



**Development Plan Submissions,
Strategic & Economic Development Directorate,
Cork City Council,
Anglesea Street,
City Hall,
Cork**

30th September 2021

RE: Draft Cork City Development Plan 2022-2028

Dear Sir/Madam,

The Office of Public Works (OPW), as lead agency for flood risk management in Ireland, welcomes the opportunity to comment on the Draft Cork City Development Plan 2022-2028.

The OPW welcomes the acknowledgement of the Guidelines on the Planning System and Flood Risk Management (DECLG/OPW, 2009), hereafter referred to as the 'Guidelines' and the preparation of a Strategic Flood Risk assessment (SFRA). In particular, the OPW welcomes

- Objective 9.8: Flood Protection regarding protection of floodplains
- Objective 9.10 regarding restriction of development in flood risk areas
- Objective 12.1 regarding the appropriate management and sustainable use of Flood Zones A and B as identified in the SFRA

The following comments highlight opportunities for the Draft Plan before it is finalised.

Flood Mapping and Land Use Zoning Maps

It is difficult to assess the zonings/sites at flood risk or if the sequential approach has been applied without the land use zoning maps overlaid with the flood zone maps.

PFRA

PFRA mapping is included as a dataset in Table 3 Predictive Flood Risk Indicators of the SFRA. The PFRA programme produced indicative flood maps only and are not necessarily locally accurate. The description of the dataset includes reviewing records of past floods, undertaking analysis to determine which areas might flood in the future and what the impacts might be, and consultation with local authorities and other Government departments and agencies. The PFRA Programme used the indicative flood maps alongside consultation and a review of past floods to inform the decision to designate communities as being at Potentially Significant Flood Risk. The review of past floods and consultation process did not inform the production of the indicative flood maps.



The PFRA was a national screening exercise, to scope the CFRAM Programme and to identify areas of potentially significant flood risk. It is important to note that the PFRA was not a detailed assessment of flood risk. It was rather a broad assessment, based on available and readily derivable information to identify areas that may require further assessment. As set out in Circular PL 2/2014 *“the (PFRA) maps provide only an indication of areas that may be prone to flooding. They are not necessarily locally accurate and should not be used as the sole basis for defining Flood Zones, or for making decisions on planning applications”*. Where more accurate predictive flood mapping is not available, they may indicate where flooding may be an issue.

Irish Coastal Protection Strategy Study (ICPSS)

The ICPSS maps are included with the PFRA in Table 3 of the SFRA and it is stated that *“These indicative national coastal flood maps are included in the Draft PFRA Maps”*. The PFRA flood maps are indicative mapping, while the ICPSS maps are strategic, predictive hazard mapping. It is recommended that the ICPSS mapping should be included separately in the list of flood zone data.

It should be noted that the flood maps prepared under the ICPSS include maps for two potential future scenarios taking account of different degrees of climate impact. While future scenario mapping from the National CFRAM Programme have been included, the ICPSS future scenario maps have been omitted.

GSI Datasets

Maps have been produced for each settlement demonstrating the GSI ground-water data available, historical data and predictive mapping. No description of these datasets have been included in Table 2 Historical Flood Risk Indicators or Table 3 Predictive Flood Risk Indicators of the SFRA.

Justification Tests

Proposed land use zones, some of which are classified as Highly Vulnerable development in the Guidelines within Flood Zones A and B are shown in the zoning maps. Examples of these are detailed in the *“Comments on Specific Areas and Maps”* section below. No commentary has been provided to demonstrate that the Plan Making Justification Test has been applied in proposing vulnerable development zoning within Flood Zones A and B.

Table 5 *“Justification Tests for City Centre and North and South Docklands Areas”*, and Table 6 *“Justification Tests for all areas other than those included under Table 5”*, are to provide justification for the zoning of lands in the city. Table 5 covers all zonings within specified areas, and Table 6 covers all zonings within specified flood zone maps, as opposed to review and justification or otherwise of specific zonings within these areas or maps. Table 6 has answered *“yes to all”* for all five points to criteria 2 for all Justification Tests. Lands on the periphery of a settlement cannot satisfy criteria 2 of the Justification Test. Finally, there are no overall conclusions as to whether the Justification Tests have been satisfied.



