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SEA Environmental Report  
Westerhill Regeneration Area

January 2023

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## Table of Contents

<b>1. Introduction .....</b>	<b>3</b>
1.1. Background.....	3
1.2. Strategic Environmental Assessment (SEA) .....	4
1.3. Purpose of the Environmental Report.....	4
<b>2. Key Facts .....</b>	<b>5</b>
<b>3. Strategic Action Context .....</b>	<b>7</b>
3.1. City Deals Context .....	7
3.2. Relationship with Plans, Programmes and other Strategies .....	7
<b>4. Methodology .....</b>	<b>8</b>
4.1. Introduction .....	8
4.2. What is SEA? .....	8
4.3. SEA Objectives for the WRA Masterplan .....	8
4.4. SEA Activity to Date.....	8
4.5. Integration of an Ecosystems Approach .....	9
4.6. Environmental Topics .....	10
4.7. Baseline .....	11
4.8. Environmental Assessment .....	16
4.9. Individual Variations.....	19
4.10. The Next Steps .....	19
<b>5. Baseline Environmental Data.....</b>	<b>20</b>
5.1. Introduction .....	20
5.2. Cultural Heritage .....	20
5.3. Biodiversity, Flora & Fauna.....	21
5.4. Soils and Geology .....	21
5.5. Landscape .....	22
5.6. Population and Human Health.....	23
5.7. Waste and Material Assets .....	31
5.8. Energy.....	31
5.9. Water Environment .....	32
5.10. Air Quality .....	32
5.11. Climate .....	35
5.12. Noise and Vibration.....	37
5.13. Key Baseline Receptors.....	37
5.14. Ecosystem Services.....	38



<b>6. Masterplan Options.....</b>	<b>40</b>
6.1. Introduction .....	40
6.2. Preferred Vision, Principles and Placemaking Objectives.....	40
6.3. Key References .....	42
6.4. Proposed Options .....	47
6.5. Individual Variations.....	48
<b>7. Preferred WRA Masterplan Option.....</b>	<b>51</b>
<b>8. Individual Variations Assessment.....</b>	<b>53</b>
8.1. Introduction .....	53
8.2. Harper Collins .....	53
8.3. Taylor Wimpey Housing Development .....	54
8.4. Stanley Drive Affordable Housing.....	55
<b>9. Cumulative Effects Assessment .....</b>	<b>56</b>
9.1. Introduction .....	56
9.2. Other Developments.....	56
9.3. Cumulative Assessment .....	57
<b>10. Adaptation.....</b>	<b>59</b>
<b>11. Compatibility Assessment .....</b>	<b>61</b>
<b>12. Recommendations .....</b>	<b>71</b>
<b>13. Other Considerations .....</b>	<b>75</b>
13.1. Equality .....	75
13.2. Child Rights.....	75
<b>14. Monitoring.....</b>	<b>77</b>
<b>15. Statutory Consultation and SEA Timetable.....</b>	<b>78</b>
15.1. Statutory Consultation.....	78
15.2. Post adoption statement .....	78
15.3. Ongoing consultation and Public consultation.....	78
15.4. SEA Timetable .....	78
<b>Appendix A: Proposed SEA Objectives, Assessment Questions and Indicators .....</b>	<b>80</b>
<b>Appendix B: Preliminary Appraisal of all Spatial Options .....</b>	<b>84</b>
<b>Appendix C: Initial List of the International, National and Local Legislative Drivers .....</b>	<b>86</b>
<b>Appendix D: PEA .....</b>	<b>90</b>
<b>Appendix E: PPRA .....</b>	<b>91</b>

## 1. Introduction

### 1.1. Background

1.1.1. East Dunbartonshire is set to benefit from a £34.88 million City Deal investment in East Dunbartonshire Council's City Deal Place and Growth Programme. The programme, which aims to boost the East Dunbartonshire economy, links to the wider city region across three projects:

- The Westerhill Regeneration Area (WRA) Masterplan (including The Westerhill Development Road (WDR))
- A803 Corridor Improvements
- Bishopbriggs Town Centre Regeneration.

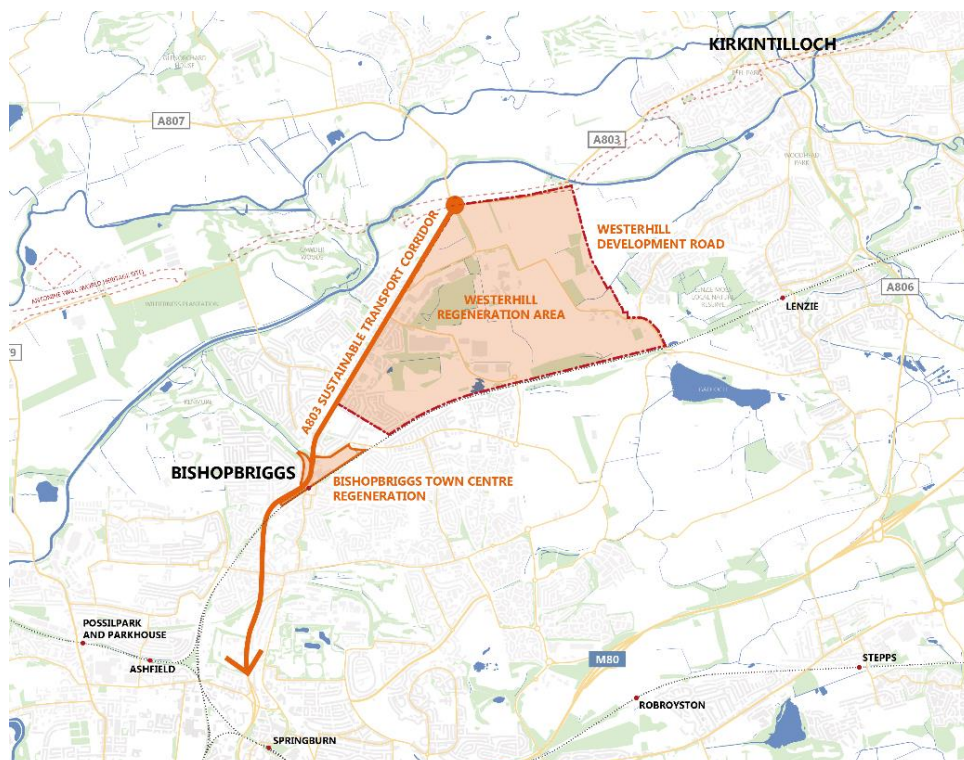
1.1.2. The WRA was identified in the emerging Local Development Plan (2) (3.R) in 2020, (currently under examination). The area is shown in Figure 1.1 and is referred to as 'the Site'.

1.1.3. As part of the SCAPE Framework, Triskelion are providing specialist support to East Dunbartonshire Council, including the WRA Masterplan, which will help to inform the decision-making process at a strategic level.

1.1.4. This Strategic Environmental Assessment (SEA) has been undertaken to understand the potential environmental effects of the WRA Masterplan. This SEA Environmental Report documents the findings of this assessment and sets out the proposed next steps as the WRA Masterplan is developed.

1.1.5. The aim of this SEA is to better inform decision makers to improve the design / layout and interconnectivity of a proposed development. Consequently, this helps to frame the type of development and growth in the area.

Figure 1.1: Map Showing Westerhill Regeneration Area (site) with other City Deal projects



Westerhill Masterplan, Project Vision and Spatial Options Report (March, 2022)



## **1.2. Strategic Environmental Assessment (SEA)**

- 1.2.1. SEA is a means for public bodies to judge the likely impact of a plans, programmes and strategies (PPS) on the environment and to seek ways to minimise significant adverse effects and enhance potential benefits.
- 1.2.2. Under the Environmental Assessment (Scotland) Act 2005 (hereafter known as 'the Act'), East Dunbartonshire Council are required to undertake a SEA of the WRA Masterplan, as was concluded in the SEA Scoping Report.
- 1.2.3. A SEA seeks to identify potentially significant environmental effects at an early stage in the development of the PPS. Furthermore, it informs key decision makers at the earliest possible stage, in turn helping to design and implement focused and bespoke PPS.
- 1.2.4. Further to the identification of potentially significant environmental effects, a SEA seeks to highlight possible opportunities for enhancement. This helps to improve the overall effectiveness of the design and implementation of a PPS.
- 1.2.5. The SEA process also enhances the understanding of a plan's effect on the environment for decision-makers, stakeholders and the public, so they are better informed. Reporting requirements improve the transparency of decision making and potentially greater appreciation of the reasoning behind decisions<sup>1</sup>.

## **1.3. Purpose of the Environmental Report**

The principal function of the SEA Environmental Report is to outline the findings from the environmental assessment.

- 1.3.1. The environmental assessment establishes the likely significant (positive and negative) environmental effects of the WRA Masterplan and potential reasonable alternatives.
- 1.3.2. The design process is iterative by nature and evolves with new information and understanding of the environment. The SEA process is a means to inform decision-makers of likely impacts on the environment and to seek ways to minimise adverse effects and promote enhancement opportunities.
- 1.3.3. The Environmental Report is an opportunity to explain the journey of the SEA to date and the intended next steps, including:
  - methodology for establishing baseline and assessment criteria;
  - design interventions;
  - alternatives considered; and
  - consultation
- 1.3.4. This level of detail provides transparency for statutory consultees, stakeholders and the wider public, and gives greater appreciation of the reasoning behind decisions made by East Dunbartonshire Council.

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<sup>1</sup> <https://www.gov.scot/binaries/content/documents/govscot/publications/advice-and-guidance/2013/08/strategic-environmental-assessment-guidance/documents> (Accessed: April 2022)

## 2. Key Facts

Table 2.1: Key Facts relating to the Westerhill Regeneration Area (WRA) Masterplan

<b>Responsible Authority</b>	East Dunbartonshire Council
<b>Title of PPS</b>	WRA Masterplan
<b>Purpose of PPS</b>	The Strategic Business Case of the WRA Masterplan sets out the need for focused investment in sustainable transport and business infrastructure, alongside co-ordinated investment by the private sector as catalysts for sustainable economic growth within East Dunbartonshire and Glasgow City Region
<b>What prompted the PPS</b>	The WRA Masterplan has been prompted by the Glasgow City Region City Deal
<b>Subject</b>	Sustainable economic growth, vacant and derelict land / land use, sustainable travel, public realm, transport and roads.
<b>Period covered by PPS</b>	Inception to completion: 2020 – 2025
<b>Frequency of updates</b>	<ul style="list-style-type: none"> <li>- Glasgow City Region Cabinet: once annually (Feb)</li> <li>- Glasgow City Region &amp; City Deal Committee reporting: twice yearly (April + Sept)</li> <li>- Glasgow City Region, Project Management Office (PMO) reporting: quarterly (Jan, April, July, Oct)</li> <li>- EDC City Deal + Region Project Board: monthly</li> </ul>
<b>Area covered by PPS</b>	The projects focus on the east of East Dunbartonshire, at strategic sites identified in the Local Development Plan around the Bishopbriggs area, as well as focus on the route corridor which links this part of East Dunbartonshire into north Glasgow and the City Centre. This does not exclude people living in other parts of East Dunbartonshire
<b>Summary of nature / Content of the PPS</b>	<p>The Westerhill Masterplan will establish a way forward for the development of the area and is likely to deliver a mix of land uses in order to: regenerate brownfield land; deliver business and employment growth; provide a green network and transport network throughout the site; and link Westerhill to Bishopbriggs Town Centre and Auchinairn. The emerging EDC Local Development Plan 2 outlines the requirements for this masterplan in Policy 3 E Westerhill Regeneration Area and includes the below deliverables:</p> <ul style="list-style-type: none"> <li>• land use zoning;</li> <li>• an Environmental Sustainability Plan;</li> <li>• a Strategic Environmental Assessment and Environmental Report;</li> <li>• key adjacencies and connections;</li> <li>• design criteria;</li> <li>• conceptual layouts, including the routing of the Bishopbriggs Relief Road, Phase 5;</li> <li>• a phasing and implementation schedule; and</li> <li>• report of consultation.</li> </ul>



**Proposed / draft  
outcomes**

The high level objectives for the Place and Growth Programme are to:

- Support the provision of a well-connected, skilled workforce within the City Region by creating greater accessibility to jobs into the City Region and into East Dunbartonshire;
- Improve the accessibility between East Dunbartonshire and Glasgow, and ensure East Dunbartonshire is an attractive place to establish or grow business, to support innovation and businesses growth by tackling key issues relating to connectivity into the main settlement areas within East Dunbartonshire;
- Ensure the employment opportunities created from the Place and Growth Programme are accessible by public transport, and improve bus patronage from East Dunbartonshire residents commuting to the city and employment locations in the north of Glasgow;
- Reduce barriers to jobs locally, through the diversity and improved quality of the local employment opportunities, and by improving connectivity and access to the wider City Region for local workforce in East Dunbartonshire;
- Support development of existing business locations and enable the unlocking of key business land sites to enable more small and medium enterprises to grow;
- Enable larger commercial development and elements of housing delivery, by providing infrastructure to assist in sites being unlocked.

The vision, aims and objectives of the Westerhill Masterplan element of the programme will be determined over the course of the production of the Plan. All reasonable alternatives will be considered and assessed as part of the SEA process.



