REPORT TO: **ECONOMIC DEVELOPMENT AND INFRASTRUCTURE SERVICES COMMITTEE ON 11 JUNE 2019**

SUBJECT: **LOSSIEMOUTH SEATOWN AND PORTGORDON FLOOD STUDIES**

BY: **CORPORATE DIRECTOR (ECONOMIC DEVELOPMENT, PLANNING AND INFRASTRUCTURE)**

1. REASON FOR REPORT

1.1 To inform Committee of progress on the proposed Flood Protection Schemes at Lossiemouth Seatown and Portgordon.

1.2 This report is submitted to Committee in terms of Section III (F) (19) of the Council's Scheme of Administration relating to the functions of the Council under the Flood Risk Management (Scotland) Act 2009.

2. RECOMMENDATION

2.1 It is recommended that the Committee agree:

i. to take forward development of the proposed Flood Protection Scheme at Lossiemouth Seatown; and

ii. that a Flood Protection Scheme for Portgordon is not progressed further.

3. BACKGROUND

3.1 On 3 May 2016, a meeting of this Committee agreed the Local Flood Risk Management Plans for the North East Local Plan District and the Findhorn, Nairn and Speyside Local Plan District (Paragraphs 6 and 7 refer respectively). These Plans included actions to progress flood studies for Lossiemouth Seatown and Portgordon respectively.

3.2 The studies for Lossiemouth Seatown and Portgordon are now complete and a summary of the findings is provided below. A copy of the report for each study is provided on CMIS as background information relating to this report.

Lossiemouth Seatown

3.3 The Seatown area of Lossiemouth is situated on the banks of the River Lossie estuary. The National Flood Risk Assessment undertaken by SEPA in 2011 indicates that the Seatown area of Lossiemouth is at risk of flooding during extreme tidal events. A study into this flood risk has been undertaken by the Council to assess the feasibility of providing flood protection for Seatown and developing potential flood mitigation options. This study investigated the effects of tidal flooding only, as the Seatown area is currently protected from wave overtopping by the dunes and the beach. The investigation found that 248 properties in the Seatown area of Lossiemouth are at risk of tidal flooding during a 1 in 200 year event.

3.4 The most practical way of mitigating this flood risk is to construct a barrier between the estuary and the properties at Seatown. A number of options were considered including an earth embankment, a sheet pile wall and a reinforced concrete wall. A public exhibition was held in February 2018, at which information on all of the proposed options was provided. Based on the feedback from this exhibition, and the environmental and economic considerations, an earth embankment is considered the preferred option.

3.5 The other main consideration was whether to include the caravan park to the south of Seatown. The economic feasibility of options with and without protection for the caravan park was assessed, and the benefits with the caravan park exceed those without.

3.6 The estimated cost of providing an earth embankment to protect properties and the caravan park in Seatown, for up to and including a 1 in 200 year event, with an allowance for sea level rise caused by climate change over the next 50 years, is £1,186,074. The Benefit Cost Ratio for this option is 1:35.

3.7 As shown above the business case for delivering a Flood Protection Scheme for Seatown is very strong. As such it is recommended that the proposed scheme is developed and taken forward for inclusion in the Flood Risk Management Strategies and Plans for Cycle 2.

Portgordon

3.8 There is a history of flooding during storm events at Stewart Street and Lennox Place in Portgordon. Flooding occurs when waves overtop the revetment and seawater builds up behind the small wave wall between the revetment and the road.

3.9 A study was undertaken to investigate the extent of the flooding and potential mitigation options. The findings of this study identified 66 properties at risk of flooding during a 1 in 200 year storm event.

3.10 A number of mitigation options were considered, including a rock armour embankment, a stepped revetment and a new wave return wall. To significantly reduce wave overtopping it would be necessary to construct a rock armour embankment or wave wall with a height of between 1 to 2m above the existing upstand wall. The cost of providing this level of protection ranges from £18m to £26m. None of the options to significantly reduce wave overtopping achieved unity, i.e. a Benefit Cost Ratio of 1 or greater. Based on

what would be considered a poor business case, it is unlikely that grant funding from Scottish Government would be made available to construct this scheme.

3.11 As flooding in Portgordon is a combination of wave overtopping and a build-up of water behind the existing coastal defence, a drainage solution was investigated to see if this would reduce flood risk. This investigation found that a drainage solution provides a limited level of protection to properties in Portgordon as shown in the table below. The Benefit Cost Ratio for all of the events assessed, up to and including a 1 in 200 year event is 1:4. The benefits were achieved through a combination of reducing flood risk to a small number of properties and reducing the average depth of flooding. .

	10 year return period		50 year return period		100 year return period		200 year Return Period	
	No of Properties	Avg Flood Depth (m)	No of Properties	Avg Flood Depth (m)	No of Properties	Avg Flood Depth (m)	No of Properties	Avg Flood Depth (m)
Do Nothing	58	0.187	65	0.231	65	0.250	66	0.272
Drainage Only	57	0.172	62	0.209	63	0.228	64	0.246

Based on the limited level of protection provided by the drainage solution and the poor business case for a higher level of protection, it is recommended that a flood protection scheme for Portgordon is not progressed further.

4. SUMMARY OF IMPLICATIONS

(a) Corporate Plan and 10 Year Plan (Local Outcomes Improvement Plan (LOIP))

Flood Risk Management is a key action in the Service Plan. “Protecting our Community from effects and fear of flooding”.

(b) Policy and Legal

There are no policy or legal implications associated with the recommendations in this report.

(c) Financial Implications

If the recommendation in this report is agreed the proposed scheme at Lossiemouth Seatown will be included in the Flood Risk Management Strategies and Plans for Cycle 2 and will be prioritised for 80% grant funding from Scottish Government. The remaining 20% would need to be funded by Moray Council. The allowance for further preparatory work on the proposed scheme at Portgordon would no longer be required and would be removed from the Capital Plan.

(d) Risk Implications

The business case for providing a Flood Protection Scheme for Lossiemouth Seatown is strong, with a Benefit Cost Ratio of 1:35. However, it is unlikely that available grant funding for Cycle 2 will meet demand and the timing of available funding for a Flood Protection Scheme at Lossiemouth Seatown will be dependent on the national prioritisation undertaken by Scottish Government.

(e) Staffing Implications

There are no staffing implications associated with the recommendations in this report.

(f) Property

There are no property implications associated with the recommendations in this report.

(g) Equalities/Socio Economic Impact

There is no equalities/socio-economic impact associated with this report.

(h) Consultations

The Corporate Director (Economic Development, Planning and Infrastructure), The Legal Services Manager, P Connor, Principal Accountant, L. Rowan, Committee Services Officer and the Equal Opportunities Officer have been consulted and comments have been taken into account.

5. CONCLUSION

5.1 Studies undertaken to assess potential Flood Protection Schemes at Lossiemouth Seatown and Portgordon have been completed.

5.2 The proposed Flood Protection Scheme at Lossiemouth Seatown has a strong business case and would consist of a flood retaining embankment between the estuary and the properties and caravan park at Seatown.

5.3 There is no positive business case to reduce wave overtopping at Portgordon. There is a business case to improve drainage of seawater during storm events but the level of flood protection provided to properties is limited.

Author of Report: Debbie Halliday
Background Papers:
Ref: