

Cork City Development Plan 2022-2028

Strategic Flood Risk Assessment

Appendix II

12/10/2022



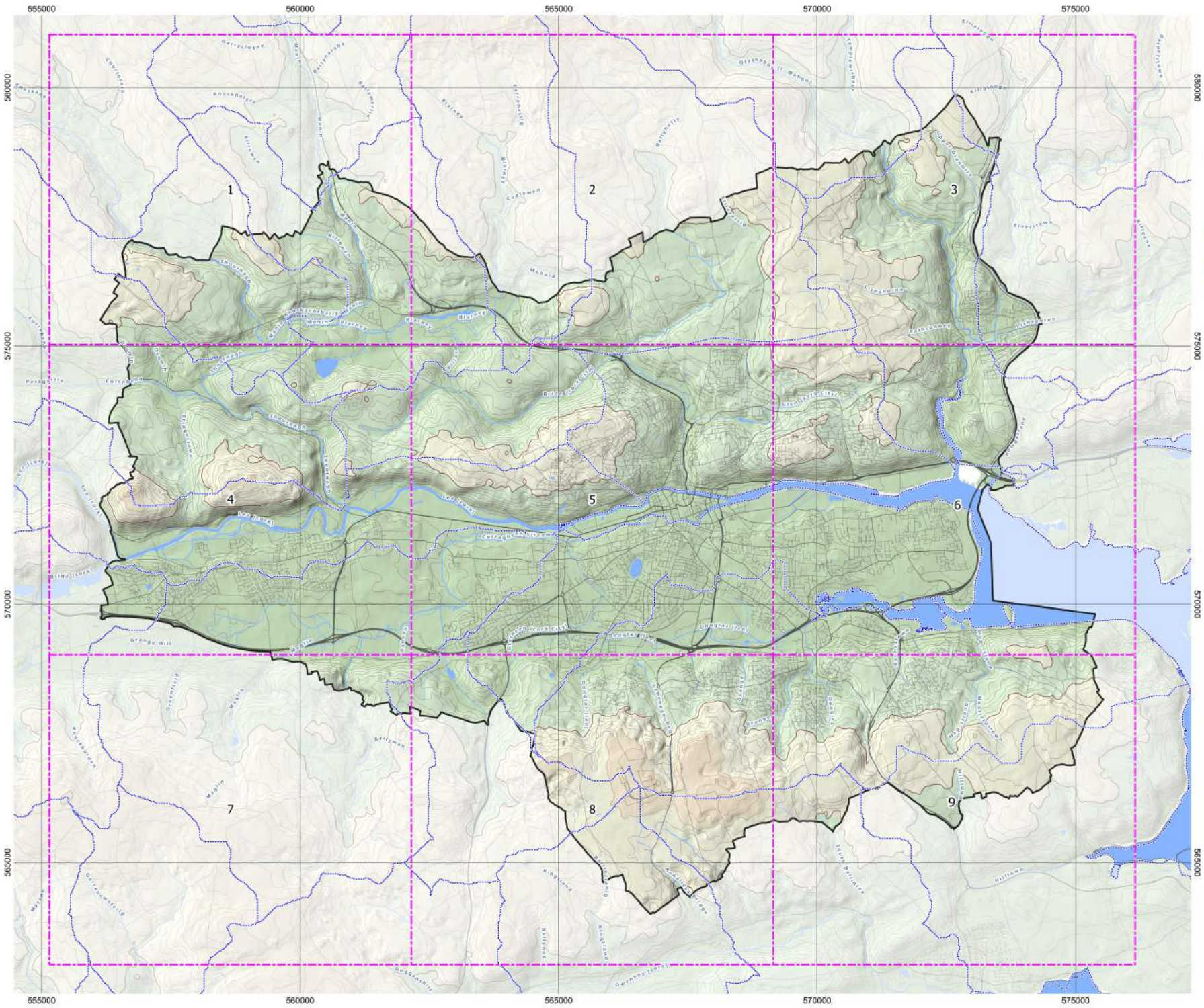
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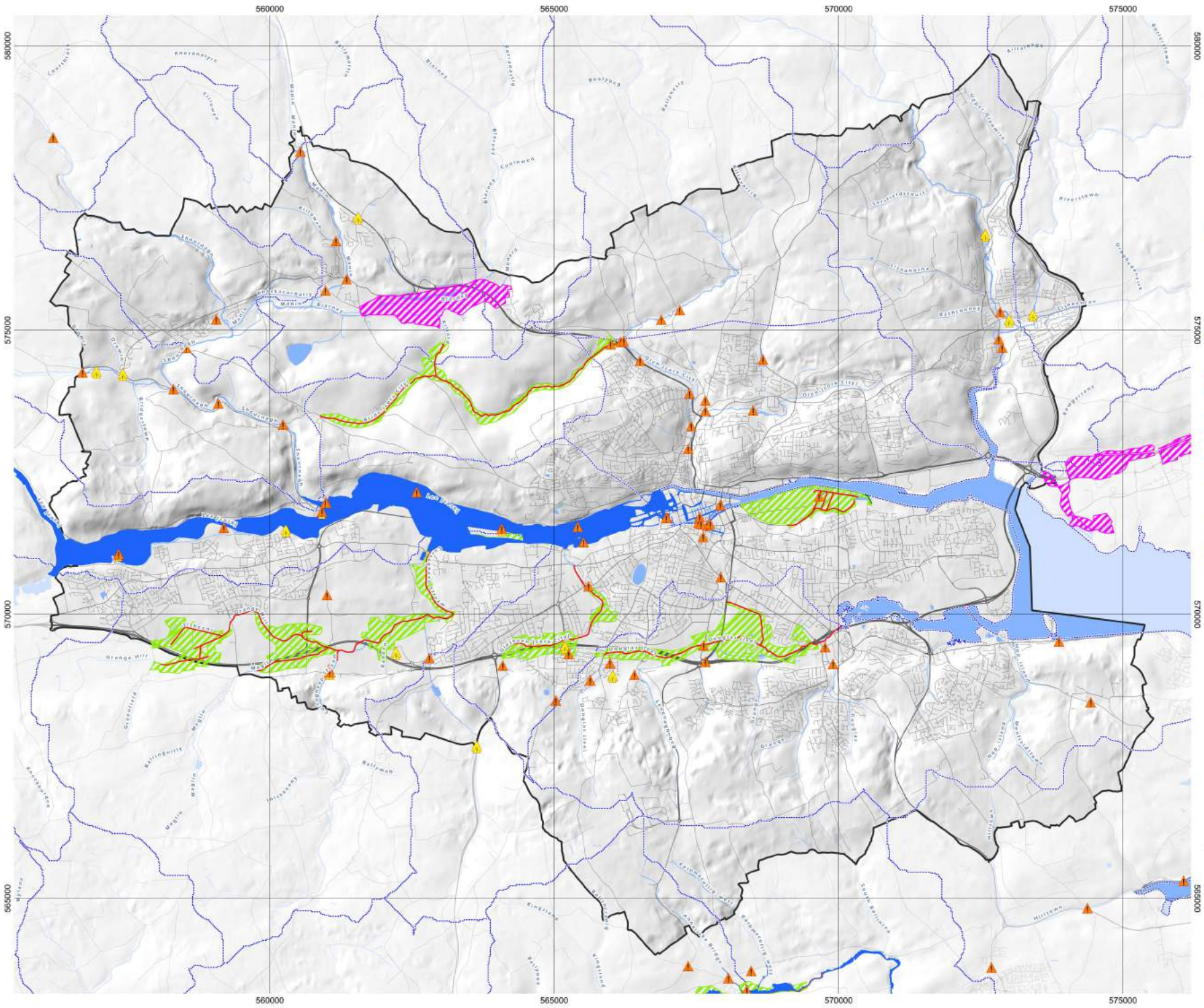
Cork City Development Plan 2022-2028

Cork City Topography & Atlas Grid

-  Cork City
-  WFD River Sub-Basins
-  Water
-  River or Stream
-  Atlas Grid



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OPW Historical Flood Data

- Cork City
- WFD River Sub-Basins
- Water
- River or Stream

- ### OPW Past Flood Events
- Single Flood Event
 - Recurring Flood Event
 - Past Flood Extent

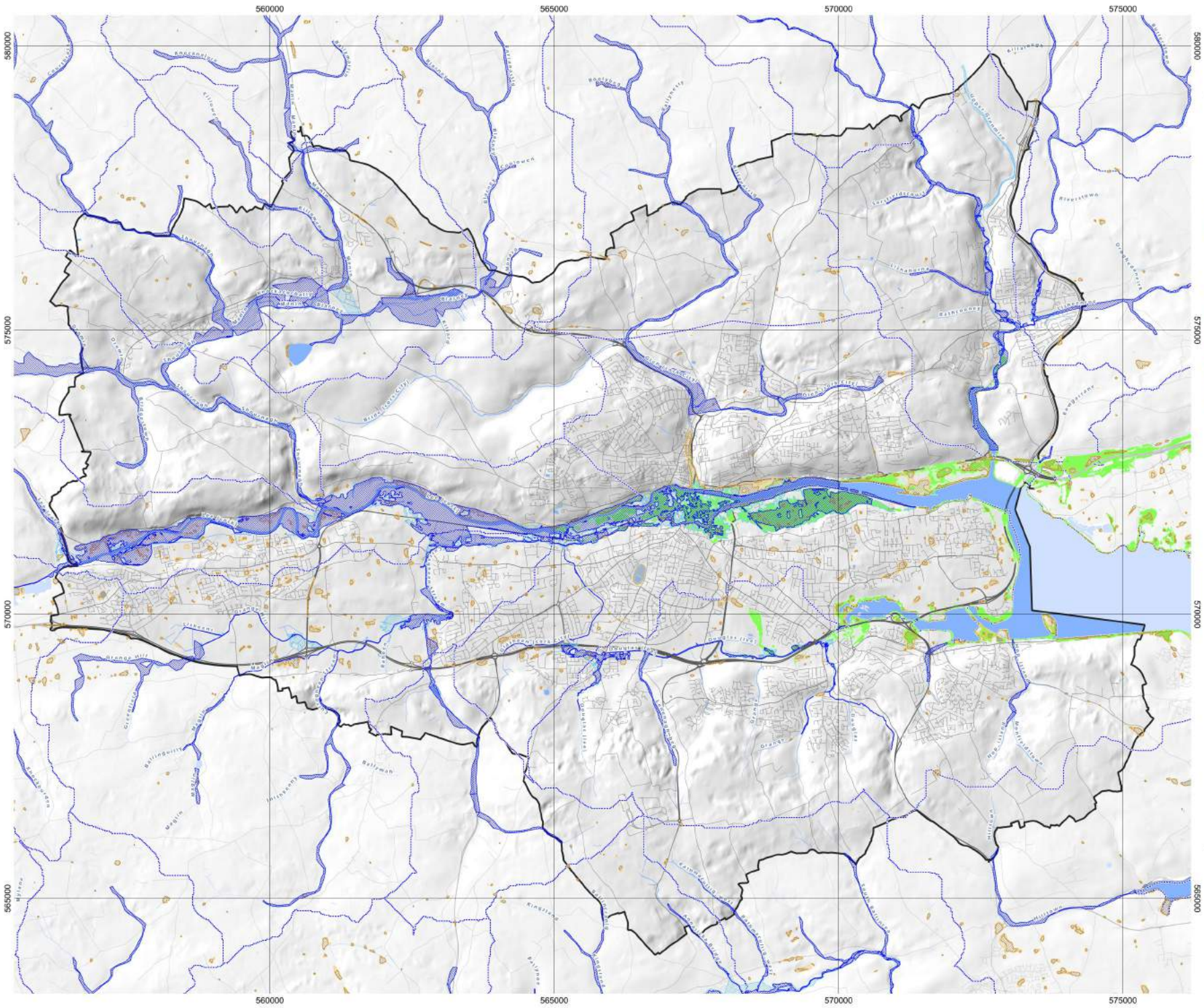
- ### Land Commission
- Benefited Lands

- ### Drainage District
- Channel
 - Embankment
 - Benefited Lands

- ### Arterial Drainage Scheme
- Channel
 - Embankment
 - Benefited Lands



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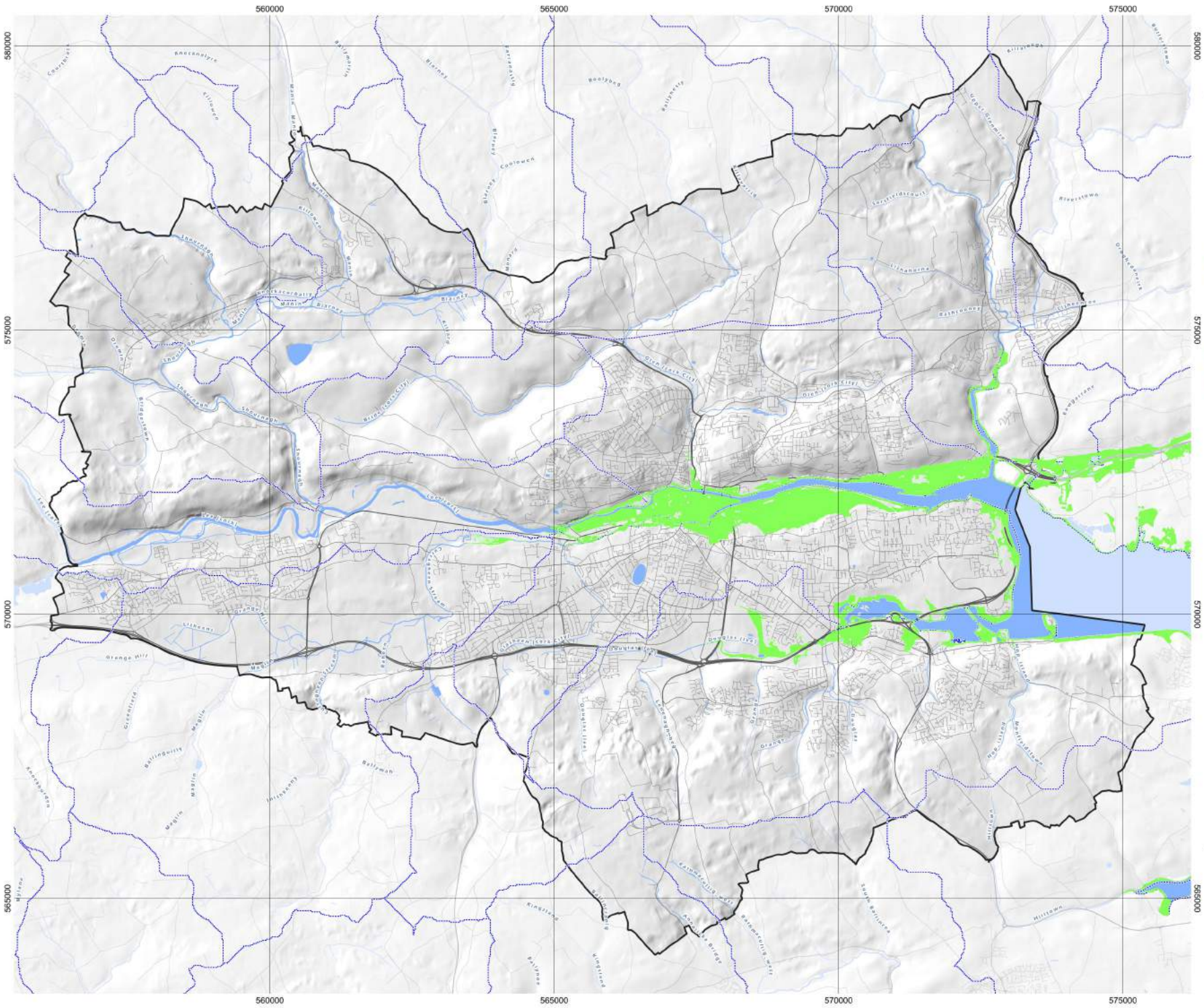
Cork City Development Plan 2022-2028

OPW Preliminary Flood Risk Assessment (PFRA)

- Cork City
 - WFD River Sub-Basins
 - Water
 - River or Stream
-
- PFRA**
- Fluvial 1% AEP
 - Fluvial 0.1% AEP
 - Pluvial 1% AEP
 - Pluvial 0.1% AEP
 - Coastal 0.5% AEP
 - Coastal 0.1% AEP







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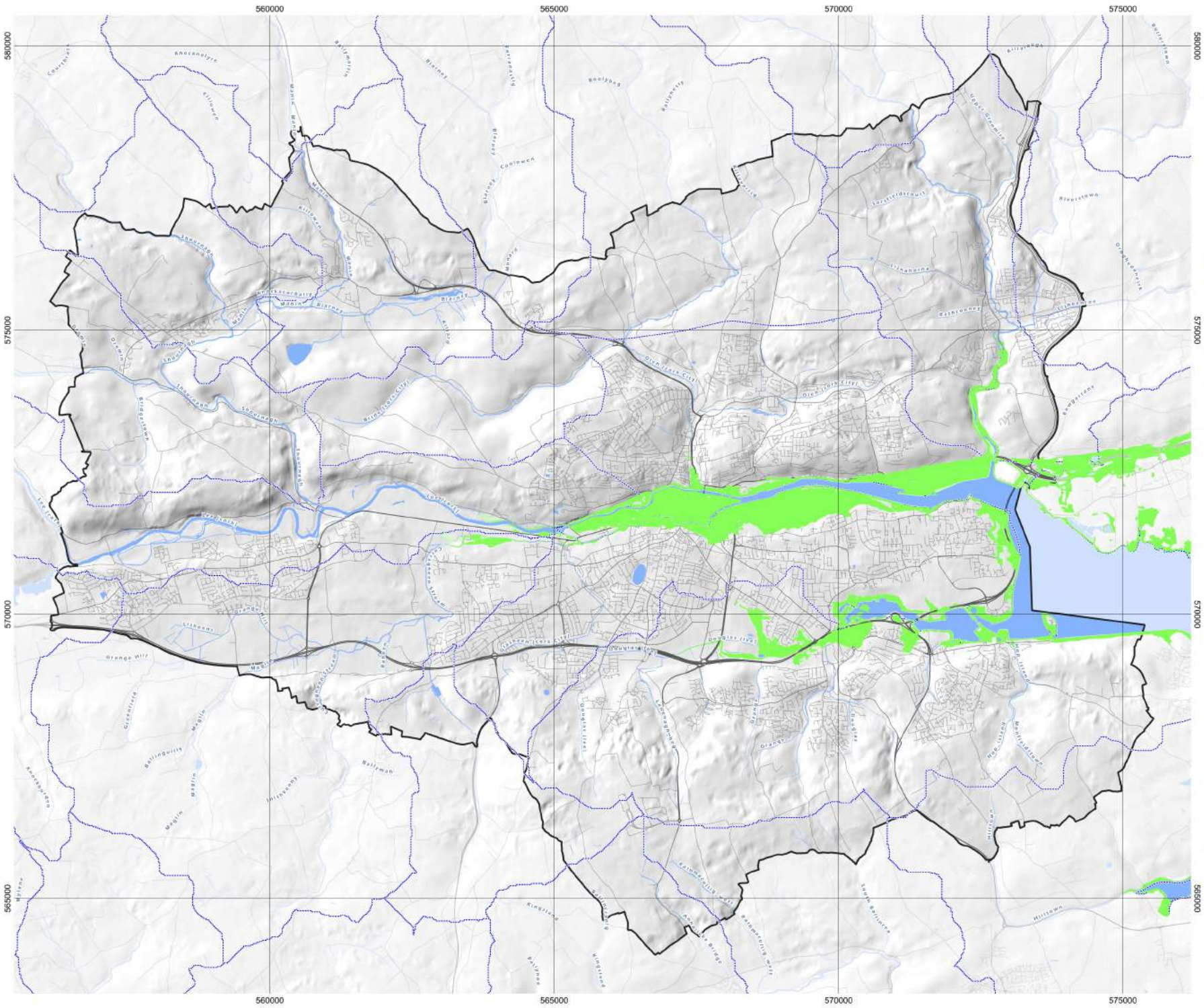
OPW Irish Coastal
Protection Strategy
Study (ICPSS) Mid-Range
Future Scenario

-  Cork City
-  WFD River Sub-Basins
-  Water
-  River or Stream

- ICPSS Mid-Range
Future Scenario
-  Coastal 0.5% AEP
 -  Coastal 0.1% AEP







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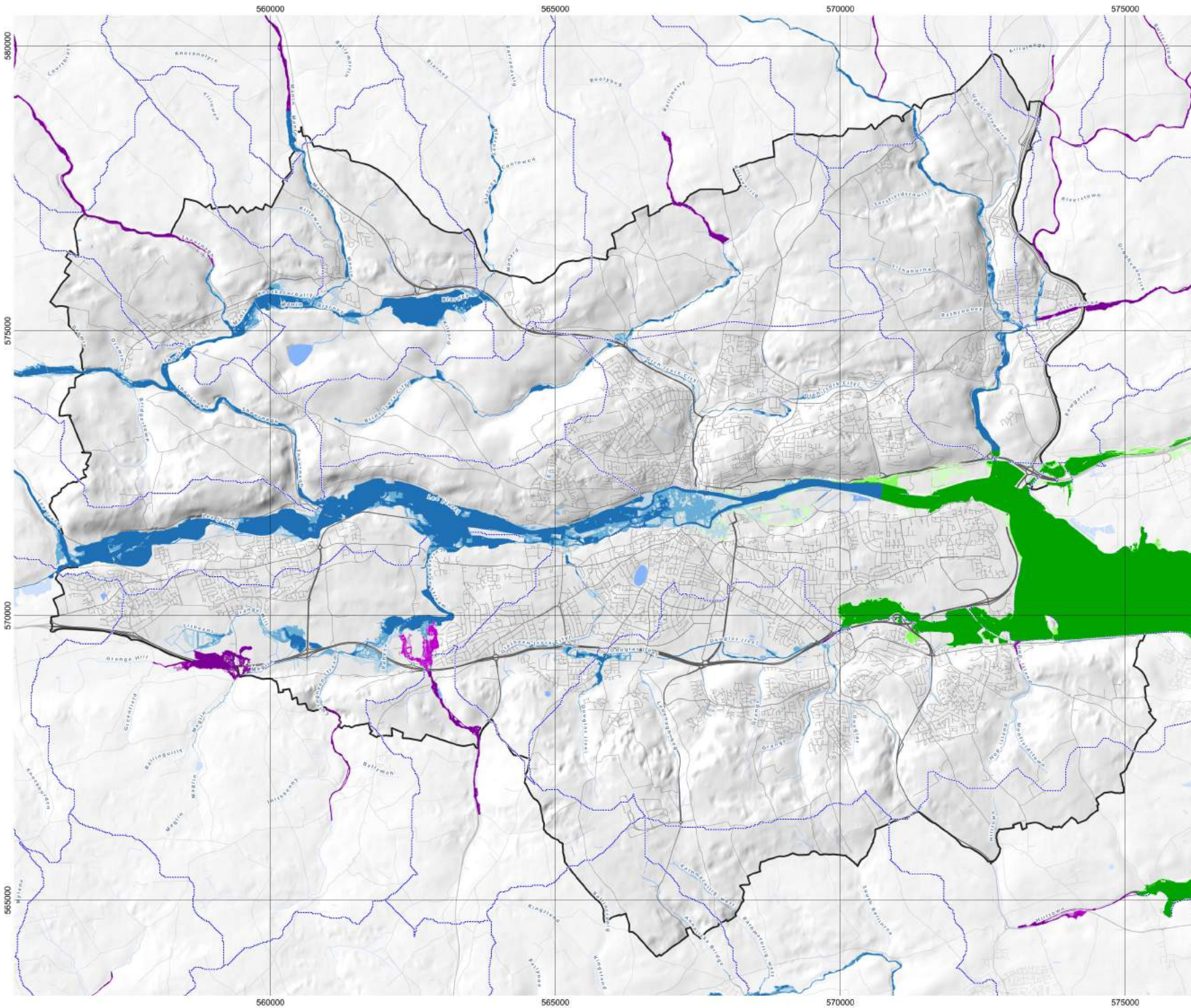
OPW Irish Coastal
Protection Strategy
Study (ICPSS) High-End
Future Scenario

-  Cork City
-  WFD River Sub-Basins
-  Water
-  River or Stream

- ICPSS High-End
Future Scenario
-  Coastal 0.5% AEP
 -  Coastal 0.1% AEP



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Cork City Development Plan 2022-2028

OPW Catchment Flood
Risk Assessment &
Management (CFRAM) &
National Indicative
Fluvial Mapping (NIFM)
Present Day Scenario

- Cork City
- WFD River Sub-Basins
- Water
- River or Stream

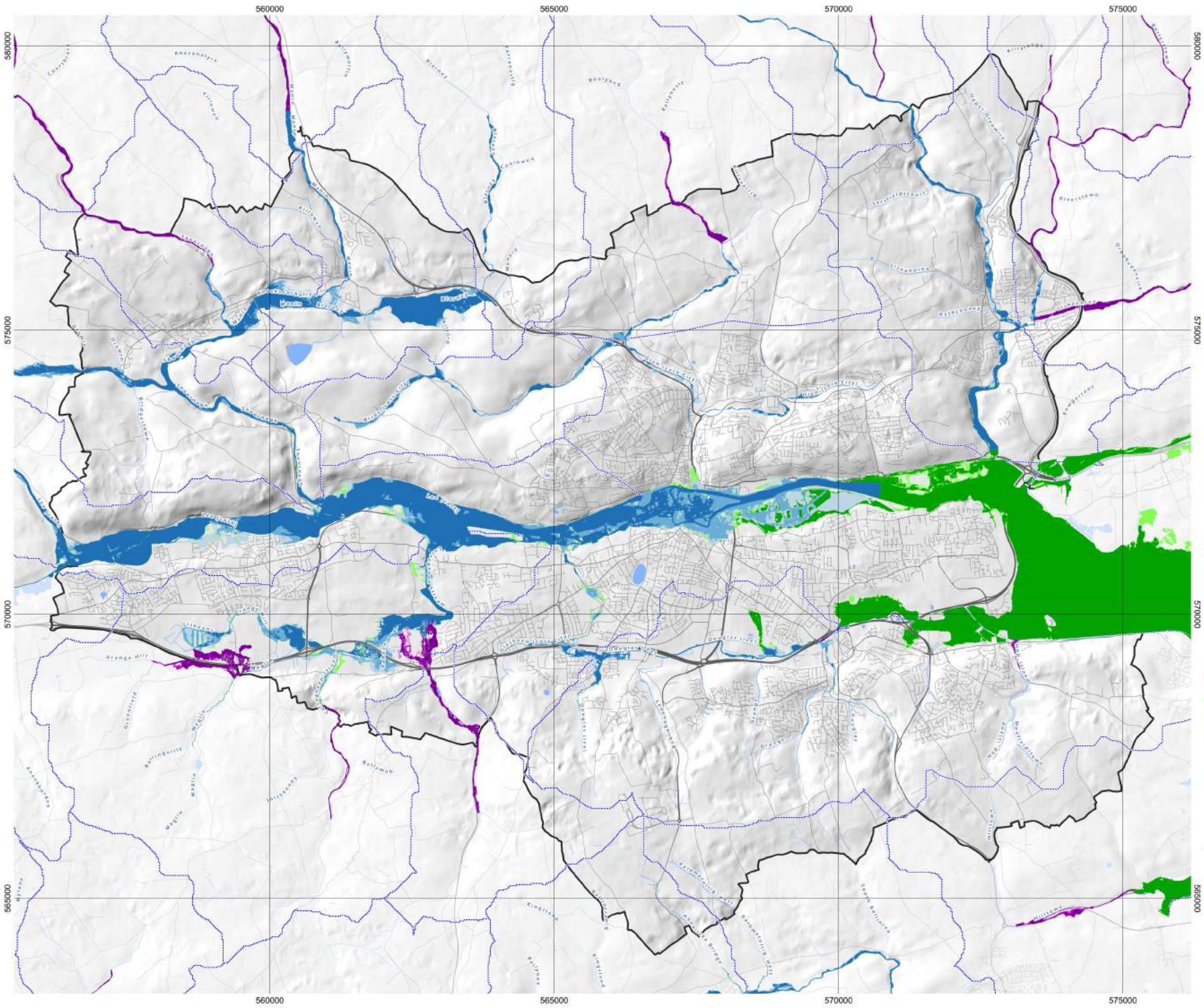
- CFRAM Fluvial
Present Day Scenario**
- 10% AEP
 - 1% AEP
 - 0.1% AEP

- CFRAM Coastal
Present Day Scenario**
- 10% AEP
 - 0.5% AEP
 - 0.1% AEP

- NIFM Present Day Scenario**
- 5% AEP
 - 1% AEP
 - 0.1% AEP



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OPW Catchment Flood Risk Assessment & Management (CFRAM) & National Indicative Fluvial Mapping (NIFM) Mid-Range Future Scenario

- Cork City
- WFD River Sub-Basins
- Water
- River or Stream

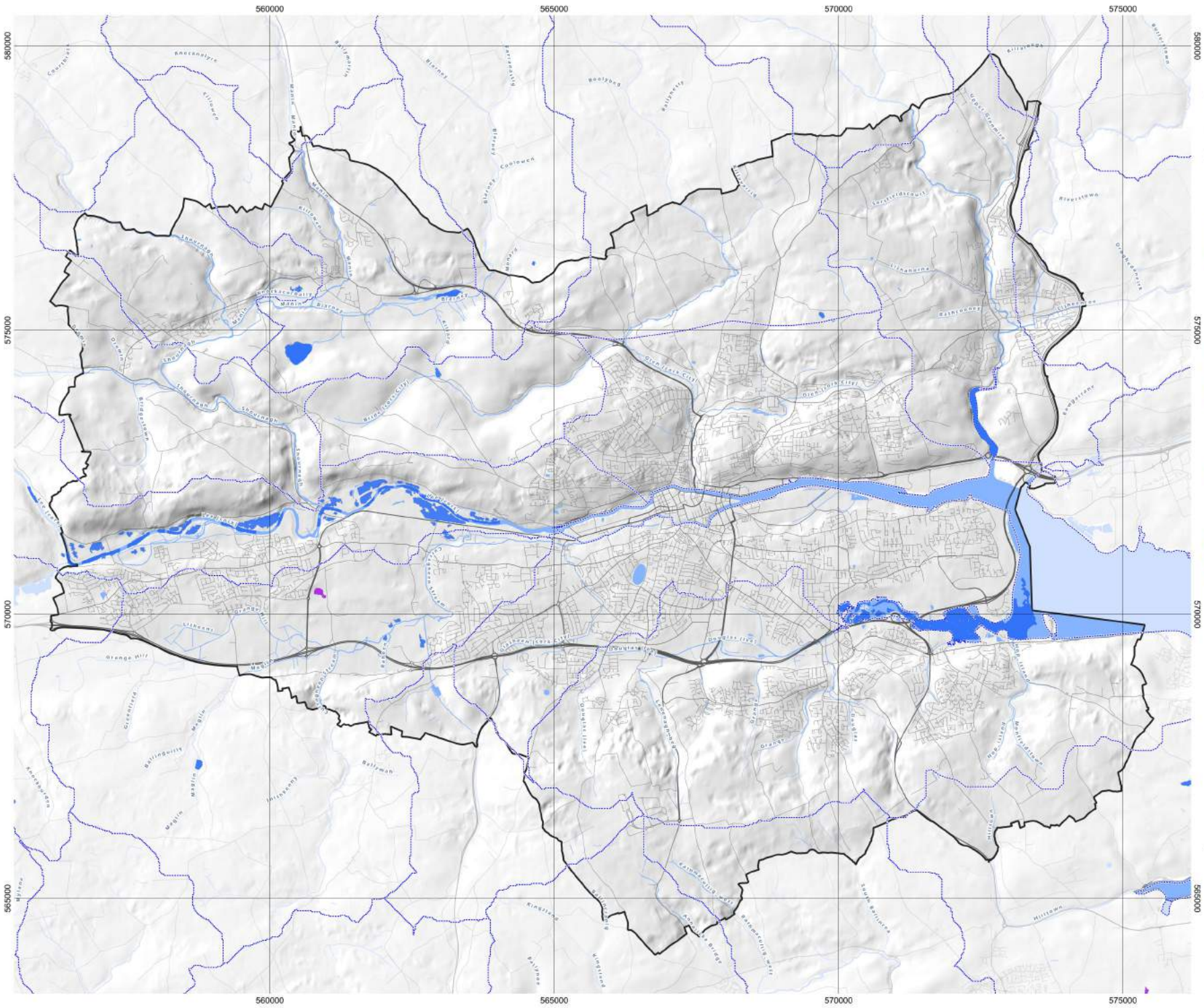
- CFRAM Fluvial Mid-Range Future Scenario**
- 10% AEP
 - 1% AEP
 - 0.1% AEP

- CFRAM Coastal Mid-Range Future Scenario**
- 10% AEP
 - 0.5% AEP
 - 0.1% AEP

- NIFM Mid-Range Future Scenario**
- 5% AEP
 - 1% AEP
 - 0.1% AEP



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GSI Historical Flood Data
and Groundwater
Predictive Modeling

- Cork City
- WFD River Sub-Basins
- Water
- River or Stream

GSI Groundwater Flooding Predictive Model

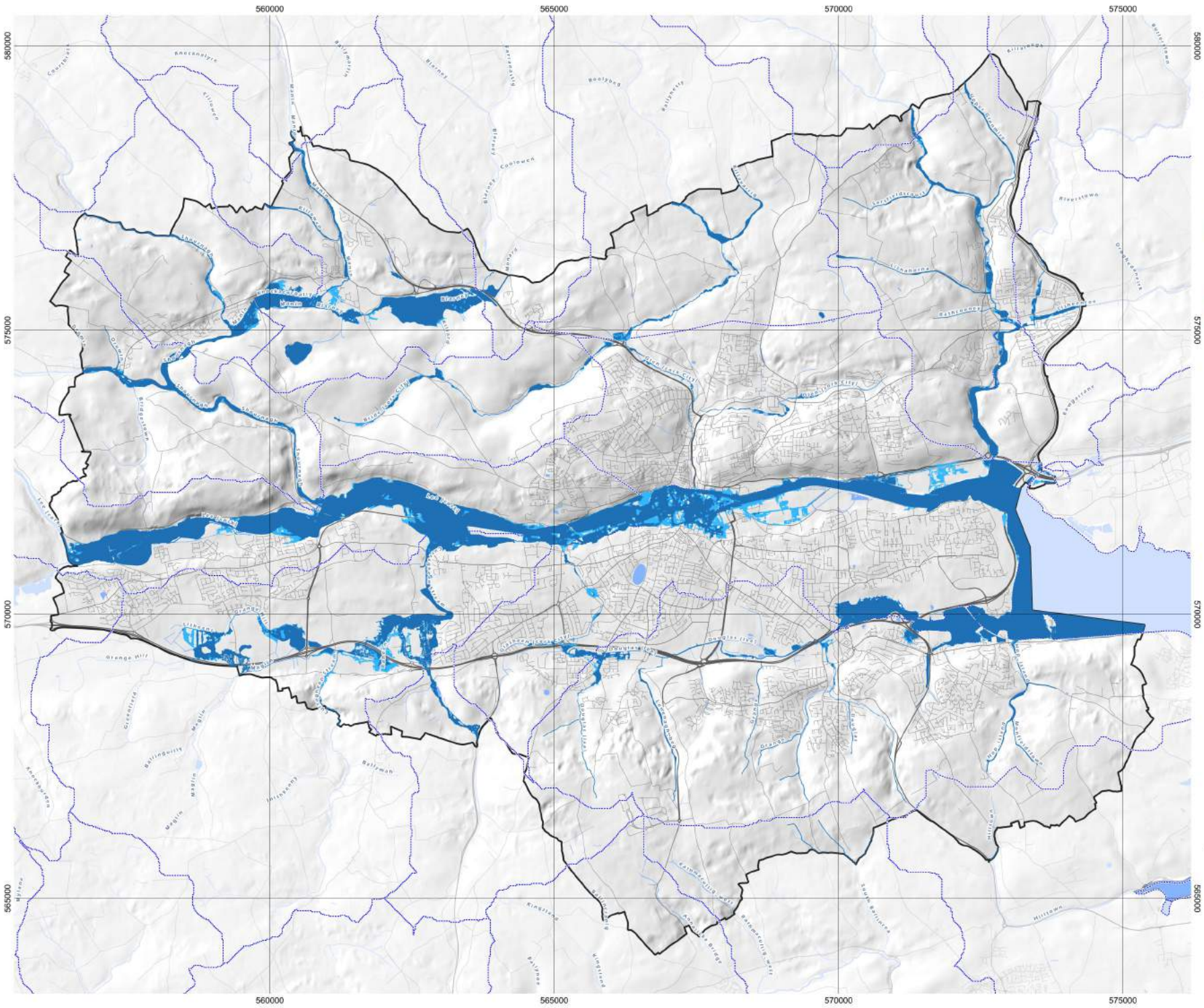
- High Probability
- Medium Probability
- Low Probability

GSI Historical Flood Data

- Surface Water Flooding**
 - Winter 2015-2016 Surface Water Flooding
- Maximum Historic Groundwater Flooding**
 - Groundwater
 - Groundwater/Surface water







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Indicative Flood Zones

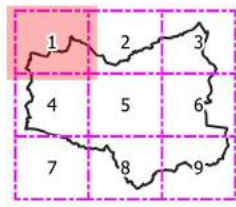
-  Cork City
-  WFD River Sub-Basins
-  Water
-  River or Stream
- Indicative Flood Zones**
-  Flood Zone A
-  Flood Zone B



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OPW Historical Flood Data



- WFD River Sub-Basins
- Water
- River or Stream
- OPW Past Flood Events**
 - Recurring Flood Event
 - REMOVE FROM LEGEND
 - Past Flood Extent
- Land Commission**
 - Benefited Lands
- Drainage District**
 - Channel
 - Embankment
 - Benefited Lands
- Arterial Drainage Scheme**
 - Channel
 - Embankment
 - Benefited Lands

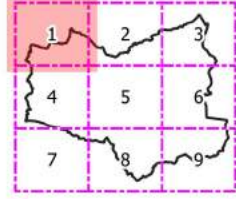


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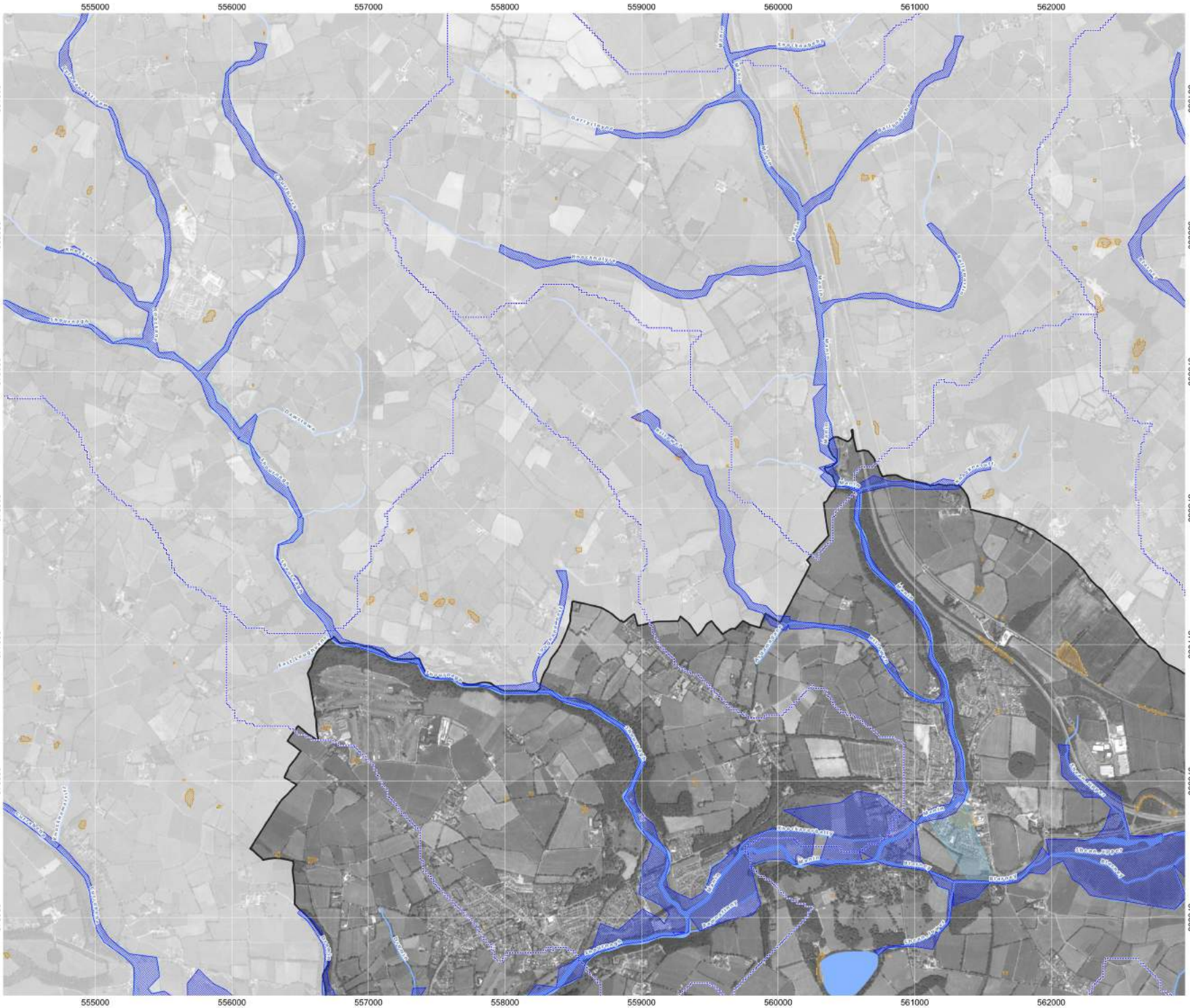


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OPW Preliminary Flood Risk Assessment (PFRA)



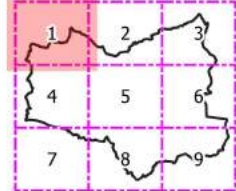
- WFD River Sub-Basins
 - Water
 - River or Stream
- PFRA**
- Fluvial 1% AEP
 - Fluvial 0.1% AEP
 - Pluvial 1% AEP
 - Pluvial 0.1% AEP
 - Coastal 0.5% AEP
 - Coastal 0.1% AEP



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OPW Irish Coastal
Protection Strategy
Study (ICPSS) Mid-Range
Future Scenario



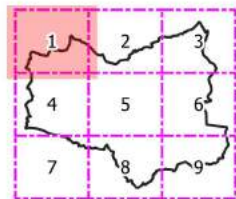
- WFD River Sub-Basins
- Water
- River or Stream
- ICPSS Mid-Range
Future Scenario**
- Coastal 0.5% AEP
- Coastal 0.1% AEP



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OPW Catchment Flood Risk Assessment & Management (CFRAM) & National Indicative Fluvial Mapping (NIFM) Present Day

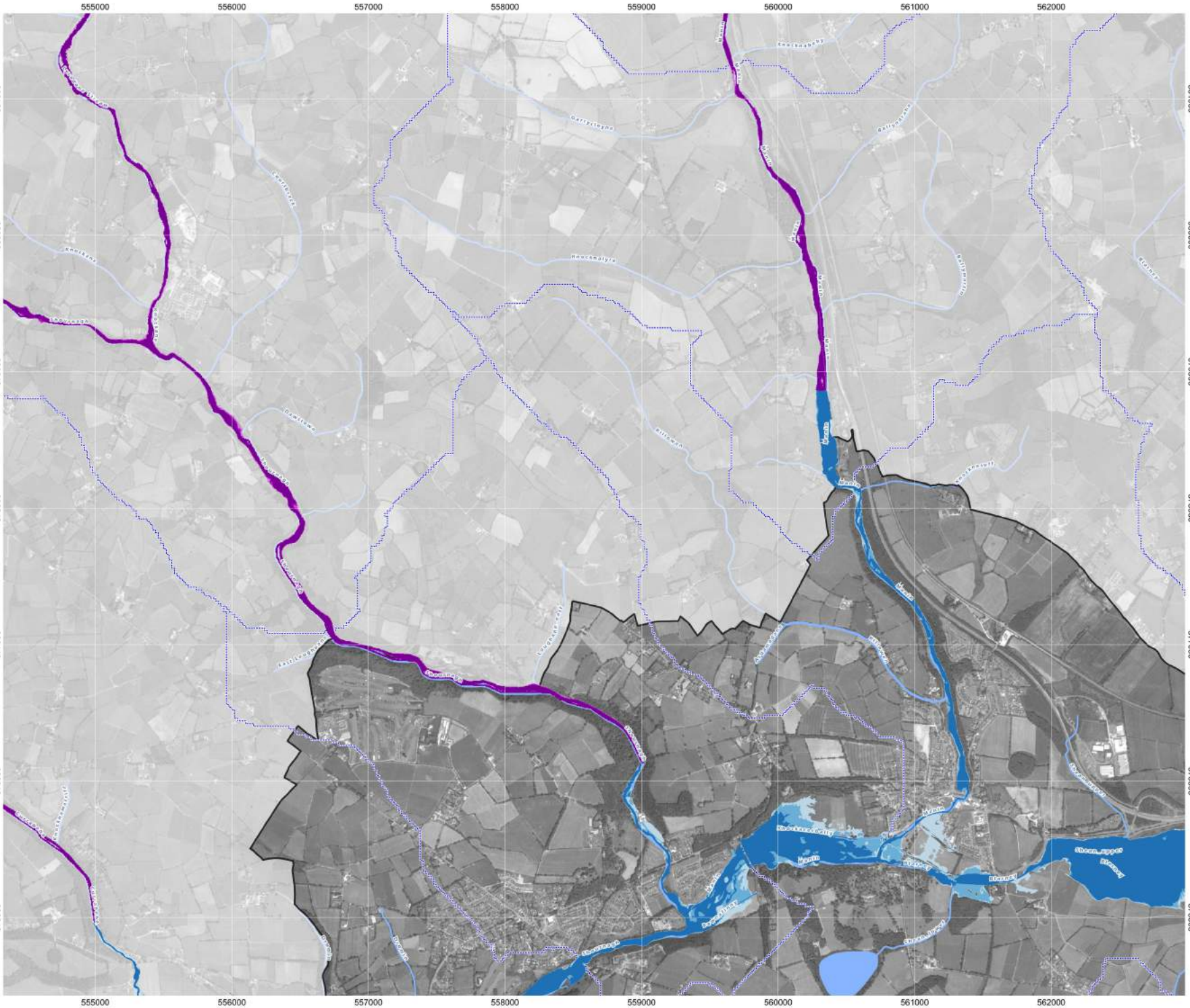


- WFD River Sub-Basins
- Water
- River or Stream

- CFRAM Fluvial Present Day**
- 10% AEP
 - 1% AEP
 - 0.1% AEP

- CFRAM Coastal Present Day**
- 10% AEP
 - 0.5% AEP
 - 0.1% AEP

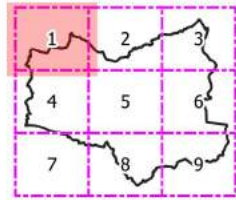
- NIFM Present Day Scenario**
- 5% AEP
 - 1% AEP
 - 0.1% AEP



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OPW Catchment Flood Risk Assessment & Management (CFRAM) & National Indicative Fluvial Mapping (NIFM) Mid-Range Future Scenario



- WFD River Sub-Basins
- Water
- River or Stream

CFRAM Fluvial Mid-Range Future Scenario

- 10% AEP
- 1% AEP
- 0.1% AEP

CFRAM Coastal Mid-Range Future Scenario

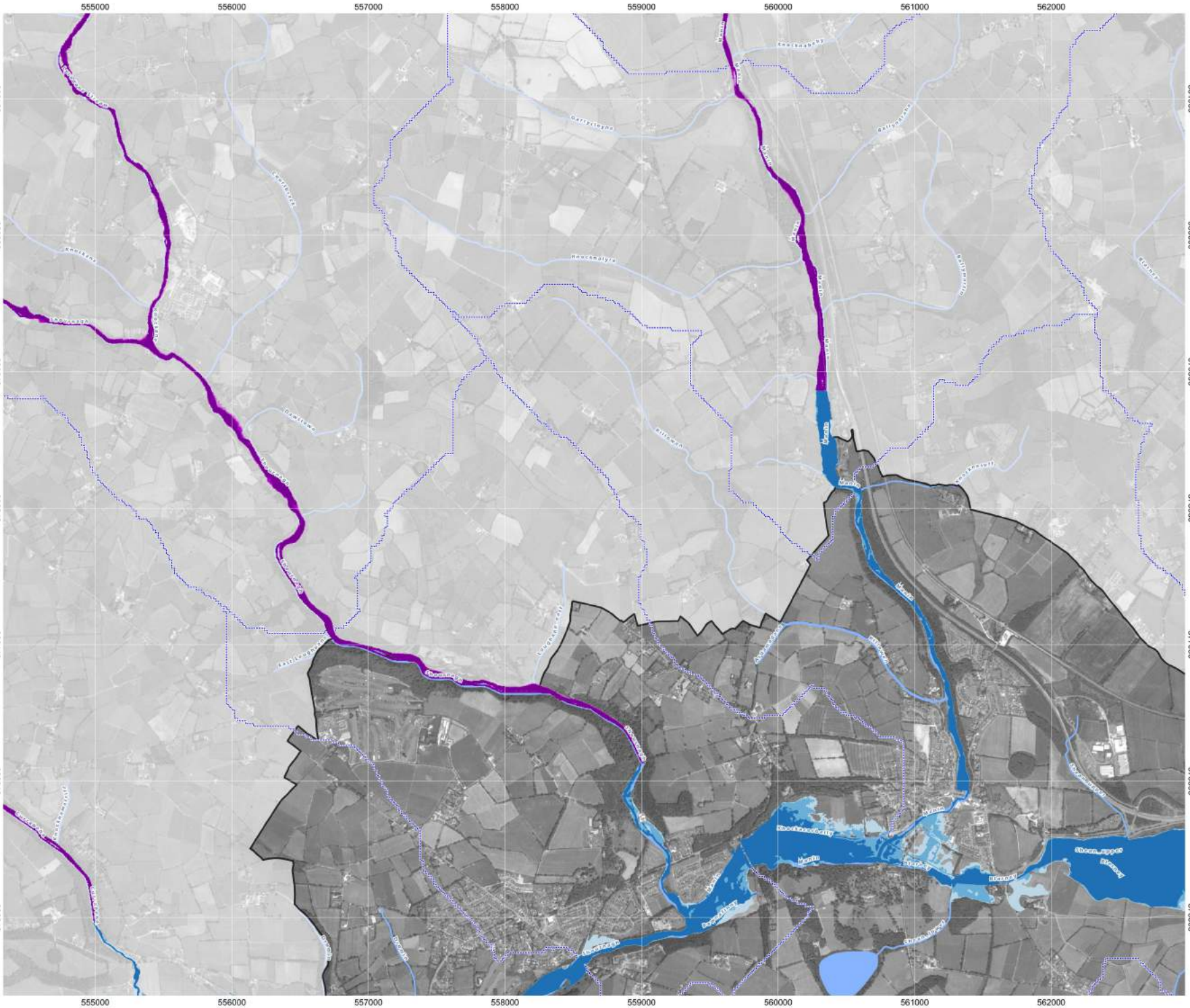
- 10% AEP
- 0.5% AEP
- 0.1% AEP

NIFM Mid-Range Future Scenario

- 5% AEP
- 1% AEP
- 0.1% AEP

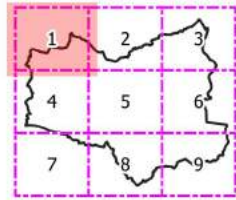


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OPW Catchment Flood Risk Assessment & Management (CFRAM) & National Indicative Fluvial Mapping (NIFM) High-End Future Scenario



- WFD River Sub-Basins
- Water
- River or Stream

- CFRAM Fluvial High-End Future Scenario***
- 10% AEP
 - 1% AEP
 - 0.1% AEP

- CFRAM Coastal High-End Future Scenario***
- 10% AEP
 - 0.5% AEP
 - 0.1% AEP

- NIFM High-End Future Scenario**
- 5% AEP
 - 1% AEP
 - 0.1% AEP

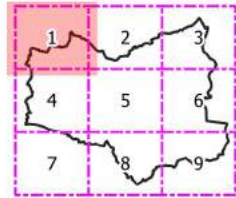


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* CFRAM - only 'Present Day' and 'Mid-Range Future' scenarios are available for the study area.

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GSI Historical Flood Data and Groundwater Predictive Modeling



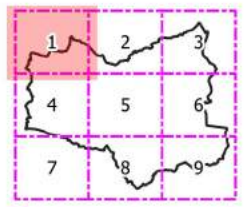
- WFD River Sub-Basins
- Water
- River or Stream
- GSI Groundwater Flooding Predictive Model**
- High Probability
- Medium Probability
- Low Probability
- GSI Historical Flood Data**
- Surface Water Flooding**
- Winter 2015-2016 Surface Water Flooding
- Maximum Historic Groundwater Flooding**
- Groundwater
- Groundwater/Surface water



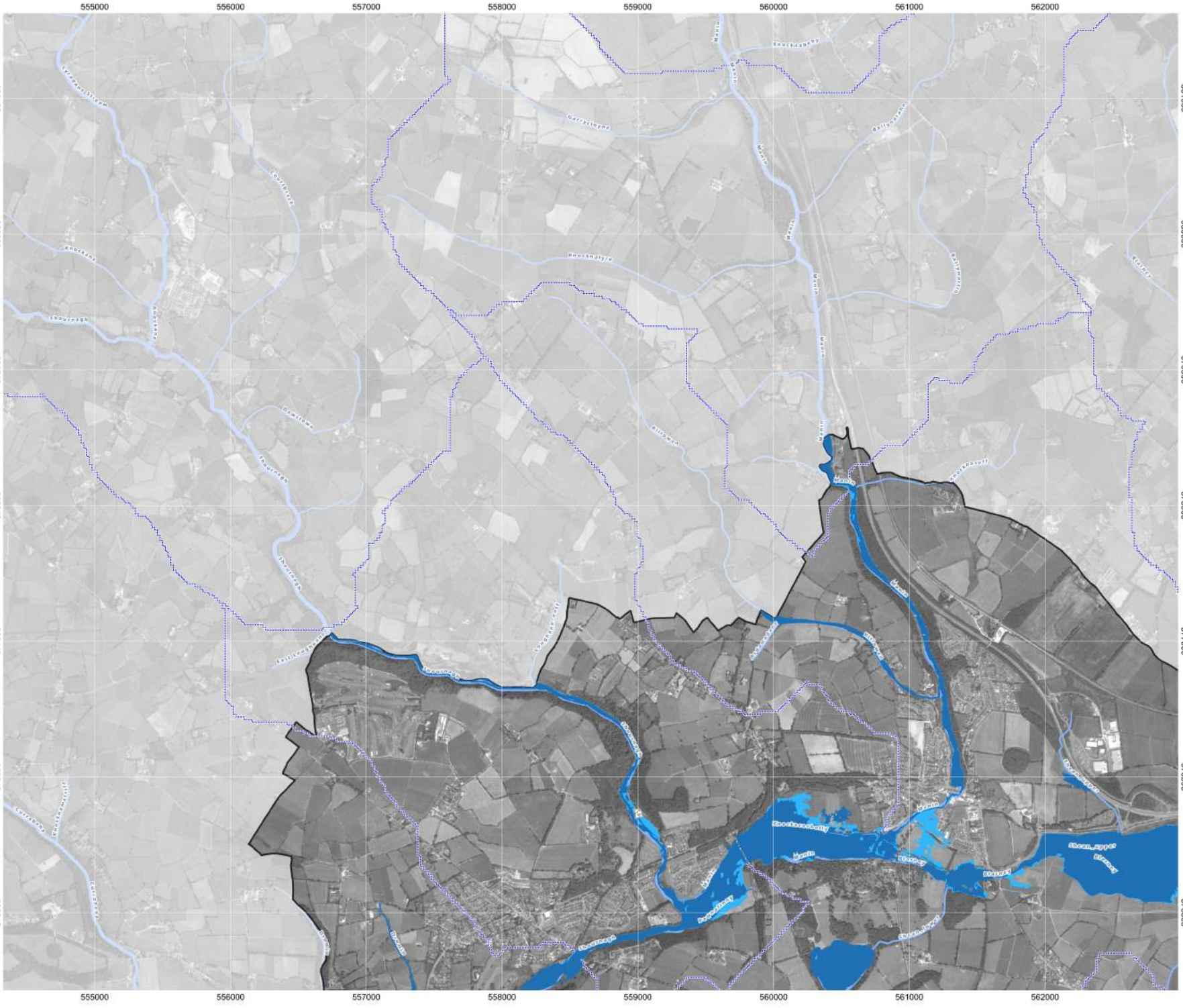
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Cork City Development Plan 2022-2028

Indicative Flood Zones



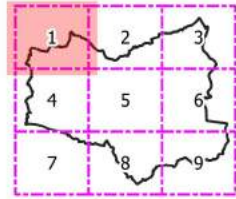
-  WFD River Sub-Basins
 -  Water
 -  River or Stream
- Indicative Flood Zones**
-  Flood Zone A
 -  Flood Zone B



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Land Use Zoning that Intersects Indicative Flood Zones



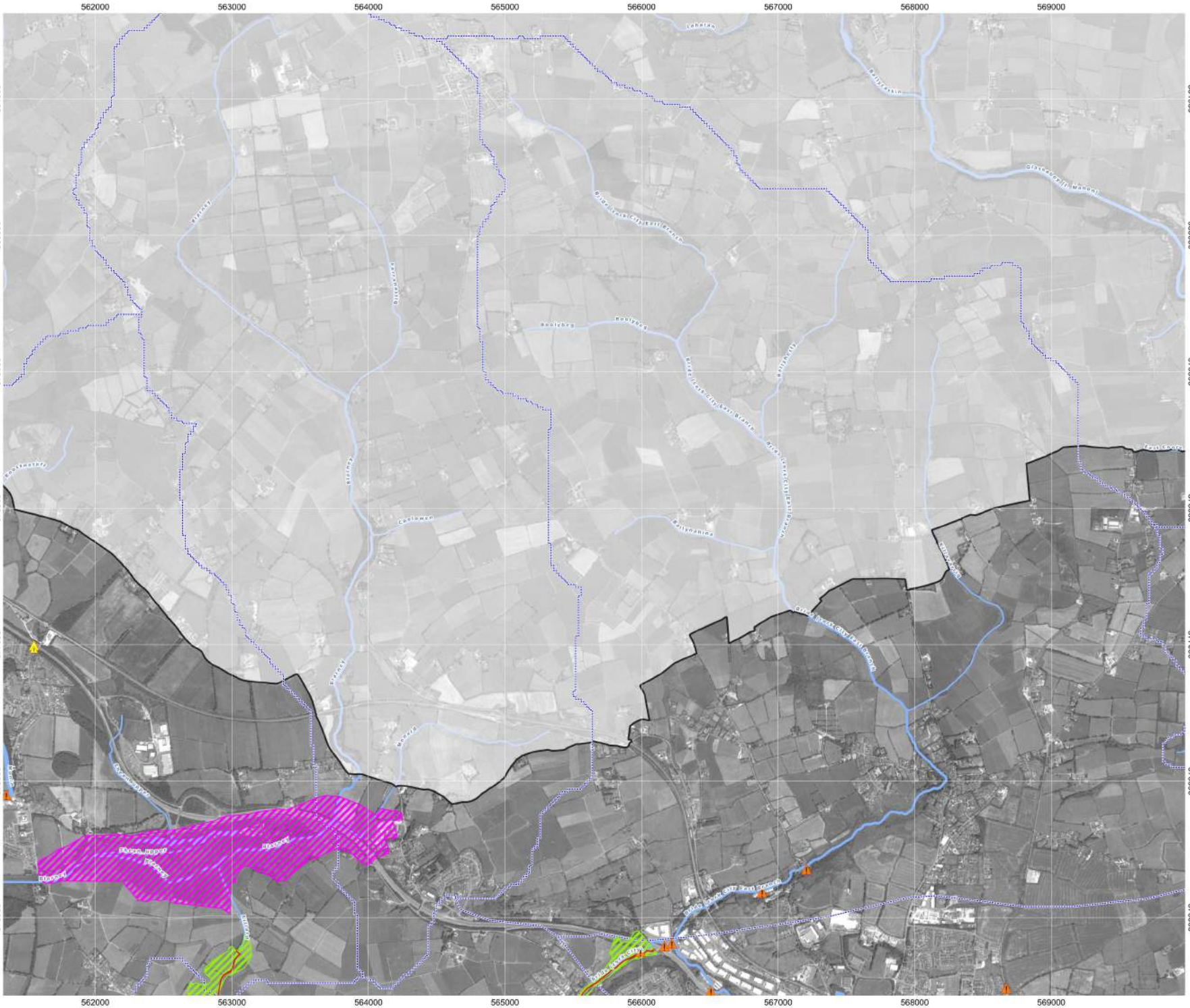
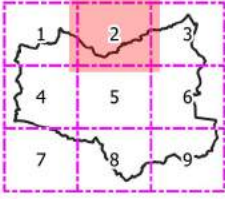
- WFD River Sub-Basins
 - Water
- Land Use Zoning**
- ZO 01 - Sustainable Residential Neighbourhoods
 - ZO 02 - New Residential Neighbourhoods
 - ZO 03 - Long-term Strategic Regeneration
 - ZO 04 - Mixed Use Development
 - ZO 06 - Urban Town Centre
 - ZO 15 - Public Open Space
 - ZO 16 - Sports Grounds and Facilities
 - ZO 19 - Rivers and Water Bodies Protection
 - ZO 20 - City Hinterland
 - ZO 20 - Long-term Strategic Regeneration



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OPW Historical Flood Data



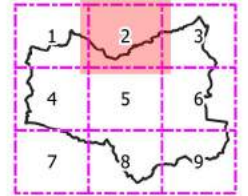
- WFD River Sub-Basins
- Water
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- OPW Past Flood Events**
 - Recurring Flood Event
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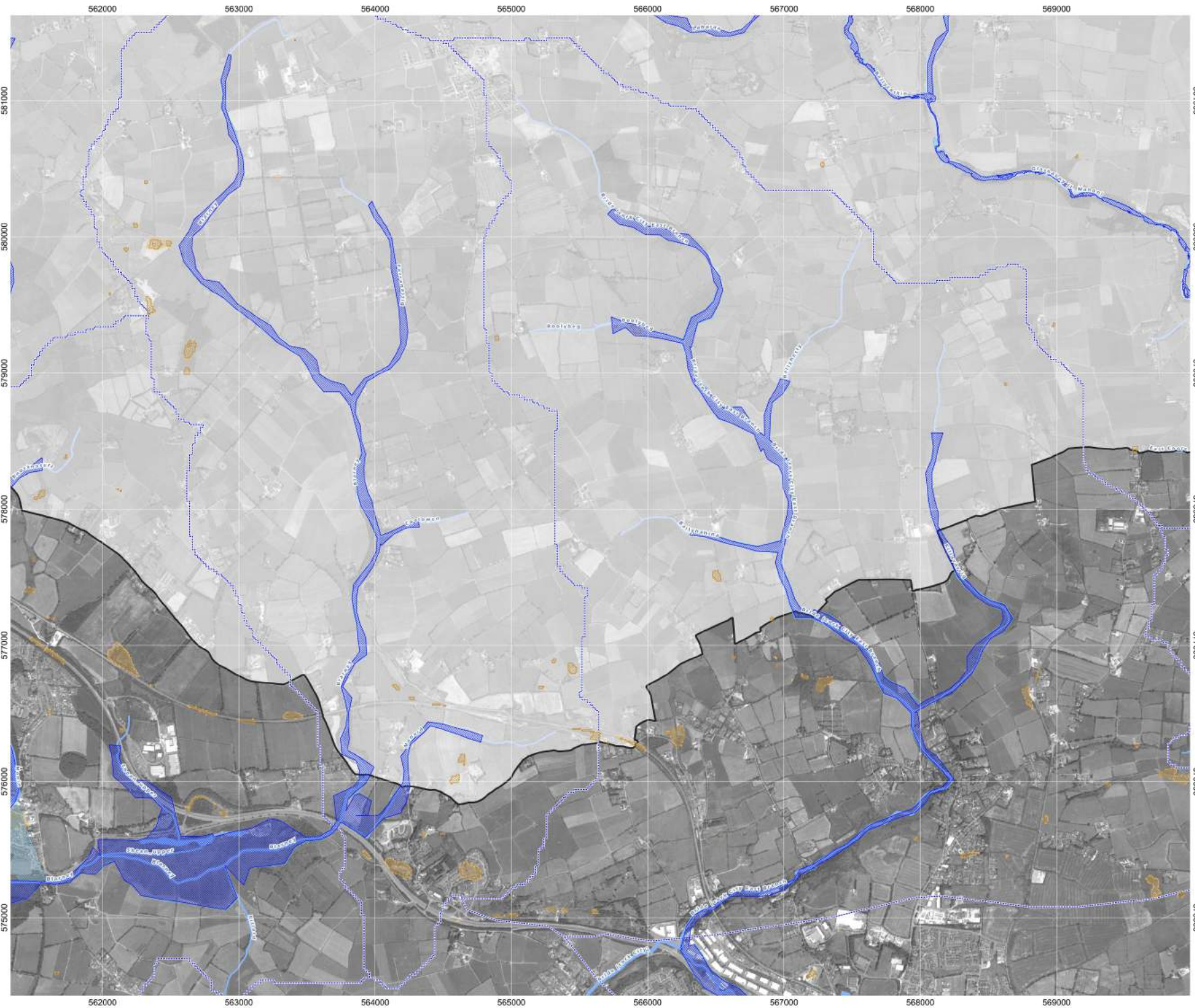
OPW Preliminary Flood Risk Assessment (PFRA)



- WFD River Sub-Basins
- Water
- River or Stream

PFRA

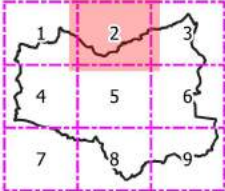
- Fluvial 1% AEP
- Fluvial 0.1% AEP
- Pluvial 1% AEP
- Pluvial 0.1% AEP
- Coastal 0.5% AEP
- Coastal 0.1% AEP



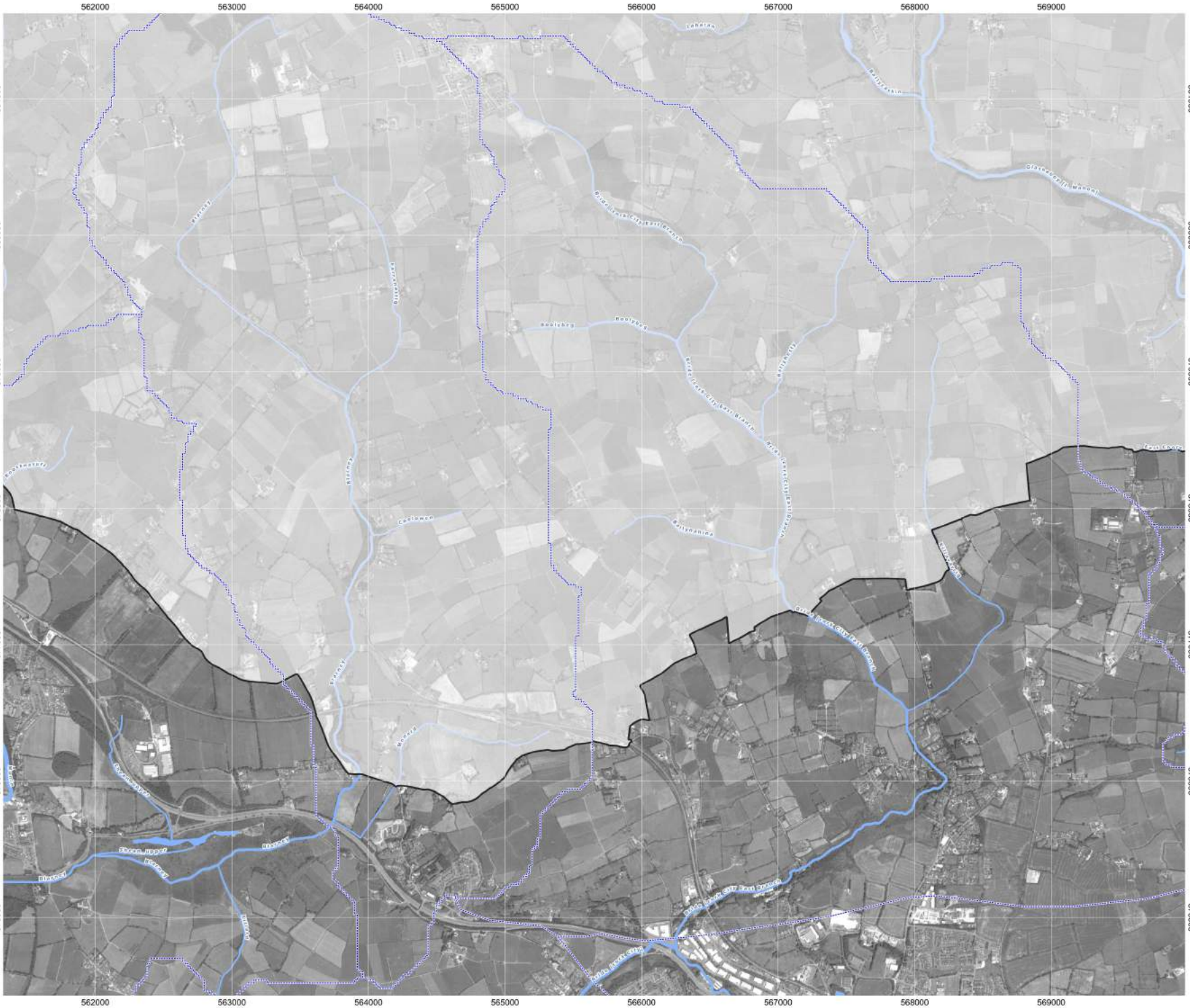
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OPW Irish Coastal
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Study (ICPSS) High-End
Future Scenario



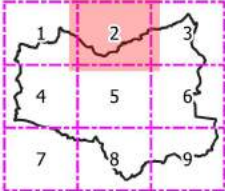
- WFD River Sub-Basins
- Water
- River or Stream
- ICPSS High-End
Future Scenario**
- Coastal 0.5% AEP
- Coastal 0.1% AEP



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Cork City Development Plan 2022-2028

OPW Catchment Flood Risk Assessment & Management (CFRAM) & National Indicative Fluvial Mapping (NIFM) Present Day



- WFD River Sub-Basins
- Water
- River or Stream

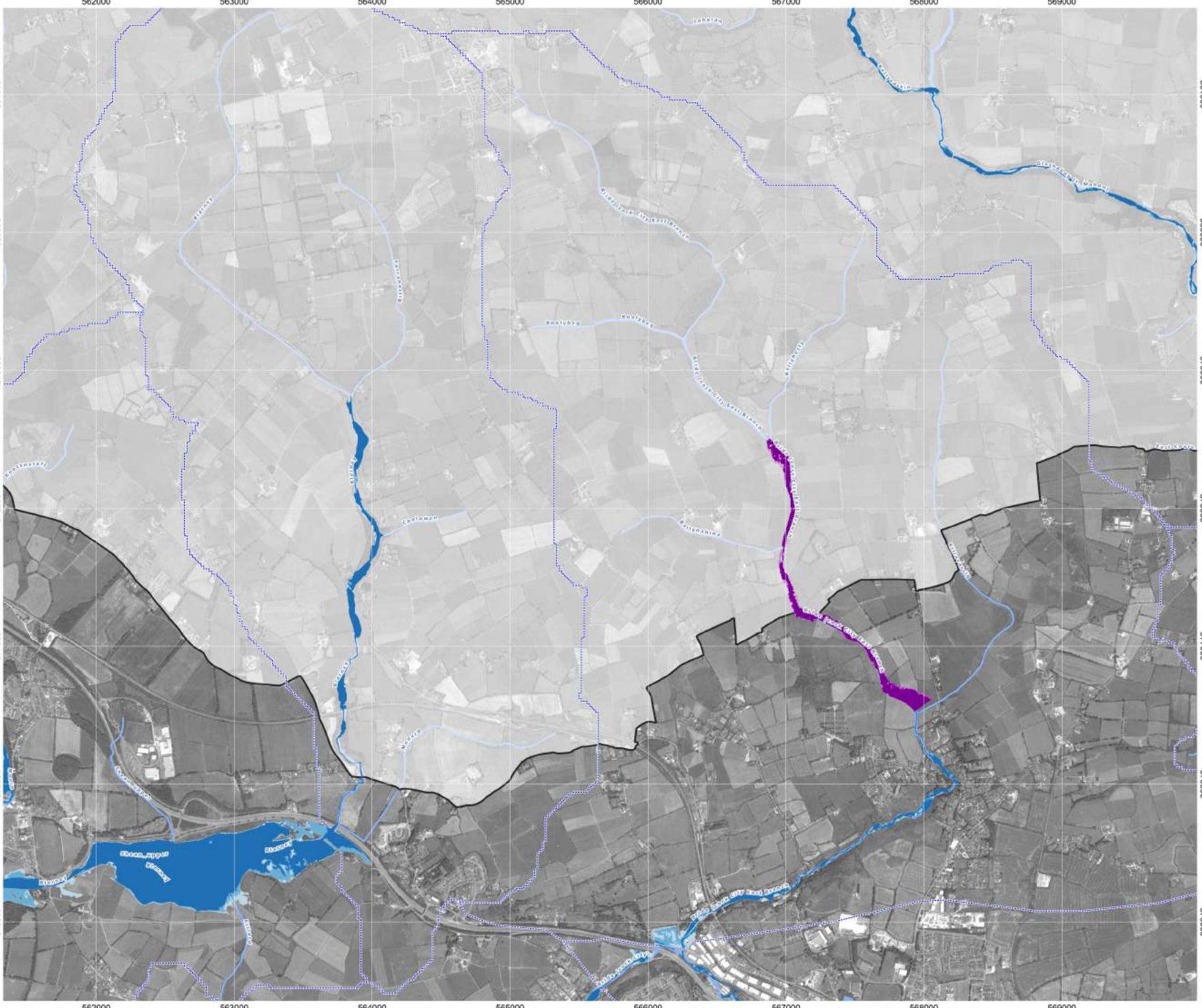
- CFRAM Fluvial Present Day**
- 10% AEP
 - 1% AEP
 - 0.1% AEP

- CFRAM Coastal Present Day**
- 10% AEP
 - 0.5% AEP
 - 0.1% AEP

- NIFM Present Day Scenario**
- 5% AEP
 - 1% AEP
 - 0.1% AEP

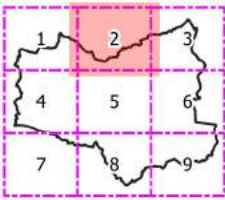


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OPW Catchment Flood Risk Assessment & Management (CFRAM) & National Indicative Fluvial Mapping (NIFM) Mid-Range Future Scenario



WFD River Sub-Basins
Water
River or Stream

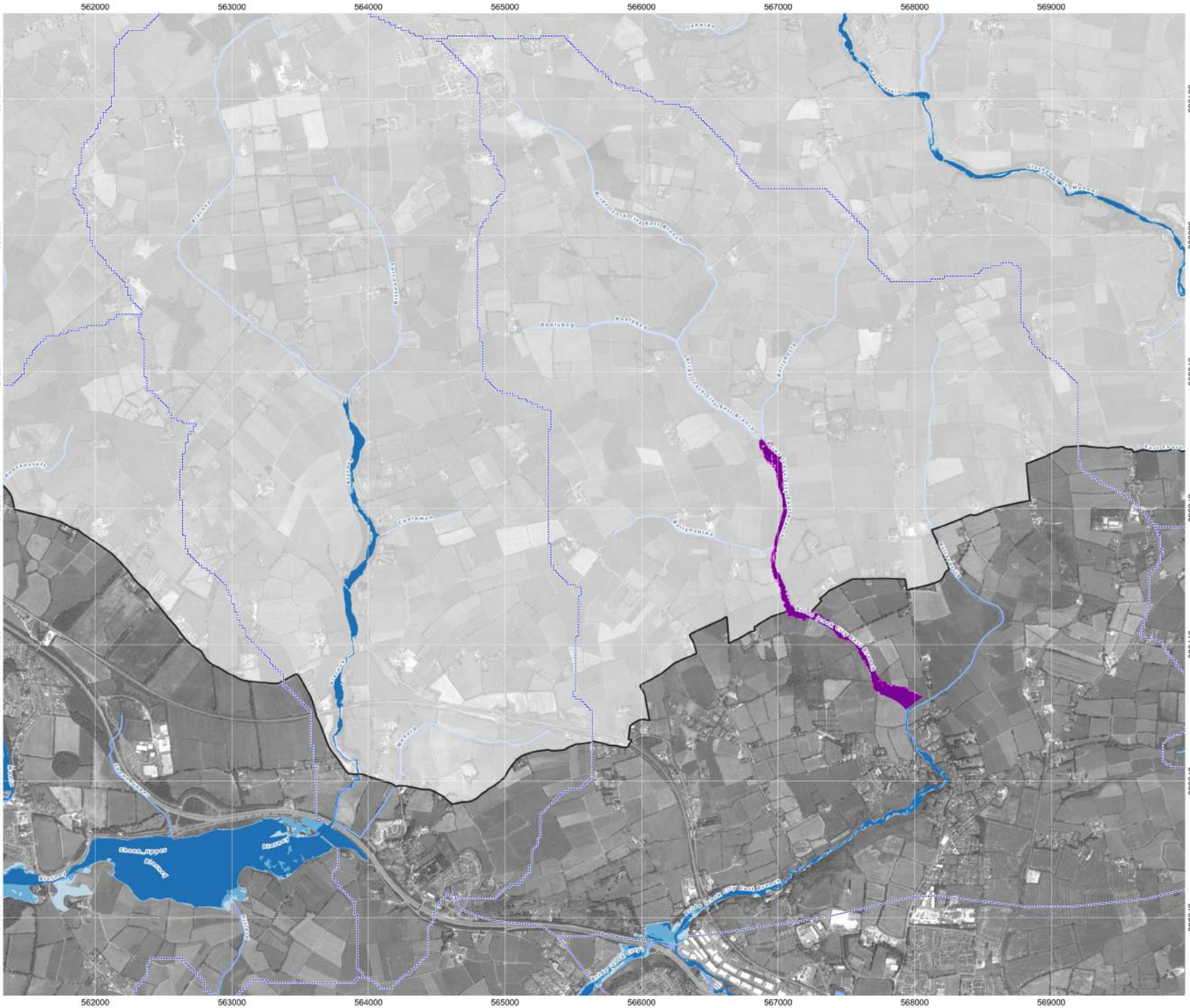
CFRAM Fluvial Mid-Range Future Scenario
10% AEP
1% AEP
0.1% AEP

CFRAM Coastal Mid-Range Future Scenario
10% AEP
0.5% AEP
0.1% AEP

NIFM Mid-Range Future Scenario
5% AEP
1% AEP
0.1% AEP

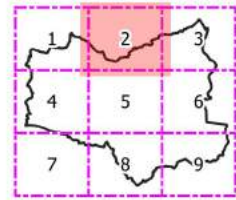


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Cork City Development Plan 2022-2028

OPW Catchment Flood Risk Assessment & Management (CFRAM) & National Indicative Fluvial Mapping (NIFM) High-End Future Scenario



- WFD River Sub-Basins
- Water
- River or Stream

- CFRAM Fluvial High-End Future Scenario*
- 10% AEP
 - 1% AEP
 - 0.1% AEP

- CFRAM Coastal High-End Future Scenario*
- 10% AEP
 - 0.5% AEP
 - 0.1% AEP

- NIFM High-End Future Scenario
- 5% AEP
 - 1% AEP
 - 0.1% AEP

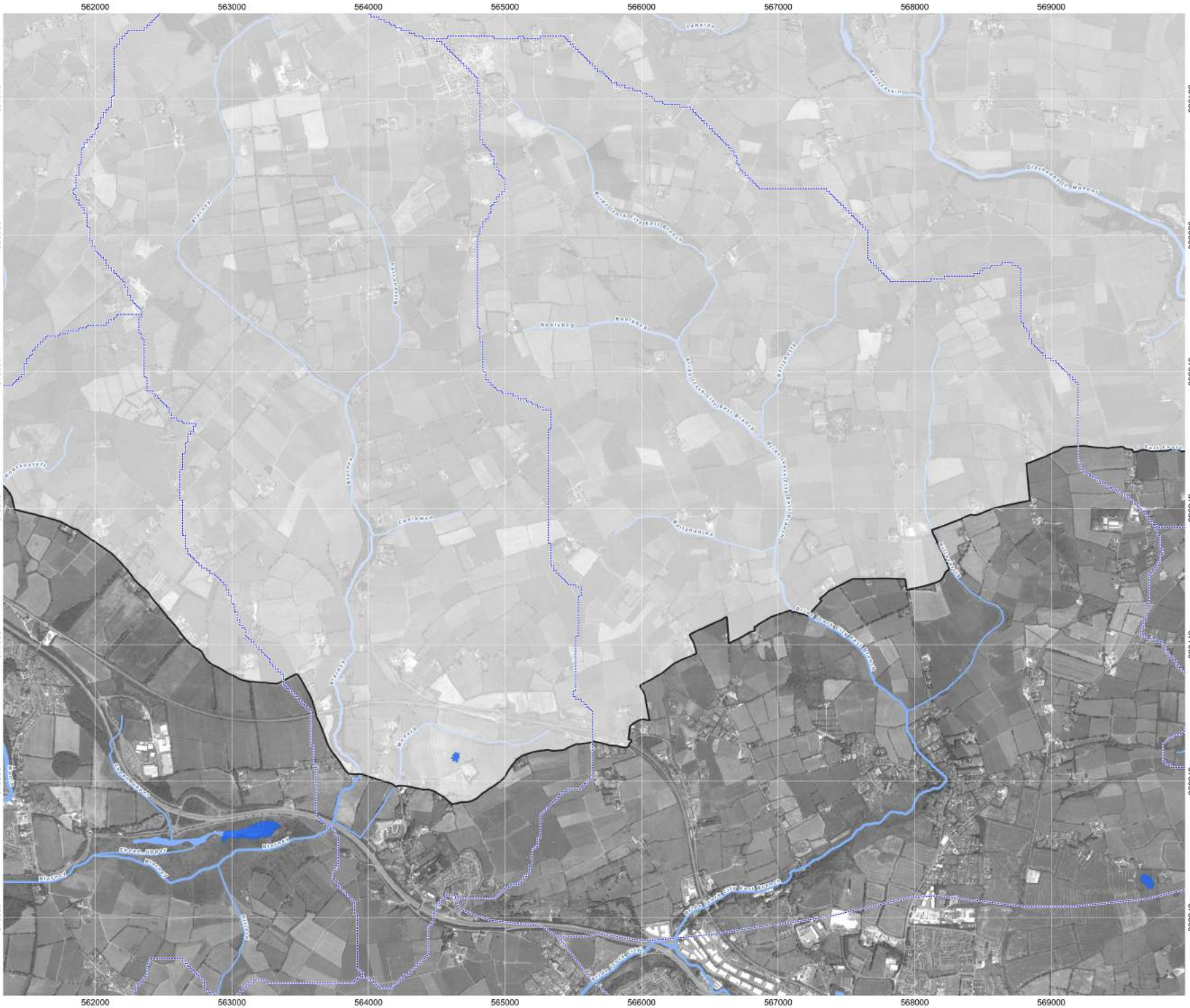
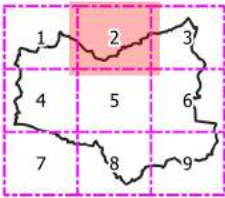