Table 5 Justification Tests for City Centre and North and South Docklands Areas⁹

Areas	Criteria 1 (see SFRA Appendix I Figure 2) Is the settlement targeted for growth under the RSES, existing CDP and Draft CDP?	Criteria 2 (see SFRA Appendix I Figure 2) Is the zoning of the lands required to achieve the proper planning and sustainable development of the settlement?	Criteria 3 (see SFRA Appendix I Figure 2) A FRA to an appropriate level of detail has been carried out as part of the SEA as part of the development plan preparation process, which demonstrates that flood risk to the lands will not cause unacceptable adverse impacts elsewhere
City Centre	Yes	Yes to all of the following: (i) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement; (ii) Comprises significant previously developed and/or under-utilised lands; (iii) Is within or adjoining the core of an established or designated urban settlement; (iv) Will be essential in achieving compact and sustainable urban growth; and (v) There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	Yes. Future development will: be subject to site-specific flood risk assessments; comply with the flood risk management provisions of the Plan (see Section 4 of SFRA), including the structural and non-structural risk management measures outlined at Paragraph 11.262 and relevant measures contained in the Council's 2020 South Docks Drainage Strategy; and benefit from Flood Relief Schemes being progressed by the OPW (see Section 3 of SFRA).
North and South Docklands ¹⁰	Yes	Yes to all of the following: (i) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement; (ii) Comprises significant previously developed and/or under-utilised lands; (iii) Is within or adjoining the core of an established or designated urban settlement; (iv) Will be essential in achieving compact and sustainable urban growth; and (v) There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	Yes. Future development will: be subject to site-specific flood risk assessments; comply with the flood risk management provisions of the Plan (see Section 4 of SFRA), including the structural and non-structural risk management measures outlined at Paragraph 11.262 and relevant measures contained in the Council's 2020 South Docks Drainage Strategy; and benefit from Flood Relief Schemes being progressed by the OPW (see Section 3 of SFRA).

Table 6 Justification Tests for all areas, other than those included under Table 5

Previously developed lands, not including areas specified on Table 5 above, within Flood Zones A and B	Criteria 1 (see SFRA Appendix I Figure 2) Is the settlement targeted for growth under the RSES, existing CDP and Draft CDP?	Criteria 2 (see SFRA Appendix I Figure 2) Is the zoning of the lands required to achieve the proper planning and sustainable development of the settlement?	Criteria 3 (see SFRA Appendix I Figure 2) A FRA to an appropriate level of detail has been carried out as part of the SEA as part of the development plan preparation process, which demonstrates that flood risk to the lands will not cause unacceptable adverse impacts elsewhere
Lands (relatively minor areas, within existing development envelope) on Page 13 of SFRA Appendix II	Yes	Yes to all of the following: (i) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement; (ii) Comprises significant previously developed and/or under-utilised lands; (iii) Is within or adjoining the core of an established or designated urban settlement; (iv) Will be essential in achieving compact and sustainable urban growth; and (v) There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	Yes. Future development will: be subject to site-specific flood risk assessments; comply with the flood risk management provisions of the Plan (see Section 4 of SFRA), including the structural and non-structural risk management measures outlined at Paragraph 11.262. The potential conflict between zonings and <i>highly</i> and <i>less vulnerable</i> development will be avoided by applying the measures which have been integrated into the Plan, including those at Development Management Paragraph 11.258-11.263.
Lands (relatively minor areas, within existing development envelope) on Page 19 of SFRA Appendix II	Yes	Yes to all of the following: (i) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement; (ii) Comprises significant previously developed and/or under-utilised lands; (iii) Is within or adjoining the core of an established or designated urban settlement; (iv) Will be essential in achieving compact and sustainable urban growth; and (v) There are no suitable alternative lands for the particular use or development type, in areas at lower risk of flooding within or adjoining the core of the urban settlement.	Yes. Future development will: be subject to site-specific flood risk assessments; comply with the flood risk management provisions of the Plan (see Section 4 of SFRA), including the structural and non-structural risk management measures outlined at Paragraph 11.262. The potential conflict between zonings and <i>highly</i> and <i>less vulnerable</i> development will be avoided by applying the measures which have been integrated into the Plan, including those at Development Management Paragraph 11.258-11.263.
Lands (relatively minor areas, within existing development envelope) on Page 19 of SFRA Appendix II	Yes	Yes to all of the following: (i) Is essential to facilitate regeneration and/or expansion of the centre of the urban settlement;	Yes. Future development will: be subject to site-specific flood risk assessments; comply with the flood risk management provisions of the Plan (see Section 4 of SFRA), including the

Where it is intended to zone or otherwise designate lands which are at moderate or high risk of flooding, then the appropriateness of the particular development should be rigorously assessed through the application of the Justification Test. The Guidelines set out that, at the Plan-making stage, land use zoning should be informed by the suitable level of FRA and if necessary a Justification test. Chapter 5 of the Guidelines set out that *“most flood risk issues should be raised within strategic assessments undertaken by local authorities at the plan-making stage. Therefore, as more plans are reviewed and zoning reconsidered, there should be less need for development management processes to require detailed flood risk assessment”*.

