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<b>Report To:</b>	<b>Environment &amp; Regeneration Committee</b>	<b>Date:</b>	<b>18 January 2018</b>
<b>Report By:</b>	<b>Corporate Director Environment, Regeneration &amp; Resources</b>	<b>Report No:</b>	<b>ERC/ENV/WR17.321</b>
<b>Contact Officer:</b>	<b>Steven Walker</b>	<b>Contact No:</b>	<b>714828</b>
<b>Subject:</b>	<b>Flood Risk Management – Update Report 11</b>		

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## 1.0 PURPOSE

- 1.1 The purpose of this report is to update the Committee of the progress on the Council's flood risk management programme.

## 2.0 SUMMARY

- 2.1 The Council has in place a significant programme for the investigation, design and construction of various flood prevention schemes within Inverclyde, both as part of the Central Greenock Flood Prevention Project, and a number of schemes outwith the Central Greenock area.
- 2.2 The progress of the Central Greenock Flood Prevention Schemes are detailed in paragraph 4.4. Site works at Drumfrochar Road, Aberfoyle Road, Kings Glen, Mearns Street, Brougham Street, and West Station are complete. Design work is progressing on schemes for additional capacity at Crescent Street and the Eastern Line of Falls. Automatic trash screens have been installed at Crescent Street, Lady Alice Pond, Craighknowe Burn, Bouverie Burn and Devol Burn.
- 2.3 The progress of the Flood Prevention Schemes outwith Central Greenock, are detailed in paragraph 4.5. Site works at Glasgow Road, Port Glasgow are complete, along with the Natural Flood Management Study at Glen Moss, Kilmacolm. Design work is progressing for schemes at Bouverie Burn, Port Glasgow, at Gotter Water, Quarriers, and at Glenmosston Burn, Kilmacolm. Works at Coves Burn is complete, and is the subject of a separate report to this Committee. Scottish Water, as lead, is progressing the two Integrated Catchment Studies for Inverclyde and Erskine. Scottish Water is programmed to commence site works during January 2018 in respect of reducing the incidence of flooding at the Oak Mall, Greenock. Transport Scotland is leading on the investigations into the flooding issues at A8 East Hamilton Street.

## 3.0 RECOMMENDATIONS

- 3.1 That the Committee note the current progress on the Central Greenock Flood Prevention Schemes.
- 3.2 That the Committee note the current progress on the Flood Prevention Schemes outwith Central Greenock, and note that detailed recommendations as to the proposals required for Coves Road, Gourrock, are the subject of a separate report to this Committee.

**Willie Rennie**  
**Head of Environmental and Commercial Services**

## **4.0 BACKGROUND**

- 4.1 The Council has in place a significant programme for the investigation, design and construction of various flood prevention schemes within Inverclyde, both as part of the Central Greenock Flood Prevention Project, and a number of schemes outwith the Central Greenock area.
- 4.2 In 2014, the Scottish Government awarded grant funding to Inverclyde amounting to £1,743,466 for the Central Greenock Flood Prevention Project (comprising a number of discrete schemes) – this represented 79% of the original estimated total cost for the Project at £2,216,000. The balance of the funding (£472,534) was to come from the previously approved Flood Action Plan. The next phase of the Flood Prevention Project Outwith Greenock is funded by the Scottish Government, amounting to £1,232,000; the balance of the funding (£494,000) comes from the previously approved Flood Action Plan, giving a total funding of £1,726,000 – due to changes to the scheme originally proposed on Cove Road, £300k grant funding has been passed back to the Scottish Government, reducing the total funding to £1,426,000.
- 4.3 The Council is a Member Authority of the Clyde & Lomond Local Plan District (CaLL Group). The CaLL Local Plan District is a partnership of ten Local Authorities, with Glasgow City Council as lead. The CaLL Group published its “Local Flood Risk Management Plan” in June 2016; the publication of the Plan is an important milestone in implementing the Flood Risk Management (Scotland) Act 2009 and improving how we cope with and manage flood events in the CaLL District. The Plan translates this legislation into actions to reduce the damage and distress caused by flooding over the first planning cycle from 2016 to 2022. There are a number of schemes arising from the Plan, which are outwith the Central Greenock Flood Prevention Plan.

4.4 The various flood prevention schemes are summarised in the table 1 below (inclusive of Fees):

<b>Scheme</b>
<b><i>Central Greenock Flood Prevention Plan</i></b>
<p><b>Completed:</b>            Crescent Street – Automatic Trash Screen (including maintenance)            Crescent Street – Additional Capacity (discontinued scheme)            Drumfrochar Road – Replacement Culvert            Aberfoyle Road – Flow Control            Kings Glen – Attenuation            Mearns Street – Flow Control            Brougham Street – Additional Capacity            West Station – Additional Capacity            Lady Alice Pond – Automatic Trash Screen            Craignowe Burn – Automatic Trash Screen            Bouverie Burn, Port Glasgow – Automatic Trash Screen            Devol Burn, Port Glasgow – Automatic Trash Screen</p>
<p><b>At Design Stage:</b>            Crescent Street – Additional Capacity (revised scheme)            Eastern Line of Falls – Capacity Improvements</p>
<b><i>Flood Prevention Plan Outwith Greenock</i></b>
<p><b>Completed:</b>            Glasgow Road, Port Glasgow – Minor Improvement            Natural Flood Management Study, Glen Moss, Kilmacolm</p>
<p><b>At Design Stage:</b>            Coves Burn, Gourock            Bouverie Burn, Port Glasgow            Gotter Water, Quarriers            Glenmosston Burn, Kilmacolm            Surface Water Management Plans, Greenock &amp; Port Glasgow            Integrated Catchment Study (Inverclyde) (Scottish Water Lead)            Integrated Catchment Study (Erskine) (Scottish Water Lead)</p>
<p><b>Other Schemes:</b>            A8 East Hamilton Street, Greenock (Transport Scotland)            Oak Mall, Greenock (Scottish Water)</p>

Notes:

- *West Station:* Works started on site March 2016 and Phase 1 (Newton Street) and Phase 2 (South Street Roundabout & Nelson Street), were completed. Phase 3 (Inverkip Road) started on site early July 2016. Transport Scotland have contributed £237k towards the overall West Station scheme.
- *Crescent Street:* This scheme is proposed to provide additional culvert capacity on the Carts Burn. Following the termination of the contract to provide an additional culvert at Crescent Street (via Stanners Lane), as the Council's Contractor could not achieve agreement with Network Rail in terms of the construction methodology, Officers investigated the feasibility of alternative design proposals for the Carts Burn and the Eastern Line of Falls, to provide the necessary additional capacity. Revised schemes comprising a combined overland route and piped culvert downstream of the railway at Crescent Street, and capacity improvements to the (Old) Eastern Line of Falls have been identified as the most suitable way forward. Design is well advanced on the scheme at Crescent Street, and construction is anticipated

to commence on site during 2018/19.

