

# SCONE

## SURFACE WATER MANAGEMENT PLAN



### 1. Welcome & Overview

The **Scone Surface Water Management Plan** (SWMP) has been carried out to understand the current and future flood risk locally, and to identify options to potentially mitigate flood risk where possible.

Flooding can cause a serious disruption to homes, businesses, infrastructure, and the environment. By studying how surface water flooding happens in Scone, we can make informed decisions about the most effective ways to manage and mitigate flood risk.

#### Who is involved?

**Binnies** (part of RSK Group) on behalf of **Perth & Kinross Council** (PKC) has completed a draft **Surface Water Management Plan**.

We would appreciate your involvement in the development of this Surface Water Management Plan as local knowledge and community feedback are an important part of this work.

#### What does the study cover?

- **How** and **why** flooding happens in Scone.
- How flood risk might evolve in the future due **climate change**.
- **Possible measures** to mitigate the impacts of flooding.
- **Understand and assess** the suitability of the existing flood defences and infrastructure in Scone.
- **Produce recommendations** for next steps.

#### What are the key objectives of the study?

- **Reduce the risk of flooding**, where possible, to homes, business and main transport links from both surface water and watercourses.
- **Prepare for climate change**, which is predicted to produce more intense and frequent rainfall events in the future.
- Help to **protect watercourses** from pollution.
- **Improve local green spaces**, habitats and biodiversity, contributing to enhanced placemaking.
- **Enable economic development**.

This Surface Water Management Plan has been developed in consultation with key organisations such as **SEPA** and **Scottish Water** to define a strategy identifying the most appropriate and cost-effective opportunities to mitigate flood risk.

#### Where are we now?

We have completed the technical analysis and reviewed a range of possible flood risk management options. These posters share the draft results and our recommendations, and explain what happens next.

#### Your views

We value your input and want to take your views into account. This consultation event gives you the opportunity to share your thoughts on the proposed flood risk management options, helping us test the acceptability of the proposals and make sure they reflect local knowledge and understanding of flood risk. Your feedback will play an important role in shaping how the options progress.



Figure 1. Annaty Burn

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## 2. Understanding Flooding in Scone

When it rains, that **water has to go somewhere**. If rainwater cannot soak into the ground or evaporate, flows overland into drains leading to **watercourses** or the **sewer system**.

**Impervious surfaces** present a significant challenge as they not only replace vegetated cover, reducing water retention and infiltration into the ground, but also generate increased runoff that flows more rapidly into the sewer network. As the town grows, new roads, roofs and pavements are built. That means increasing rapidly the impermeable surfaces and therefore the amount of **runoff** into the sewer system. Putting more pressure on its capacity, increasing the magnitude of **floods** and the amount of **pollution** in the watercourses.

Within most urban areas in the UK the majority of the existing sewer network is “**combined**”, receiving **foul** water from toilets and other domestic, commercial and industrial usage, as well as **rainwater** runoff from roads, pavements and roofs. Flooding from these combined sewers poses a particular **pollution** and **flood** damage problem.



Figure 2. Example of surface water flooding

### River flows, return periods & probabilities

**River flows** are measured in **cubic metres per second** (m<sup>3</sup>/s), and we often refer to the largest flow during a flood event as the “**peak flow**”.

To describe how **unusual** or **likely** a flood is, we use the terms “**return period**” and “**annual exceedance probability**” (AEP). These are simply ways of expressing the **chance** of a flood of a certain size happening in **any given year**.

For example: a 1 in 200-year flood (also called a 0.5% AEP event) corresponds to an approximate peak flow at the Annaty Burn of 16 m<sup>3</sup>/s. This does not mean such a flow happens only once every 200 years. Instead, it means that in any single year, there is a 0.5% chance of a flow of that size (or larger) occurring.

Flooding is a natural process, and chance does not follow a strict calendar. It is entirely possible to experience two “1 in 200-year” floods within just a few years – or even within the same year.

**In short:** Return periods and AEP are statistical tools to describe how likely a flood is, not a prediction of when it will happen. Floods can occur at any time, and their frequency is based on probability, not fixed timelines.



Figure 3. Example of SuDS (source: NatureScot)

### SUSTAINABLE DRAINAGE SYSTEMS (SuDS)

**Traditional combined drainage** systems are designed to move stormwater away from streets and properties as quickly as possible by directing runoff into the combined sewer network, burns, or rivers. As towns grow and impermeable areas expand, increasing volumes of water are directed into these systems. Relying solely on this approach can place significant pressure on the sewer network and watercourses, raising the **risk of flooding** and **pollution** and leading to an increasingly costly and unsustainable system that cannot keep pace with **urban growth** or **climate change**.

**Modern approaches** take a different direction. For new developments, the strategy is to reduce pressure on the sewer network by **imitating natural drainage processes** through the use of **SuDS**. In these areas, runoff from roads, roofs, and footpaths is deliberately captured and managed within SuDS features, rather than being discharged directly into the combined sewer network. SuDS can take many innovative forms that collect, store, and treat surface water before releasing it slowly back into the environment.

Most SuDS are types of **green infrastructure**, which provide habitat that enhances the **ecology** and **amenity** of the area, creating **attractive spaces** for living, working and playing for the local community. However, older urban areas that rely on a traditional combined sewer system still face challenges, as surface water continues to enter the sewer network and contribute to flooding.

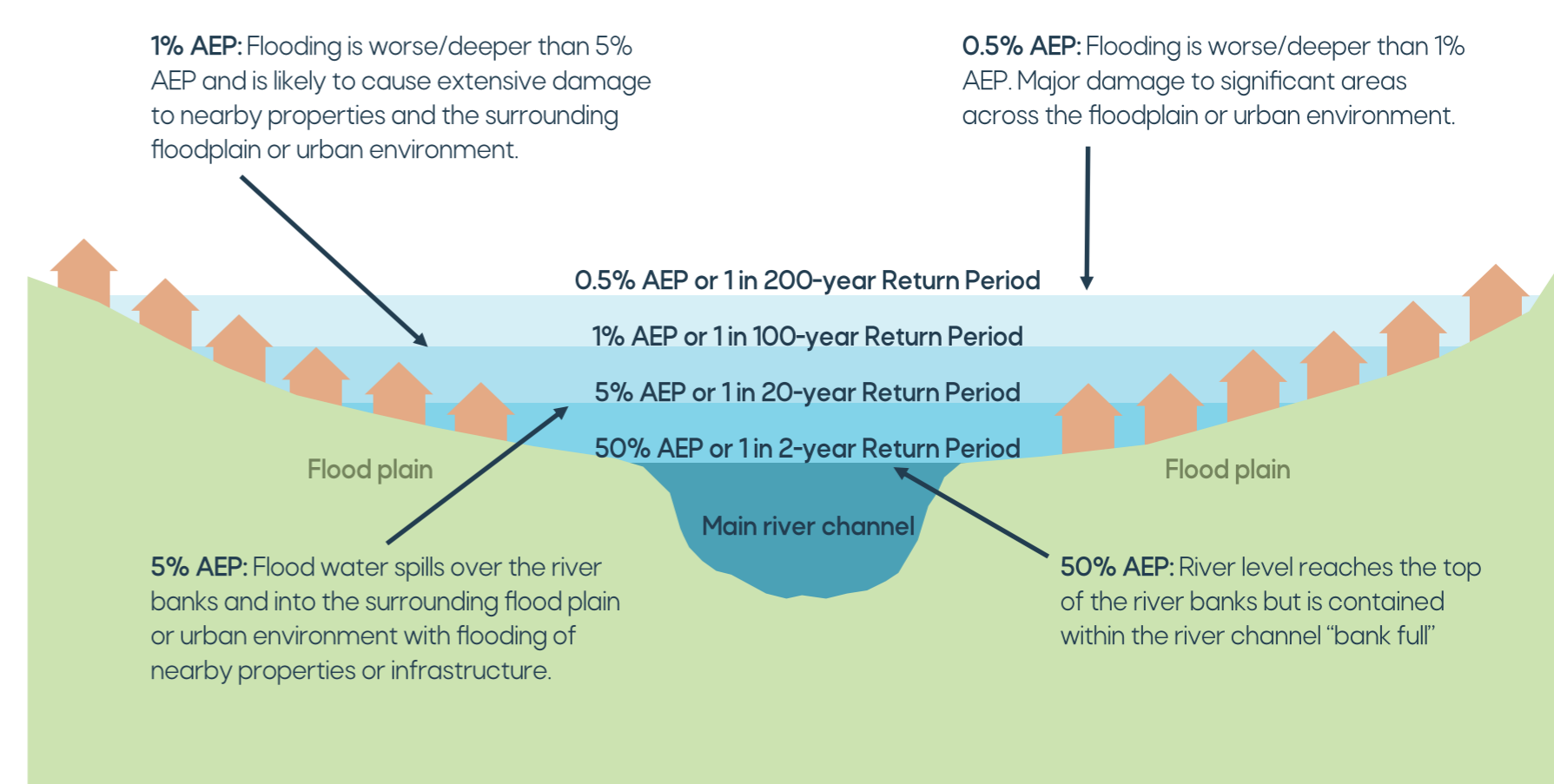


Figure 4. Visual representation of AEP and return periods

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Scone was impacted by **significant localised flooding** in 2004, 2012, 2014, 2023 and 2024 and therefore has been identified as a **Potentially Vulnerable Area** by SEPA, which makes it a national priority for flood risk management.

### Main sources of flooding in Scone

Flooding happens when heavy rain causes the sewer network and rivers/burns to exceed their capacity to convey flow away. As a consequence, water may flow via different routes overland and pond at localised low ground. The SWMP looks specifically at:

- **River flooding** — The Annaty Burn flows through the southern part of Scone and is therefore susceptible to flooding during significant storm events.
- **Surface water flooding** — When intense rainfall overwhelms the drainage system and water cannot flow away quickly. As a result, runoff flows overland, causing disruption and localised flooding in parts of Scone.
- **Interaction between rivers and surface water**— When high river levels make it harder for surface water to drain away, causing water to back up in streets and low-laying areas.

### Climate change and future risk

The study also considers how climate change could affect flooding in the future. Higher rainfall intensity and more frequent extreme weather events may increase the **likelihood** and **severity** of flooding over time.



Figure 7. Flooding at Stormont Road (2024)

Under the **Flood Risk Management (Scotland) Act 2009**, Scone was designated as a **Potentially Vulnerable Area** (PVA 02/08/11) due to river and surface water flooding within the **Tay Local Plan District** (LPD 8).

Actions to manage flood risk are contained within the published Tay Flood Risk Management Plan, and this includes the requirement for a Surface Water Management Plan (Ref: 25504).

Further information at <https://www.pkc.gov.uk/frmplans>



Figure 5. Flooding at Rowanbank (2024)



Figure 6. Flooding at Angus Road (2024)



Figure 8. Flooding at Highfield Road (2024)

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## BARREL DRAIN

The barrel drain running beneath Scone was constructed in the late 1800s. It consists of a series of culverts and two open sections, leading from the hills to the north of Scone down to the Annaty Burn. Refer to Figure 9 for indicative layout of the barrel drain.

Over the last 150 years the barrel drain has been repaired and altered numerous times meaning it does not have a uniform size or construction.

The barrel drain is important as it transports surface water from various locations in Scone to the Annaty Burn, and can greatly reduce overland flow through the town.

Responsibility for inspecting and maintaining the barrel drain sits with the adjacent landowners (known as riparian owners; see Figure 9 for location). The Council maintains the sections that pass beneath public roads, while the remaining sections are the responsibility of individual private landowners within their property boundaries.

The Council carries out a biennial CCTV survey of the barrel drain, the most recent in 2025, to identify the sections of the pipe most at risk. The sections were graded from 5 (at risk of collapse) to 1 (no structural issues). As courtesy, following the biennial CCTV survey, the Council will endeavour to contact relevant riparian owners where sections of the barrel drain are considered to be in a condition that requires attention.

The state of the barrel drain now and after potential future collapses and blockages was included in the hydraulic modelling of surface water flooding in Scone. This is so we can best represent the actual risk of flooding in the worst case scenario.