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GSI Historical Flood Data and Groundwater Predictive Modeling



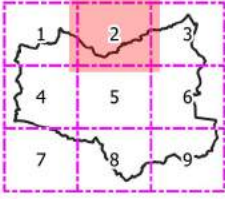
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- Medium Probability
- Low Probability
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- Winter 2015-2016 Surface Water Flooding
- Maximum Historic Groundwater Flooding**
- Groundwater
- Groundwater/Surface water



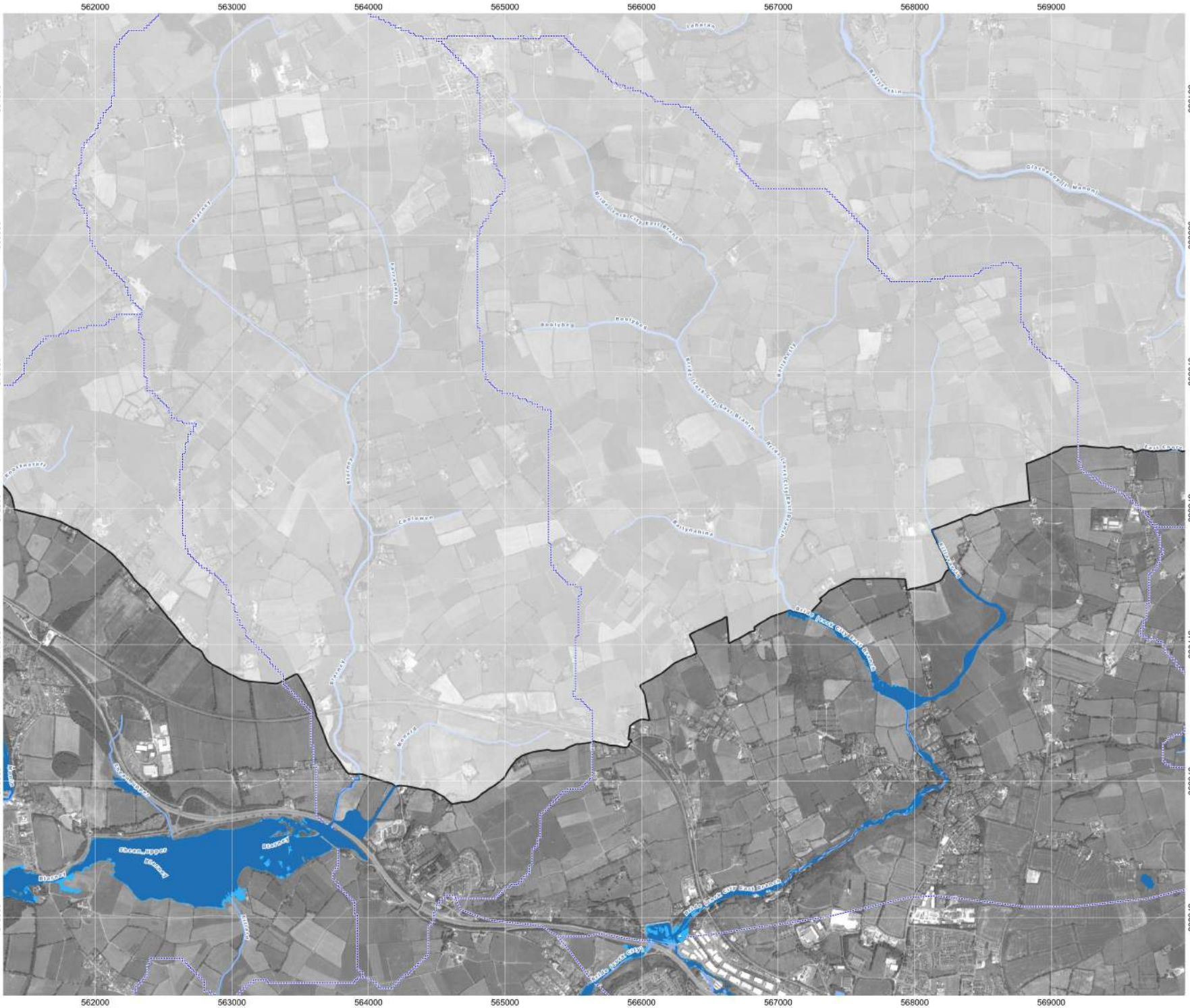
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Indicative Flood Zones



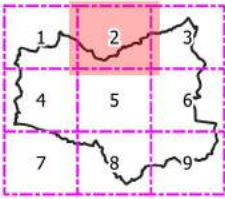
-  WFD River Sub-Basins
-  Water
-  River or Stream
- Indicative Flood Zones**
-  Flood Zone A
-  Flood Zone B



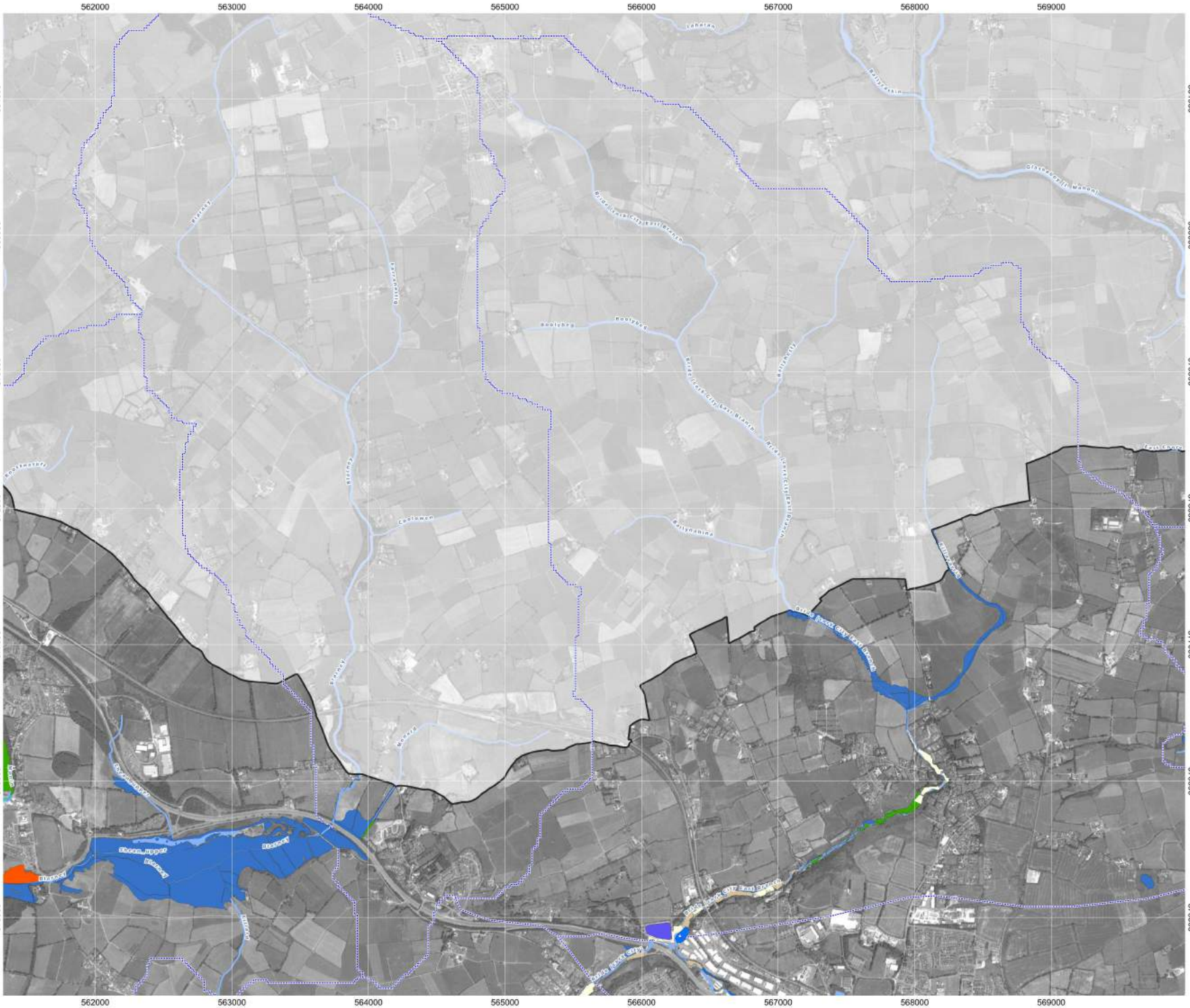
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Land Use Zoning that Intersects Indicative Flood Zones



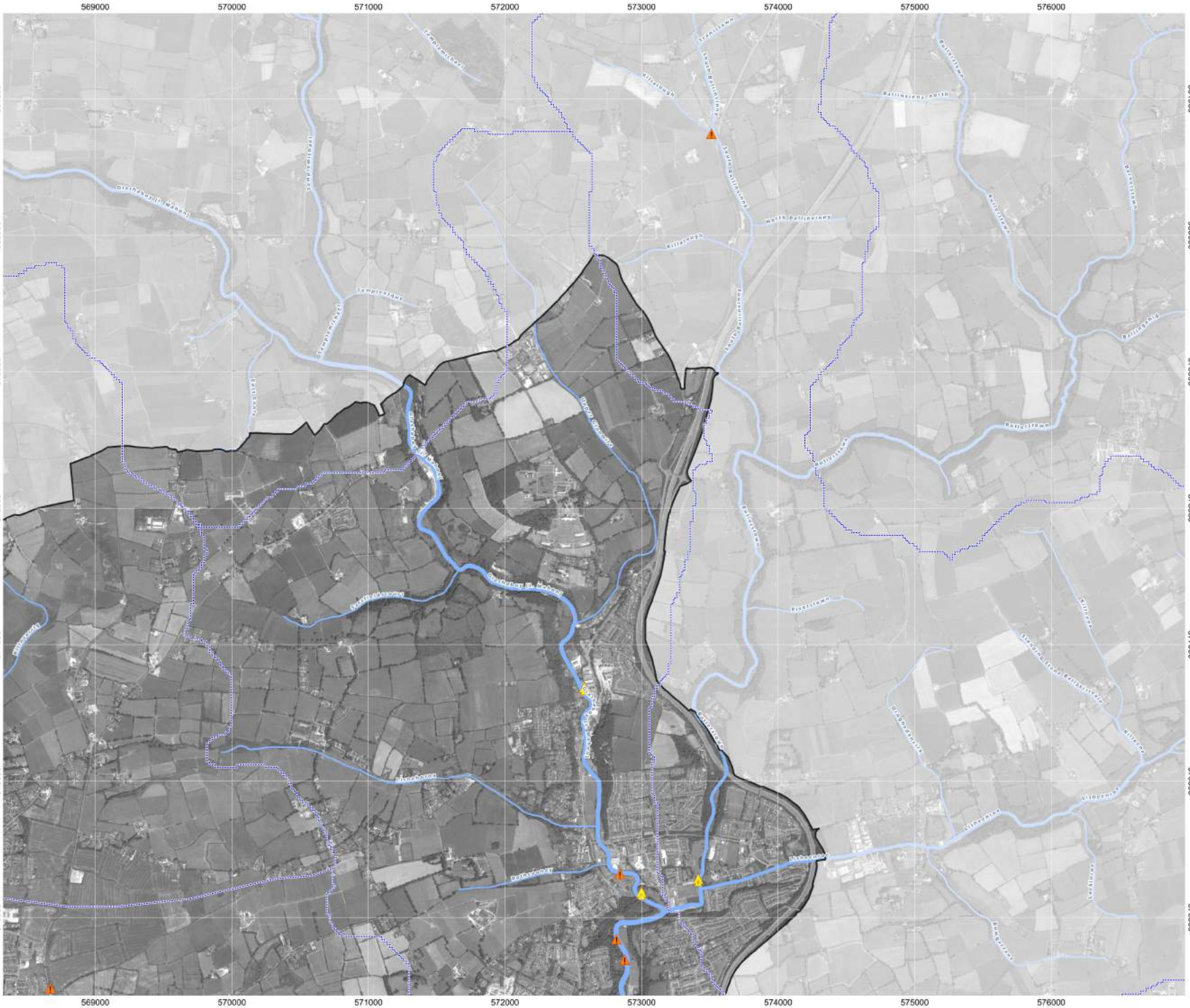
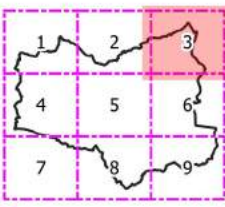
-  WFD River Sub-Basins
 -  Water
- Land Use Zoning**
-  ZO 01 - Sustainable Residential Neighbourhoods
 -  ZO 04 - Mixed Use Development
 -  ZO 06 - Urban Town Centre
 -  ZO 09 - Light Industry and Related Uses
 -  ZO 10 - Business and Technology
 -  ZO 15 - Public Open Space
 -  ZO 17 - Landscape Preservation Zones
 -  ZO 20 - City Hinterland
 -  ZO 20 - Long-term Strategic Regeneration



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OPW Historical Flood Data



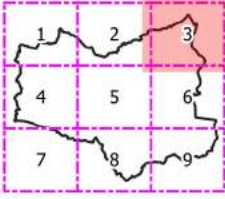
- WFD River Sub-Basins
- Water
- River or Stream
- OPW Past Flood Events**
- Recurring Flood Event
- REMOVE FROM LEGEND
- Past Flood Extent
- Land Commission**
- Benefited Lands
- Drainage District**
- Channel
- Embankment
- Benefited Lands
- Arterial Drainage Scheme**
- Channel
- Embankment
- Benefited Lands



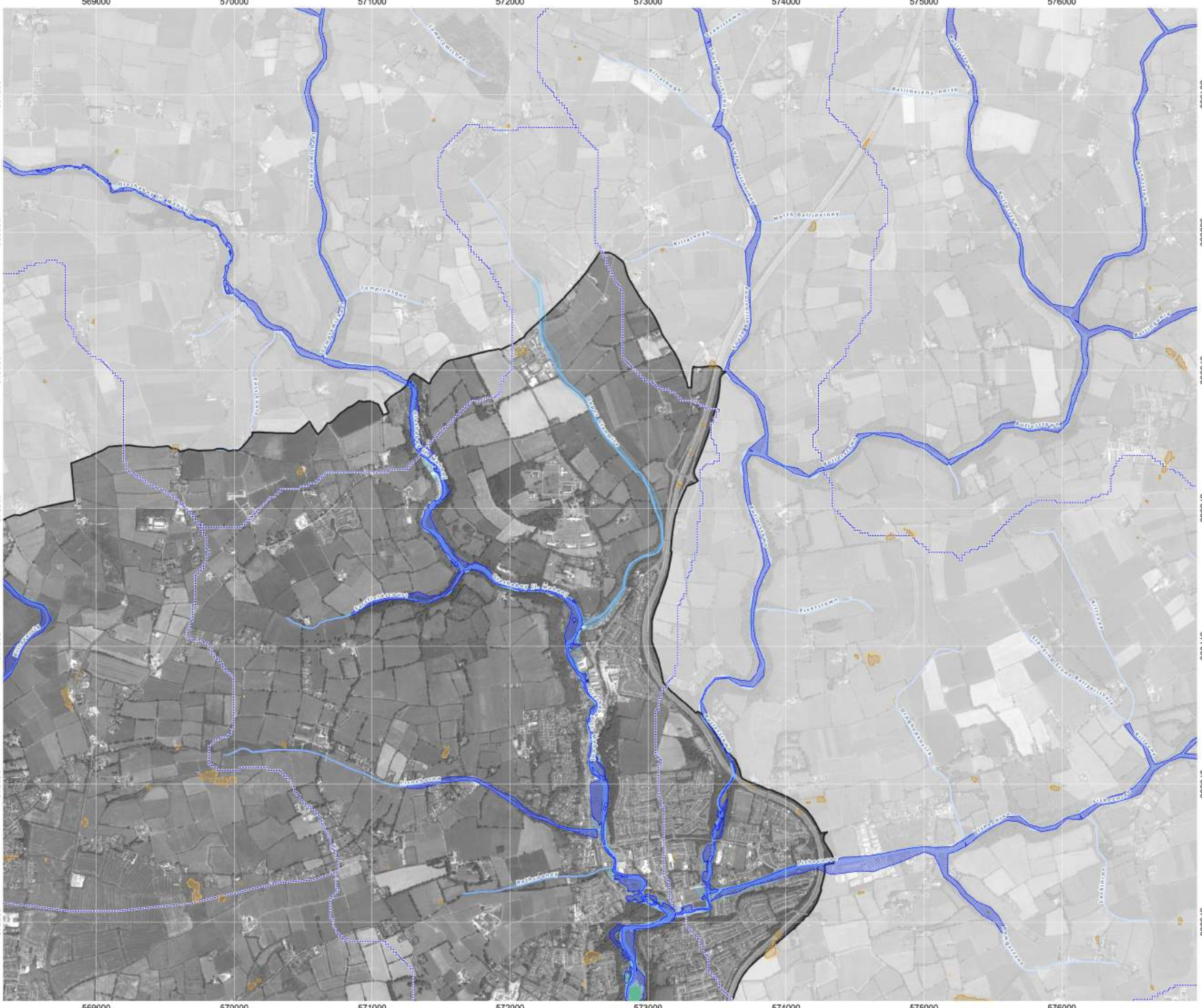
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OPW Preliminary Flood Risk Assessment (PFRA)



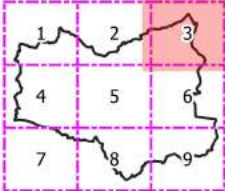
- WFD River Sub-Basins
 - Water
 - River or Stream
- PFRA**
- Fluvial 1% AEP
 - Fluvial 0.1% AEP
 - Pluvial 1% AEP
 - Pluvial 0.1% AEP
 - Coastal 0.5% AEP
 - Coastal 0.1% AEP



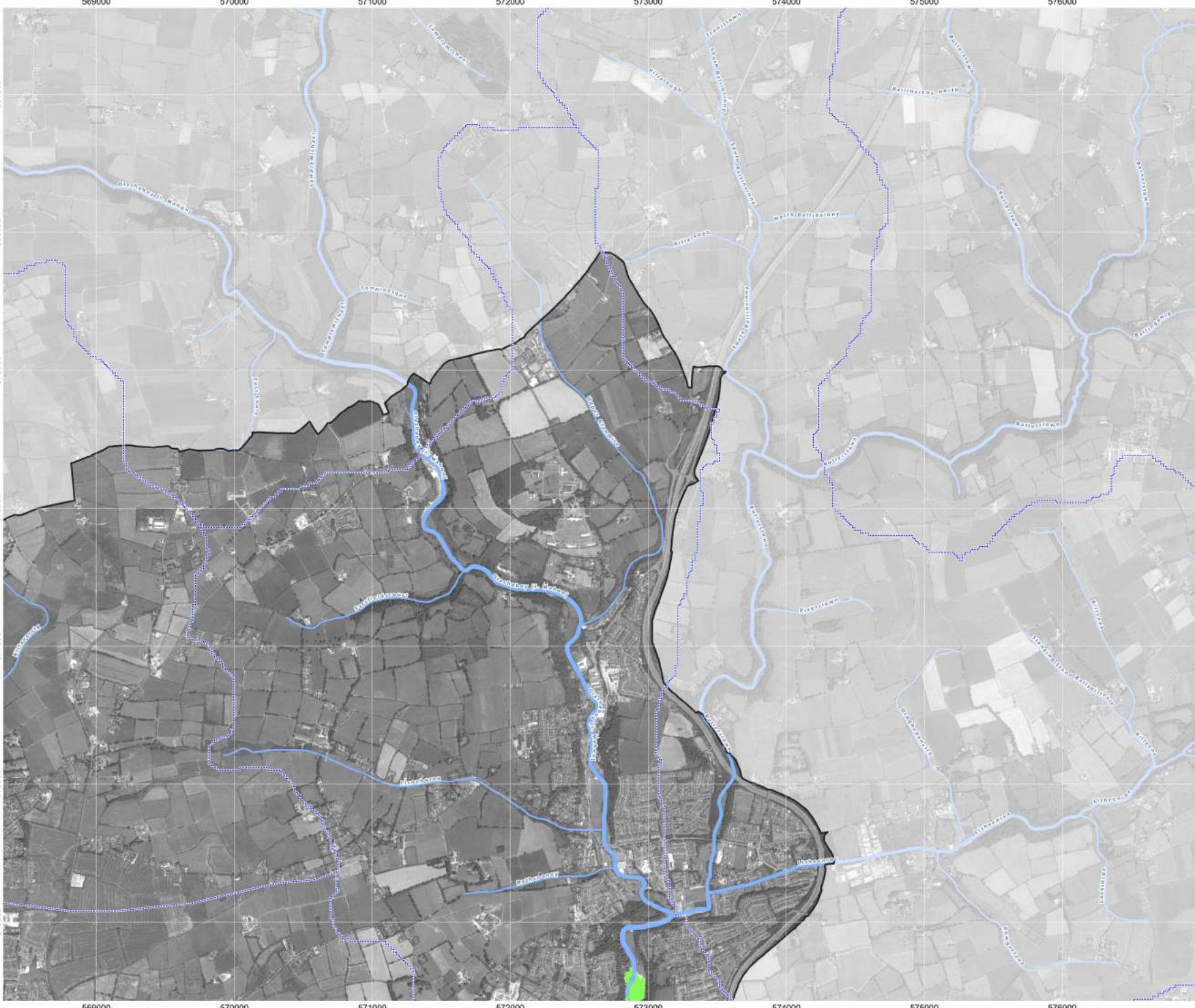
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OPW Irish Coastal
Protection Strategy
Study (ICPSS) Mid-Range
Future Scenario



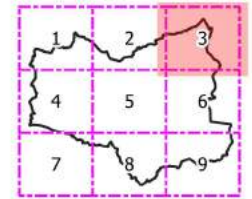
- WFD River Sub-Basins
- Water
- River or Stream
- ICPSS Mid-Range
Future Scenario**
- Coastal 0.5% AEP
- Coastal 0.1% AEP



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OPW Irish Coastal
Protection Strategy
Study (ICPSS) High-End
Future Scenario



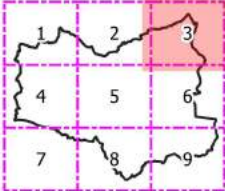
- WFD River Sub-Basins
- Water
- River or Stream
- ICPSS High-End Future Scenario
 - Coastal 0.5% AEP
 - Coastal 0.1% AEP



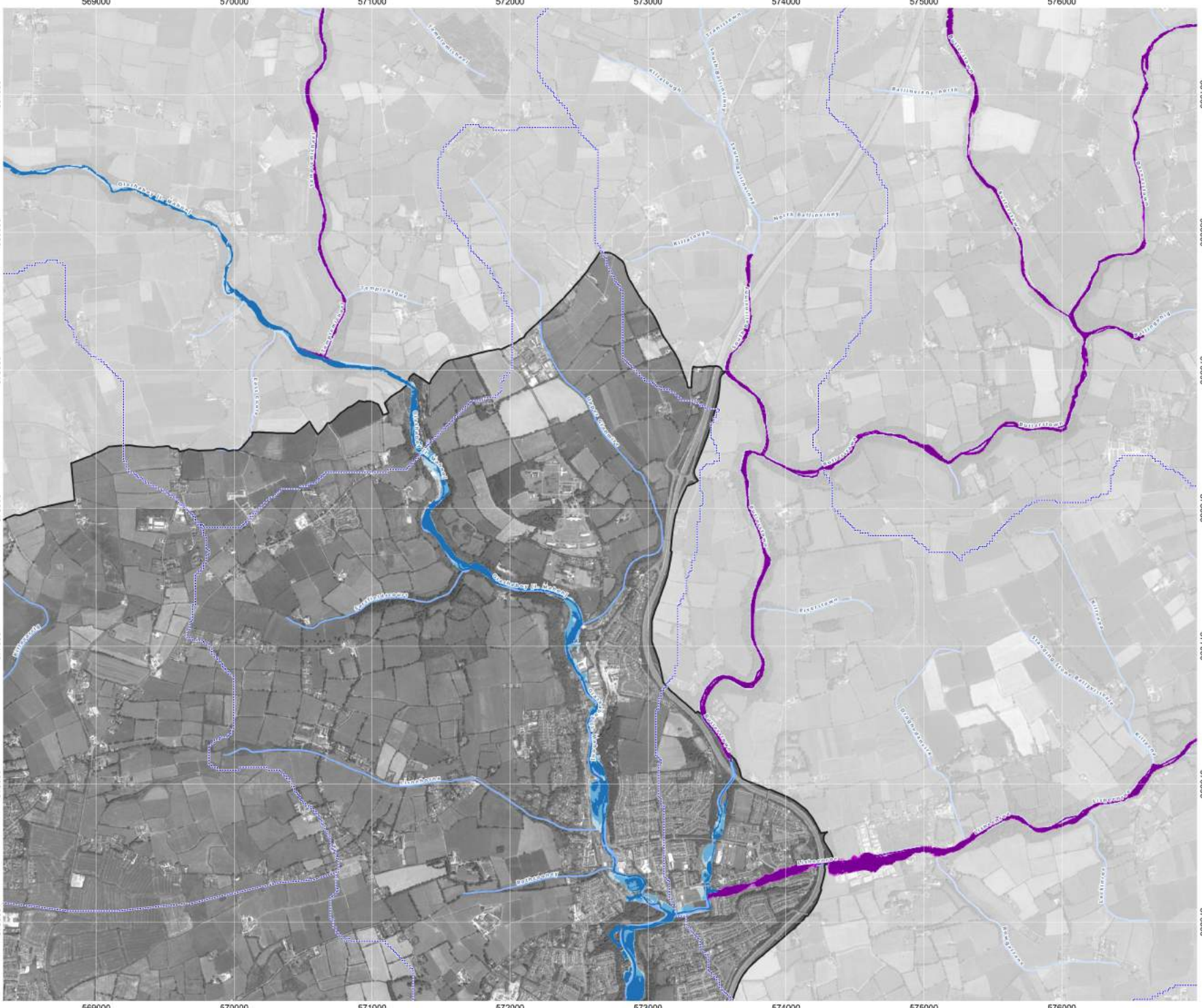
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OPW Catchment Flood Risk Assessment & Management (CFRAM) & National Indicative Fluvial Mapping (NIFM) Present Day



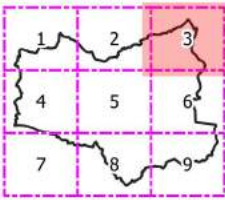
- WFD River Sub-Basins
- Water
- River or Stream
- CFRAM Fluvial Present Day**
 - 10% AEP
 - 1% AEP
 - 0.1% AEP
- CFRAM Coastal Present Day**
 - 10% AEP
 - 0.5% AEP
 - 0.1% AEP
- NIFM Present Day Scenario**
 - 5% AEP
 - 1% AEP
 - 0.1% AEP



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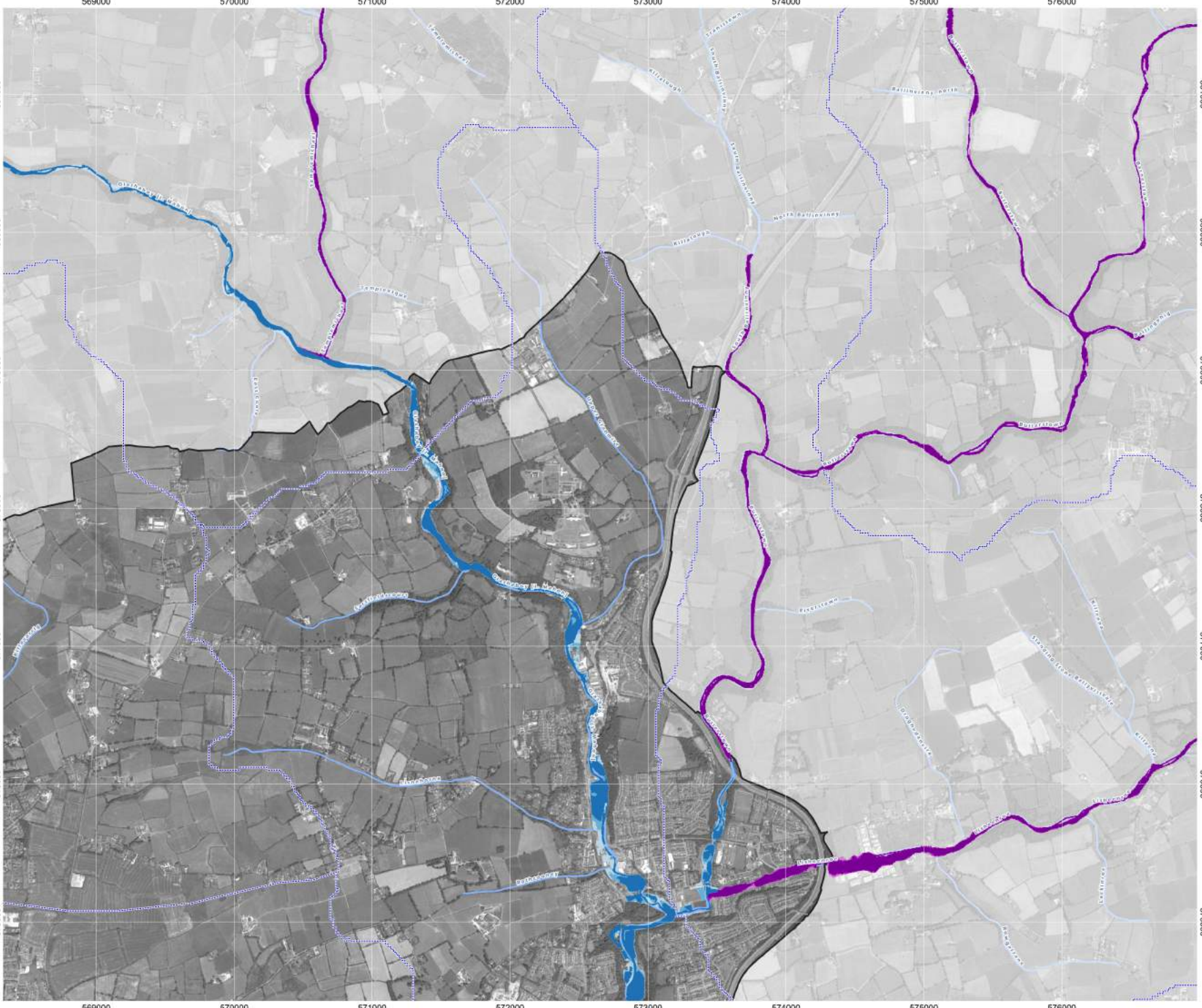
OPW Catchment Flood Risk Assessment & Management (CFRAM) & National Indicative Fluvial Mapping (NIFM) Mid-Range Future Scenario



- WFD River Sub-Basins
 - Water
 - River or Stream
- CFRAM Fluvial Mid-Range Future Scenario**
- 10% AEP
 - 1% AEP
 - 0.1% AEP
- CFRAM Coastal Mid-Range Future Scenario**
- 10% AEP
 - 0.5% AEP
 - 0.1% AEP
- NIFM Mid-Range Future Scenario**
- 5% AEP
 - 1% AEP
 - 0.1% AEP

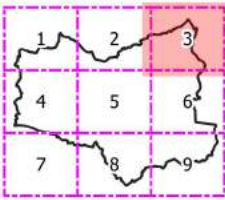


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OPW Catchment Flood Risk Assessment (CFRAM) & National Indicative Fluvial Mapping (NIFM) High-End Future Scenario



WFD River Sub-Basins
Water
River or Stream

CFRAM Fluvial High-End Future Scenario*
10% AEP
1% AEP
0.1% AEP

CFRAM Coastal High-End Future Scenario*
10% AEP
0.5% AEP
0.1% AEP

NIFM High-End Future Scenario
5% AEP
1% AEP
0.1% AEP

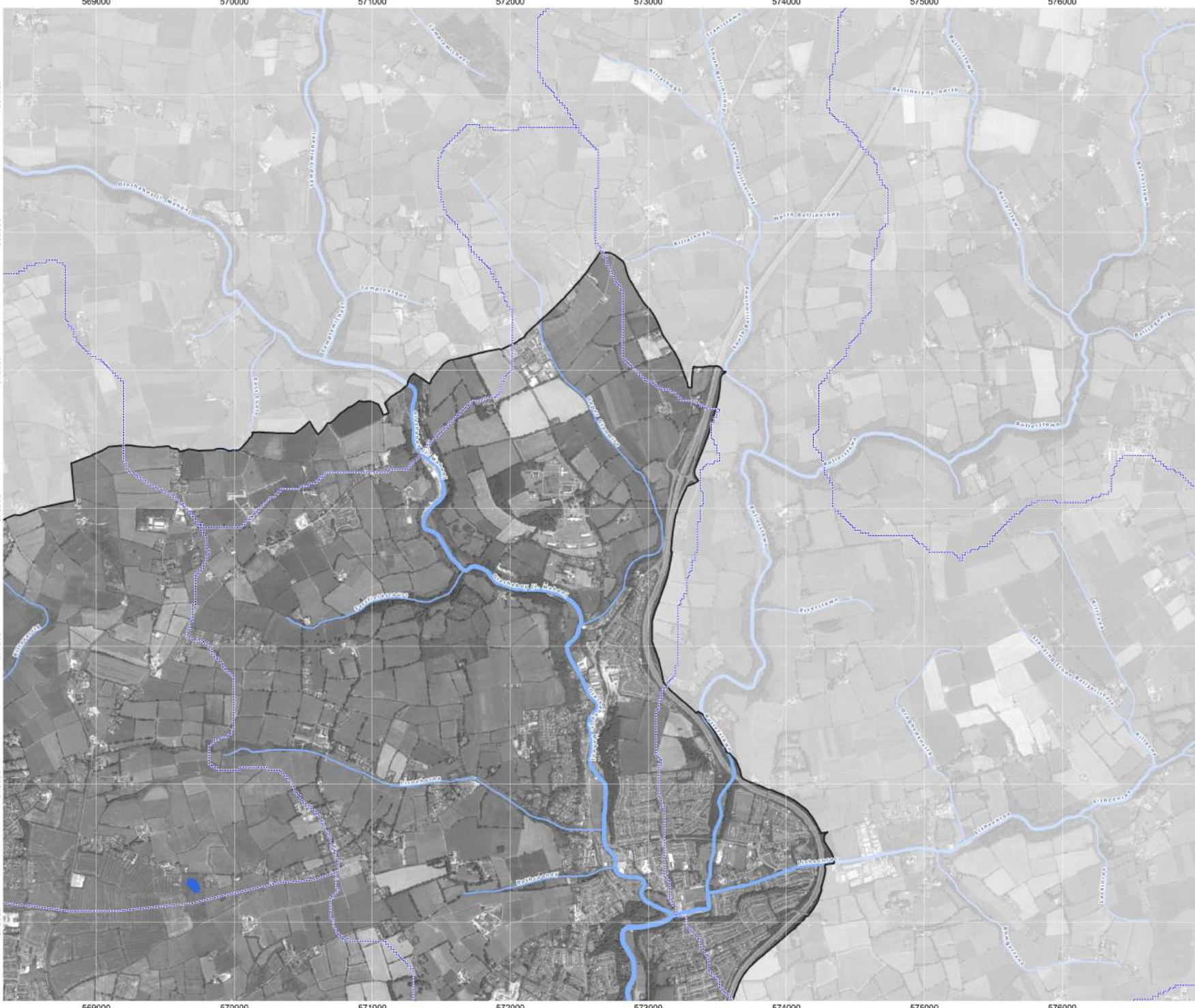
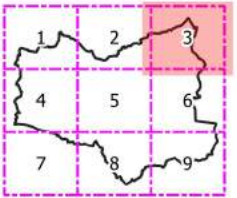


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* CFRAM - only 'Present Day' and 'Mid-Range Future' scenarios are available for the study area.