### **3. Strategic Action Context**

#### **3.1. City Deals Context**

- 3.1.1. The aim of City Deal funding is to stimulate economic growth and generate employment. The development of a Masterplan for the Westerhill Area (WRA Masterplan) of Bishopbriggs will help in achieving these aims with a focus on regenerating brownfield land to help deliver business opportunities and create jobs. However, this investment requires suitable justification that the area can support such growth. The WRA Masterplan will help to inform the route corridor of the new WDR which will be key to unlocking key strategic employment sites along its route. The WRA Masterplan will therefore help to provide some support to the developments feasibility and the evidence needed to secure investment.
- 3.1.2. The emerging East Dunbartonshire Council Local Development Plan (2) supports the preparation of a Masterplan in Policy 3.R and sets out certain requirements in addition to employment generation, such as the construction of the WDR, the implementation of active travel links and the creation of a local nature reserve.
- 3.1.3. The WRA Masterplan is currently progressing following the commissioning of Triskelion who have been undertaking a mostly desktop exercise collating all the information relating to the Site. A map of the potential developable areas is being produced. This is likely to evolve further into spatial options incorporating various WDR route corridors. A Framework Masterplan is expected in mid-2023. It is noted that the work is being underpinned by economic analysis, which will seek to ensure the correct employment areas are targeted upon completion of the WRA Masterplan.

#### **3.2. Relationship with Plans, Programmes and other Strategies**

- 3.2.1. There are a number of other strategies and plans internationally, nationally, regionally and locally that the WRA Masterplan needs to be integrated with or will influence as detailed in the list below.

Key policy:

- Clydeplan: Glasgow & Clyde Valley Strategic Development Plan 2017
- East Dunbartonshire Community Planning Partnership Local Outcome Improvement Plan (LOIP) 2017 – 2027
- East Dunbartonshire Local Development Plan 2 - 2020 (under examination)
- National Planning Framework 3, 2014
- National Planning Framework 4 (Draft)

Other relevant policy:

- 3.2.2. A wider review of policy was undertaken to give an overview of other key legislation, plans, programmes, policies and strategies in addition to those listed above (see Appendix C). Their content, where appropriate, has been used to inform the environmental objectives for the SEA of the WRA Masterplan.





## **4. Methodology**

### **4.1. Introduction**

4.1.1. This section outlines the methodology for the assessment and data gathering, as well as consultation and design work undertaken as part of the SEA process for the WRA Masterplan.

### **4.2. What is SEA?**

4.2.1. The Act (2005) requires the Environmental Report to assess and evaluate the likely significant effects on the environment when implementing:

- the plan or programme; and
- reasonable alternatives to the plan or programme

### **4.3. SEA Objectives for the WRA Masterplan**

4.3.1. The SEA objectives (shown in Appendix A) were defined in consultation with the wider East Dunbartonshire Council environmental officers in addition to public consultation with statutory stakeholders such as the Scottish Environment Protection Agency (SEPA), Nature Scot and Historic Environment Scotland (HES). Both elements of consultation helped to produce an agreed set of focused and proportionate objectives that could be carried through the assessment process.

### **4.4. SEA Activity to Date**

#### Scoping Report

4.4.1. A scoping report sets out the current understanding of the baseline and the proposed methodology for assessment. This document is circulated to the statutory consultees for comment via a scoping opinion. This then shapes the approach to the assessment as reported in the SEA Environmental Report.

4.4.2. A SEA Scoping Report was submitted by East Dunbartonshire Council in October 2020.

4.4.3. A SEA Scoping Opinion from was received in November 2020.

#### SEA Objectives

4.4.4. Following the appointment of Triskelion and after progression of the WRA Masterplan, the SEA objectives were updated to reflect the baseline information and key objectives of the project. These updates were created in consultation with the wider East Dunbartonshire Council environment and sustainability teams before submission to the SEA Gateway for the statutory environmental bodies to comment. No written response was received but representatives from each body indicated verbally that they were happy with the approach and intention of the objectives for the SEA. Formal comment from the statutory consultees would be provided upon receipt of this report.

#### Consultation

4.4.5. As part of the development of the WRA Masterplan options, meetings were held with the statutory environmental bodies to understand their priorities and potential insight into the baseline and outline proposals of the WRA Masterplan options. Discussions included a high level review of the SEA objectives.

#### Additional surveys

4.4.6. SEA does not require new survey information to inform the environmental assessment. East Dunbartonshire Council recognised specific environmental receptors pertinent to the design

decisions for the WRA Masterplan and commissioned additional surveys, which have informed the SEA. These included:

*Preliminary Ecological Appraisal (PEA)*

4.4.7. The Site includes a large area of green space and Local Nature Conservation Sites (LNCS). Prior to establishing potential WRA Masterplan options, East Dunbartonshire Council sought to understand the existing habitat and commissioned a PEA. The survey was undertaken in January 2022 and the PEA Report outlines the baseline ecological conditions and the various habitats present within the Site. The report is included in Appendix D.

*Preliminary Peat Risk Appraisal (PPRA)*

4.4.8. A desk-based assessment identified potential for high quality peat within the WRA Masterplan area. East Dunbartonshire Council were keen for this environmental receptor to be investigated from an early stage to inform the WRA Masterplan design development. This included data gathering of historical survey information, a walkover survey and analysis of probability based on the topographical conditions and specialist professional judgement.

4.4.9. The output was a spatial map of potential peat areas, description of methodology and the key conclusions.

4.4.10. The document was circulated with the wider East Dunbartonshire Council environmental officers and statutory consultees. Feedback was positive to the approach and proactive nature of the assessment and design approach. This appraisal is included in Appendix E.

**4.5. Integration of an Ecosystems Approach**

4.5.1. The Scottish Government SEA Guidance defines ecosystem services as a “strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way”. This concept is intrinsically linked to SEA and these principles have been adopted to inform decision-makers about the interrelationships / interactions between people and the environment (Figure 4.1).

4.5.2. The principles of ecosystem services integrate and inform the environmental topics listed in the Act (2005) and provide greater understanding for decision-makers. Mitigation and enhancement measures using this approach will have a greater influence and inherently more sustainable when the design:

- considers natural systems;
- accounts for services that ecosystems provide;
- includes communities and people; and
- is proportionate and focused.

4.5.3. To help identify ecosystem services specific to the Site, The Economics of Ecosystems and Biodiversity classification of ecosystem services has been used in as part of the environmental assessment of the WRA Masterplan. The classification system is based on the UN’s Millennium Ecosystem Assessment, published in 2006, which assessed the consequences of ecosystem change for human well-being and created classifications of ecosystem services.



Figure 4.1: Ecosystem Services Categories



4.5.4. The classification can be divided into four Main Service Categories:

- Provisioning Services: (ecosystem services that describe the material or energy outputs from ecosystems).
- Regulating Services: (the services that ecosystems provide by regulating the quality of air and soil or providing flood and disease controls)
- Habitat or Supporting Services: (ecosystems providing living space and diversity of plants and animals)
- Cultural Services: (non-material benefits people obtain from contact with ecosystem services i.e. recreation, cultural, education, mental health, tourism)

4.5.5. Within the compatibility assessment, ecosystem services informed the assessment methodology and subsequent recommendations to reflect the main service categories (as described above) in the context of the baseline and the proposed future use.

4.5.6. Recommendations for the WRA Masterplan included in this report, employ the principles of ecosystem services in order to best meet the aims of the SEA. This included consideration of the following:

- where are the key areas where the service exists today?
- how are benefits created from this service?
- who benefits (directly or indirectly) from this service?
- is the services threatened and if so by who / what?
- what other services does the service interact or rely on (synergies)?

4.5.7. With this understanding, decision- makers will be better informed to pursue design solutions that have environmental, social and economic interrelating benefits.

#### **4.6. Environmental Topics**

The Scoping Report for the WRA Masterplan identified that all environmental topics under the Act (2005) were to be included in the environmental assessment:

- Biodiversity
- Population
- Human Health
- Fauna
- Flora
- Soil
- Water
- Air
- Climatic Factors
- Material Assets
- Cultural heritage, including architectural and archaeological heritage
- Landscape

4.6.1. In addition to this list, noise and vibration has also been included in the environmental assessment. While not mentioned specifically in the Act (2005), professional experience has shown that this is a pertinent topic for the local community and wider environment and deemed proportionate to the type and scale of the proposed WRA Masterplan.



#### **4.7. Baseline**

To help inform the assessment, baseline information has been collated with reference to the Site and the surrounding area.

4.7.1. The following section outlines the main baseline environmental features and the overall objectives for the assessment. Where data was available, comparisons have been made to nearby councils / regions and the national level. This is to help to inform the decision makers and stakeholders with comparable regional and national data to provide better context of the existing baseline of the Site.

4.7.2. An element of professional judgement has been used to ensure that the information provided is both relevant and representative.

##### Cultural Heritage

4.7.3. Designated built heritage assets were included in the baseline assessment up to 1km from the Site. This approach informs the environmental assessment for both potential direct impacts (demolition / partial demolition) within the Site and potential indirect impacts (setting).

4.7.4. Key receptors included:

- Scheduled monuments;
- World Heritage sites (and associated buffer zones); and
- Listed buildings.

4.7.5. In addition to the above list, the World War II Barrage Balloon site was also included. While not a designated asset, it still has a prominent location and influence on the existing Site. There was previous consultation on this receptor prior to the environmental assessment.

##### Biodiversity, Flora and Fauna

4.7.6. The baseline was informed by a PEA, which principally involved:

- a desk-based study to collect information on designated sites and records of protected and / or notable species within 2km of the Site;
- an extended Phase One habitat survey field visit, undertaken during daylight hours to record the broad habitat types present on Site together with any key floral species as well as an assessment of these habitats for their potential to support protected and notable species, and any evidence of protected or notable species was noted; and
- an assessment of the proposed activities in relation to the baseline ecological information to determine the likelihood of ecological constraints to these proposals together with identification of the mandatory requirements for progression, and recommendations for ecological and biodiversity enhancement associated with the proposed activities.

##### Soils and Geology

4.7.7. Study area for relevant receptors and constraints within the extents of the Site and considered the following:

- geology designations and geological composition;
- contaminated land;
- historic coal mining sites;
- agricultural soil; and
- peat and carbon rich soils.



Landscape

- 4.7.8. The study area used for the assessment was up to 1km from the Site. This was to account for potential views to and from the proposed development areas that could potentially lead to significant adverse effects.
- 4.7.9. The desk-based study considered Landscape Character Types and local landscape designations.
- 4.7.10. Walkover surveys from the project team and the use of mapping / imagery, provided a high level understanding of the key features in and around the Site.

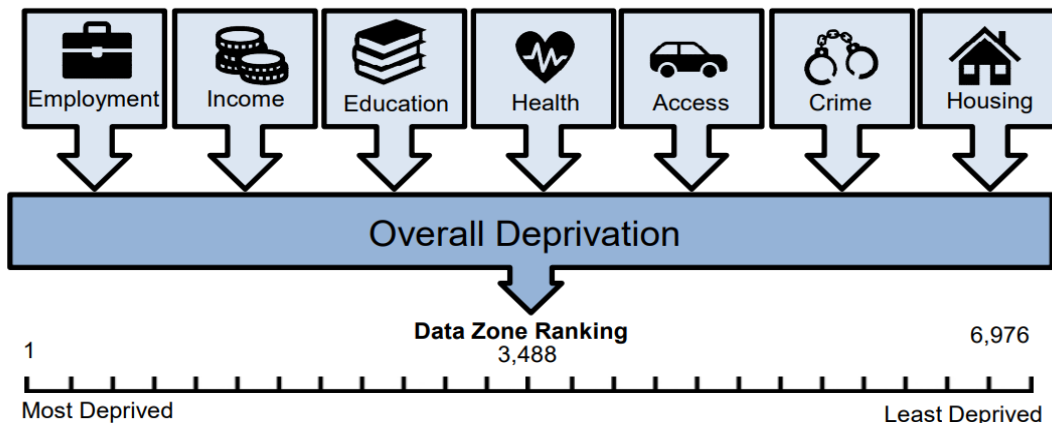
Population and Human Health

- 4.7.11. Due to the nature of the data available on social and health statistics and likely potential effects associated with the type and scale of the proposals, the desk-based study was predominantly focused on the wider East Dunbartonshire area. This approach was deemed to be proportionate to gaining an understanding of the community potentially impacted by the proposals and indicative of future users within the Site. Neighbouring council statistics were included where possible to provide context to the statistical information, as well as national averages.

*Scottish Index of Multiple Deprivation*

- 4.7.12. Scotland is split into 6,976 small areas called data zones with roughly equal populations. Indicators to measure the different sides of deprivation in each data zone are looked at, like pupil performance, travel times to GP, crime, unemployment and many others. These 38 indicators of deprivation are grouped into seven types, called domains. The seven domains (Figure 4.2 and Table 4.1) are combined into one SIMD, ranking each data zone from 1 (most deprived) to 6,976 (least deprived). This provides a measure of relative deprivation at data zone level and shows that one data zone is relatively more deprived than another but not how much more deprived. SIMD can be analysed by looking at data zones below a certain rank, such as the 10%, 15% or 25% most deprived data zones in Scotland<sup>2</sup>.

Figure 4.2: SIMD Scale and Domains



Source: Aberdeenshire Council SIMD Toolkit (2020)

<sup>2</sup> East Dunbartonshire Area Profile: Corporate Performance and Research (2021)

Table 4.1: SIMD Domain Categories and Related indicators

SIMD Domain	Related indicators
Employment	Percentage of working age people who are employment deprived and receive certain benefit.
Income	Percentage of people who are income deprived and receive certain benefits.
Education	School pupil attendance, attainment of school leavers, working age people with no qualifications, proportion of people aged 16-19 not in full time education, employment or training, proportion of 17-21 year olds entering into full time education.
Health	Hospital stays related to alcohol and drug misuse, standardised mortality ration, emergency stays in hospital, proportion of population prescribed drugs for anxiety, depression or psychosis, proportion of live singleton births at low birth weight, comparative illness factor.
Access to Services	Average drive time to a petrol station, GP surgery, post office, primary school, secondary school and retail centre. Public transport travel time to a GP surgery, post office and retail centre.
Crime	Recorded crimes of violence, sexual offences, domestic housebreaking, vandalism, drugs offences and common assault per 10,000 people.
Housing	Percentage of people living in households that are overcrowded, percentage of people living in households with no central heating.

