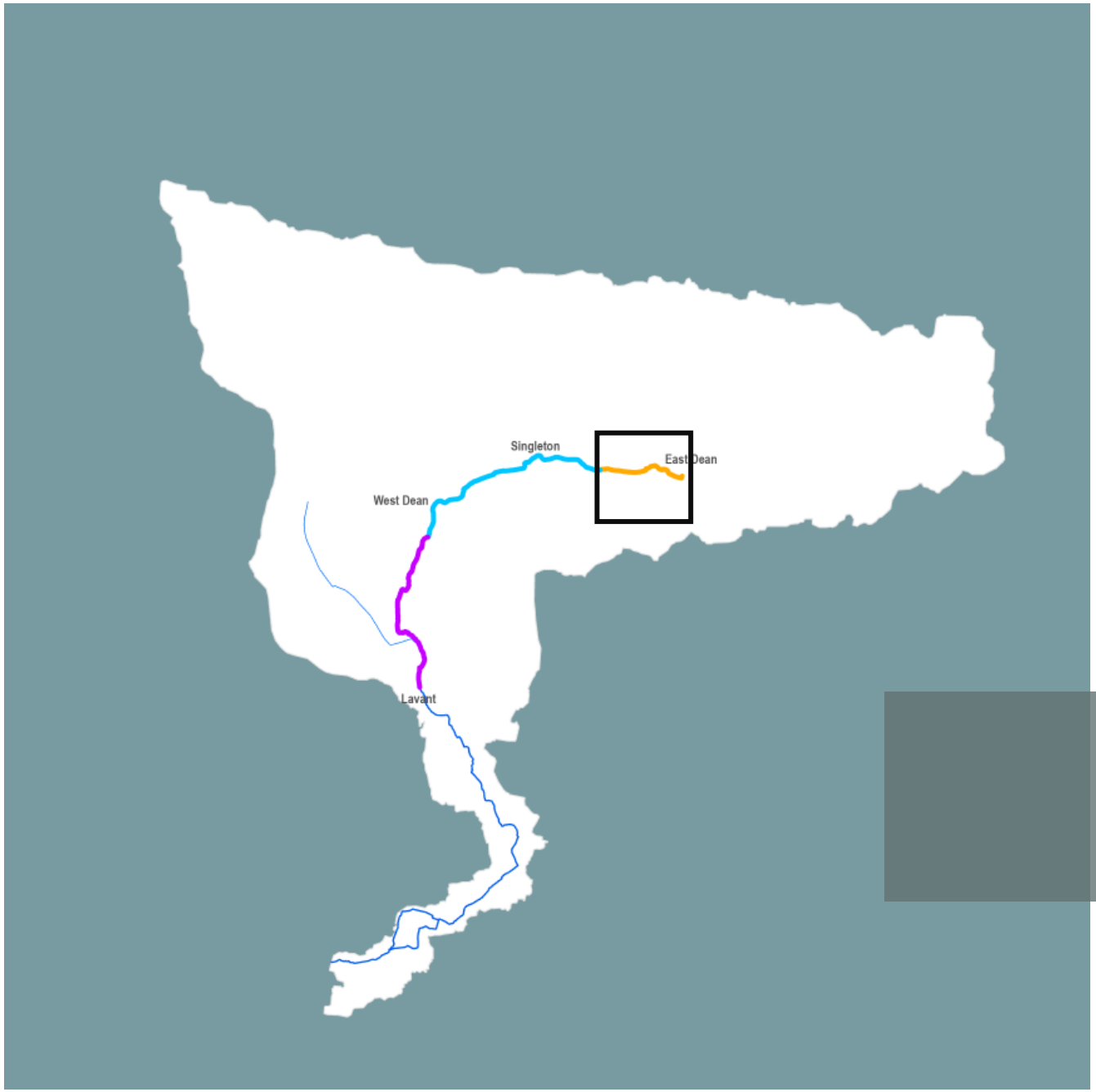
RIVER LAVANT
RCA & WALKOVER
SURVEY 2024

Site Assessments & Recommendations



REACH 1: EAST DEAN TO CHARLTON

SITE RL01

This section follows the headstream of the Lavant as it flows over a gravel/pebble substrate past allotments and residential properties along Chapel Row. Parts of the banks here are slightly embanked and are reinforced with concrete and wooden shuttering. A compost heap and cotoneaster spp. are present along the bank tops. The river is then culverted through pipes under the road and village green before emerging into the village pond. Downstream of the pond the river was discoloured and flows along the edge of residential properties where it is confined by flint walls on the right and has reprofiled, mown grass banks on the left. Winter heliotrope was present along the bottom of a hedgerow downstream of here. The riverbed was dominated by terrestrial herbs and grasses indicative of an intermittent stream which does not reliably flow and where flow does not exceed 6 months of the year. Filamentous algae was present along the stream and was abundant at the springs that arise in an arable field to the east of the village.

At the time of survey, sewage was issuing from drains and cracks in concrete along the roads and Southern Water operatives were undertaking remedial action to reduce pressure on the system which included pumping directly from the sewers and installing sewage spill kits in the pond to reduce risk of sewage spreading downstream. The residents that we spoke to were understandably upset as this is a yearly occurrence that has been going on for several decades.

Working with Southern Water to find sustainable and long-term solutions to the sewage network is clearly the main priority here, however there are a few other small enhancements that were noted during the survey, and these include:

- Removal of Cotoneaster from the bank top along Chapel Row. The shrub is overshading the river and is a Schedule 9 species so its presence along a rare chalk stream is undesirable.
- Relocating the compost heap away from the bank top in the allotments as this will be a source of ammonia into the stream.
- Restrict mowing of the riverbanks, particularly when the river is in flow as this will help capture surface run off from the adjacent road.
- Review agricultural cropping of the fields east of the village to reduce diffuse pollutants at the spring head.

SURVEY DATE

11/04/2024

OS GRID REF

SU 9030712898

RCA CONDITION

No RCA survey undertaken

MODIFICATION SCORE

Severely modified

MAIN PRESSURES

Water quality

Reinforcements

Invasive non-native plants

Riparian management

SOLUTIONS/ENHANCEMENTS

Find sustainable solutions to sewer network

INNS removal

Reduce mowing

Groundwater protection at spring

Discoloured water, mown left bank and wall confining river along the right bank.

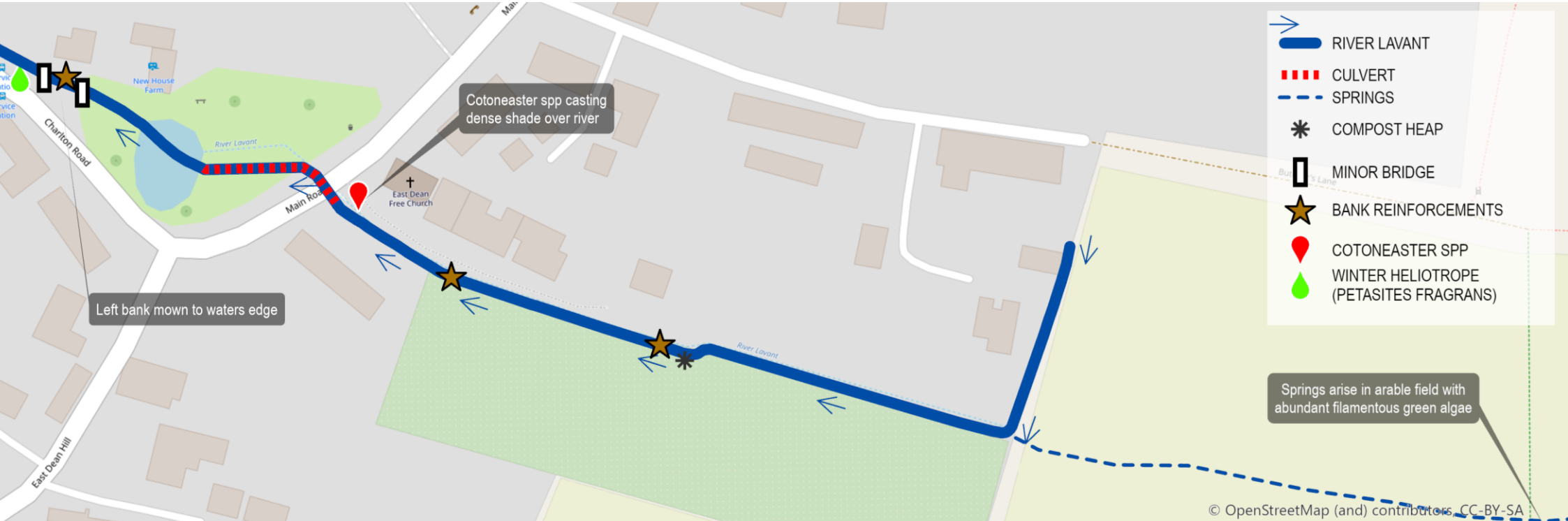
Cotoneaster spp present along the riverbank

Southern water operating to reduce pollution from the sewage network at village pond

Wooden shuttering along stream

Terrestrial grasses dominant along channel.

Springs issuing in arable field to the east of East Dean



SITE RL02

This section of the Lavant flows past residential gardens and the edge of an arable field where the river is narrow (0.6-1.2m), over deepened with steep trapezoidal banks, most likely associated with historical dredging to reduce flood risk. The river here is clearly realigned to follow the edge of the village, however, the riparian edge habitat generally good with well- established bankside vegetation comprising tall terrestrial herbs and grasses. The river then crosses a muddy ford and gently meanders through pasture which had wet flushes and was not grazed at the time of survey. Another ford is present at the western end of the pasture field where the river, once again follows a straightened course along a hedge that bounds Charlton Road and the edge of another arable field with wide riparian margins. A small embankment is present along the right bank here suggesting the river is cleared and arising left on the bank top.

The riverbed comprised of gravel/pebble with areas of earth through the pasture field and was dominated by terrestrial herbs and grasses indicative of an intermittent stream. Filamentous algae was present particularly over the fords and the river was running grey at the time of survey suggesting the water quality was being impacted by the upstream pollution incident at East Dean. Southern Water operatives were also present in the pasture field at the time of the survey and appeared to be pumping sewer from the network into tankers.

Despite following a modified course, this stretch of the Lavant has wide riparian margins that are protecting the river from the adjacent arable land. There are a few opportunities to enhance the river and riparian zone through this stretch and include:

- Creating scrapes and/or ponds within the riparian zone that would provide lateral refuges for macroinvertebrates and increase biodiversity value along the river corridor.
- Removing the small embankment at the downstream end would also help to push water out during peak flows and potentially reduce the impact of over deepening and flooding of Charlton Road.
- Lining the fords with gravel/pebbles to reduce sediment input to the stream during periods of flow.

SURVEY DATE

02/05/2024

OS GRID REF

SU 89969 13055

RCA CONDITION

Rl02a: Moderate

RL02b: Fairly poor

MODIFICATION SCORE

Obviously modified

MAIN PRESSURES

Water quality

Over deep

Modifications

SOLUTIONS/ENHANCEMENTS

Riparian scrapes/ponds

Removal of embankment

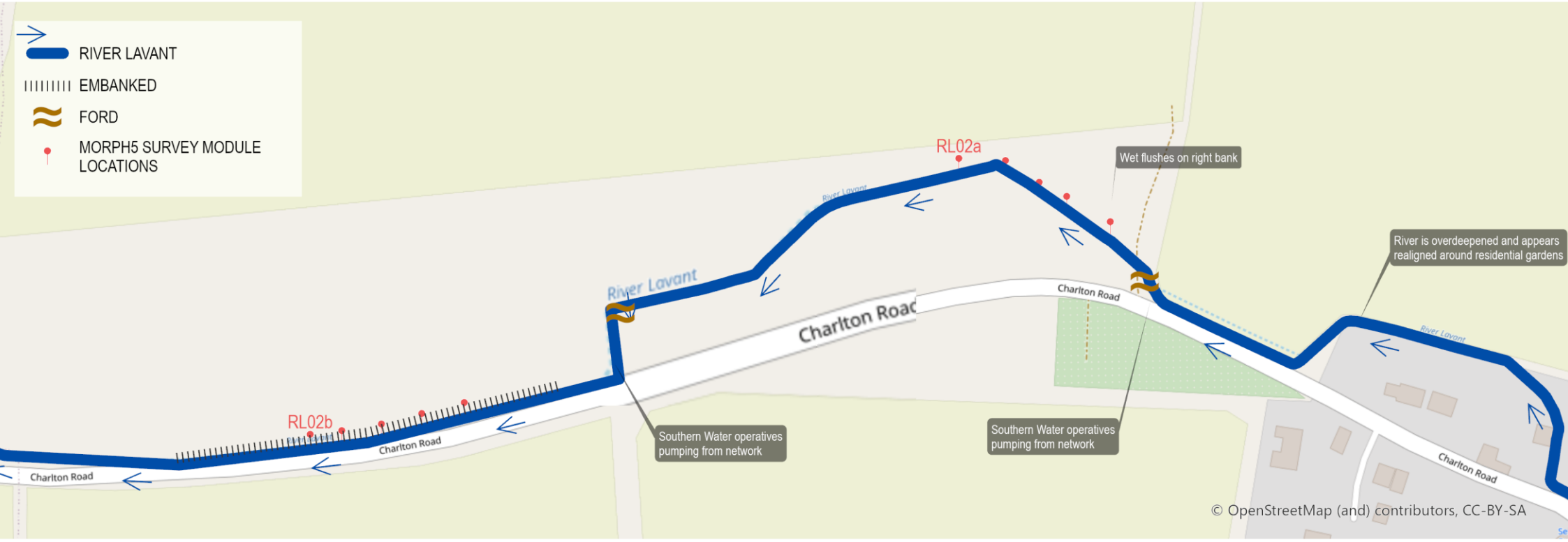
Laying gravel/pebble across fords

Wide riparian margin with small embankment and hedgerow that bounds Charlton Road along the left bank

Wet flush along right bank of river with potential to enhance into scrape

Muddy ford and dominance of terrestrial herbs and grasses through pasture field

Over deepened and reprofiled channel at upstream end with discoloured water.



SITE RL03

This section of the Lavant is relatively narrow (1.5m) and follows a straight course along the northern edge of Charlton Road and is bounded on the left bank by steep, sheep grazed, pasture which is fenced up to the bank top. At the upstream end, the river is shaded by mature bankside trees with woody features including exposed tree roots, large wood and discrete organic material. Downstream, the river is bounded by steep, trapezoidal grassy banks where a small bridge and weir are present before passing under the Charlton Road.

The gravel bed was predominantly unvegetated due to shading upstream and annual clearance downstream but, where present, was dominated by terrestrial herbs and grasses including *Alopecurus geniculatus* which is commonly associated with intermittent streams. A small section of the right bank toe was reinforced but there was no obvious reason for this at the time of survey and urban trash that included black plastic was recorded at two spot check locations during the walkover. Several drainage pipes from the road are present and the river is undoubtedly impacted by surface water run-off from both the road and the adjoining pasture fields.

The river is constrained through this stretch, however, there are a few of enhancements that would help enhance the river and include:

- Creating a wider riparian margin along the right bank tops by pushing back the stock fencing to allow taller herbs and grasses to establish that would help capture pollutants transported by overland surface flow.
- Cutting a notch into, or ideally removing the small weir that is present at the downstream end would allow free flow of water and may reduce the need to clear in-channel vegetation upstream.
- Undertake a river clean up to remove urban trash from the channel.

SURVEY DATE

18/04/2024

OS GRID REF

SU 89235 12980

RCA CONDITION

Fairly poor

MODIFICATION SCORE

Significantly modified

MAIN PRESSURES

Diffuse pollutants

Weirs/modifications

Riparian management

SOLUTIONS/ENHANCEMENTS

Increase riparian buffer

Remove/adapt weir

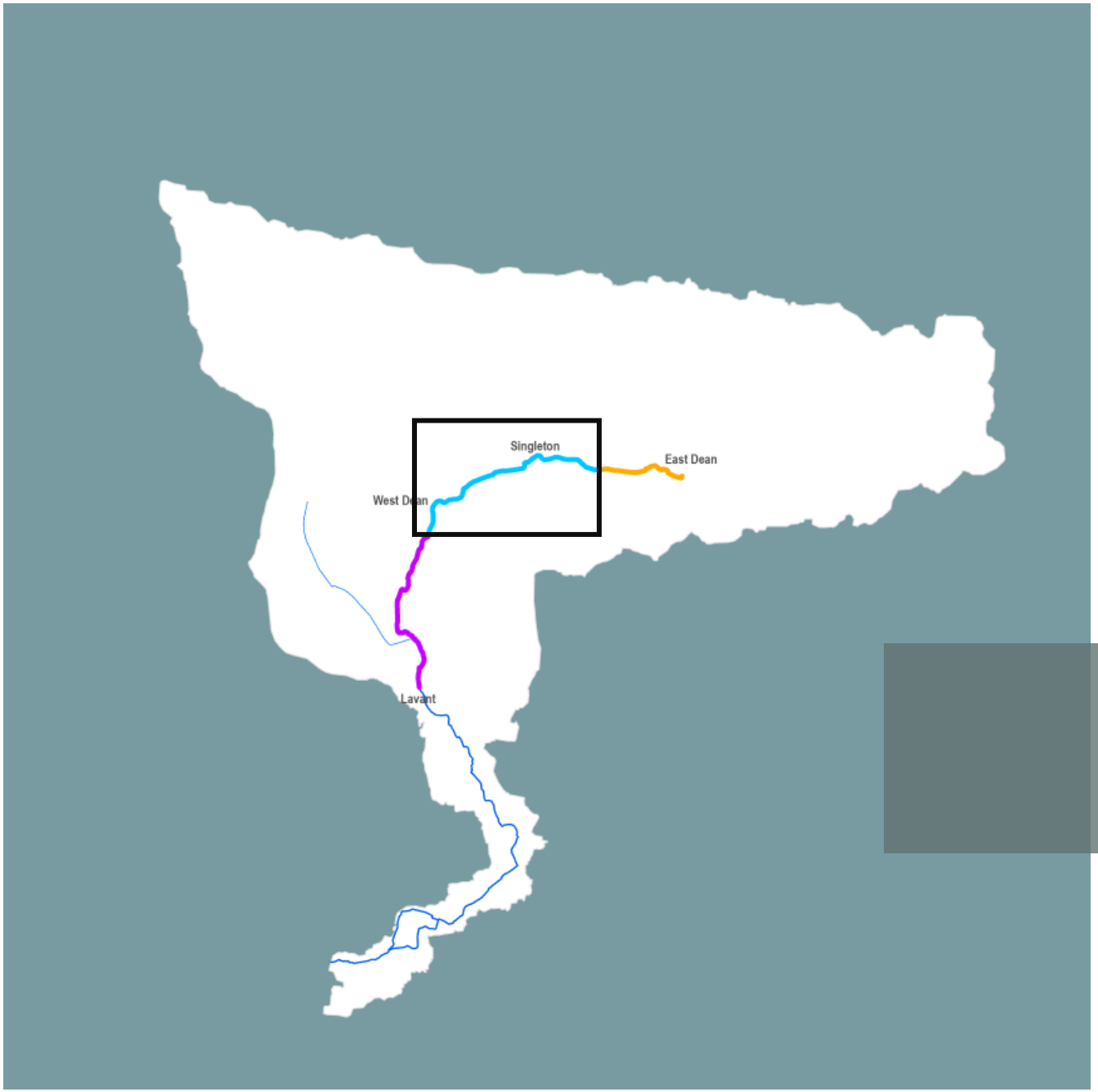
Review annual clearance

Small weir (0.5m height from bed level) present at downstream end.

Right bank toe reinforcements.

Improved grassland and stock fencing along right bank top.

Continuous trees with woody features including leaning trees and exposed tree roots.



REACH 2: CHARLTON TO WEST DEAN

SITE RL04

This section of the Lavant begins at the culvert under Charlton Road at the eastern end of Charlton village. The river then flows over a gravel/pebble bed along the edge of the road where the riverbanks are dominated by common nettle. A garden wall and buildings along the left bank are disconnecting the river from it riparian margins and a patch of variegated yellow archangel (*Lamiastrum galeobdolon*), a non-native invasive plant, was present which is likely to spread further along the riverbanks if left uncontrolled. Within the channel, several macrophytes indicative of winterbourne stream community types were recorded growing alongside terrestrial herbs and grasses including *Lemanea spp*, an indicator of flow, *Apium nodiflorum*, *Veronica anagalis-aquatic*a and *Brachythecium rutabulum (*a submerged moss).

Further downstream, the river passes under a road culvert where it is joined by a small stream that appears to arise from springs in a pond located at the edge of a horse paddock to the south of the river. The stream was choked with filamentous algae at the time of survey suggesting high levels of inorganic nutrients. The river then flows along the edge of horse grazed pasture which is fenced to the bank top and is dominated by nettle along the channel margins with filamentous algae, *A. nodiflorum*, and terrestrial herbs and grasses growing from the gravel/pebble channel bed. The right bank is bounded by mature woodland with fallen trees before flowing past a hedgerow bounding a residential garden.

There are several opportunities that would improve the river along this reach and include the following:

- Creating a wider riparian margin along the left bank top where the river is adjoined by horse grazed pasture would allow taller herbs and grasses to establish that would help capture pollutants transported by overland surface flow.
- Nettles which provide reduced protection to the river from diffuse pollutants should be managed by strimming and raking off the arisings to allow a more diverse flora to establish along the riparian margins.
- Removal of Variegated yellow archangel to avoid further encroachment along the riverbanks.
- Investigate and mitigate any potential source of nutrients along the spring to improve water quality
- There may also be an opportunity to improve the pond where the spring arises, however, an assessment of its condition was not undertaken during the survey, as no landowner permission had been obtained.

SURVEY DATE

18/04/2024

OS GRID REF

SU 88857 12991

RCA CONDITION

Poor

MODIFICATION SCORE

Severely modified

MAIN PRESSURES

Diffuse/point pollution

Nettles

Over deep

Modifications

INNS

SOLUTIONS/ENHANCEMENTS

Increase riparian buffer

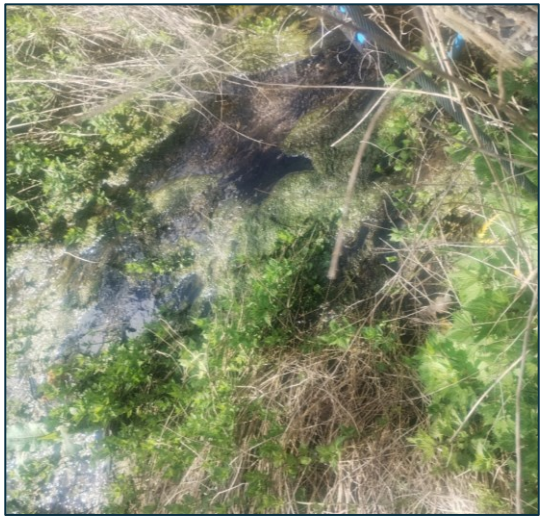
Remove INNS

Manage nettle

Pond restoration

Farm advisory visit

Horse grazed pasture fenced to bank top with nettle dominant along the bank sides



Filamentous green algae abundant along small tributary adjoining the Lavant from the south

River restricted by flint wall and building along left bank at upstream end

Variegated yellow archangel along left bank of river at start of section.

SITE RL05

This section of the river is relatively narrow (average width 1.5m) and flows under the culvert at Knights Hill Road then briefly meanders through rough grassland with wet flushes before following along the southern edge of a hazel and blackthorn hedgerow that bounds Charlton Road. The river is over deep here and an agricultural field with stock fencing is present along the left bank where the river margins are fringed with tall grasses and herbs (common hogweed, common nettle, white deadnettle). The channel substrate comprises gravel/pebble overlaid by patchy and continuous layers of silt, sewage fungus and filamentous green algae with mosses (not identified to species level during the survey) and isolated clumps of *Apium nodiflorum* and Lamanea spp. growing alongside terrestrial Rumex species and grasses. A small section of the right bank is reinforced with brick, but it was not clear as the purpose of this at the time of survey. At the downstream end, the river flows past a small residential parking area, where the banks had been mown down to the water's edge, before entering a grilled culvert under Charlton Road. Several macrophytes, typical of winterbourne communities were present at this end including *Apium nodiflorum*, *Veronica anagalis-aquatica*, and *Phalaris arundinacae*.

The river was discoloured and foul smelling at the time of survey and Southern Water Operatives were present and pumping sewage from the network that runs the entire length of the agricultural field.