As flood risk assessments are integrated with the SEA process, Section 3.10 also highlights the need that FRA's be *“undertaken as early as possible in the process so that the SEA is fully informed of the flood risks and impacts of the proposed zoning or development”*.

If it is the case that these sites are already developed, then Circular PL 2/2014 provides further advice and detail to planning authorities on older developed areas of towns and cities located in Flood Zone A and B: *“Where the planning authority considers that the existing use zoning is still appropriate, the planning authority must specify the nature and design of structural or non-structural flood risk management measures required prior to future development in such areas, in order to ensure that flood hazard and risk to the area and to other adjoining locations will not be increased, or if practicable, will be reduced”*.

For sites that are intended to be zoned for development following the application of a Justification Test where only a small proportion of the site is at risk of flooding, a policy objective might be attached to such zoning. Such an objective might require that the



sequential approach be applied in the site planning, whereby to ensure no encroachment onto, or loss of the flood plain, or that only water compatible development such as *Open Space* would be permitted for the lands which are identified as being at risk of flooding within that site. Planning permission for these sites might then be subject to the sequential approach having been adopted and applied as above, following a detailed FRA.

Consideration of Climate Change Impacts

The inclusion of Future Scenarios Mapping is welcomed. However, these only show the increase in extents of a 0.1% AEP flood event, i.e. Flood Zone B. It would be beneficial if these potential future flood extents could also show the increase in the 1% AEP flood event, i.e. Flood Zone A, and if the maps could be shown overlaid with the land use zonings, to demonstrate any developments that could potentially be affected by climate change.

The OPW recommend that the Draft Plan addresses how climate change has been considered in the production of this development plan. The potential impacts of climate change include increased rainfall intensities, increased fluvial flood flows and rising sea levels. In line with the Guidelines, while Flood Zones are defined on the basis of current flood risk, planning authorities need to consider such impacts in the preparation of plans, such as by avoiding development in areas potentially prone to flooding in the future, providing space for future flood defences, specifying minimum floor levels and setting specific development management objectives.

Coastal Change

While not specifically covered by the Guidelines, planning authorities should have regard to areas that may be at risk or vulnerable to coastal erosion or coastal change, including change associated with climate change (e.g. sea level rise, increased storm frequency, accelerated rates of coastal erosion, etc). A precautionary approach should be taken in this regard where analysis of potential future coastal change, including potential climate effects, has not yet been carried out.

It should be noted that the Government has established an Inter-Departmental Group on Coastal Change Management to scope out an approach for the development of a national coordinated and integrated strategy to manage the projected impact of coastal change to our coastal communities, economies, heritage, culture and environment. The Inter-Departmental Group is jointly chaired by the Department of Housing, Planning and Local Government and the OPW and will bring forward options and recommendations for the Government to consider as soon as possible.

Flood Relief Schemes

The OPW welcomes objective 9.9 to work with the OPW in the progression and completion of FRMPs and flood relief schemes including the Lower Lee Flood Relief Scheme (LLFRS), schemes in Blackpool, Glanmire / Glashaboy, Douglas / Togher and other schemes that may be developed during the period of the plan.



The OPW recommends that the text in this objective could be clarified to ensure zoning or development proposals support and do not impede or prevent the progression of these measures.

SuDS, Green and Blue Infrastructure, and Nature Based Solutions

The OPW welcomes the following:

- The provision in objective 9.2 that all new proposals for development to provide a separate foul and surface water drainage system and to incorporate SuDS in so far as practical
- Objective 9.4 requiring all planning applications for new development incorporate SUDs as far as possible, and along with objective 6.22 to encourage green roofs and green walls, and to investigate the feasibility of preparing SuDS guidelines for the city during the lifetime of the plan
- Objective 5.23 encouraging all development proposals to incorporate rainwater harvesting measures
- Objective 5.24 supporting green and blue infrastructure
- The inclusion of and discussion in Chapter 6, *Green & Blue Infrastructure, Open Space and Biodiversity*
- The proposals for integrated area based SuDS in the South Docks Drainage Strategy, and objectives 10.24 and 10.33 regarding it's implementation

CFRAM Website

There is a reference to www.cfram.ie in Table 3 Predictive Flood Risk Indicators of the SFRA website which is no longer available. All documents and mapping in relation to CFRAM and background information on PFRA are now available on www.floodinfo.ie.

