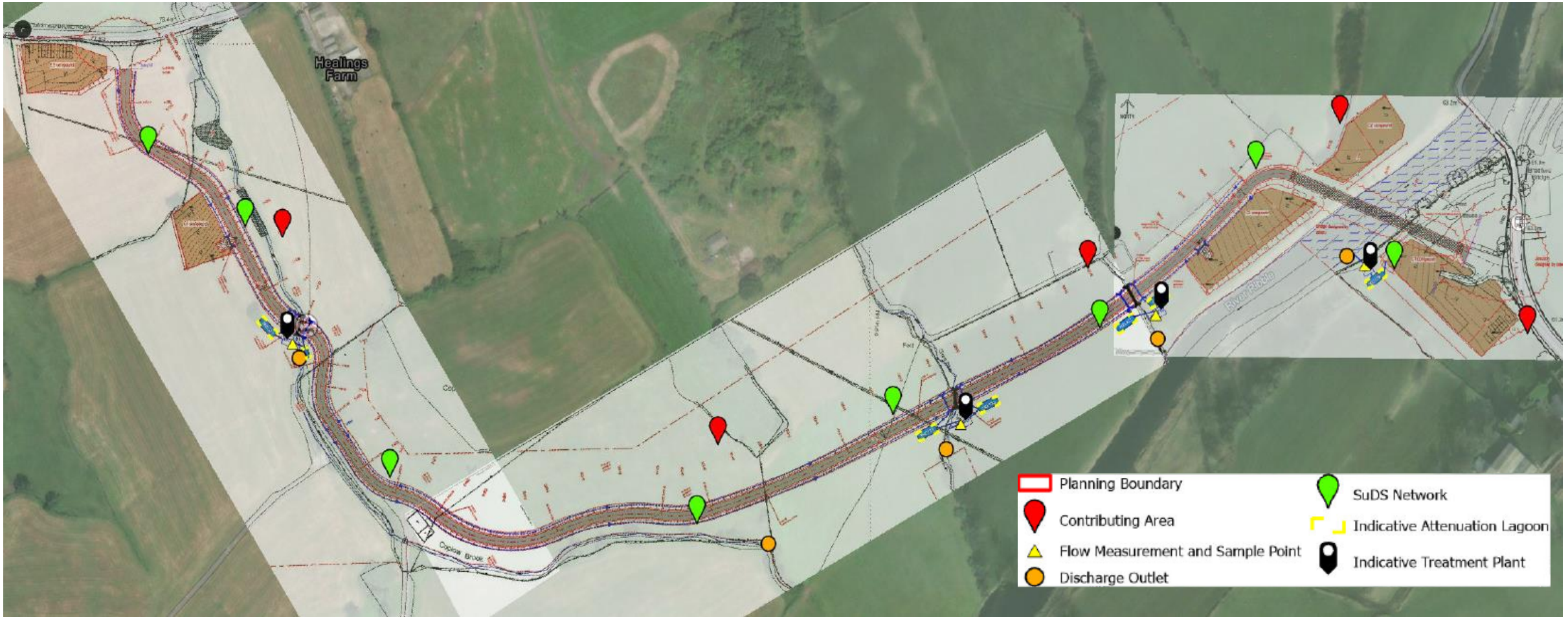
- Continue monitoring upstream, downstream with live sondes in main rivers. Live data continued to be shared with third parties.
- Continue regular water quality sampling for laboratory analysis in current locations, plus discrete locations on tributaries (in accordance with permit requirements that are TBC).
- Trigger values in rivers to be set from baseline data currently being gathered, will be set using a recognised methodology from the background data.
- Exceedance of trigger values will cause automatic notification to the site team and our environmental team. Stakeholders to be notified in line with our incident management process. Methods of notification to be agreed.

Proposed discharge monitoring

- Monitoring of discharges (post treatment or from potentially affected on-site catchment):
  - ‘Live’ monitoring focussed on suspended solids/turbidity and pH.
  - This will be on discharges from on-site catchments potentially affected by construction .
  - Trigger values set for readings approaching consented limits.
  - Deviations from set limits will trigger alarm at first threshold and shutdown and divert to storage if potential limit exceedance.

- Water with no potential linkage to site operations will not be monitored other than for an upstream quality comparison.

Ribble site proposed monitoring (construction phase)



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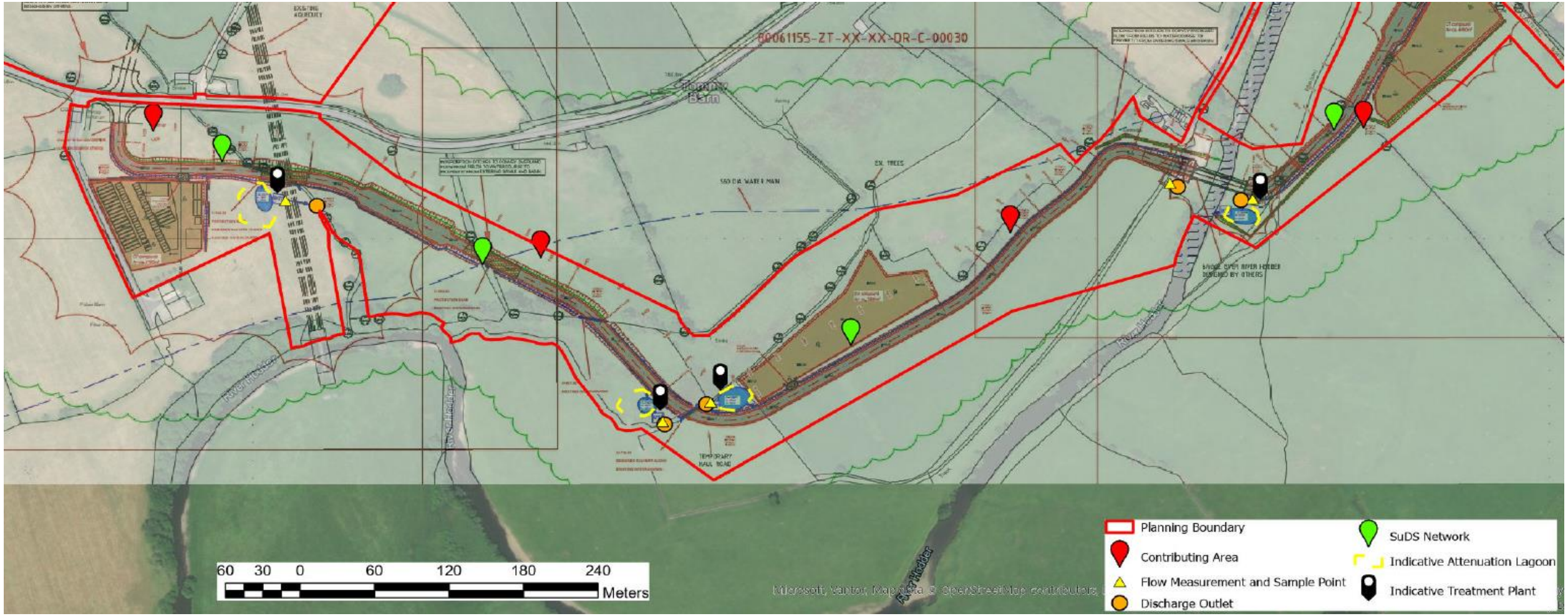
Hodder site proposed monitoring (construction phase)



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Proposed invertebrate monitoring

- Continuation of the SmartRivers sampling in the defined locations in the Spring and Autumn.
- Local volunteers to be trained by SmartRivers.

Questions and AOB