The river is largely confined by Charlton Road, which it floods during peak flow, and is under pressure from the sewage overspills. However, there are several enhancements that would increase the ecological value of the river and include:

- Enhancing the wet flushes by creating scrapes and/or ponds that would provide benefits to biodiversity and refuge habitat for macroinvertebrates.
- Pulling sections of the left-hand bank back to allow a more diverse profile and reduce the over deep nature of the stream.
- Engage with the parish council and/or residents about riparian management at the downstream end and if feasible leave the bank face and 1-2m of the bank top unmown to provide habitat for invertebrates and increased protection of the river from diffuse pollutants.

SURVEY DATE

23/04/2024

OS GRID REF

SU 88411 13176

RCA CONDITION

Fairly poor

MODIFICATION SCORE

Significantly modified

MAIN PRESSURES

Point source pollution

Diffuse pollutant (road)

Over deep

Reinforcements

Riparian management

SOLUTIONS/ENHANCEMENTS

Find sustainable solutions to sewer network

Create scrapes/ponds

Bank reprofiling

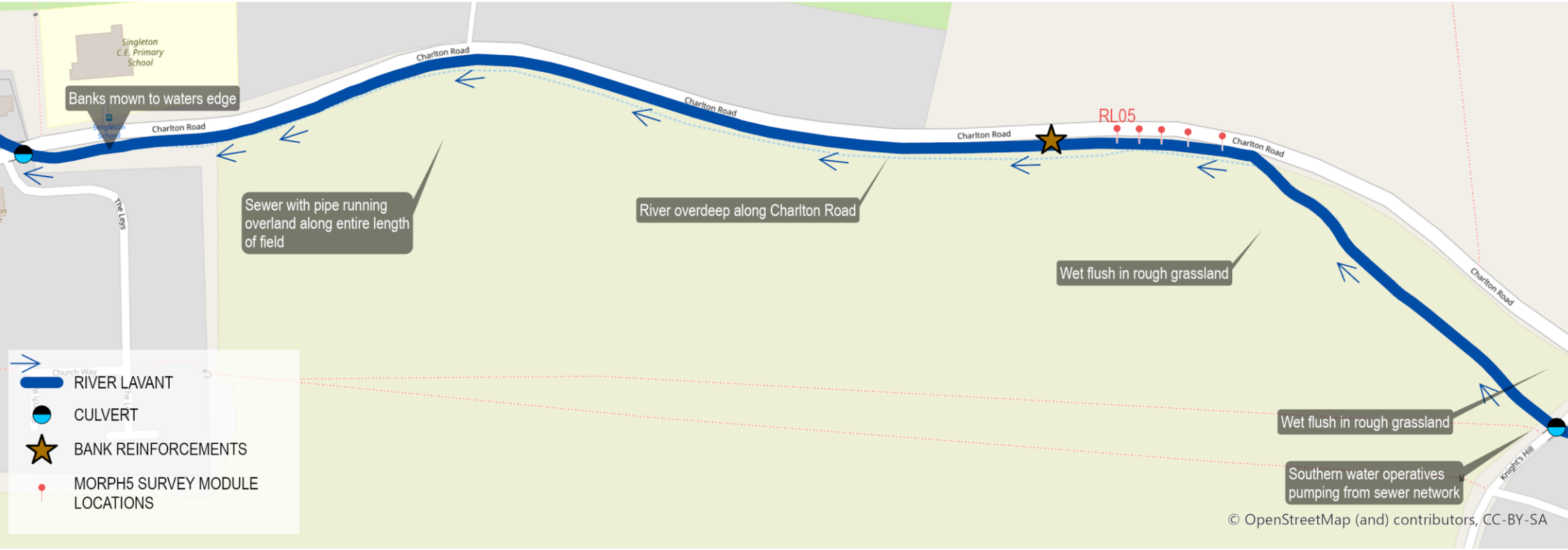
Reduce mowing

Culvert at downstream end with mown riverbanks and macrophytes.

Brick reinforcements along right bank toe.

Over deepened along Charlton Road.

Discoloured water at upstream end of section.



SITE RL06

This section of the Lavant commences at the edge of Singleton where the river is enclosed by reinforced banks which look to be a relatively new addition to facilitate parking for the adjoining residential properties. The macrophyte community here included *Ranunculus peltatus*, *Apium nodiflorum*, *Callitriche platicarpa*, *Lamanea spp*, *Veronica anagalis-aquatica*, *and Fontalis antipyretica*, suggesting this stretch is likely to have increased flow duration. The river then flows south under a bridge where it is reinforced and adjoined briefly by the A286, where several outfall pipes are present, before widening and flowing through an unmanaged field dominated by nettle on the left bank, and Singleton Cricket field on the right. The majority of the Cricket field had been mown close to the bank top, and Cherry laurel was present along the left bank at several locations, casting dense shade over the channel.

Downstream of the cricket club the right bank is bounded by cow grazed pasture and the field corner is poached along the bank top. The river here is fringed by patches of *Oenanthe crocata* , *Apium nodiflorum*, *Phalaris arundinacae*, and *Rorippa nasturtium aquaticum* and towards the downstream end, dense bramble scrub is encroaching and overshading the channel. A small tributary joins the right bank of the river here and typically flows for only a few months of the year (January-February) but was flowing at the time of survey. The tributary arises somewhere in Nightingale Woods which lies north of Drovers on the eastern side of the A286. It is then culverted under the Drovers property and the A286 before arising again just north of Cucumber Farm.

Here the water was sitting over gravels overlaid with terrestrial grasses and filamentous algae, suggesting poor water quality. The landform here is indicative of a historic lake and is indeed referred to by Ken Newbury in his book as "The Fountain". The tributary is then re-culverted under the farm before arising through cow pasture with water troughs on the bank top and farm tracks that were heavily poached by livestock before joining the River Lavant.

Photos showing "The Fountain" north of Cucumber Farm (right) and presence of filamentous algae over gravel substrate (left).

SURVEY DATE

02/05/2024

OS GRID REF

SU 87462 13007

RCA CONDITION

Fairly good

MODIFICATION SCORE

Significantly modified

MAIN PRESSURES

Point & diffuse pollution

Scrub encroachment

Reinforcements/Ford

INNS & nettles

Mowing

SOLUTIONS/ENHANCEMENTS

Create scrapes/ponds

Install marginal features

Scrub & nettle management

Increase riparian margin

Relocate cattle drinks

Where the tributary joins the Lavant there is a mid-channel gravel bar but also thick pockets of silt for which the tributary is a likely source. Downstream of the tributary, the River Lavant has a wide marshy field dominated by nettle on the right bank which is fenced from cattle and a muddy ford is present just before the Southern Water pumping station located on the left bank. Further downstream, the left bank field is a small holding with geese and short cropped grass up to the bank top. Filamentous algae was extensive along much of this reach and likely influenced by both sewage discharge and run off from the road and pasture.

There are several enhancements that could be carried out along this stretch of the River Lavant and include the following:

- Creating gravel bars along the reinforced channel at the upstream end to improve marginal features and buoy water levels during low flows
- Creating scrapes and/or ponds within the disused field along the left bank and the marshy field corner at the downstream end. This would create water related features that will improve lateral connectivity and refuge habitat for macroinvertebrates during the dry phase.
- Remove Cherry laurel and thin scrub to reduce encroachment and increase light into the channel.
- Leave a wider margin unmown around the Cricket field.
- Relocate cattle drinks away from the banks of the tributary to reduce input of sediment and pollutants.
- Push back fencing along through the pasture field and small holding to reduce poaching of the bank top and allow a wider riparian margin comprising tall herbs and grasses to establish that will help protect the river from diffuse pollutants.
- Manage nettle by strimming and raking off arisings to increase species richness and diversity in the left bank field and marshy field corner.
- Install gravels over the ford at the downstream end to reduce fine sediment accumulation over course gravels.

Wet field on right bank with opportunity to enhance with scrapes/pools.

Muddy ford opposite the Southern Water pumping station.

Sediment at confluence with tributary stream.

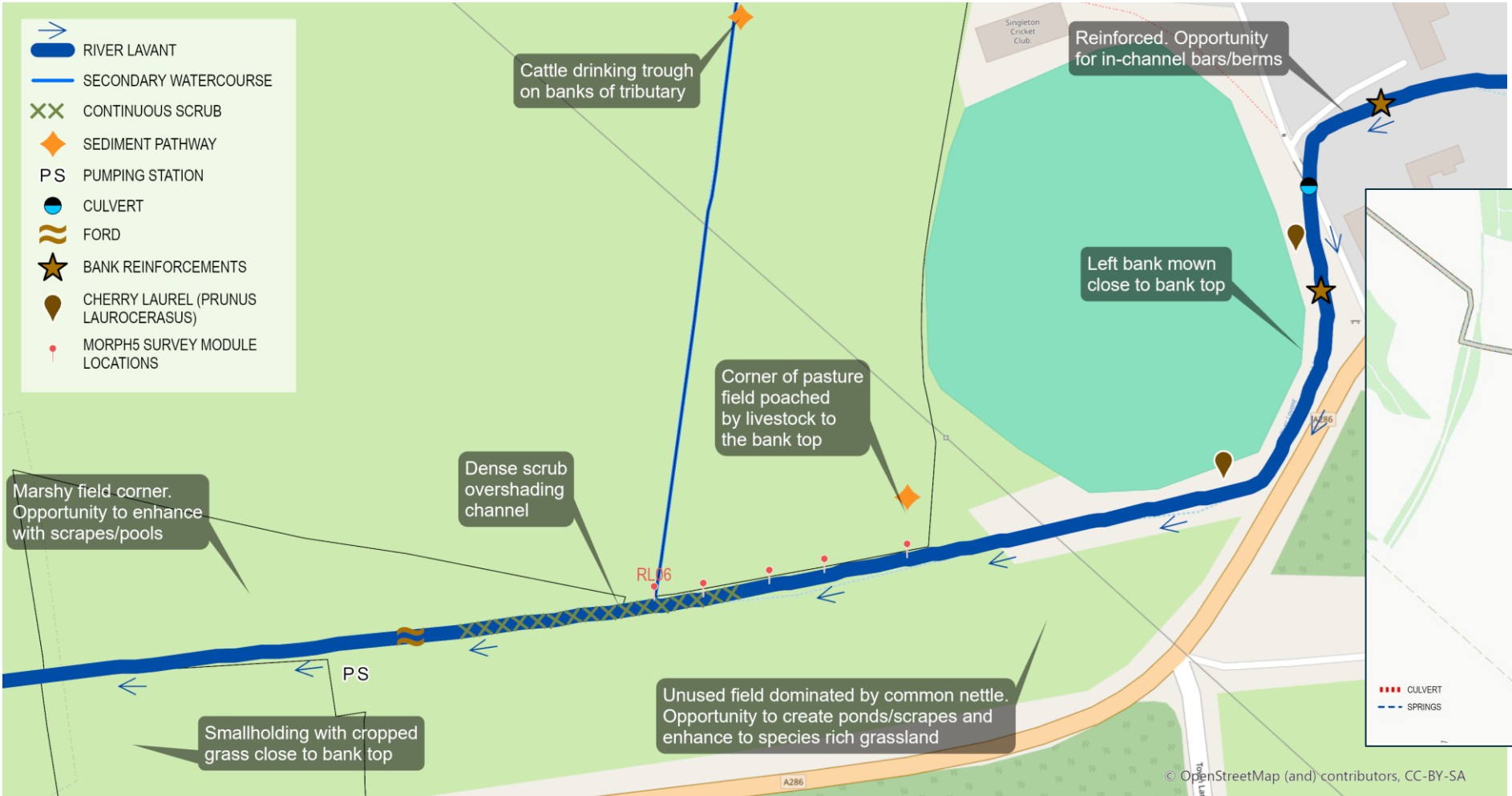
Dense scrub along both banks upstream of confluence with right bank tributary.

Cattle trough and poaching along tributary.

