

Perth & Kinross Council – Communities Service

Dunkeld Flood Protection Study - Community Drop-In Session Summary of Questions & Answers

Introduction

Perth & Kinross Council recently carried out a flood protection study for the Dunkeld area. In early 2023, the Council engaged with the local community on:

- the risk of flooding in the Dunkeld area;
- the findings from the Dunkeld Flood Protection Study;
- other actions to raise awareness and improve community flood resilience.

A newsletter summarising the study outputs was distributed to the local community on 17 February 2023 and also made available on the Council's consultation hub (at <https://consult.pkc.gov.uk/communities/dunkeldfps>) from 17 February - 10 March 2023. This allowed residents to view the draft outputs from the flood study. Residents were encouraged to complete the online form provided to record their comments and views.

A community drop-in session was held at the Atholl Hotel, Dunkeld on Tuesday 7 March from 2pm until 8pm – see Figure 1 below. This supplemented the information already made available on the Council's website and offered residents the opportunity to speak directly with Council officers, AECOM (design consultants), SEPA and the Scottish Flood Forum.

The Council would like to thank those that took the time to provide comments and attend the drop-in session.

This report collates the comments received and provides the Council's response to those questions.

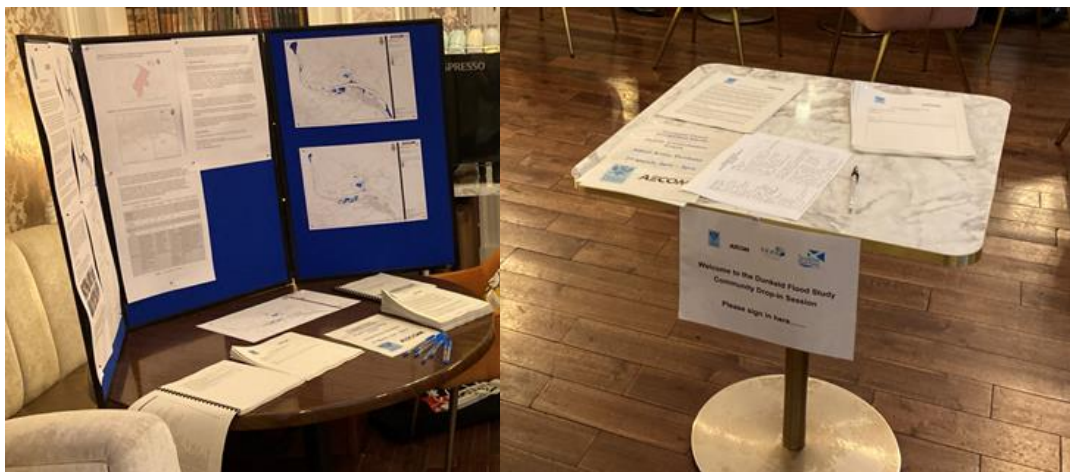


Figure 1 – Photographs from Community Drop-in Sessions

Community Response

A total of 28 people attended the community drop-in session and 15 submitted comment forms during the consultation period. In general, the impression received from the community was positive and a number of different concerns were raised. Some residents wished to understand what impact the proposed flood scheme would have on existing planting whilst others wanted to understand the appraisal process, and if natural flood management had been considered.

Appendix A (below) provides a list of all the questions along with the Council's response. Those submitting forms have not been named for confidentiality reasons. This report will be published on the Council's Consultation Hub (at the web address detailed above) and distributed to local Councillors, the Community Council and members of the community that registered attendance at the drop-in session or provided a consultation response.

The Next Steps

The Council will now update and finalise the Dunkeld Flood Protection Study and report the conclusions to the next available Climate Change and Sustainability Committee. Thereafter, the Council will implement the recommendations of the report.

The following steps are set out below, in the Council's response to Question No 7. The Council will carry out further consultation with the community as the proposals are developed.

If you require any further information on the Dunkeld Flood Protection Study, please contact:

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Appendix A – Questions and Answers

Q1. Who owns the greenspace areas around the Sawmill Brae Burn at Atholl Gardens?

The residents of Atholl Gardens own up to the footpath of the A923 and are responsible for maintenance of the Sawmill Brae Burn and associated greenspace area. The only exceptions are the areas highlighted 'purple' and 'red' on Figure 2 below. The 'purple' area is a relic of the original alignment of A923 and ownership returns to the landowner believed to be Atholl Estates. The 'red' area is owned and maintained by Perth & Kinross Council

I would also refer you to Question 15 regarding maintenance of watercourse trash screens.