Comments on Specific Areas and Maps

City Docks

The OPW welcomes objectives number 10.34 and 10.35 regarding the implementation of SuDS and Flood Defence measures in the South Docks Drainage Strategy, and the incorporation of similar measures in the North Docks Masterplan

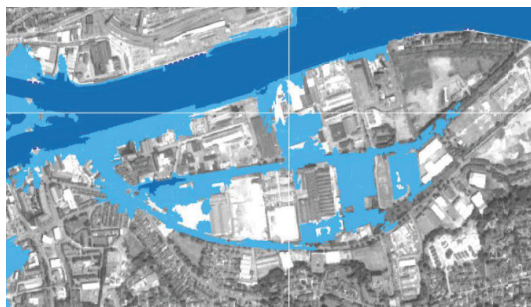
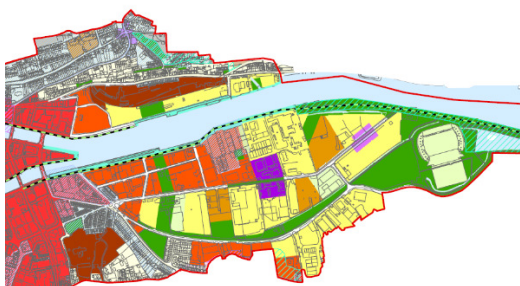
Section 10.90 of the plan refers to new bridges connecting Kent Station to the South Docks, at the Eastern Gateway, and at Water Street. It should be noted that there are restrictions on the construction, replacement or alteration of bridges and culverts over any watercourse, and that appropriate consent from the Commissioners is required under Section 50 of the Arterial Drainage Act 1945 and EU (Assessment and Management of Flood Risks) Regulations SI 122 of 2010.

Map 01

Highly vulnerable *New Residential Neighbourhoods* (ZO02) and *Educational* (ZO13), *Mixed Use* (ZO05) and *Neighbourhood & Local Centres* (ZO09) which can allow for highly



vulnerable residential usage have been zoned in Flood Zone B. *City Centre* (ZO06) which can allow for highly vulnerable development has been zoned in Flood Zones A and B. Highly vulnerable development is not appropriate in Flood Zone A or B unless Plan-making Justification Tests for the zonings in question, completed by the local authority, can be satisfied.



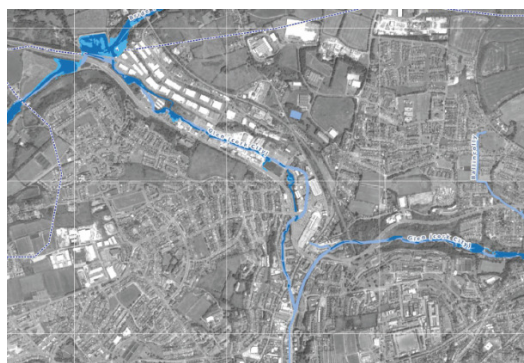
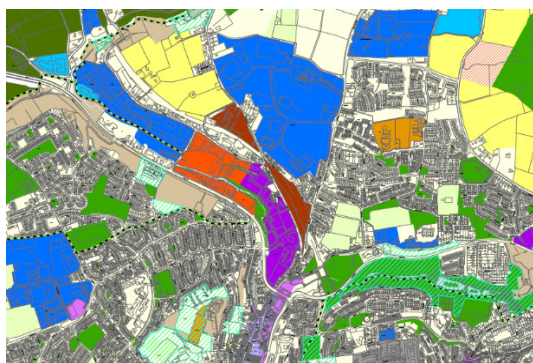
Land Use Zoning Map 01, and Flood Zone Map

Map 03

Highly vulnerable *Sustainable Residential Neighbourhoods* (ZO01) has been zoned in Flood Zone A and B along the Lee. Highly vulnerable development is not appropriate in Flood Zone A or B unless Plan-making Justification Tests for the zonings in question, completed by the local authority, can be satisfied.

Map 04

Highly vulnerable *Sustainable Residential Neighbourhoods* (ZO01), and *Neighbourhood & Local Centres* (ZO09) which can allow highly vulnerable residential usage, have been zoned in Flood Zones A and B. *District Centres* (Z08) which can allow for highly vulnerable development has been zoned in Flood Zone B. *Business & Technology* (ZO11) which can allow for less vulnerable development has been zoned in Flood Zone A adjacent to the Bride. Highly vulnerable development is not appropriate in Flood Zone A or B, and less vulnerable development is not appropriate in Flood Zone A unless Plan-making Justification Tests for the zonings in question, completed by the local authority, can be satisfied.