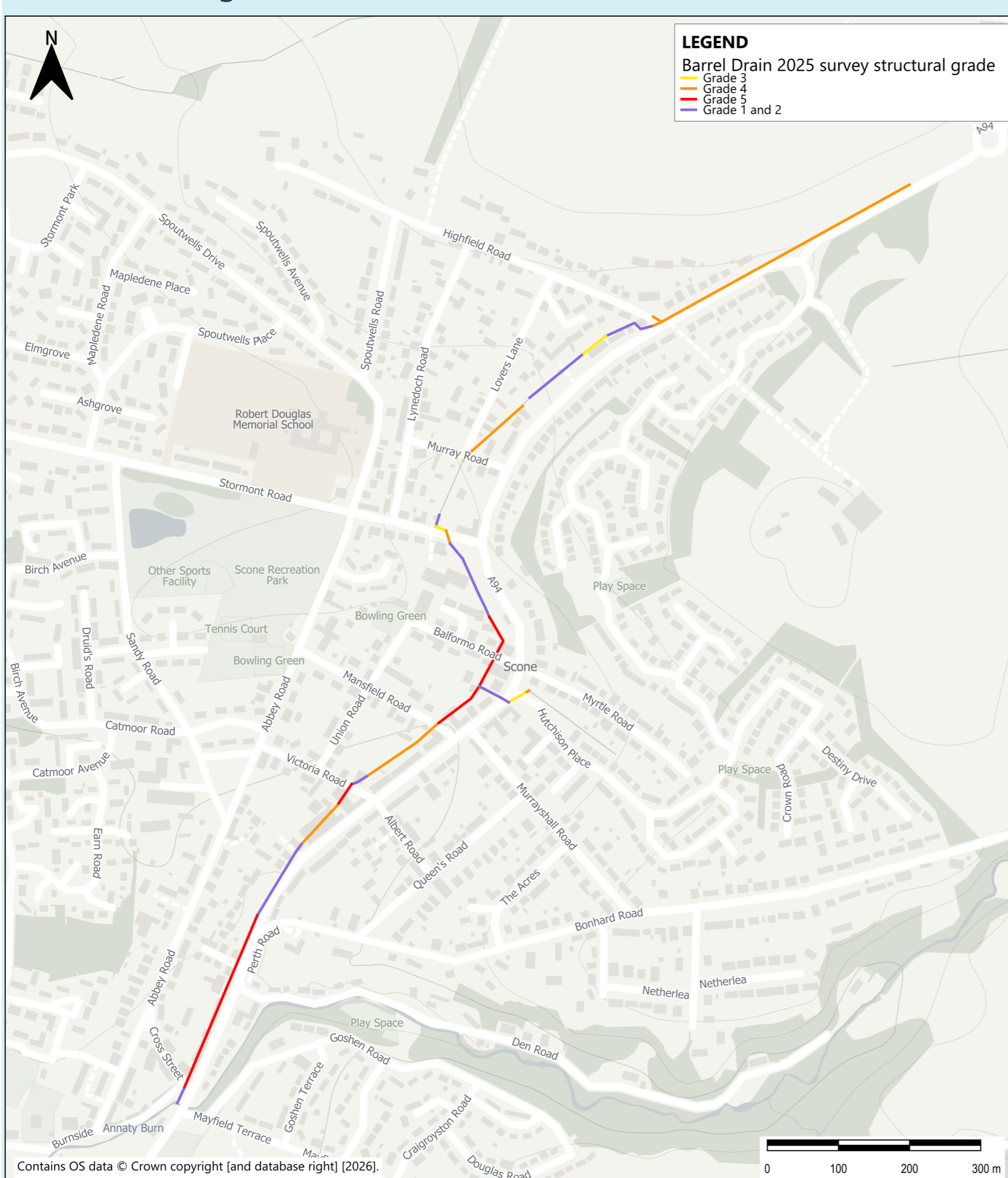


Figure 9. Barrel drain location in Scone

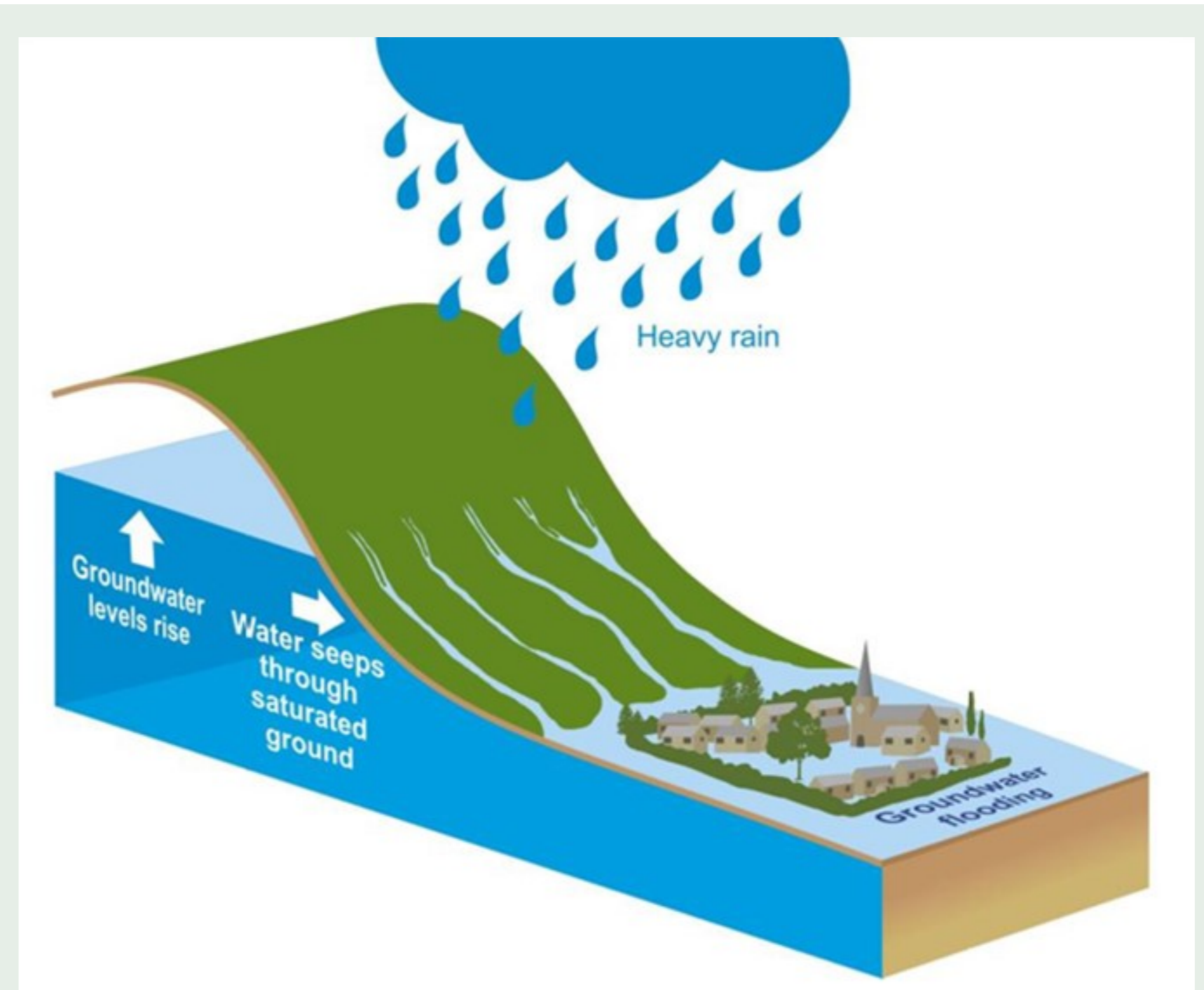


Figure 10. Groundwater flooding mechanisms (source: SEPA)

## GROUNDWATER

Engagement with Scone and District Community Council raised concerns around potential groundwater flooding and the aquifer beneath Scone. To address this concern, the potential impact of groundwater was investigated.

Groundwater flooding is caused by water table rising up from underlying rocks due to extreme rainfall, and can occur several months after a rainfall event. Groundwater may not always cause flooding directly but may contribute to surface water flooding, as it can lead to low absorption of rainwater into soil, and increase surface runoff. Surface water flooding is typically visible after short durations of minutes or hours, while in contrast groundwater flooding is more likely to occur over days or weeks following a storm event.

In Scotland groundwater is usually a contributing factor to flooding, rather directly causing flooding, due to the aquifer types present.

Scone is on a Sandstone aquifer called the "Scone Sandstone Formation". The aquifer was found by BGS studies to have:

- (a) Low intergranular porosity, with associated relatively low storage volume;
- (b) High permeability, accepting water quickly but causing the water table to quickly rise during flashy rainfall events generating surface water;
- (c) Low transmissivity, which limits infiltration rates and increases surface water runoff from the surface; and
- (d) Low storativity, which stores relatively little water but also responds quickly to rainfall or river level changes.

This suggests the Scone Sandstone Formation is **unlikely to cause groundwater flooding in Scone**, but the aquifer's inability to absorb large volumes combined with a clay soil cap **does contribute to the quantity of surface water flooding but is considered minimal**.

### 3. Predicted Flood Risk

To understand Scone's current and future flood risk, we developed a **hydraulic model**. This computer-based tool simulates how water moves through the Annaty Burn, local burns, sewer network and overland during heavy rainfall and high river flows.

#### What the model tells us

- It predicts where flooding is most likely to occur, how deep the water could get, and how fast it might flow.
- It allows us to test different storm scenarios, including those that are more likely (e.g. 1 in 10-year events) and those that are rarer but more severe (e.g. 1 in 200-year events).
- It helps identify which areas are most at risk today and how this could change in the future.

#### Scenarios we tested

- **Present day** — representing the current situation.
- **Future climate change** — factoring in predicted increases in rainfall intensity and river flows due climate change.

Scenarios were built with detailed representation of catchment elements, including existing critical infrastructure and other topographic features, such as bunds and walls.

#### Why this matters

The model provides the evidence needed to explore possible flood management options. By understanding the extent and severity of flooding, we can focus efforts where they will have the greatest benefit.

Using a combination of the reported flood history, responses to the public questionnaire submitted in September 2025, and predicted flood outlines produced by the integrated catchment model, four flooding 'hotspots' were defined. These locations are shown in Figure 11.

#### Critical Storm Duration

A long duration storm can cause high volumes of water to flow through the sewer network over a long period of time and may not cause flooding due to low rainfall intensity.

Short duration storms produce the opposite — lower volumes of water but high rainfall intensity that quickly inundates drainage routes.

Between these two scenarios is the **worst case**, the scenario when taking the impact of burns and sewer network drainage capacity into account results in the greatest risk of flooding. The critical storm durations in Scone were estimated to be **1 and 7 hours**. Figures 12 to 15 provide indicative flood maps for Scone for the flood events stated.

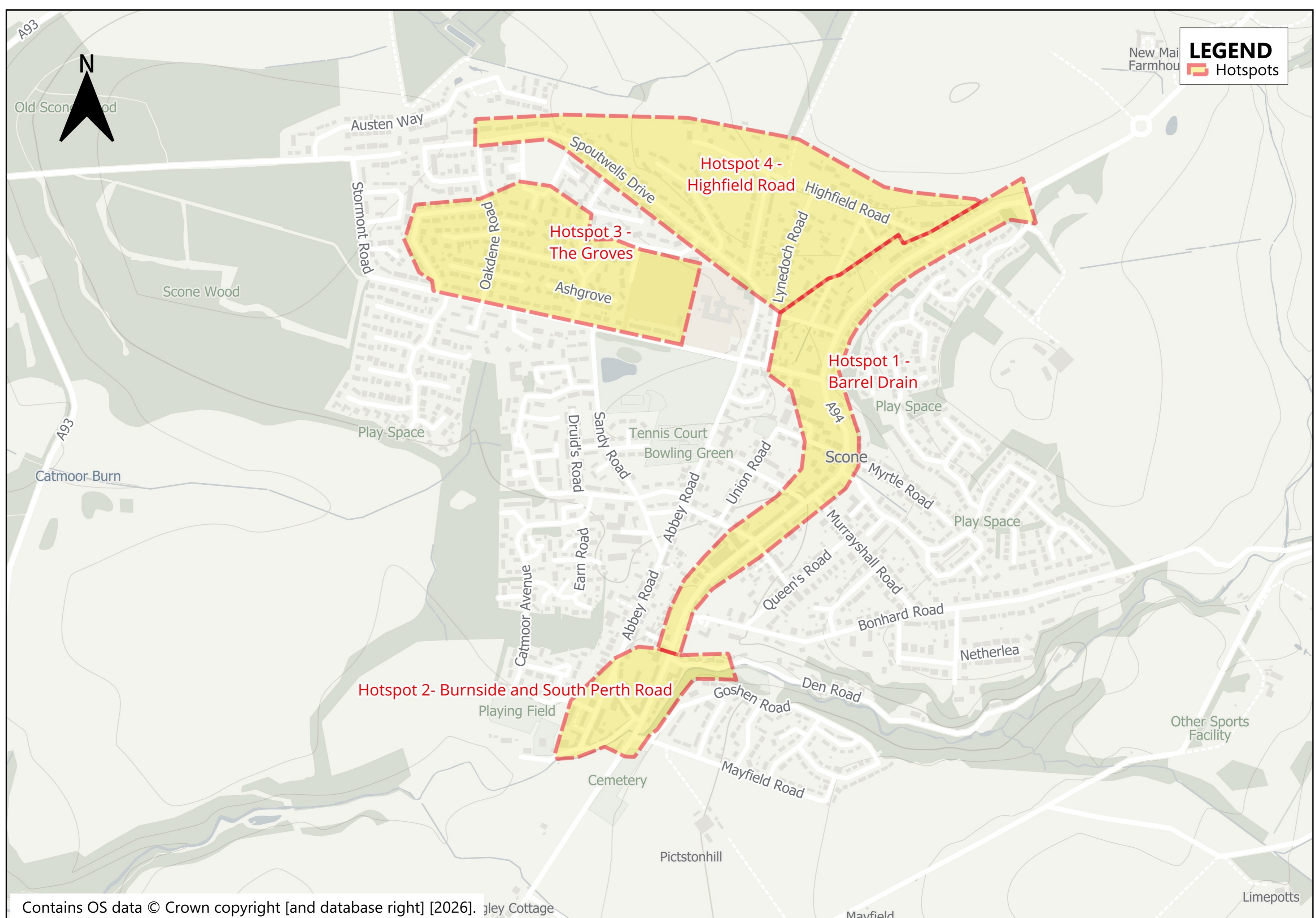


Figure 11. Flooding hotspots across Scone

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### Do-Nothing Flood Map – 1 in 30-year return period 1-hour duration rainfall event