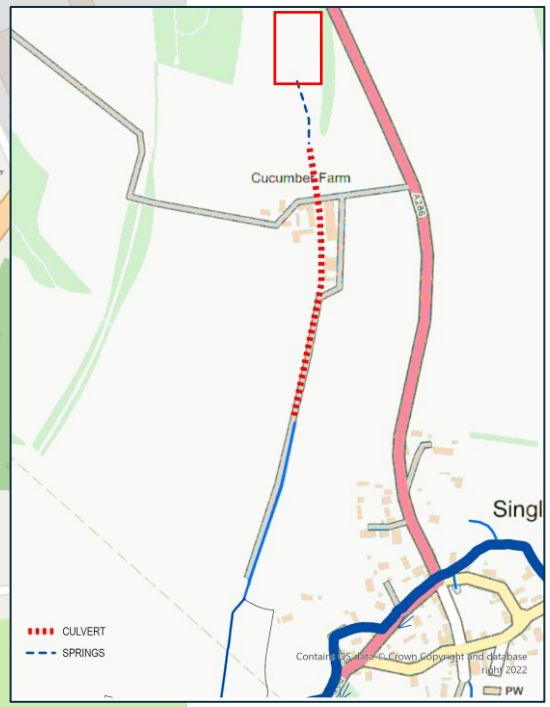
Cattle poaching in field corner on right bank top.

Cherry laurel along right bank adjacent to cricket field casting dense shade over the channel.

Reinforced banks with opportunity to install gravel bars along banks to create faster flowing mid channel and marginal features



Inset map shows location of 'The Fountain' upstream of Cucumber Farm



SITE RL07

This section of the River Lavant is relatively wide (average width 4m) and gently meanders through a small ungrazed pasture field that was bounded by a hedgerow to the north and the A286 to the south. The flow was close to the bank top at the time of survey and the river was fringed with terrestrial grasses and some patches of nettle, particularly at the upstream end. A ford, which was creating a backwater at high flows, was present and colonised by small patches of *Veronica anagalis-aquatica* and Apium nodiflorum. Part way along the main river are remains of an old sluice structure that used to divert water under the road onto the meadows which are now part of the Weald and Download Museum. A 'kiddies' weir composed of a telegraph pole spanning the channel and a small clear span footbridge is present further downstream before the river passes some bankside trees and under the A286. Other than at the downstream end, no trees or associated features were present along the riverbanks which were relatively homogenous in profile. The gravel/pebble and cobble bed was relatively homogeneous and largely unvegetated at the time of survey but a few patches of *Ranunculus peltatus* and what appeared to be terrestrial grasses growing alongside filamentous algae and potentially sewage fungus were present. A sewage spill from a manhole cover was observed approximately 25m from the left bank top.

There are several enhancements that would help improve the river through this stretch and include the following:

- Use 'Dig and Dump' restoration to create marginal berms and pools to increase channel morphology and an improved fringe of riparian vegetation that would help the river cope with fluctuating flows and provide important habitat for terrestrial adult stages of macro invertebrates.
- Planting clusters of trees along the riverbanks to introduce some river shade and provide a source of leafy and woody debris that provide habitat diversity and food for invertebrates and fish.
- Removing the remnant sluice structure and 'kiddies' weir would restore natural flow and remove unnecessary reinforcements from the riverbanks and channel.
- Strimming and raking off the nettles along the riverbanks to allow more diverse flora to establish.
- Creating scrapes or ponds along the riparian margins will help provide lateral refuges for in-stream invertebrates during the dry phase.

SURVEY DATE

08/04/2024

OS GRID REF

SU 87132 12964

RCA CONDITION

Moderate

MODIFICATION SCORE

Obviously modified

MAIN PRESSURES

Water quality

Under shading

Lack of marginal features

Nettle

Structures

SOLUTIONS/ENHANCEMENTS

Dig & Dump

Create ponds/scrapes

Control nettle

Remove structures

Tree planting

Trees and scrub present at downstream end.

Ford over river creating backwater during high flows.

'Kiddies' weir and minor bridge.

Homogeneous bank profiles and bed.

Old sluice structure and patches of nettle along bank top.

SITE RL08

This section begins at the A286 road bridge where the river is a little overshaded by mature mixed woodland and riparian trees and scrub on the left. There was a good variety of woody features present including fallen trees, exposed and underwater tree roots and organic material which are providing hydraulic diversity and a variety of habitats for aquatic species. Cherry laurel (*Prunus laurocerasus*) is present along the right bank which casting dense shade in the woodland and along the river. There was also a small Japanese knotweed sapling on the right bank which will need to be removed to prevent further spread. The left bank is dominated by common nettle and pasture which is fenced from the river at the upstream end, and a heap of large trash, spoil and a buddleia is also present. A large piece of corrugated iron sheeting has found its way into the channel here.

Further downstream, the river flows along a straight course past the bottom of a garden which is mown to the bank top on the right, but there is a nice fringe of *Phalaris arundinacae* growing from a marginal bar. A weir structure is present here and had been undercut on the left bank but is still impounding water for a short while upstream. Some large wood had either been placed or accumulated naturally which was partly correcting the breach.

Towards the bottom of this stretch, the river is bounded by mown grassland with scattered trees on the right and unfenced pasture on the left. Bankside trees with exposed and underwater tree roots are present along with a small backwater which appears to have been created by fencing, and another corrugated metal sheet that was protruding from the left bank side. Other than submerged mosses and a few patches of *Apium nodiflorum* and *P. arundinacae*, the gravel/pebble bed was largely unvegetated due to shading by bankside trees.

SURVEY DATE

08/04/2024

OS GRID REF

SU 86822 12849

RCA CONDITION

Fairly good

MODIFICATION SCORE

Significantly modified

MAIN PRESSURES

Overshading

INNS

Structures

Trash

Grazing

Nettle/ Mowing

SOLUTIONS/ENHANCEMENTS

Selective coppicing of trees

Removal of weir

Increase riparian margins

River clean up

INNS removal

There are several enhancements that would help improve the river through this stretch and include the following:

- Removal of the weir which is already failing would allow natural flow of water. Berms could be created on either bank side to create pinch in the channel to retain hydraulic diversity
- Some selective coppicing of trees, particularly at the upstream end would help increase light into the channel allowing macrophytes to establish. Large wood resulting from the works could be used in-channel to shore up any banks following weir removal and/or as deflectors to create a more meandering flow.
- Leaving a wider margin of vegetation that is fenced and unmown along the bank tops would provide habitat for macroinvertebrates and help buoy water levels during low flows.
- Removal of Japanese knotweed and Cherry laurel at the upstream end and removal of trash from the river.
- Management of nettle along the banks upstream by strimming and raking off arisings will help increase floral diversity.

Fallen tree over channel.

Riverbed predominantly unvegetated here.

Culvert at downstream end.

Small backwater and corrugated sheeting in channel at downstream end.

Garden mown to bank top and fringe of marginal plants along left bank.

Weir breached on left bank.

Cherry laurel present in woodland on left bank and sheet of corrugated metal in channel.

Japanese knotweed sapling just below A286 road bridge on left bank.

SITE RL09

The section of the Lavant flows through mixed woodland and gardens at the upstream end before emerging into open pasture and the front lawn of West Dean College. Much of the river through this reach has been reprofiled, is poached by livestock or has reinforcements present which is creating a homogenous margin with little interest in terms of marginal plants or features. The right bank of the river is dominated by nettles and grasses which are mown close to the bank top through the gardens, where the river is over deep and through the front lawn where the river appears to be slightly perched above the floodplain. A wet metal fence is present along the majority of this stretch to provide access to the river by sheep grazing the pasture along the left bank side.

Other than the small woodland at the upstream end and a few mature trees that are present around the Pentagon car park, the river is unshaded with a homogenous gravel/pebble bed. The channel vegetation is dominated by *Ranunculus peltatus* which was creating hydraulic diversity and marginal plants including *Apium nodiflorum*, *Rorripa nasturtium aquaticum*, *Veronica anagallis-aquaticus* and *Iris pseudacorus* were present, but not extensive along the right bank margin. Two drains were present along the riparian margins, one of which had been issuing sewage and the other was issuing sewage at the time of survey. Both *Cladophora* (blanket weed) and green unbranched filamentous algae, which are negative indicators associated with nutrient enrichment, were recorded downstream. Southern Water Operatives were pumping from the sewage network at several locations within the grounds of West Dean during the survey.

Wooded section of river at upstream end.

Drain issuing sewage from left bank and reinforced downstream.

River is open with nettle margins and slightly perched in the front lawn of West Dean House.

SURVEY DATE

10/04/2024

OS GRID REF

SU 86422 12585

RCA CONDITION

Fairly poor

MODIFICATION SCORE

Severely modified

MAIN PRESSURES

Water quality

Under shading

Modifications

Lack of marginal features

Nettle

Grazing & Mowing

SOLUTIONS/ENHANCEMENTS

Dig & Dump

Tree planting

Increase riparian margin

Manage nettle

Constructed wetlands

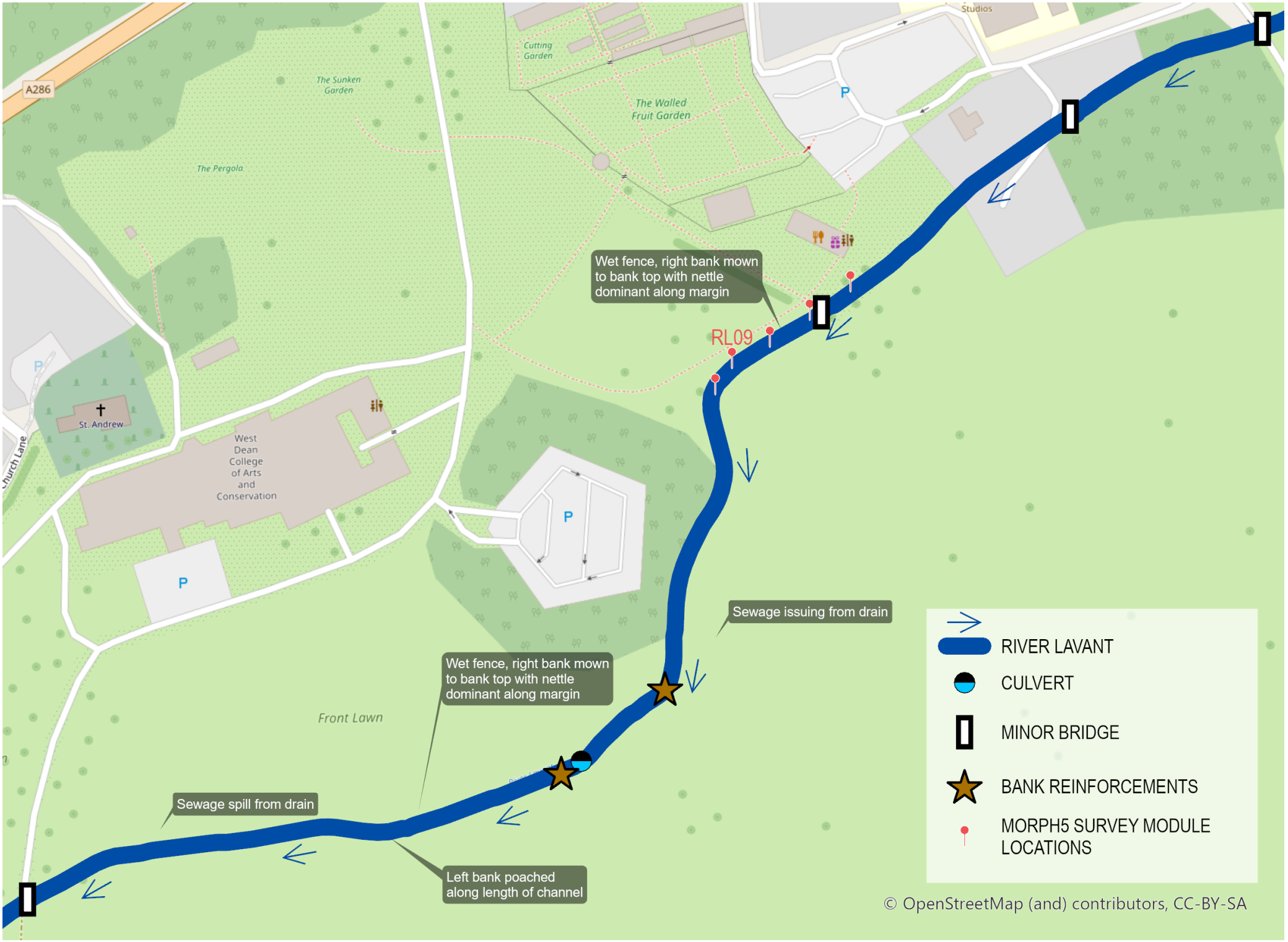
This stretch of the Lavant is clearly impacted by sewage, however grazing, modifications and management are also limiting the ecological potential, and the following enhancements could be undertaken to improve its condition:

- Using 'dig and dump' restoration to dig out areas of the channel to create marginal berms and pools would increase morphological and hydrological diversity, reduce over deepening and allow a faster flowing mid channel with clean gravels that is more resilient to at low flows and less susceptible to algae growth.
- Planting clusters of trees along the riverbanks to introduce some river shade which will be a source of leaf material and woody debris that provide habitat diversity and food for invertebrates and fish.
- Relocating the wet fence to sit back from the left bank top to reduce poaching and allow a margin of tall herbs and grasses to establish. If required, livestock drinking bays could be installed.
- Leaving a wider margin, unmown along the right bank and strimming and raking off the nettles to encourage a more diverse flora to establish along bank tops.
- Where feasible, removing reinforcements along the river would also help increase natural processes including sediment delivery and deposition.
- Work with Southern Water to investigate the feasibility of installing constructed wetlands in areas subject to frequent sewage spills. These features can help remove organic matter and nutrients issuing from the sewers as well as providing important wetland habitat and lateral refuges for river macroinvertebrates during the dry phase.