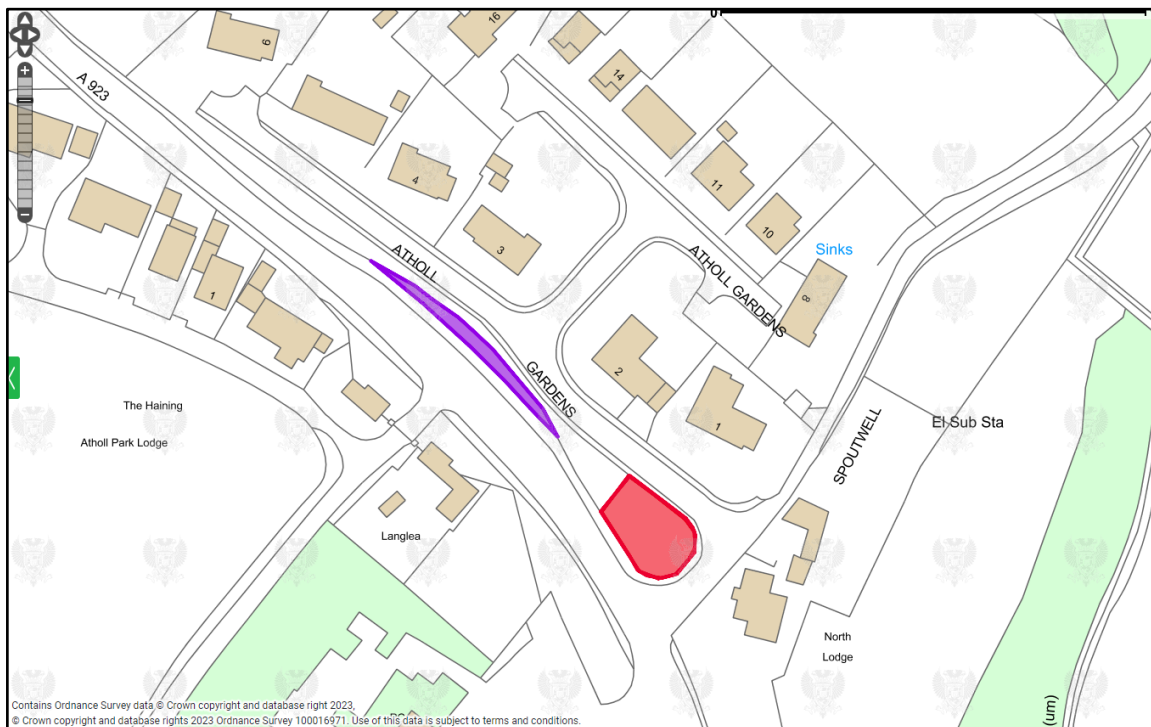


Figure 2 – Atholl Gardens landownership Plan

Q2. What is the route of the Spoutwells Burn?

The approximate route of the Spoutwells and Sawmill Brae Burns are outlined in Figure 3 below.

The Spoutwells Burn and Sawmill Brae Burn originate to the North of Dunkeld before their confluence at Atholl Gardens. At this point the watercourse enters a buried culvert that flows beneath Atholl Street and the High Street before discharging into the River Tay, just upstream of the A923 Dunkeld Bridge.