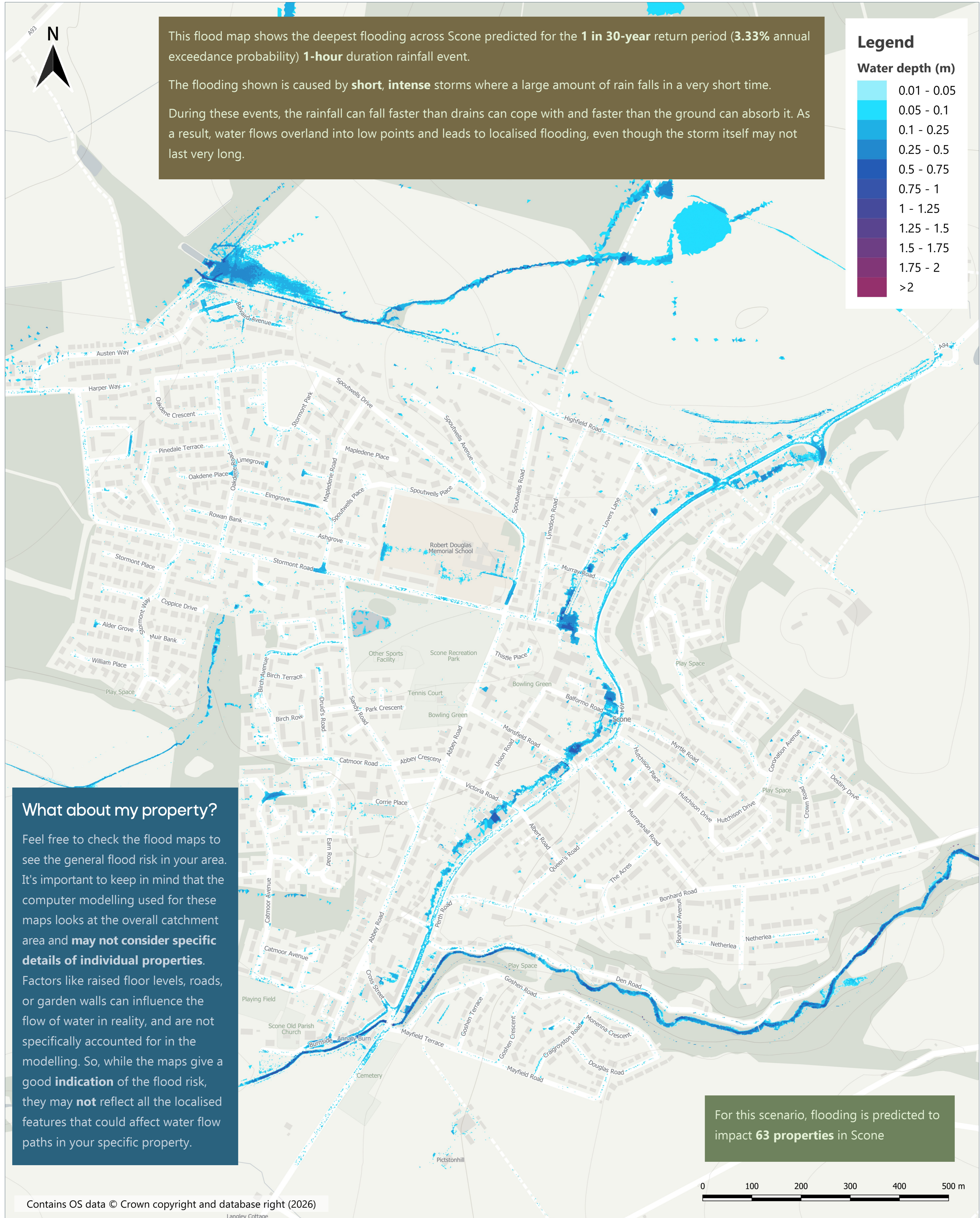


Figure 12. Flood map 1:30-year, 1-hour duration storm

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### Do-Nothing Flood Map – 1 in 30-year return period 7-hour duration rainfall event

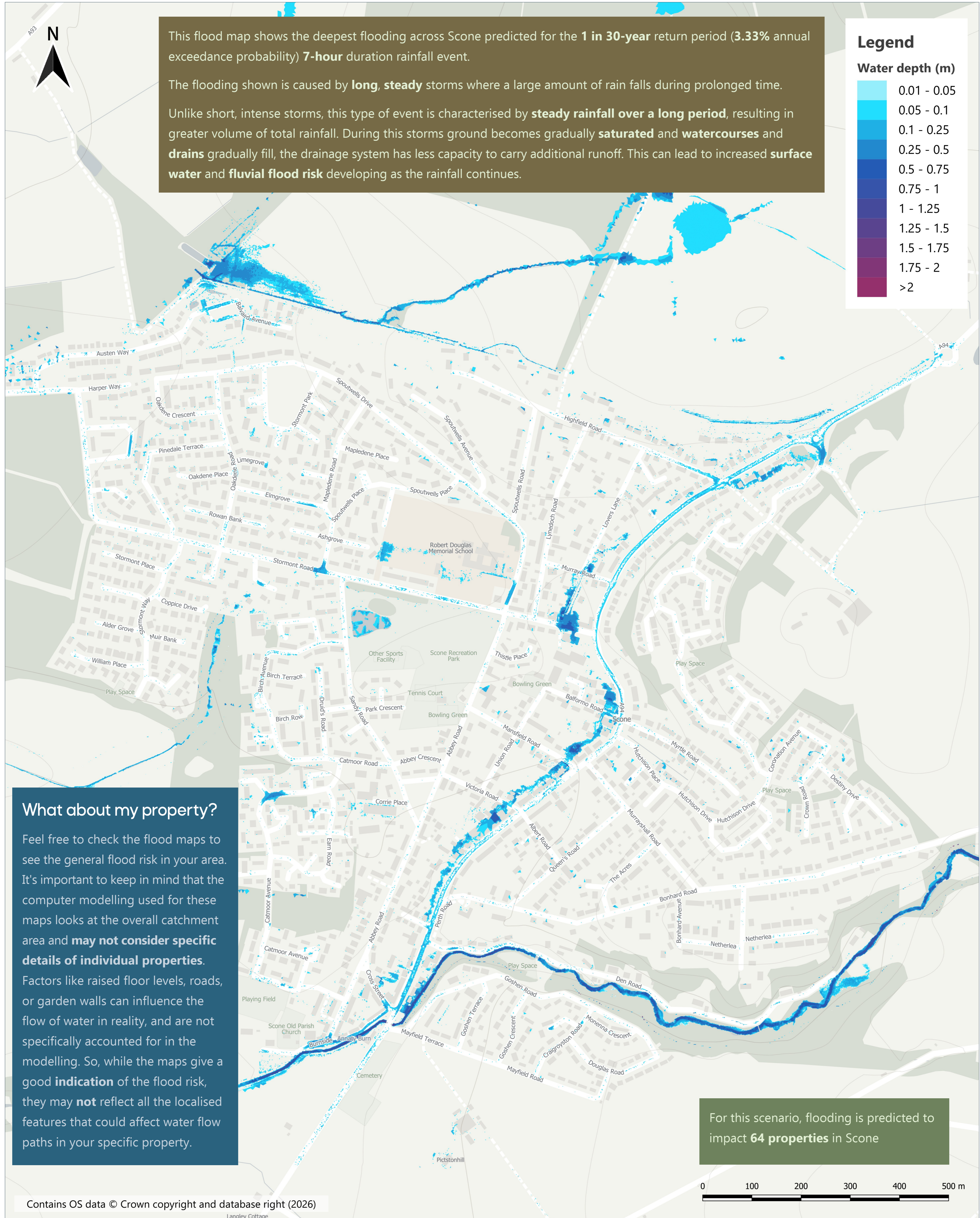


Figure 13. Flood map 1:30-year, 7-hour duration storm

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### Do-Nothing Flood Map – 1 in 200-year return period 1-hour duration rainfall event

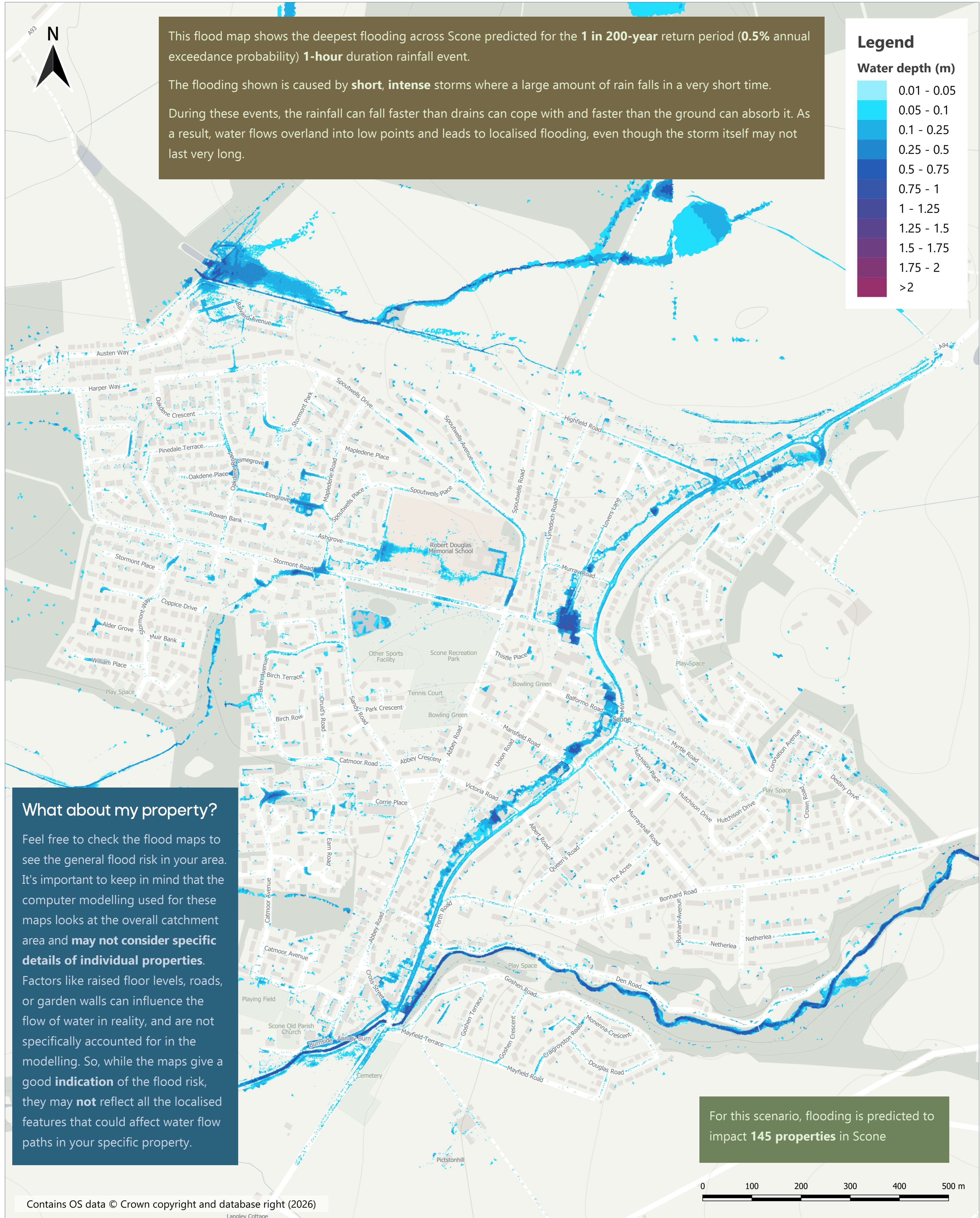


Figure 14. Flood map 1:200-year, 1-hour duration storm

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### Do-Nothing Flood Map – 1 in 200-year return period 7-hour duration rainfall event

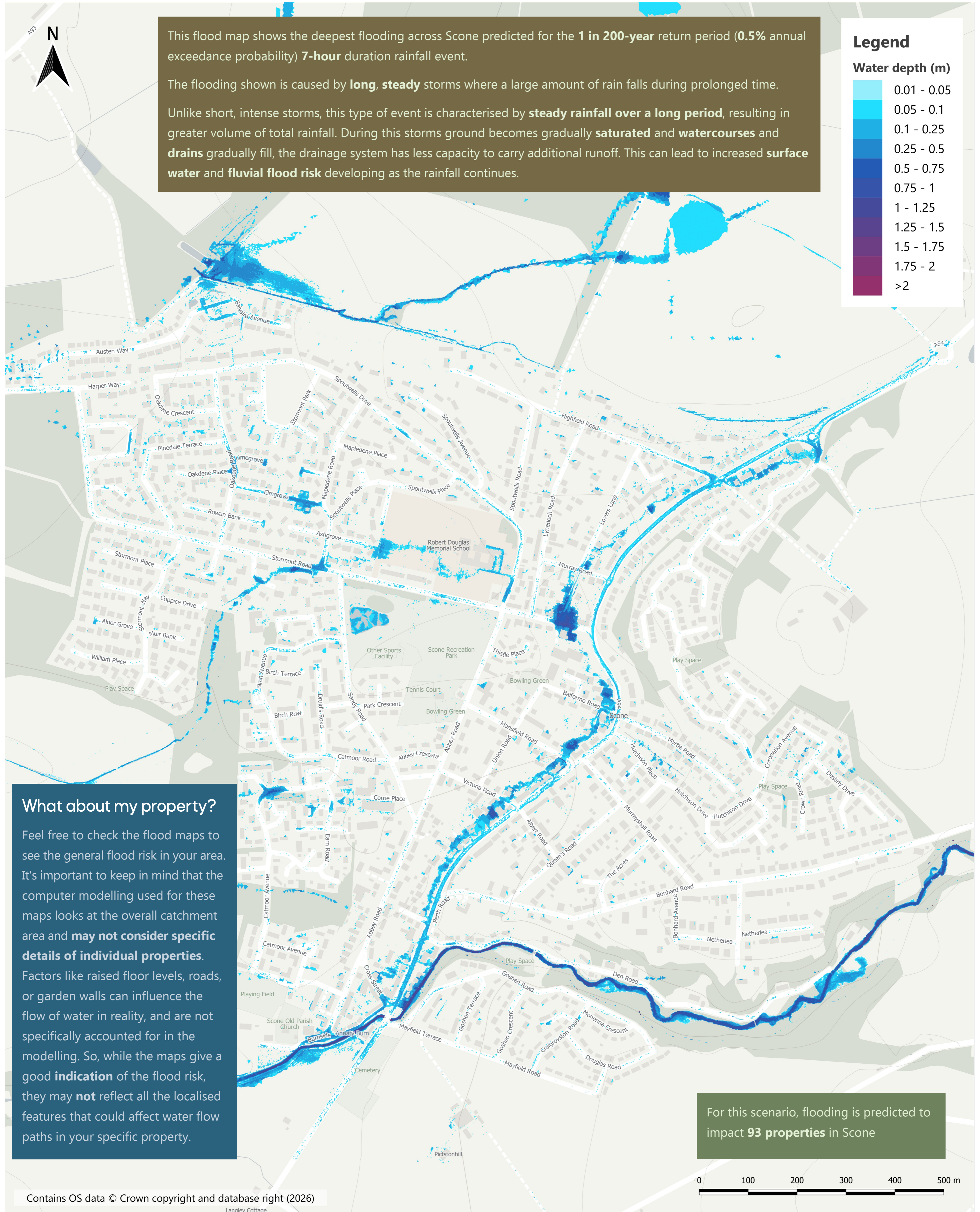


Figure 15. Flood map 1:200-year, 7-hour duration storm

## 4. Flood Risk Management

To develop options for managing and, if possible, reducing flood risk in Scone, we followed a series of steps.