Left hand bank of river poached and partly reinforced.

Sewage spill located on right bank close to river.

Wet fencing and reprofiled banks upstream of the Pentagon car park.


A286
The Sunken Garden
Cutting Garden
The Walled Fruit Garden
The Pergola
Studios
P
St. Andrew
West Dean College of Arts and Conservation
Front Lawn
RL09
Wet fence, right bank mown to bank top with nettle dominant along margin
Wet fence, right bank mown to bank top with nettle dominant along margin
Sewage issuing from drain
Sewage spill from drain
Left bank poached along length of channel
RIVER LAVANT
CULVERT
MINOR BRIDGE
BANK REINFORCEMENTS
MORPH5 SURVEY MODULE LOCATIONS
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SITE RL10

This section of the River Lavant flows through the West Lawn and ornamental gardens of West Dean College before emerging under the boundary wall to flow alongside Church Lane. At the upstream end (RL10a), the river is bounded by mown grassland where *Apium nodiflorum*, *Phalaris arundinacae*, and *Veronica anagallis-aquaticus* are present, with trees and exposed and underwater tree roots along the margins. Pampas grass was present on both banks here. The toe of the right bank is reinforced with metal sheets, before passing over a weir which was breaching the right bank but was still impounding flow.

The river then narrows as it flows through Spring Gardens where there are two small decorative weirs. The riverbanks and bed were reinforced and dominated by *Cladophora* (blanket weed) suggesting nutrient enrichment. *Cotoneaster spp* and *Gunnera spp*. were both present within ornamental beds that were mulched up to the bank top. At the downstream end of the gardens a reinforced straight tributary joins the right bank of the river and just downstream of here, a modified side channel was taking part of the flow through The Wild Gardens before rejoining the main river on the northern side of the boundary wall. The main river continues to flow under the West Dean garden wall where *Hildenbrandia rivularis*, a red encrusting algae, was present and then continues its course eastwards along Church Lane.

Hildenbrandia present in channel.

River reinforced through Spring Gardens where riverbed choked with Cladophora.

Weir at upstream end of section with sandbags in place to reduce breach of right bank.

SURVEY DATE

10/04/2024

OS GRID REF

SU 85960 12414

RCA CONDITION

RL10a: Poor

RL10b: Moderate

MODIFICATION SCORE

Severely modified

MAIN PRESSURES

Water quality (sewage)

Modifications

Riparian management

Lack of marginal features

INNS

SOLUTIONS/ENHANCEMENTS

Remove weir

Create marginal features

Control/eradicate INNS

Increase riparian margin

This section of the river (RL10b) is relatively wide (4m) and fringed with scattered bankside trees and a wide diverse wet margin comprising *Oenanthe crocata*, *Iris pseudacorus*, *Apium nodiflorum*, *Mentha aquatica*, *Rorippa nasturtium aquaticum*, *Phalaris arundinacae*, *Veronica anagallis-aquaticus*, *Scrophularia auticulata*, *and Scirpus sylvaticus*.. Unfortunately, *Mimulus spp*. (Monkey flower), a non-native invasive plant, is starting to take hold and will require removal to prevent further spread. The channel bed was relatively homogenous and comprised gravel/pebble with some localised patches of silt and some springs appeared to be bubbling up from the channel bed at the upstream end. *Hildenbrandia* and *Cladophora* were also present, but not extensive here and there were, some nice beds of *Ranunculus peltatus* and some marginal backwaters which were helping to diversify flow.

Southern water operatives were pumping from the sewer network at the time of survey and straw bales had been placed around the sewer to reduce spillage into the river.

The main impacts along this section of the Lavant are related to modifications associated with Spring Gardens and water quality. There is undoubtedly heritage value associated with Spring Gardens; however, the following enhancements may be worthy of further consideration:

- Removal of the upstream weir and associated reinforcements to allow natural flow of water and sediment transfer. This could be accompanied by some bank reprofiling and the creation of berms to create a faster flowing mid channel and marginal features.
- Reduce mowing along the bank tops at the upstream end to allow a wider margin of tall herbs and grasses to establish which will provide greater resilience to the river during receding flows.
- The straightened tributary could be enhanced by installing gravels along the banks to create a meandering course within the confines of the reinforced channel. .
- *Mimulus* spp should be removed from the downstream end to prevent further spread downstream.
- Create marginal bars with faster flowing mid channel by using dig and dump at downstream end (RL10a) to diversify flow and make the river more resilient during low flows.

Diverse marginal vegetation growing along both banks where river flows adjacent to Church Lane.

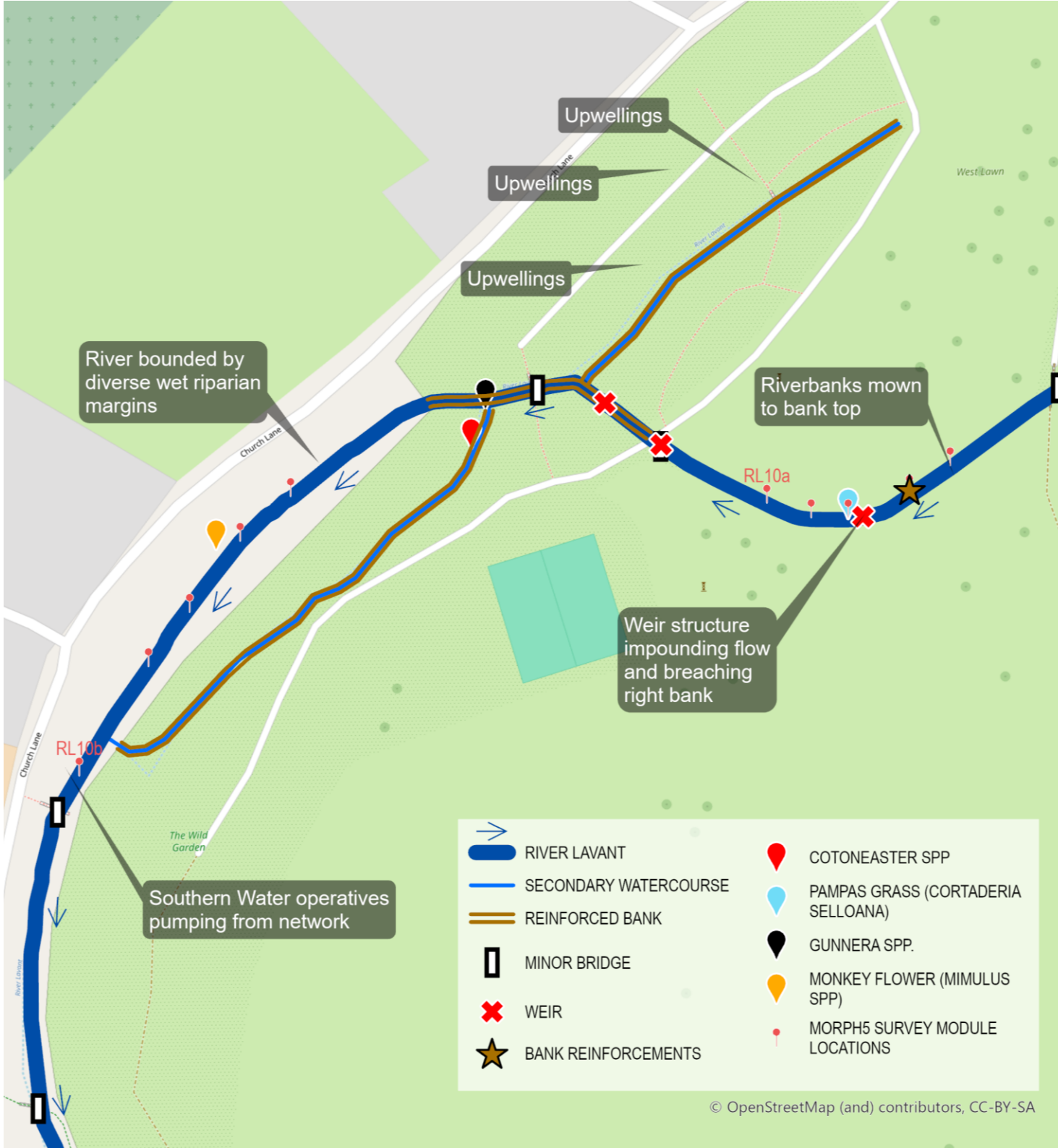
Southern water operatives pumping from network.

Side channel rejoins the Lavant under a small arch in the boundary wall.

Smelly upwellings in Spring Gardens.

Cotoneaster spp growing in Spring Gardens (left) and Mimulus spp (right) in wet margins at downstream end.

Tributary adjoining Lavant in Spring Gardens. Opportunity to create gravel bars to create meandering flow.



SITE RL11

This section of the Lavant commences where Monarchs Way crosses over the river at Church Lane and flows for approximately 500m before being bounded by woodland on the left bank side. Downstream of the bridge on Monarchs Way, the river is over wide, likely caused by both disturbance and by erosion as water is funnelled through the bridge structure. Large beds of Ranunculus peltatus, and marginal plants including *Phalaris arundinacae*, *Veronica anagallis-aquaticus*, *Mentha aquatica*, *Apium nodiflorum*, *Scirpus sylvaticus*, and *Hildenbrandia* were present here. The river then takes a southerly course to flow past horse grazed pasture which is fenced to the bank top on the left and a chalk track has encroached along the riparian margins of the right bank. A manure heap was located next to the left bank top and should ideally be relocated at least 10m from the river to avoid runoff from nutrients (phosphate, nitrate, salts) into an already enriched system.

Approximately half-way downs this stretch, the river becomes a little overshaded, by trees and scrub. However, a high diversity of woody features including leaning, j-shaped and fallen trees, exposed and submerged tree roots, tree boughs, large wood and organic material were recorded here and were creating variable bed levels, flow, and a variety of microhabitats for aquatic fauna. Features indicative of sediment storage (bars) and delivery (bare sediment) were also present as was a minor reinforcement on the right bank that appeared to be remnants of an old structure.

There are several enhancements that would help improve the river through this stretch and include the following:

- Management of scrub and some selective thinning of tree branches along the river would help open the canopy and allow more light to the channel to increase macrophyte growth.
- Fencing on the left bank should be set back from the top to allow a wider fringe of taller herbs and grasses to establish which are able to absorb nutrients washed down and overland into the river.
- Relocate manure heap to >10m from the riverbank.
- Use wood and brash from tree works to shore up the left bank downstream of Monarchs Way. This will allow sediment to settle within the brash and overtime, allow a marginal berm to establish.