4.5 The Flood Prevention Schemes outwith Central Greenock are summarised in the table below (inclusive of Fees):

- *Coves Burn, Gourock*: The Council's external consultant has carried out detailed hydrological studies in respect of the original proposal to upsize the culvert at Steel Street, as well as further subsequent analysis on the possibility of attenuation of water upstream of Steel Street. Taking into account the capacity enhancement provided by Scottish Water's completed works to Steel Street, and potential tidal flooding from the River Clyde, it is now considered that the need for the upsizing of the existing surface water culvert to Steel Street has negated, and property level protection is currently being considered.
- *Bouverie Burn, Port Glasgow*: The Council's external consultant has carried out detailed hydrological studies in respect of the original proposal to deal with the fluvial (river) flooding from the Bouverie Burn at Bouverie Street at Bouverie Motors, and have designed a scheme to upsize the existing culvert in Bourverie Street. It is anticipated that this scheme will commence on site 2018/19. This is now considered to be Phase 1 of the flood prevention works for Bouverie Burn, as the hydrological studies noted that there is a potential restriction to flow in the existing culvert where it passes beneath the railway adjacent to the A8 Trunk Road. Further investigations are being undertaken and it is likely that a Phase 2 scheme for the Bouverie Burn will be required to eliminate flooding at the Bouverie Burn; funding arrangements will need to be considered and any Phase 2 scheme may form part of the future submission for grant funding.
- *Gotter Water, Quarriers*: The Council's external consultant has carried out detailed hydrological studies in respect of the original proposals to deal with fluvial (river) flooding from the Gotter Water. The studies have concluded and the outcome is that fluvial flooding is not considered to be the main concern at this location, and that pluvial (overland) flooding is the primary mechanism for flooding. The external consultant is finalising the design of a culvert to cater for these pluvial flows, which collect in the field west of Craighet Avenue and results in flooding to property, with diversion back into the Gotter Water. It is anticipated that site works will commence during 2018/19.
- *Glenmosston Burn, Kilmacolm*: The Council's external consultant has carried out detailed hydrological studies in respect of the original proposals to deal with fluvial (river) flooding from the Glenmosston Burn at Gowkhouse Road, and which flows down Gilburn Road to Market Place. A design has being prepared for upgrading the existing culvert at Market Place to Smithy Brae and work is progressing regarding the detailed drawings and documents for this scheme. An outline scheme has been prepared for an additional culvert at Gowkhouse Road to provide additional capacity and to ensure that flows discharge into the Glenmosston Burn immediately to the north side of Gilburn Road/Barclaven Road, rather than spilling on to Gilburn Road itself. However, construction of this culvert in Gowkhouse Road is severely constrained by the presence of utility apparatus; in addition, the Council's consultant has expressed concern with regard to the flow velocities that may result in the Glenmosston Burn to the rear of properties on Gilburn Road, and potential adverse effects to rear gardens. As such, it is not proposed to take forward this aspect of the scheme until further investigation work is undertaken to ensure that these matters can be mitigated. Consideration has been given to the attenuation of flows in Glen Moss upstream of Gowkhouse Road; it is not recommended to take this forward as this would have an adverse impact on the amenity of the Moss, along with an impact on the Glen Moss SSSI, and it would create a reservoir in periods of high rainfall, bringing additional legislative responsibilities on Inverclyde Council.
- *Integrated Catchment Study (Inverclyde)*: Scottish Water is leading the ongoing catchment based study examining flooding hotspots in Inverclyde, along with those at A8 East Hamilton Street, and Oak Mall; the study will provide detailed information regarding flooding mechanisms from overland flow, sewers and watercourses; the Council is contributing £140k towards the study; study completion is anticipated early in financial year 2018/19.

- *Integrated Catchment Study (Erskine)*: The eastern areas of Inverclyde are in the River Gryfe and Gotter Water catchments which themselves affect the Erskine Integrated Catchment Study. However, it is likely that the outcomes of this study will have a limited impact on Inverclyde, with the bulk of the output affecting neighbouring Renfrewshire Council; as such, Officers are negotiating with Scottish Water as to the scope of the financial contribution to this study, and it is anticipated that costs will be limited to around £20k.
- *A8 East Hamilton Street, Greenock*: Officers from Inverclyde Council, Scottish Water and Transport Scotland are continuing to hold meetings to discuss the way forward to bring an early resolution to the problems at this location. As this is a Trunk Road, Transport Scotland will lead on this issue and is assessing the operation of the existing surface water drainage system to the A8 Trunk Road. Officers from Inverclyde Council have provided Transport Scotland with locations of known flooding points through the A8 and A78 roads network.
- *Oak Mall, Greenock*: Officers from Inverclyde Council, Scottish Water, Transport Scotland, and Oak Mall Management are continuing to hold meetings to discuss the way forward to bring an early resolution to the problems at this location. Scottish Water has designed an interim scheme to greatly reduce the incidence of flooding to the Oak Mall, and it is anticipated that the construction of this scheme will commence in January 2018, both at A78 Inverkip Street and the A8/A78 Bullring Roundabout.

## 5.0 IMPLICATIONS

### 5.1 Finance:

One-off costs:

Cost Centre	Budget Heading	Budget Years	Proposed spend this report (£000s)	Virement from	Other comments
Flooding Strategy	Central Greenock Flood Prevention Scheme	2013/18	2,216		Partially funded by Scottish Government (£1.743m)
	Outwith Central Greenock Flood Prevention Schemes	2013/19	1,426		Partially funded by Scottish Government (£0.932m)

Annually recurring costs:

Cost Centre	Budget Heading	Budget Years	Proposed spend this report (£000s)	Virement from	Other comments
N/A					

### Legal

5.2 There are no legal implications arising from this report.

### Human Resources

5.3 There are no specific HR implications arising from this report.

### Equalities

5.4 As this report does not involve a new policy or a new strategy, there are no equalities issues arising.

## **Repopulation**

5.5 The delivery of the projects identified in this report will assist in making Inverclyde a more attractive place to live and hence contribute to the Council's repopulation agenda.

### **6.0 CONSULTATIONS**

6.1 The Chief Financial Officer, Head of Legal & Property Services, and the Corporate Procurement Manager have been consulted on the contents of this report.

### **7.0 LIST OF BACKGROUND PAPERS**

7.1 None.