1. Available information and a hydraulic model were used to identify the flooding issues within the catchment. These findings serve as a **baseline** for evaluating options to manage flood risk.



2. A **long-list** of measures was considered that could be taken to reduce or manage the flood risk. This was screened to remove measures that were clearly unfeasible, leaving an initial short list of potential actions.



3. We conducted a high-level scoring exercise to evaluate the options and produce a final **short-list** of those that are most feasible. This helped us eliminate measures that were not practical or viable for the situation.



4. We conducted a detailed **appraisal** of the final short-listed options using the hydraulic model and **multi-criteria assessment**. This involved evaluating their performance under different scenarios, considering their implementation requirements, compatibility with other policies and plans, and their potential to achieve the objectives of the SWMP.



5. Based on the results of the appraisal, we selected **recommended options**. Factors such as effectiveness, affordability, environmental and social impacts were considered during the selection process.

### Multi-criteria assessment

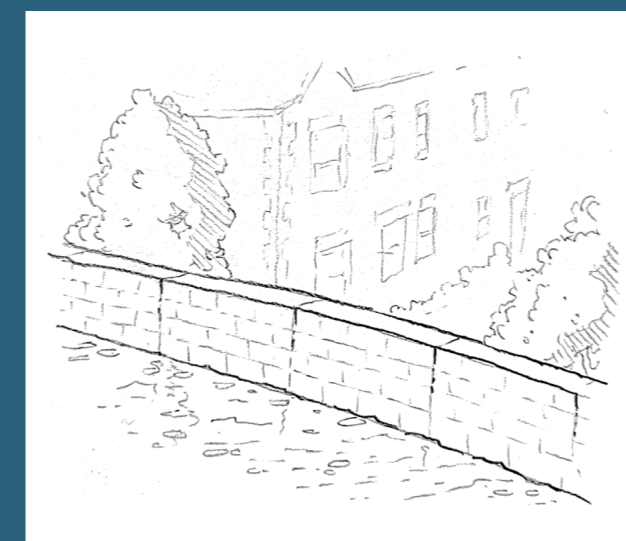
Options are evaluated against a range of criteria to determine their suitability, including **technical, environmental, social** and **economic** feasibility.

In managing flood risk Perth & Kinross Council is required to have regard to the economic impact of its actions. For an option to be considered viable, the costs must not exceed the benefits, i.e. the **benefit-cost ratio** (BCR) must be greater than 1.

BCR is a core requirement in appraisal frameworks, in line with HM Treasury's Green Book, and is essential for securing Flood Protection Scheme funding through the Scottish Government. Local Authorities must demonstrate **value for money** through BCR, and demonstrate **strategic alignment and wider benefits** through a MCA.

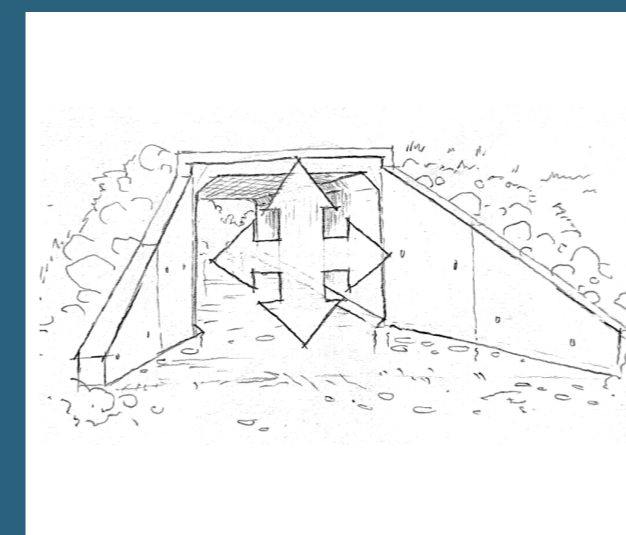
### What was considered in the long-list?

A range of different actions were considered when producing the long-list. Actions can be classified under the following the categories:



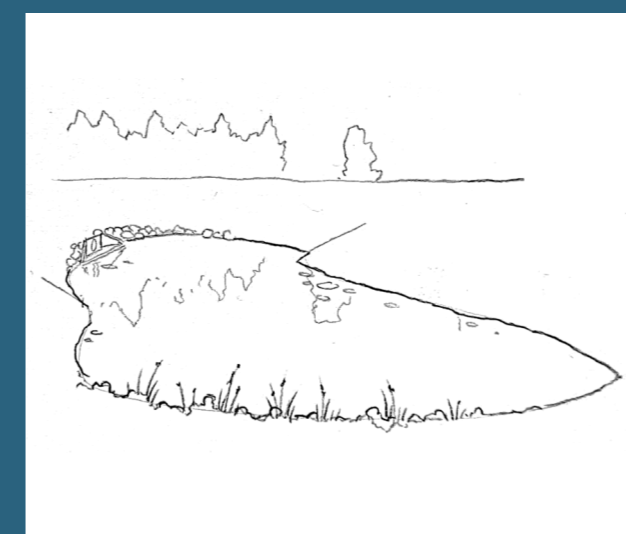
#### ◀ Direct Defences

This group of measures includes construction of flood walls and embankments.



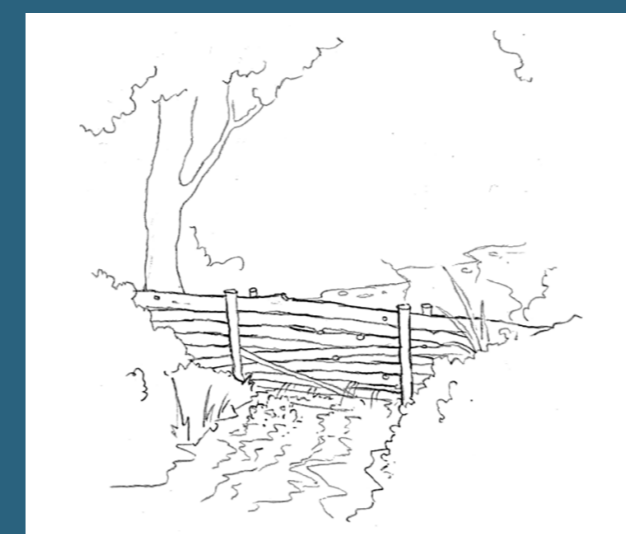
#### ◀ Conveyance Improvements

Including channel modifications and culvert upgrades to increase flow capacity.



#### ◀ Upstream Storage

Measures to create new or upsize existing storage were considered.



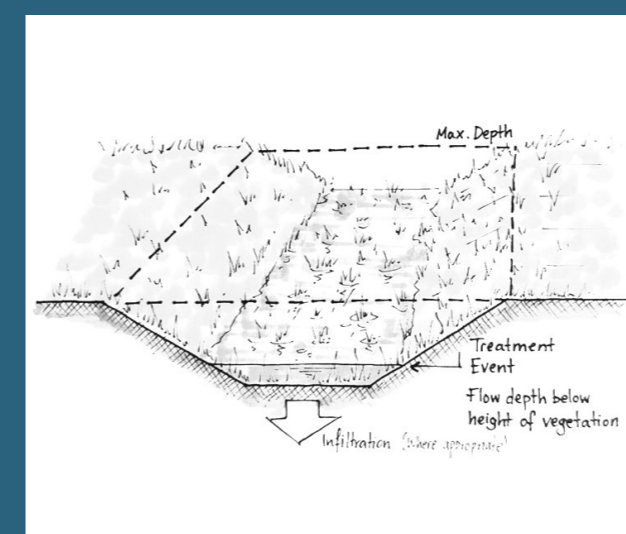
#### ◀ Natural Flood Management (NFM)

NFM techniques work with natural processes to manage flood risk, and work on the principle of slowing the flow down in the upper catchment.



#### ◀ River Restoration

Within this group are included actions such as wetland creation, floodplain recovery or re-meandering.



#### ◀ SuDS elements

Sustainable Drainage Systems (SuDS) are elements with innovative design to collect, store and treat overland flows. These aim to imitate the natural drainage processes. Examples are: Ponds, swales, green roofs or rain gardens.



#### ◀ Non-Structural Measures

These consist of policies, regulations and practices that aim to reduce the exposure and vulnerability of communities to flooding.

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### 5. Short List of Options

The summary table below provides a list of the short-listed options considered in the SWMP and discussed in more detail on subsequent posters. The location of all the options is shown in Figure 16:

Rank (MCA Score)	Option	Benefit-Cost Ratio (BCR)	Multi-criteria assessment (MCA) Score
1	<b>Option 3</b> — Barrel drain flows diverted into SuDS	2.2	69%
2	<b>Option 10</b> — SuDS at Farquharson Park	2.4	67%
=3	<b>Option 7</b> — New Sewer along Abbey Road	2.8	66%
=3	<b>Option 12</b> — Increase pipe size at The Groves	6.3	66%
4	<b>Option 8</b> — Leaky barriers along Annaty Burn tributaries	43.1	64%
5	<b>Option 9</b> — Natural flood management (NFM) on the Annaty Burn	1.7	63%
=6	<b>Option 6</b> — Flood Storage Area at Burnside	27.3	61%
=6	<b>Option 11</b> — SuDS at Highfield Road	8.0	61%
7	<b>Option 14</b> — Swale to North SuDS	3.0	59%
=8	<b>Option 13</b> — Swale to Highfield Road SuDS	2.4	57%
=8	<b>Option 4</b> — SuDS at David Douglas Avenue	10.3	57%
9	<b>Option 2</b> — Replace critical barrel drain sections	1.4	44%
-	<b>Option 1</b> — Replace barrel drain	0.4	Fail
-	<b>Option 5</b> — Upstream storage on the Annaty Burn	-2.1	Fail

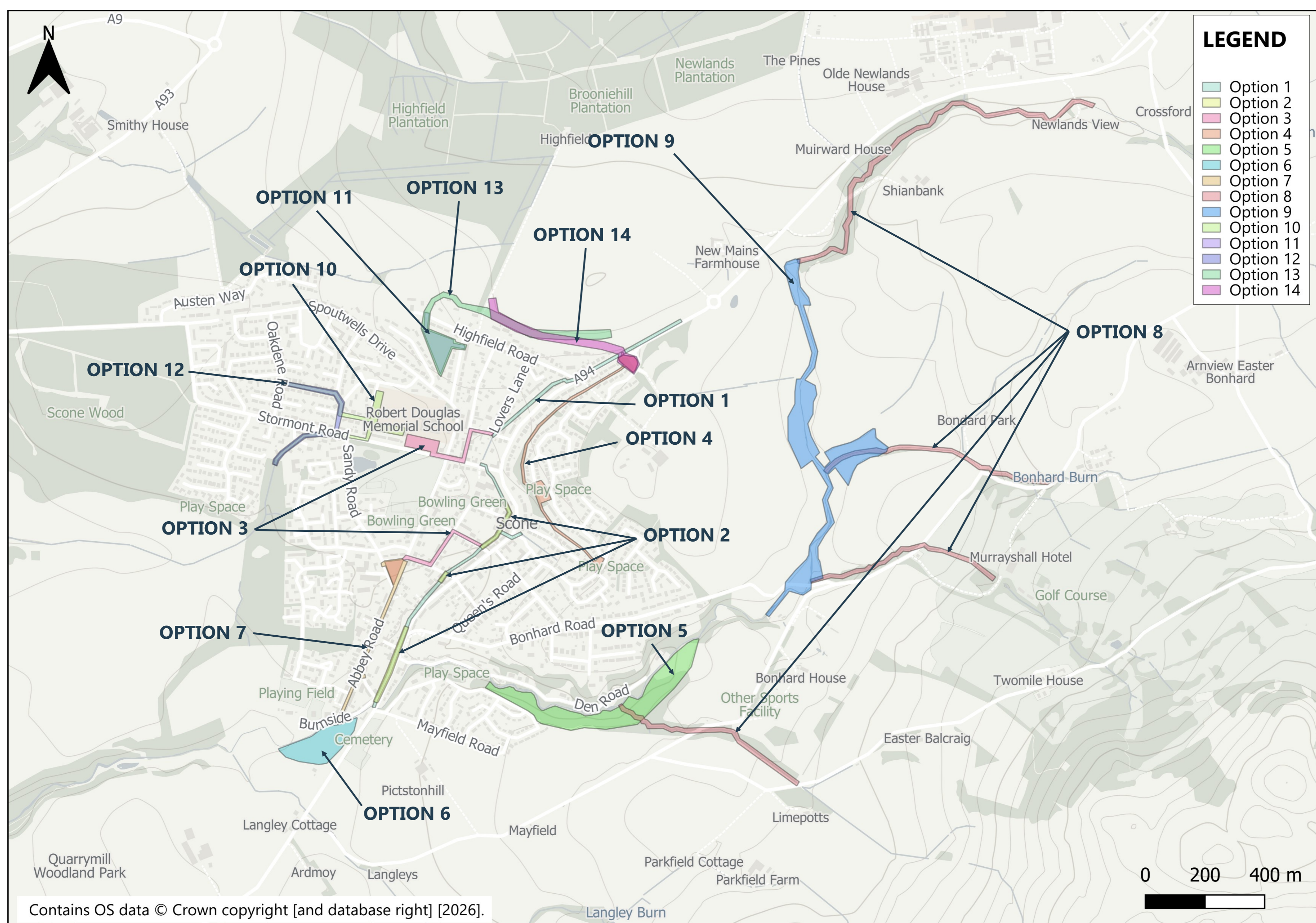


Figure 16. Short-list option locations

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## OPTION 3. Barrel drain flows diverted into SuDS

**MCA Rank #1**  
**MCA Score: 69%**  
**BCR: 2.2**

This option utilises the land at the south of the CTRL, Farquharson Park and Abbey Terrace as SuDS to store surface water, diverting flows from the barrel drain. Increasing the capacity of the combined sewer network through Scone. The final location and form of SuDS would be determined at later design stages.