SURVEY DATE

11/04/2024

OS GRID REF

SU 85853 12072

RCA CONDITION

Fairly good

MODIFICATION SCORE

Obviously modified

MAIN PRESSURES

Grazing

Overshading/scrub encroachment

Over widening

SOLUTIONS/ENHANCEMENTS

Selective tree/scrub thinning

Relocate manure pile

Set back fencing away from river

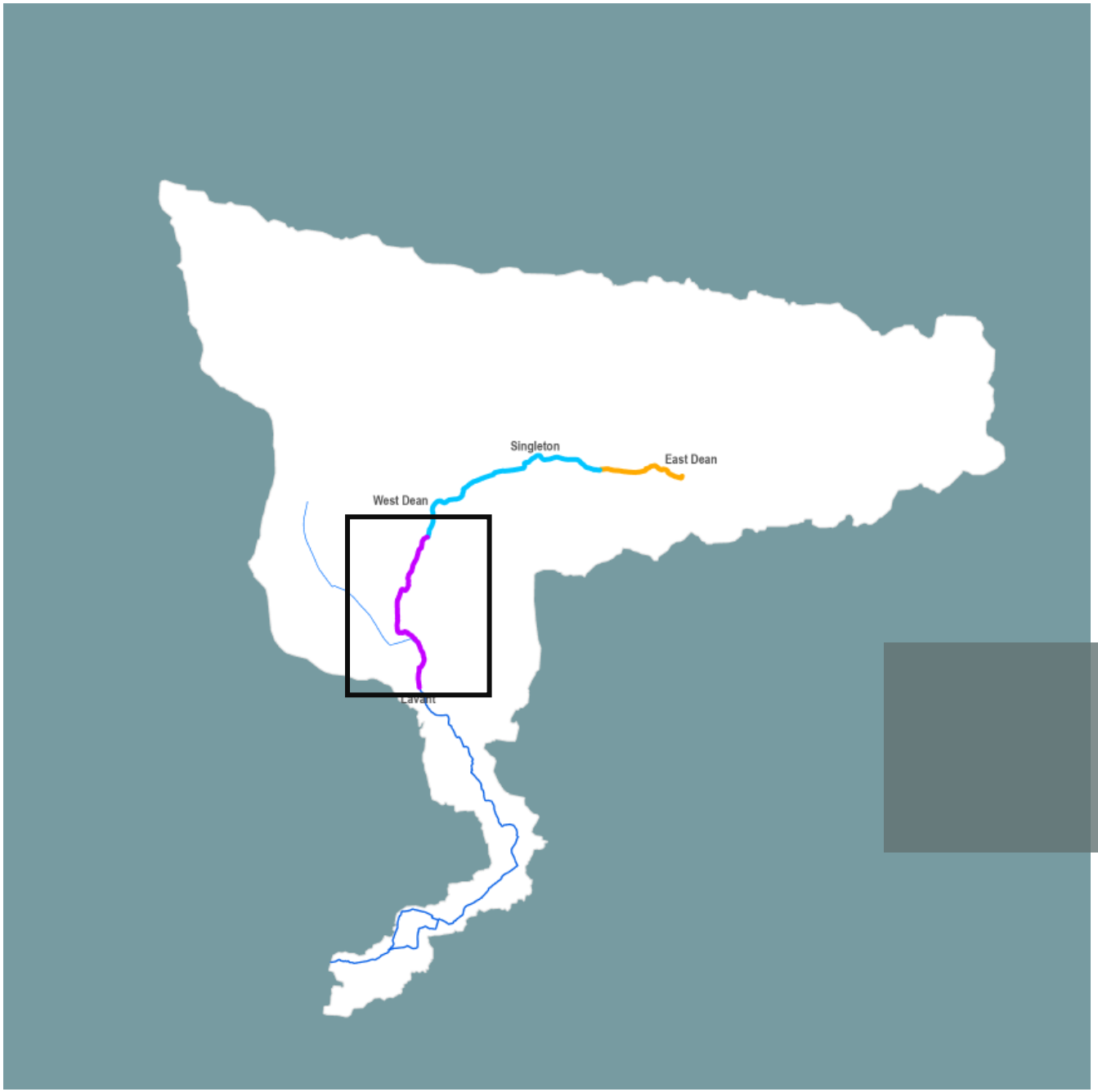
Create berm to reduce width

River over wide just downstream of Monarchs Way.

River overshaded (left) and fallen tree (right).

Chalk track encroached into right bank riparian margin.

Vegetated mid channel bar and fencing over river at downstream end.



REACH 3: WEST DEAN TO LAVANT

SITE RL12

This section of the Lavant commences at a culvert under Centurion Way where fallen trees and woody debris have created a deep backwater along the left bank side. The river then flows along a southerly course through arable fields planted with oilseed rape and have a wide (>10m) buffer strip comprising nettle, tall grasses and isolated trees along both banksides. The river is fringed with marginal vegetation dominated by *Oenanthe crocata*, *Apium nodiflorum*, and *Phalaris arundinacae* with intermittent beds of *Ranunculus peltatus* growing within the channel.

A minor ford is present approximately 40m down from the culvert and the river had breached the left bank and was flowing through braided channels across the arable field. Hay bales were present at the breach; however, this was not containing the flow, if that was the intention. The breach is likely to be inputting both sediment and pollutants into the river as silt had accumulated on the channel bed and was overlaying coarser substrates throughout much of this stretch. Downstream of the ford, a leaning willow has created a pool and chute feature, and a short stretch of bramble scrub had encroached into the channel creating another chute with associated scour. A small wooden footbridge is present at the end of this section and fencing along the right bank had been washed into the channel.

The main pressures along this stretch of the Lavant relate to the input of pollutants and sediment from the arable field during periods of out of bank flow. There are a few solutions that could alleviate this pressure on the river and include:

- Replacing the ford with a clear span bridge and reprofiling the banks to prevent out of bank flow through the field.
- An alternative solution would be to convert the arable land to meadows and continue to allow the river to carve its own channels during peak flows.
- The bank tops along this reach would also benefit from some management of nettle which should be strimmed and arisings raked off to encourage a more diverse flora to establish.

SURVEY DATE

23/04/2024

OS GRID REF

SU 85644 11599

RCA CONDITION

Fairly good

MODIFICATION SCORE

Significantly modified

MAIN PRESSURES

Diffuse pollution

Nettles

SOLUTIONS/ENHANCEMENTS

Install clear span bridge

Reprofile banks

Conversion to meadows

Fallen tree and back water downstream of culvert under Centurion Way.

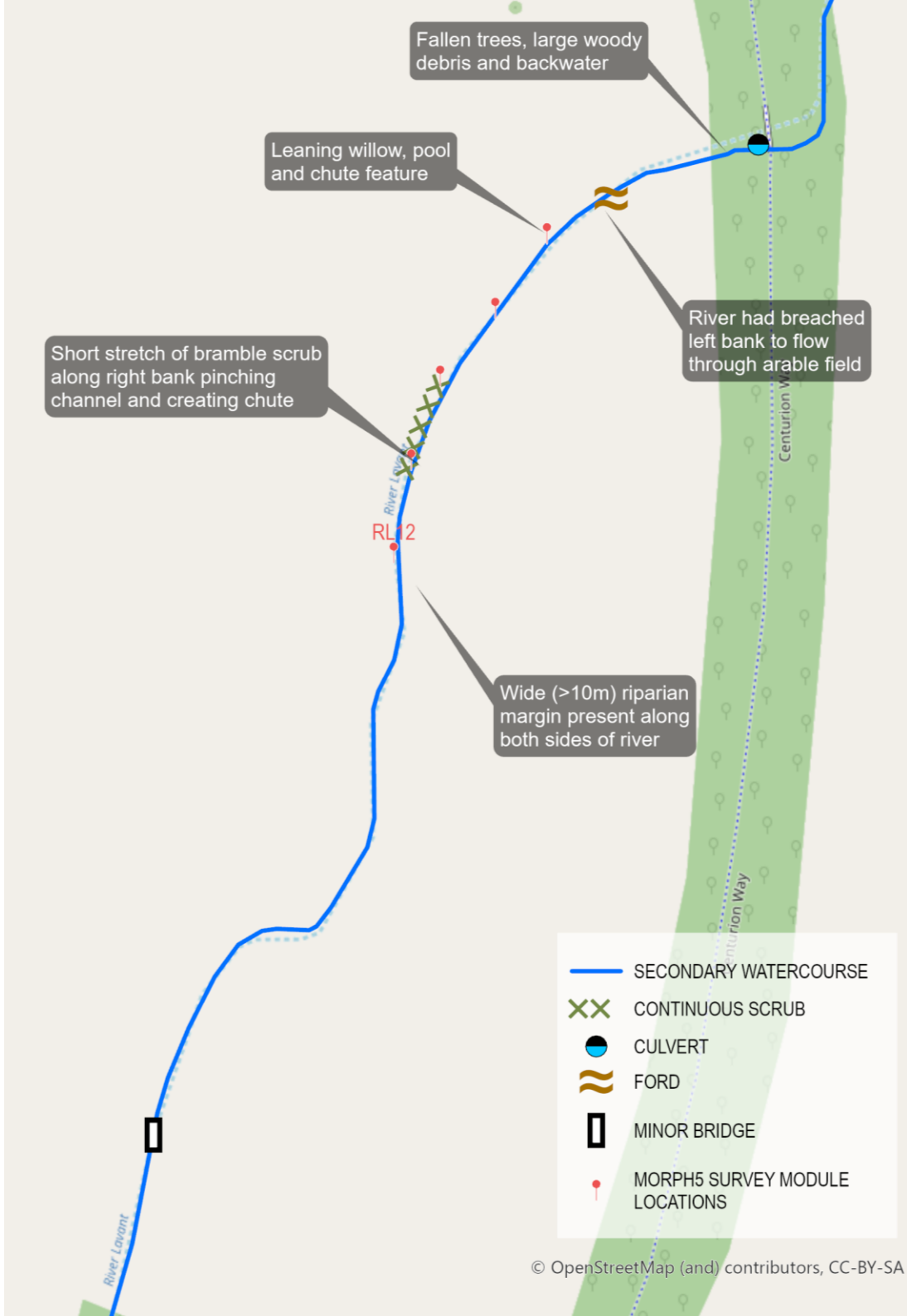
Channel breached at ford.

Out of bank flow through arable field.

Leaning willow creating nice pool and chute.

Wide riparian buffer strips with scattered trees along both banks

Short stretch of bramble scrub along right bank which is creating a nice chute where it is encroaching into channel.



SITE RL13

This section of the River Lavant flows through pasture and arable fields opposite Farbridge wedding venue. At the upstream end (RL13a), the river follows a straight course with a relatively homogenous gravel bed. Continuous scrub with scattered trees, that are growing along the edge of a pasture field, bound the right bank and a wide (10m) grass margin of an arable field planted with oil seed rape is present on the left. The out of bank flow associated with the ford upstream of this stretch (section RL12) continues through the arable field to rejoin the river approximately half-way downstream of the field boundary. Macrophytes including *Oenanthe crocata*, *Phalaris arundinacae*, *Apium nodiflorum* and *Veronica anagalis-aquatica* were growing along the channel margins and channel bed, but no *Ranunculus peltatus* was observed, potentially limited by silt that was overlaying courser gravels along this stretch.

At Farbridge (RL13b), two culverts are present, and a hedgerow bounds a carparking area that has encroached into the riparian zone. An open drain was present within the channel here and several others which appeared to have been issuing sewage were present within the floodplain on the left bank. From Farbridge, the river flows through sheep grazed pasture and was overtopping the left bank where water was flowing through remnant water meadow channels and sitting in pools on the floodplain. The channels and areas of standing water were vegetated with terrestrial herbs and grasses with some patches of *Apium nodiflorum*, and had particularly high abundance of filamentous algae and what appeared to be sewage fungus. The main channel of the river was bounded by short, cropped grass growing from gentle and poached riverbanks which had no cover from trees or taller riparian herbs. The main interest along this stretch was the dense beds of *Ranunculus peltatus* and *Berula erecta* which were buoying the water and creating two faster flowing side channels. At the bottom of this reach, the river bends sharply to the west where a bench was present on the left bank and the bank is eroded and slumping on the right bank.

River upstream of Farbridge, (top); downstream of Farbridge (bottom).

SURVEY DATE

29/04/2024

OS GRID REF

SU 85387 10926

RCA CONDITION

RL13a: Moderate

RL13b: Moderate

MODIFICATION SCORE

Significantly modified

MAIN PRESSURES

Grazing

Lack of marginal features

Sewage

Diffuse pollution (U/S)

Under shading

SOLUTIONS/ENHANCEMENTS

Install temporary fencing

Create marginal bars/berms

Create scrapes/ponds

Find sustainable solutions sewer network

Tree planting

There are several opportunities to enhance the river through this stretch and include the following:

- Allowing a wide riparian margin to establish along the riverbanks by erecting temporary fencing when the pasture is grazed by sheep. This would help filter nutrients, provide habitat for river fauna and improve resilience during low flows.
- Creating scrapes/ponds where water is sitting on the floodplain during peak flows. This would provide lateral refuges for riparian species during the dry phase and increase biodiversity value along the river corridor.
- Planting a few clusters of riparian trees through the pasture fields would create channel shade and woody features with associated features that provide morphological and habitat diversity
- Replace and raise the drain cover at Farbridge to reduce the risk of sewage entering the river.
- There are also opportunities to restore marginal features by digging out pools to create bars, berms and a faster flowing mid-channel that would help improve morphological diversity and resilience during receding flows.
- Enhancements upstream (section RL12) to decrease the risk of diffuse pollution caused by overland flow will also be of benefit here.

