

Transport and Environment Committee

3.00pm, Wednesday, 20 June 2018

Flooding in Inverleith Park

Item number	7.5
Report number	
Executive/routine	
Wards	Inverleith
Council Commitments	43

Executive Summary

At its meeting on [21 September 2017](#) Council instructed officers to investigate the cause of the flooding at Inverleith Park and report back their findings and recommendations.

Following the commissioning of specialist analysis, it has been determined that some of the existing drainage system is no longer able to effectively drain surface water given the frequency and scale of current rainfall events.

It is therefore proposed that the ineffective sections are replaced with larger and better aligned piping, and that the installation of lateral and secondary field drainage supplements these. A bid for capital funding will be made as part of the 2019/20 budget process.

Flooding in Inverleith Park

1. Recommendations

- 1.1 That Committee notes
 - 1.1.1 the proposal to replace damaged and ineffective sections of the principal drainage pipe in Inverleith Park with larger pipes aligned along a more suitable route, and supplemented by additional inspection chambers and field drains;
 - 1.1.2 the outcome of the investigation into the cause of flooding at Inverleith Park and that the cost of the proposed solution amounts to £220,000;
 - 1.1.3 a bid for capital funding will be put forward during the 2019/20 budget process.

2. Background

- 2.1 At its meeting on [21 September 2017](#) Council amended a motion raised by Councillor Osler to Council, wherein:
Council notes:
 - 2.1.1 The importance of Inverleith Park as one of Scotland's largest urban parks,
 - 2.1.2 That, for almost 130 years, the park has provided residents across north Edinburgh with 54 acres of open green space and iconic views of the city centre,
 - 2.1.3 The adverse impact of flooding within the park through damaged drainage at vehicle and pedestrian access points to areas rented out for events, both this year and in previous summers,
 - 2.1.4 The impact this flooding has had on the ability of local people to make use of and enjoy the park.
- 2.2 Officers were instructed to investigate the cause of the flooding and report back their findings and recommendations.
- 2.3 Although drainage was included as part of the initial laying-out Inverleith Park, records show that it was subject to flooding as early as 1894. Repairs were instigated and further drainage added, an action that has been periodically repeated over the subsequent decades. As recently as 2013 £82,000 was invested by the Council on drainage works on the south-east and north-east quadrants of the park.

- 2.4 Inverleith Park has regularly hosted public events. Since 2015, the Foodies Festival has been the sole large annual event in the park.
- 2.5 Since the adoption of the Edinburgh Parks Events Manifesto, the Council has required both a rent and a bond from the organisers of large-scale events. The bond is a sum of money paid to the Council in advance of the event which is used to fund repairs to the ground or park features damaged by event. Unused monies are returned to the event organiser.
- 2.6 Following the 2017 Foodies Festival, £13,127 of bond monies was used to repair damaged ground. Works included levelling, decompaction, verti-draining, top-dressing, and over-seeding. Additional aeration was undertaken at Council expense in compacted areas out with the Foodies Festival footprint.
- 2.7 Recognising that these works alone are not fully addressing the issue of repeated flooding, six sumps have been created along the new drainage line created in 2013, and a programme of gully clearance initiated.

3. Main report

- 3.1 A comprehensive assessment of Inverleith Park's drainage network has been commissioned from consultant landscape engineers, and recommendations to improve its effectiveness in dealing with winter rainfall events were made.
- 3.2 Investigations have revealed that the chief limitation and restriction to drainage is along sections of main line piping running besides the Dunlop drinking fountain and along to the pond. Effectiveness is compromised during peak rainfall events owing to a combination of blockages and insufficient flow capacity.
- 3.3 Gradients are extremely shallow in some sections and known blockages and obstructions exist due to root ingress from the avenue of trees lining the SW quadrant.
- 3.4 There are five additional lateral drains that connect to the main line. Their effectiveness is limited due to the absence of secondary drainage and the nature of the site soils having capped or partially capped the surface of the drain lines.
- 3.5 During storm events the volume of water being received is exceeding the flow capacity of the downstream pipes. This results in water backing-up and the surrounding areas becoming flooded. Any small hollows and low areas of path and grassland are then slow to drain as water is trapped and cannot reach the nearest drains.
- 3.6 The proposed solution is to replace the affected pipe sections with new wider piping. These works would involve an extensive deep excavation through the hill to the north of the pond and the installation of at least one additional inspection chamber. The use of directional drilling to bore under trees that would otherwise have to be felled is being investigated.
- 3.7 New lateral and secondary drains running across grassed areas will also need to be installed and a series of grass establishment works undertaken.

4. Measures of success

- 4.1 The installation of replacement drainage will reduce the number and scale of localised flooding events in Inverleith Park.

5. Financial impact

- 5.1 It is estimated that these works will cost up to £220,000. This funding is not currently available but will be added to the unfunded priorities list to be considered in the 19/20 budget process.

6. Risk, policy, compliance and governance impact

- 6.1 There is a risk that more frequent and heavier rainfall events caused by climate change may further increase the volume of water needing to be drained from Inverleith Park.

7. Equalities impact

- 7.1 There are no equality impact issues to report.

8. Sustainability impact

- 8.1 Improved drainage will reduce the frequency, length, and scale of localised flooding in Inverleith Park, making it a more attractive and useable public park for visitors.

9. Consultation and engagement

- 9.1 The Friends of Inverleith Park have been consulted.

10. Background reading/external references

- 10.1 None

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11. Appendices

None