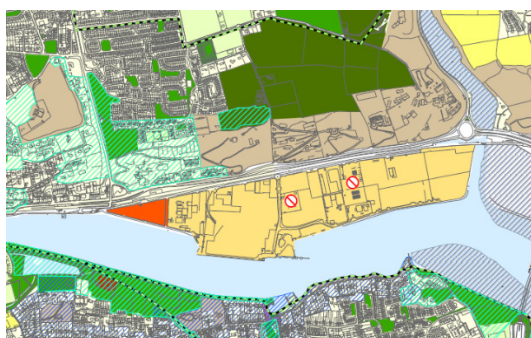


Land Use Zoning Map 04, and Flood Zone Map



Map 05

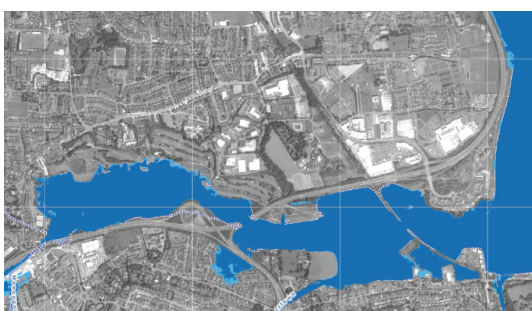
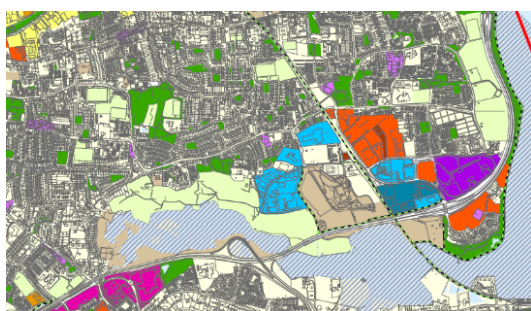
Long Term Strategic Regeneration (ZO04) which can allow highly vulnerable residential development has been zoned in Flood Zone B and *Mixed Use Development* (ZO05) which can also allow highly vulnerable residential usage has been zoned in Flood Zone A in Tivoli Docks. Zoning which allows highly vulnerable development is not appropriate in Flood Zone A or B unless Plan-making Justification Tests for the zonings in question, completed by the local authority, can be satisfied.



Land Use Zoning Map 04, and Flood Zone Map

Map 06

Highly vulnerable *Sustainable Residential Neighbourhoods* (ZO01) has been zoned in Flood Zones A and B in Rochestown and Douglas Village, and *Urban Town Centre* (ZO07) which can allow highly vulnerable residential development has been zoned in Flood Zone A and B in Douglas Village. Zoning which allows highly vulnerable development is not appropriate in Flood Zone A or B unless Plan-making Justification Tests for the zonings in question, completed by the local authority, can be satisfied.



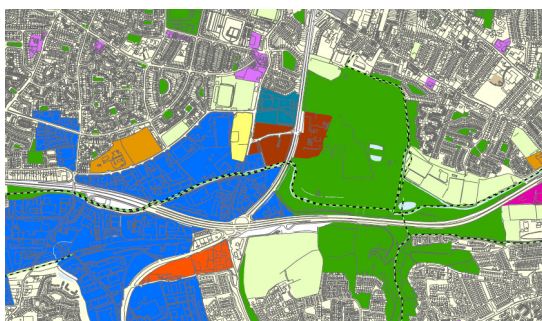
Land Use Zoning Map 06, and Flood Zone Map

Map 07

Less vulnerable *Light Industry & Related Uses* (ZO10) has been zoned in Flood Zone A at Togher, and highly vulnerable *Sustainable Residential Neighbourhoods* (ZO01) has been zoned in Flood Zones A and B in Douglas and in Flood Zone B in Donnybrook Hill. Highly vulnerable development is not appropriate in Flood Zone A or B, and less vulnerable



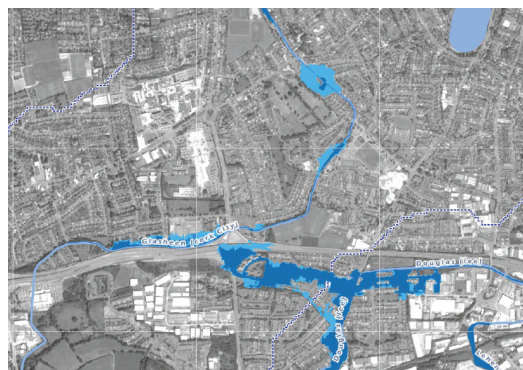
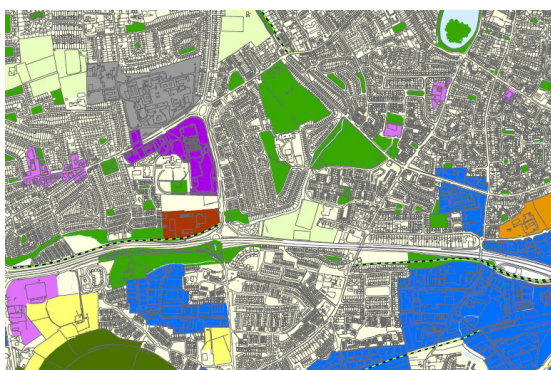
development is not appropriate in Flood Zone A unless Plan-making Justification Tests for the zonings in question, completed by the local authority, can be satisfied.