Figure 17. Farquharson Park from Stormont Road

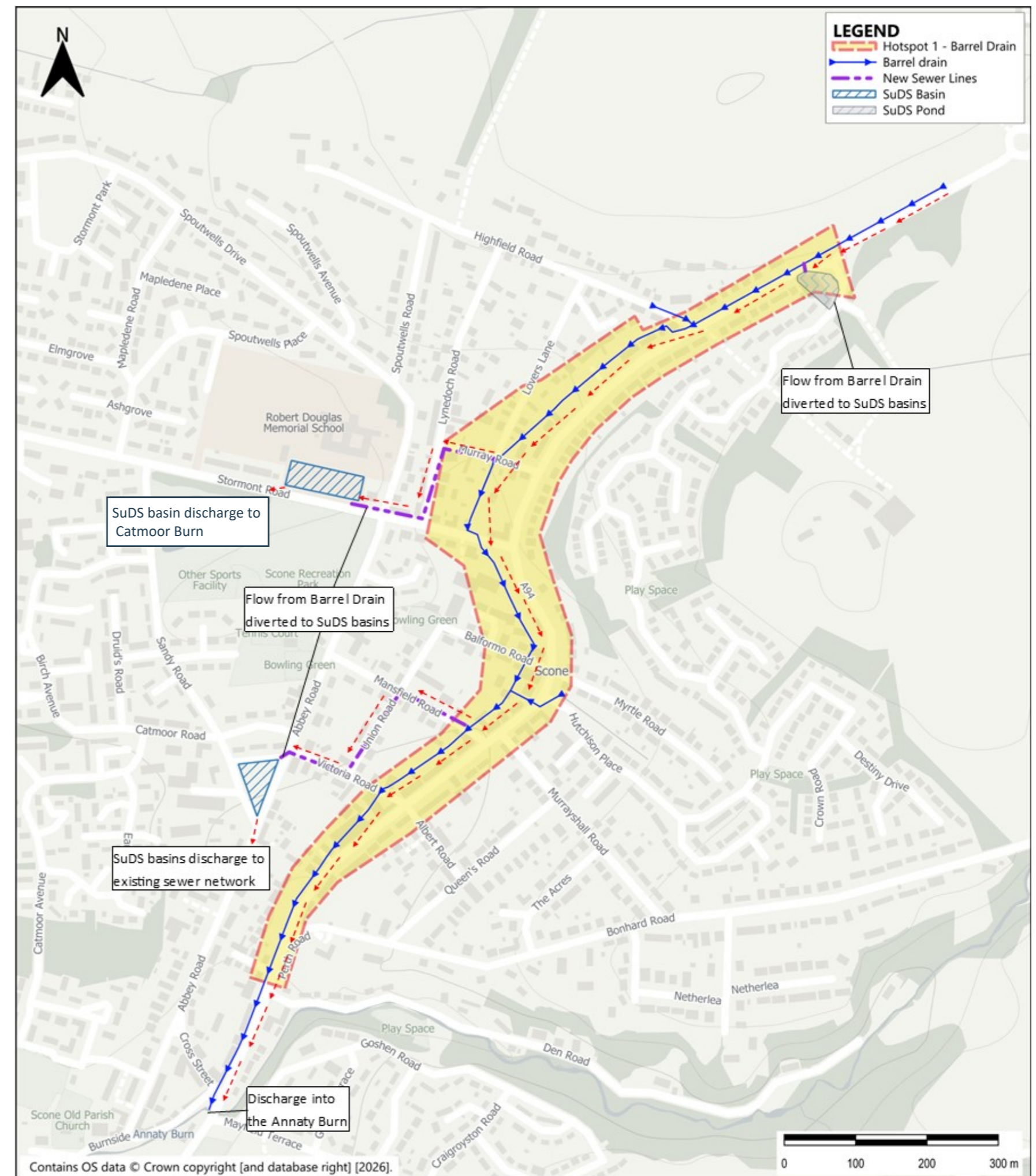


Figure 18. Option 3 sketch

## OPTION 10. SuDS at Farquharson Park

**MCA Rank #2**  
**MCA Score: 67%**  
**BCR: 2.4**

The option involves using the land at Farquharson Park as SuDS to store the water that gathers along Elmgrove, Ashgrove and the surrounding area. This increases drainage capacity in the area and prevents pooling.



Figure 19. Elmgrove

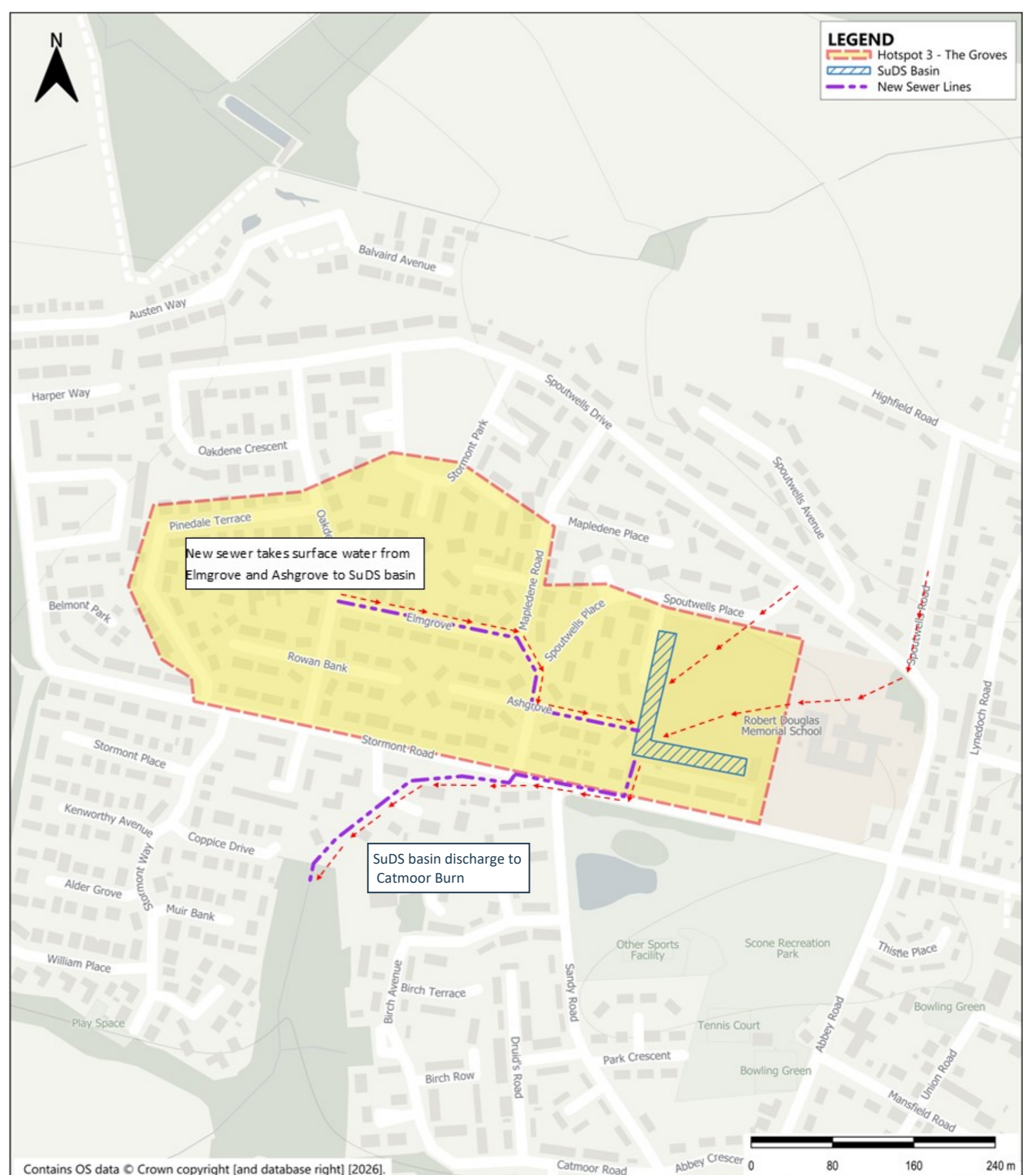


Figure 20. Option 10 sketch

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### OPTION 7. New Sewer along Abbey Road

**MCA Rank = #3**  
**MCA Score: 66%**  
**BCR: 2.8**

This option stores the overland flows down Abbey Road by diverting them to new SuDS at Abbey Terrace and a new sewer line along Abbey Road. This reduces overland flows reaching Burnside. This option also includes formalising the relief channel created by local residents to the Annaty Burn to prevent pooling at Burnside.



Figure 21. Informal relief channel at Burnside

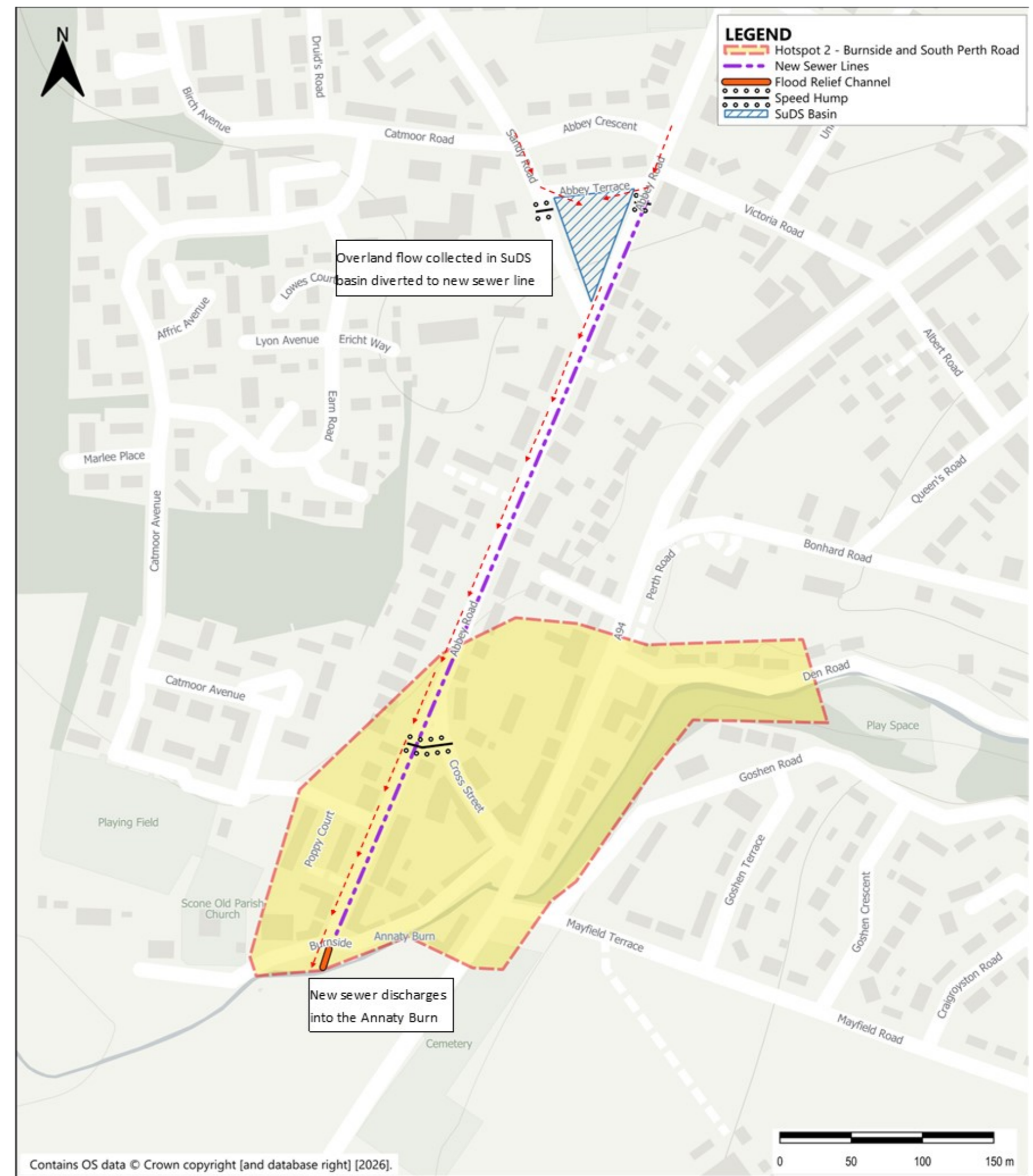


Figure 22. Option 7 sketch

### OPTION 12. Increase pipe size at The Groves

**MCA Rank = #3**  
**MCA Score: 66%**  
**BCR: 6.3**

The option involves increasing the size of the pipes along Elmgrove and Ashgrove. This will increase capacity within the drainage network and reduce water pooling on the roads.