#### Key transport nodes

- 4.7.13. For the purposes of this assessment, key nodes were identified to reflect the main local destinations / settlements and to reflect transport routes in and around the WRA Masterplan. The key nodes were determined through a review of the emerging Local Development Plan (2) and the Local Transport Strategy (2009) which outlined “important transport routes”<sup>3</sup> within East Dunbartonshire. One of which is the A803 travel corridor, highlighted as being an important transport route into Glasgow.
- 4.7.14. The transport nodes are used in the preliminary assessment (Appendix B) and include:
- Torrance
  - Kirkintilloch
  - Lenzie
  - Auchinairn
  - Junction at A803 and Westerhill Road

#### Waste and Material Assets

- 4.7.15. The East Dunbartonshire Waste Management Strategy was analysed to identify key local waste management assets, including landfill sites in proximity to the Site. This exercise also informed how waste is managed in East Dunbartonshire.
- 4.7.16. Material assets were considered within the Site and this included key buildings and road infrastructure.

<sup>3</sup> East Dunbartonshire Local Development Plan (2) (2020)





### Water Environment

- 4.7.17. Watercourses within and hydrologically linked to the Site were included in the baseline.
- 4.7.18. This included drainage ditches and minor watercourses within the Site, the glacial meltwater channel and Park Burn.
- 4.7.19. Pluvial and fluvial flooding was investigated using the Scottish Environment Protection Agency (SEPA) Flood Hazard and Flood Risk Information maps, focusing on the Site and the immediate surrounding area.
- 4.7.20. Baseline information identified within the Preliminary Peat Risk Appraisal (Appendix E) was used to inform potential peat areas and indicate sensitive groundwater receptors.

### Air Quality

- 4.7.21. Air Quality Management Areas (AQMA's) were considered up to 1km from the Site.
- 4.7.22. In accordance with the Scottish Air Quality Objectives (AQO) data on existing NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> levels was collated using the Air Quality in Scotland database and the East Dunbartonshire Council Air Quality Annual Progress Report (2021). The information obtained from these sources is partially gathered through four continuous analysers within East Dunbartonshire Council, located in Bishopbriggs, Bearsden, Kirkintilloch and Milngavie.
- 4.7.23. Existing sensitive receptors, including residential properties, schools and retirement homes, in proximity to the likely affected road network were considered qualitatively to help inform potential effects.

### Climate

- 4.7.24. This section is considered in three subtopics:
- **Carbon**  
Focused on the emissions and net zero targets of East Dunbartonshire Council and impact from the proposals.
  - **Climate Resilience**  
Considers the climatic conditions and systems (e.g. flooding, heatwaves, etc) of East Dunbartonshire Council and potential relationship with the WRA Masterplan.
  - **Climate Adaptation**  
Considers the behavioural changes needed to take place in both natural and human systems to embrace climate change and how East Dunbartonshire Council can apply this to the development of the WRA Masterplan.

### *Carbon*

- 4.7.25. Emissions figures were collated at a regional level for East Dunbartonshire Council. This baseline was then compared to the UK government targets using the Tyndall Carbon Budget Tool. This tool was produced by the Tyndall Centre for Climate Change Research to help local authorities with their transition to net zero and beyond. More specifically, the Tyndall Carbon Budget Tool presents climate change targets across all the UK local authorities based on the commitments made at the UN Paris Agreement.
- 4.7.26. The Tyndall Carbon Budget Tool outlines East Dunbartonshire Council's current trajectory through calculating a percentage of what is considered to be East Dunbartonshire's fair contribution to the UK's carbon budgets using existing carbon budgets (excluding aviation and shipping). This trajectory cannot be exceeded if aiming for net zero by 2045.





### *Climate Resilience and Adaptation*

- 4.7.27. In line with the Intergovernmental Panel on Climate Change (IPCC) definitions of Climate resilience and adaptation, a policy review was conducted to assess how East Dunbartonshire Council is addressing the impacts of climate change moving forward, particularly through the provision of new developments.
- 4.7.28. The IPCC has recently defined climate resilience as the ability of social, economic and environmental systems to “maintain essential function, identity and structure, but also the capacity for transformation”<sup>4</sup>. With increasing pressure on existing resources and ecosystems from the impacts of climate change (temperature increases, flooding etc.) it is vital that all future developments / projects incorporate climate resilience measures within the planning and design phases.
- 4.7.29. Climate adaptation is defined by the IPCC as “adjustments in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities”<sup>5</sup>. In addition to the current Climate Action Plan being produced by East Dunbartonshire Council, several Climate Change Adaptation measures have been proposed for all new developments in order to tackle one of the councils main policies; Climate Change, Sustainability and Energy infrastructure (Policy 9). East Dunbartonshire Council have stipulated that all development applications must set out the steps that have been taken to address climate change adaptation, including the following:
- *“How passive heating and cooling systems have been incorporated*
  - *How the green network within and adjacent to the proposed development has been strengthened to reduce flood risk, provide urban cooling and promote habitat connectivity*
  - *For residential developments, designing homes to be resilient to surface water and fluvial flooding*
  - *Where a flood risk assessment is required, the predicted increase in flood risk is in accordance with the climate change allowances set out in the SEPA guidance document ‘Climate change allowances for flood risk assessment in land use planning’ (2019)”*
- 4.7.30. East Dunbartonshire Council is seeking to build on the work completed as part of the wider Climate Ready Clyde (CRC) vision / strategy by adopting a climate resilient approach to the WRA Masterplan, ensuring a proportionate focus on the following key themes<sup>6</sup>:
- Infrastructure;
  - Built Environment;
  - Society and Human Health
  - Natural Environment;
  - Economy, Business and Industry: and
  - International Risks and Cross Cutting
- 4.7.31. These themes have been considered as part of the WRA Masterplans development by including environmental specialists from an early stage, undertaking ecological surveys and a preliminary peat risk appraisal. Early involvement of specialist advice and technical information has

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<sup>4</sup> IPCC Climate Change: Impacts, Adaptation and Vulnerability (Summary for Policymakers) (2022)

<sup>5</sup> IPCC Climate Change: Impacts, Adaptation and Vulnerability (Summary for Policymakers) (2022)

<sup>6</sup> <https://www.crc-assessment.org.uk/> (Accessed: July, 2022)



facilitated design evolution that reflects the CRC vision and a more resilient and sustainable WRA Masterplan options. Design influence has included:

- avoiding the glacial meltwater channel;
- more area / connectivity for green space and biodiversity;
- increased active travel corridors;
- avoiding areas of peat; and
- reduced length of new road required to facilitate development

#### Noise and Vibration

- 4.7.32. Noise Management Areas or designated quiet areas up to 1km buffer from the Site in line with the latest legislation; The Environmental Noise (Scotland) Regulations 2006, in response to the Directive 2002/49/EC of the European Parliament and of the Council on 25 June 2002.
- 4.7.33. Existing dominant noise sources either within the Site or in the immediate vicinity.
- 4.7.34. Existing sensitive receptors, including residential properties, schools and retirement homes, in proximity to the likely affected road network were considered qualitatively to help inform potential effects.

#### Ecosystem Services

- 4.7.35. Baseline for ecosystem services has been informed by the environmental topics included above, in alignment with the Scoping Opinion.
- 4.7.36. A site visit as well as consultation with East Dunbartonshire Council, stakeholders and statutory consultees, has informed the wider knowledge of existing ecosystem services in and around the Site.

#### Assumptions and Limitations

- 4.7.37. A number of assumptions have been made during the SEA process, including that:
- information provided by third parties, including publicly available information, databases, and the planning policy context are correct at the time of publication;
  - an element of professional judgement has been used when comparing stats / figures against one another leading to some minor inferences being made; and
  - where possible, the baseline data provided has been made 'Site specific'. Where this has not been possible, a wider study area may have been used (i.e. East Dunbartonshire Council area).

### **4.8. Environmental Assessment**

4.8.1. In response to the design process for the WRA Masterplan, the environmental assessment adopted a multi-stage approach that focused on informing the decision-makers. This methodology facilitated for the SEA process to have an integral role in the design through proportionate assessment and informed decisions.

4.8.2. This included the following steps:

#### **1. Preliminary Appraisal**

A preliminary, proportionate appraisal of the spatial options to indicate which, in their current design, is preferred when scored against the SEA objectives.

#### **2. Preferred Option**

The output of the preliminary appraisal is considered in the context of the objectives of the project i.e. to boost the East Dunbartonshire economy, is intended to support the local economy.



### 3. Compatibility Assessment

A more detailed assessment of the 'preferred option' against the SEA objectives and identification of the likely potential significant effects.

### 4. Recommendations

Following identification of significant effects, a series of measures to mitigate adverse and enhance beneficial impacts were proposed. For the purposes to inform the decision-makers and exercise was undertaken to assume these measures were adopted and the assessment redone. The comparing scores were then available to inform the design.

#### Preliminary Appraisal

- 4.8.3. As part of the design process, multiple options were considered and assessed. The Act (2005) refers to these as 'reasonable alternatives' and, as part of the environmental assessment, should be identified, described and assessed where appropriate.
- 4.8.4. The WRA Masterplanning team, produced four spatial options that incorporated specific themes and road alignments. These options are due to be presented at the public consultation for the WRA Masterplan. The layout and assessment outcomes are detailed in section six of this report. Output of the preliminary appraisal is shown in Appendix B.
- 4.8.5. Across the four spatial options, there is a degree of overlap and repetition in the proposals; for some areas there were similar features proposed in each option.
- 4.8.6. To help inform the decision-makers and better differentiate between options, the following approach was taken prior to assessing potential impacts in each SEA objective:
- identify and group the repeating / consistent features across all options (referenced as Elements Consistent with All Options (inc. Slight Variations); and
  - identify the unique features per each option.
- 4.8.7. This approach of focusing on the differences between impacts on the environment for the unique aspects of the four options, aimed to offer the decision makers with increased transparency when comparing the four options.
- 4.8.8. The assessment identified positive and negative impacts for each SEA objective and adopted a qualitative red-amber-green system to better indicate the comparisons between the options.
- 4.8.9. No comparison was applied to the 'Elements Consistent with All Options' but impacts included to inform the decision makers.
- 4.8.10. In some instances, where no impacts are identified for a SEA objective, this can be considered beneficial and / or desirable for certain environmental receptors, e.g. built heritage, ecological habitat and peat. Professional judgement was used and accounted for the baseline and potential future uses of the Site.

#### Preferred Option

- 4.8.11. A preferred option was selected from the preliminary appraisal using two main criteria:
- Best scoring option for environment; and
  - Option likely to achieve project objectives.

#### Compatibility Assessment

- 4.8.12. The SEA matrix-based scoring system was used to assess the preferred option against the SEA objectives and assess their overall compatibility.
- 4.8.13. As per the Scottish Government SEA guidance, matrices are a reliable, systematic means of recording decisions and are often best positioned when assessing objectives, questions, or environmental criteria.

4.8.14. The scoring system adopted is shown in Table 4.2.

4.8.15. The types of effects are defined in Table 4.3.

Table 4.2: Compatibility Assessment Methodology

Rating	Meaning	Explanation
++	Very Positive effect	The WRA Masterplan will strongly contribute to the achievement of the objective.
+	Positive effect	The WRA Masterplan will contribute to the achievement of the objective.
0	Neutral effect	The WRA Masterplan will have no impact on the achievement of the objective.
-	Negative effect	The WRA Masterplan will have a negative impact on the achievement of the objective.
--	Very negative effect	The WRA Masterplan will have a strong negative impact on the achievement of the objective.
?	Unknown / dependent upon implementation	The effect of the WRA Masterplan on the achievement of the objective is unknown or dependent upon implementation.

Table 4.3: Type of effects considered in the assessment

Type of Effect	Definition
Direct	Effects that occur as a direct result of a Public Plans, Programmes and Strategies (PPS) implementation.
Secondary (or indirect)	Effects that do not occur as a direct result of a PPS implementation but rather secondary impacts that can reasonably be attributed to the plan.
Intra-cumulative (combined)	These occur where a single receptor is affected by more than one source of effect arising from different aspects of the Project.
Inter-cumulative	These effects occur because of a number of past, present or reasonably foreseeable proposed developments, which individually might not be significant, but when considered together could create a significant cumulative effect on a shared receptor and could include developments separate from and related to the Project.
Synergistic	Synergistic effects occur when two or more effects identified within an assessment, are capable of working together to create a new or greater effect or a significance of effect which does not arise from the individual effects.

#### Recommendations

4.8.16. Schedule 3 paragraph 7 of the Act (2005) states that a SEA Environmental Report is to include the measures envisaged to prevent, reduce and, as fully as possible, offset any significant adverse effects on the environment that may be generated as a result of the WRA Masterplan.

4.8.17. With the WRA Masterplan design still in development, this SEA includes an assessment of the preferred option progressed to date. Based on the impacts identified, recommendations for mitigation and enhancement have been included in this report.



- 4.8.18. To inform the decision-makers, the assessment process has been repeated for the preferred option with the proposed recommendations included. This output provides a comparison of likely outcomes and effects with and without the recommendations.

#### **4.9. Individual Variations**

- 4.9.1. In addition to the WRA Masterplan options, there are some variations which are not specific to a particular option. To help inform the decision-makers, these were looked at on a case-by-case basis to give an understanding of the environmental implications should these variations be developed further and lifted into the Masterplan. The following list details the individual variations to be assessed:

- Harper Collins building;
- Taylor Wimpey housing development; and
- Stanley Drive affordable housing site.