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GSI Historical Flood Data and Groundwater Predictive Modeling



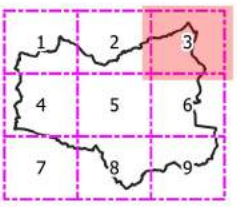
- WFD River Sub-Basins
- Water
- River or Stream
- GSI Groundwater Flooding Predictive Model**
- High Probability
- Medium Probability
- Low Probability
- GSI Historical Flood Data**
- Surface Water Flooding**
- Winter 2015-2016 Surface Water Flooding
- Maximum Historic Groundwater Flooding**
- Groundwater
- Groundwater/Surface water



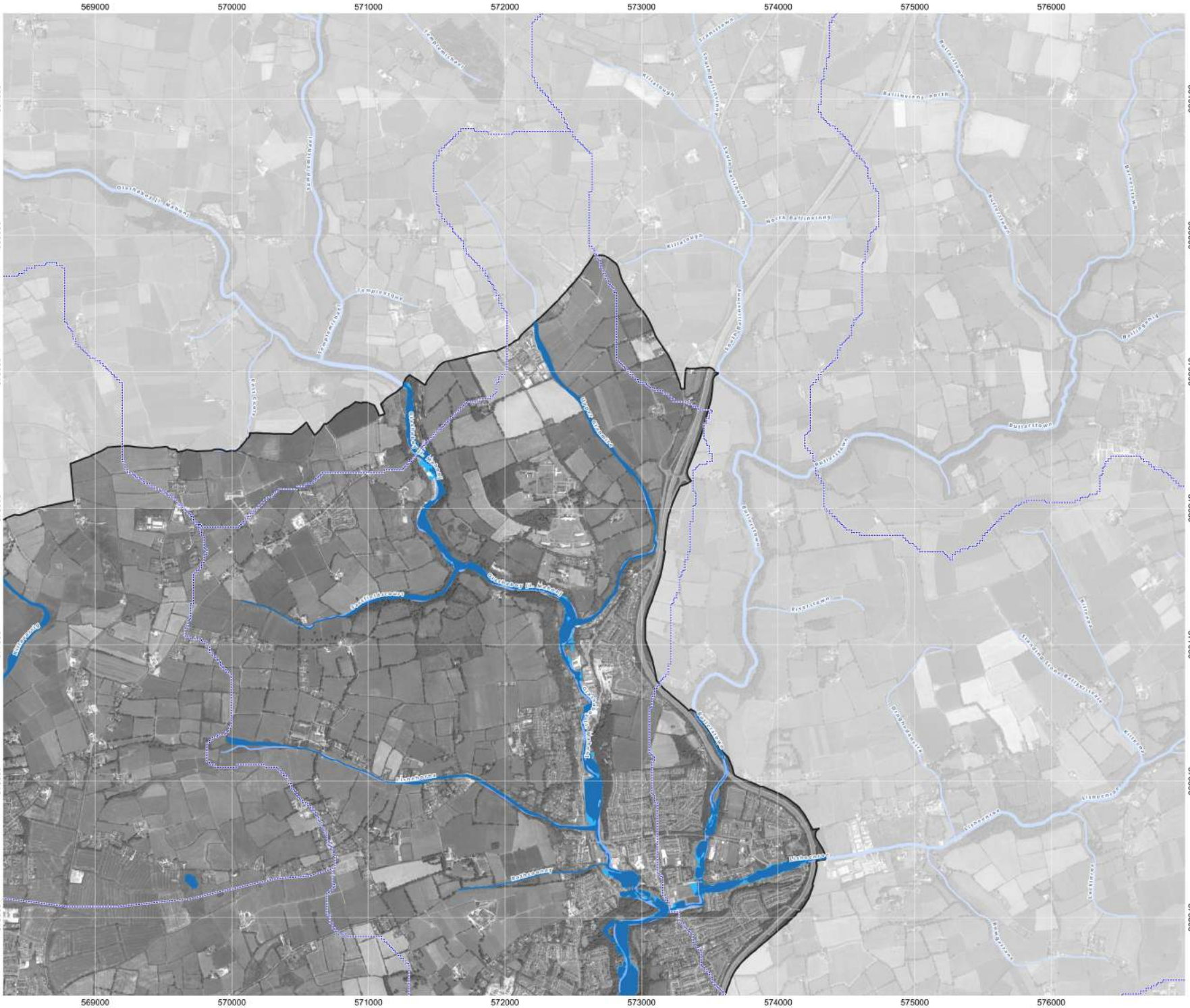
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Indicative Flood Zones



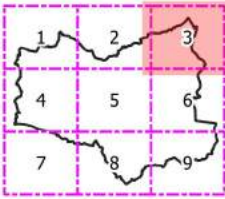
- WFD River Sub-Basins
- Water
- River or Stream
- Indicative Flood Zones**
- Flood Zone A
- Flood Zone B



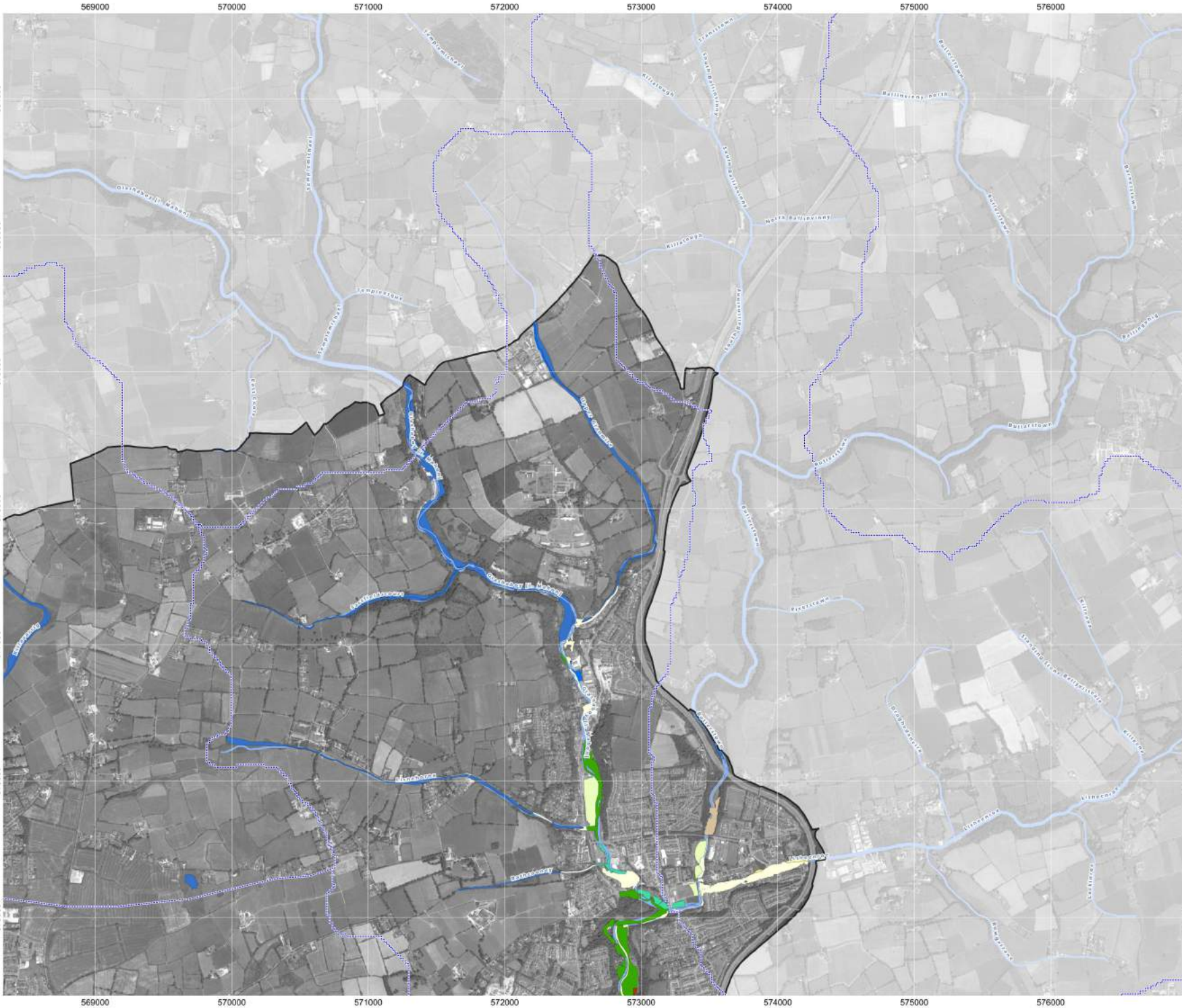
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Land Use Zoning that Intersects Indicative Flood Zones



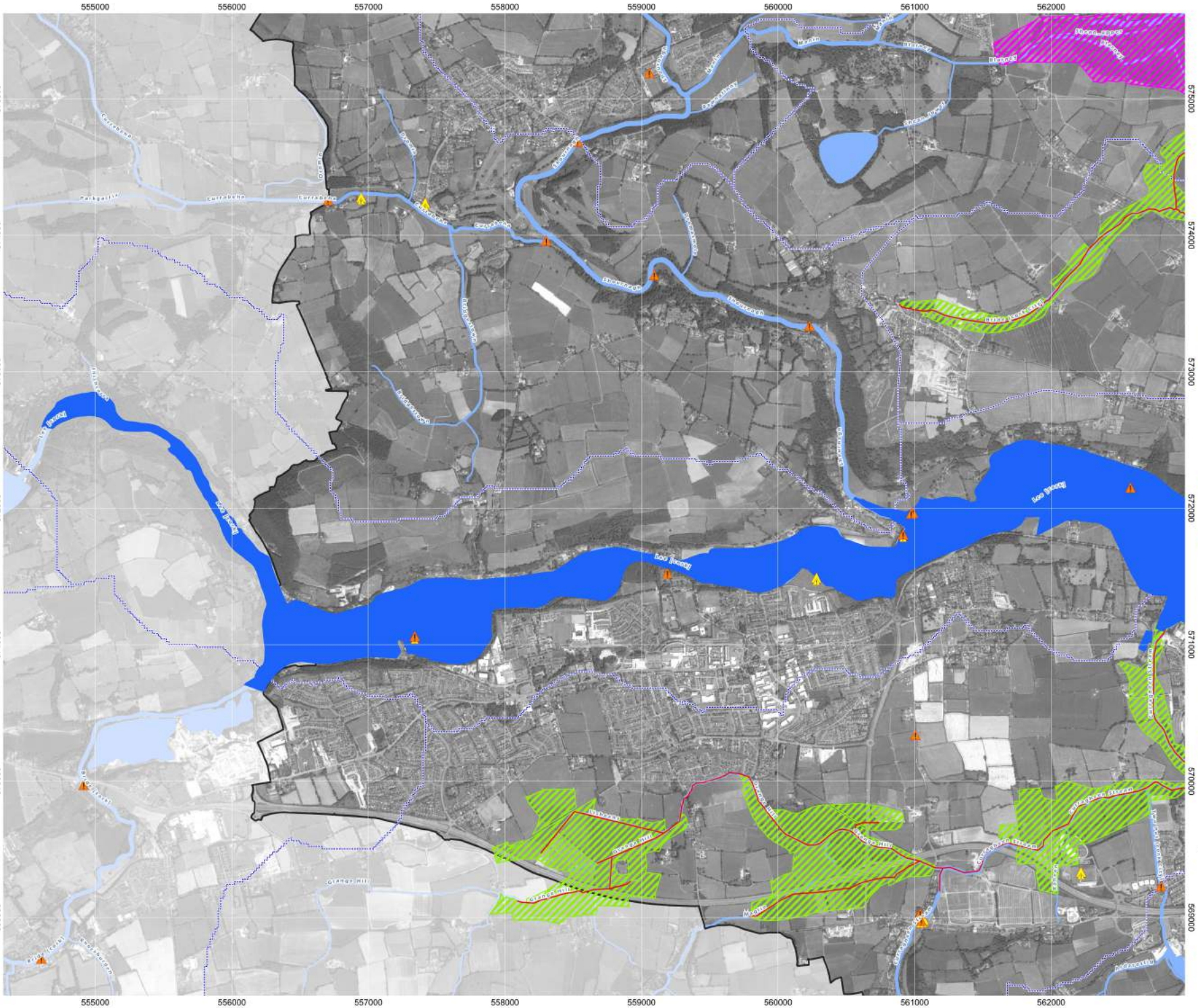
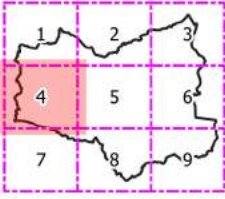
- WFD River Sub-Basins
- Land Use Zoning**
- ZO 01 - Sustainable Residential Neighbourhoods
- ZO 02 - New Residential Neighbourhoods
- ZO 06 - Urban Town Centre
- ZO 09 - Light Industry and Related Uses
- ZO 14 - Public Infrastructure and utilities
- ZO 15 - Public Open Space
- ZO 16 - Sports Grounds and Facilities
- ZO 17 - Landscape Preservation Zones
- ZO 20 - City Hinterland
- ZO 20 - Long-term Strategic Regeneration



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OPW Historical Flood Data



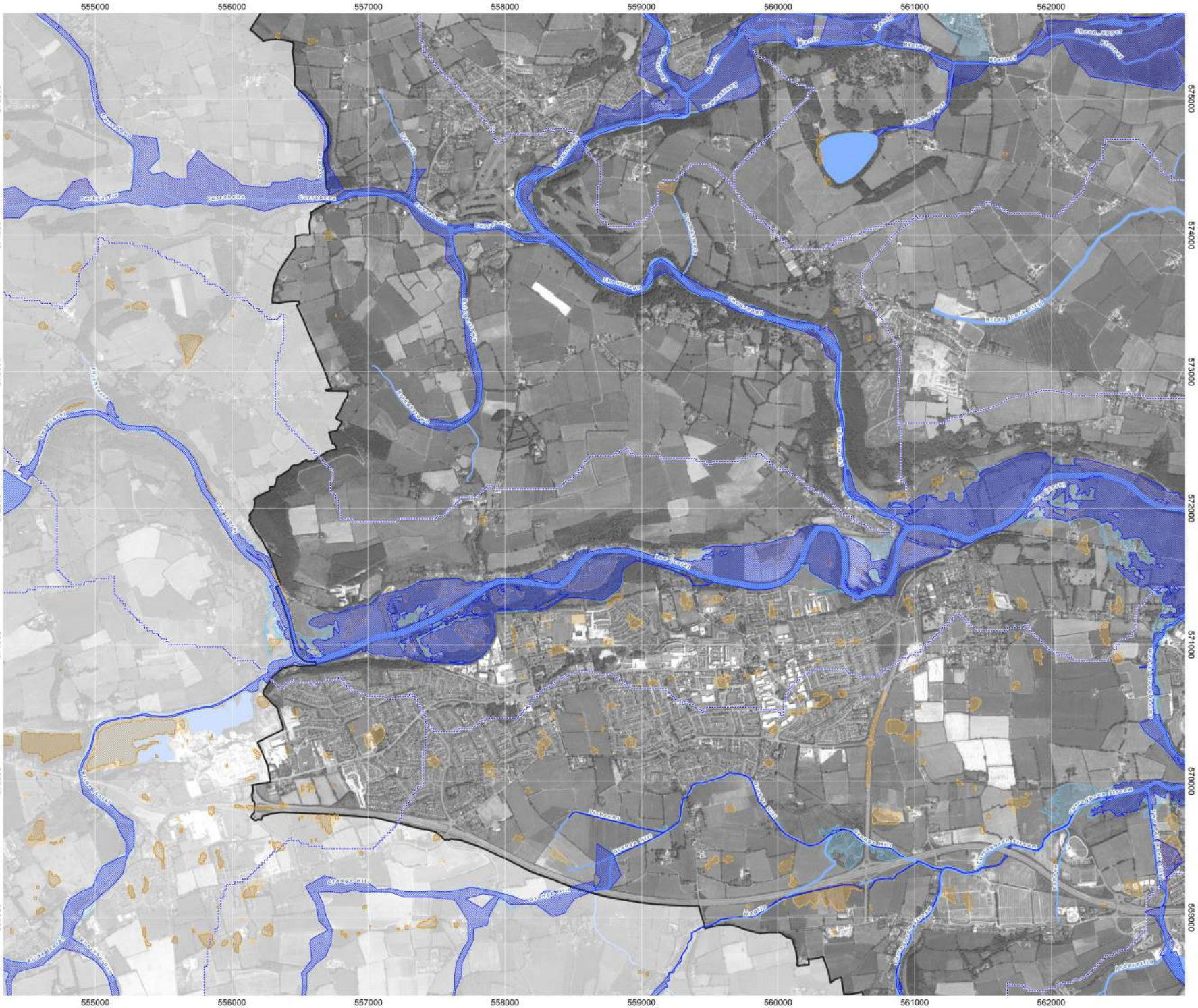
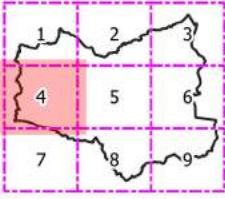
- WFD River Sub-Basins
- Water
- River or Stream
- Recurring Flood Event
- REMOVE FROM LEGEND
- Past Flood Extent
- Land Commission**
- Benefited Lands
- Drainage District**
- Channel
- Embankment
- Benefited Lands
- Arterial Drainage Scheme**
- Channel
- Embankment
- Benefited Lands



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OPW Preliminary Flood Risk Assessment (PFRA)



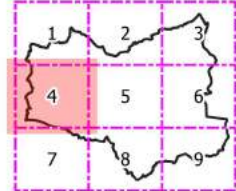
- WFD River Sub-Basins
 - Water
 - River or Stream
- PFRA**
- Fluvial 1% AEP
 - Fluvial 0.1% AEP
 - Pluvial 1% AEP
 - Pluvial 0.1% AEP
 - Coastal 0.5% AEP
 - Coastal 0.1% AEP



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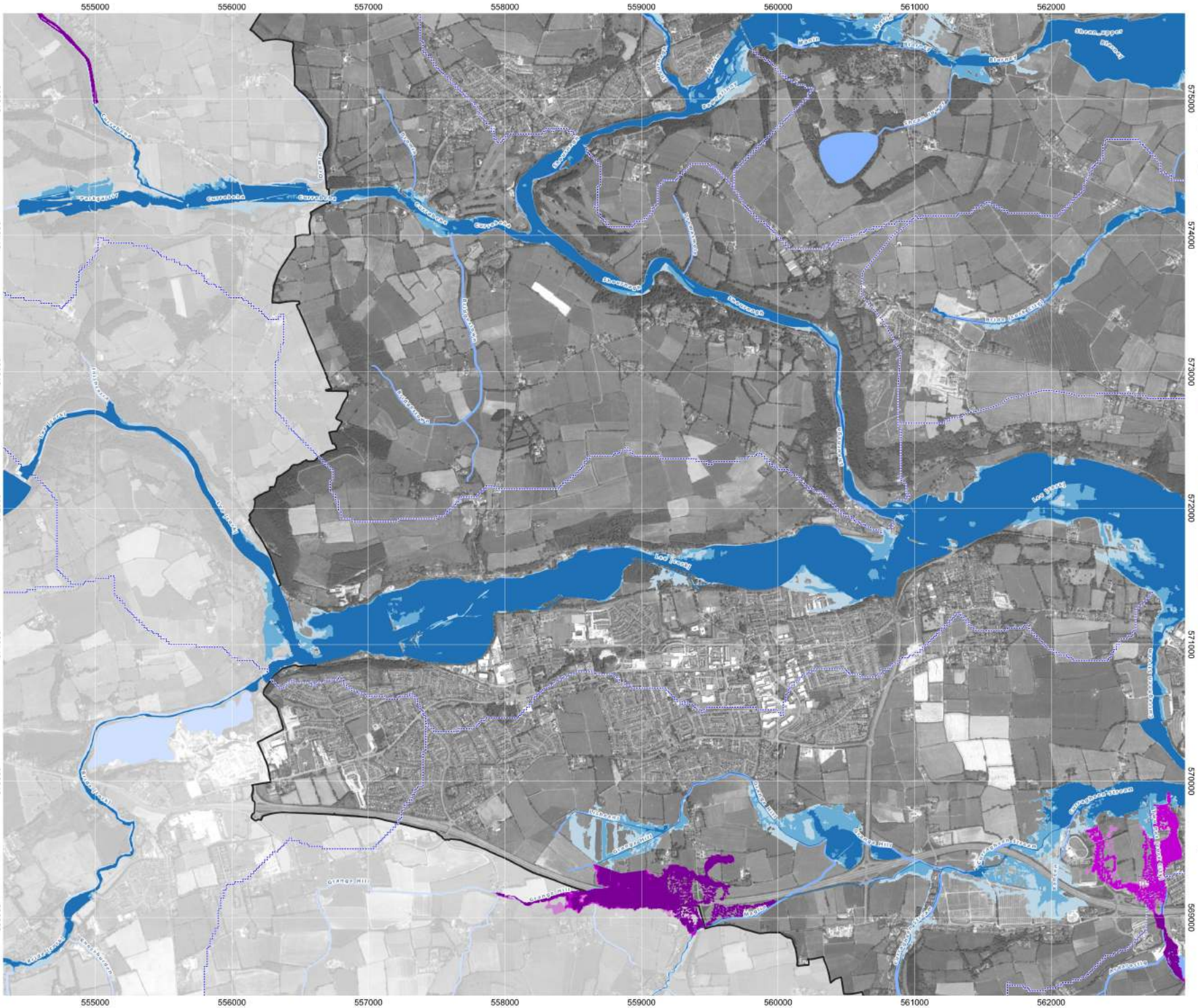
OPW Catchment Flood Risk Assessment & Management (CFRAM) & National Indicative Fluvial Mapping (NIFM) Present Day



- WFD River Sub-Basins
- Water
- River or Stream
- CFRAM Fluvial Present Day**
 - 10% AEP
 - 1% AEP
 - 0.1% AEP
- CFRAM Coastal Present Day**
 - 10% AEP
 - 0.5% AEP
 - 0.1% AEP
- NIFM Present Day Scenario**
 - 5% AEP
 - 1% AEP
 - 0.1% AEP

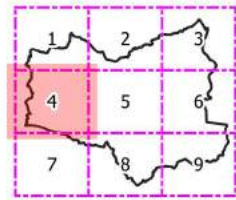


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OPW Catchment Flood Risk Assessment & Management (CFRAM) & National Indicative Fluvial Mapping (NIFM) Mid-Range Future Scenario



- WFD River Sub-Basins
- Water
- River or Stream

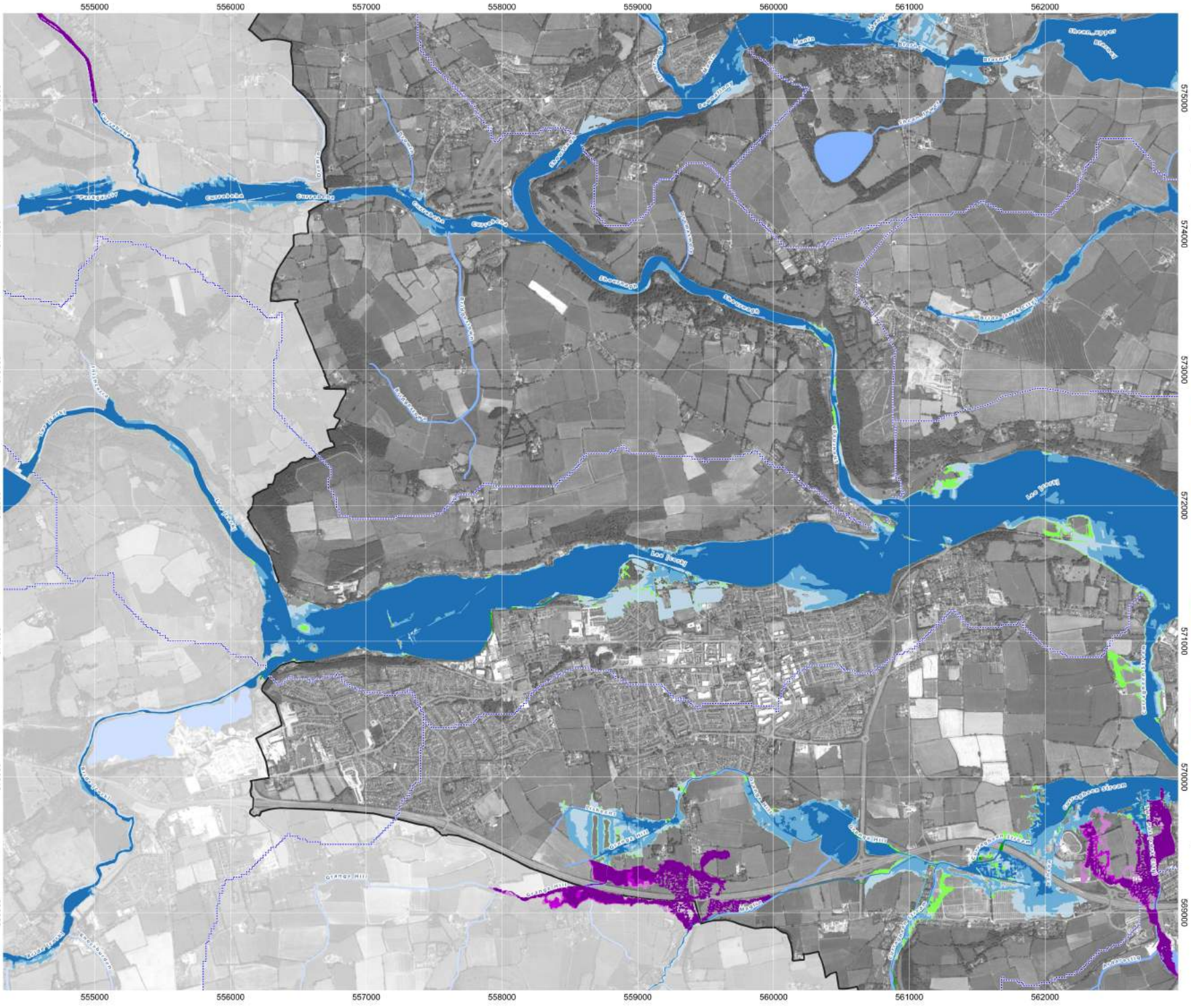
- CFRAM Fluvial Mid-Range Future Scenario**
- 10% AEP
 - 1% AEP
 - 0.1% AEP

- CFRAM Coastal Mid-Range Future Scenario**
- 10% AEP
 - 0.5% AEP
 - 0.1% AEP

- NIFM Mid-Range Future Scenario**
- 5% AEP
 - 1% AEP
 - 0.1% AEP

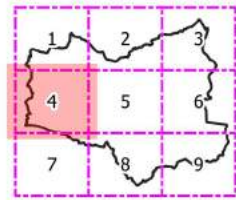


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OPW Catchment Flood Risk Assessment (CFRAM) & National Indicative Fluvial Mapping (NIFM) High-End Future Scenario



- WFD River Sub-Basins
- Water
- River or Stream

- CFRAM Fluvial High-End Future Scenario***
- 10% AEP
 - 1% AEP
 - 0.1% AEP

- CFRAM Coastal High-End Future Scenario***
- 10% AEP
 - 0.5% AEP
 - 0.1% AEP

- NIFM High-End Future Scenario**
- 5% AEP
 - 1% AEP
 - 0.1% AEP

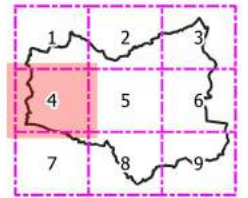


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* CFRAM - only 'Present Day' and 'Mid-Range Future' scenarios are available for the study area.

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GSI Historical Flood Data
and Groundwater
Predictive Modeling



- WFD River Sub-Basins
- Water
- River or Stream
- GSI Groundwater Flooding Predictive Model**
 - High Probability
 - Medium Probability
 - Low Probability
- GSI Historical Flood Data**
 - Surface Water Flooding**
 - Winter 2015-2016 Surface Water Flooding
 - Maximum Historic Groundwater Flooding**
 - Groundwater
 - Groundwater/Surface water

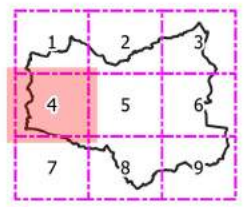


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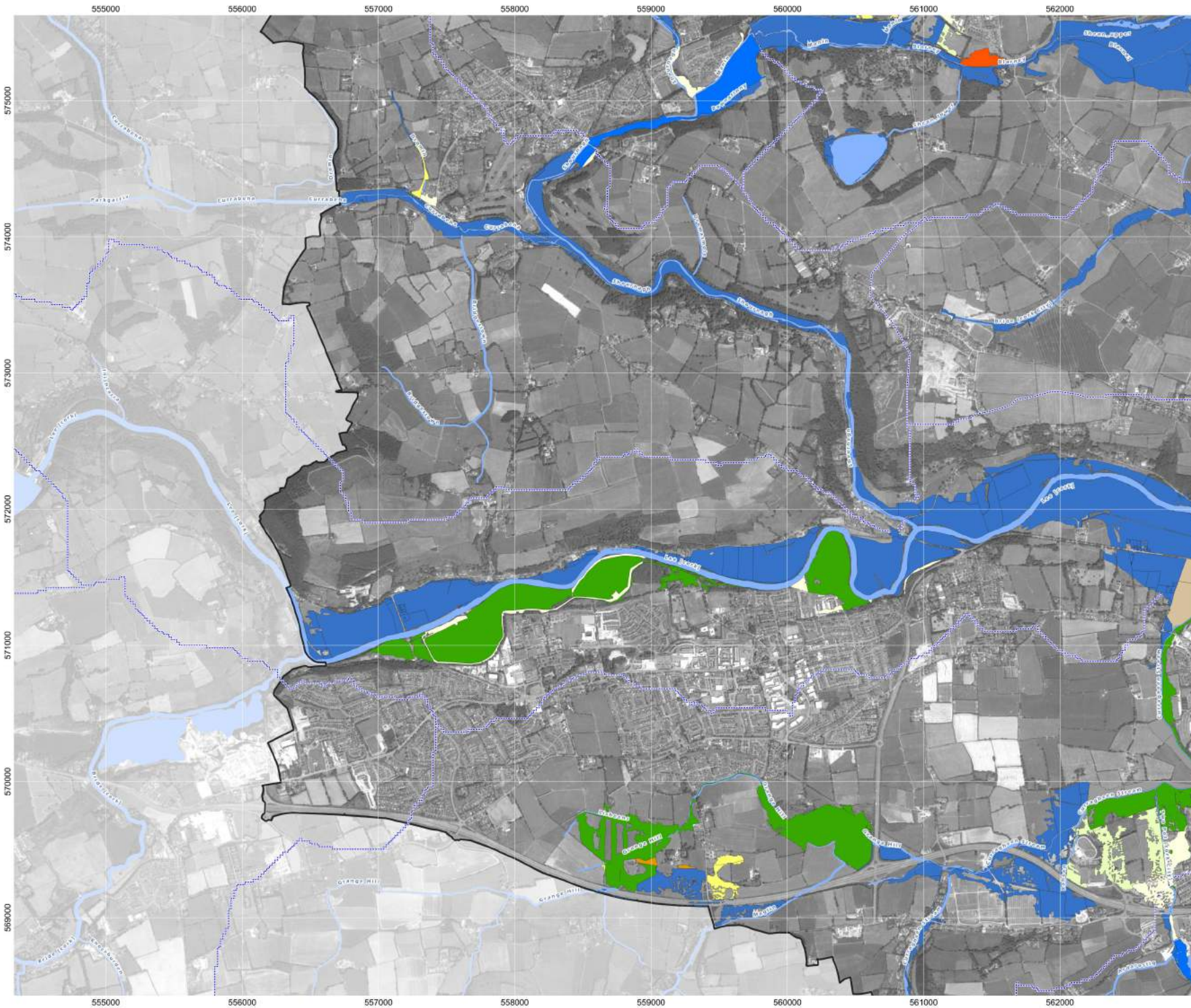
Indicative Flood Zones



- WFD River Sub-Basins
 - Water
 - River or Stream
- Indicative Flood Zones**
- Flood Zone A
 - Flood Zone B

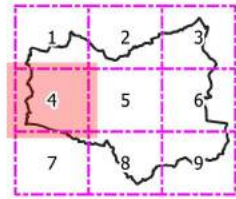


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Land Use Zoning that Intersects
Indicative Flood Zones



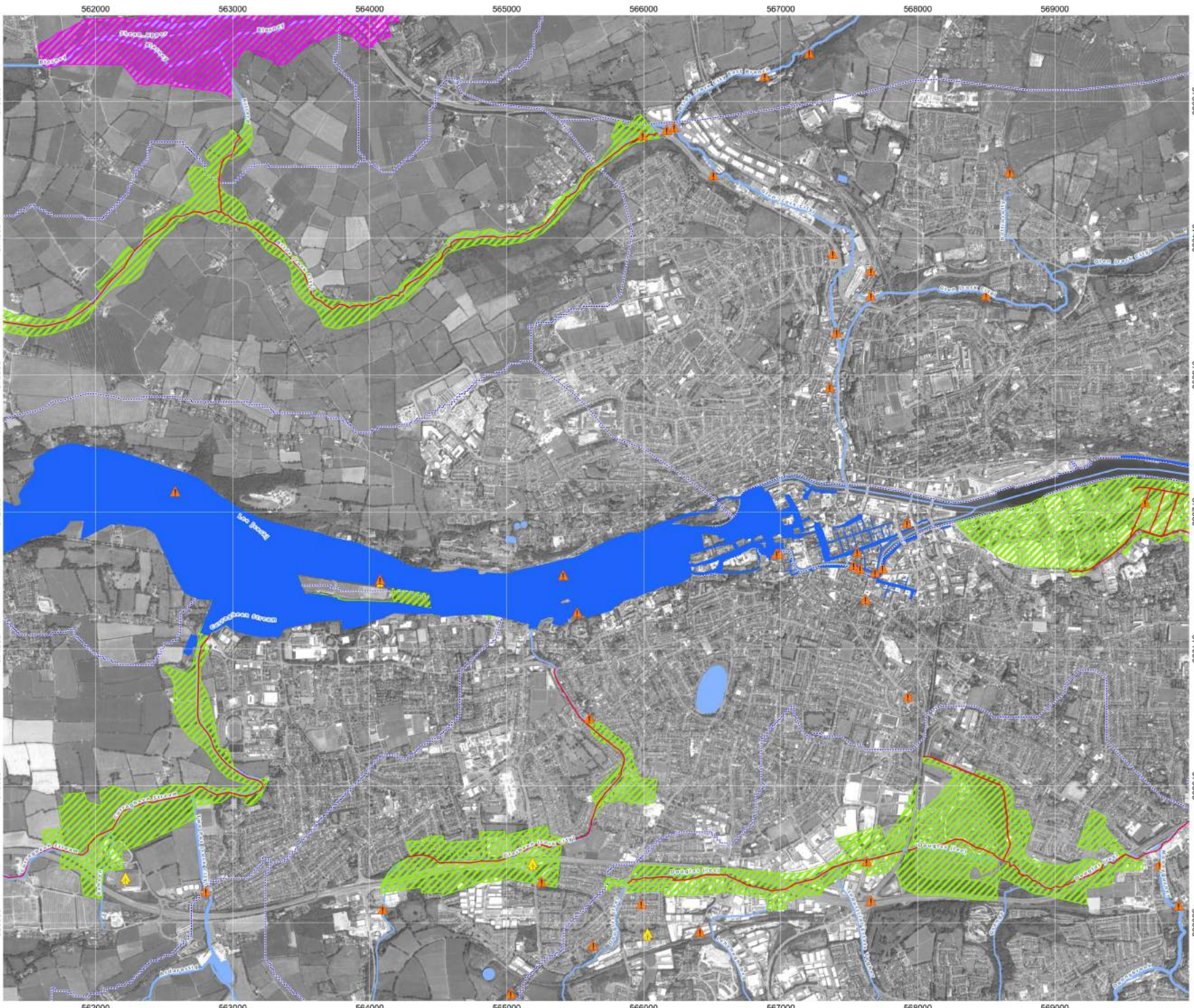
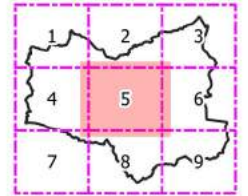
- WFD River Sub-Basins
 - Water
- ### Land Use Zoning
- ZO 01 - Sustainable Residential Neighbourhoods
 - ZO 02 - New Residential Neighbourhoods
 - ZO 03 - Long-term Strategic Regeneration
 - ZO 04 - Mixed Use Development
 - ZO 05 - Neighbourhood and Local Centres
 - ZO 09 - Light Industry and Related Uses
 - ZO 12 - Education
 - ZO 13 - Institutions and Community
 - ZO 15 - Public Open Space
 - ZO 16 - Sports Grounds and Facilities
 - ZO 17 - Landscape Preservation Zones
 - ZO 19 - Rivers and Water Bodies Protection
 - ZO 20 - Long-term Strategic Regeneration



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OPW Historical Flood Data



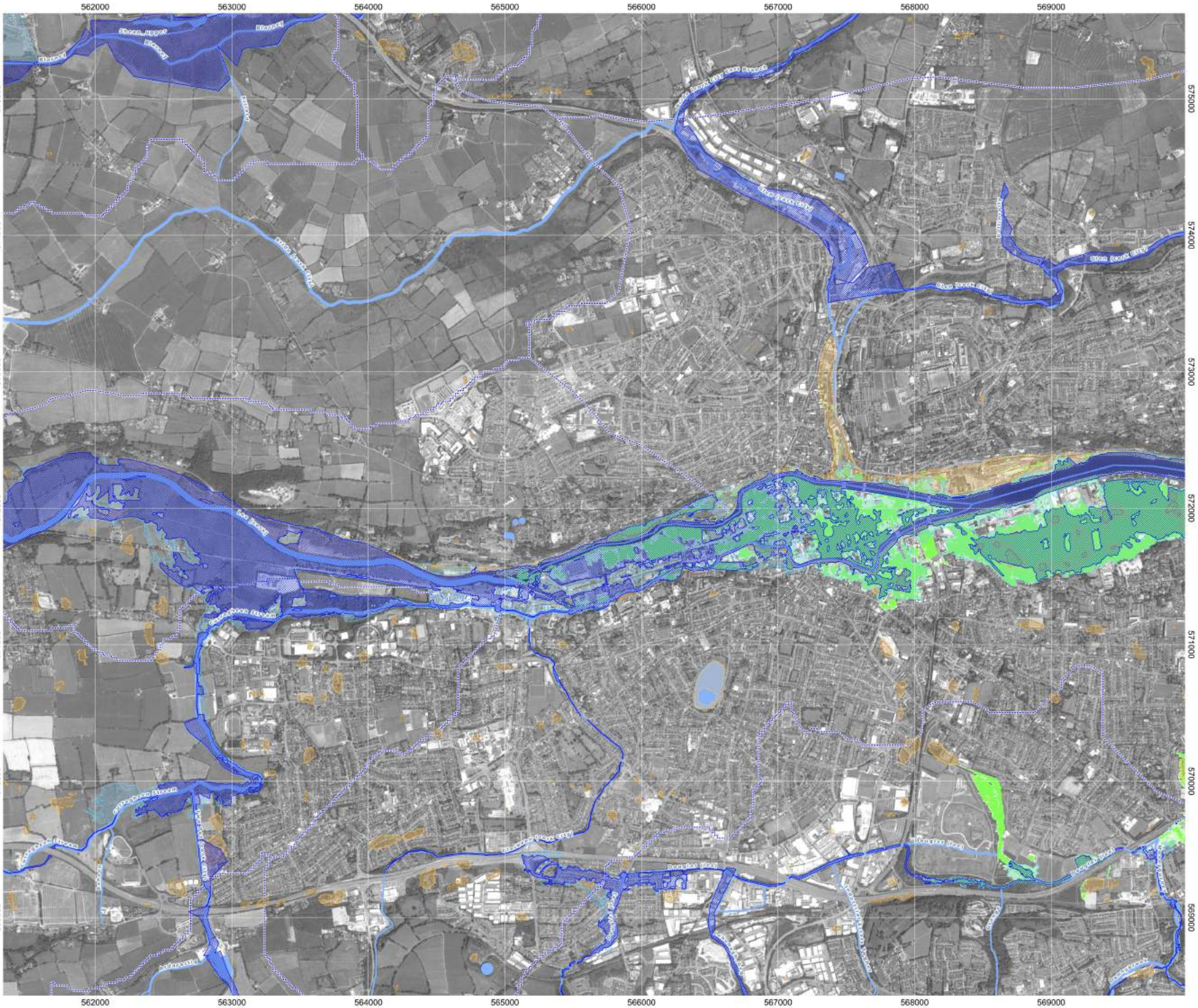
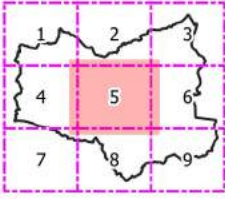
- WFD River Sub-Basins
- Water
- River or Stream
- OPW Past Flood Events**
 - Recurring Flood Event
 - REMOVE FROM LEGEND
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- Land Commission**
 - Benefited Lands
- Drainage District**
 - Channel
 - Embankment
 - Benefited Lands
- Arterial Drainage Scheme**
 - Channel
 - Embankment
 - Benefited Lands



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OPW Preliminary Flood Risk Assessment (PFRA)



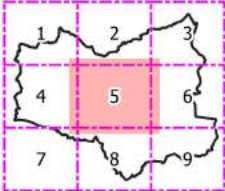
- WFD River Sub-Basins
- Water
- River or Stream
- PFRA**
- Fluvial 1% AEP
- Fluvial 0.1% AEP
- Pluvial 1% AEP
- Pluvial 0.1% AEP
- Coastal 0.5% AEP
- Coastal 0.1% AEP



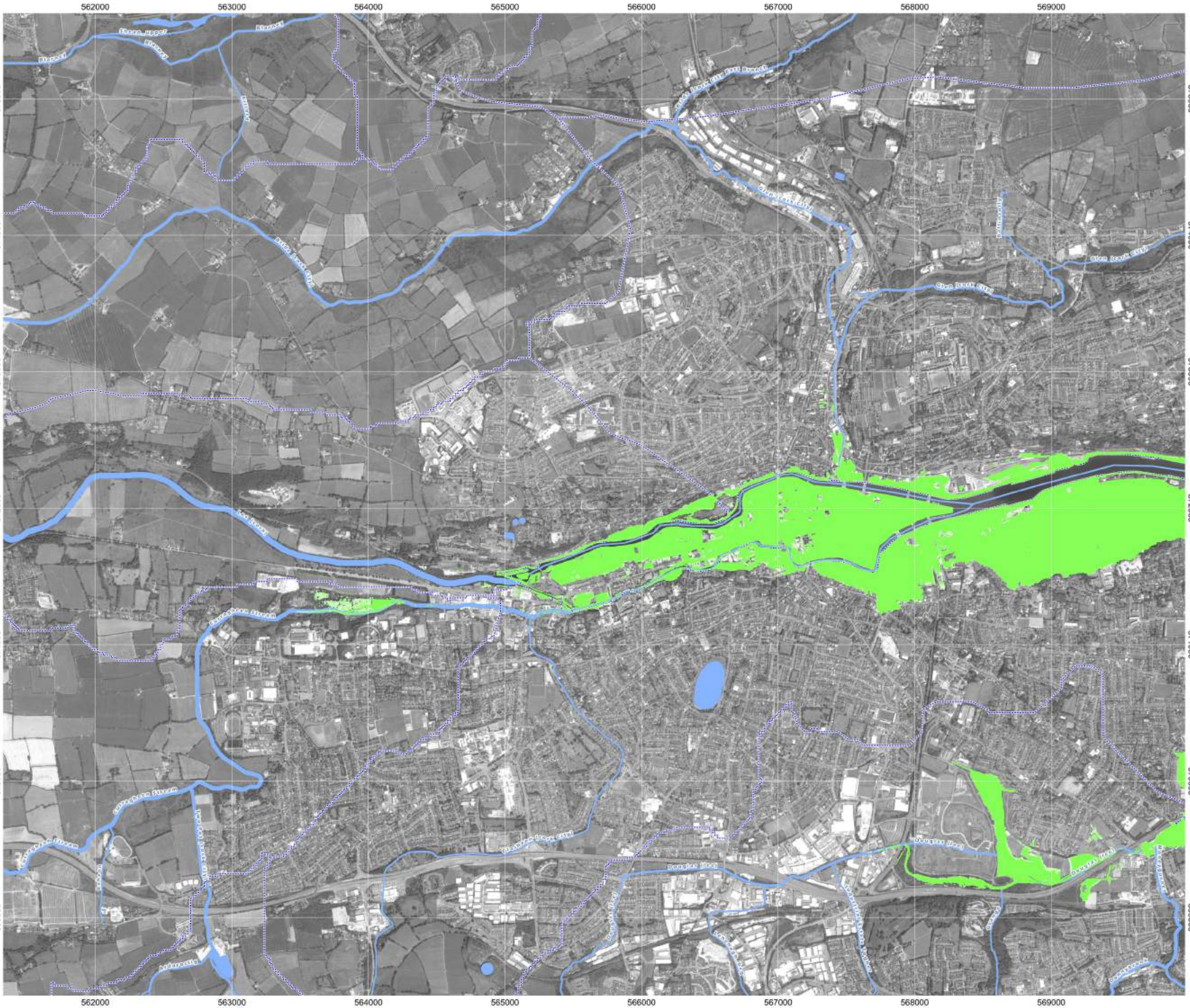
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OPW Irish Coastal
Protection Strategy
Study (ICPSS) Mid-Range
Future Scenario



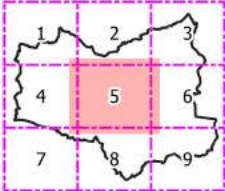
- WFD River Sub-Basins
- Water
- River or Stream
- ICPSS Mid-Range
Future Scenario**
- Coastal 0.5% AEP
- Coastal 0.1% AEP



