# ITEM No …10…..

**REPORT TO:** **CITY DEVELOPMENT COMMITTEE – 25 JANUARY 2021**

**REPORT ON:** **SURFACE WATER DRAINAGE – BROWNFIELD SITES**

**REPORT BY:** **EXECUTIVE DIRECTOR OF CITY DEVELOPMENT**

**REPORT NO:** **32-2021**

## 1 PURPOSE OF REPORT

1.1 City Development Committee held on 26 October 2020 considered report 258-2020 Sale of Land, Charleston (Article X of the minute refers) and members sought a briefing report highlighting the joint working with Scottish Water to resolve surface water constraints across the city. This report provides the Committee with an update on progress made by Dundee City Council and Scottish Water to help reduce flood risk across the city, and free up capacity in the public combined sewer system.

## 2 RECOMMENDATION

2.1 It is recommended that the Committee notes progress made by Dundee City Council and Scottish Water in implementing measures and developing surface water management strategies to reduce flood risk and provide capacity in the public combined sewer network to assist with future development of brownfield sites.

## 3 FINANCIAL IMPLICATIONS

3.1 There are no direct financial implications associated with this report. Improved surface water management strategies across the city will assist Dundee City Council in securing capital receipts by disposing of Council owned development land.

## 4 BACKGROUND

### Development of Brownfield Sites in Dundee

4.1 The strategy for housing land allocation within the Dundee Local Development Plan 2019 prioritises the reuse of brownfield land within the existing urban area and a managed release of greenfield land. The allocated housing sites across the city as well as the allowance for additional brownfield windfall housing sites provide a generous supply of housing land that offer further choice and development opportunities within the city to support the delivery of both private and affordable housing. The redevelopment of brownfield land has a critical role in the achievement of sustainable development, to ensure high quality places are created in line with the Scottish Government's Regeneration Strategy and commitment to 20-minute neighbourhoods.

4.2 The development of affordable housing is supported through the Council working in partnership with representatives from the Scottish Government and housing associations to deliver affordable housing as set out in the Local Housing Strategy and Strategic Housing Investment Plan 2019-2024. The majority of sites (both Council owned and those in private ownership) that have been prioritised for investment within the Strategic Housing Investment Plan are on brownfield land. The development of high quality homes on these brownfield sites help support regeneration objectives as well as the growth of sustainable communities.

4.3 The redevelopment of brownfield land for housing can result in additional development costs on some sites and one of the challenges developers are currently facing is the management of surface water (runoff of rainwater from roofs and paved/impermeable ground surface).

4.4 Scottish Water support Scottish Government advice that surface water management and flood risk of development sites should be considered early in the planning process as part of climate adaptation planning responsibilities. The single biggest threat from a changing climate is increasing flood events and therefore drainage and the management of exceedance flows must be focused as a key infrastructure requirement for development. It is imperative that drainage and flood risk is adequately planned for as a cost of developing land.

4.5 Dundee City Council and Scottish Water actively promote early engagement from the development community and continue to work closely with developers and other stakeholders to enable continued sustainable economic growth in Dundee.

4.6 In order to continue to support the delivery of housing growth across the city and facilitate the sale of Council owned land, the Council is seeking to increase the development of private and affordable housing. For sustainability and to protect residents from potential future sewer flooding, Scottish Water will not accept any new surface water connections into the combined sewer system. This approach is supported by the Flood Risk Management Act and associated guidance which places a duty on all relevant stakeholders to work together to manage surface water flooding more sustainably, by relying less on pipes and using sustainable urban drainage techniques. The cost of engineering works can often be hundreds of thousands of pounds, a cost which ultimately suppresses land values and, in some instances, makes development less viable. Further to the cost implications, the additional works required by Scottish Water can take a significant period of time to design and be approved. Complex drainage solutions and approvals can add a number of years on to the conveyancing process and these delays ultimately impact the delivery of new housing within the city on an annual basis. For this reason early planning is essential to ensure appropriate surface water solutions can be explored and developed. Prompt engagement with Scottish Water must be made to avoid unexpected delays later in the project where detailed solutions may need agreed. Sufficient funding must also be identified at an early stage in the project to support these solutions. Table 1 below highlights a number of brownfield sites where Dundee City Council and Scottish Water are currently working together (with Developers where appropriate) to agree surface water drainage requirements.