#### **4.10. The Next Steps**

- 4.10.1. Following completion of the SEA Environmental Report it will be submitted to the SEA Gateway for statutory consultees to comment. This consultation period will last a minimum of six weeks.
- 4.10.2. After selecting a preferred option the decision makers at East Dunbartonshire Council will notify all relevant parties. Thereafter, Sweco will complete a third compatibility assessment on the preferred option. This third assessment will highlight which recommendations have been considered as part of the final design, whilst ensuring the SEA objectives remain consistent and are carried through the evolution of the planning / design phase of the WRA Masterplan.
- 4.10.3. The general public will then be given the opportunity to pass comment / engage with the proposed final design of the WRA Masterplan through an event likely to be scheduled for early 2023.
- 4.10.4. A SEA Post-Adoption Statement will then follow outlining the below:
- how environmental considerations have been integrated into the WRA Masterplan;
  - how the SEA Environmental Report and consultation responses have been taken into account;
  - the reasons for choosing the preferred option as adopted in light of other reasonable alternatives considered by the SEA; and
  - the measures to be taken to monitor the significant environmental effects of implementing the WRA Masterplan.



## 5. Baseline Environmental Data

### 5.1. Introduction

5.1.1. This section provides a summary of relevant baseline environmental information collated to inform the SEA presented in this report.

### 5.2. Cultural Heritage

5.2.1. There are no designated heritage assets within the Site, but it does include the Antonine Wall Heritage Site Buffer Zone in the northern extents (see Figure 5.1).

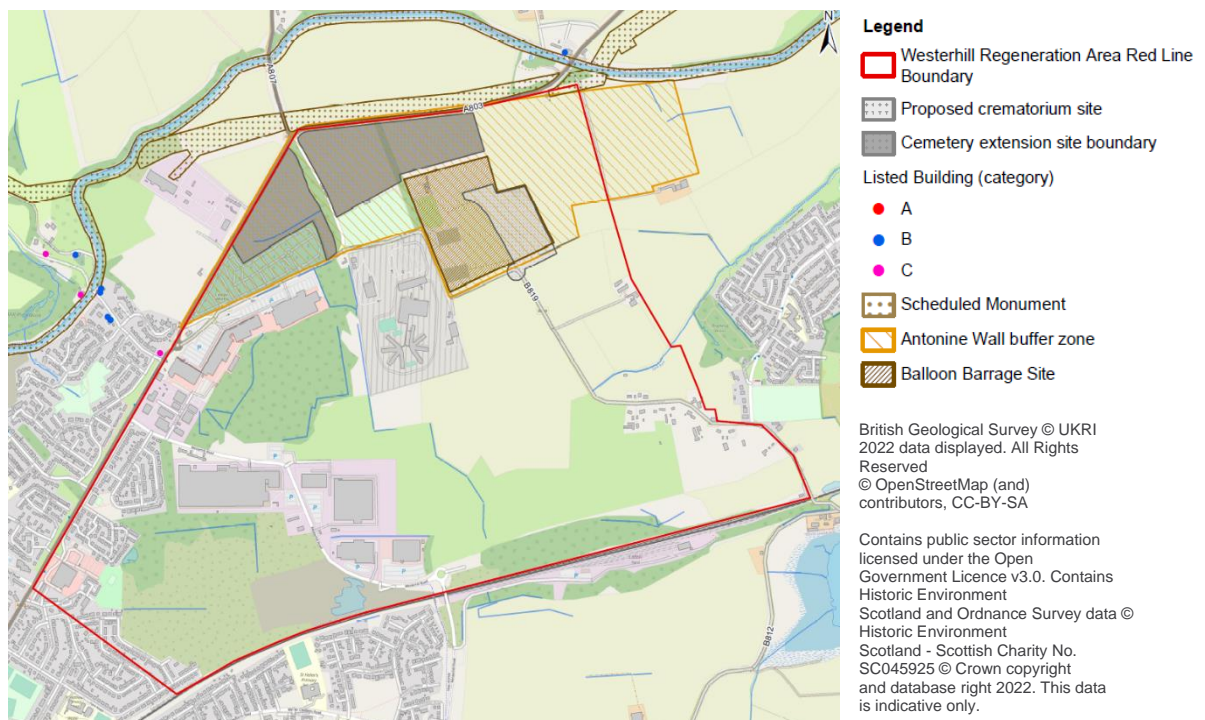
5.2.2. The wall runs in close proximity to the Site along the northern edge of the A803. The Antonine Wall is both a UNESCO World Heritage Site and a Scheduled Monument. The responsible authorities for these classifications are East Dunbartonshire Council and Historic Environment Scotland (HES) respectively.

5.2.3. There are two scheduled monuments within a 1km of the Site, in addition to the Antonine Wall. The Forth and Clyde Canal (Scheduled Monument) runs east to west, with its closest location near to where it intersects the Antoine Wall, north east of the Site.

5.2.4. There are no listed buildings or scheduled monuments within the Site. There are 18 listed buildings within a 1km buffer zone of the Site boundary.

5.2.5. The World War II barrage balloon site is situated adjacent to Crosshill Road, within the WRA Masterplan site boundary. The barrage balloon site is not designated under any level of jurisdiction; however it is still seen as an important historical site from a local culture perspective. The barrage balloon was established in the 1930's and housed No. 18 (Balloon) Squadron and part of No. 15 Maintenance Unit immediately before and during World War II. The Site continued to be of operational use to the military until the mid-1960's. More recently the Site has been partially used as an overflow car park. The Site is now cleared, with only concrete paving remaining and very limited features relating to its former use.

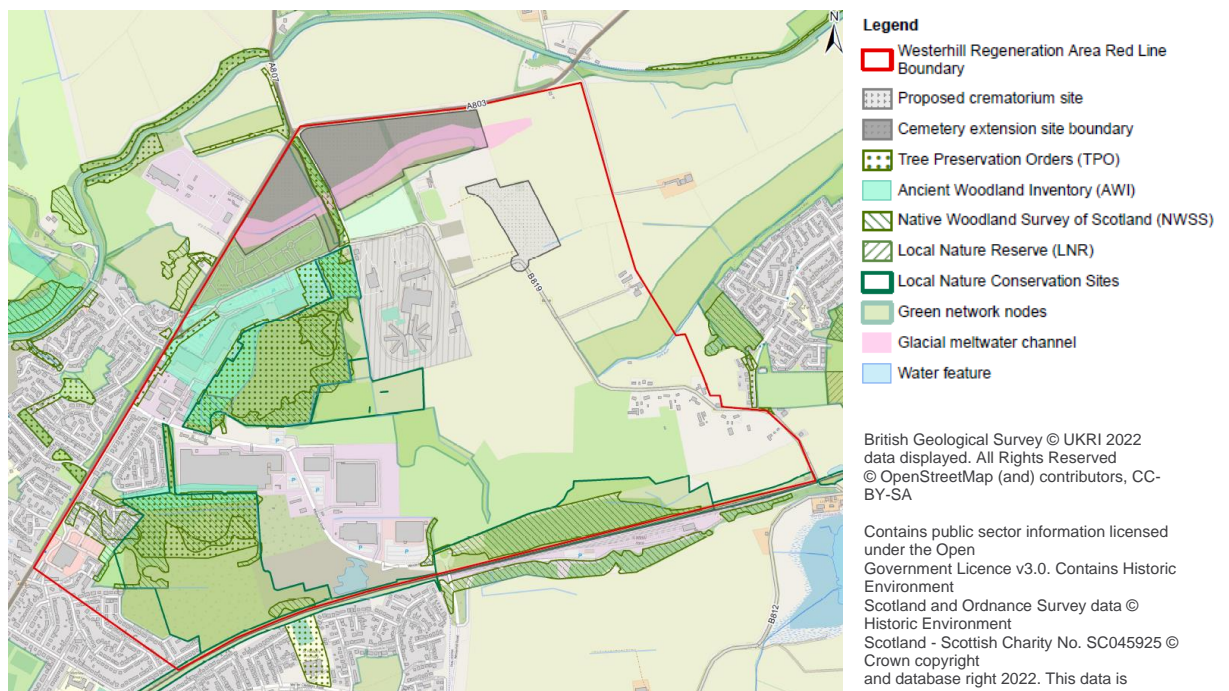
Figure 5.1: WRA Masterplan Environmental Constraints Plan – Cultural Heritage



### 5.3. Biodiversity, Flora & Fauna

- 5.3.1. Three Local Nature Conservation Sites (LNCS) for biodiversity situated within the Site. These LNCS are associated with Tree Preservation Orders, ancient woodland, areas of deep peat and open spaces / community gardens. In addition, the LNCS contain Green Network Nodes which connect with other habitats outside of the Site boundary (see Figure 5.2).
- 5.3.2. Suitable habitats associated with protected species were identified within the confines of the Site boundary (including those with Species Action Plans, priority species and lesser priority species), such as otters, badgers and water vole.

Figure 5.2: WRA Masterplan Environmental Constraints Plan - Biodiversity



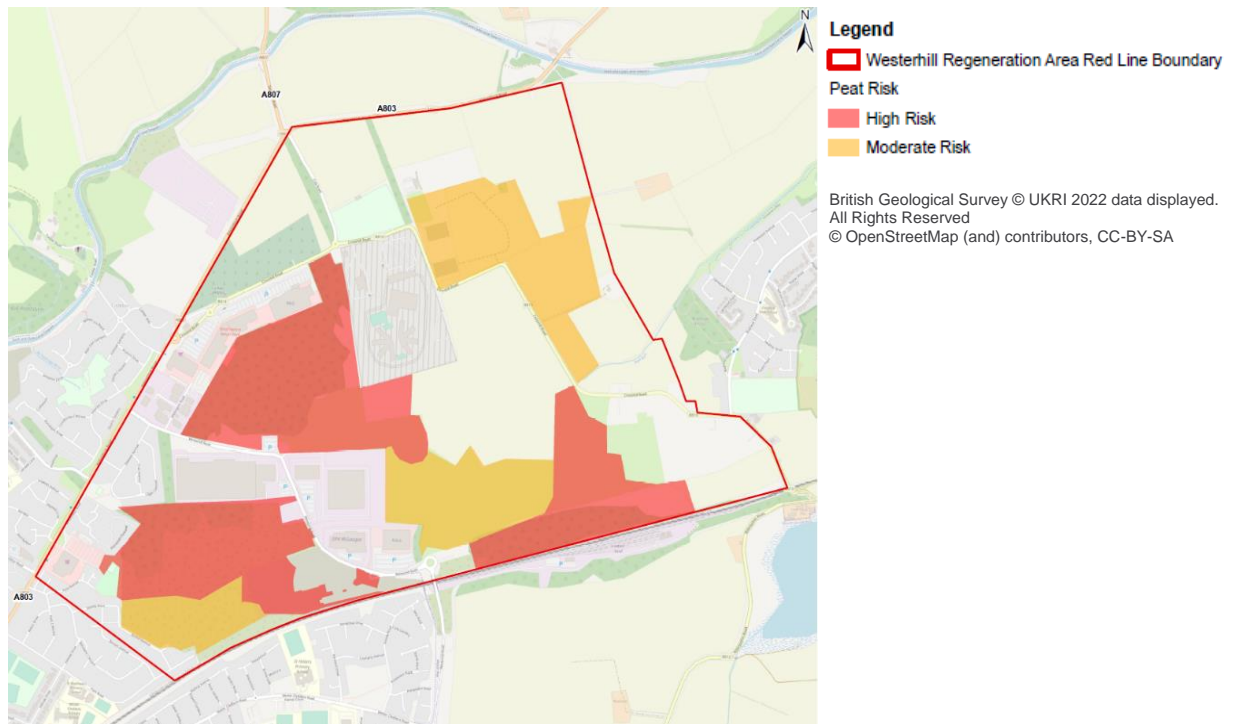
### 5.4. Soils and Geology

- 5.4.1. The Site predominantly consists of carboniferous limestone with some areas overlying the carboniferous millstone grit surrounding the Glasgow coal basin. The Site is underlain by till, and the Upper Limestone Formation which is a moderately productive aquifer.
- 5.4.2. The Preliminary Peat Risk Appraisal (see Figure 5.3 and Appendix E) identified moderate and high potential areas for quality peat within the Site boundary. Nature Scot provide classifications for peat soils (with Class 1 and Class 2 soils defined as “Nationally important carbon-rich soils, deep peat and priority peatland habitat”)<sup>7</sup>. The areas of peatland identified within the Site serve an important role as a carbon sink locally.

<sup>7</sup> <https://soils.environment.gov.scot/maps/th+ematic-maps/carbon-and-peatland-2016-map/>



Figure 5.3: Preliminary Peat Risk Appraisal Map



5.4.3. An area of agricultural land, east and west of Crosshill Road is defined as prime quality agricultural land and extends across the Site boundary totaling circa 44ha. This forms approximately 11% of the Sites total area. Within the wider East Dunbartonshire area, 5% (873ha) of the district is deemed to have prime agricultural soil. 44ha equates to approximately 5% of the prime agricultural land in East Dunbartonshire.

5.4.4. The Coal Authority online mapping, indicates that the Site may incorporate coal mining features and hazards however the presence and exact nature of these are unconfirmed at this time.

5.4.5. A LNCS for geodiversity, in the form of a glacial meltwater channel feature runs east to west through the northern tip of the Site. Meltwater channels record the retreat of glaciers. Although there are many examples of meltwater channels across Scotland, this type of landform is relatively rare in East Dunbartonshire and this site displays one of the best examples.

## 5.5. Landscape

5.5.1. Landcover within the Site is a mix of industrial use; business and office use; agriculture; brownfield land; woodland; and peatland / moorland. The Site is relatively flat and slopes from south to north towards the Forth and Clyde Canal.

5.5.2. The Site is bordered by:

- Glasgow to Edinburgh (via Falkirk) railway line (south)
- The town limits of Bishopbriggs (west), including; residential properties, Strathkelvin retail park, Low and High Moss LNCS
- A803 and the Forth and Clyde Canal (north), with the Campsie Fells (distant north >7km)
- Green belt, farmland and the fringes of Lenzie (residential properties) (east)

5.5.3. The topography of the Site is generally low lying, undulating land designated by Scottish Natural National Landscape Character Assessment as 'Rolling Farmland – Glasgow & Clyde Valley'. This Landscape Character Type occurs in several areas within Glasgow and the Clyde Valley;



Kirkintilloch, Blantyre and Lanark. These areas fall within East Dunbartonshire, West Dunbartonshire, North Lanarkshire and South Lanarkshire. They comprise of undulating, (generally pastoral) farmland.