Figure 23. Stormont Road and Mapledean Road intersection

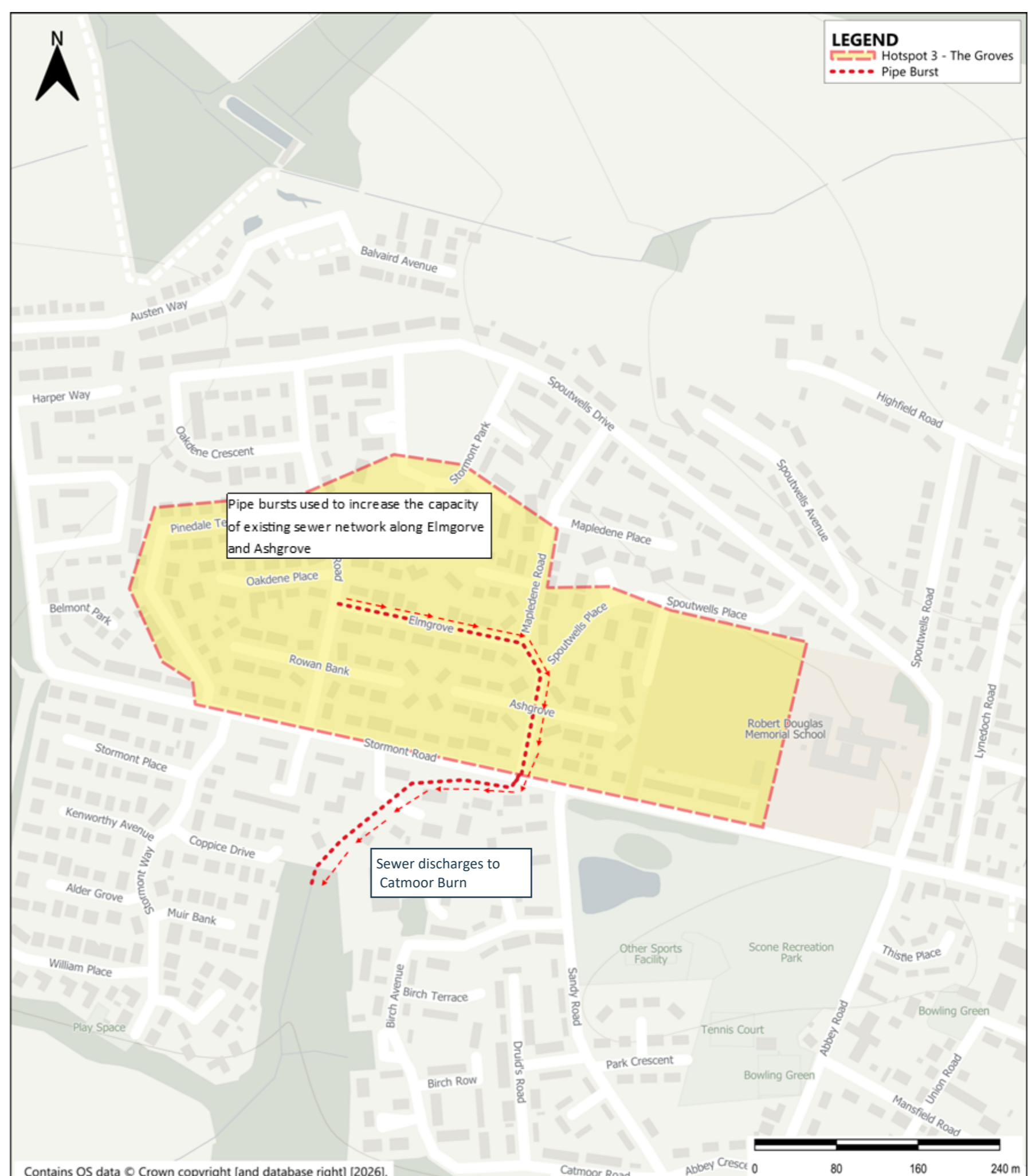


Figure 24. Option 12 sketch

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### OPTION 8. Leaky barriers along Annaty Burn tributaries

**MCA Rank #4**  
**MCA Score: 64%**  
**BCR: 43.1**

Leaky barriers work by causing out-of-bank flow in the upstream of a catchment, to slow the flow through watercourses in critical locations. By placing these along Limepotts Burn, Murrayshall Burn, Bonhard Burn and the upstream on the Annaty Burn. The flow in the burn at Scone will be reduced, also mitigating backup in the barrel drain at its outfall.



Figure 25. Example of leaky barriers (source: Warwickshire wildlife trust)

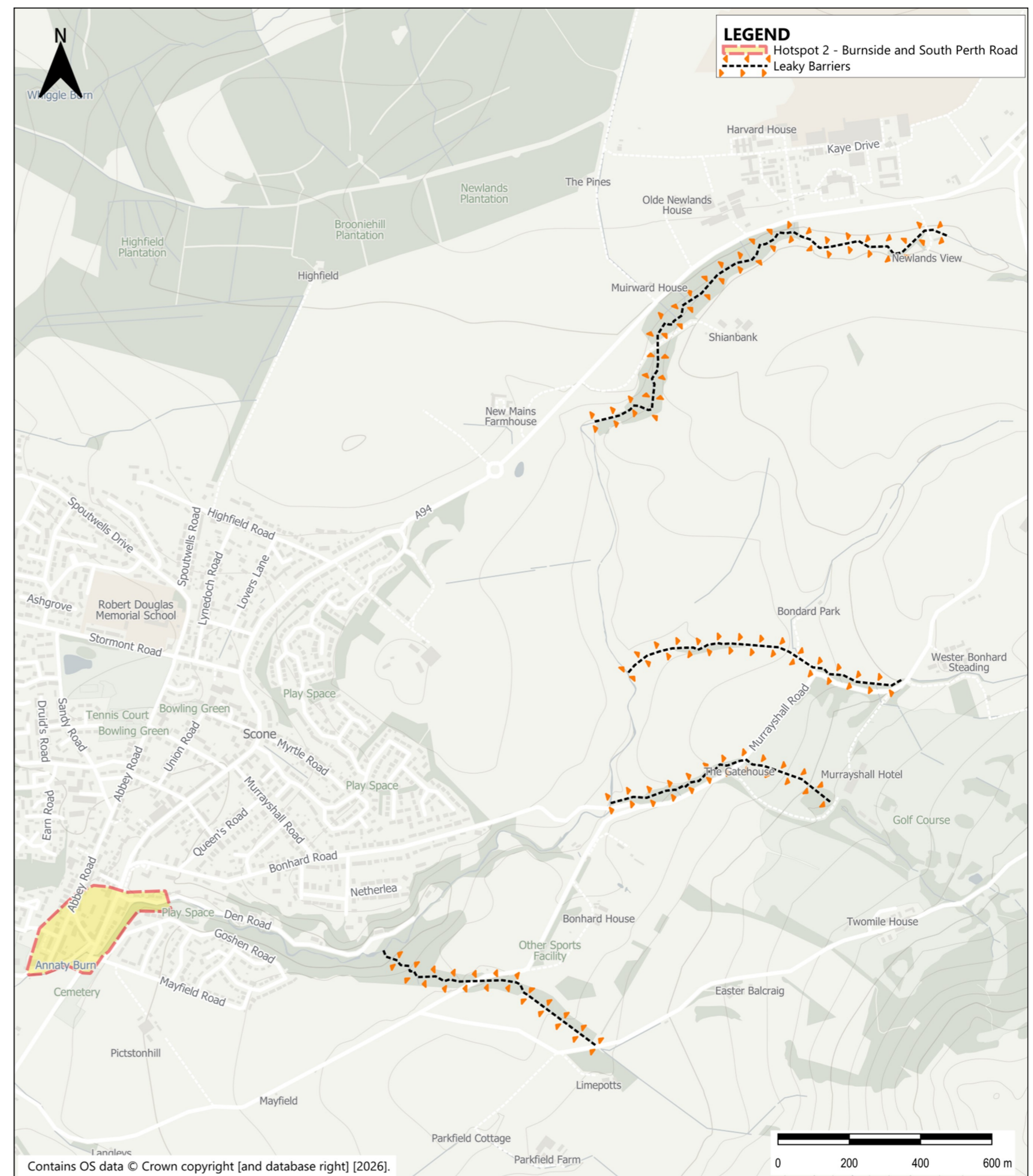


Figure 26. Option 8 sketch

### OPTION 9. Natural flood management (NFM) on the Annaty Burn

**MCA Rank #5**  
**MCA Score: 63%**  
**BCR: 1.7**

This option would involve slowing down flows in the upstream reaches of the Annaty Burn and increasing controlled out-of-bank storage to the north of Scone through the use of flood storage areas and natural flood management measures, such as planting. This would reduce out-of-bank flows within Scone.



Figure 27. Annaty Burn at Den Road

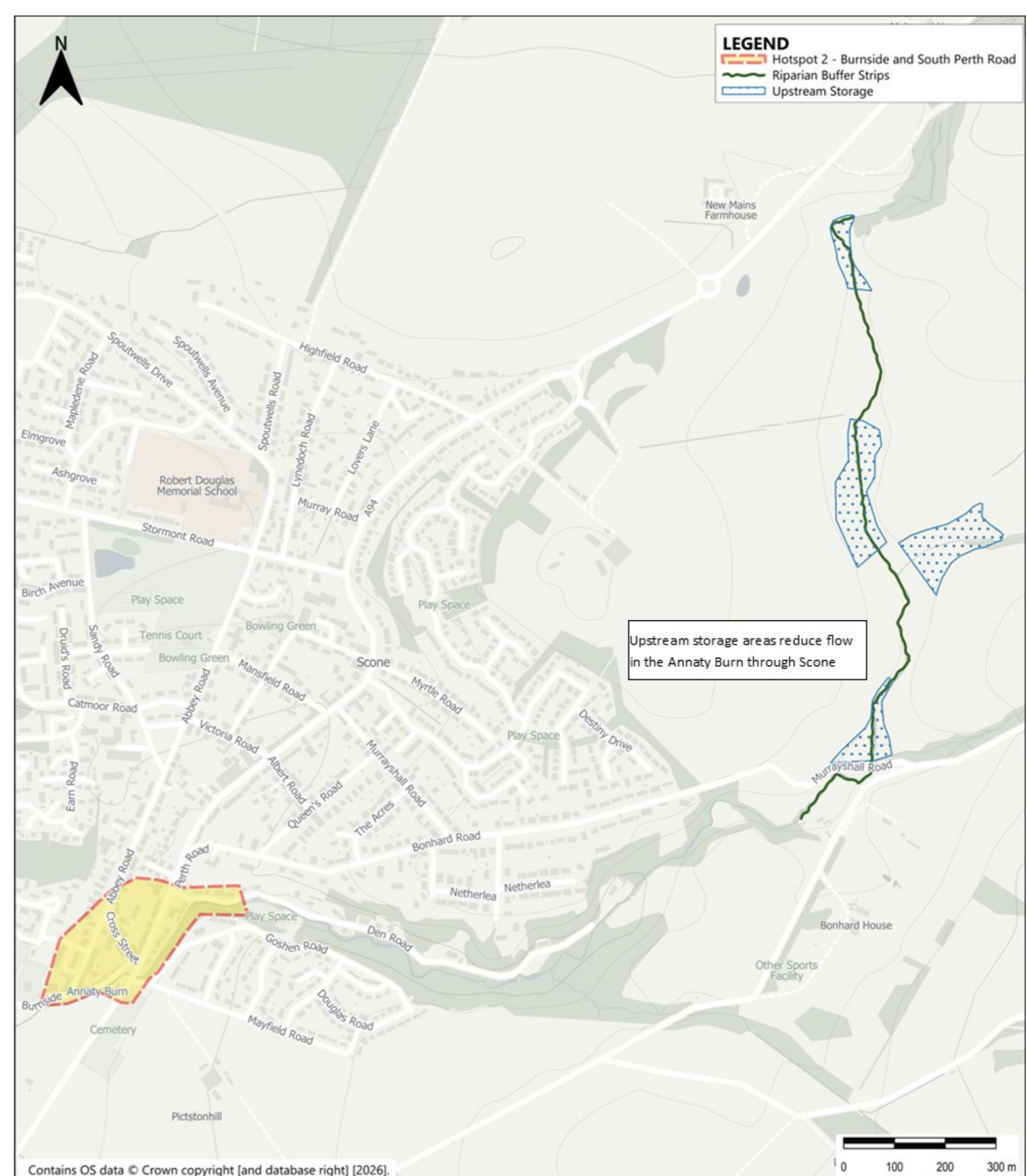


Figure 28. Option 9 sketch

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### OPTION 6. Flood Storage Area at Burnside

**MCA Rank = #6**  
**MCA Score: 61%**  
**BCR: 27.3**

This option involves lowering the field opposite Burnside. The reprofiling would redirect out-of-bank flows into the storage area and away from properties at Burnside.



Figure 29. Annaty Burn at Burnside

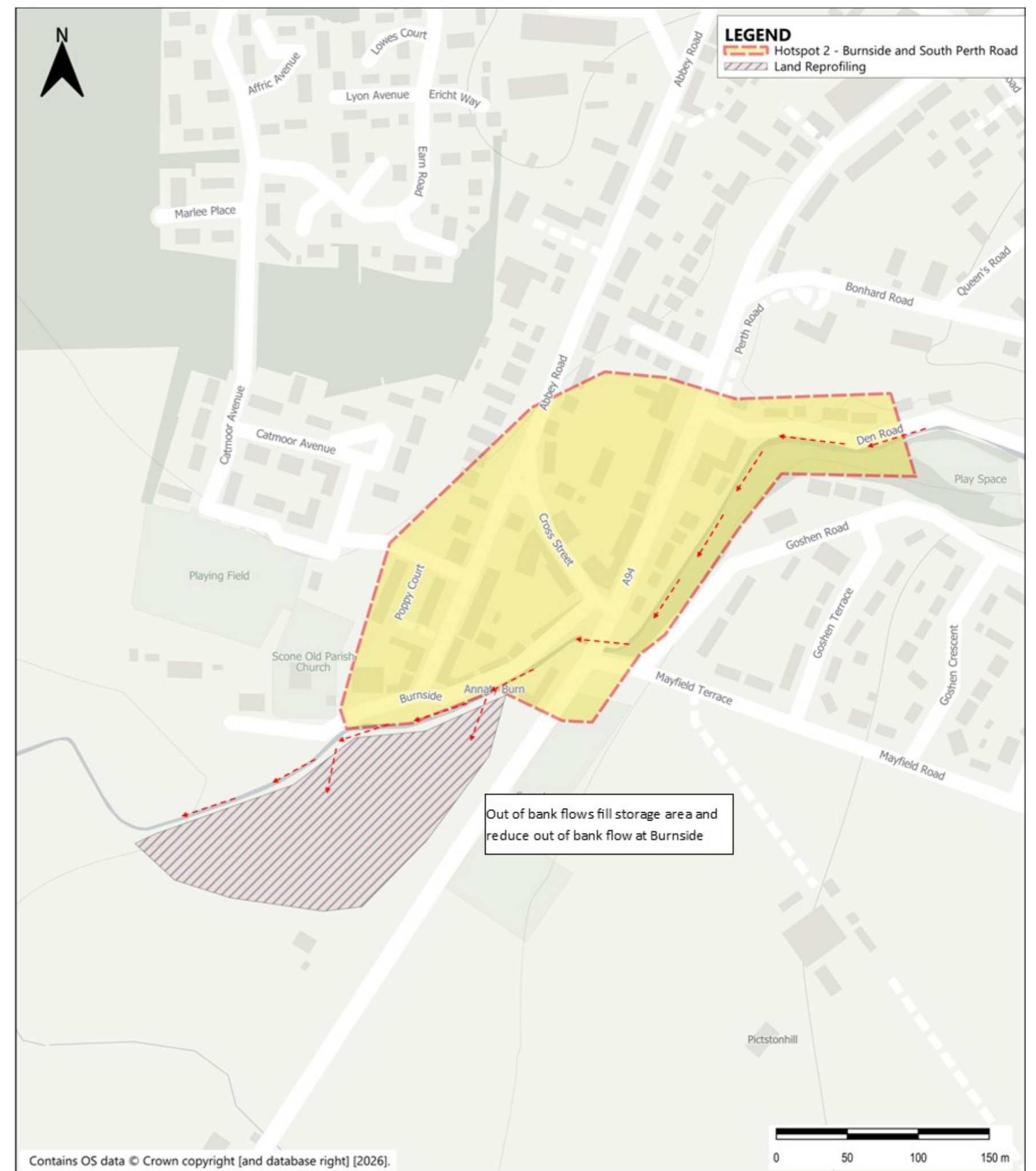


Figure 30. Option 6 sketch

### OPTION 11. SuDS at Highfield Road

**MCA Rank = #6**  
**MCA Score: 61%**  
**BCR: 8.0**

The preferred option consists of creating a SuDS basin on greenspace land on Highfield Road, and redirect water flowing down Highfield Road and Spoutwells Road into them using speed humps and swales. This would reduce overland flows in the lower catchment.