Land Use Zoning Map 07, and Flood Zone Map

Map 08

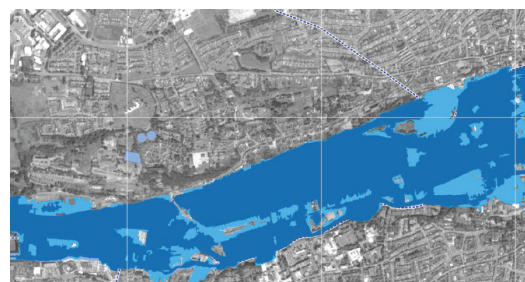
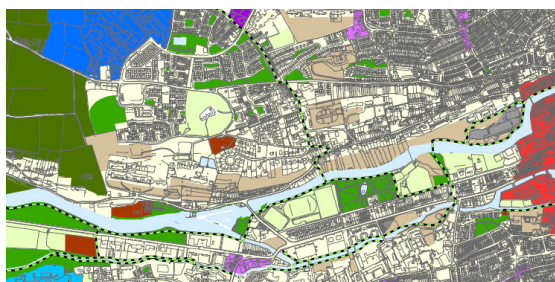
Highly vulnerable *Sustainable Residential Neighbourhoods* (ZO01) and less vulnerable *Light Industry & Related Uses* (ZO10) have been zoned in Flood Zones A and B in the Togher and Douglas areas. Highly vulnerable *Public Infrastructure & Utilities* (ZO15) has been zoned in Flood Zones A and B at the ESB lands in Wilton. *Neighbourhood & Local Centres* (ZO09) which can allow for highly vulnerable residential have been zoned in Flood Zone B at Garrane Darra. *Sustainable Residential Neighbourhoods* (ZO01) and less vulnerable *Business & Technology* (ZO11) has been zoned in Flood Zones A and B in Curraheen. Highly vulnerable development is not appropriate in Flood Zone A or B, and less vulnerable development is not appropriate in Flood Zone A unless Plan-making Justification Tests for the zonings in question, completed by the local authority, can be satisfied.



Land Use Zoning Map 08, and Flood Zone Map

Map 09

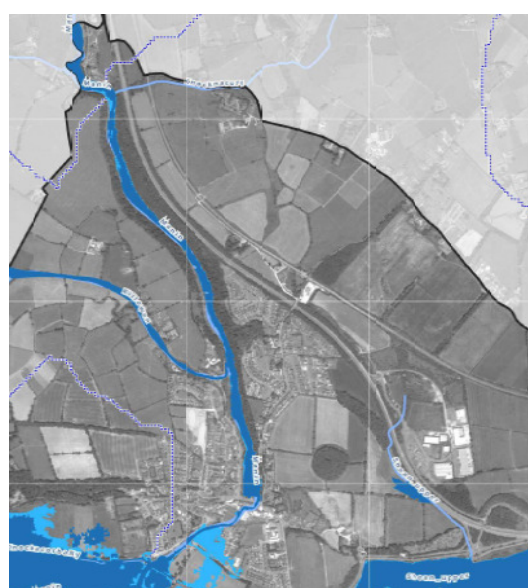
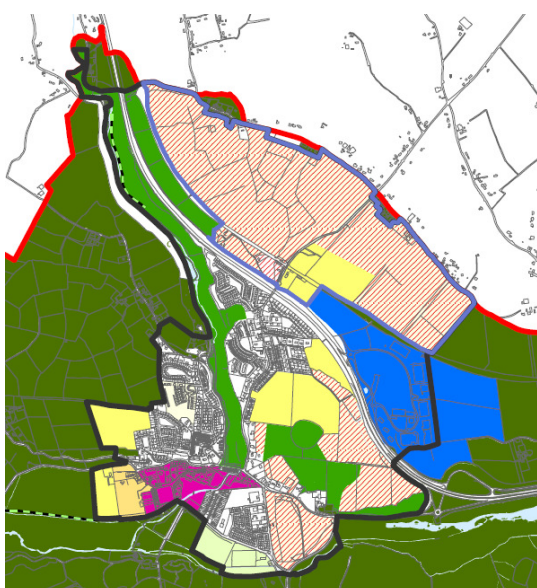
Highly vulnerable *Sustainable Residential Neighbourhoods* (ZO01) has been zoned in Flood Zones A and B near Sunday's Well Road and Lee Road. Highly vulnerable development is not appropriate in Flood Zone A or B unless Plan-making Justification Tests for the zonings in question, completed by the local authority, can be satisfied.