| Site | Reference | No Units | Status | Surface Water Drainage |
|---|---|---|---|---|
| Former St. Mary's Infant School, Lochee Road | 19/00948/FULL | 28 | Live planning application | Discharge to Lochee Burn watercourse to be investigated further and if necessary Developer to investigate alternative solution. |
| Former James Keiller/Maryfield Goods Yard, Mains Loan | 20/00098/FULM | 230 | Live planning application | Developer undertaking studies to explore possibility of discharging surface water to Gelly Burn watercourse via off site SUDS feature(s). |
| 40 Coupar Angus Road | 20/00591/FULL | 18 | Live planning application | Developer requires to submit details of proposed means of surface water disposal. |
| West Marketgait | 20/00679/FULM | 179 | Live planning application | Developer requires to submit details of proposed means of surface water disposal. Note 179 is number of student studios. |
| 63 Brown Street | 20/00729/FULM | 361 | Live planning application | Developer requires to submit details of proposed means of surface water disposal. Note 361 is number of student beds. |
| 3-7 Candle Lane | 20/00739/FULL | 8 | Live planning application | Developer requires to submit details of proposed means of surface water disposal and Flood Risk Assessment. |
| 28-30 Tannadice Street | 20/00784/FULL | 8 | Live planning application | Developer requires to submit details of proposed means of surface water disposal. |
| Lochee Primary School (site of) | H05 | 30 | Under Offer | Connection to Lochee Burn watercourse required with appropriate attenuation and treatment. |

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|---|---|---|---|---|
| Baldragon Academy (Old) | H37 | 70 | Surplus | Discharge to water environment required. St Marys Surface Water Management Strategy will provide a discharge point adjacent to the site. |
| Rockwell Academy | Not allocated | N/A | On the market | Discharge to water environment required. Ongoing Tayside Integrated Catchment Study (ICS) and DCC and Scottish Water long term surface water management strategy will allow discharge to culverted Dens Burn watercourse. Potential for Scottish Water to allow a temporary surface water connection to combined sewer on the basis of the long term strategy. |
| Lochee Child & Family Centre | Not allocated | N/A | Under Offer | Discharge to Lochee Burn watercourse to be investigated further and if necessary an alternative solution to be investigated. |
| Charleston - Former Housing Sites | Not allocated | N/A | Under Offer | Drainage solution under discussion with DCC and Scottish Water but abnormal costs impacting upon sale price - development may no longer be viable. |
| Princes Street | H18 | 20 | Under Offer | Connection of surface water generated by roofs to the combined sewer is accepted based on incorporation of rainwater harvesting system. Solution for surface water generated by car park to be investigated further by developer. |
| Lawside Academy (site of) | H09 | 70 | Surplus | DCC and Scottish Water to confirm surface water drainage requirements prior to marketing. Connection to Gelly Burn watercourse likely to be required with appropriate attenuation and treatment. |
| Gowriehill Primary School (site of) | H34 | 35 | Surplus | Drainage solution being investigated by developer. |
| Hillside Primary School (site of) | H35 | 45 | On the market | DCC and Scottish Water to confirm surface water drainage requirements. |
| Strathcarron Young Persons Unit (site of) | Not allocated | N/A | Under Offer | Drainage solution being investigated by developer |
| Dryburgh Resource Centre | Not allocated | N/A | Surplus | Discharge to culverted Lochee Burn some 600m away from site with appropriate attenuation and treatment. |
| 3 Gellatly Street | 19/00502/FULL | 38 | Planning Permission Granted | DCC and Scottish Water are working with Developer to agree surface water drainage requirements |
| Customs House | 20/00399/FULL | 49 | Planning Permission Granted | DCC and Scottish Water are working with Developer to agree surface water drainage requirements |
| Lochee Old Parish Church, Bright Street | Non Council Owned Site/Not allocated | N/A | Unknown | Drainage solution being investigated by developer. |

*Table 1: Dundee Brownfield Sites where Dundee City Council and Scottish Water Working Together (With Developers where appropriate) To Agree Surface Water Drainage*

4.7 Where drainage solutions include connection to a distant water course, eg Gelly Burn or Dens Burn, the infrastructure costs are likely to put significant downward pressure on the associated property value as well as adding to the complexity of the disposal process.