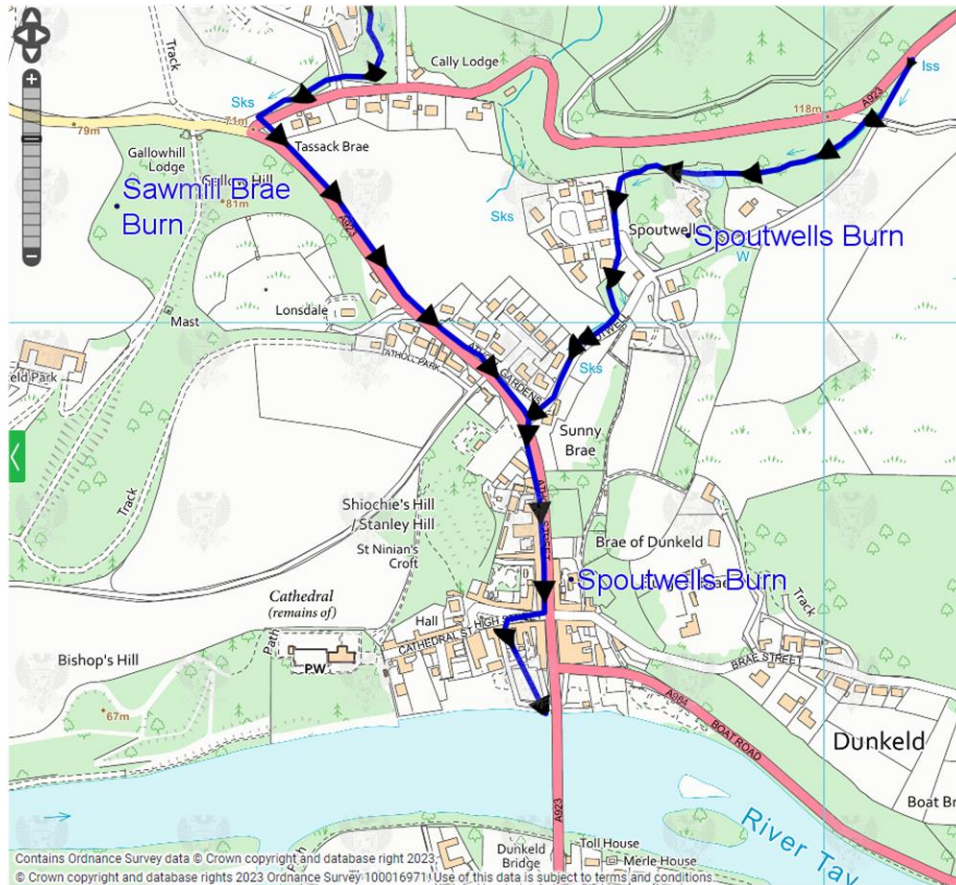


Figure 3 – Approximate route of Spoutwells Burn

Q3. What environmental benefits and impacts were included in the cost benefit analysis?

Options were assessed on the basis of several environmental impacts/benefits such as water quality, biodiversity, air/soil quality, climate factors, cultural heritage and landscape. The social impacts/benefits considered were health & wellbeing, risk to life, social vulnerability and recreation.

Q4. Does the study consider/include any existing private flood protection?

No, only flood protection measures/schemes promoted under the Flood Risk Management (Scotland) Act 2009 are included in the hydraulic model for the study.

The primary reasons for omitting private flood defences from the hydraulic model is due to limited information regarding the detailed design, design standard and construction methodologies of such structures.

Q5. What impact will the flood scheme proposals have at Atholl Garden where there are existing trees/hedges on the route of the proposed culvert or other flood defences etc

Any trees or bushes located on or nearby the proposed flood defences will require to be removed as it is likely that the works will interfere with their root system. However, vegetation removal will be kept to a minimum and replacement planting will be agreed with the relevant landowners. It should be noted that replacement planting will take time to re-establish to the same level of coverage as the existing/original planting.

Q6. Are the flood maps shown in the newsletter pre or post construction of the proposed flood scheme proposal?

The flood maps included with the Council's newsletter show the current flood risk i.e., today, pre-construction with no proposed flood defences.

Q7. How long will it take before the proposed scheme (Option 1b) is implemented?

Unfortunately, the conclusion of this study was too late to be included within the recently published Tay Flood Risk Management (FRM) Plan and Local FRM Plan for the period covering 2022 to 2028. The Council will submit details of the proposed scheme to SEPA for prioritisation (within the national list of flood schemes) and inclusion within the next Tay FRM Plan and Local FRM Plan covering the period from 2028 to 2036. This process is essential to secure the necessary capital grant funding to design and construct the scheme.

There are no current plans to progress the proposed scheme until sometime between 2028 and 2036. At that point, funding will need to be secured before the necessary design work and community and stakeholder consultation can be undertaken and statutory approval can be secured under the Flood Risk Management (Scotland) Act. Further detailed design work will be required thereafter before tenders can be issued and construction can take place. This flood study is therefore the first phase in a long process (which can typically take 10 years) required to deliver any flood protection scheme.

Q8. Why is the only viable flood scheme for the area around Atholl Gardens? Why are all the other proposed options along the River Tay, Burnmouth Road, and Inver not viable?