Figure 31. Highfield Road

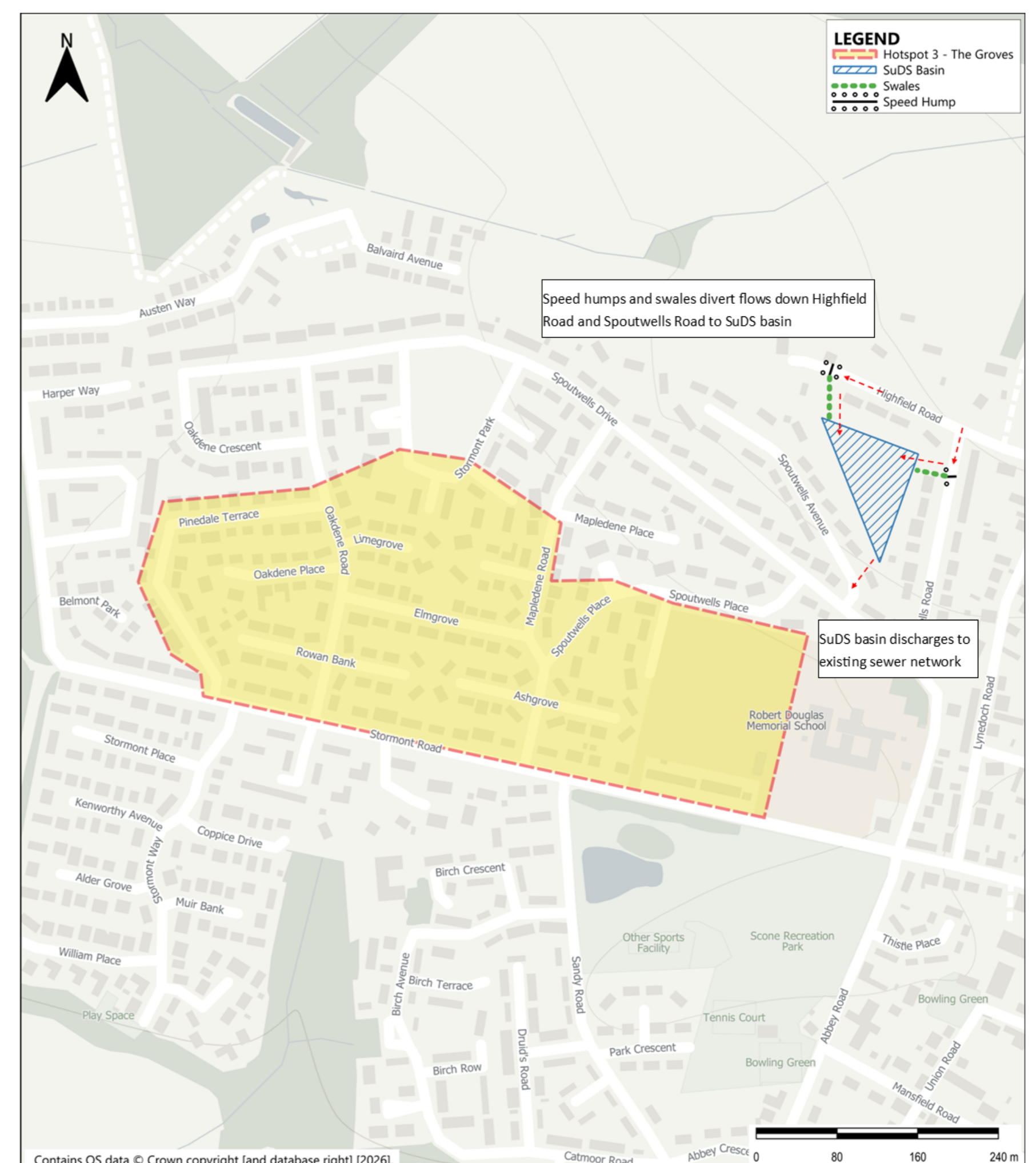


Figure 32. Option 11 sketch

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## OPTION 14. Swale to North SuDS

**MCA Rank #7**  
**MCA Score: 59%**  
**BCR: 3.0**

This option consists of a new swale and embankment to the north of Highfield road, connected to a new SuDS pond at the southern end of the CTRLR via a sewer under the A94. The swale will take overland flows from the hill to the north of Scone and direct them into the SuDS, reducing surface water in the town. It is acknowledged that the northern fields form part of the Scone North Masterplan.



Figure 33. Land to north of Scone looking towards the A94

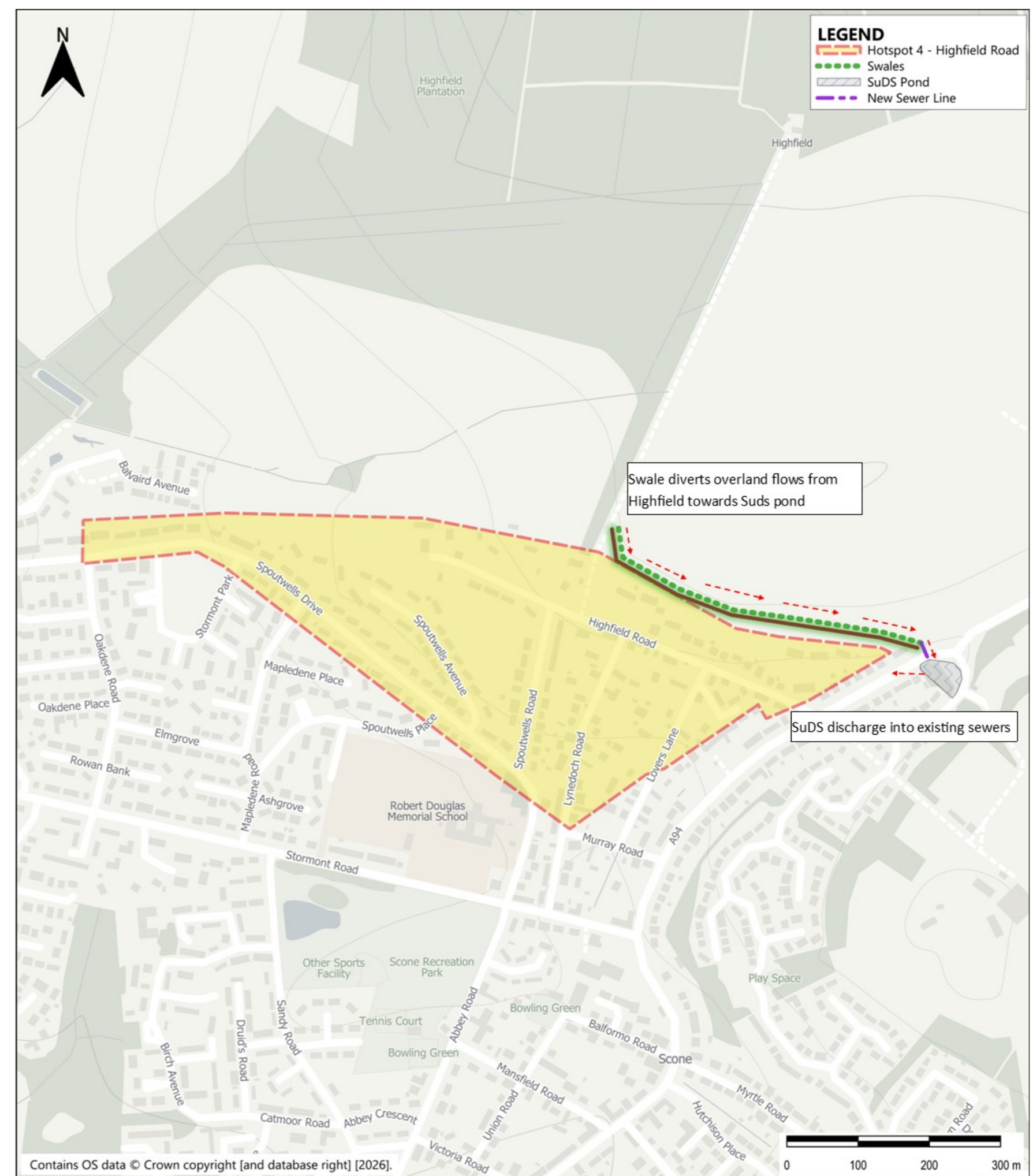


Figure 34. Option 14 sketch

## OPTION 13. Swale to Highfield Road SuDS

**MCA Rank =#8**  
**MCA Score: 57%**  
**BCR: 2.4**

This option consists of a new swale and embankment to the north of Highfield road, connected to a new SuDS basin on Highfield Road. The swale will take overland flows from the hill to the north of Scone and direct them into the SuDS, reducing surface water flow towards the town. It is acknowledged that the northern fields form part of the Scone North Masterplan and once developed will include surface water management via SuDS.



Figure 35. Land to north of Scone looking towards Highfield Road

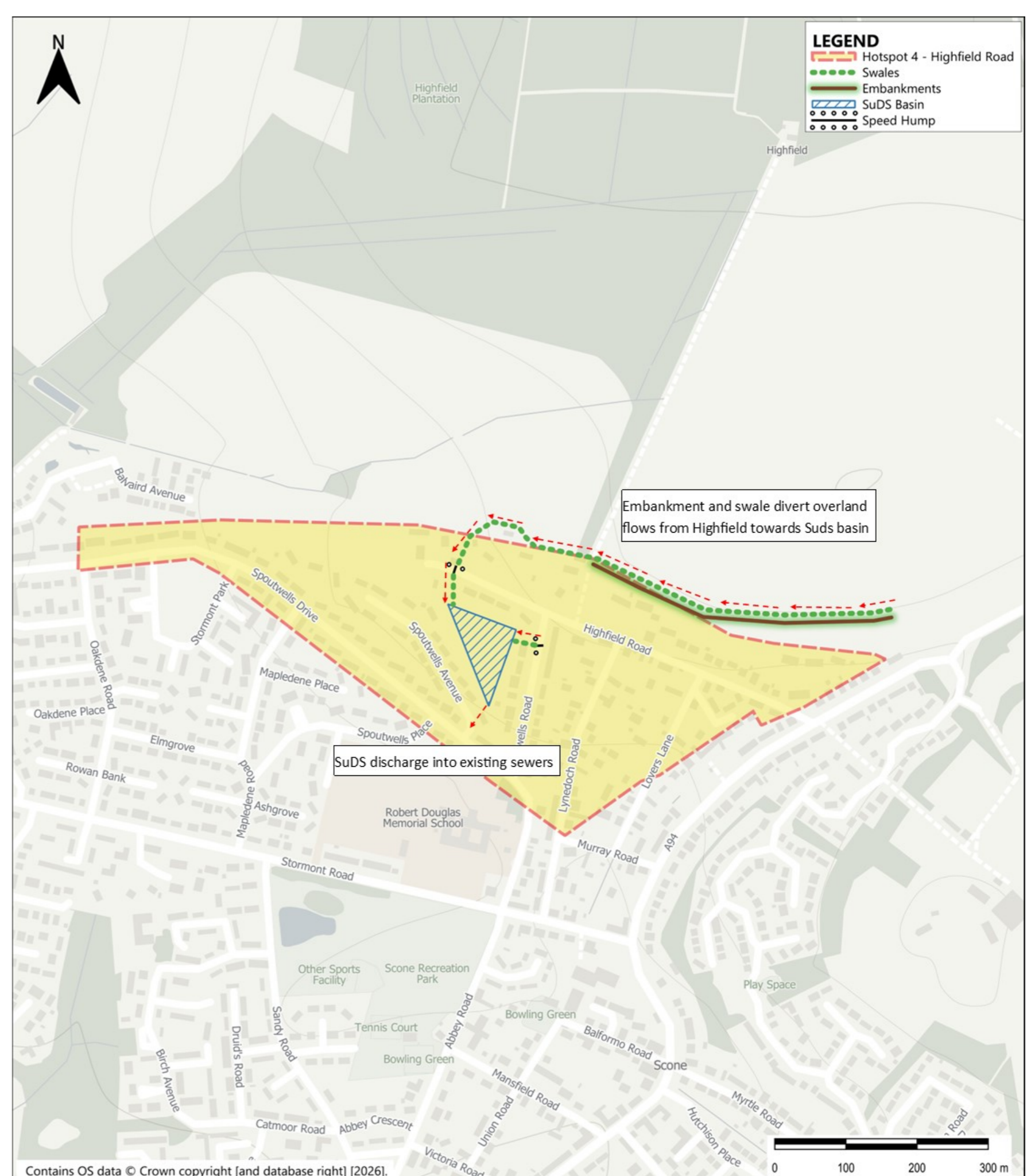


Figure 36. Option 13 sketch

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## OPTION 4. SuDS at David Douglas Avenue

**MCA Rank =#8**  
**MCA Score: 57%**  
**BCR: 10.3**

This option involves constructing 3 new SuDS features, along the length of David Douglas Avenue and connecting them via a swale. The swale and SuDS features are designed to capture and store overland flows on the East of Scone and prevent them from entering the A94 and barrel drain. This will increase drainage capacity in the lower catchment.