**Existing Drainage Network and Surface Water Challenges**

4.8 Dundee has comparatively few watercourses and many of Dundee's natural watercourses have become culverted and interact or drain into by the public combined sewer network including the Scouring, Lochee, Dens, Back and Mause Burns. The development of

the city over time and provision of Dundee's dockyards, road and rail network has broken the natural drainage links to the Tay Estuary which makes potential discharge options for new development exceptionally challenging. To the North of the City, access to the Dighty watercourse is constrained by the A90 Trunk Road. Historically, connections of new developments surface water and foul water have been granted to the existing public combined drainage network which is a pumped system transferring the flows to Hatton Waste Water Treatment Works (WWTW) near Arbroath a costly and carbon intensive operation. This combined drainage network has a finite capacity and when overwhelmed leads to sewer flooding of homes, businesses, and roads, this risk will increase due to the challenges of increased rainfall due to climate change.

4.9 Flood risk is a key challenge impacting residents of Dundee and increasingly in the future, an issue that both Scottish Water and Dundee City Council, as responsible authorities under current flood risk management legislation, have a duty to reduce. Through partnership working together, and with other key agencies such as SEPA and NatureScot, great places with natural blue-green infrastructure (a strategically planned network of natural and semi-natural areas with other environmental features designed to deliver a wide range of benefits from nature and natural processes), resilient to future flooding, can be created bringing growth to the City population, and wellbeing benefits to our communities in Dundee.

**Scottish Water's Statutory Duties and Storm Water Management Strategy**

4.10 Scottish Water is a statutory consultee in the planning process and fulfil this remit through close working with Local Authorities on Local Development Plan (LDP) preparation at various points in LDP consultation cycles, as well as responding to planning applications on a site by site basis. Scottish Water work across the local development community to ensure the continued economic growth of Dundee can be realised. Scottish Water have a duty to provide public sewers to drain surface water (e.g. roof and paved surfaces within the property boundary), where practical at reasonable cost. Scottish Water is also bound under a statutory duty to protect customers, existing and new, from the adverse impacts of sewer flooding as well as protecting and enhancing the environment and cannot permit development to connect to high risk sewer networks without the developer first implementing appropriate mitigations.

4.11 Under "The Scottish Water (Objectives: 2021 to 2027) Directions 2020" which come into force on 1st April 2021, Scottish Water must support sustainable economic growth by identifying and providing new strategic capacity at our treatment works that will meet the demand of all new housing development and the domestic requirements of commercial and industrial development for the 2021-2027 period. These directions also state that Scottish Water must identify and pursue opportunities to work with stakeholders including Dundee City Council, to transform how rainwater and sewage are managed in new and existing communities. In particular, Scottish Water, in collaboration with other parties as appropriate, must adopt and encourage a catchment management approach to sustainable storm water management wherever practical, to reduce and prevent the impacts of sewer and surface water flooding, reduce pollution from sewer overflows, enable growth, increase resilience and create natural spaces for customers and communities to enjoy. These directions align with the way Dundee City Council and Scottish Water have been working closely together in recent years, as referred to later in this report.

4.12 The historical approach in Dundee of connecting surface water to the public combined sewer network including road drainage which has been allowed to drain the sewer system without formal agreement was unsustainable and resulted in extra financial and carbon costs from pumping clean rainwater to Hatton Waste Water Treatment Works (WWTW) for treatment. The public combined sewer network in Dundee has struggled to cope with demand during storm events in the past. This has been exacerbated by the increasing urban creep (building over gardens for driveways, patios, extensions etc), which increases the amount of run-off into the sewer network. Recognising increasing flood risk from climate change, Scottish Water has implemented its Storm Water Management Strategy which can be summarised as:

a No new surface water draining into the combined sewer networks;

b Working with a variety of stakeholders (Local Authorities, developers etc.) to remove existing surface water from the combined sewer network; and

c Undertake the above whilst supporting continued sustainable economic growth in Scotland.

4.13 Scottish Water now expects developers and their consultants to fully explore a variety of natural, green infrastructure solutions to manage surface water above ground on all types of development sites. There may be limited, exceptional, circumstances where Scottish Water would grant surface water connection to the public combined sewer network for brownfield sites. However, this is evidence led and requires the applicant to demonstrate they have tested and assessed all other alternatives as laid out in the Surface Water Management Policy. Scottish Water's Pre Development Enquiry (PDE) application process and a change to include attendees from both of Scottish Water's "Development Operations" and "Strategic Waste Water Services Planning" teams at the Dundee Sustainable Urban Drainage Systems (SUDS) working group meetings now enables developers to get early clarification on surface water drainage design requirements/principles at specific sites as well as confirmation of the information to be submitted with applications. The SUDS working group meetings also give developers the opportunity to discuss and agree surface water drainage design principles at an early stage.

