

Gloucester City Council

Meeting:	Cabinet	Date:	14 July 2021
Subject:	The Use of Sandbags during Flooding Events		
Report Of:	Cabinet Member for Environment		
Wards Affected:	All		
Key Decision:	No	Budget/Policy Framework:	No
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Appendices:	1. Provision of Sandbags to the Public- Policy Statement		

FOR GENERAL RELEASE

1.0 Purpose of Report

- 1.1 To report on the review of the current policy on sandbag use, recommend minor changes to that policy and agree the Council's position.

2.0 Recommendations

- 2.1 Cabinet is asked to **RESOLVE** that:

- (1) it be confirmed that householders continue to be primarily responsible for the protection of their own property;
- (2) it be confirmed that householders at frequent risk from flooding continue to be primarily responsible for being prepared in advance of the onset of flooding;
- (3) it be affirmed that the Council's primary roles in relation to flood management in the city are:
 - (a) source of advice to householders to make appropriate provision for protecting their property in the event of a flooding incident and find alternative methods of protection such as flood barriers and other physical measures;
 - (b) to manage and maintain watercourses within its own ownership;
 - (c) through production of appropriate strategic planning policies and enforcement of planning conditions related to flood management and
 - (d) during and after a flooding incident, to provide support as requested/appropriate by the lead flood agencies (Environment Agency and Gloucestershire County Council) in this area;

(4) the policy statement outlined in Appendix 1 be adopted.

3.0 Background and Key Issues

3.1 Gloucester City's main flood threat is two-fold:

A) surface water flooding due to heavy rain.

B) Flooding occurring due to river levels overtopping defences.

3.2 Since the major floods of 2007 there has been significant investment in the city in flood management. A key aspect has been the introduction and maintenance of river and watercourse telemetry by the Environment Agency. This has enabled the Council and partners to review water levels in near real-time and carry out trend analysis following events to better understand the catchment and hence risk to life and property.

3.3 The Lead Local Flood Authority (Gloucestershire County Council) have recently updated their Flood Guide which identifies steps to help reduce the risk of flooding and advice on flood protection and preparedness.

[\(https://www.gloucestershire.gov.uk/planning-and-environment/flood-risk-management/flood-guide/\)](https://www.gloucestershire.gov.uk/planning-and-environment/flood-risk-management/flood-guide/).

3.4 Climate change is anticipated to impact on the frequency and intensity of extreme rainfall and sea levels which will impact flood risk within Gloucester, particularly given the tidal influence on the River Severn in this location.

3.5 There have been several significant events since 2007 in 2012, 2014 and most recently 2019 and 2020. This has seen effective collaborative working with partners and emergency services which is set to continue. A flooding database is now operational to record flooding incidents and opportunities to be identified and investigated.

Repair and Maintenance

3.6 Where the Council are landowners they undertake riparian duties on watercourses to ensure that channel capacity is available to convey flows. The Council undertakes regular inspections and clearance of trash-screens, weirs and culverts under their ownership.

3.7 The Council are constantly looking for suitable opportunities working with stakeholders and partners such as the Environment Agency and the LLFA to undertake flood alleviation schemes and manage run-off entering the urban watercourses.

3.8 Recent schemes include Natural Flood Management in the headwaters of the River Twyver and Sud Brook with the aim to delay the run-off and sediment transport upstream at source, improving channel capacity downstream in the urban environment.

3.9 The Council through Planning Policies manages the run-off entering urban watercourses from new developments by following Sustainable Urban Drainage

Systems (SUDS) principles that aim to mimic natural drainage, for example balancing ponds and permeable pavements.

- 3.10 During a flood event it would be anticipated that Council operatives look to clear trash-screens and culverts within our ownership where safe to do so. This maintains channel and flood capacity and provides a much wider benefit than say, provision of sandbags. During flood events the rising water could transport debris and detritus that could increase the risk of a blockage and localised flooding.

Sandbags

- 3.11 Sandbags are ineffective when compared to purpose-designed flood protection products. Some of their drawbacks include:
- 3.11.1 Unless installed correctly, they have limited effectiveness and can provide a false sense of security.
 - 3.11.2 Sandbags do seep water even when well-stacked and trodden into place.
 - 3.11.3 Sandbags are very heavy and difficult to move.
 - 3.11.4 They would need to be deployed at all water entry points at a property to form an effective temporary barrier. The number of bags and location of water vulnerable points on a property would not be known by the Council or agencies, making their effective deployment rapidly in real time challenging and expensive.
 - 3.11.5 Sandbags do deteriorate particularly if left in sunlight and could cause bags stored for a period of time to fail.
 - 3.11.6 Deployment of flood protection measures such as sandbags during a flash flood are considered inefficient and ineffective. This type of flooding from watercourses, sewers or surface run-off is difficult to predict and can subside very quickly.
 - 3.11.7 Access to locations for delivery of sandbags may not be safe or possible, particularly at short notice.
 - 3.11.8 Historically sandbags have been delivered to Westend Parade and Sudmeadow Road areas. It has been observed that many of those delivered recently were not required or used to hold back flood water. These sandbags have typically not been collected back by the council, with residents encouraged to store them

Policy Review

- 3.12 A review of sandbag protocols across other Authorities indicates several common themes.
- 3.12.1 that responsibility for property flood protection lies with property owner and not the Council or any other agency.
 - 3.12.2 sandbags are not generally deployed to the public.
 - where they are made available, they are not available for garden or outbuilding flooding but only where there is an immediate threat of internal flooding

- sandbags are generally not deployed on flood warnings or onset of rainfall

3.12.3 in those authorities where they are deployed, deployment is based on priority with consideration to:

- existing defences
- critical/ strategic infrastructure
- essential services
- Vulnerable people

3.12.4 sandbag disposal is not the responsibility of the Council or other agencies

4.0 Social Value Considerations

4.1 Not applicable.

5.0 Environmental Implications

5.1 Sandbags typically contain plastics and, as they breakdown, pose a negative environmental impact.

5.2 The disposal of sandbags is typically down to the homeowner. If not disposed of appropriately, sandbags could end up in watercourses posing a blockage risk or littering the local area.

5.3 Following flooding, sandbags that have been contaminated by petroleum products, sewage, industrial waste or hazardous chemicals have the potential to negatively impact public health and the environment, if not disposed of appropriately.

6.0 Alternative Options Considered

6.1 No provision of sandbags

Sandbags could be required during major events to protect critical infrastructure and services and supporting existing defences. This option is ***not recommended***.

6.2 Deliver sandbags to meet any incoming requests.

In practice this would be inefficient and not logistically achievable or affordable. The City would have to increase their stock of sandbags and fill material (with associated storage) to meet potentially significant demand. During a flooding event, meeting all requests before floodwaters threaten property would be logistically unfeasible for the Council, and probably physically impossible in times of severe flooding. This is due to the sheer volume of sandbags that would be required, and the difficulty in moving them swiftly around the City when roads may be unpassable, and traffic congested. The deployment of personnel undertaking this could impact on other flood activities such as clearing trash screens and debris. This option is ***not recommended***.

6.3 Flexible prioritised response

This option considers deploying sandbags based on priority and is a common theme across other authorities. It recognises the Council's physical and financial constraints

and the effectiveness of sandbags in responding to a flood event. It also encourages householders to take responsibility for protecting their own property from flooding. During an event, priority will be given to securing flood defences (existing or temporary), critical infrastructure, and essential services in the first instance. This is required to protect the wider catchment and communities and ensure that elements such as transport, hospitals, power and water are protected. Once these are sufficiently secured, and providing that sufficient resources are available, risk to vulnerable communities and people will be assessed for suitability for deployment of sandbags (if not already by the County Council). Following that, residential properties that are at threat from imminent flooding (not gardens or outbuildings) will be considered on a site by site basis, taking into account rain forecasts, water levels and guidance from emergency services and customer access to other supply chains such as DIY stores. In these circumstances, sandbags will not be readily available on demand and may not be deployed at all or deployed as empty sacks for the customer to fill. Commercial properties will not be provided with sandbags as again, the onus is on them to take responsibility for protecting their own assets. The financial implications of emergencies are by their nature difficult to quantify, but this approach allows officers to take appropriate and proportionate action commensurate with the City Council's limited resources. This option is **recommended**.

6.4 Collection from the depot

This could be used in conjunction with the recommended option. There are logistical and depot site safety issues particularly during out-of-hour times. There is a possibility of abuse unless strictly supervised and there would only be a limited stock available. As sandbags are heavy when filled a typical family vehicle and person may struggle to handle and transport them. This option is **not recommended**.

6.5 Collection from a location within a Community or at-risk areas

This option would involve maintaining on-site sandbags supplies close to known flood risk areas. There are several difficulties with this option. Two key challenges are in finding a suitable location to store the required significant number of sandbags (or their component parts), and that any site is secure and not impeding access or on private land. There would be a long-term maintenance requirement of such provisions and there would be no guarantee that the sandbags would be deployed in a suitable and timely manner or returned afterwards, creating an additional financial challenge for the council. Such a policy does also create an expectancy and dependence on the Council that would still face requests of further deployment. This may be a more appropriate method where flood wardens or a community group are present to manage the stock and deploy when needed. At present this option is **not recommended** but could be explored.

7.0 **Reasons for Recommendations**

7.1 Based on the policy review, the effectiveness of the resources available and the Councils approach to flood management and community engagement the recommendation outlined in 6.3 gives the Council the ability to use sandbags flexibly, in situations where they may be of benefit, and after other critical actions have been taken, balanced alongside the Council's financial and workforce constraints.

8.0 Future Work and Conclusions

- 8.1 Future works will include the update of Gloucester City website to reflect the policy described here and in Appendix 1, and provide a link to the Gloucestershire County Council (Lead Local Flood Authority) updated Flood Guide.

9.0 Financial Implications

- 9.1 It is difficult to predict any cost for an emergency and any financial implications will depend on the level of flooding and what needs to be done to secure critical infrastructure and services.
- 9.2 There is no specific budget to cover sandbag purchases, maintenance, and distribution, so costs will have to be met by current service budgets.
- 9.3 The recommended option allows for the most effective use of the Council's constrained resources.

10.0 Legal Implications

- 10.1 There is no legal requirement for the Council to provide sandbags or any other specific form of assistance in time of an emergency.
- 10.2 The Civil Contingencies Act 2004 places a duty on the Council to assess, plan and advise during emergencies. A policy statement on provision of sandbags would be form a part of the Council's emergency plans formulated in discharge of that duty. The lead flood authority in two tier areas is the County Council.
- 10.2 Section 138 of the Local Government Act 1972 permits a council to incur such expenditure as they consider necessary in taking action themselves (either alone or jointly with any other person or body and either in their area or elsewhere in or outside the United Kingdom) which is calculated to avert, alleviate or eradicate in their area or among its inhabitants the effects or potential effects of the event.

11.0 Risk & Opportunity Management Implications

- 11.1 Flooding can affect all sectors of the population. During major events, appropriate command and control chains will be established as part of the flood emergency response plan.

Background Documents:

GCiC_Review of sandbag policy at other Councils_00.docx

Link to LLFA Flood Guide –

<https://www.gloucestershire.gov.uk/planning-and-environment/flood-risk-management/flood-guide/>

Government advice on preparing for flooding -

<https://www.gov.uk/prepare-for-flooding/future-flooding>