In managing flood risk, the Council is required to have regard to the economic impact of its actions. The cost of a flood scheme cannot exceed the benefits, i.e., the benefit/cost ratio must be greater than 1.0.

As detailed in the Council's newsletter, a long list of potential options for managing flood risk in Dunkeld was considered, including proposed defences on the River Tay, the Inchewan Burn and the River Braan. As per statutory guidance, an appraisal of all options is required, including an economic assessment (cost benefit analysis). Unfortunately, none of the options for the River Tay, Inchewan Burn, or the River Braan were found to be viable as they all have a benefit/cost ratio of less than 1.0. However, the short-listed options for the Sawmill Brae and Spoutwells Burn did

achieve a cost benefit ratio of more than 1.0 and Option 1b has been identified as the most cost-effective.

Q9. Who owns the rivers/burns and is responsible for maintaining them?

Riparian landowners have a responsibility to maintain the bed and banks of any watercourse as it passes through their property. This includes preventing any material entering the watercourse that could become an obstruction to the flow of water and/or cause a flood risk elsewhere. It is also the responsibility of the riparian landowner to remove any such debris from their section of the watercourse even if it has been transported downstream from another property.

The responsibility for clearing, improving or increasing the capacity of a watercourse lies with the riparian landowner, who may need to acquire a licence from SEPA before proceeding.

Under the Flood Risk Management (Scotland) Act, the Council carries out routine watercourse inspections and the condition of each watercourse is assessed with respect to flood risk. If it is found that the condition of a particular body of water gives rise to a risk of flooding, and clearance and repair works would **substantially** reduce that risk, then a schedule of those works will be prepared, and the Council will carry them out. Any identified works are carried out in order of priority and as budgets allow.

Refer to Question 14 for details on the Council's inspection frequencies for the local watercourses.

Q10. If no scheme is viable for our location, what should we do?

Flooding is a natural phenomenon that can never be entirely prevented. However, action can be taken to reduce the risk of flooding and its impact.

Check if your property is at risk – flooding can affect more than just your property, it may impact on your community or your route to work. Use SEPA's Flood Maps and the flood maps included in our newsletter to find out if you're in an area at risk of flooding caused by rivers or surface water.

Check you are flood insured – if you find it difficult to obtain flood insurance that meets your needs, contact Flood Re - see <http://www.floodre.co.uk/homeowner/> They provide affordable insurance to households at the highest risk of flooding.

Follow the 5 steps to prepare:

1. Sign up to Floodline to receive advance notice of when and where flooding might happen. See also MET Office below. This provides alerts for heavy rainfall that may be more relevant for residents that can be impacted by flash flooding
2. Prepare a flood plan and put a family flood kit together so that everyone knows what to do if flooding happens.
3. Familiarise yourself with how to shut off gas, electricity and water supplies.

4. Keep a list of useful contact numbers, including your insurance company and utility providers.
5. Consider flood protection products (including sandbags) for your property and ensure your insurance provides adequate cover for flood damage.
www.pkc.gov.uk/plp

The MET Office also provide a free notification service when they have issued weather warnings and information can be found at www.metoffice.gov.uk/about-us/what/met-office-weather-app. This service will provide early warnings of severe weather that may not be covered by SEPA's Floodline but could still impact your property enabling you to take appropriate action.

SEPA and the MET office now offer a 3-day flood forecast as part of the Scottish Flood Forecast - see <http://www.sepa.org.uk/scottishfloodforecast/>

The Scottish Flood Forum (SFF) is an independent organisation which supports individuals and communities at risk from flooding. You can contact SFF on 0131 563 9392. See their website at <https://scottishfloodforum.org/>

More advice is available on the following websites:

Perth & Kinross Council www.pkc.gov.uk/flooding
Scottish Water www.scottishwater.co.uk/your-home/your-waste-water/sewer-flooding
Floodline (SEPA) Tel 0345 988 1188; www.floodlinescotland.org.uk/
Flood Re www.floodre.co.uk

Q11. Were Natural Flood Management (NFM) measures considered in the study?

Yes, it is a requirement that NFM measures are considered in a flood study. The measures considered in this study included:

- Buffer Strip with Riparian Planting,
- Tree Planting and Hedgerows,
- Woodland or Forestry Management,
- Wetland and Peatland Enhancement,
- Leaky Barriers,
- Reduced Drainage Intensity;
- Increased Loch Storage

A workshop was held with SEPA, Scottish Water and other stakeholders to gather as many opinions as possible to best inform the decision-making process.