**Dundee City Council and Scottish Water's Working Relationship**

4.14 Dundee City Council and Scottish Water now have an improved, proactive working relationship which looks to find surface water drainage solutions for development sites across the City and to identify areas across Dundee where there are opportunities to develop joint surface water drainage strategies with a view to freeing up capacity in the public combined sewer network and managing surface water and sewer flood risk. This partnership working focuses on the short term arrangements and longer term strategy creation for management of surface water across the wider City area.

4.15 Recent focus includes:

**Sustainable Urban Drainage Systems (SUDS) Working Group**: Dundee City Council hosts a monthly SUDs working group that encourages developers and their consultants to engage early with Dundee City Council, Scottish Water and SEPA to discuss drainage proposals. These meetings were reintroduced in March 2019 after concerns were raised by the development community that the lack of clarity on surface water drainage requirements and a reluctance by Scottish Water to accept surface water connections to the combined sewer were obstructing development in Dundee. Since its reintroduction, the working group meetings have been well received and officers have been able to provide early advice in relation to surface water drainage, flood risk, and the information required to support a planning application. They have also acted as a successful regular forum for developers, key agencies and Council Officers to solve particular challenges on certain sites and allow proposals to progress.

**Updated Planning Guidance:** Due to concerns raised by the development community that there was a lack of clarity on surface water drainage design requirements and planning guidance, updated Dundee City Council flood risk and drainage related "Planning" and "Technical" guidance documents were published in June 2020. These updated documents provide clarity on flood risk and drainage related information required to support planning applications and associated requirements/design criteria. A review of the updated guidance was completed by Scottish Water prior to publication to ensure a consistent approach by both organisations.

**Readiness Indicator** – Scottish Water has launched the Readiness Indicator tool which provides a high level assessment of developments contained within the annual Housing Land Audit (HLA) This includes suitable surface water discharge options. This is available on Scottish Water's website and provides early indication of site readiness to any party interested.

4.16 Long term focus includes:

**Formal Partnership:** Dundee City Council and Scottish Water's management teams have now agreed to enter into a Formal Partnership Agreement/MoU arrangement to commit both organisations efforts and resource towards developing and implementing future surface water management strategies across Dundee (refer to Appendix 1 that highlights some case studies of surface water management strategies that are currently being developed).

**Joint Working**: Dundee City Council and Scottish Water have agreed to align our investment plans closer by planning together at early stages, particularly the Strategic Housing Investment Programme (SHIP) plans.

Flood Risk Management and the Tayside Integrated Catchment Study

4.17 In addition to the ongoing work to identify and develop surface water management strategies, Dundee City Council is currently working in Partnership with Scottish Water on the Tayside Integrated Catchment Study (ICS). The study is being led by Scottish Water who have appointed a consultant to complete the work, and covers Dundee City Council and Angus Council areas, as well as part of the Perth and Kinross Council area. The work is being jointly funded by Scottish Water and each of the relevant Local Authorities on a proportional basis. The aim of the study is to understand the complex interactions between the various sources and pathways of flooding (surface water, sewer, watercourses, burns etc.) and identify the most appropriate measures to reduce the risk of flooding in the longer term.

4.18 Flood clusters in Dundee have been identified and options are currently being developed for specifically agreed clusters which have been identified as priority areas by Dundee City Council and Scottish Water. This activity is considering solutions to reduce flood risk and provide a more resilient drainage system to take into account future climate change predictions. Outline design of the selected option for each priority cluster will follow, including an estimate of the necessary funding required to implement any proposed option. Thereafter, and subject to the availability of funding, detailed design may be taken forward by the appropriate authority or jointly depending on the solution proposed. Any schemes arising from the Tayside ICS will be proposed and prioritised as part of Scotland's Flood Risk Management cycle 2 (2022-2028), subject to the availability of funding.

## 5 POLICY IMPLICATIONS

5.1 This report has been subject to an assessment of any impacts on Equality and Diversity, Fairness and Poverty, Environment and Corporate Risk. There are no major issues.