Land Use Zoning Map 09, and Flood Zone Map

Map 11

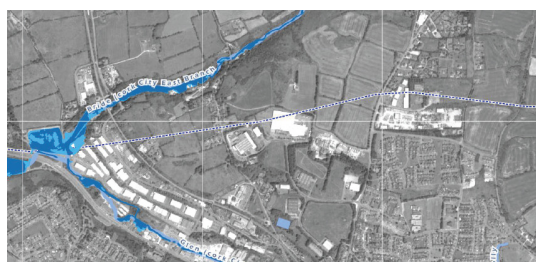
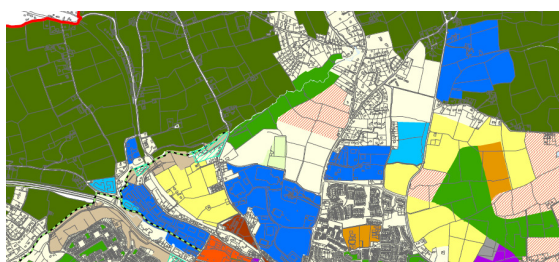
Highly vulnerable *Tier 3 Residential Neighbourhoods* (ZO03) and *Urban Town Centre* (ZO07) which can allow highly vulnerable development have been zoned in in Flood Zone A and B. Highly vulnerable development is not appropriate in Flood Zone A or B unless Plan-making Justification Tests for the zonings in question, completed by the local authority, can be satisfied.



Land Use Zoning Map 11, and Flood Zone Map

Map 12

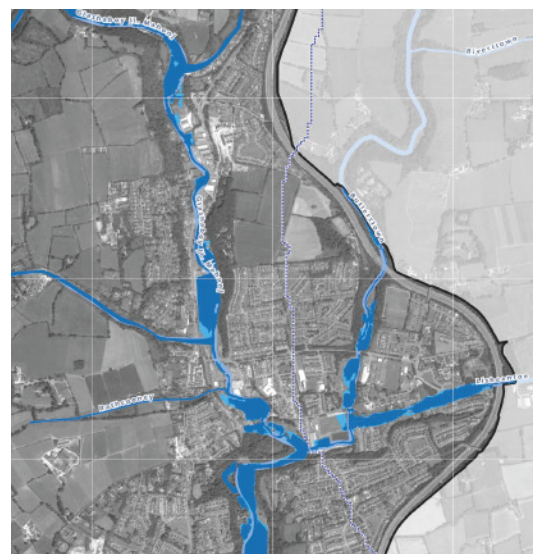
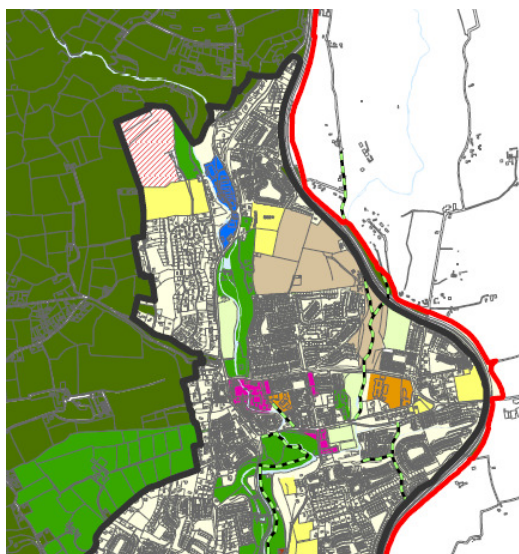
Highly vulnerable *Sustainable Residential Neighbourhoods* (ZO01) near Glenville Street in Dublin Pike has been zoned in Flood Zones A and B. Highly vulnerable development is not appropriate in Flood Zone A or B unless Plan-making Justification Tests for the zonings in question, completed by the local authority, can be satisfied.