Culverts and hedgerow at Farbridge.

No marginal habitat through pasture field.

Overland flow through arable field from upstream breach (RL12).

Open drain cover in channel at Farbridge.

Drain in pasture field, appears to have overspilled.

Filamentous algae in floodplain.

Pools in floodplain.

Historical water meadow channels through pasture field.

Poached and eroding riverbanks at downstream end.

SITE RL14

This section of the Lavant is approximately 3m wide and flows south through the arable and pasture fields opposite Ox Barn at Binderton. Commencing upstream (RL14a), the river is bounded by pasture which is fenced to the bank top on the right, and a wide (>10m) margin of terrestrial grasses and common nettle that borders an arable field is present on the left. A small footbridge and associated bank reinforcements are present at the start of this stretch where a willow tree with branches dipping into the water and berm with *Oenanthe crocata*, *Phalaris arundinacae* and *Apium nodiflorum* are creating habitat and hydraulic diversity. The river then follows a relatively straight course over gravel/pebble substrate with Lemanea spp, Cladophora, small beds of *Ranunculus peltatus*, and a fringe of Phalaris arundinacae and *Oenanthe crocata*. Several silt bars were also present. The river then crosses over a ford and a pond bounded by a marshy fringe of *P. arundinacae*, *O. crocata*, and *A. nodiflorum* is present in the arable margin.

Downstream of the ford (RL14b), the river is bounded on the right by a strip of broadleaved woodland which had springs and areas of standing water but was largely devoid of understorey and ground flora. Dying ash trees were present here. A backwater with trees growing from submerged riverbed and a mid-channel gravel bar was present here. The left bank was continuous trees and scrub that were growing along the edge of the grassy arable field margin. Tree features including leaning and fallen trees, exposed and underwater tree roots and trailing scrub branches were all present along this stretch. However, the river is rather overshaded with a relatively homogenous bed, and macrophyte growth, which comprised submerged mosses, *Lemanea spp* and a few patches of *R. peltatus*, *A. nodiflorum and O. crocata* was limited. Towards the downstream end, the river is over deep and largely impenetrable with dense scrub on both bank sides.

Photos show upstream RL14a (left) and downstream RL14b (right),

SURVEY DATE

29/04/2024

OS GRID REF

SU 85181 10542

RCA CONDITION

RL14a: Moderate

RL14b: Fairly good

MODIFICATION SCORE

Predominantly unmodified

MAIN PRESSURES

Grazing

Nettles

Overshading

Scrub encroachment

SOLUTIONS/ENHANCEMENTS

Set back fencing

Selective tree/scrub works

Remove dying ash trees

Install woody features

This stretch of the Lavant has some good examples of wet margins and water related features in the riparian zone, but the river would benefit from the following enhancements to improve its ecological condition:

- Upstream of Ox Barn, setting back the fencing from the right bank top, would allow the river more room and provide a wider fringe of marginal tall herbs and grasses to establish that will help protect the river from diffuse pollutants. A few scattered trees along the arable margin would be a nice addition, providing dappled shade and woody features that would help to diversify flow and habitats.

- Downstream of Ox Barn, some light tree work would be beneficial. A good option would be to hinge a few trees into the channel to open the canopy and provide woody in channel features that would help diversify bed levels by causing localised scour and sediment deposition. This would provide more hydrological diversity and habitats.

- At the downstream end, scrub encroachment is tunnelling the river and some selective scrub removal would help diversify the margins allowing more light into the channel to encourage macrophyte growth which will help improve the rivers resilience during receding flows.

- Improvements to the woodland by removing dying ash, thinning the canopy (where required) and underplanting with planting native shrubs, would also be beneficial for the river by reducing risk of sediment run off and for biodiversity.

Channel overshaded at downstream end.

Dense bramble scrub along left bank.

Wet woodland with limited understorey.

Right bank reinforcement associated with footbridge at start of section (LR14a).

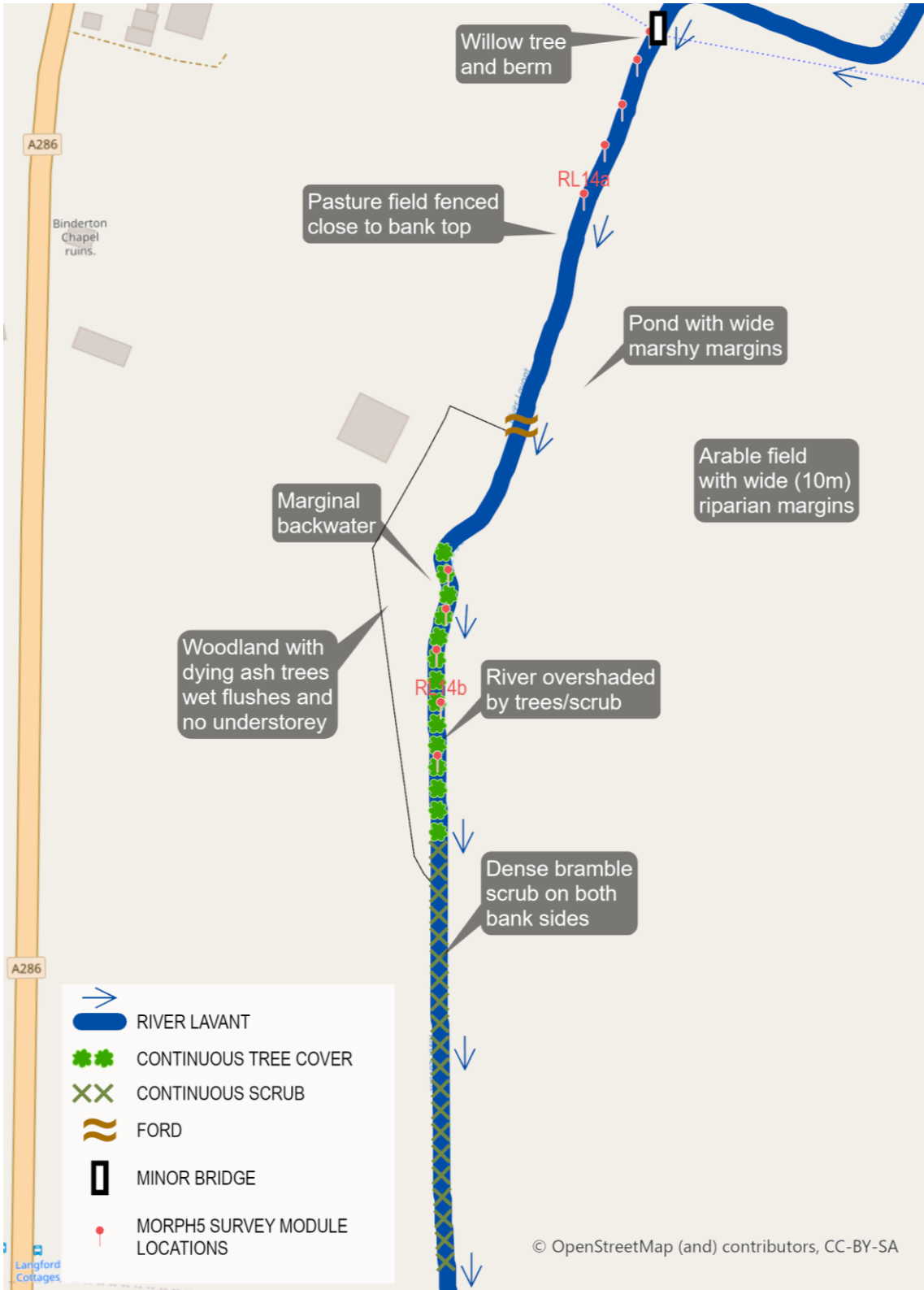
Willow and berm at start of section (RL14a).

Pond in arable margin on left bank adjacent to river (RL14a).

Marginal backwater d/s of ford (RL14b).

Homogenous bed with limited macrophyte growth where overshaded by trees (14b).

Arable margin (14b) with continuous trees and scrub on right which borders river.



SITE RL15

This stretch of the Lavant is approximately 5m wide and flows southwards through pasture that was grazed by cows and horses at the time of survey. The grassland here had areas of bare ground, thistle and common nettle suggesting the area is potentially overgrazed. At the upstream end, the river is relatively straight with dual structure banks comprised earth at the top and gravel/pebble at the bottom that were vertical and bare along the right and steep on the left bank. A few scattered trees, one of which was growing submerged from the riverbed, large wood, patches of scrub, a faster flowing mid-channel and a mid-channel bar were all present at this end and were providing variable habitats that were otherwise absent downstream. The river then becomes rather homogenous with homogenous flow and banks that were heavily poached by livestock. Other than filamentous algae and a few patches of Apium nodiflorum, *Berula erecta*, and beds of Ranunculus peltatus, there was relatively little growth of macrophytes along the margins or in the channel, as these were being grazed by livestock. There were no trees along the river other than a tree within a gappy hedgerow that crosses the river approximately halfway down. A small marginal backwater was present on the left bank which was trampled by livestock and heavily silted. Downstream of here, the river takes a more sinuous course before crossing under Centurion Way, but due to grazing there were relatively few features of interest.

There is considerable scope to improve this stretch of the Lavant and the following is recommended:

- Restore morphological diversity using 'dig and dump' alongside bank reprofiling to create pools, marginal bars and areas of dead water. This will provide increased habitats and make the river more resilient during low flows.
- Install stock or temporary fencing to limit access to the river by livestock. This should ideally be installed 10m from the bank top to allow a diverse fringe of marginal vegetation to establish along the riverbanks. If required, cattle drinking bays can be created, or alternatively cattle pumps could be installed.
- Planting clusters of trees along the river would provide shade, leaf litter and woody features that would generate morphological features and habitat niches to increase biodiversity. Some trees within the floodplain will also provide shade for livestock.
- Creating scrapes/pools within the floodplain would provide lateral refuges for river fauna and increase biodiversity.
- Gap filling and improving species diversity along the hedgerow would provide a valuable wildlife corridor.

SURVEY DATE

29/04/2024

OS GRID REF

SU 85179 10037

RCA CONDITION

Moderate

MODIFICATION SCORE

Obviously modified

MAIN PRESSURES

Grazing

Under shading

Diffuse pollution

Lack of marginal features

SOLUTIONS/ENHANCEMENTS

'Dig and Dump'