## 6 CONSULTATIONS

6.1 The Council Management Team were consulted in the preparation of this report.

## 7 BACKGROUND PAPERS

7.1 None.

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**APPENDIX 1**

**Case Studies of Surface Water Management Strategies Currently Being Developed**

**St Marys Surface Water Drainage Strategy**

Dundee City Council, Scottish Water, SEPA and NatureScot are currently working in partnership to develop a Surface Water Management Strategy to reduce flood risk in the St Marys area of Dundee. Whilst the focus of the strategy is surface water and flood risk, it was recognised that planning to make water an integral part of where we live provides opportunities to realise multiple benefits.

The strategy proposes to reconnect the Back Burn to the Dighty and retrofit multifunctional blue-green infrastructure above ground to reduce flood risk whilst also delivering other benefits, such as improved water quality, enhanced biodiversity and creating attractive areas of greenspace for walking, cycling and recreation, and improving the health and wellbeing of the community. Surface water in the area will be disconnected from the public combined sewer and instead connect to the Back Burn and/or blue-green infrastructure provided in St Leonard Park. This will reduce the out of sewer flood risk in the area and also create capacity in the public combined sewer which has/will assist to unlock development both in the area (e.g. former Macalpine Primary School, former Baldragon Academy site, and a number of small sites in the St Marys area) and further downstream in the Dighty corridor from St Marys to Monifieth.

Through demonstrating that the strategy work will benefit/enable development of more than one development site, a successful application for £850k of Scottish Water Infrastructure Funding was made. This funding covers design work associated with the strategy to be completed in 2021 and construction of phase 1 works likely to start in 2022/23 which are concerned with re-establishing the Back Burn conveyance route to the Dighty, retrofitting blue-green infrastructure within St Leonards Park, and disconnection of surface water from the combined sewer. Construction of future phase will follow subject to the allocation of funding. This project is being used as a national example of current best practice in surface water management and was presented jointly by Dundee City Council and Scottish Water at Scotland's Flood Risk Management Conference 2020.

**Douglas Park Surface Water Drainage Strategy**

Building on an original Dundee City Council project to deliver a community Park in the Douglas area, Dundee City Council and Scottish Water, with input from other key agencies such as SEPA and NatureScot, are working together to develop a surface water drainage strategy for the area with the aim of providing capacity in the public combined sewer network, as well as reducing the frequency of spills containing sewerage to the Dighty. Existing surface water connections to the combined sewer will be disconnected and instead conveyed to the Dighty through a new strategic conveyance routes.

The new Douglas Park area, and other areas identified in the longer term, will incorporate blue-green infrastructure which will create a space where the community can come together, grow, play, exercise and relax, as well as reducing flood risk, improving water quality and enhancing

biodiversity. As well as the strategy assisting with unlocking the development of the brownfield site in Balcairn Place, surface water from the recently completed nursery in Balmerino Road will also be accommodated in the design of the new conveyance system to further provide capacity in the existing public combined sewer system which will assist in unlocking development downstream in the Dighty corridor from Douglas to Monifieth. Scottish Water Green Infrastructure Funding of £115k has been granted to progress the initial Scottish Water study work.

Design work completed jointly by Scottish Water and the Dundee City Council Douglas Community Park design team will follow in 2021 to enable the Douglas Community park project to be delivered in the agreed timescales. Construction of future works associated with the strategy will follow subject to the allocation of funding.

**Former Longhaugh Primary School and St Lukes and St Mathews RC Primary School Sites Housing Development**

Dundee City Council and Scottish Water partnership working enabled a surface water drainage solution for the above brownfield housing development to be established, with a temporary surface water connection from the development site to the public combined sewer being accepted by Scottish Water on the basis of a longer term surface water drainage strategy being developed in the area. The long term strategy will ultimately enable surface water generated from the development site to be disconnected from the public combined sewer and instead taken to the water environment via a new strategic surface water conveyance system. The new strategic surface water drainage system will also enable existing surface water to be removed from the public combined sewer which will provide capacity in the public combined sewer which will assist in unlocking development further downstream in the Dighty corridor from Whitfield to Monifieth. The timescales associated with the longer term surface water drainage strategy in this area are still to be agreed and full details still to be developed.

**Former James Keiller/Maryfield Goods Yard, Mains Loan**

Dundee City Council, Scottish Water and SEPA are working together with a prospective developer to agree a surface water drainage design to enable housing development at the former James Keiller/Maryfield Goods Yard site. Surface water generated by the development must discharge to the water environment and collaborative working at this early stage is considering opportunities to disconnect existing surface water from the combined sewer to create capacity in the public combined sewer which will assist to unlock development further downstream in the Stannergate catchment area.