- 5.5.4. East Dunbartonshire has a number of areas with high / moderate scenic value as well as specific landscape characters and settings across the council area, including the Campsie Fells and Kilpatrick Hills.

## 5.6. Population and Human Health

### Historical population trends

- 5.6.1. Table 5.1 shows the population growth in East Dunbartonshire Council and neighbouring councils from 2011 (last census year) and modelled to 2022<sup>8</sup>.
- 5.6.2. East Dunbartonshire Council has seen marginally larger increases than the neighbouring councils of West Dunbartonshire and North Lanarkshire but significantly below Glasgow City and the national rates. Glasgow is the largest city in the country and expected to have different population trends to the other local councils.

Table 5.1: Population trends for East Dunbartonshire and neighbouring councils

Population	East Dunbartonshire		West Dunbartonshire		Glasgow City		North Lanarkshire		Scotland	
2011	-	105,026	-	90,610	-	593,060	-	337,720	-	5.29M
2019	+3.4%	108,640	-1.8%	88,930	+6.75%	633,120	+1.08%	341,370	+3.40%	5.47M
2020	+0.1%	108,750	-0.7%	88,340	+0.4%	635,640	-0.06%	341,140	+0.82%	5.52M
2022	+1.2%	110,017	+0.08%	88,413	-0.04%	635,358	-0.07%	340,882	+0.41%	5.54M

### Population demographic by age group

- 5.6.3. Table 5.2 presents the age demographic of East Dunbartonshire, which has a higher proportion of both under 15 and over 65 years of age when compared against the national average and the demographics of the surrounding regions. There is a lower capacity of people of younger working age (16 to 44) living in the council area and the demographic proportions indicate an above average requirement for youth / elderly services and amenities.

### Population projections

- 5.6.4. Population projections indicate that by 2028 the East Dunbartonshire's 75+ population is set to increase by 25.9%. In comparison a projected population change of +4.5% is expected to occur in Children aged 0-15 (see Table 5.3). Similarly the national percentage of the 75+ age demographic is expected to increase 25.4% by 2028. When compared to the national percentage of Children aged 0-15; there is a projected decrease of 6.0%. This presents a stark contrast to the projected 4.5% increase in East Dunbartonshire (see Table 5.4). This changing demographic is likely to change the type, number and location of services and amenities required within the region and for the WRA Masterplan.

<sup>8</sup> <https://www.nrscotland.gov.uk/>

Table 5.2: Population Demographic by Age Group 2020

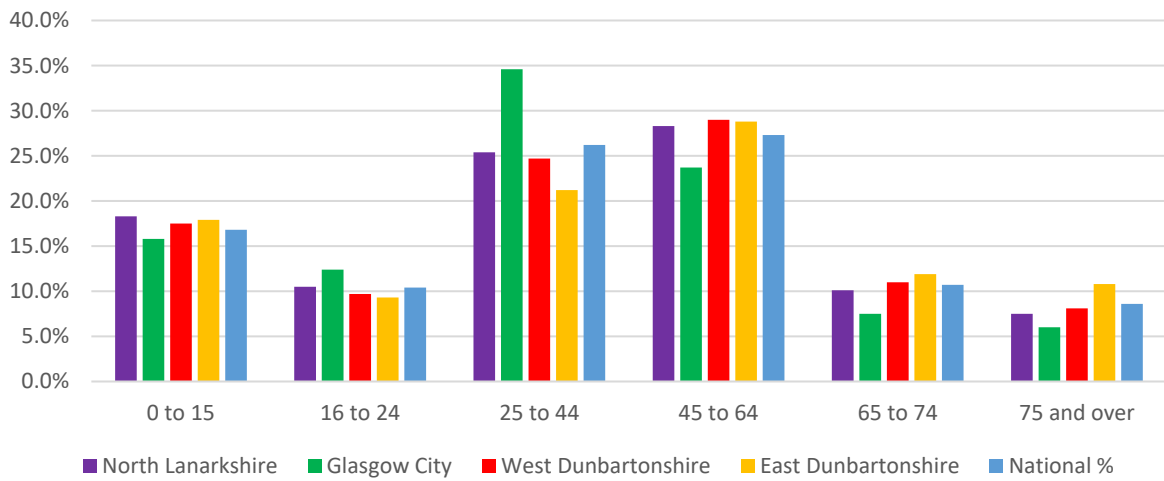


Table 5.3: Population projections 2018-2028 comparison

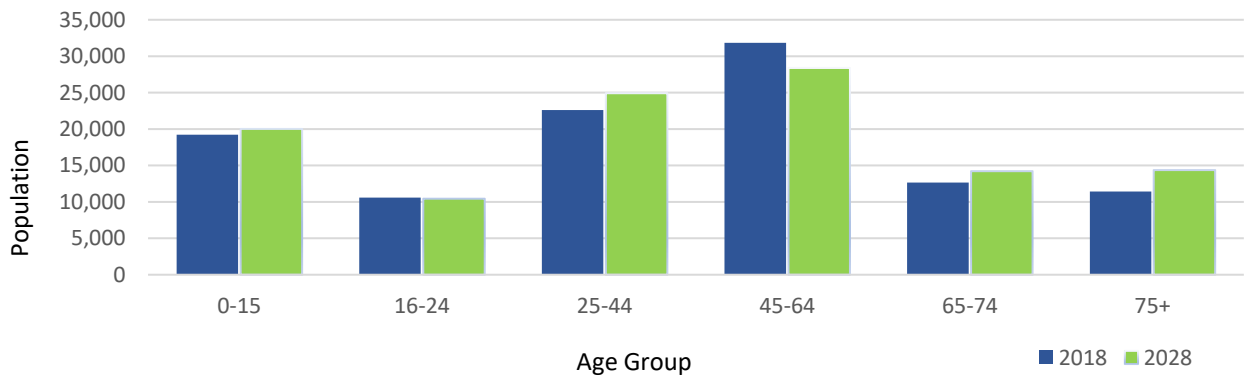


Table 5.4: Population projections 2028 national comparison

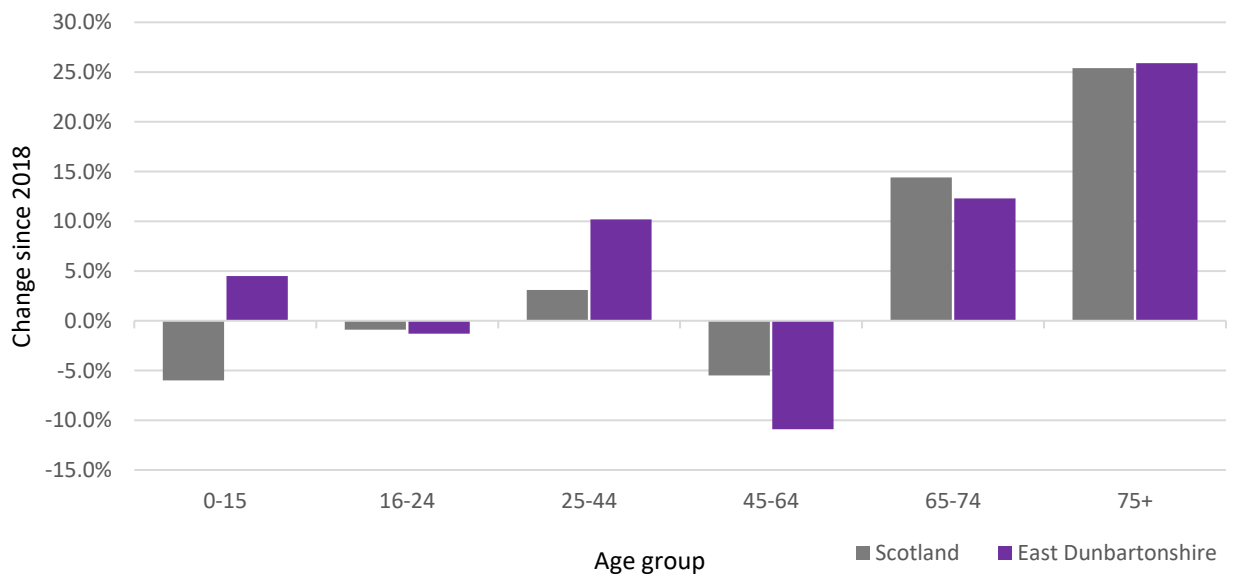
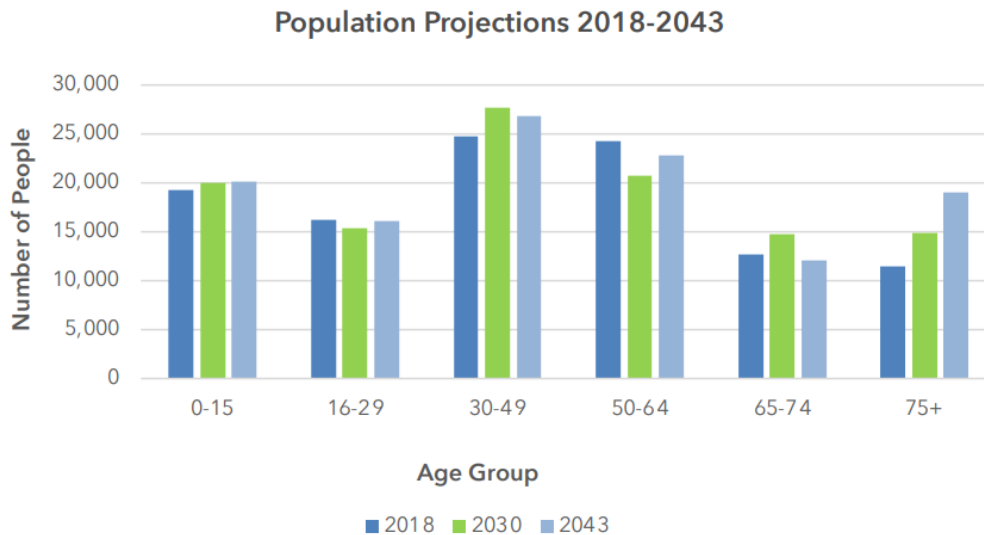


Table 5.5: East Dunbartonshire Council Population Projections (next 25 years)



5.6.5. Table 5.5 details future population projections in East Dunbartonshire and indicates the following for each of the age groups:

- 0-15: moderate steady increase of 4.5% over the 25-year period;
- 16-29: slight fluctuation in number over the 25-year period with minor overall % reduction;
- 30-49: sharp initial rise that eases in the second half of the modelled period. Overall significant rise of approximately 9%;
- 50-64: significant fluctuation in the first period but numbers then rise to give an overall moderate decrease of approximately 6.25%;
- 65-74: sharp rise followed by significant drop over the modelled periods. Overall moderate decrease of approximately 4%; and
- 75+: significant increase compounding over the two modelled periods.

#### Scottish Index of Multiple Deprivation (SIMD)

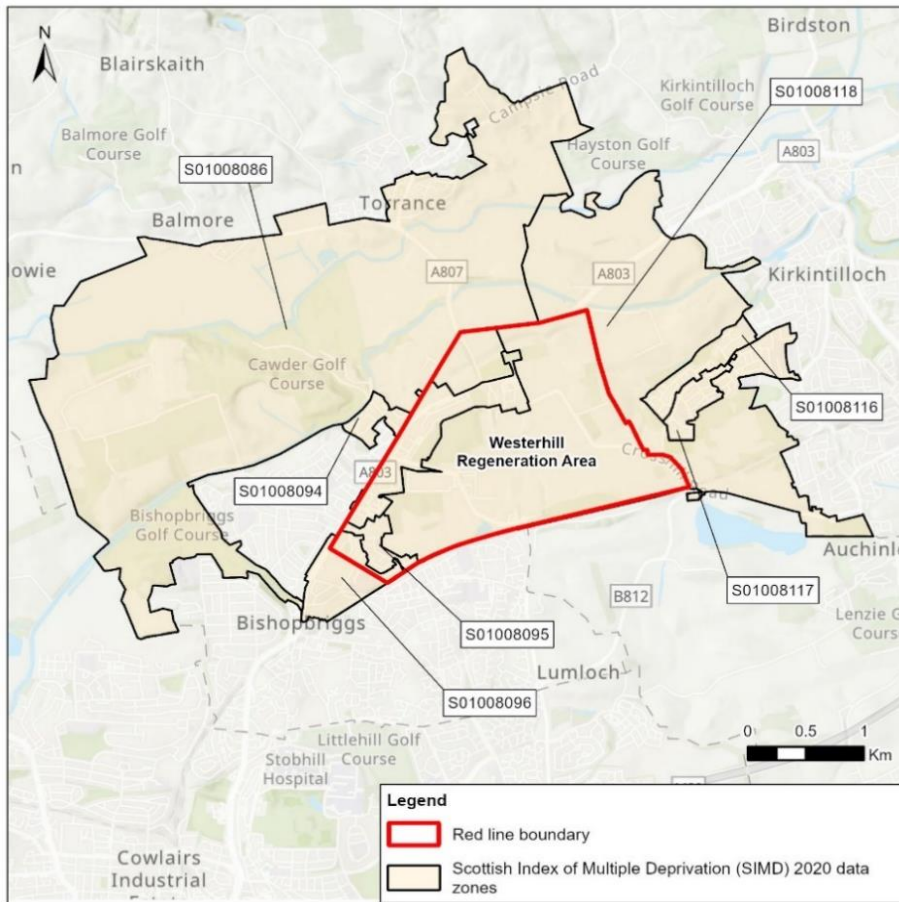
5.6.6. Figure 5.4 shows the seven SIMD data zones located within the study area. Table 5.6 details the 2020 rank / decile of each data zone in comparison to 2016 and the change in deprivation levels in that timeframe.