Land Use Zoning Map 12, and Flood Zone Map

Map 13

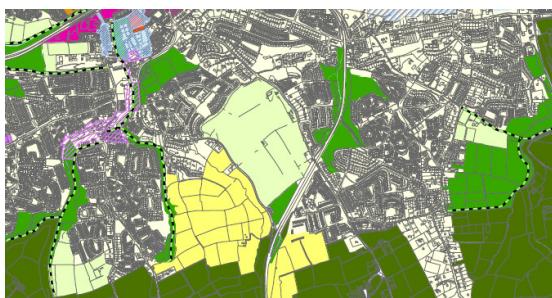
Highly vulnerable *Sustainable Residential Neighbourhoods* (ZO01), and *Urban Town Centre* (ZO07) which can allow highly vulnerable development at Meadowbrook and East Cliff Road, and *Sustainable Residential Neighbourhoods* (ZO01) and *New Residential Neighbourhoods* (ZO02) along the Lisheen River have been zoned in Flood Zones A and B. Less vulnerable *Light Industry & Related Uses* (ZO10) adjacent to junction 18 of the M8 motorway has been zoned in Flood Zone A. Highly vulnerable development is not appropriate in Flood Zone A or B, and less vulnerable development is not appropriate in Flood Zone A unless Plan-making Justification Tests for the zonings in question, completed by the local authority, can be satisfied.



Land Use Zoning Map 13, and Flood Zone Map

Map 14

Highly vulnerable *Sustainable Residential Neighbourhoods* (ZO01) near Donnybrook Hill has been zoned in Flood Zone B. Highly vulnerable development is not appropriate in Flood Zone B unless a Plan-making Justification Test for the zoning in question, completed by the local authority, can be satisfied.



Land Use Zoning Map 14, and Flood Zone Map

Map 15

Highly vulnerable *Sustainable Residential Neighbourhoods* (ZO01) and less vulnerable *Light Industry & Related Uses* (ZO10) have been zoned in Flood Zones A and B adjacent to Lehenagh Beg stream south of Togher Industrial Estate. Highly vulnerable development is not appropriate in Flood Zone A or B, and less vulnerable development is not appropriate in Flood Zone A unless Plan-making Justification Tests for the zonings in question, completed by the local authority, can be satisfied.



Land Use Zoning Map 15, and Flood Zone Map

Map 16

Highly vulnerable *Sustainable Residential Neighbourhoods* (ZO01) in Woodview, Ballincollig has been zoned in Flood Zone B. Highly vulnerable *New Residential Neighbourhoods* (ZO02), and *Tier 3 Residential Neighbourhoods* (ZO03) have been zoned in Flood Zone B south of Ballincollig, and highly vulnerable *Education* (ZO13) has been zoned in Flood Zones A and B south of Ballincollig. Highly vulnerable development is not appropriate in Flood Zone A or B unless Plan-making Justification Tests for the zonings in question, completed by the local authority, can be satisfied.



Land Use Zoning Map 16, and Flood Zone Map

Map 18

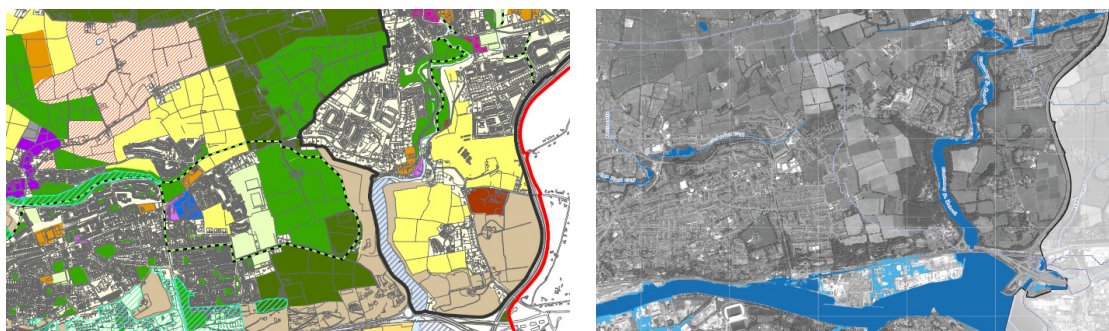
Highly vulnerable *Sustainable Residential Neighbourhoods* (ZO01) has been zoned in Flood Zones A and B alongside river Shournagh. Highly vulnerable development is not appropriate in Flood Zone A or B unless Plan-making Justification Tests for the zonings in question, completed by the local authority, can be satisfied.



Land Use Zoning Map 18, and Flood Zone Map

Map 19

Highly vulnerable *Sustainable Residential Neighbourhoods* (ZO01) has been zoned in Flood Zones A and B alongside the Butlerstown River southeast of Coláiste an Phiarsaigh. Highly vulnerable development is not appropriate in Flood Zone A or B unless Plan-making Justification Tests for the zonings in question, completed by the local authority, can be satisfied.



Land Use Zoning Map 19, and Flood Zone Map

If further information or input is required, please do not hesitate to contact the OPW (floodplanning@opw.ie) in advance of the completion of the Draft Cork City Development Plan 2022-2028.

Yours sincerely,

A handwritten signature in blue ink, which appears to read "Conor Galvin", is shown on a light blue background.

PP Conor Galvin
Flood Relief and Risk Management Division