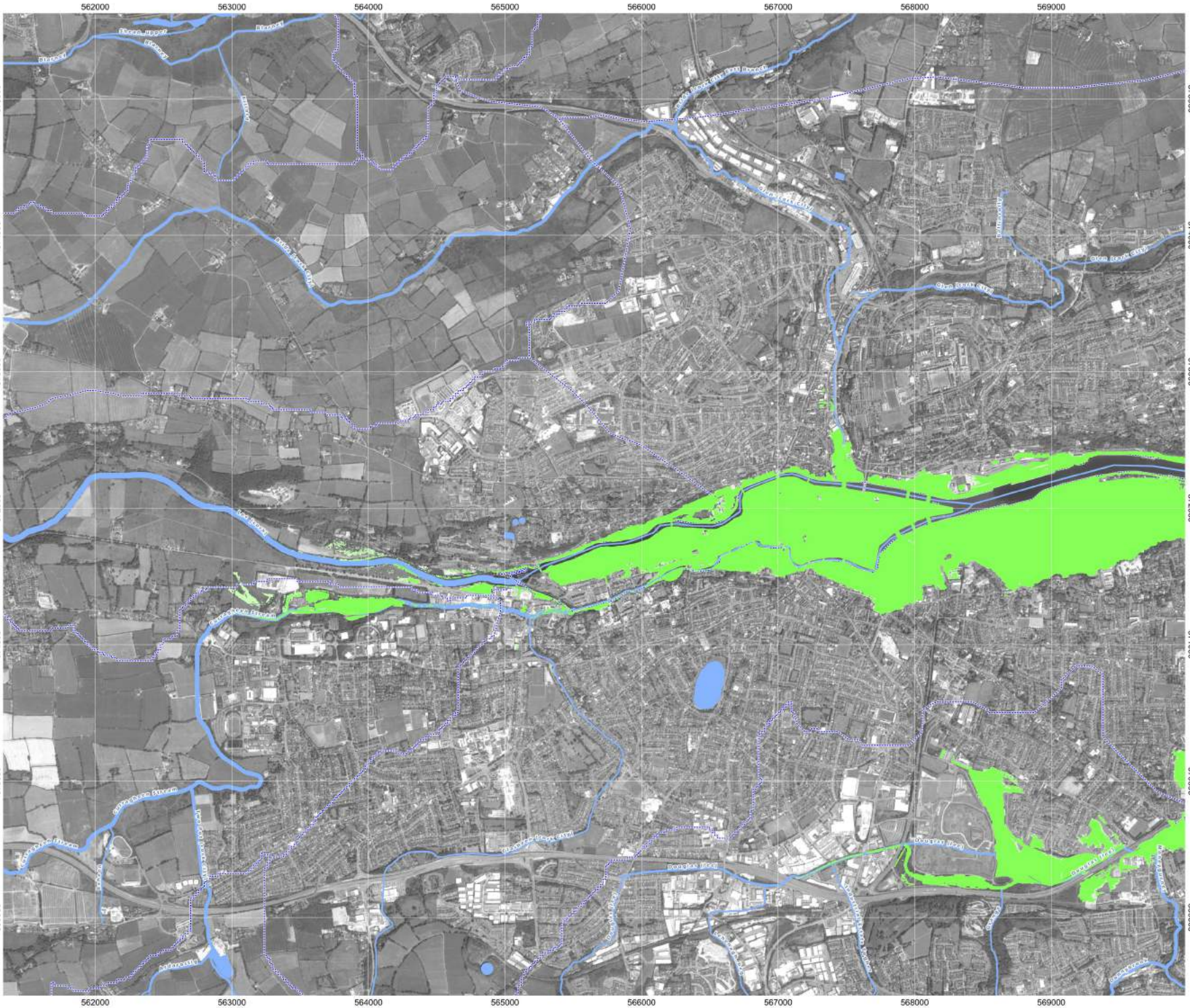
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OPW Irish Coastal Protection Strategy Study (ICPSS) High-End Future Scenario



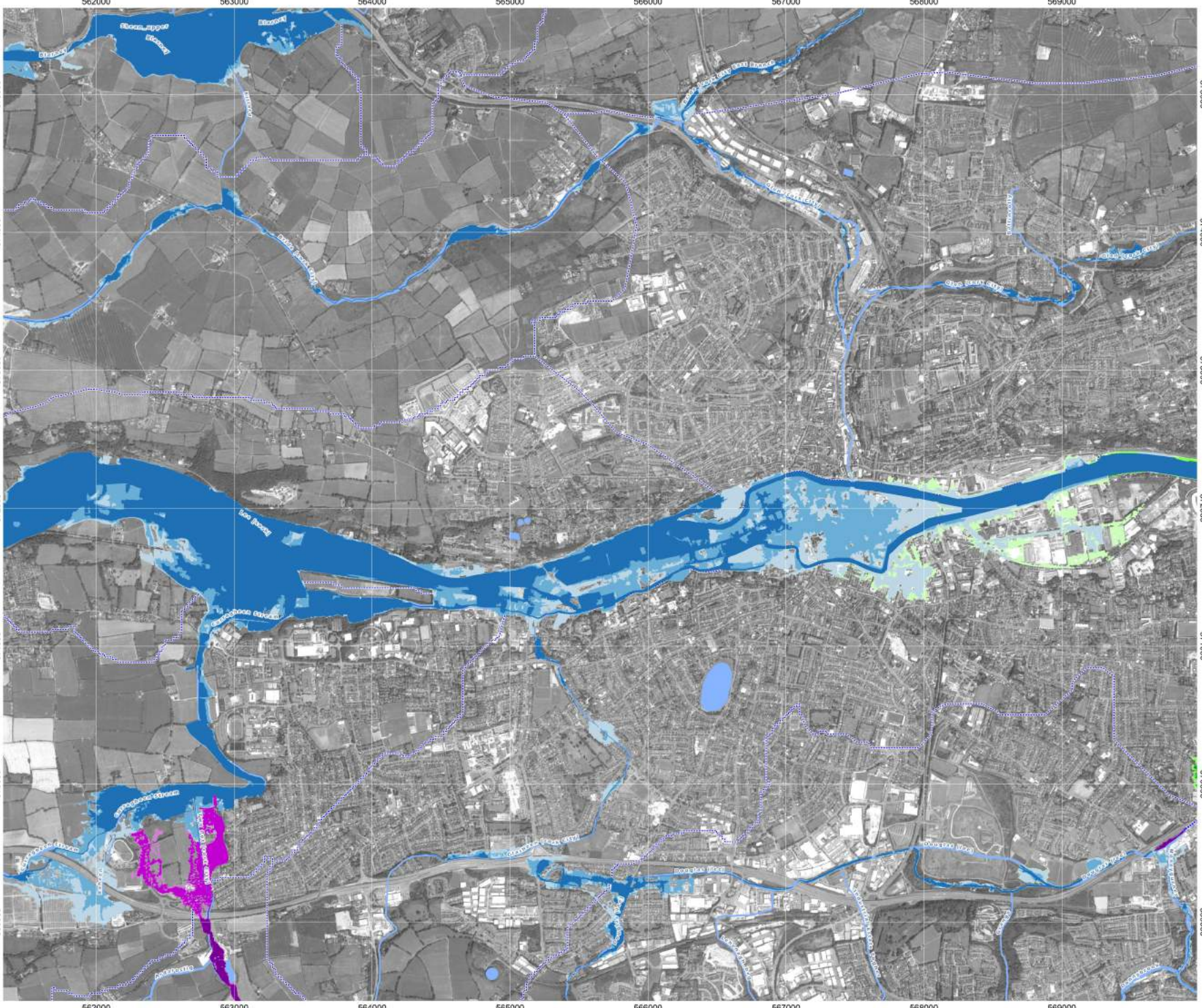
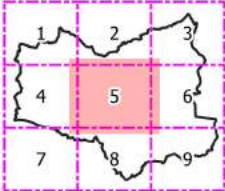
- WFD River Sub-Basins
- Water
- River or Stream
- ICPSS High-End Future Scenario**
- Coastal 0.5% AEP
- Coastal 0.1% AEP



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OPW Catchment Flood Risk Assessment & Management (CFRAM) & National Indicative Fluvial Mapping (NIFM) Present Day



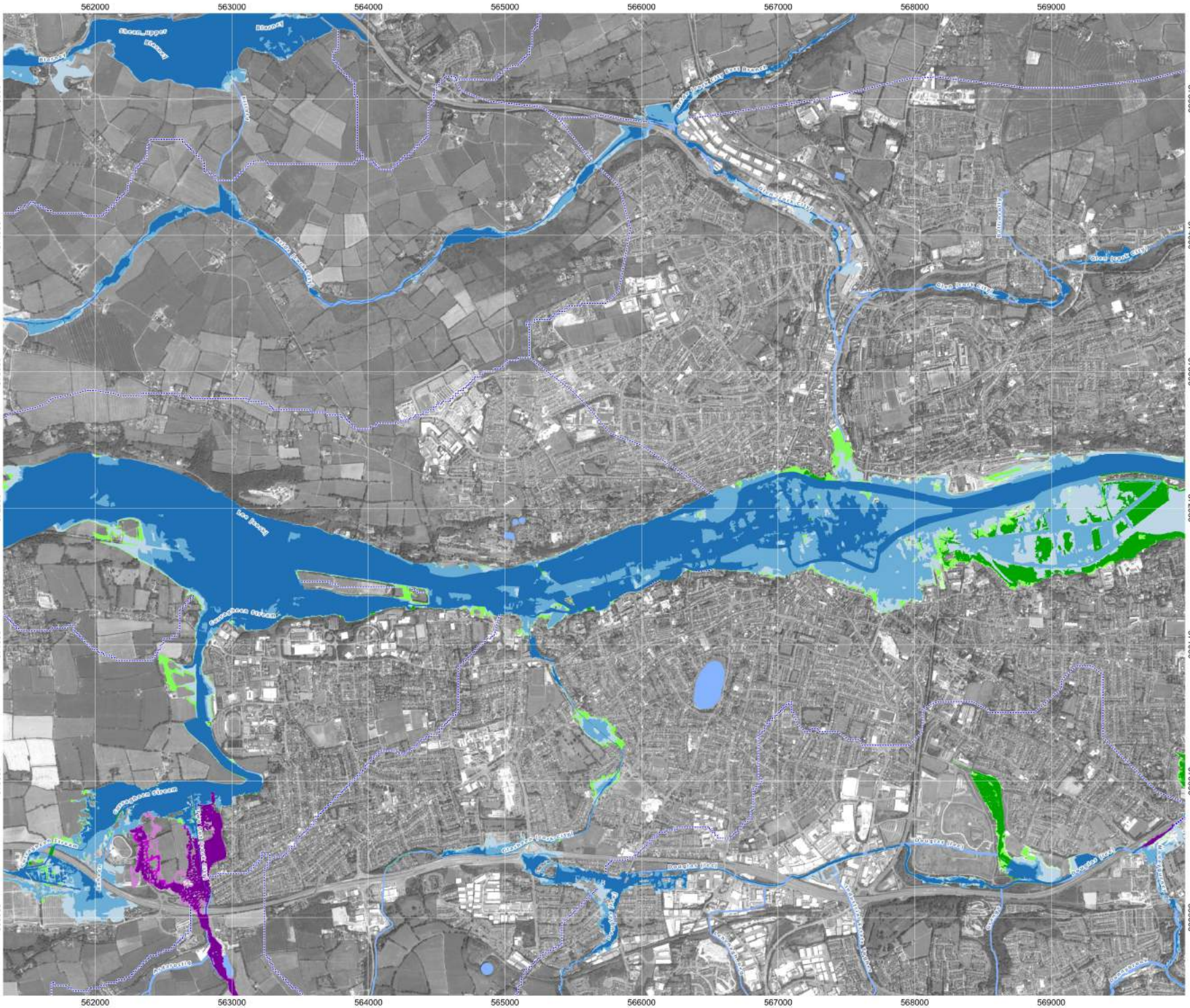
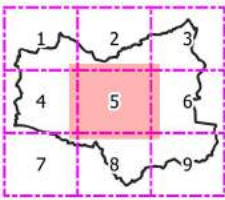
- WFD River Sub-Basins
- Water
- River or Stream
- CFRAM Fluvial Present Day**
 - 10% AEP
 - 1% AEP
 - 0.1% AEP
- CFRAM Coastal Present Day**
 - 10% AEP
 - 0.5% AEP
 - 0.1% AEP
- NIFM Present Day Scenario**
 - 5% AEP
 - 1% AEP
 - 0.1% AEP



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OPW Catchment Flood Risk Assessment & Management (CFRAM) & National Indicative Fluvial Mapping (NIFM) Mid-Range Future Scenario



- WFD River Sub-Basins
- Water
- River or Stream

- CFRAM Fluvial Mid-Range Future Scenario**
- 10% AEP
 - 1% AEP
 - 0.1% AEP

- CFRAM Coastal Mid-Range Future Scenario**
- 10% AEP
 - 0.5% AEP
 - 0.1% AEP

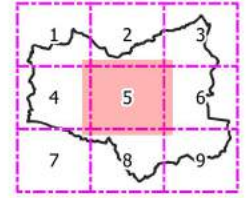
- NIFM Mid-Range Future Scenario**
- 5% AEP
 - 1% AEP
 - 0.1% AEP



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OPW Catchment Flood Risk Assessment & Management (CFRAM) & National Indicative Fluvial Mapping (NIFM) High-End Future Scenario



- WFD River Sub-Basins
- Water
- River or Stream

CFRAM Fluvial High-End Future Scenario*

- 10% AEP
- 1% AEP
- 0.1% AEP

CFRAM Coastal High-End Future Scenario*

- 10% AEP
- 0.5% AEP
- 0.1% AEP

NIFM High-End Future Scenario

- 5% AEP
- 1% AEP
- 0.1% AEP

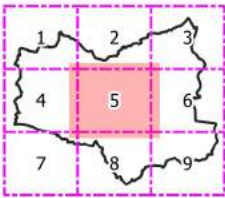


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* CFRAM - only 'Present Day' and 'Mid-Range Future' scenarios are available for the study area.

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GSI Historical Flood Data and Groundwater Predictive Modeling



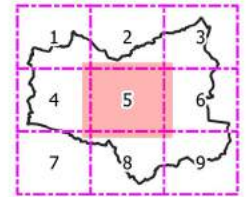
- WFD River Sub-Basins
- Water
- River or Stream
- GSI Groundwater Flooding Predictive Model**
- High Probability
- Medium Probability
- Low Probability
- GSI Historical Flood Data**
- Surface Water Flooding**
- Winter 2015-2016 Surface Water Flooding
- Maximum Historic Groundwater Flooding**
- Groundwater
- Groundwater/Surface water



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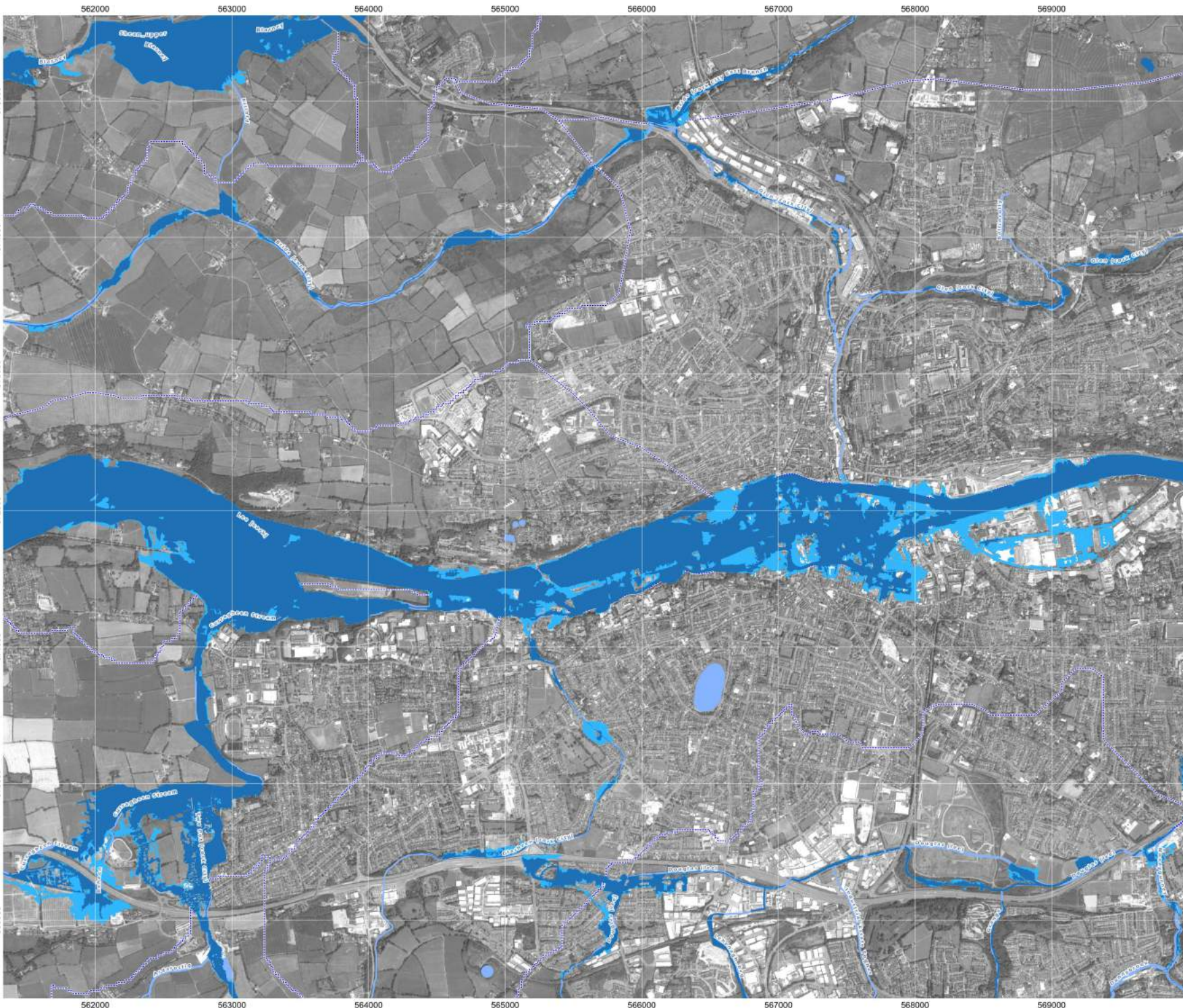
Indicative Flood Zones



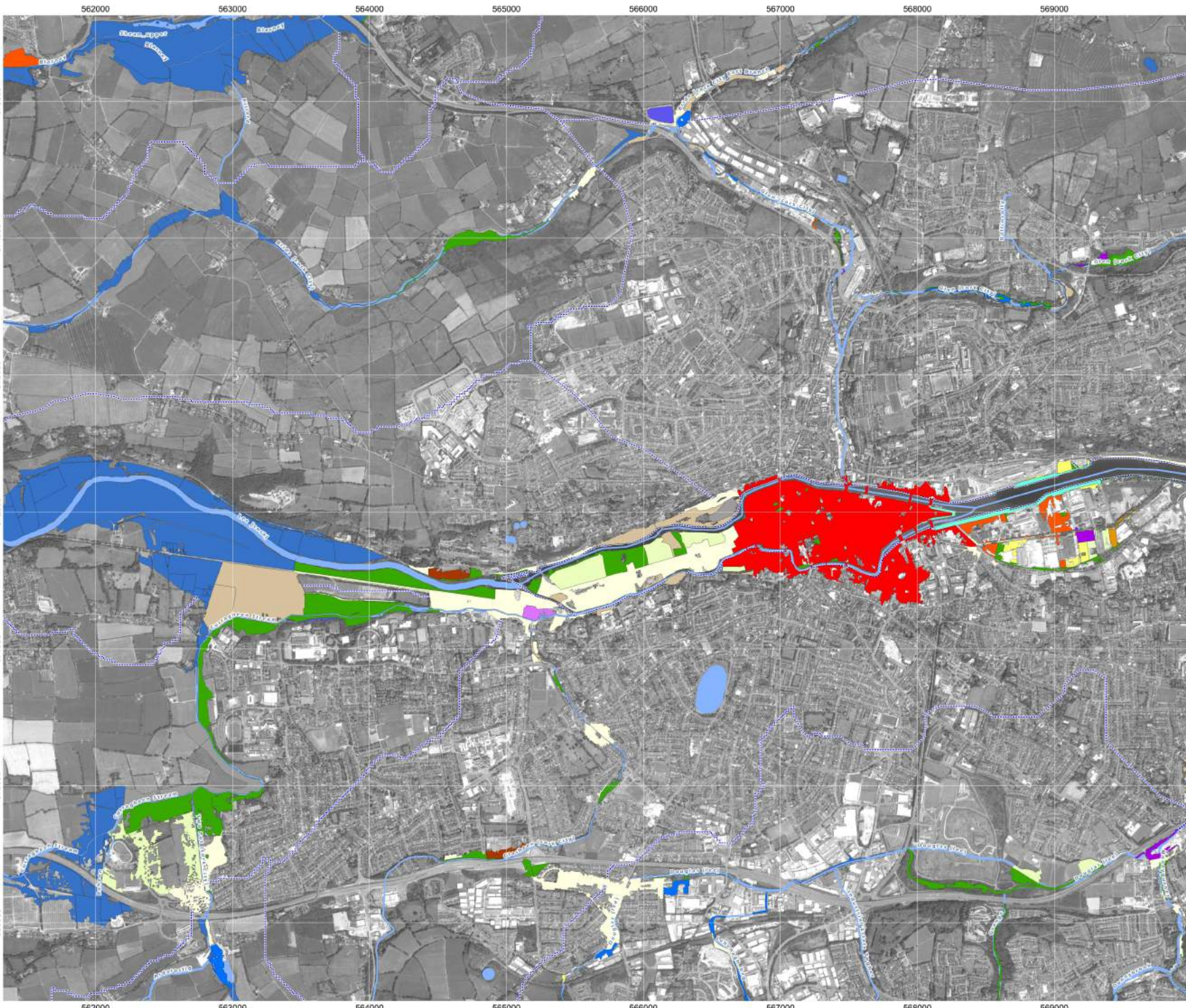
- WFD River Sub-Basins
- Water
- River or Stream

Indicative Flood Zones

- Flood Zone A
- Flood Zone B

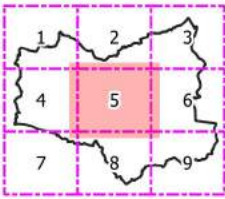


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Land Use Zoning that Intersects
Indicative Flood Zones



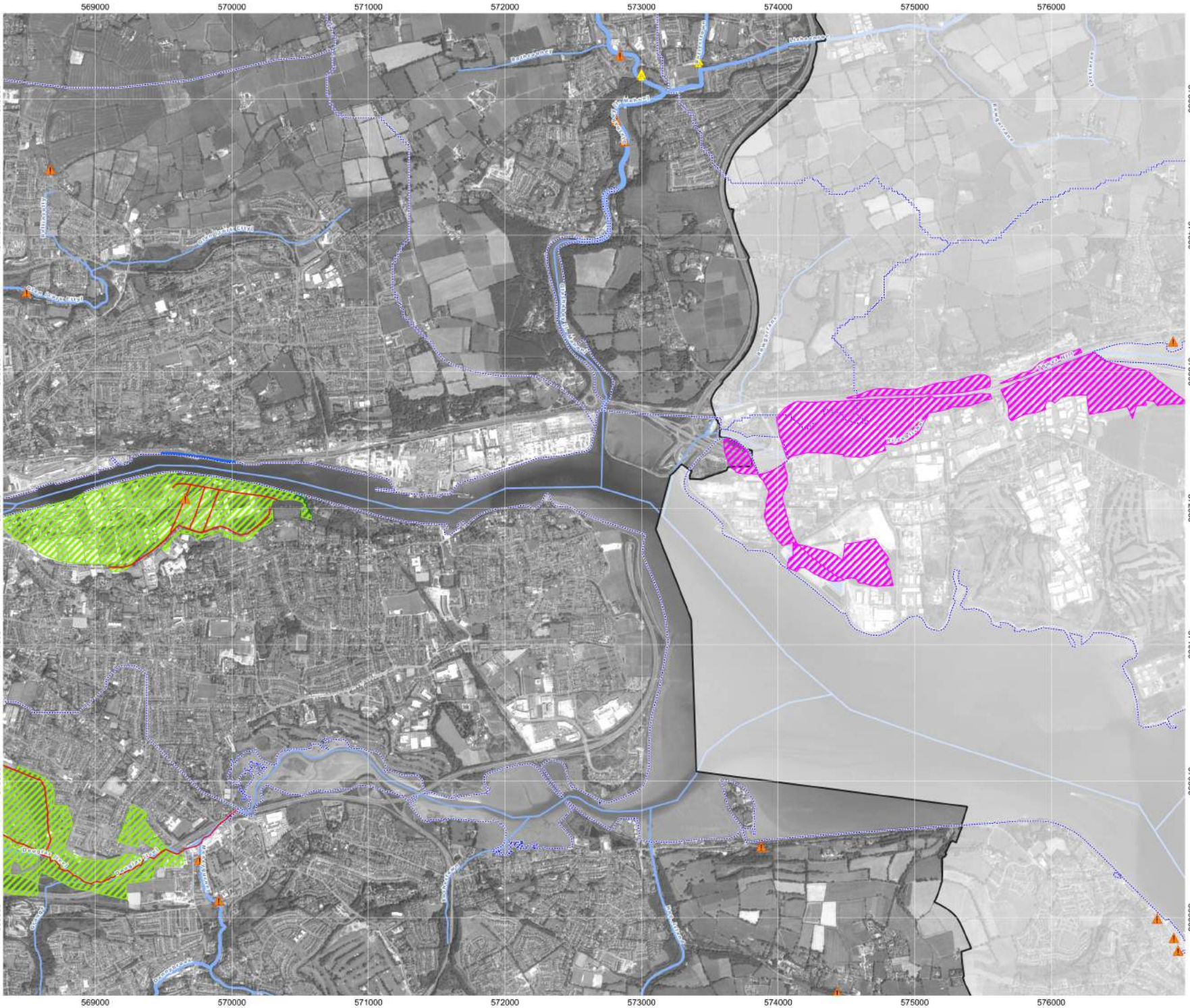
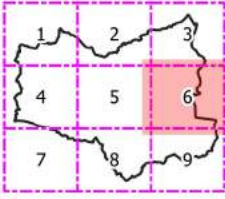
- WFD River Sub-Basins
 - Water
- Land Use Zoning**
- ZO 01 - Sustainable Residential Neighbourhoods
 - ZO 02 - New Residential Neighbourhoods
 - ZO 04 - Mixed Use Development
 - ZO 05 - City Centre
 - ZO 07 - District Centre
 - ZO 08 - Neighbourhood and Local Centres
 - ZO 09 - Light Industry and Related Uses
 - ZO 10 - Business and Technology
 - ZO 12 - Education
 - ZO 13 - Institutions and Community
 - ZO 14 - Public Infrastructure and utilities
 - ZO 15 - Public Open Space
 - ZO 16 - Sports Grounds and Facilities
 - ZO 17 - Landscape Preservation Zones
 - ZO 18 - Quayside Amenity Area
 - ZO 19 - Rivers and Water Bodies Protection
 - ZO 20 - Long-term Strategic Regeneration



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OPW Historical Flood Data



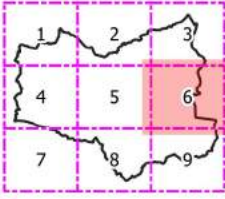
- WFD River Sub-Basins
- Water
- River or Stream
- OPW Past Flood Events**
- Recurring Flood Event
- REMOVE FROM LEGEND
- Past Flood Extent
- Land Commission**
- Benefited Lands
- Drainage District**
- Channel
- Embankment
- Benefited Lands
- Arterial Drainage Scheme**
- Channel
- Embankment
- Benefited Lands



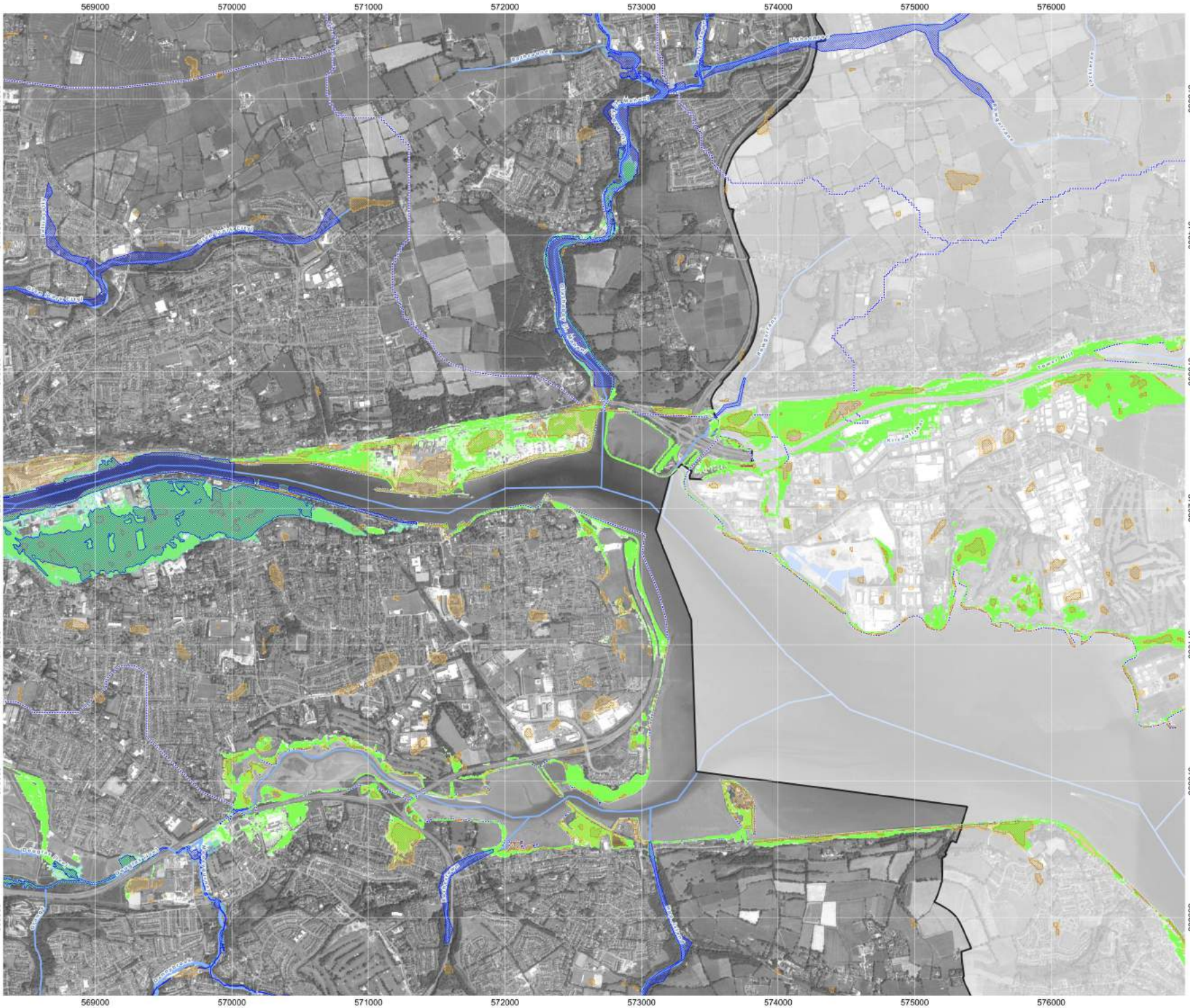
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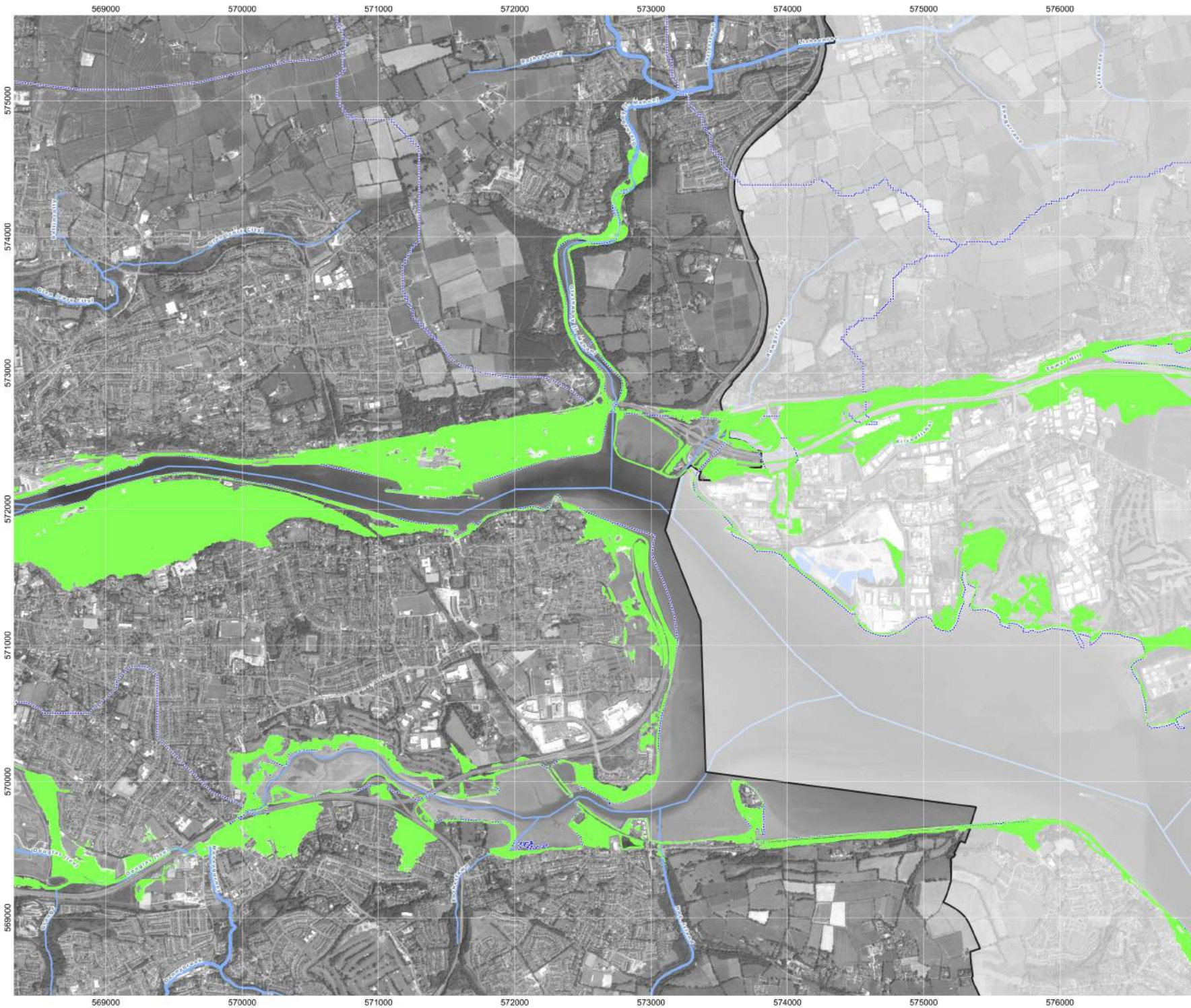
OPW Preliminary Flood Risk Assessment (PFRA)



- WFD River Sub-Basins
 - Water
 - River or Stream
- PFRA**
- Fluvial 1% AEP
 - Fluvial 0.1% AEP
 - Pluvial 1% AEP
 - Pluvial 0.1% AEP
 - Coastal 0.5% AEP
 - Coastal 0.1% AEP

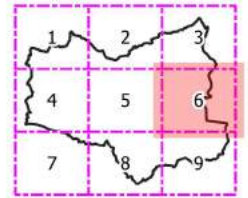


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Cork City Development Plan 2022-2028

OPW Irish Coastal
Protection Strategy
Study (ICPSS) Mid-Range
Future Scenario



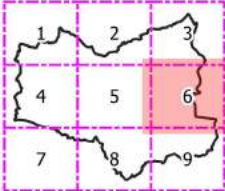
- WFD River Sub-Basins
- Water
- River or Stream
- ICPSS Mid-Range
Future Scenario**
- Coastal 0.5% AEP
- Coastal 0.1% AEP



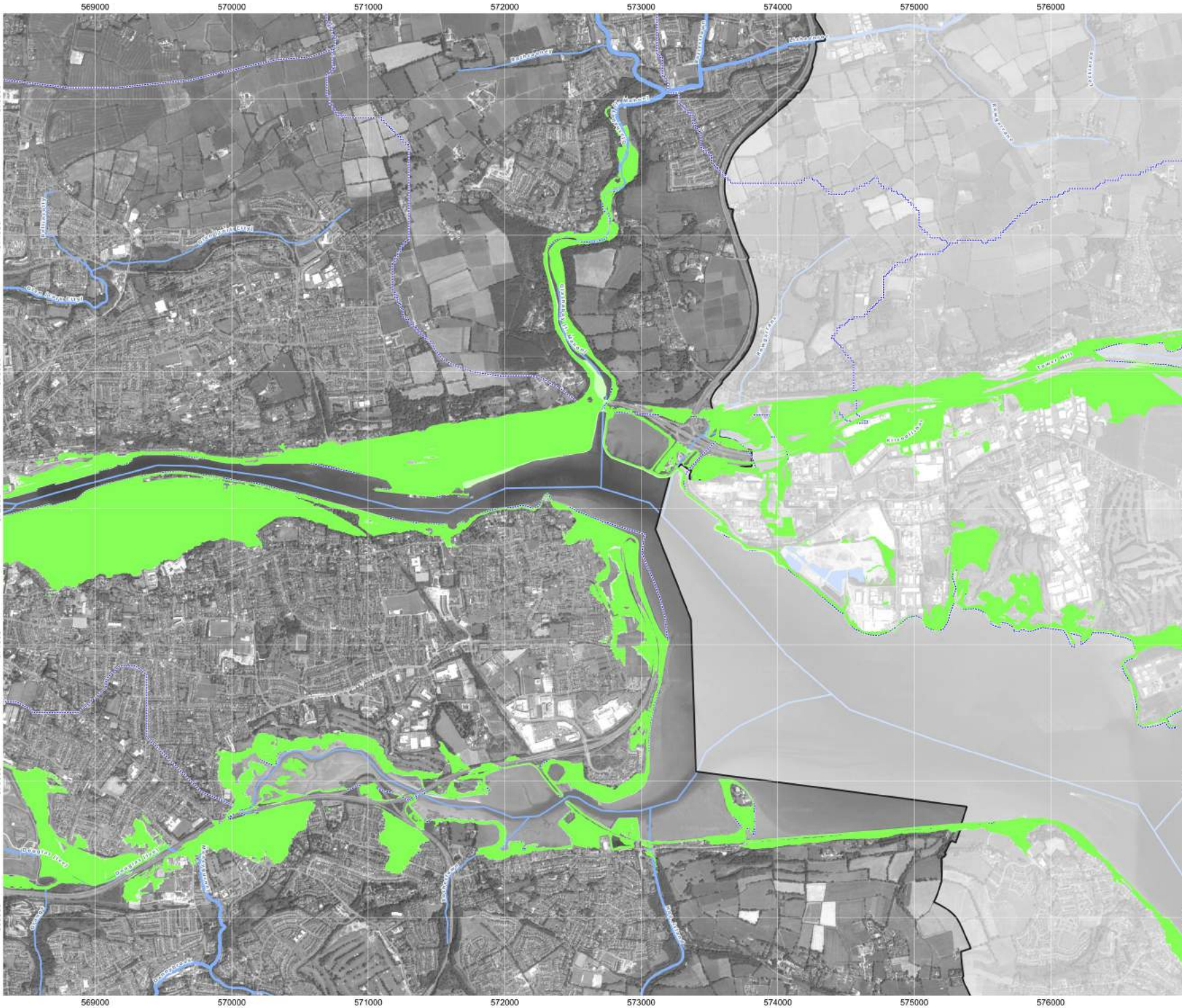
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Cork City Development Plan 2022-2028

OPW Irish Coastal
Protection Strategy
Study (ICPSS) High-End
Future Scenario



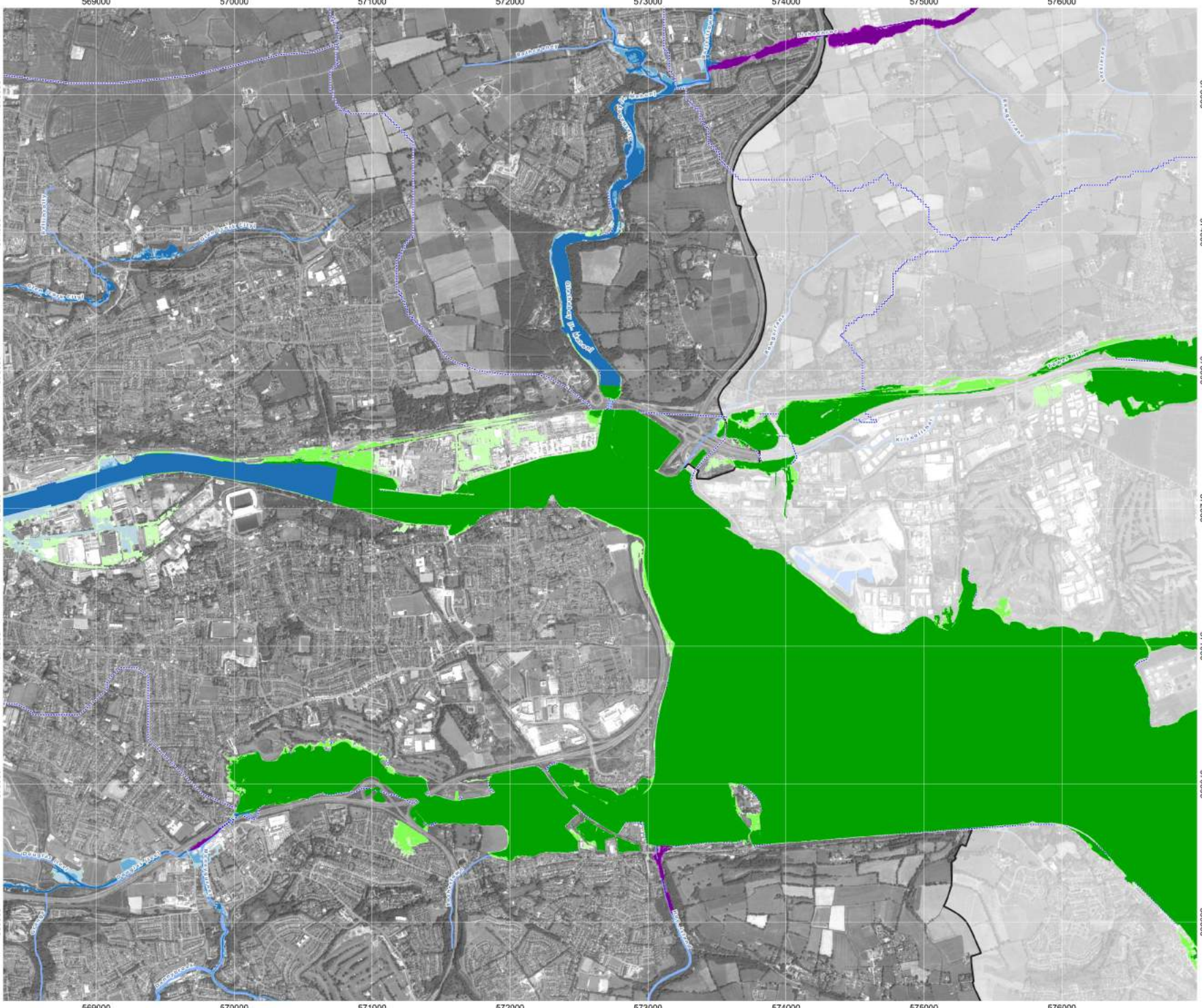
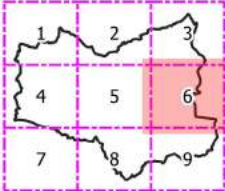
- WFD River Sub-Basins
- Water
- River or Stream
- ICPSS High-End Future Scenario**
- Coastal 0.5% AEP
- Coastal 0.1% AEP