5.6.7. East Dunbartonshire remains relatively less deprived in contrast to other Scottish local authorities with the majority of East Dunbartonshire data zones falling into the least deprived areas of the SIMD.

5.6.8. The study area has an average score of just over seven (7.4) out of ten, with the lower the score the greater the deprivation.

5.6.9. The seven data zones included in the assessment score substantially poorer for access compared to the other domains (Table 5.7). This is explained in part by the rural or semi-rural nature of the Site and surrounding areas. Improvements to transport and access within the WRA Masterplan is likely to have significant influence on these future scores. This is an opportunity for the WRA Masterplan to improve access and improve the SIMD score for the region.

Figure 5.4: Scottish Index of Multiple Deprivation map



Source: SIMD, 2020

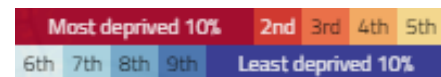
Table 5.6: Scottish Index of Multiple Deprivation Rank 2016 / 2020

Data zone	Intermediate Area	2016		2020		Improvement
		Rank	Decile	Rank	Decile	
S01008086	Torrance and Balmore	5528	8	4516	7	X
S01008118	Lenzie North	4145	6	4251	7	✓
S01008095	Bishopbriggs West and Cadder	4892	8	4783	7	X
S01008117	Lenzie North	4757	7	4837	7	✓
S01008094	Bishopbriggs West and Cadder	6476	10	5925	9	X
S01008116	Lenzie North	5677	9	5505	8	X
S01008096	Bishopbriggs West and Cadder	5879	9	6056	9	✓

Table 5.7: SIMD Data Zones Scoring

Data Zone*	Overall	Income	Employment	Health	Education / skills	Housing	Access	Crime
Torrance and Balmore (S01008086)								
Lenzie North (S01008118)								
Bishopbriggs West and Cadder (S01008095)								
Lenzie North (S01008117)								
Bishopbriggs West and Cadder (S01008094)								
Lenzie North (S01008116)								
Bishopbriggs West and Cadder (S01008096)								

\*Name of data zones can be repeated in some cases but have unique reference number



### Human Health

- 5.6.10. Generally, the health of the residents of East Dunbartonshire is considered to be 'good' with nearly 84.9% of the residents considering themselves to be generally healthy. This is 2% higher than the Scottish Average (Census, 2011). The level of residents found to be in general health status of 'Bad or very bad health' within East Dunbartonshire and Scotland was 4.3% and 5.6% respectively.

### Health Care Facilities

- 5.6.11. The nearest GP Surgery is situated 2.5km south west of the Site in Bishopbriggs Town Centre. Other GP surgeries can be found further afield in the nearby towns of Kirkintilloch and Lenzie (over 3km east of the Site).

### Employment

- 5.6.12. The percentage of economically active people living in East Dunbartonshire decreased from 78.8% in 2019 to 77.3% in 2020. The number of people in employment also decreased from 77% in 2019 to 75.5% in 2020. Despite this, the percentage is still higher than the Scottish national average at 77.1% and 73.5% respectively.
- 5.6.13. The COVID-19 pandemic caused significant disruption to the local economy, with many businesses being forced to temporarily / permanently close, resulting in the loss of jobs. This should be considered when reviewing employment statistics.





5.6.14. Of those who are deemed to be formally employed in East Dunbartonshire, 80.3% of males and 75% of females are economically active.

Travel in East Dunbartonshire

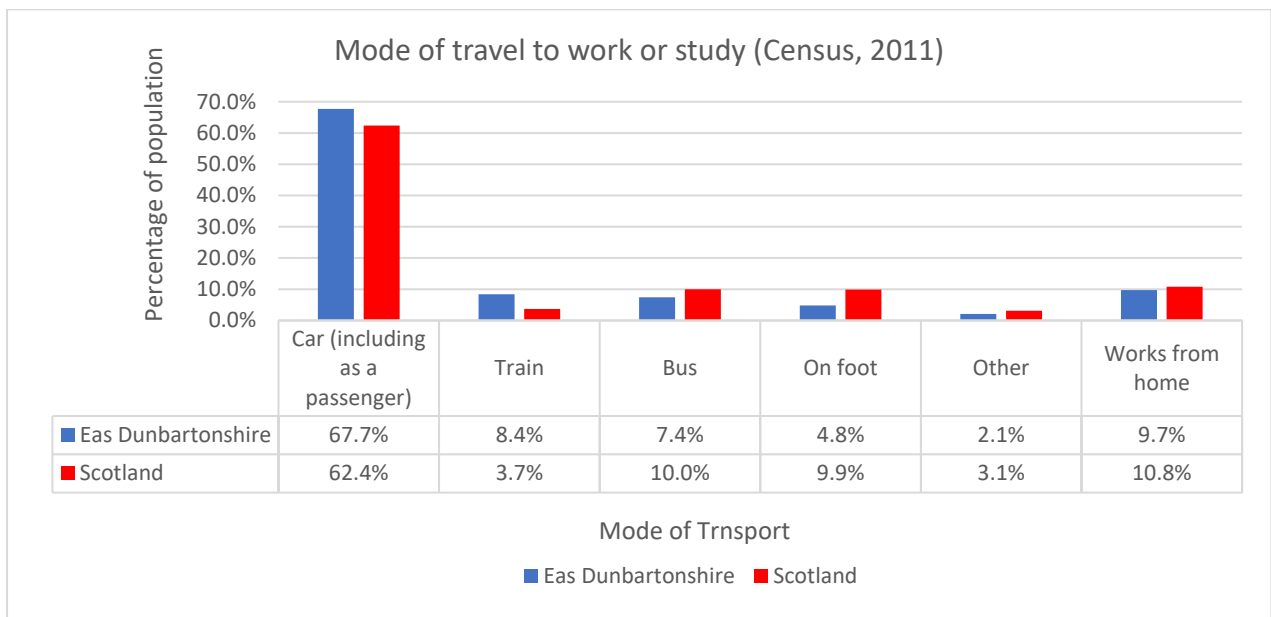
5.6.15. Table 5.8 shows that travel to work or study by car / van (including as a passenger) is 5.1% higher than the national average (62.4%) with 67.7% of individuals, choosing this mode of transport.

5.6.16. 15.8% of East Dunbartonshire’s population either travel to work or study by public transport (train or bus services). When compared to the national average (13.7%) this is 2.1% higher. The national average for those that walk to work or study (9.9%) is 5.1% higher than in East Dunbartonshire (4.8%). This could be a result of the largely rural landscape seen across East Dunbartonshire, and potential reduced access to public transport infrastructure.

5.6.17. 56.3% of households in East Dunbartonshire have no bicycles compared to 70.5% in the Strathclyde Partnership for Transport (SPT) area and 65.6% nationally.

5.6.18. The distribution of bicycles within the council area was also identified within the Local Transport Strategy background report (2020-2025) to show that it is wealthier households that are more likely to own at least one bike.

Table 5.8: Travel to work or study



East Dunbartonshire Council Draft Local Transport Strategy (Background Report (2020-2025))

Housing

5.6.19. East Dunbartonshire Council have identified that they have one of the highest net needs for affordable housing, compared to other Scottish Local Authorities<sup>9</sup>. The Local Development Plan and emerging Local Development Plan (2) identifies the location of new development proposals with potential for changes to transport infrastructure / routes.

<sup>9</sup> East Dunbartonshire Evidence Report 1: Addressing Housing Need and Demand in East Dunbartonshire (2015)



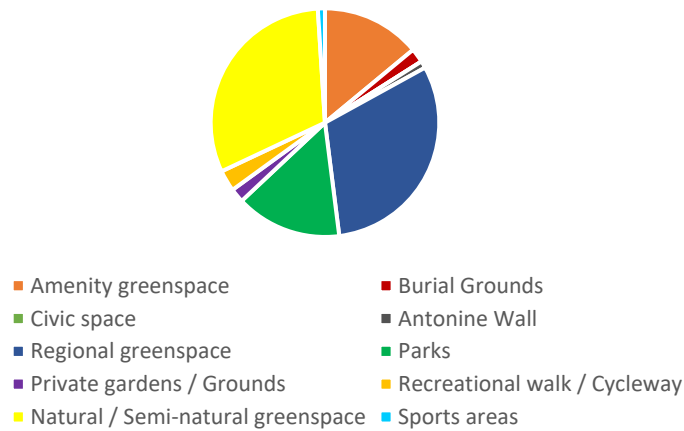


Green / Open Space

- 5.6.20. Approximately half of the Site is designated as green / open space. This includes; woodland, LNCS's (for biodiversity and geodiversity), playing fields and agricultural land.
- 5.6.21. East Dunbartonshire comprises of 973.46ha of urban open space with classifications such as Natural / Semi-natural greenspace and Regional greenspace forming large parts of the landscape. The most recent Open space audit report (2020) highlighted the diverse range of open space classifications found throughout East Dunbartonshire. Chart 5.1 illustrates this level of diversity.

Chart 5.1: East Dunbartonshire Council Open Space breakdown

Open space breakdown in East Dunbartonshire

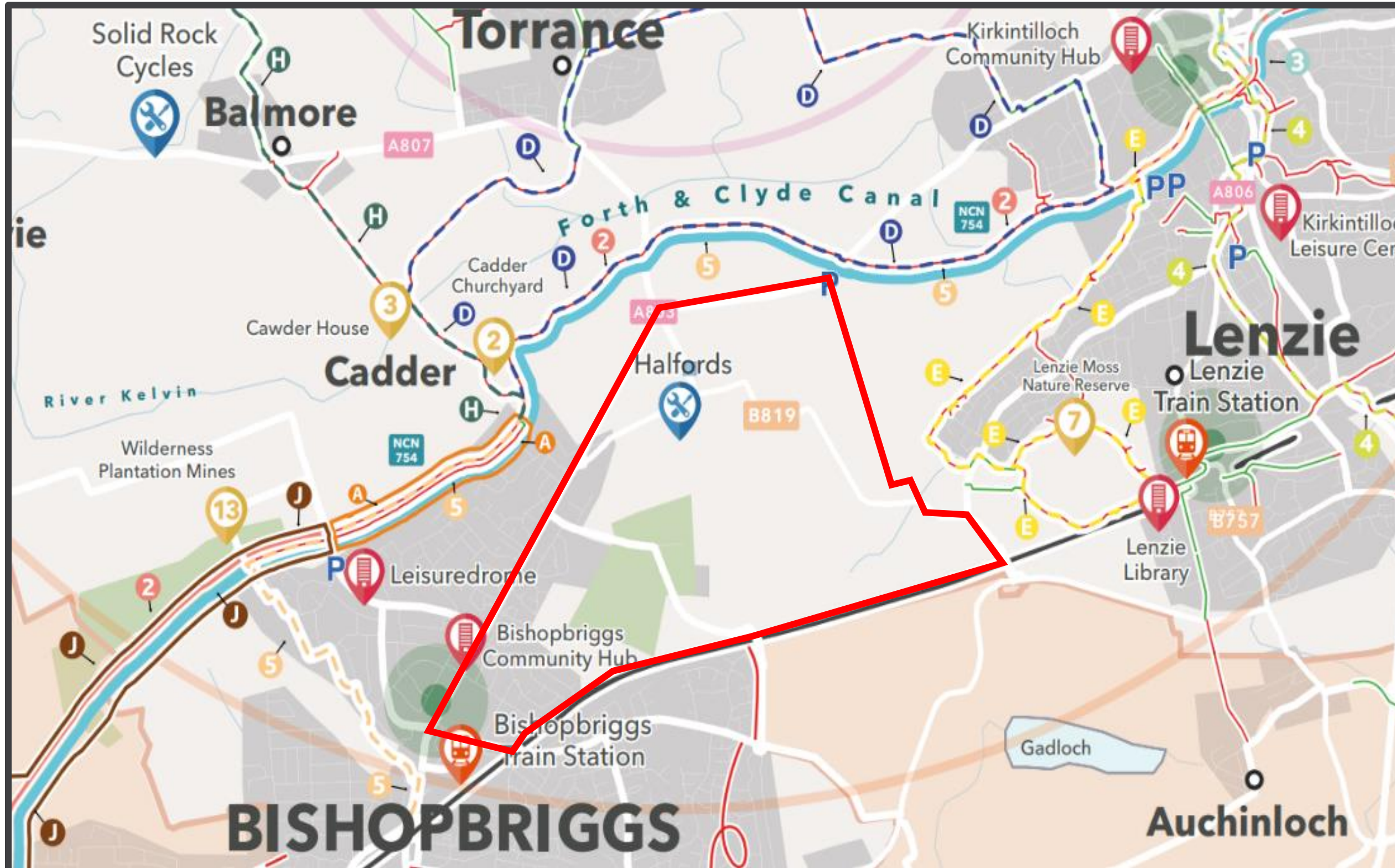


East Dunbartonshire Council Open Space Strategy (2015-2020)

Active travel routes

- 5.6.22. There are no Public Rights of Way (PRoW) situated within the Site. There are a number of key walking and cycling routes in proximity to the Site as well as informal walking routes (desire lines) within the Site. The woodland bordering Low Moss and the green space around the football pitch in the centre of the Site have existing informal walking routes. Routes are understood to be principally used by local dog walkers and off-road bikers. The routes are observed to be circular within the Site and predominantly do not facilitate through routes.
- 5.6.23. Identified routes outwith the Site but in close proximity include:
  - The Hayston Loop;
  - The Lenzie Moss Explorer;
  - The Mugdock Trail;
  - The Possil Loop; and
  - Strathkelvin Railway Path
- 5.6.24. Figure 5.5 outlines where the above routes are positioned in relation to the Site.