Figure 37. Land to North of David Douglas Avenue

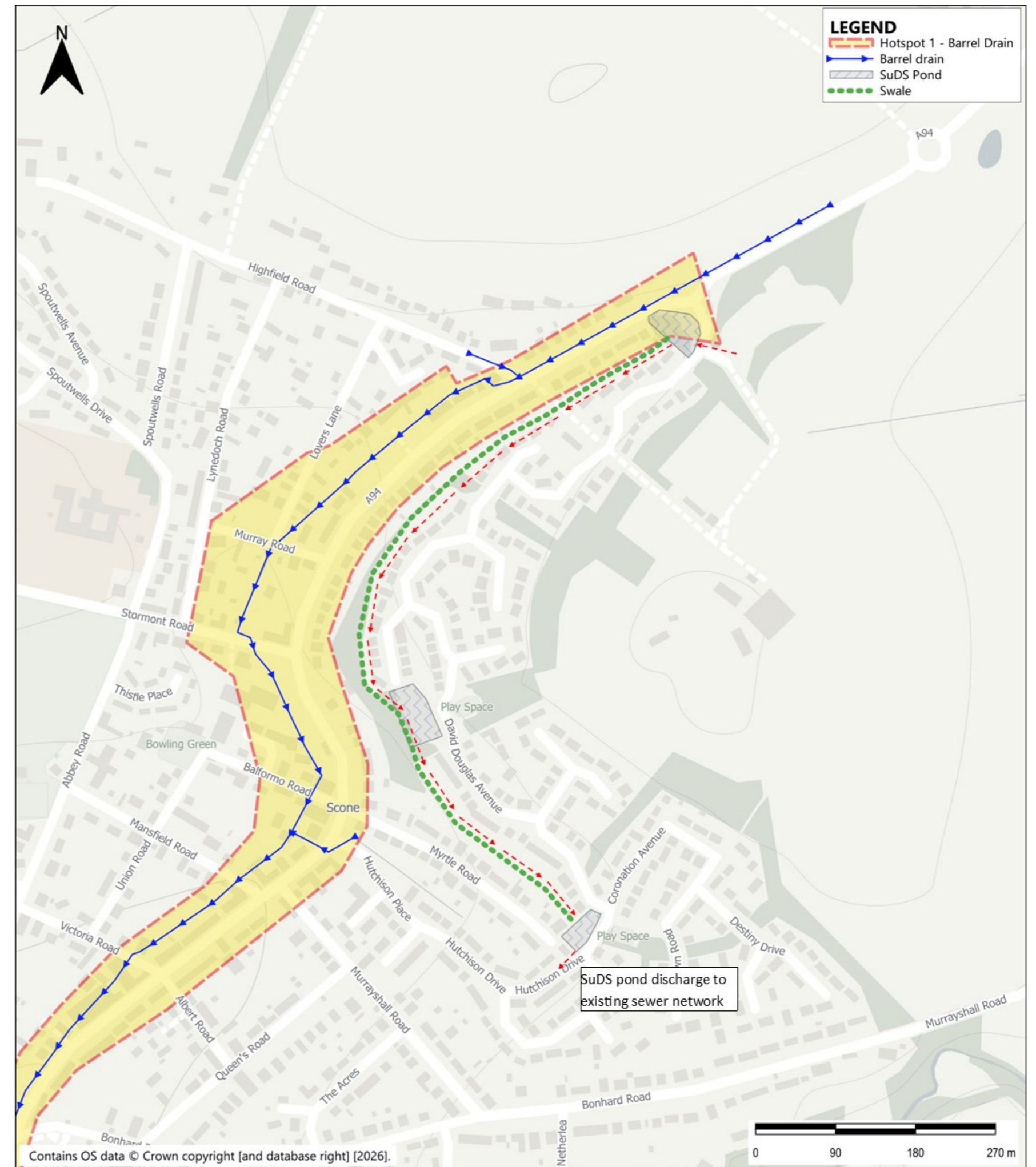


Figure 38. Option 4 sketch

## OPTION 2. Replace critical barrel drain sections

**MCA Rank #9**  
**MCA Score: 44%**  
**BCR: 1.4**

In this option the sections of the barrel drain deemed most at risk of collapse are replaced. This would extend the operational life of the barrel drain and also reduce the overland flow through the town.



Figure 39. CCTV survey image of the barrel drain

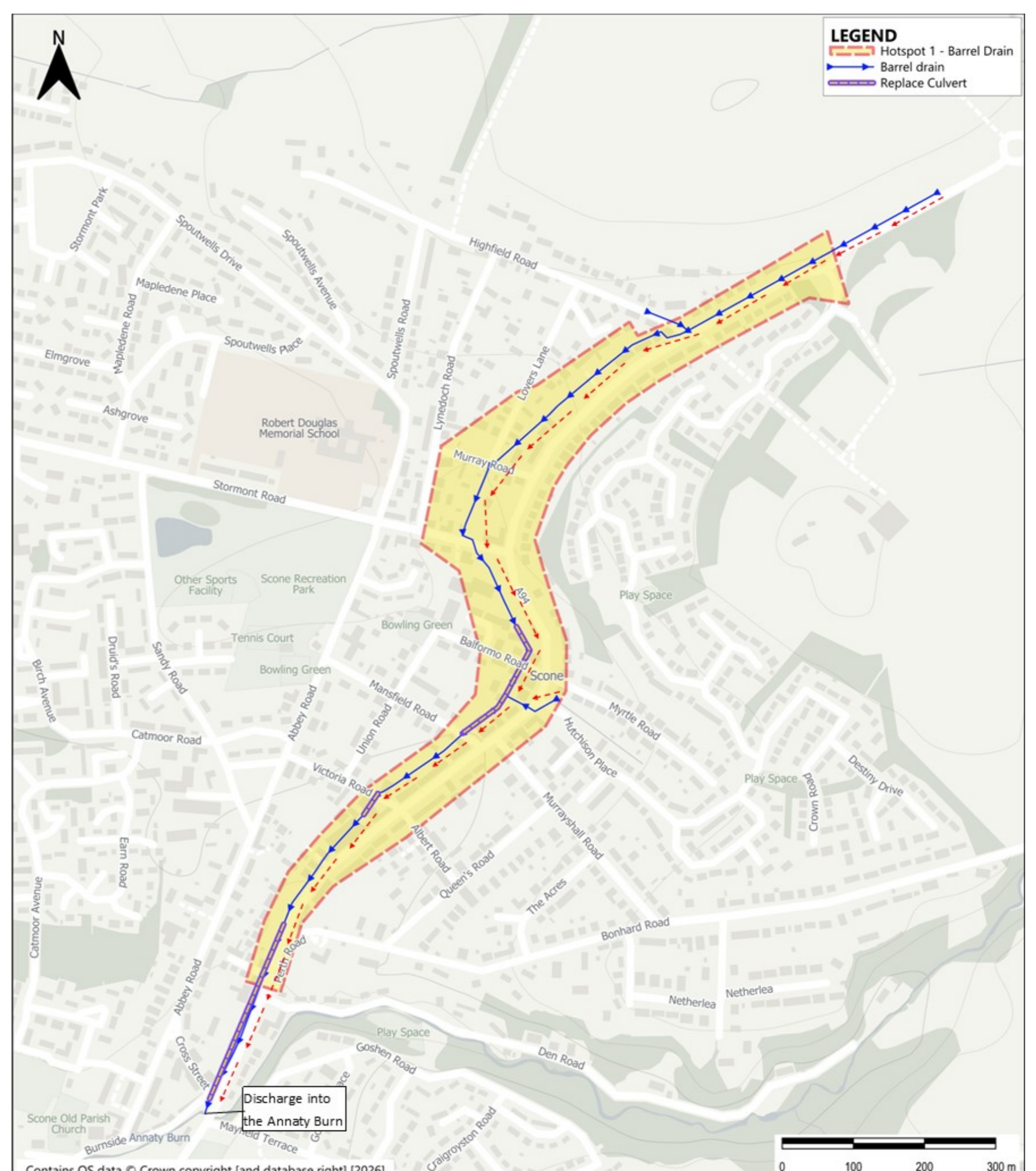


Figure 40. Option 2 sketch

# SCONE

## SURFACE WATER MANAGEMENT PLAN



### 6. Options Summary

Rank & MCA Score	Option	Capital cost	Total estimated cost across a 100-year lifespan	Estimated flood damages avoided across a 100-year lifespan (compared to Do-Nothing event)	Benefit-cost ratio (BCR)
<b>1</b> (69%)	<b>Option 3</b> — Barrel drain flows diverted into SuDS	£722,517	£1,806,080	£3,931,494	2.2
<b>2</b> (67%)	<b>Option 10</b> — SuDS at Farquharson Park	£634,578	£1,465,698	£3,554,996	2.4
<b>=3</b> (66%)	<b>Option 7</b> — New Sewer along Abbey Road	£511,301	£1,193,257	£3,344,114	2.8
<b>=3</b> (66%)	<b>Option 12</b> — Increase pipe size at The Groves	£230,000	£508,300	£3,196,293	6.3
<b>4</b> (64%)	<b>Option 8</b> — Leaky barriers along Annaty Burn tributaries	£32,493	£86,412	£3,727,686	43.1
<b>5</b> (63%)	<b>Option 9</b> — Natural flood management (NFM) on the Annaty Burn	£789,036	£1,867,900	£3,158,212	1.7
<b>=6</b> (61%)	<b>Option 6</b> — Flood Storage Area at Burnside	£45,666	£115,524	£3,150,108	27.3
<b>=6</b> (61%)	<b>Option 11</b> — SuDS at Highfield Road	£157,657	£436,042	£3,472,484	8.0
<b>7</b> (59%)	<b>Option 14</b> — Swale to North SuDS	£844,994	£1,955,057	£5,956,754	3.0
<b>=8</b> (57%)	<b>Option 13</b> — Swale to Highfield Road SuDS	£863,622	£2,093,582	£4,952,329	2.4
<b>=8</b> (57%)	<b>Option 4</b> — SuDS at David Douglas Avenue	£219,663	£573,077	£5,925,842	10.3
<b>9</b> (44%)	<b>Option 2</b> — Replace critical barrel drain sections	£1,003,053	£2,265,426	£3,209,219	1.4

#### OPTION COMBINATION

These options passed the MCA and are expected to reduce surface water flood risk across Scone. While some options provide relief to the same locations, others alleviate flood risk from different parts of the town. These can therefore be combined into a single scheme to maximise flood risk reduction for the community while remaining cost-effective.

# SCONE

## SURFACE WATER MANAGEMENT PLAN



## 7. Findings & Recommendations

The Scone SWMP has increased our understanding of the flood risks within the catchment. To achieve this, we collected and reviewed extensive data, carried out surveys, and developed a detailed integrated hydraulic model to improve the accuracy and reliability of the flood predictions. Now we have a clearer picture to make informed decisions to reduce the flood risk at Scone.

The development of a 2Di integrated hydraulic model enabled us to understand how watercourses, sewer network, groundwater, and overland flows interact and predict where and how flooding will occur. This tool helped us to assess the impact of surface water management options. It also allowed us to estimate flood damages and evaluate the economic impacts of these options over a 100-year period.

From the 14 shortlisted options, two options failed, leaving 12 cost-effective flood mitigation options which passed the multicriteria assessment:

- **Option 3** involves the creation of three new SuDS in Scone diverting flows from the barrel drain (BCR = 2.2).
- **Option 10** involves new SuDS at Farquharson Park and new sewer lines taking surface water from the Groves (BCR = 2.4)
- **Option 7** is a new sewer and SuDS along Abbey Road (BCR = 2.8)
- **Option 12** is increasing pipe sizes along Elmgrove and Ashgrove (BCR = 6.3)
- **Option 8** is the placement of leaky barriers across the Annaty Burn tributaries to reduce peak flows (BCR = 43.1)
- **Option 9** involves natural flood management along the Annaty Burn upstream of Scone (BCR = 1.7)
- **Option 6** is land reprofiling opposite Burnside to create a flood storage area (BCR = 27.3)
- **Option 11** is the creation of new SuDS on Highfield Road (BCR = 8.0)
- **Option 14** is the construction of an embankment and swale above Highfield Road connecting to SuDS at the A94 (BCR = 3.0)
- **Option 13** is the construction of an embankment and swale above Highfield Road connecting to SuDS at Highfield Road (BCR = 2.4)
- **Option 4** involves the creation of 3 new SuDS along David Douglas Avenue connected with a swale (BCR = 10.3)
- **Option 2** is the replacement of the critical barrel drain sections most at risk of collapse (BCR = 1.4)

## 8. Feedback & Next Steps

A **community drop-in session** will be held at:

**Robert Douglas Memorial Institute**  
**102 Abbey Road, Scone,**  
**Perth and Kinross**  
**PH2 6RU**

on the following dates:

**DAY 1:**  
**Wednesday 29<sup>th</sup> April 2026**  
**from 2pm to 8pm**

**DAY 2:**  
**Friday 8<sup>th</sup> May 2026**  
**from 2pm to 8pm**

Council officers and the design consultants will be present to provide an opportunity for residents to learn more about the study outcomes and ask any questions.

It is also anticipated that the following partner agencies will be present during the drop-in sessions:

**Scottish Water** - to answer any queries on the sewer network.

**SEPA** - to provide advice on Floodline and the Scottish Flood Forecast.

**Scottish Flood Forum** - to provide advice on property flood resilience products.

**Thank you!**

We would like to thank you for your attendance and comments today.  
Community involvement is a key part of flood risk management

## Contact details

For further information on the Bridge of Earn SWFS please contact:

**Flooding Team**

Pullar House

35 Kinnoull Street, Perth

PH1 5GD

United Kingdom

Tel: **01738 475000**

Email: **flood@pkc.gov.uk**

## Any comments or questions?

Please complete our feedback form; or visit the  
PKC Consultation Hub page for this project at:

**<https://consult.pkc.gov.uk/communities/sconeswmp2>**

Please ensure that all comment forms or  
online submissions are returned to PKC.

Responses to any questions raised will be provided to the community in a **'Question & Answer'** report and made available on the PKC consultation hub. The flood study will then be finalised, taking into account the information received during the community consultation, and we will report the outcome to the next available meeting of the Council's Climate Change and Sustainability Committee.