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OPW Catchment Flood Risk Assessment & Management (CFRAM) & National Indicative Fluvial Mapping (NIFM) Present Day



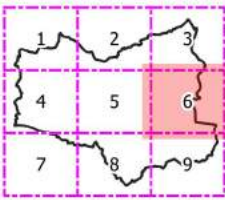
- WFD River Sub-Basins
- Water
- River or Stream
- CFRAM Fluvial Present Day**
 - 10% AEP
 - 1% AEP
 - 0.1% AEP
- CFRAM Coastal Present Day**
 - 10% AEP
 - 0.5% AEP
 - 0.1% AEP
- NIFM Present Day Scenario**
 - 5% AEP
 - 1% AEP
 - 0.1% AEP



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Cork City Development Plan 2022-2028

OPW Catchment Flood Risk Assessment & Management (CFRAM) & National Indicative Fluvial Mapping (NIFM) Mid-Range Future Scenario



WFD River Sub-Basins
Water
River or Stream

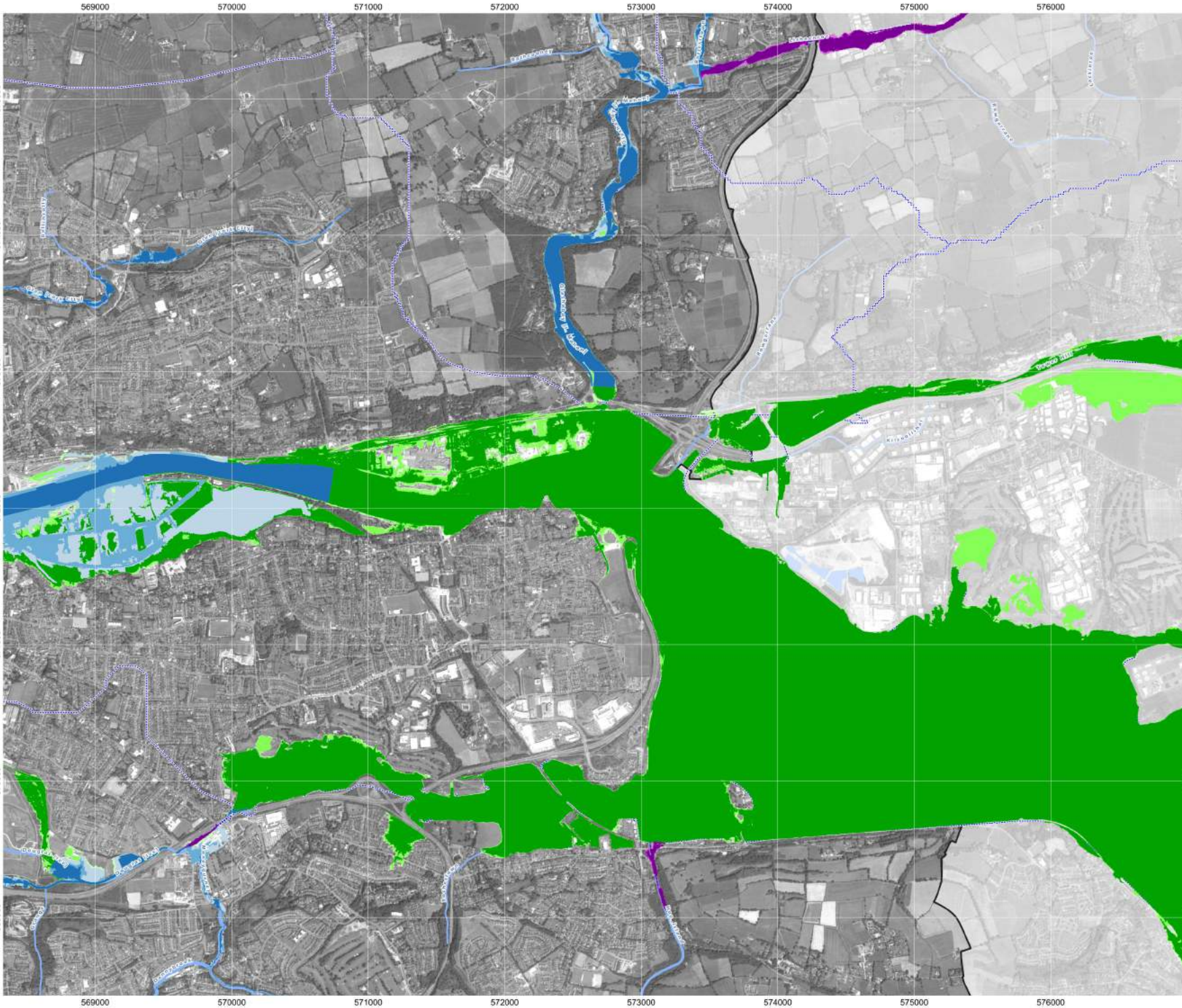
CFRAM Fluvial Mid-Range Future Scenario
10% AEP
1% AEP
0.1% AEP

CFRAM Coastal Mid-Range Future Scenario
10% AEP
0.5% AEP
0.1% AEP

NIFM Mid-Range Future Scenario
5% AEP
1% AEP
0.1% AEP

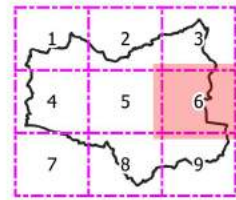


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OPW Catchment Flood Risk Assessment & Management (CFRAM) & National Indicative Fluvial Mapping (NIFM) High-End Future Scenario



WFD River Sub-Basins
 Water
 River or Stream

CFRAM Fluvial High-End Future Scenario*
 10% AEP
 1% AEP
 0.1% AEP

CFRAM Coastal High-End Future Scenario*
 10% AEP
 0.5% AEP
 0.1% AEP

NIFM High-End Future Scenario
 5% AEP
 1% AEP
 0.1% AEP



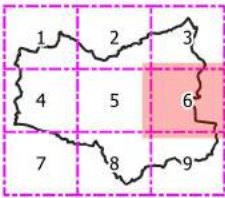
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GSI Historical Flood Data
and Groundwater
Predictive Modeling



- WFD River Sub-Basins
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- GSI Groundwater Flooding Predictive Model**
 - High Probability
 - Medium Probability
 - Low Probability
- GSI Historical Flood Data**
 - Surface Water Flooding**
 - Winter 2015-2016 Surface Water Flooding
 - Maximum Historic Groundwater Flooding**
 - Groundwater
 - Groundwater/Surface water

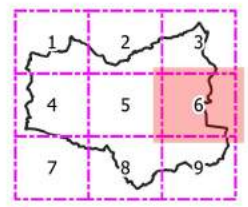


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Indicative Flood Zones



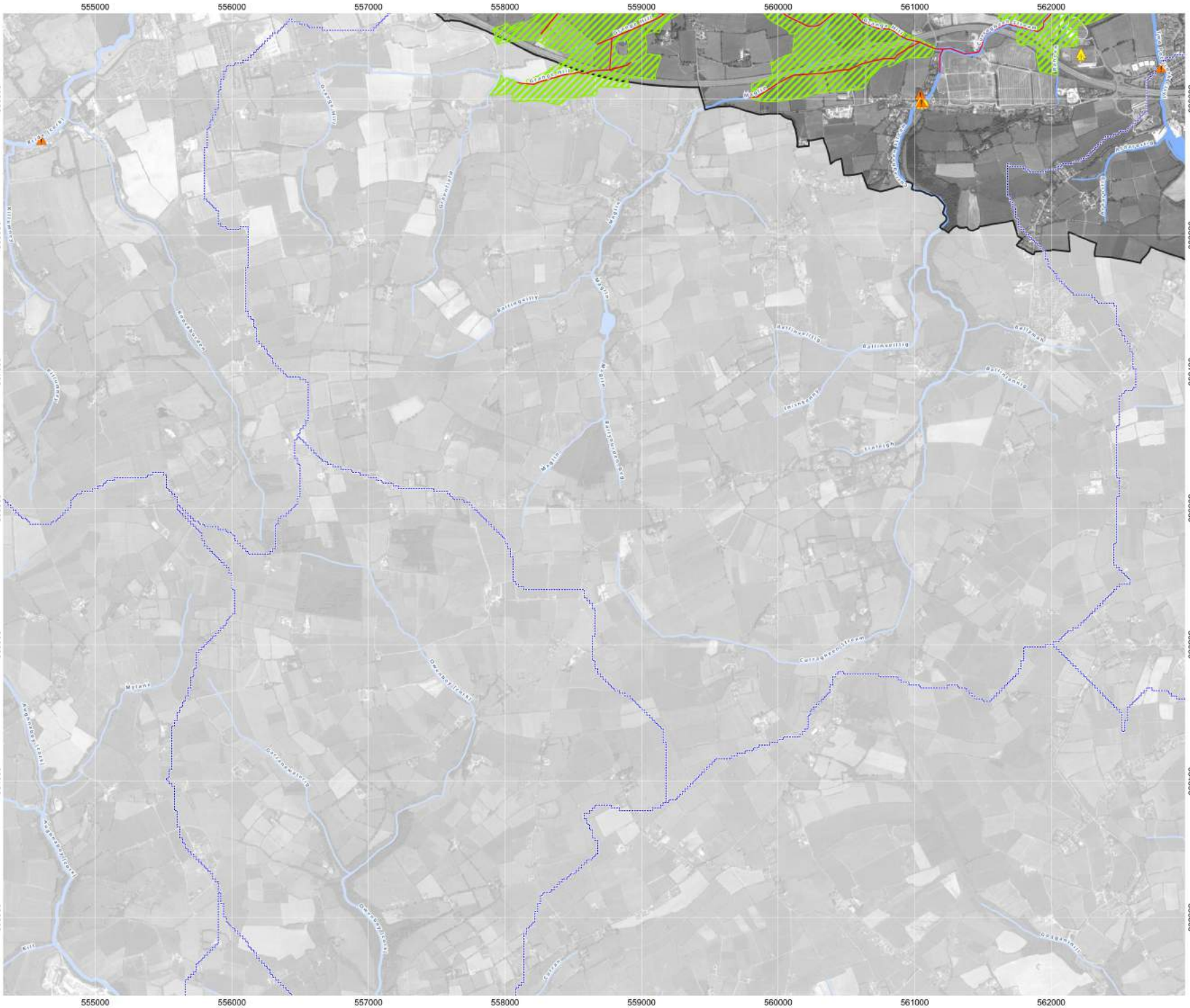
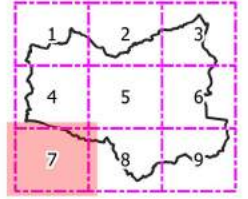
- WFD River Sub-Basins
- Water
- River or Stream
- Indicative Flood Zones**
- Flood Zone A
- Flood Zone B



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OPW Historical Flood Data



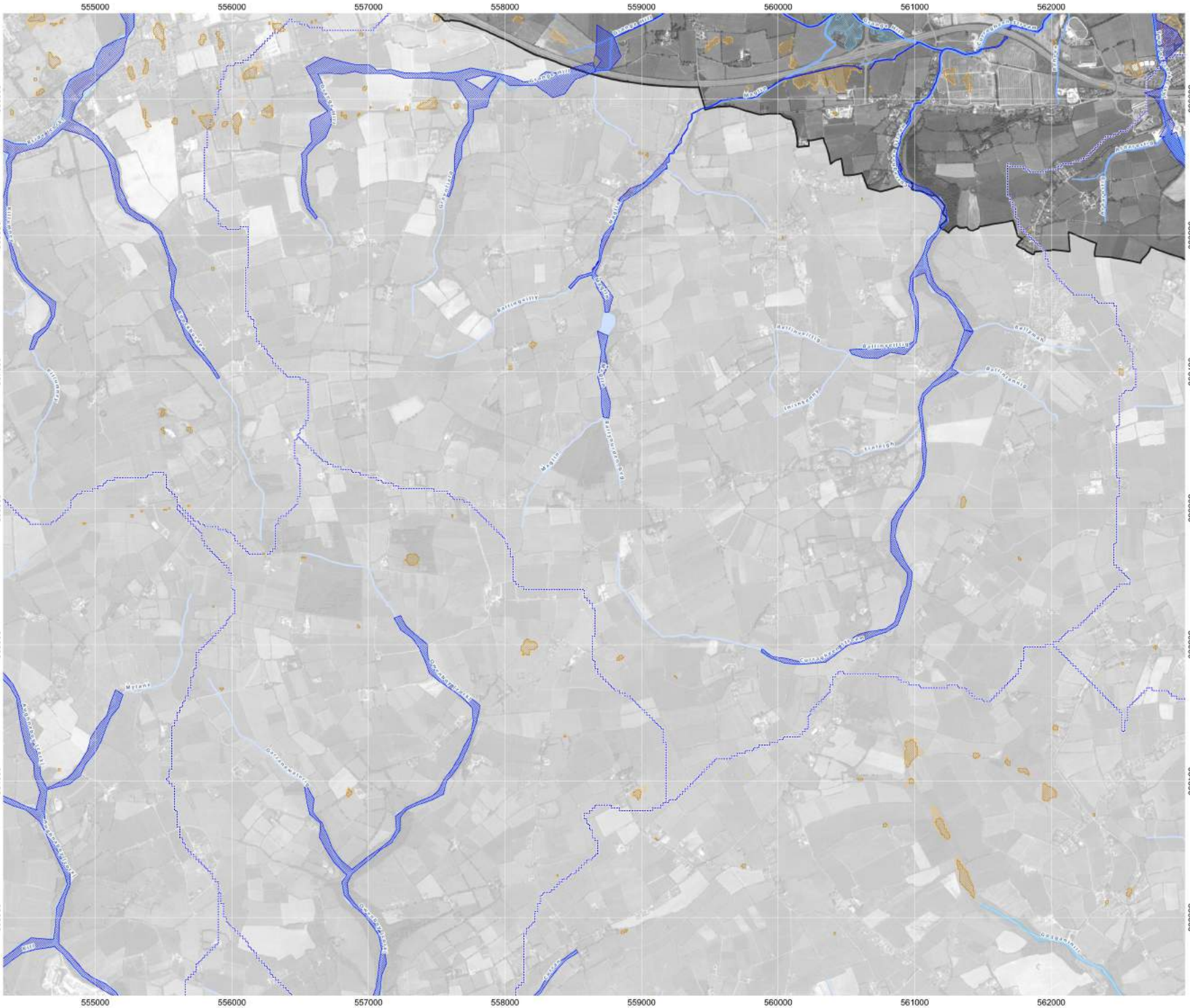
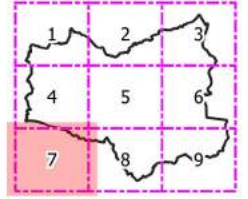
- WFD River Sub-Basins
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- OPW Past Flood Events**
 - Recurring Flood Event
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 - Channel
 - Embankment
 - Benefited Lands
- Arterial Drainage Scheme**
 - Channel
 - Embankment
 - Benefited Lands



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OPW Preliminary Flood Risk Assessment (PFRA)



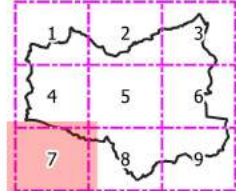
- WFD River Sub-Basins
- Water
- River or Stream
- PFRA**
- Fluvial 1% AEP
- Fluvial 0.1% AEP
- Pluvial 1% AEP
- Pluvial 0.1% AEP
- Coastal 0.5% AEP
- Coastal 0.1% AEP



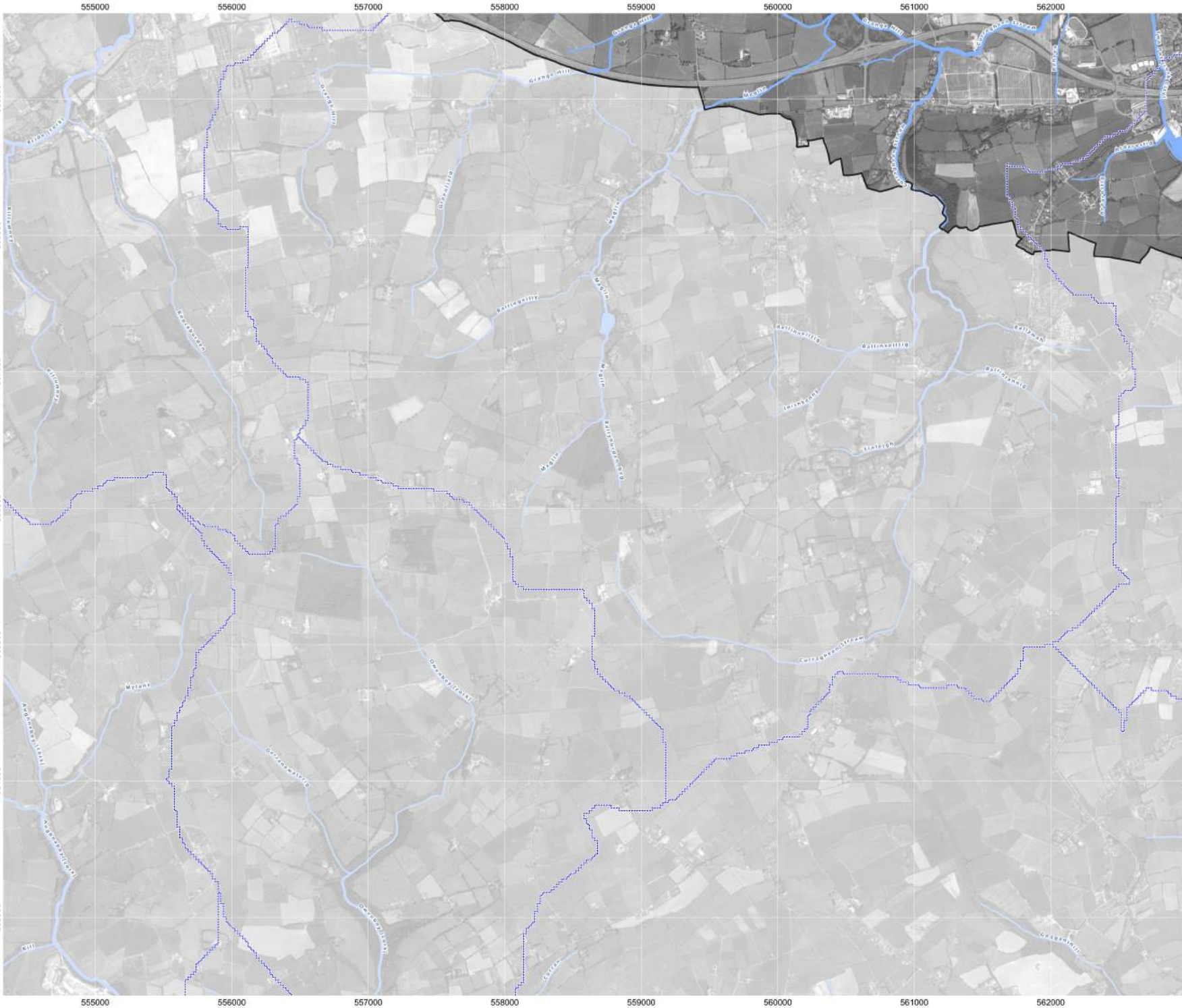
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OPW Irish Coastal
Protection Strategy
Study (ICPSS) Mid-Range
Future Scenario



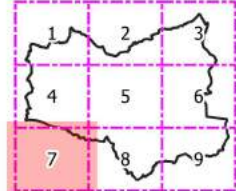
- WFD River Sub-Basins
- Water
- River or Stream
- ICPSS Mid-Range
Future Scenario**
- Coastal 0.5% AEP
- Coastal 0.1% AEP







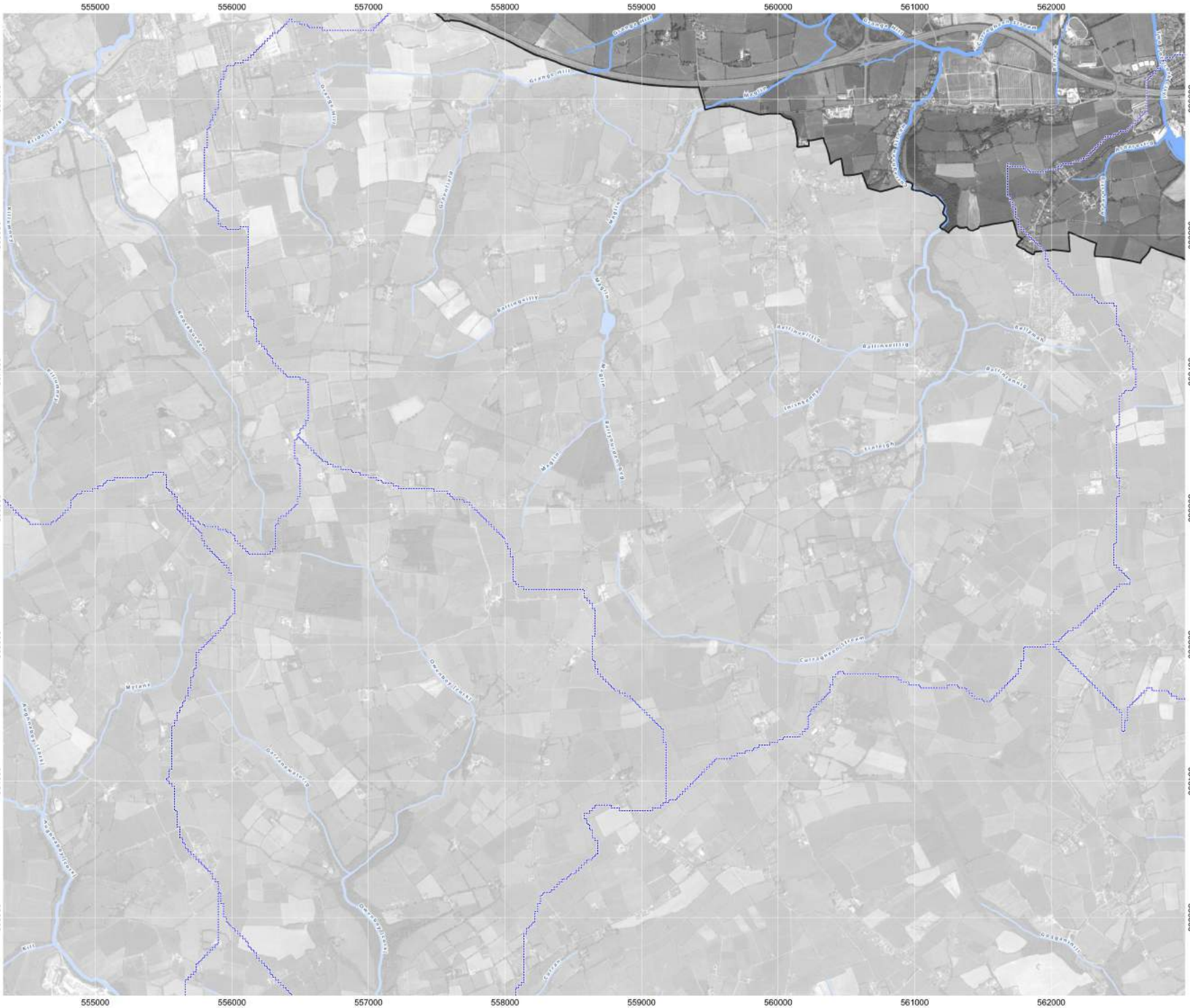
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OPW Irish Coastal
Protection Strategy
Study (ICPSS) High-End
Future Scenario



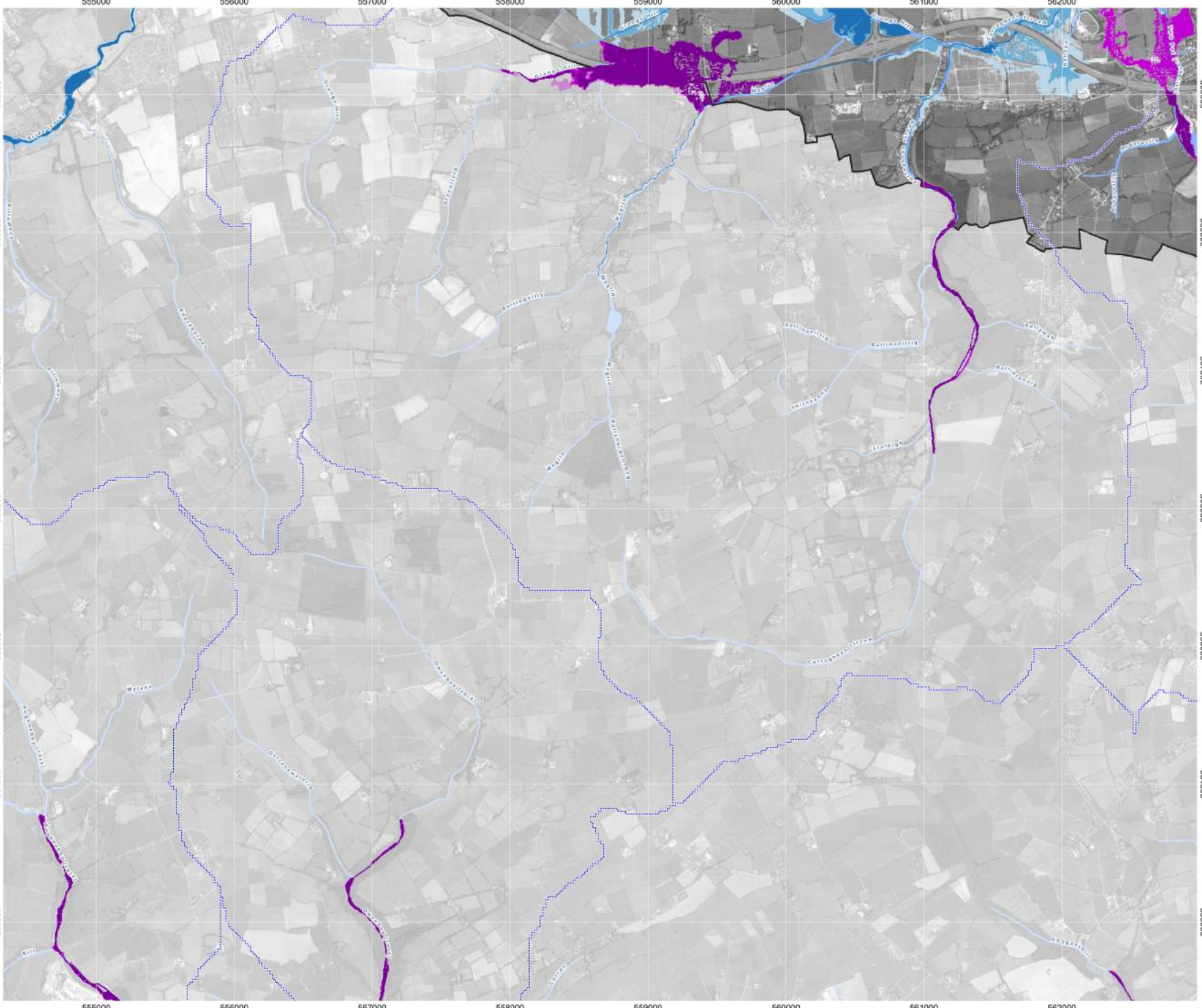
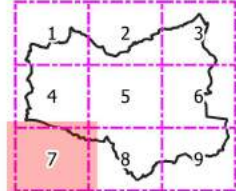
-  WFD River Sub-Basins
-  Water
-  River or Stream
- ICPSS High-End
Future Scenario**
-  Coastal 0.5% AEP
-  Coastal 0.1% AEP



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OPW Catchment Flood Risk Assessment & Management (CFRAM) & National Indicative Fluvial Mapping (NIFM) Present Day



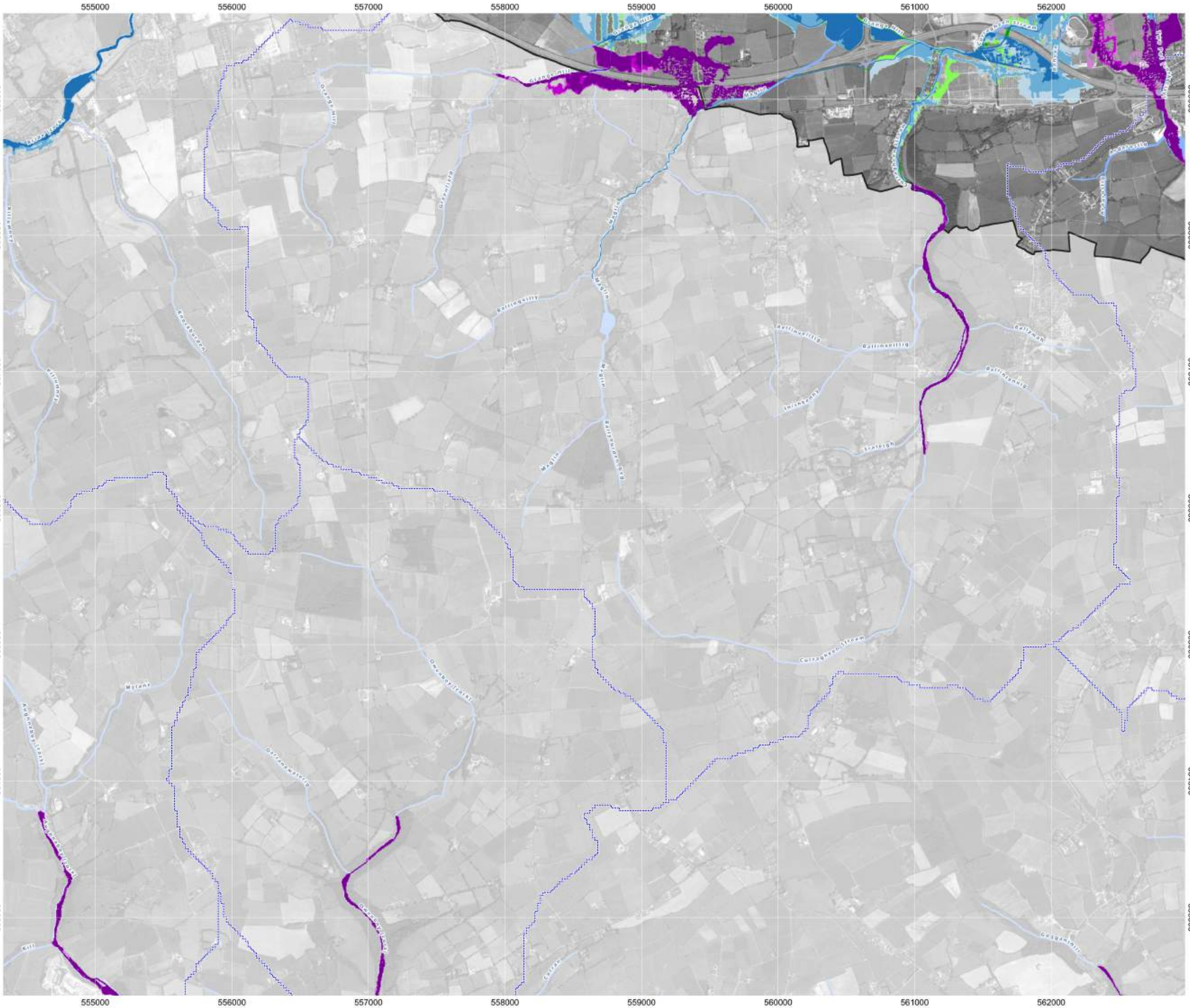
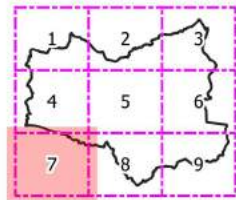
- WFD River Sub-Basins
- Water
- River or Stream
- CFRAM Fluvial Present Day**
 - 10% AEP
 - 1% AEP
 - 0.1% AEP
- CFRAM Coastal Present Day**
 - 10% AEP
 - 0.5% AEP
 - 0.1% AEP
- NIFM Present Day Scenario**
 - 5% AEP
 - 1% AEP
 - 0.1% AEP



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OPW Catchment Flood Risk Assessment & Management (CFRAM) & National Indicative Fluvial Mapping (NIFM) Mid-Range Future Scenario



- WFD River Sub-Basins
- Water
- River or Stream

- CFRAM Fluvial Mid-Range Future Scenario**
- 10% AEP
- 1% AEP
- 0.1% AEP

- CFRAM Coastal Mid-Range Future Scenario**
- 10% AEP
- 0.5% AEP
- 0.1% AEP

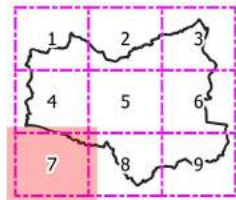
- NIFM Mid-Range Future Scenario**
- 5% AEP
- 1% AEP
- 0.1% AEP



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OPW Catchment Flood Risk Assessment & Management (CFRAM) & National Indicative Fluvial Mapping (NIFM) High-End Future Scenario



- WFD River Sub-Basins
- Water
- River or Stream

- CFRAM Fluvial High-End Future Scenario*
- 10% AEP
 - 1% AEP
 - 0.1% AEP

- CFRAM Coastal High-End Future Scenario*
- 10% AEP
 - 0.5% AEP
 - 0.1% AEP

- NIFM High-End Future Scenario
- 5% AEP
 - 1% AEP
 - 0.1% AEP

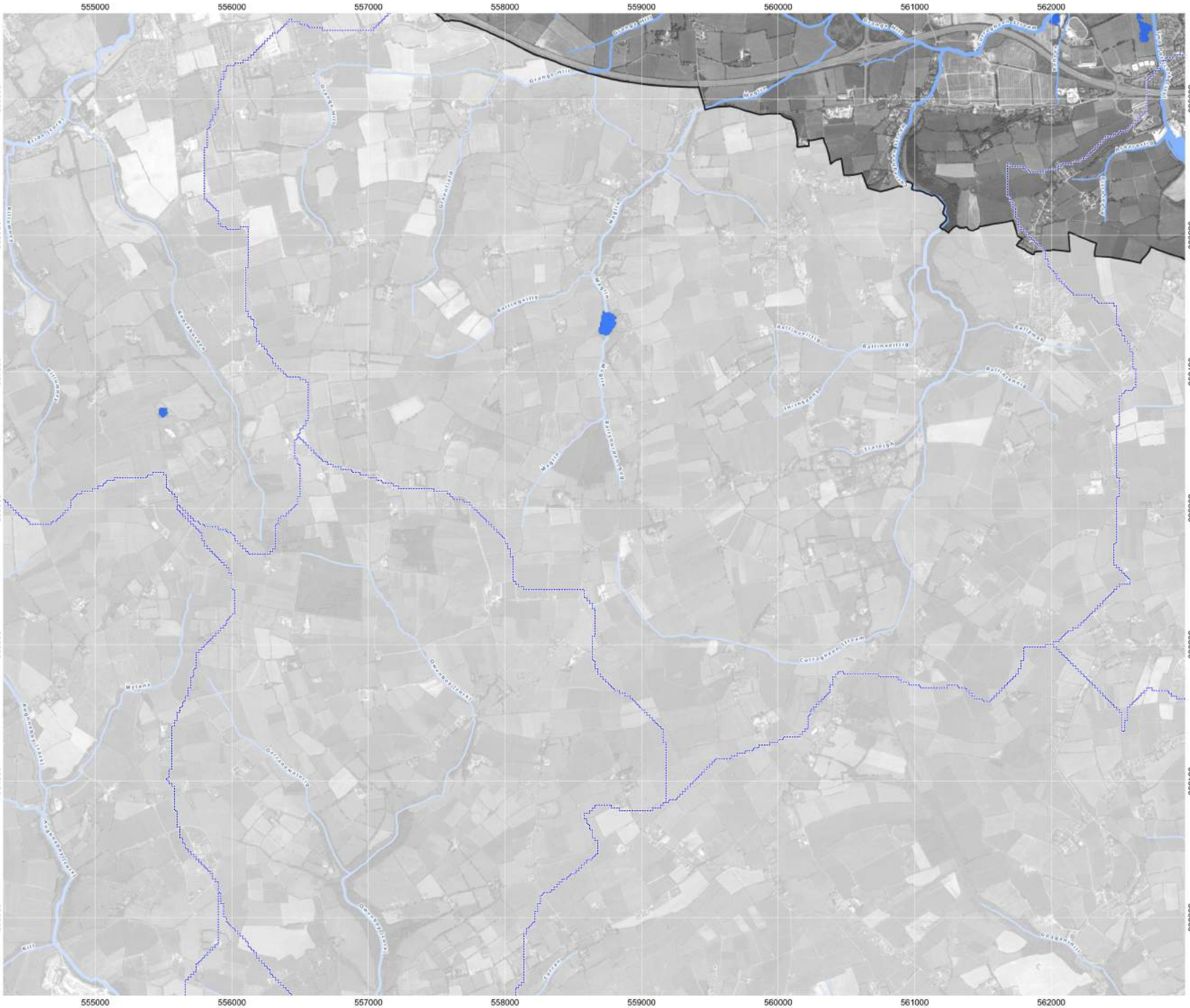
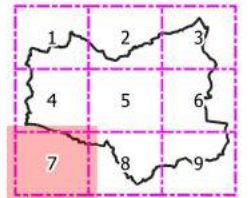


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GSI Historical Flood Data and Groundwater Predictive Modeling



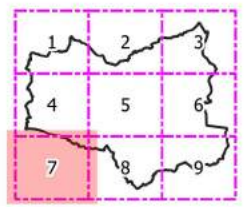
- WFD River Sub-Basins
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- GSI Groundwater Flooding Predictive Model**
- High Probability
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- GSI Historical Flood Data**
- Surface Water Flooding**
- Winter 2015-2016 Surface Water Flooding
- Maximum Historic Groundwater Flooding**
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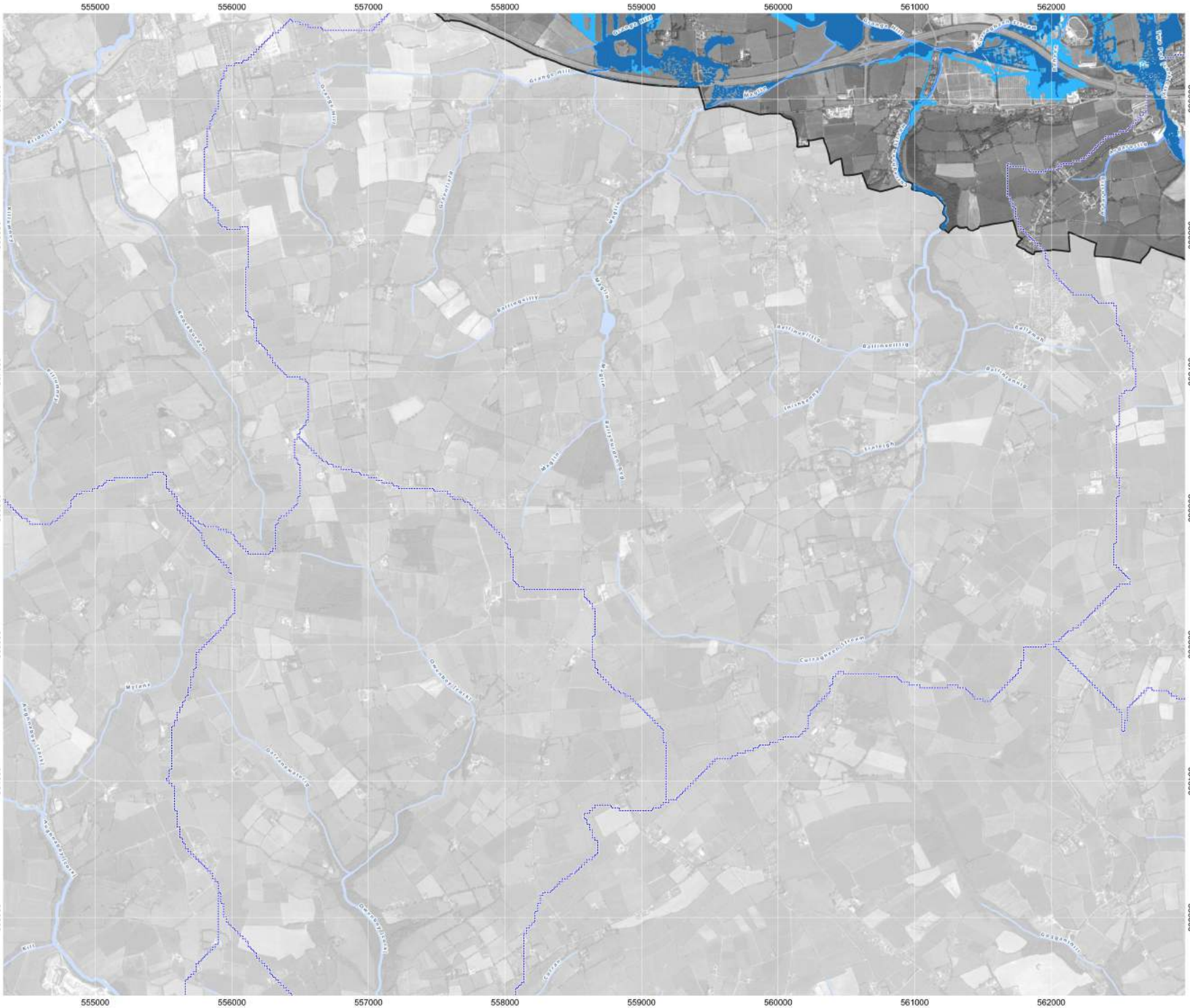
Cork City Development Plan 2022-2028