Figure 5.5: East Dunbartonshire Local Routes



**Local Routes**

- A** Cadder Loop
- B** Caigdhru Way
- C** Dougalston Trail
- D** Hayston Loop
- E** Lenzie Moss Explorer
- F** Merkland Loop
- G** Reservoirs Trail
- H** Mugdock Trail
- I** Mugdock Explorer
- J** Possil Loop
- K** Bears Way

**Long Distance Routes**

- 1** Clyde Coastal Path
- 2** Forth and Clyde Canal
- 3** John Muir Way
- 4** Strathkelvin Railway Path
- 5** Thomas Muir Trail
- 6** West Highland Way

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Source: East Dunbartonshire Council Cycling and Walking routes (2018)



#### Key nodes of transport

5.6.25. For the purposes of this assessment, key nodes were identified to reflect the main local destinations / settlements and reflect transport routes in and around the WRA Masterplan. These include:

- Torrance
- Kirkintilloch
- Lenzie
- Auchinairn
- Junction at A803 and Westerhill Road

#### Community food growing assets

5.6.26. Food growing assets (excluding agriculture – addressed in section 5.4) identified within the electoral ward of East Dunbartonshire Council and the approximate relative position in relation to the Site:

- Rosebank Allotment – Kirkintilloch (3.8km east of the Site);
- Torrance – Demonstration Garden (1.5km north of the Site);
- Twechar – community growing spaces (Nearest to the Site is 8km east); and
- Hillhead Housing Association – Garden and Friars Croft Orchard (3.2km east of the Site)

### **5.7. Waste and Material Assets**

5.7.1. East Dunbartonshire Council Local Transport Strategy (2020-2025) identified Inchbelle Quarry as the operating landfill within the council area, used for the disposal of inert materials (mainly construction). All household and commercial municipal waste is transferred to landfills in North Lanarkshire.

5.7.2. East Dunbartonshire has one household waste and recycling centre and 12 bring bank sites located throughout Bishopbriggs, Kirkintilloch, Bearsden, Milngavie, Lennoxton and Milton Campsie.

### **5.8. Energy**

5.8.1. The Scottish Government have committed to 50% of Scotland's energy being from renewable sources by 2030, with the aim of decarbonising the energy system almost completely. During the first quarter of 2020, 11,891 Megawatts (MWs) of renewable energy capacity were installed across the country, which was predominantly provided by onshore wind and large scale hydropower, but also included technology such as biomass, solar photovoltaics and sewerage sludge digestion<sup>10</sup>.

5.8.2. East Dunbartonshire Council has outlined its goals to deliver 'low carbon and zero carbon technologies' in line with Section 3F of the Town & Country Planning (Scotland) Act 1997 which promotes the installation and operation of low and zero carbon generating technologies (LZCGT) new developments.

5.8.3. Some examples of LZCGTs that the Council is willing to support include: wind turbines, solar thermal panels, fuel cells, water turbines, photovoltaic panels, biomass boilers / stoves (subject to Air Quality Planning Guidance), heat pumps (all varieties), combined

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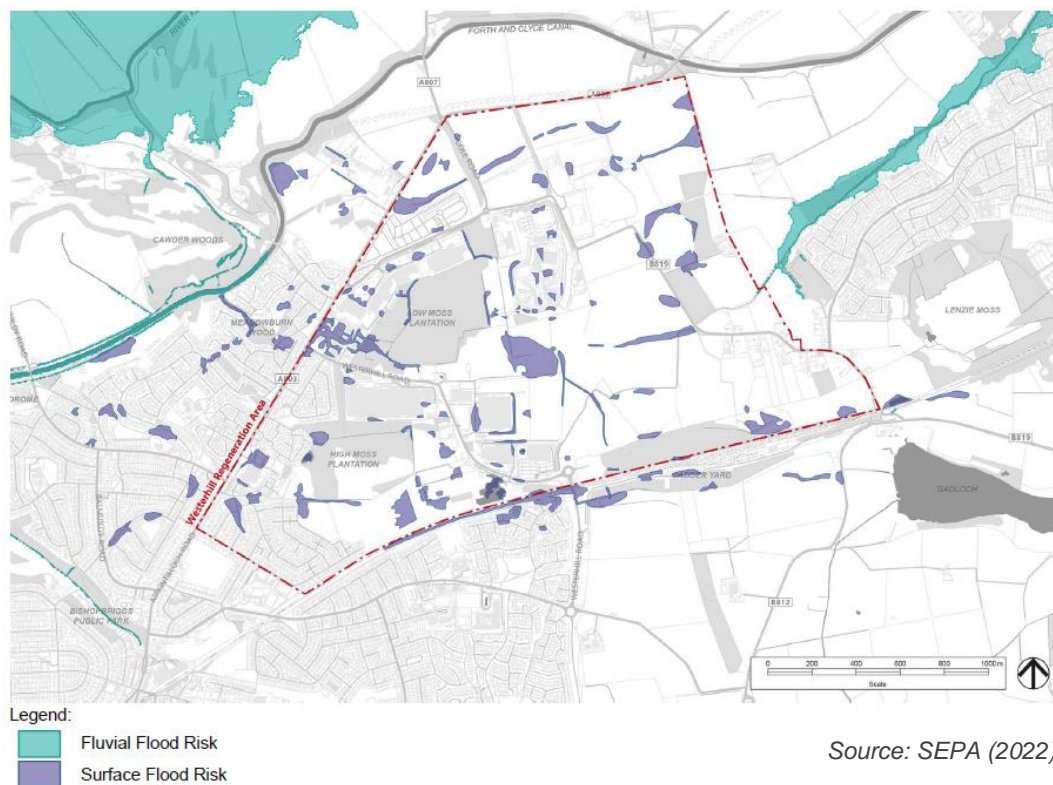
<sup>10</sup> Scottish Government, Minister for Energy, Connectivity and the Islands, Renewable and low carbon energy available at: <https://www.gov.scot/policies/renewable-and-low-carbon-energy/> (Accessed: June, 2022)

heat and power units (but only where fired by zero or low-carbon fuel) and biogas. Applicants are also encouraged to install shared energy networks rather than individual solutions on separate buildings, wherever possible.

## 5.9. Water Environment

- 5.9.1. There is no predicted fluvial flooding within the WRA Masterplan area. Park Burn is located east of the Site boundary and is identified as having both fluvial and pluvial flooding on the SEPA flood maps (Figure 5.6). This watercourse is located downstream of the Site and runs in proximity to existing residential housing.
- 5.9.2. There are areas of surface water flooding across the Site. Larger areas of ponding are close to both the Low Moss and High Moss Plantation and the meltwater channel feature.

Figure 5.6: WRA Masterplan Flood Risk Plan



- 5.9.3. The Preliminary Peat Risk Appraisal (Appendix E) identified moderate and high risk areas of peat. This identified sensitive areas, based on a recent survey walkover, historical survey records and modern basemapping. This indicates areas of likely sensitive groundwater receptors and key points included; area between Crosshill Rd and Cadder Depot, area east Low Moss LNCS and west of HMP Low Moss, and area south of HMP Low Moss and south east of Low Moss LNCS.

## 5.10. Air Quality

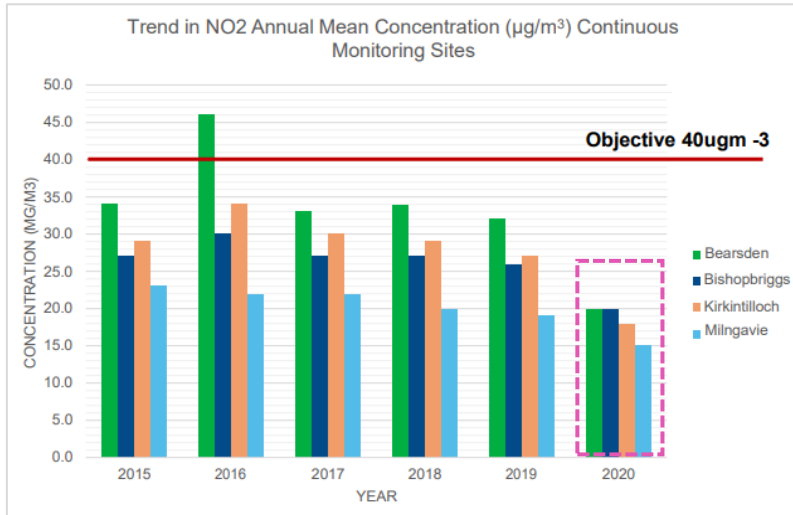
- 5.10.1. The main pollutants identified in the East Dunbartonshire Air Quality Management Plan are:
- NO<sub>2</sub>
  - PM<sub>10</sub>
  - PM<sub>2.5</sub>

- 5.10.2. There are no Air Quality Management Area's (AQMA's) situated within the Site. However, there is one AQMA (Bishopbriggs) which borders the Site's western boundary at the junction of the A803 and Westerhill Road. This was declared an AQMA in 2005 after several years of exceeding national NO<sub>2</sub> and PM<sub>10</sub> objective levels. East Dunbartonshire did have a second AQMA until recently; the Bearsden Cross AQMA was revoked in September 2022. The Bishopbriggs AQMA will be reviewed post completion of all City Deals works, enabling an accurate assessment of the impacts on the existing AQMA to take place.
- 5.10.3. In East Dunbartonshire, the main pollutants are attributed to the volume of traffic and congestion.<sup>11</sup>
- 5.10.4. As a result of the COVID-19 pandemic and several lockdowns restricting travel, a noticeable reduction in the volume of traffic and congestion has been recorded resulting in a considerable reduction across East Dunbartonshire in pollutant levels. This is reflected in Tables 5.9, 5.10 and 5.11, which detail the recorded levels of pollution in recent years. Baseline information from 2020 should not be deemed appropriate due to national lockdown measures impacting on vehicle movement and monitored concentrations.
- 5.10.5. Tables 5.9, 5.10 and 5.11 illustrate the concentration levels of NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> across all the monitoring sites and AQMA's.
- 5.10.6. The red line in each table reflects the Air Quality Objectives (AQO) for Scotland to be achieved by 2005, and is still used as a guideline for current monitoring and management:
- NO<sub>2</sub> annual mean of no more than 40 µg/m<sup>3</sup>;
  - PM<sub>10</sub> annual mean of 18 µg/m<sup>3</sup>; and
  - PM<sub>2.5</sub> annual mean of 10 µg/m<sup>3</sup>
- 5.10.7. Table 5.9 shows there have been no exceedances of the NO<sub>2</sub> annual mean AQO over these 5 years of monitoring at all locations within East Dunbartonshire Council, apart from in 2016 where Bearsden recorded an annual mean of above 45 µg/m<sup>3</sup>.
- 5.10.8. Table 5.10 shows varying levels in the concentration of PM<sub>10</sub> across all the monitoring sites and AQMAs. Generally, concentration levels of PM<sub>10</sub> have remained consistently below the AQO (18 µg/m<sup>3</sup>) throughout East Dunbartonshire Council. In 2019 Bishopbriggs and Bearsden saw sharp decreases in their annual mean falling significantly below the AQO for the first time.
- 5.10.9. Table 5.11 shows the annualised measured concentration of PM<sub>2.5</sub> across all the monitoring sites to be substantially below the AQO level. There were no recorded exceedances of the air quality objectives for PM<sub>2.5</sub> within East Dunbartonshire in 2019.

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<sup>11</sup> Air Quality Annual Progress Report (APR) for East Dunbartonshire Council, 2021

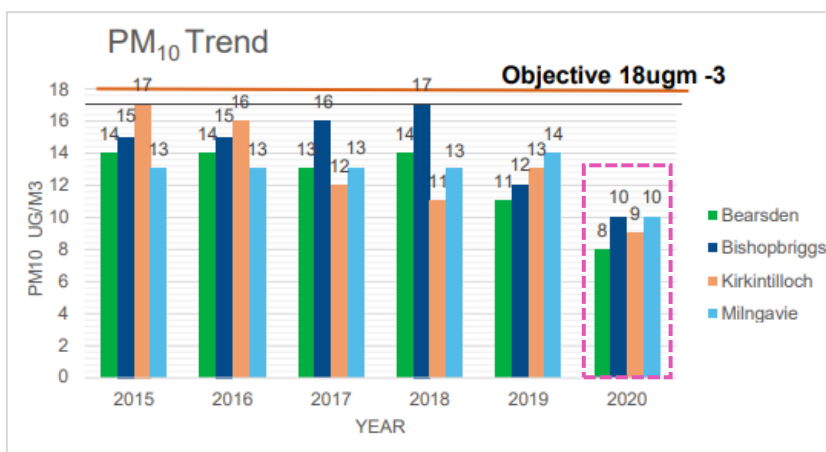
Table 5.9: NO<sub>2</sub> Annual Mean Concentration across East Dunbartonshire



 COVID-19  
 Pandemic

Source: East Dunbartonshire Council Air Quality Annual Progress Report (2021)

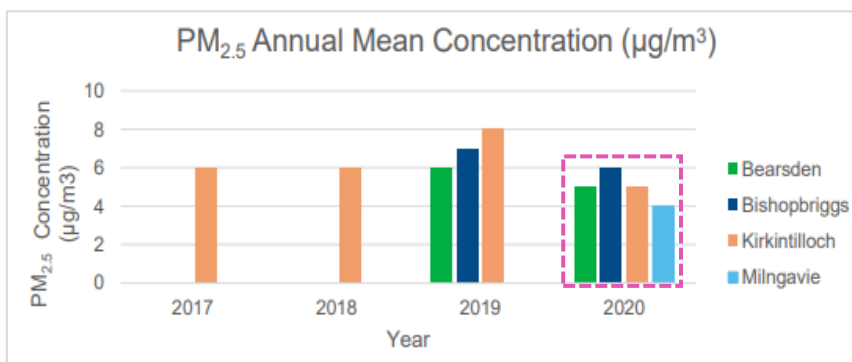
Table 5.10: PM<sub>10</sub> Mean Concentration across East Dunbartonshire:



 COVID-19  
 Pandemic

Source: East Dunbartonshire Council Air Quality Annual Progress Report (2021)

Table 5.11: PM<sub>2.5</sub> Mean Concentration across East Dunbartonshire



 COVID-19  
 Pandemic

Source: East Dunbartonshire Council Air Quality Annual Progress Report (2021)

## 5.11. Climate

### Carbon

- 5.11.1. According to UK local authority and regional carbon dioxide emissions national statistics<sup>12</sup>, East Dunbartonshire's total emissions of CO<sub>2</sub> in 2019 by sector is shown in Table 5.12.