Unfortunately, all NFM options were screened out during the long list stage and did not progress further.

Q12. In Option 1 on Atholl Gardens, if the bottom of the proposed 1.4m pipe is being dropped lower in the ground than the existing pipe, then the ditch upstream would need to drop too? Therefore, the ditch would then

have to have bigger/steeper bankings given the proximity to the paths either side?

Yes, works will be required to the surrounding bed and banks of the Sawmill Brae Burn to accommodate the proposed construction of a new and larger culvert. The banks of the burn will be reprofiled and measures introduced to maintain safe access/egress.

Q13. The “0.6 x 0.6m box” under the road at the Blairgowrie turning. Is this a new pipe that’s draining the field to the north of the Blairgowrie Road? If it is, then that’s likely an issue for Atholl Gardens as that would increase the volume of water coming down and exasperate flooding at this location?

The existing culvert located under the road at the Blairgowrie turning (highlighted as ‘0.6*0.6m Box’ in the Council’s newsletter) is approximately 0.53 x 0.45 metres in size. The flood study recommends that this culvert be replaced by a slightly larger pipe of 0.6 metres in diameter.

The downstream culvert at Atholl Gardens will be upgraded to accommodate the additional flow. As part of the study, a hydraulic model was developed to check the proposed flood scheme does not increase flood risk elsewhere.

Q14. The River Tay bed where the islands keep appearing were annually cleared by farmers and the shale given to building contractors who then used it. The pressure was then taken off the banks of the river with the ease of flow. This has apparently not been done for years and the islands are getting bigger and bigger. I am no expert but clearing that would surely make the flow of the river easier?

A river is contained entirely within its main channel under normal flow conditions. The flow capacity of a river channel is known as the ‘bank full’ discharge. Any flow in excess of this bank full discharge will result in water overtopping of the river banks. River flows in the UK typically exceed the bank full discharge approximately every other year. Therefore, the sight of water on floodplains is quite commonplace. However, this can be a concern if it impacts upon people or property located on the floodplain.

During an extreme flood, the peak river flow may be many times the bank full discharge, and as such the storage provided by the river channel is typically insignificant when compared to that held in the floodplain. Therefore, it is not practical to dredge the river channel to the extent that it would confine such large and rare flood flows from reaching the wider floodplain. In this respect, dredging on its own cannot prevent flooding.

This is not to say that managing sediment on rivers should never be considered or is never useful. Indeed, this can provide benefits if targeted at specific locations where river flows and behaviour are properly understood. However, if not properly studied and understood then dredging can have serious consequences that could lead to

environmental damage, erosion problems and an increase in flood risk further downstream.

It is well understood that straightening/canalisation of rivers and burns increases flood risk downstream as it increases the speed and flow of flood water from the upper catchment.

Dredging can also lead to erosion due to increases in the energy of the river. In addition, if the dredged material is placed on the banks of a river, then this can also increase the destructive forces of floodwater by preventing it from spilling onto floodplains where it would slow down and dissipate its energy. The effect of dredging can also have impacts upstream and downstream as the river seeks to return the riverbed to a more natural gradient.

Dredging was considered during the flood study (it was on the initial long list of potential options) for all watercourses but screened out on large rivers due to the limited benefit it would provide in comparison to the potential cost, and on smaller rivers/burns due to their steep topography.

The Council is required to assess bodies of water from time to time and to carry out clearance and repair works where it is considered that this would substantially reduce the risk of flooding. The Council currently inspects the watercourses around Dunkeld on a 6-monthly or annual basis. We will continue to monitor and inspect the rivers/burns and carry out clearance works as required. Anyone who has concerns about their local watercourses can contact the Council via e-mail at flood@pkc.gov.uk or by calling 01738 475000 at any time. It is important to note that riparian landowners have the primary responsibility for ensuring that watercourses on their land are maintained in a condition that does not give rise to a risk of flooding.

The Council's legal duty is intended to address obstructions in a body of water and not to increase its capacity through channel widening or deepening, which are considered to be more substantial engineering works.

Q15. How often are watercourse trash screens and road gullies maintained?

The Council's Roads Maintenance Partnership employ Tayside Contracts to inspect and clear watercourse trash screens (see Figure 4 below) and road gullies.