Indicative Flood Zones



- WFD River Sub-Basins
- Water
- River or Stream
- Flood Zone A
- Flood Zone B

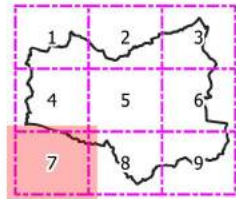
Indicative Flood Zones



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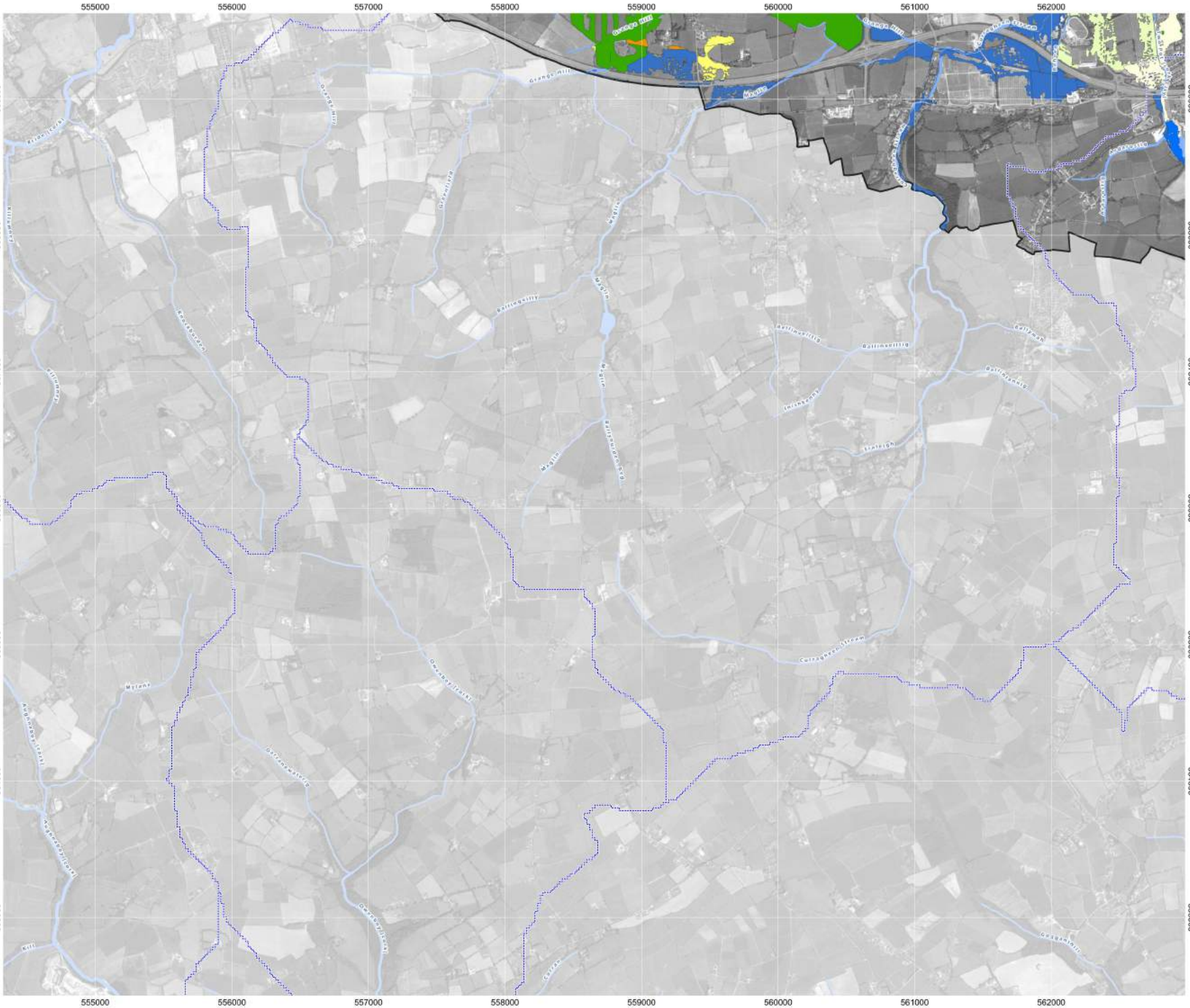
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Land Use Zoning that Intersects
Indicative Flood Zones



WFD River Sub-Basins
Water

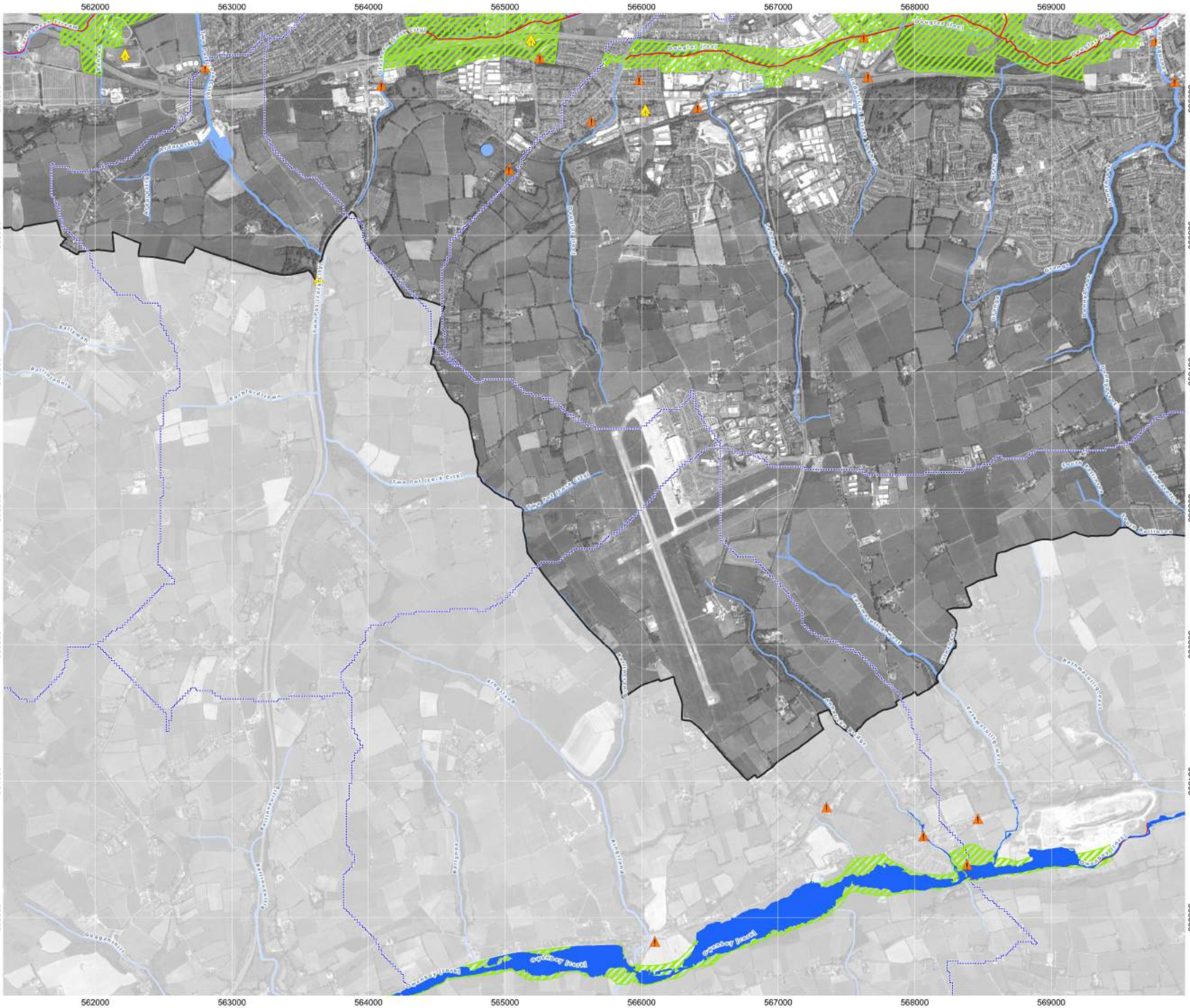
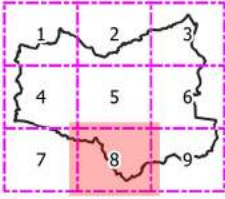
- Land Use Zoning**
- ZO 01 - Sustainable Residential Neighbourhoods
 - ZO 02 - New Residential Neighbourhoods
 - ZO 09 - Light Industry and Related Uses
 - ZO 12 - Education
 - ZO 13 - Institutions and Community
 - ZO 15 - Public Open Space
 - ZO 16 - Sports Grounds and Facilities
 - ZO 20 - Long-term Strategic Regeneration



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OPW Historical Flood Data



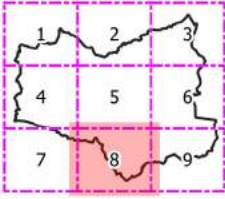
- WFD River Sub-Basins
- Water
- River or Stream
- OPW Past Flood Events**
 - Recurring Flood Event
 - REMOVE FROM LEGEND
 - Past Flood Extent
- Land Commission**
 - Benefited Lands
- Drainage District**
 - Channel
 - Embankment
 - Benefited Lands
- Arterial Drainage Scheme**
 - Channel
 - Embankment
 - Benefited Lands



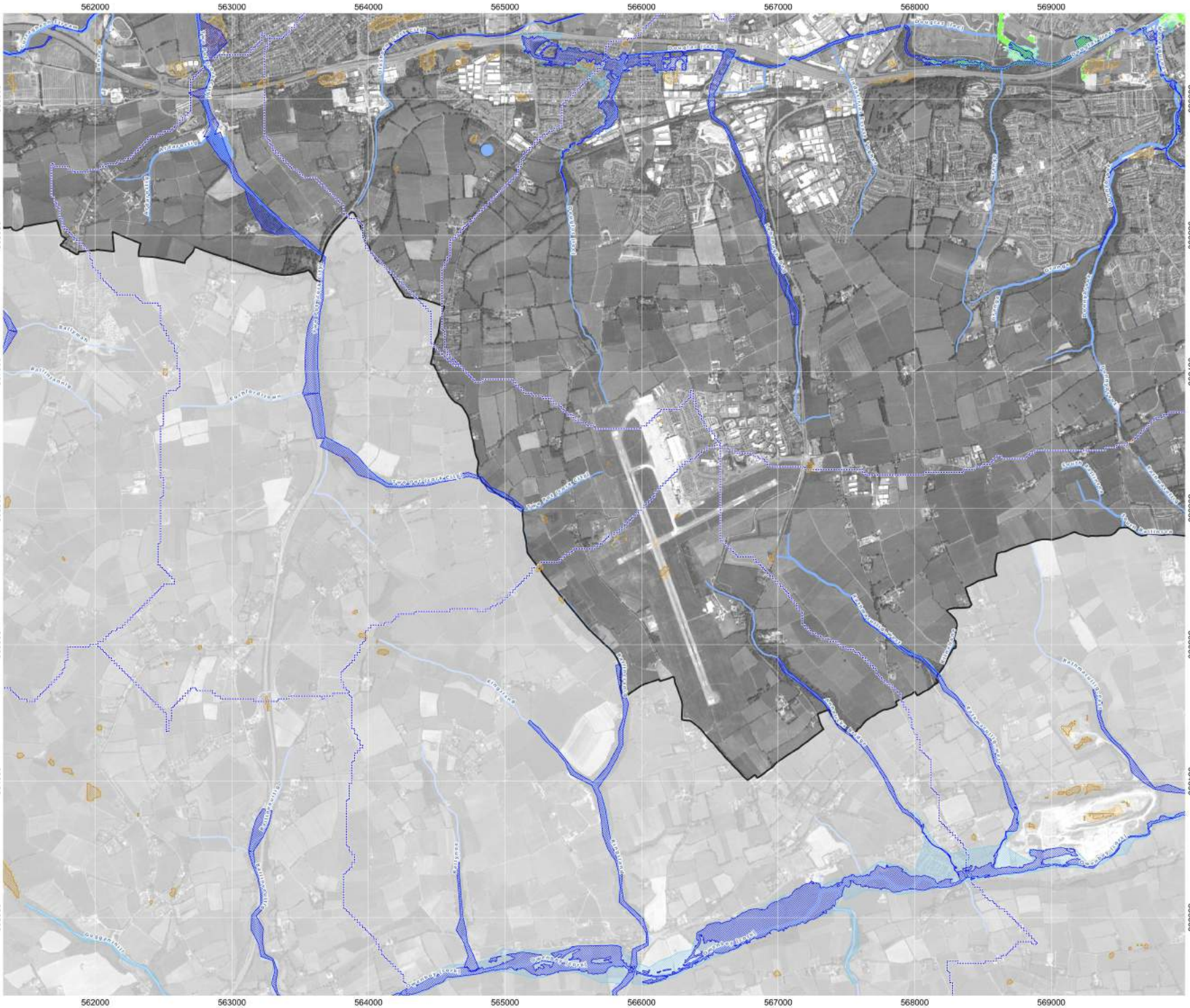
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OPW Preliminary Flood Risk Assessment (PFRA)



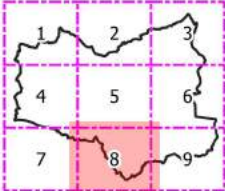
- WFD River Sub-Basins
 - Water
 - River or Stream
- PFRA**
- Fluvial 1% AEP
 - Fluvial 0.1% AEP
 - Pluvial 1% AEP
 - Pluvial 0.1% AEP
 - Coastal 0.5% AEP
 - Coastal 0.1% AEP



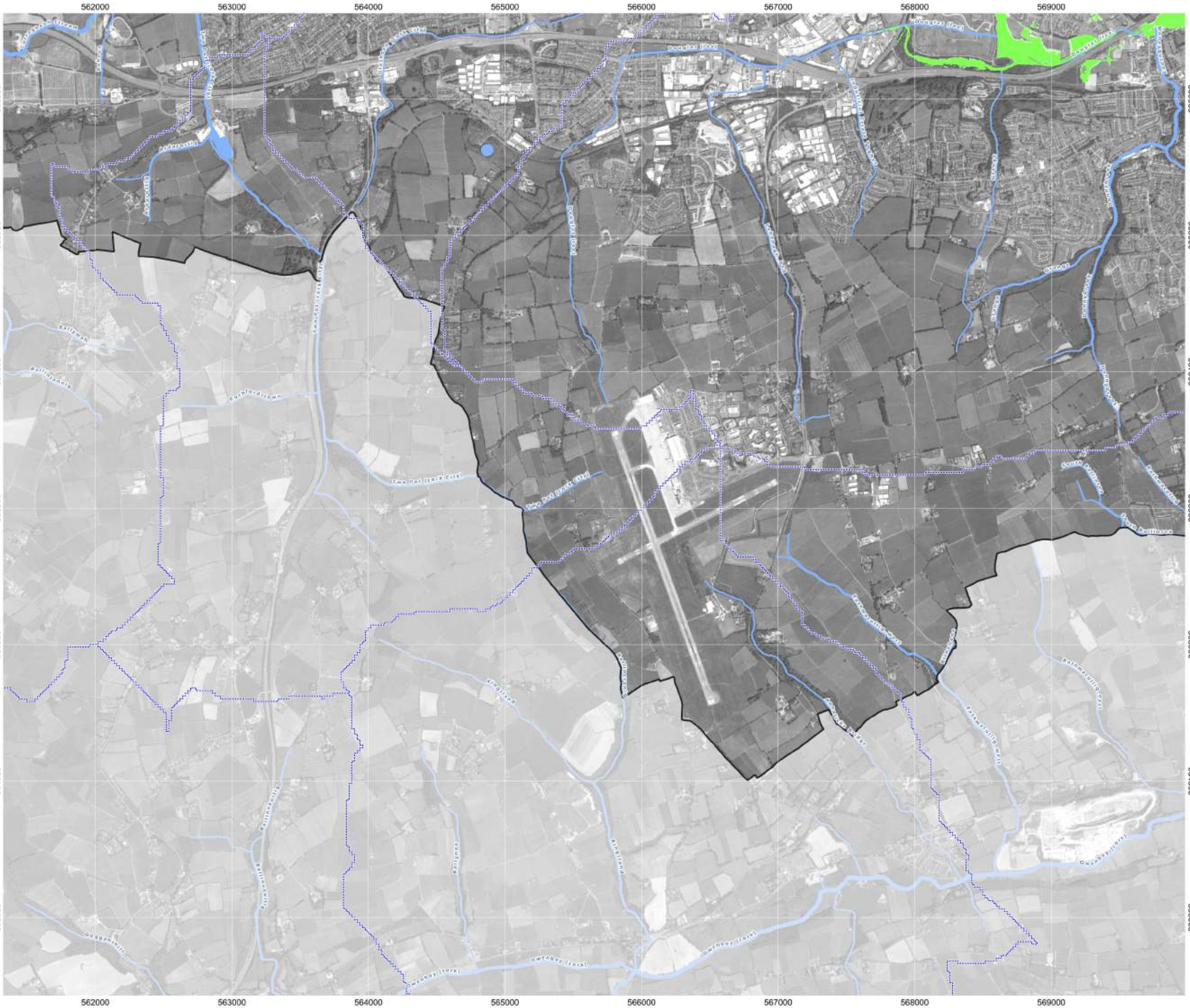
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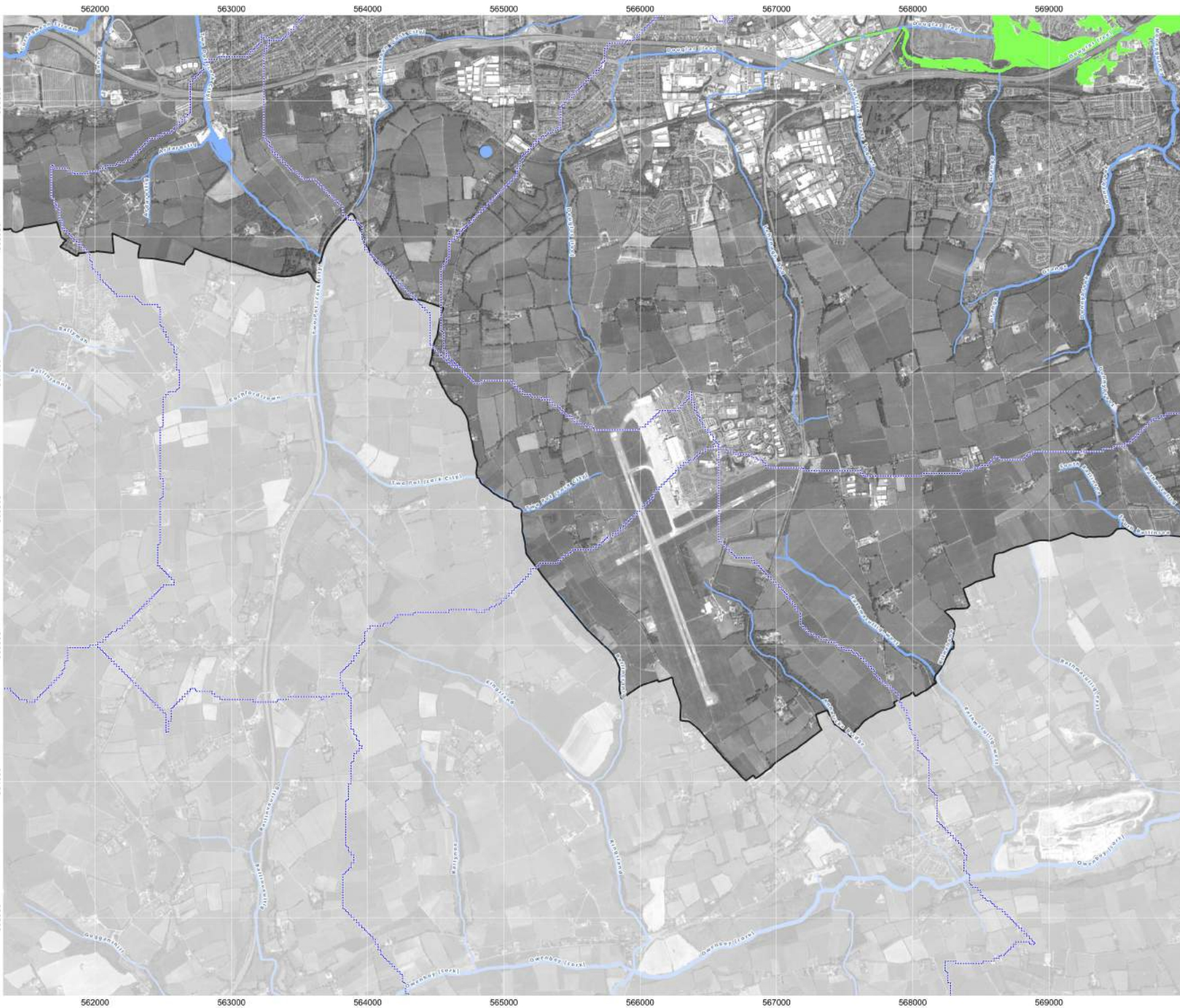
OPW Irish Coastal Protection Strategy Study (ICPSS) Mid-Range Future Scenario



- WFD River Sub-Basins
- Water
- River or Stream
- ICPSS Mid-Range Future Scenario**
- Coastal 0.5% AEP
- Coastal 0.1% AEP

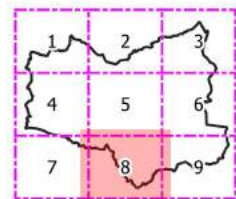


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OPW Irish Coastal
Protection Strategy
Study (ICPSS) High-End
Future Scenario



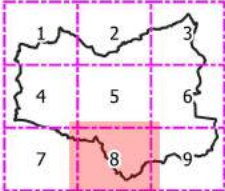
- WFD River Sub-Basins
- Water
- River or Stream
- ICPSS High-End Future Scenario**
- Coastal 0.5% AEP
- Coastal 0.1% AEP



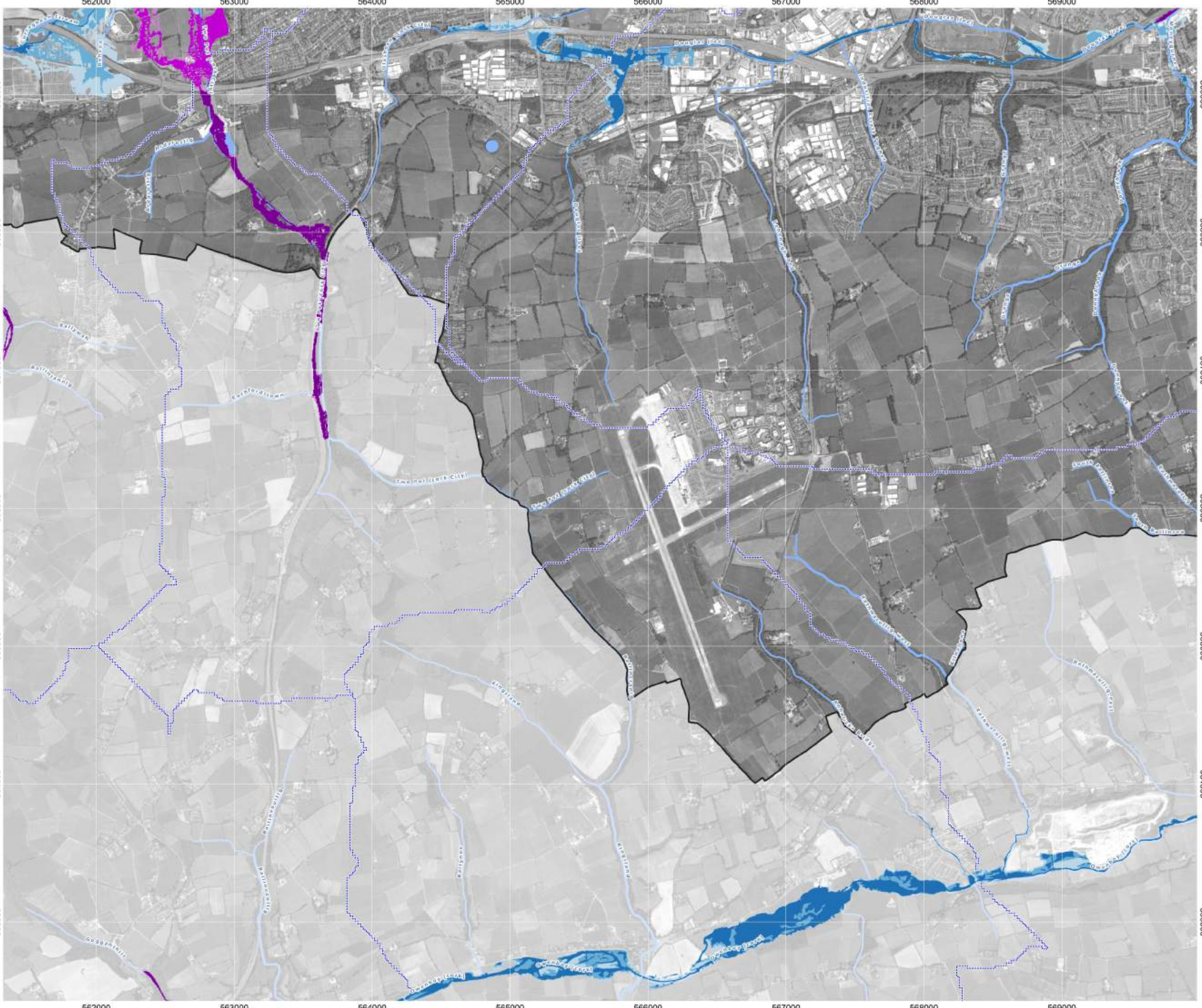
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OPW Catchment Flood Risk Assessment & Management (CFRAM) & National Indicative Fluvial Mapping (NIFM) Present Day



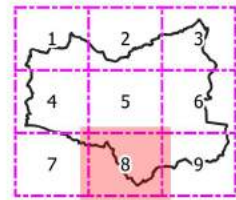
- WFD River Sub-Basins
- Water
- River or Stream
- CFRAM Fluvial Present Day**
 - 10% AEP
 - 1% AEP
 - 0.1% AEP
- CFRAM Coastal Present Day**
 - 10% AEP
 - 0.5% AEP
 - 0.1% AEP
- NIFM Present Day Scenario**
 - 5% AEP
 - 1% AEP
 - 0.1% AEP



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OPW Catchment Flood Risk Assessment & Management (CFRAM) & National Indicative Fluvial Mapping (NIFM) Mid-Range Future Scenario



WFD River Sub-Basins
Water
River or Stream

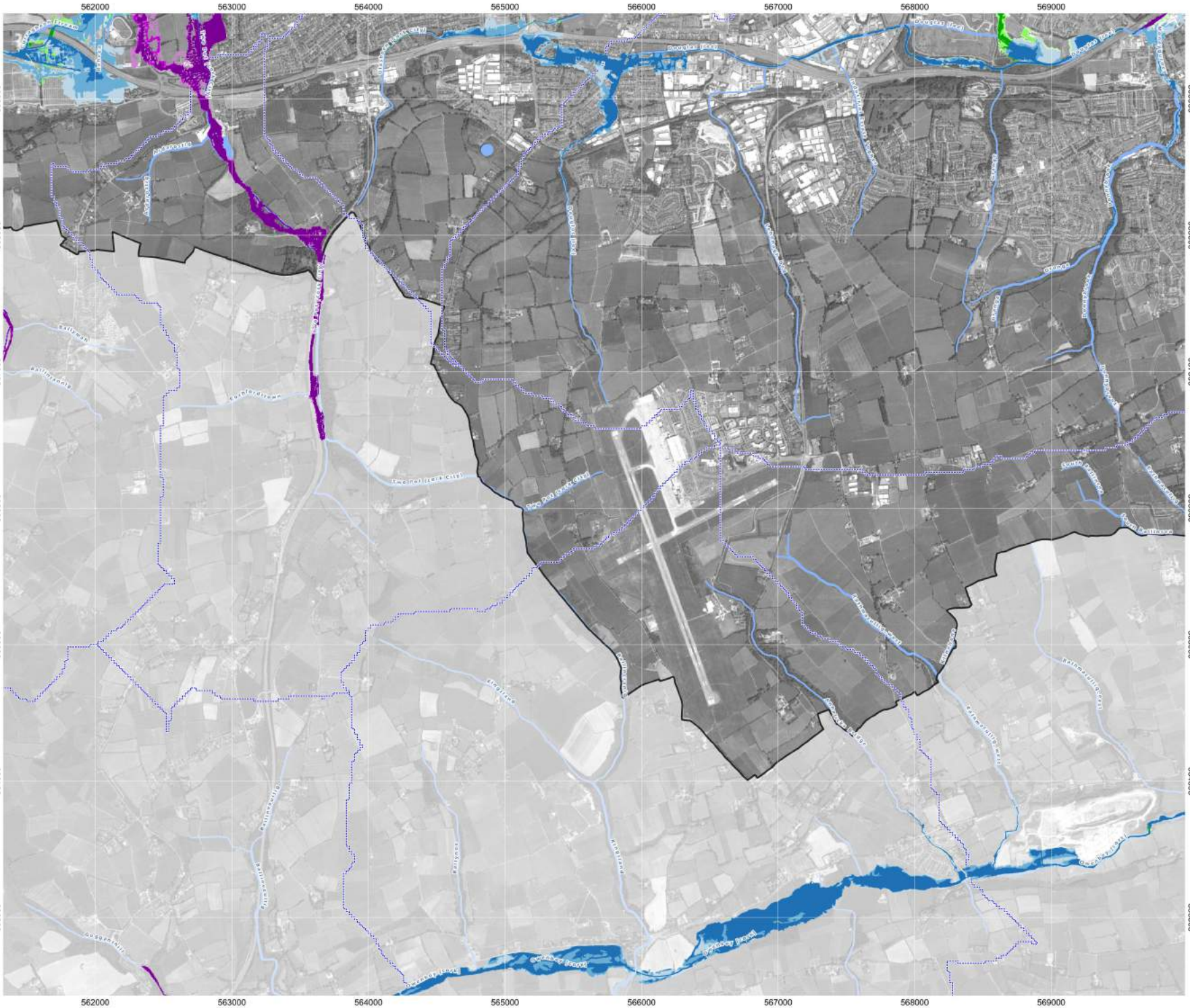
CFRAM Fluvial Mid-Range Future Scenario
10% AEP
1% AEP
0.1% AEP

CFRAM Coastal Mid-Range Future Scenario
10% AEP
0.5% AEP
0.1% AEP

NIFM Mid-Range Future Scenario
5% AEP
1% AEP
0.1% AEP

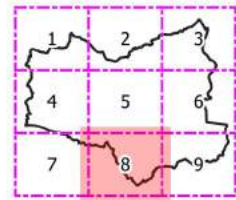


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OPW Catchment Flood Risk Assessment & Management (CFRAM) & National Indicative Fluvial Mapping (NIFM) High-End Future Scenario



- WFD River Sub-Basins
- Water
- River or Stream

CFRAM Fluvial High-End Future Scenario*

- 10% AEP
- 1% AEP
- 0.1% AEP

CFRAM Coastal High-End Future Scenario*

- 10% AEP
- 0.5% AEP
- 0.1% AEP

NIFM High-End Future Scenario

- 5% AEP
- 1% AEP
- 0.1% AEP

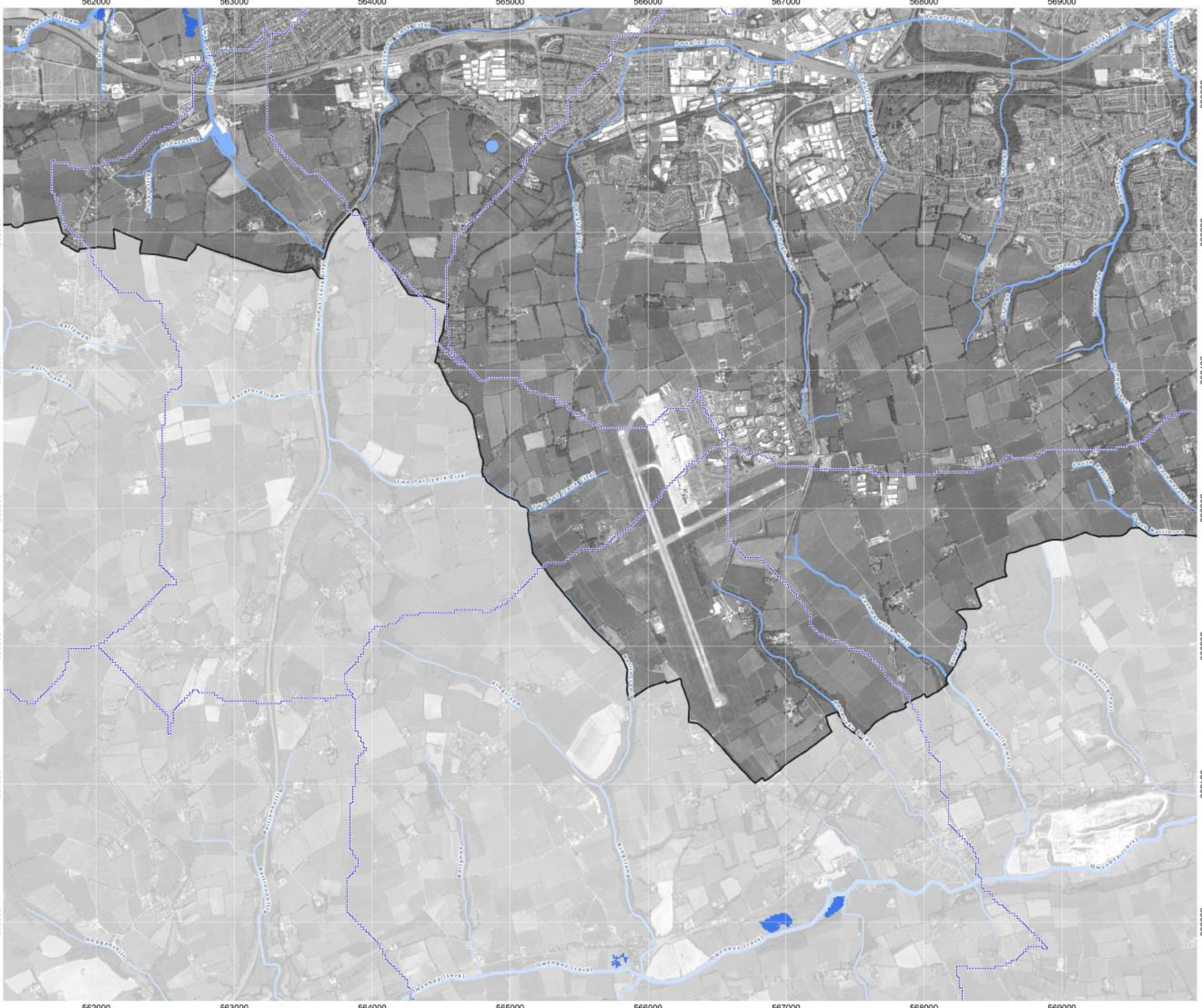
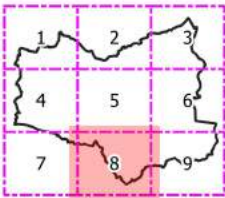


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* CFRAM - only 'Present Day' and 'Mid-Range Future' scenarios are available for the study area.

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GSI Historical Flood Data
and Groundwater
Predictive Modeling



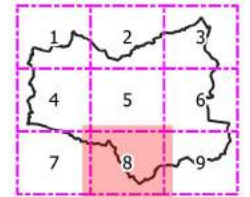
- WFD River Sub-Basins
- Water
- River or Stream
- GSI Groundwater Flooding Predictive Model**
 - High Probability
 - Medium Probability
 - Low Probability
- GSI Historical Flood Data**
 - Surface Water Flooding**
 - Winter 2015-2016 Surface Water Flooding
 - Maximum Historic Groundwater Flooding**
 - Groundwater
 - Groundwater/Surface water



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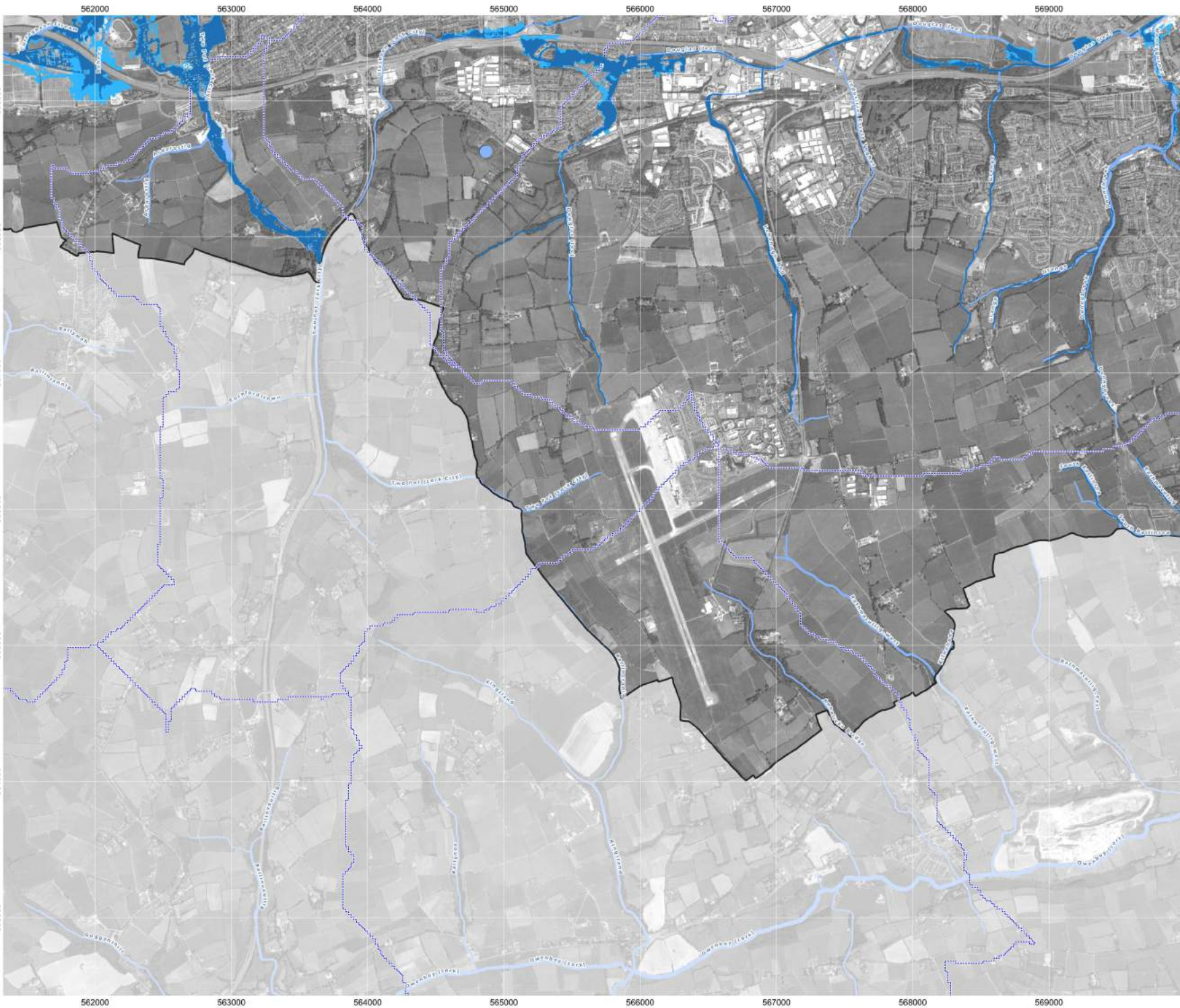
Indicative Flood Zones



- WFD River Sub-Basins
- Water
- River or Stream

Indicative Flood Zones

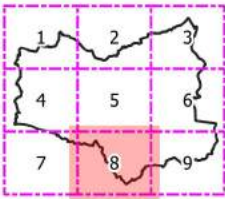
- Flood Zone A
- Flood Zone B



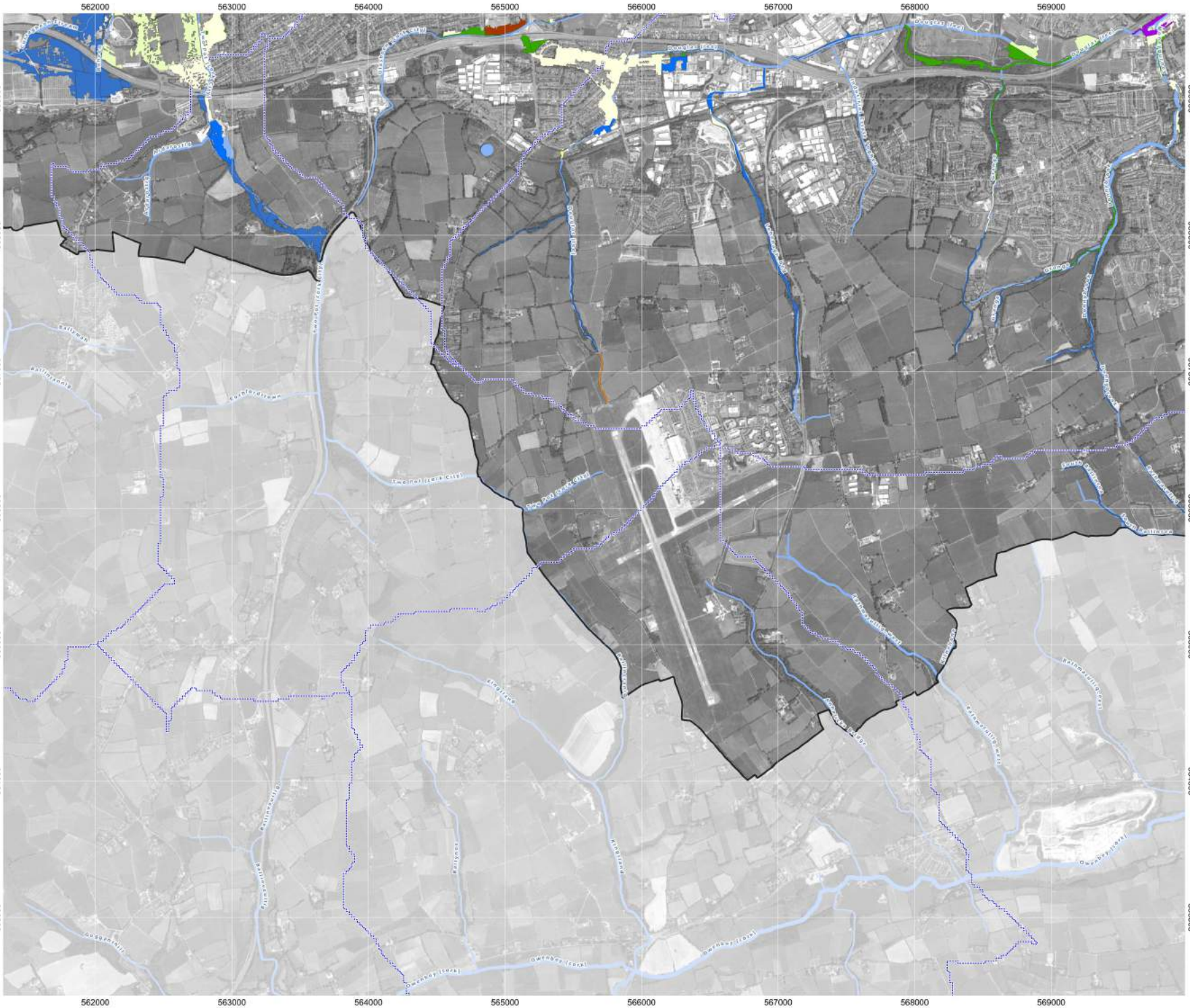
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Land Use Zoning that Intersects Indicative Flood Zones