Tree planting

Fencing

Hedgerow enhancement

Scrapes/ponds

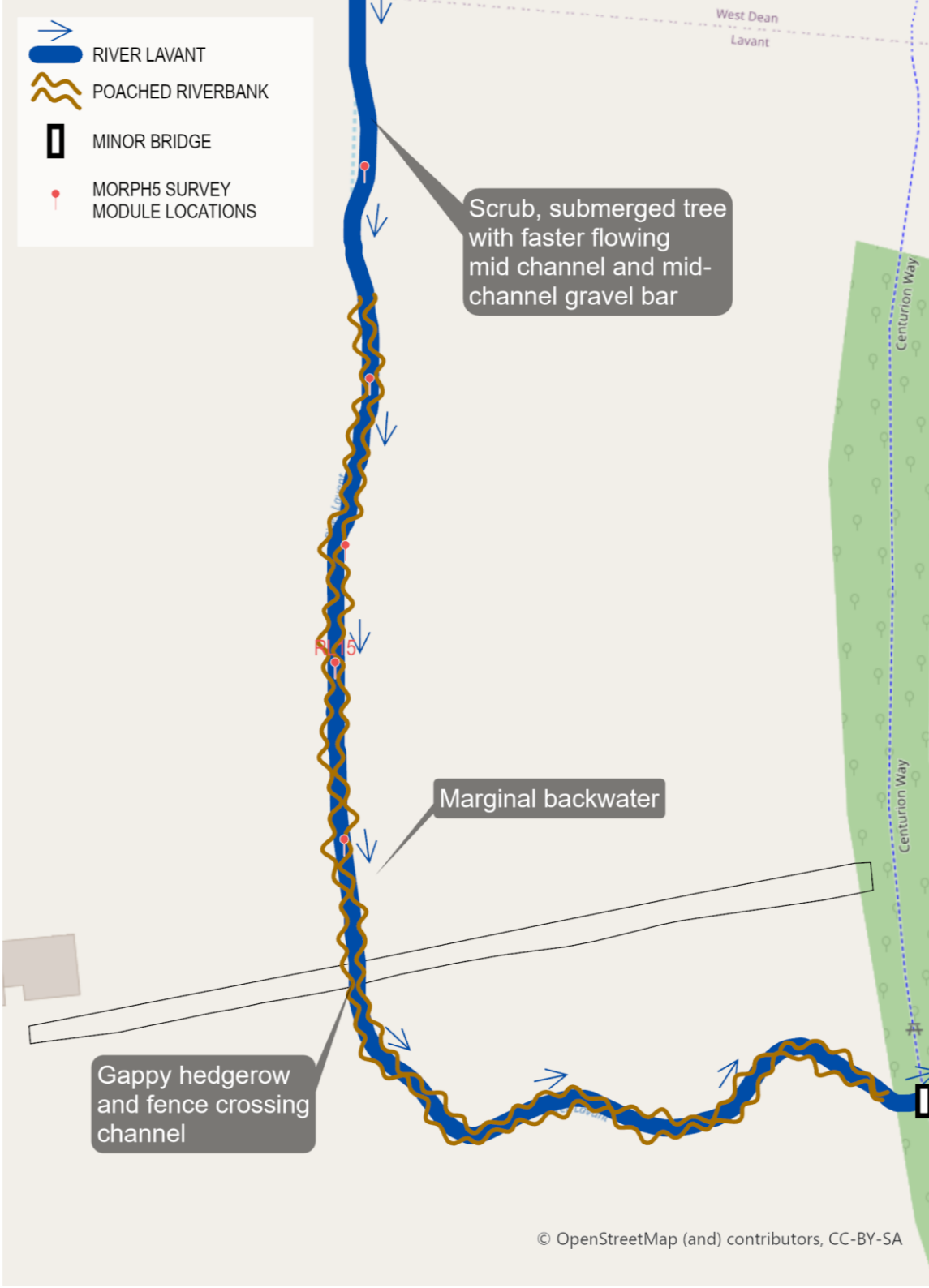
Upstream end with trees, scrub and faster flowing mid-channel.

Mid channel gravel bar and poached banks.

Gappy hedgerow and marginal bay.

Livestock eating *Ranunculus peltatus*.

Treeless river with short, cropped grass and poached riverbanks and homogenous flow.



SITE RL17

This stretch of the Lavant flows southwards between the Portsmouth Water Pumping Station and Marsh Lane. The channel bed was comprised gravel/pebble and areas of exposed chalk bedrock, with pools and riffles suggesting variable bed topography. *Leptodicytum riparium* (a submerged moss) and *Ranunculus peltatus* were both present along the channel. The river is bounded by scrub that sits at the edge of wet grassland on the right and rough grassland on the left.

At the upstream end, the river is shaded by trees and scrub and a few fallen trees were present on the bank top and face. There is also a pond that has been restored by the Arun & Rother Rivers Trust on the left bank of the river which is fringed by *Phalaris arundinacae*, *Apium nodiflorum*, and *Oenanthe crocata* which were also dominant along the margins of the river. Downstream of the pond, the left bank grassland had been mown close to the bank top and the arisings left on the field. A tributary that arises west of the A286 and flows through the field on the right bank joins the river just upstream of a concrete bridge. This tributary had spilled out into the field where dense beds of *P. arundinacae* were present. A metal gate had fallen into the river at the concrete bridge, where a small backwater was present on the left and the right bank is encroached by bramble scrub.

It is worth noting that this stretch was visited at the end of July (2024) and was dry and covered in *Cladophora*, particularly downstream of the tributary. The river was still flowing upstream of here (Ox Barn) and downstream in Lavant. This suggests the river is either lost to groundwater here or is being impacted by abstraction.

There are several enhancements that could be undertaken along this reach and include:

- Selective thinning of bramble scrub along the right bank which is homogenous overshading the channel in places.
- Management of the grassland on the left bank could be improved by removing the arisings to improve sward diversity and by leaving a wider edge that is left unmown to increase the riparian margin.
- There are likely opportunities to create wetland features in the grassland on the right bank as this was flooded from the tributary and Lavant. This would help filter any pollutants as well as providing new habitat.
- Undertake a river clean up to remove large urban debris (fence) from channel.
- Investigating sources of pollutants from the tributary and reviewing the potential impact of abstraction here is recommended.

SURVEY DATE

11/04/2024

OS GRID REF

SU 85572 09741

RCA CONDITION

Fairly good

MODIFICATION SCORE

Predominantly unmodified

MAIN PRESSURES

Mowing

Scrub encroachment

Pollution

Urban trash

Abstraction (TBC)

SOLUTIONS/ENHANCEMENTS

Scrub management

Improve grassland management

Wetland creation

Investigate pollution sources

Investigate abstraction

River clean up

Restored pond fringed with *O. crocata*, P. *arundinacae* and *A. nodiflorum*

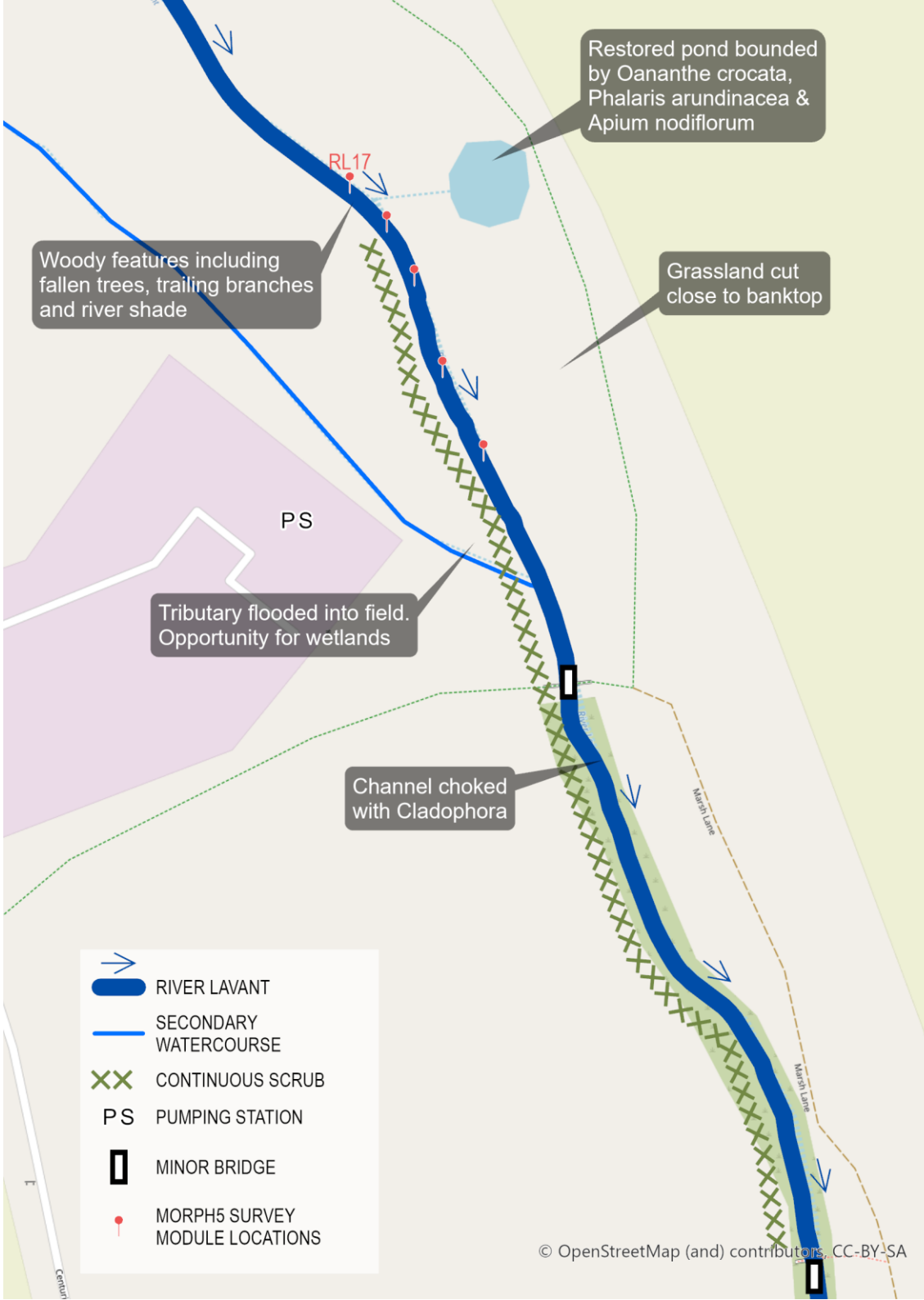
Fallen tree with exposed roots on right bank

Mown grassland and continuous scrub

Tributary confluence

Concrete bridge with reinforcements on right bank

Scrub encroachment on right and marginal backwater on left at downstream end.



SITE RL18

This section of the Lavant flows through pasture fields on the eastern side of Lavant. The river here was over deep but had variable channel widths (3-6m) and dual structure, and diverse profile riverbanks composed of earth at the top and gravel pebble at the bottom. Numerous features indicative of sediment storage (berms, benches and marginal bars) and delivery (bare sediment and bank erosion) were recorded alongside riffles, and pools suggesting good morphological diversity despite modifications.

At the upstream end, there is a wide riparian margin comprising scattered trees and tall grasses/herbs that is fenced from the adjoining pasture field on the left bank. Cladophora (blanketweed) was extensive within the channel but there were small patches of *Ranunculus peltatus*, submerged mosses and the river was fringed with a margin of *Phalaris arundinacae* and *Oenanthe crocata*. The right bank is also fenced but closer to the bank top, and the banks were largely comprised bramble scrub. Approximately 50m downstream of the start, the channel bed and bank toe are reinforced where an old footbridge was present (*circa 1912)*.

The river then flows along the boundary of residential properties and the old course of the Chichester & Midhurst railway line where the river has been realigned with steep high banks on the right, and the pasture fenced close to the bank top on the left. Both banks are encroached by scrub and nettle for a short while here before flowing along Springfield Close where a small woodland, open mown grassland and ornamental planting including *Buddliea davidii* is present on the right. The river then flows along the edge of Churchmead Close playpark where a fringe of marginal vegetation, gravel bars and pools are present. Two ponds are present in the pasture field but were not accessed during the survey. One, which was visible from the opposite bankside appeared to be relatively poached with a narrow fringe of scattered rush.

Downstream of here the river was inaccessible until it is adjoined by Sheepwash Lane where reinforcements shuttering gardens are clearly visible upstream.

SURVEY DATE

13/04/2024

OS GRID REF

SU 85568 09072

RCA CONDITION

Fairly poor

MODIFICATION SCORE

Significantly modified

MAIN PRESSURES

Modifications

Over deep

Scrub encroachment

Grazing

Water quality

SOLUTIONS/ENHANCEMENTS

Remove remnant structure

Scrub management

Increase riparian buffer

Pond restoration

Engagement on riparian planting

This stretch of the Lavant has some nice morphological diversity but is limited by being over deep and the presence of modifications and poor water quality. The following is recommended to improve the ecological value of the river and its floodplain:

- Removing the bank and bed reinforcements associated with the old footbridge to improve natural sediment transfer and flow.
- Restoring the pond(s) in the pasture field on the left by erecting fencing to prevent livestock access. The margins could be reprofiled and planted with a wide margin of riparian plants which would provide lateral refuges for macroinvertebrates and increase biodiversity value.
- Allowing more space for the river by setting back fencing where it is close to the bank top would allow a wider margin of taller herbs and grasses that will help protect the river from diffuse pollutants.
- Some thinning of scrub and strimming of nettle where it is encroaching over the channel would allow more light into the river.
- Engagement with the residents with riparian frontage to encourage planting of native and non-invasive species and if feasible, replacing problematic species such as Buddleia from the riverbanks.

Buddleia along left bank by Soringfield Close.

Pasture on left bank fenced close to bank top.

Playpark at Churchmead Close encroached into riparian margin.

Wide riparian margin with trees and tall grass on left bank at upstream end.

Reinforced bed associated with historical footbridge.

Gravel bar and berm on meander bend upstream.

Large wood and pool on meander bend on upstream end.

Pond in pasture field on left bank.

Ornamental planting on riverbank along Springfield Close.