Watercourse trash screens are inspected and cleared approximately every two weeks. Any large debris that cannot be removed by hand will be reported and removed using specialist equipment at a later date. There may be times that inspections are not carried out due to other priorities, e.g., winter maintenance activities or emergency response, etc.

Drainage systems are only able to cope with a certain volume of water and can be quickly overwhelmed during high rainfall. This does not always mean that the drains are blocked.

The road gullies on the A923 through Dunkeld are cleansed on an annual basis and the remaining gullies are cleansed every 2 years.

Road drainage problems are identified by the regular inspections of the network, by calls to Clarence, or as a result of reports from the public; and appropriate action is taken to deal with the problems that are identified. For enquiries, or to report a problem with a gully (e.g. blockages), contact the Council on 01738 476476 or online via:- <https://www.pkc.gov.uk/article/14914/Report-a-road-or-street-lighting-fault>

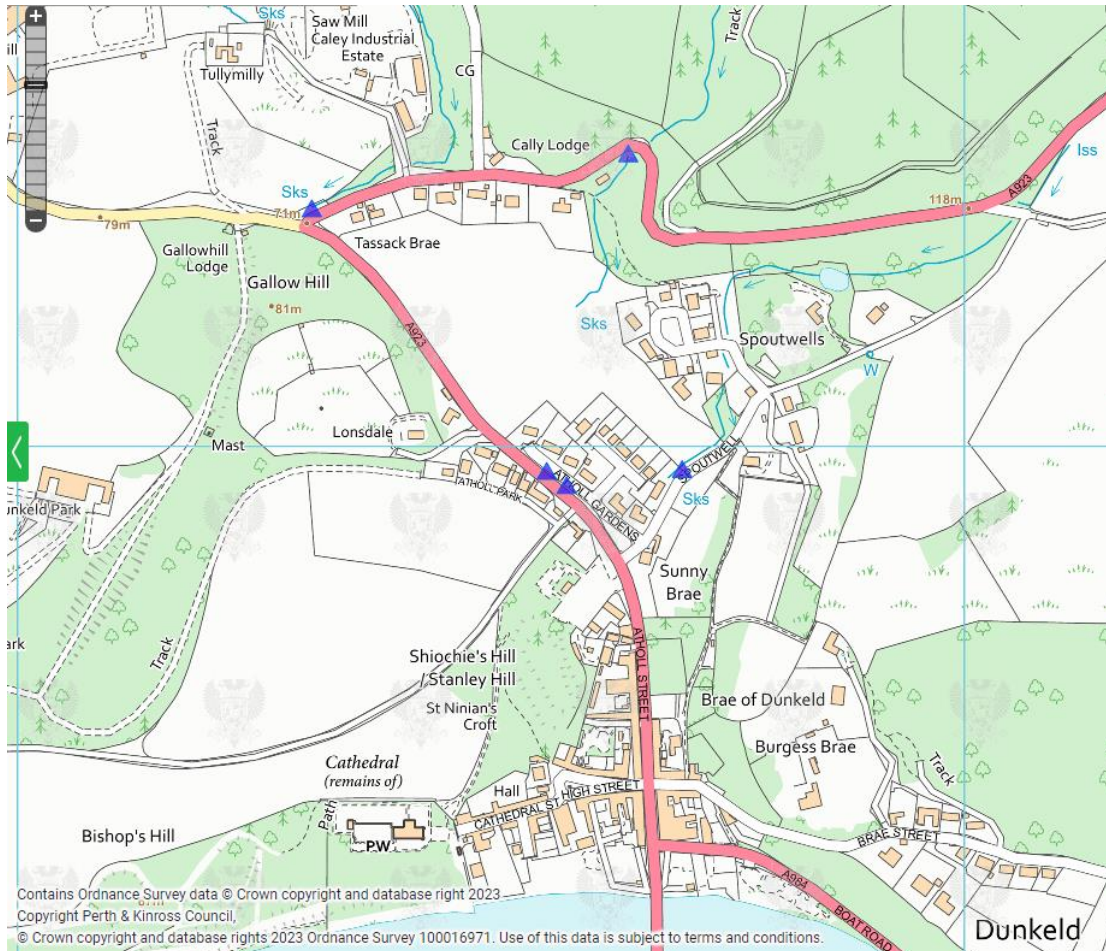


Figure 4 – Location of Watercourse Trash Screens maintained by Perth & Kinross Council