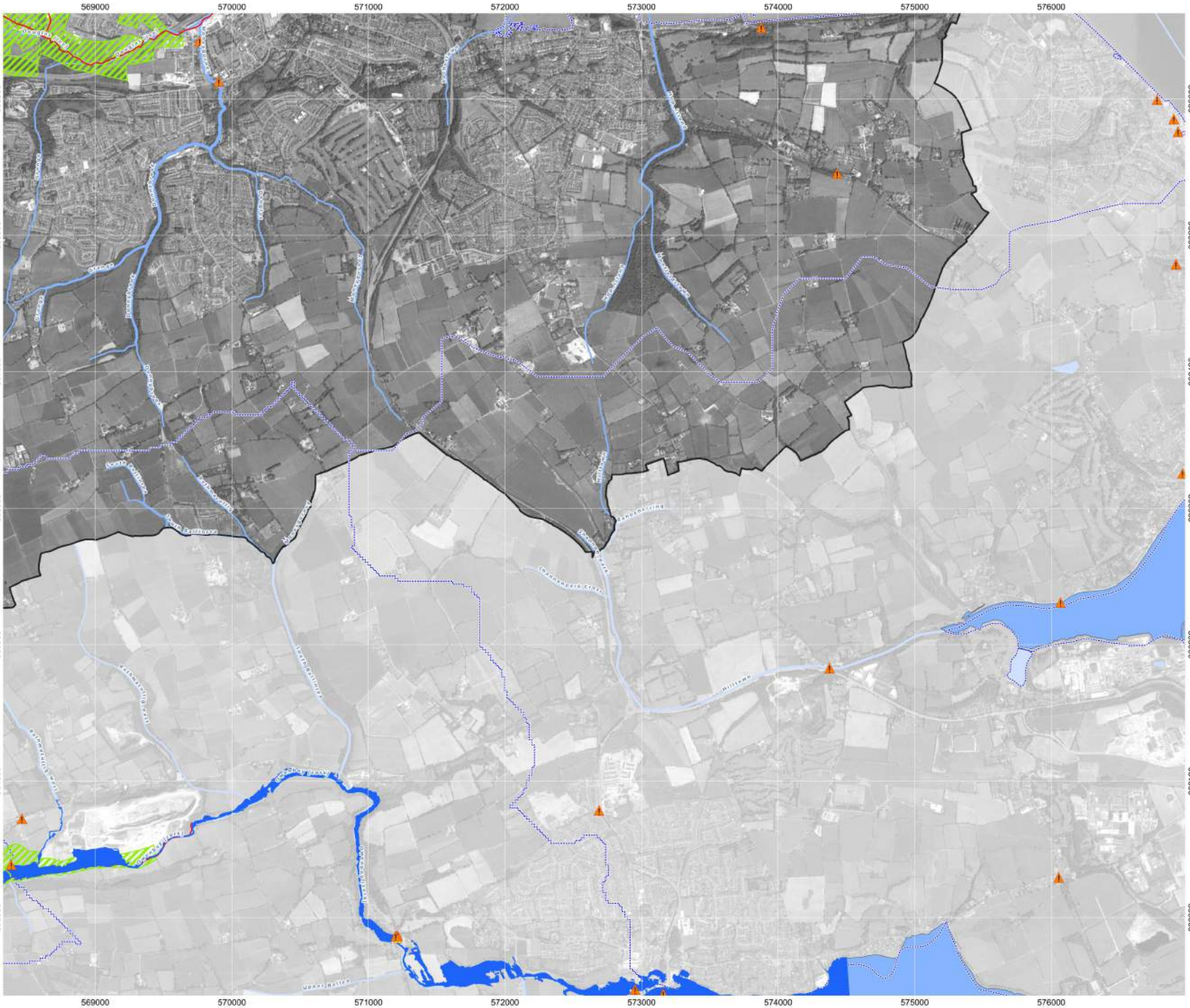
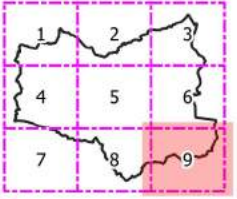
- WFD River Sub-Basins
 - Water
- Land Use Zoning**
- ZO 01 - Sustainable Residential Neighbourhoods
 - ZO 02 - New Residential Neighbourhoods
 - ZO 07 - District Centre
 - ZO 09 - Light Industry and Related Uses
 - ZO 13 - Institutions and Community
 - ZO 14 - Public Infrastructure and utilities
 - ZO 15 - Public Open Space
 - ZO 16 - Sports Grounds and Facilities
 - ZO 20 - Long-term Strategic Regeneration
 - ZO 21 - Cork Airport Infrastructure



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OPW Historical Flood Data



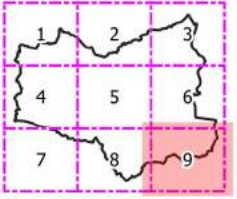
- WFD River Sub-Basins
- Water
- River or Stream
- Recurring Flood Event
- REMOVE FROM LEGEND
- Past Flood Extent
- Land Commission**
- Benefited Lands
- Drainage District**
- Channel
- Embankment
- Benefited Lands
- Arterial Drainage Scheme**
- Channel
- Embankment
- Benefited Lands



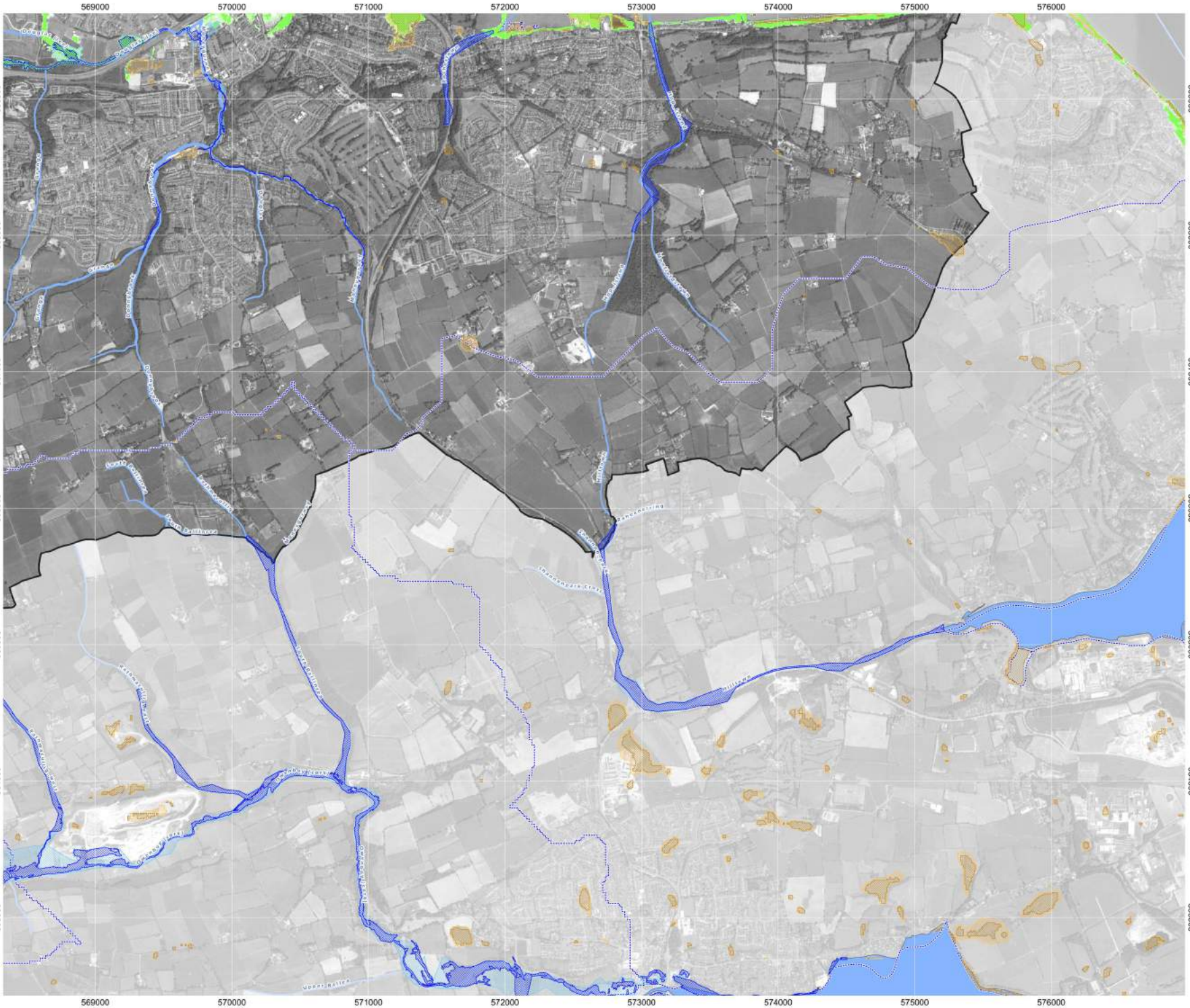
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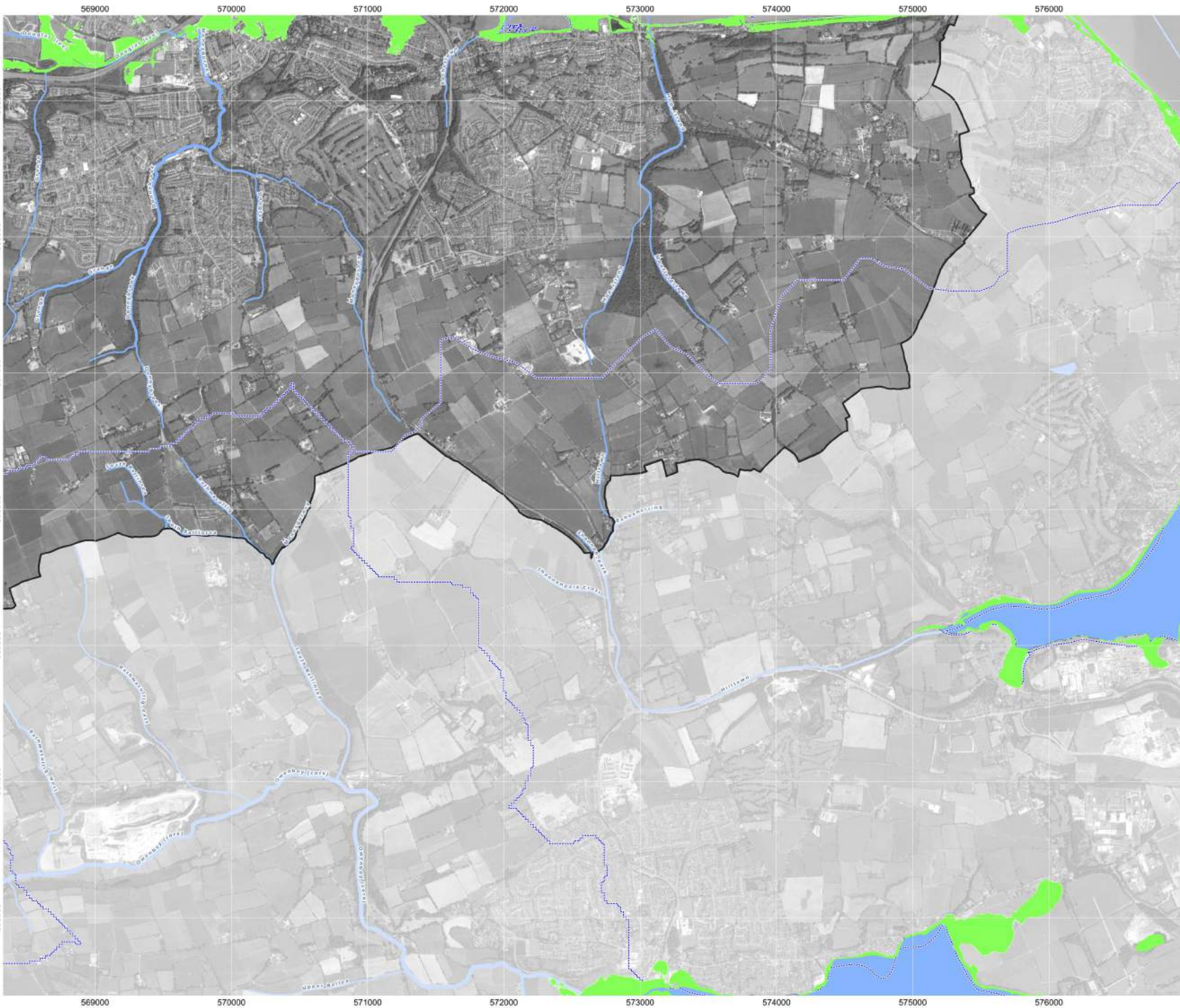
OPW Preliminary Flood Risk Assessment (PFRA)



- WFD River Sub-Basins
 - Water
 - River or Stream
- PFRA**
- Fluvial 1% AEP
 - Fluvial 0.1% AEP
 - Pluvial 1% AEP
 - Pluvial 0.1% AEP
 - Coastal 0.5% AEP
 - Coastal 0.1% AEP

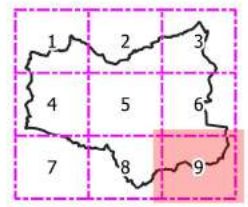


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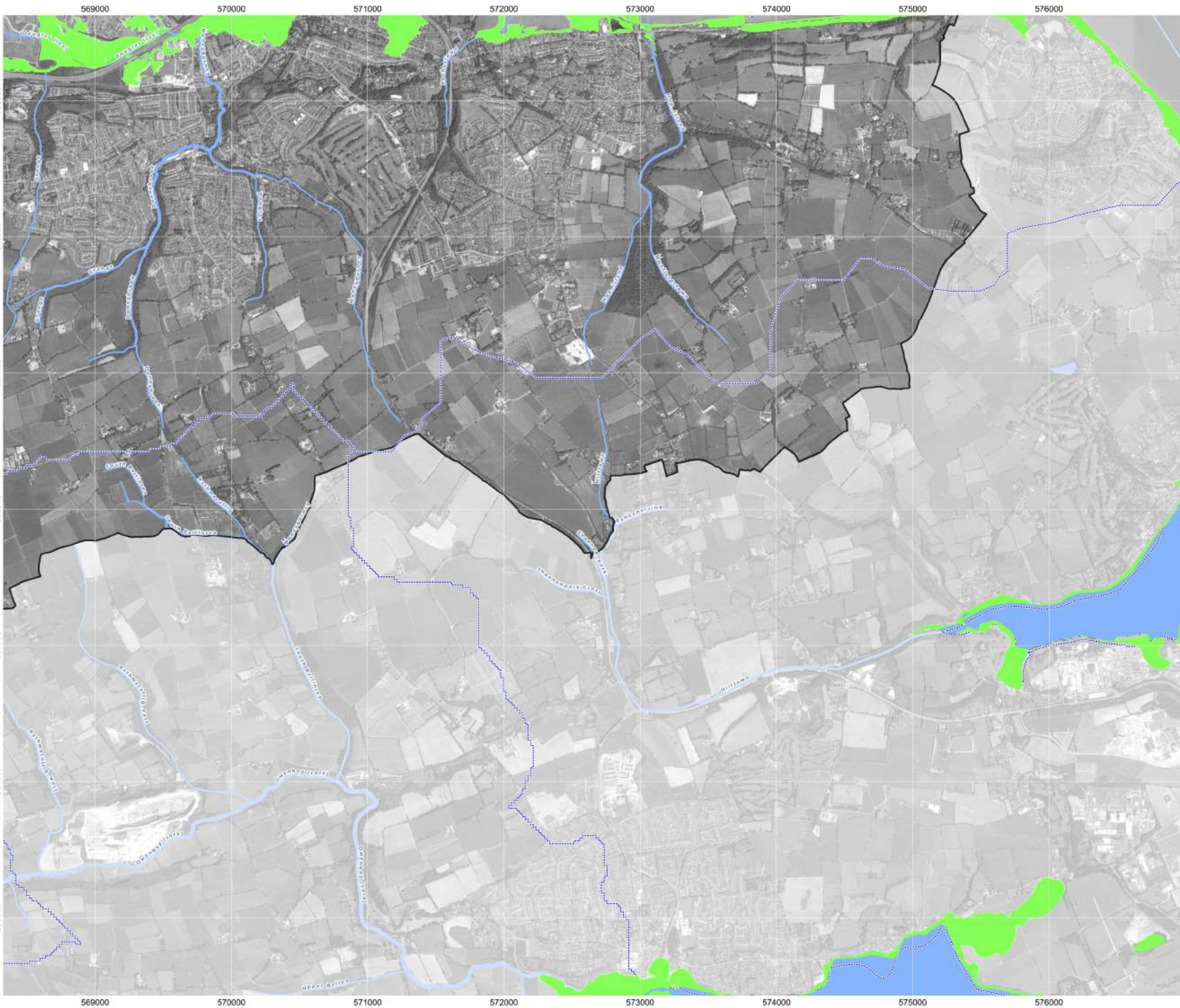
OPW Irish Coastal
Protection Strategy
Study (ICPSS) Mid-Range
Future Scenario



- WFD River Sub-Basins
- Water
- River or Stream
- Coastal 0.5% AEP
- Coastal 0.1% AEP

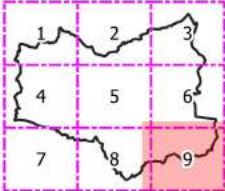


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OPW Irish Coastal
Protection Strategy
Study (ICPSS) High-End
Future Scenario



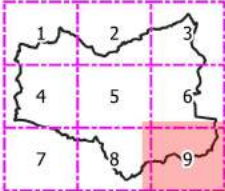
- WFD River Sub-Basins
- Water
- River or Stream
- Coastal 0.5% AEP
- Coastal 0.1% AEP



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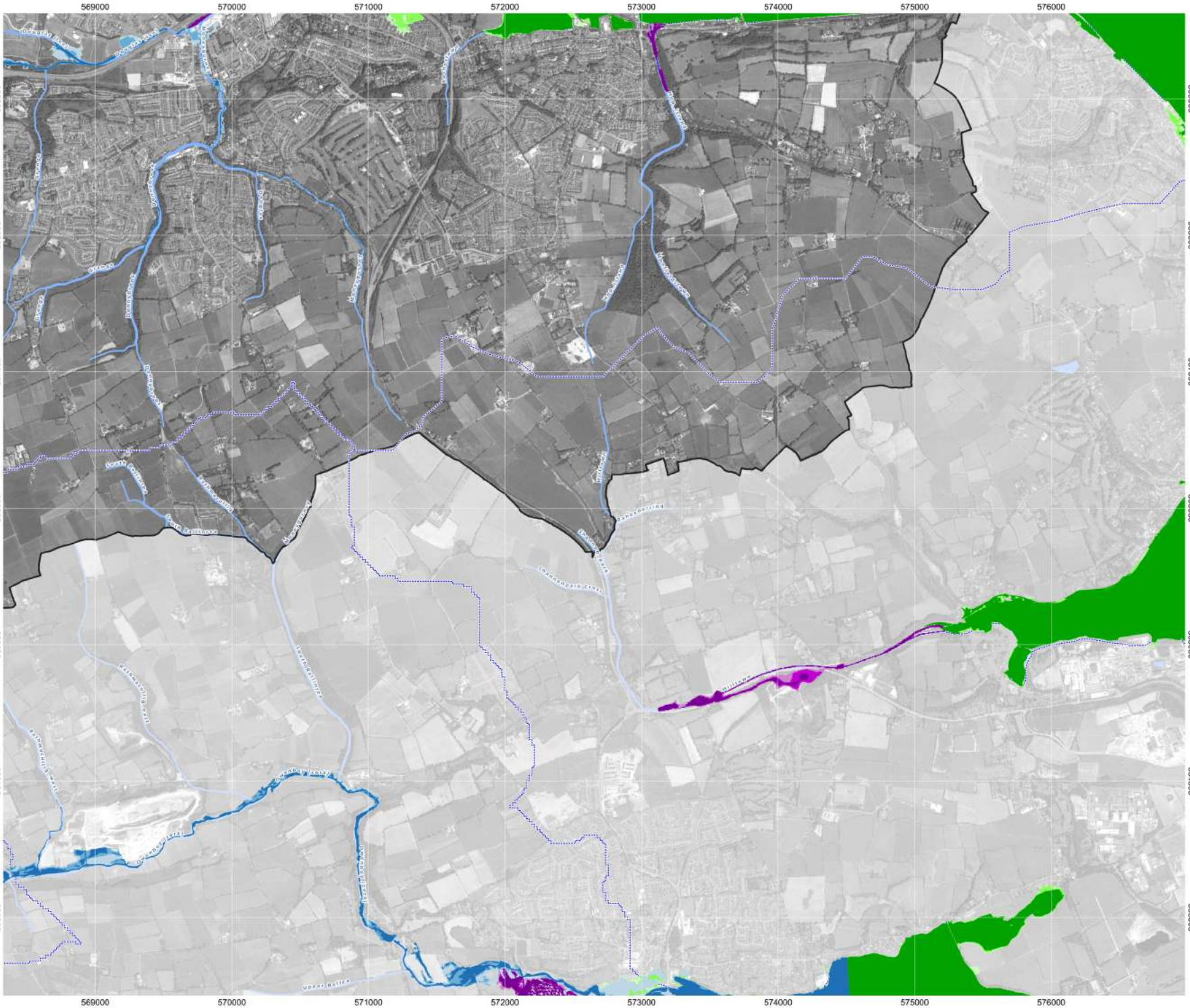
OPW Catchment Flood Risk Assessment & Management (CFRAM) & National Indicative Fluvial Mapping (NIFM) Present Day



- WFD River Sub-Basins
- Water
- River or Stream
- CFRAM Fluvial Present Day**
 - 10% AEP
 - 1% AEP
 - 0.1% AEP
- CFRAM Coastal Present Day**
 - 10% AEP
 - 0.5% AEP
 - 0.1% AEP
- NIFM Present Day Scenario**
 - 5% AEP
 - 1% AEP
 - 0.1% AEP

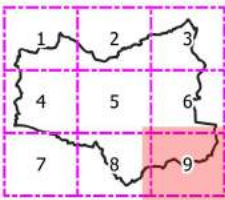


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OPW Catchment Flood Risk Assessment & Management (CFRAM) & National Indicative Fluvial Mapping (NIFM) Mid-Range Future Scenario



- WFD River Sub-Basins
- Water
- River or Stream

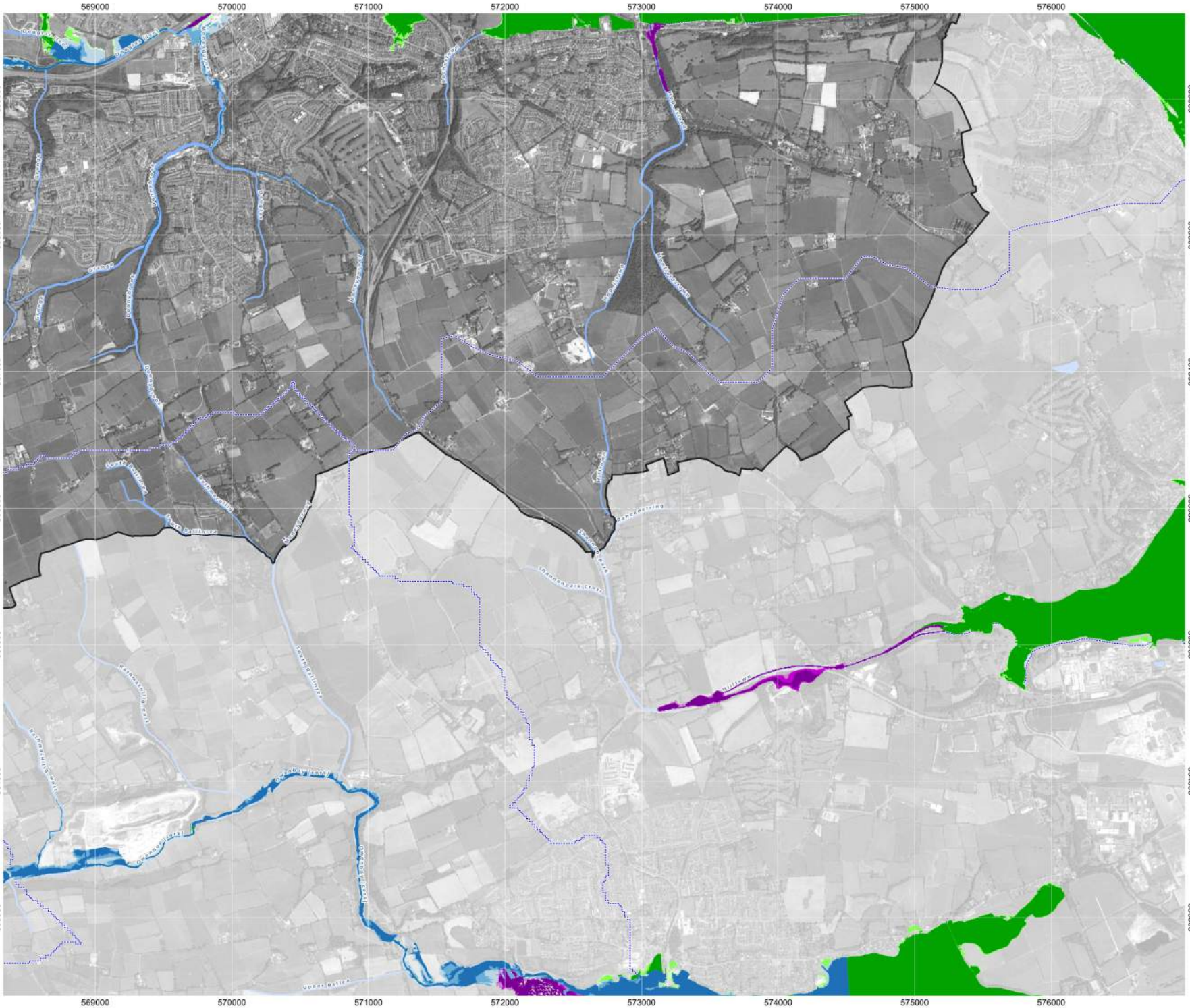
- CFRAM Fluvial Mid-Range Future Scenario**
- 10% AEP
 - 1% AEP
 - 0.1% AEP

- CFRAM Coastal Mid-Range Future Scenario**
- 10% AEP
 - 0.5% AEP
 - 0.1% AEP

- NIFM Mid-Range Future Scenario**
- 5% AEP
 - 1% AEP
 - 0.1% AEP

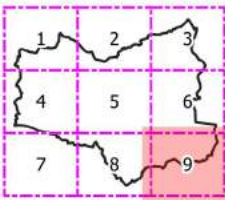


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OPW Catchment Flood Risk Assessment & Management (CFRAM) & National Indicative Fluvial Mapping (NIFM) High-End Future Scenario



- WFD River Sub-Basins
- Water
- River or Stream

- CFRAM Fluvial High-End Future Scenario***
- 10% AEP
 - 1% AEP
 - 0.1% AEP

- CFRAM Coastal High-End Future Scenario***
- 10% AEP
 - 0.5% AEP
 - 0.1% AEP

- NIFM High-End Future Scenario**
- 5% AEP
 - 1% AEP
 - 0.1% AEP

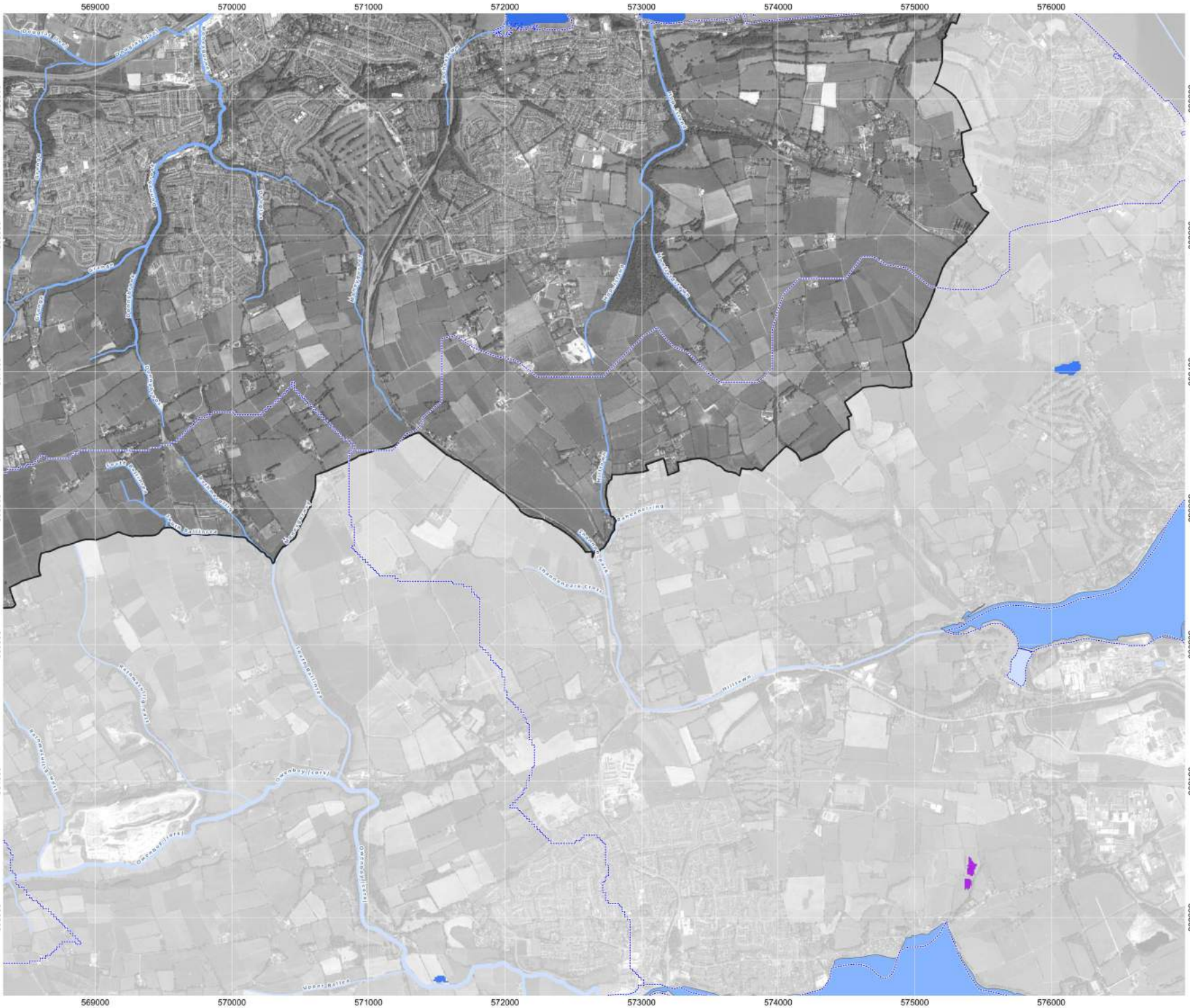
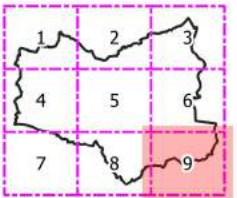


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*CFRAM - only 'Present Day' and 'Mid-Range Future' scenarios are available for the study area.

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GSI Historical Flood Data and Groundwater Predictive Modeling



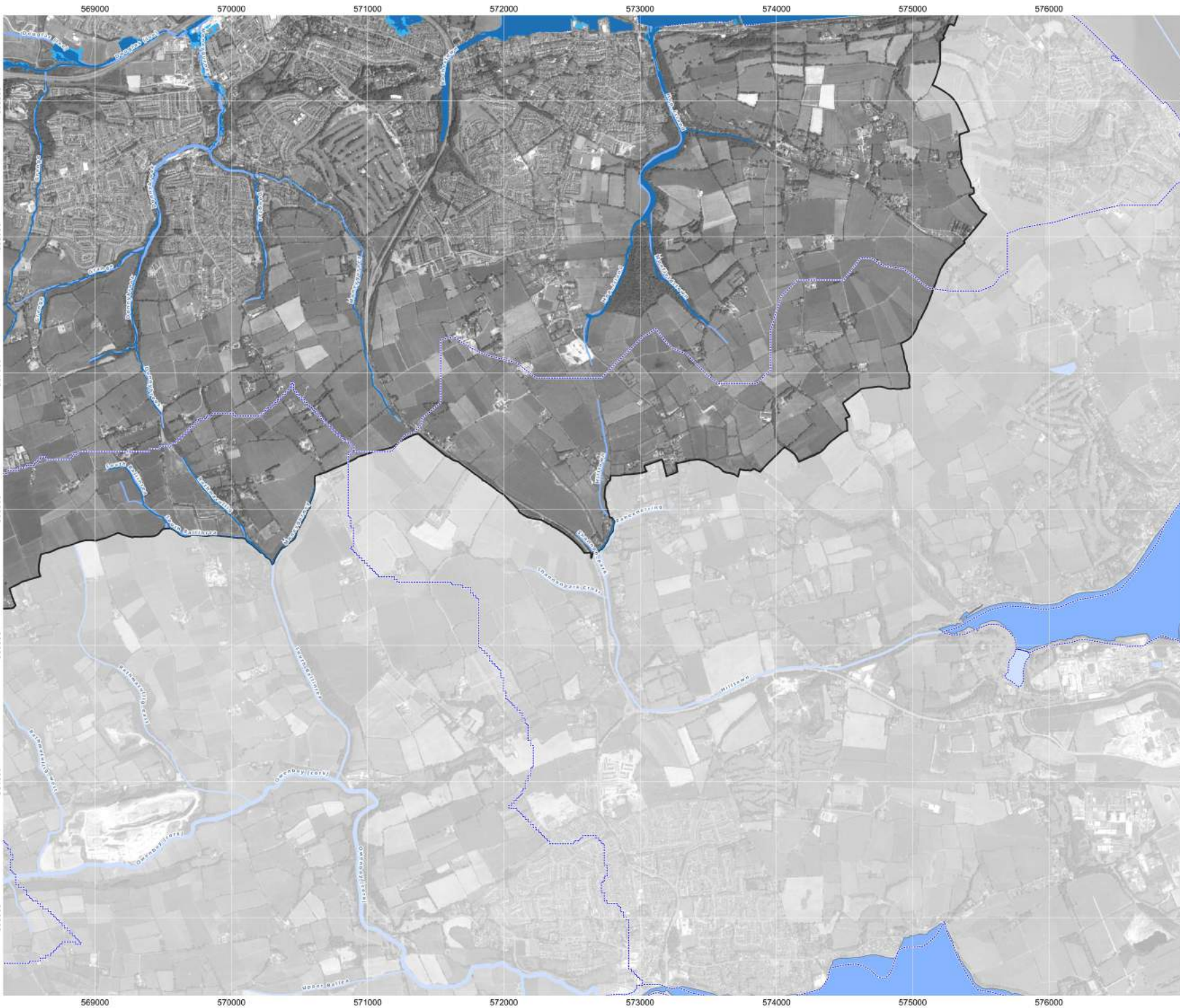
- WFD River Sub-Basins
- Water
- River or Stream

- ### GSI Groundwater Flooding Predictive Model
- High Probability
 - Medium Probability
 - Low Probability

- ### GSI Historical Flood Data
- Surface Water Flooding**
- Winter 2015-2016 Surface Water Flooding
- Maximum Historic Groundwater Flooding**
- Groundwater
 - Groundwater/Surface water

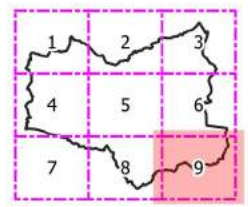


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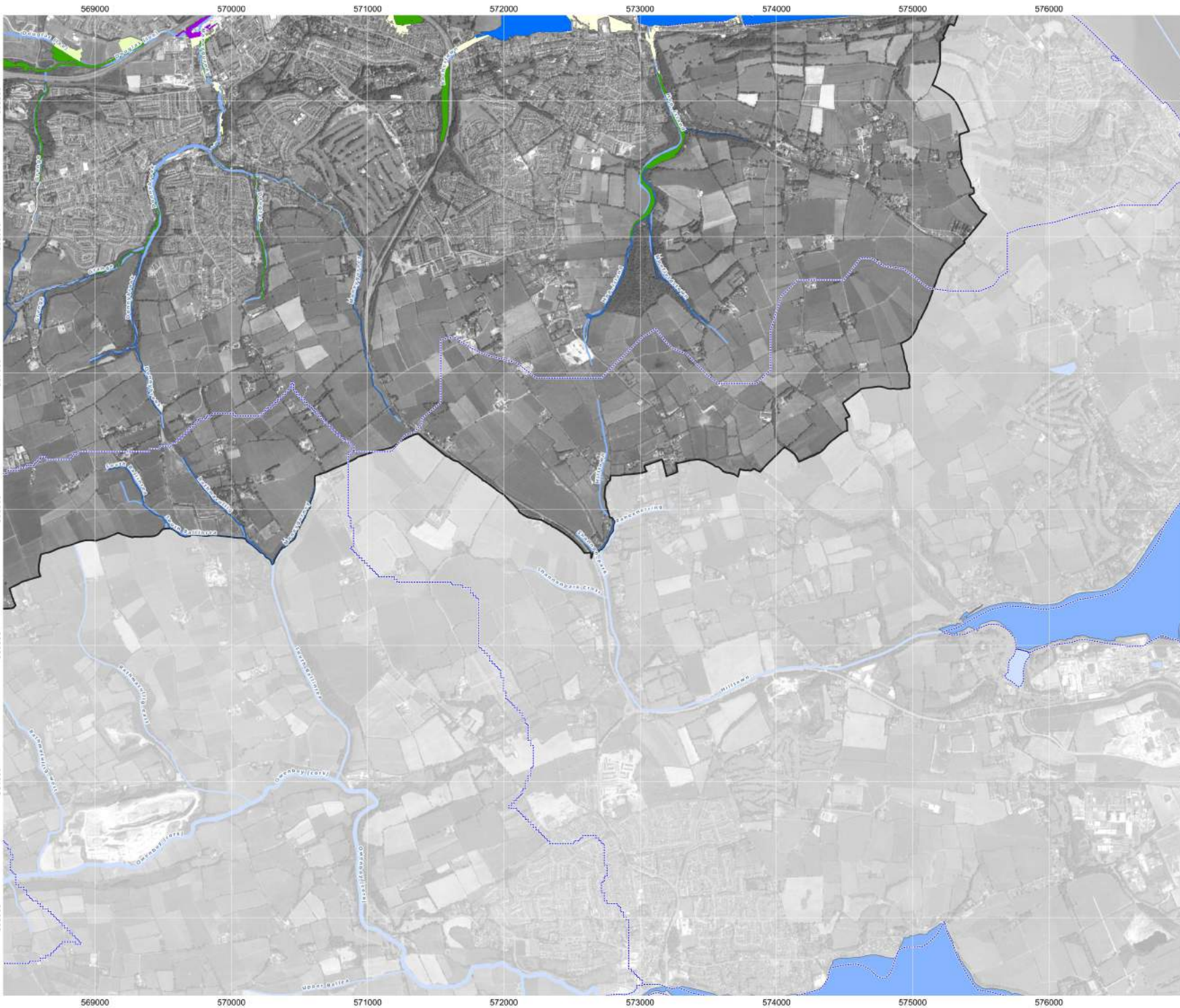
Indicative Flood Zones



- WFD River Sub-Basins
- Water
- River or Stream
- Indicative Flood Zones**
- Flood Zone A
- Flood Zone B

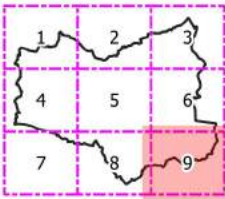


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Land Use Zoning that Intersects
Indicative Flood Zones



- WFD River Sub-Basins
 - Water
- Land Use Zoning**
- ZO 01 - Sustainable Residential Neighbourhoods
 - ZO 02 - New Residential Neighbourhoods
 - ZO 07 - District Centre
 - ZO 12 - Education
 - ZO 15 - Public Open Space
 - ZO 16 - Sports Grounds and Facilities
 - ZO 19 - Rivers and Water Bodies Protection
 - ZO 20 - Long-term Strategic Regeneration



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