Table 5.12: East Dunbartonshire Council Emissions breakdown (2019)

Sector	Emissions (ktCO <sub>2</sub> )	Percentage
Domestic	185.00	46%
Transport	127.5	32%
Industry	31.90	8%
Commercial	27.70	7%
Public Sector	17.00	4%
Land use, land use change and farming	12.4	3%
<b>Total</b>	<b>401.50</b>	

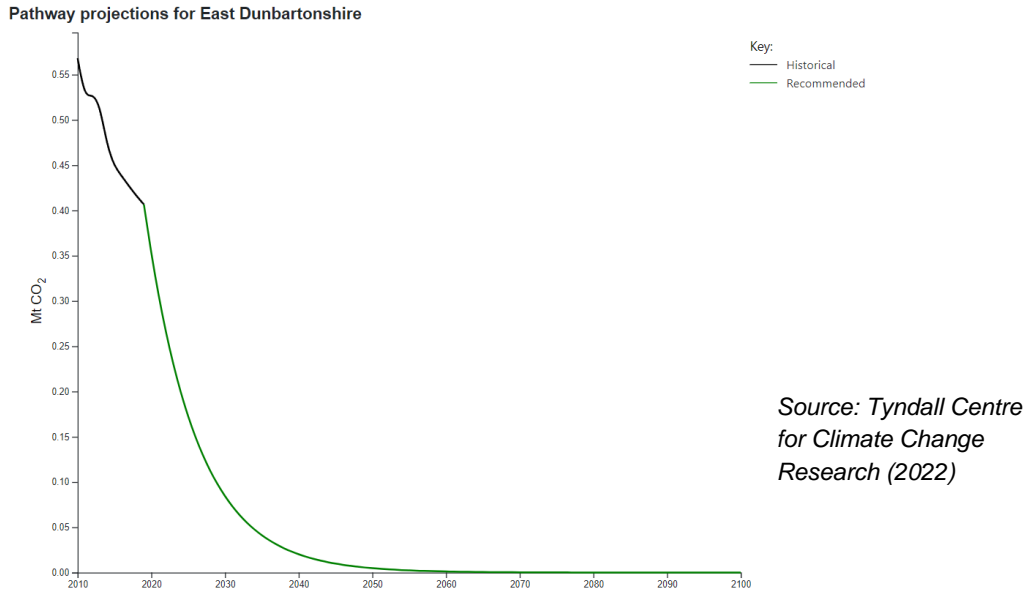
- 5.11.2. A Climate Action Plan (CAP) is currently being developed to set out East Dunbartonshire's plan to support the Scottish Government's targets of a 75% reduction in carbon emissions (compared to 1990) by 2030 and net zero emissions by 2045, as set out in Scotland's 2018-2032 Climate Change Plan Update. A net-zero target for East Dunbartonshire is being proposed along with other numerous targets on the journey to achieving this.<sup>13</sup>
- 5.11.3. Graph 5.1 shows East Dunbartonshire's progress and contribution to delivering the Paris Agreement's commitment to staying "well below 2 °C and pursuing 1.5 °C" global temperature rise.

<sup>12</sup> <https://www.gov.uk/government/statistics/uk-local-authority-and-regional-carbon-dioxide-emissions-national-statistics-2005-to-2019> (Accessed: May, 2022).

<sup>13</sup> <https://www.eastdunbarton.gov.uk/residents/planning-and-building-standards/sustainability-and-climate-change/climate-action-plan-cap> (Accessed: April, 2022)



Graph 5.1: Energy sector related CO<sub>2</sub> emission projections (2010-2100) and recommended carbon budget



- 5.11.4. The projected figures indicate the need for East Dunbartonshire to implement a rapid and stringent decarbonisation action with immediate effect to have a chance at staying within the recommended carbon budget. This includes decision making on development and the WRA Masterplan.
- 5.11.5. Under the conditions modelled by the Tyndall Climate institute, from 2020 onwards, East Dunbartonshire Council would need to reduce their CO<sub>2</sub> emissions by 13.3% per year to meet the regional carbon budget and achieve net zero by 2050. This target informs the baseline for future emissions as a result of the WRA Masterplan and other developments within East Dunbartonshire.
- 5.11.6. East Dunbartonshire Council has proposed that all new developments be designed in such a way that they minimise carbon emissions in accordance with the energy hierarchy<sup>14</sup>:
- **“Reduce the demand for energy:** The first stage in the energy hierarchy focuses on minimising the need for energy in the first place. This can be achieved through choice of location, orientation, shading and layout.
  - **Maximise the energy efficiency of buildings:** A ‘fabric first’ approach should be adopted through the use of sustainable design techniques and materials. This includes high quality insulation, thermal performance, airtightness and efficient ventilation.
  - **Energy generation from renewable or low carbon sources:** Once the maximum viable energy efficiency has been achieved through the ‘fabric first’ approach, the role of ‘low and zero carbon generating technologies’ to further reduce carbon emissions should be considered. Section 3F of the Town & Country Planning (Scotland) Act 1997 promotes the installation and operation of low and zero carbon generating technologies (LZCGT) in new development.

<sup>14</sup> East Dunbartonshire Council Local Development Plan (2) Environmental Report (2020)



- **Incorporating conventional energy sources:** Conventional heat and energy sources should only be included in the design of new development where it can be demonstrated, to the satisfaction of the Council, that the principles of stages 1-3 of the energy hierarchy have been fully considered.”

#### Climate Resilience & Adaptation

- 5.11.7. Climate Ready Clyde (CRC) is cross-sector initiative funded by fifteen member organizations and supported by the Scottish Government to create a shared vision, strategy and action plan for an adapting Glasgow City Region and places a significant emphasis on making the region climate resilient.
- 5.11.8. To support this process for Glasgow City Region, 4 Earth Intelligence and Clydeplan have provided support to CRC to set an initial round of targets. As part of the application process CRC is using spatial data as evidence to indicate the number of people and percentage of population that may be vulnerable to climate change, within Glasgow City Region. To date, there have been four key conclusions from the findings:
- A total of 359,091 people live in postcodes that may experience either heat hazard or flood risk (20.6%). Of these, 140,445 people are in the top 20% of the SIMD (39%).
  - A total of 244,162 people live in postcodes that may experience heat hazard (14%). Of these, 104,929 people are in the top 20% of the SIMD (42%).
  - A total of 137,607 live in postcodes that may experience flood risk (7.8%). Of these, 45,072 are in the top 20% of the SIMD (32%).
  - A total of 22,678 live in postcodes that may experience heat hazard and flood risk (1.3%). Of these, 9,556 are in the top 20% of the SIMD (42%).

### **5.12. Noise and Vibration**

- 5.12.1. East Dunbartonshire does not currently have any Noise Management Area's (NMA's) or designated Quiet Areas.
- 5.12.2. Within the WRA Masterplan, two dominant noise sources identified are the A803 (bordering the Sites north and west boundary) and the Glasgow to Edinburgh railway line (bordering the southern boundary).
- 5.12.3. Other noise sources include the B819 running through the Site and some minor industrial noise produced from the industrial estate towards the south west corner of the Site.

### **5.13. Key Baseline Receptors**

- 5.13.1. On site:
- properties either side of the B819 in the south eastern corner of the Site;
  - residential properties forming a part of an estate situated next to the High Moss Plantation;
  - Bearhill Farm – situated along the eastern boundary of the Site;
  - LNCS – High Moss and Low Moss;
  - Leafield Cottage – Adjacent to the Sites northern boundary (i.e. the A803); and
  - Westerhill Farmhouse Care Visions – Children's home

5.13.2. Off site within 500m of the Site boundary:

- St Matthews Primary School & Wester Cleddens Primary School;
- Frontiers of the Roman Empire (Antonine Wall) - World Heritage Site;
- Forth and Clyde Canal (Scheduled Monument);
- Meikerhil Farm;
- Campsie View School;
- Saint Helen's Primary School;
- Thomas Muir Primary School;
- Bishopbriggs Academy;
- Meadowburn primary School; and
- East Cadder House

## **5.14. Ecosystem Services**

5.14.1. In summary, the baseline information indicates a complex set of urban and natural systems with a great deal of potential for enhancement to the benefit of humans' well-being and nature.

### Provision Services:

5.14.2. A limited presence of provisioning services related to food and fresh water but with significant potential to be improved in any future scenario given quality of soil on the Site and future aspirations of the local community (i.e., East Dunbartonshire Council emerging Food Growing Strategy).

### Regulating Services:

5.14.3. A fragmented presence of regulating services with potential to be reconnected and strengthened. These include biodiversity habitat enrichment, moderation of climate change and carbon sequestration by nurturing and improving the Sites biodiversity and geodiversity assets. These can take the form of nature-based flood protection solutions to mitigate or adapt to the current and / or future increase in surface water flooding conditions at Park Burn, the glacial meltwater channel and the towards the centre of the Site.

5.14.4. The PPRA, revealed a few areas of high-risk peat identified throughout the Site, concentrated around the three LNCS's (Low Moss, High Moss and Cadder). These areas can be enhanced to improve the Sites proficiency of carbon sequestration / capture.

5.14.5. The identification of an AQMA running along the A803 (Western boundary of the Site) is a site of importance categorised under the Sites regulatory services. Further benefit is created by introducing green spaces and surfaces to create barriers to stop pollutant pathways, improve rainfall water runoff from underused hard surfaces and reduce the impacts of the urban heat island effect as a result of the WRA Masterplan.

### Habitat and Supporting Services

5.14.6. There is a diverse multitude of habitats within the Site, including:

- woodland;
- hedgerows;
- moorland;
- peatland;
- field Margins; and

- pockets of marshland.

- 5.14.7. Two of the LNCS (with a biodiversity designation) are within the boundary extents – Low Moss and High Moss Plantations. These two LNCS sites have associated TPOs, ancient woodland and open spaces / community gardens. The LNCS contain Green Network Nodes which connect with other habitats outside of the WRA Masterplan site boundary.
- 5.14.8. The Forth and Clyde Canal is north of the Site boundary. The river and canal corridors in East Dunbartonshire contribute significantly to wide ranging habitats and biodiversity. The natural environment plays a considerable role in healthy lives, supports the management of carbon associated emissions and creates a desirable, social and economic destination.

#### Cultural and Education Services

- 5.14.9. The Site is underutilised for recreational health, despite having some informal path networks, football pitch and driving range. The provision of walking, sports, and non-motorised commuting infrastructure provide multiple physical and mental health benefits. This is something that is becoming increasingly recognised in the wake of the COVID-19 crisis.
- 5.14.10. Absence of rest facilities impacts inclusivity and accessibility.
- 5.14.11. There are no designated heritage assets within the Site, however the Site is in proximity to the Antonine Wall Heritage Site situated north of the WRA Masterplan site boundary (UNESCO world heritage site) and the Forth and Clyde Canal (Scheduled Monument).
- 5.14.12. The former World War II Barrage Balloon Site is an important, local historical feature despite not holding any designation and potential focal point within the future use of the Site.
- 5.14.13. Historical assets in and around the Site are underutilised in terms of their ability to attract and educate visitors. Improvements to these assets will help two-fold; firstly the local businesses will benefit from the increase of visitors and secondly the visitors themselves will benefit through increasing their leisure, cultural choices and educational awareness.
- 5.14.14. In summary, the WRA Masterplan comprises a diverse range of ecosystem services which directly and indirectly influence one another. Numerous services and their interlinkages have been identified to help inform the decision-makers of the likely impacts on these services when implementing the WRA Masterplan.

## 6. Masterplan Options

### 6.1. Introduction

6.1.1. This section details the four main spatial options considered and the individual variations. For the WRA Masterplan options being considered, there are elements that are consistent to all.

6.1.2. All options have been assessed on the basis that they include the following:

- green / open space;
- existing built environment;
- proposed development parcels;
- new / improved road network;
- proposed active travel routes;
- proposed dedicated walking route;
- proposed mobility hub and bus stops;
- water / SuDS; and
- proposed habitat nodes.

6.1.3. As instructed by East Dunbartonshire Council, the following elements have not been included when comparing the proposed masterplan options but have been included as part of the cumulative assessment. These developments are being progressed separately to this Masterplan.

- Proposed Crematorium Site (Planning application TP/ED/17/0865);
- Preferred Cemetery Expansion Site (LDP2: Policy 3.CF1 – Cadder cemetery expansion); and
- Alternative Cemetery Extension Site (Indicative location outlined in the Westerhill Masterplan: Project Vision and Spatial Options Report).

### 6.2. Preferred Vision, Principles and Placemaking Objectives

6.2.1. The spatial options of the WRA Masterplan have incorporated a specific vision and place making objectives. This is summarised below.

#### Preferred Vision

6.2.2. Multiple visions were considered including; Green Economies, Sustainable communities to live, work and play and Green networks. The preferred vision is to achieve a vibrant and sustainable development where innovative, green business opportunities meet well connected, socially and environmentally resilient communities.

#### Placemaking Objectives

6.2.3. Figure 6.1 outlines the eight placemaking objectives assigned to the WRA Masterplan.

Figure 6.1: WRA Masterplan Placemaking Objectives



### Employment

- Create jobs for Bishopbriggs and the wider community



### Circular Economy

- Promote circular economy and sustainable business practices (green economy)
- Attract industries with green credentials



### Carbon

- Encourage net-zero carbon development with a potential for carbon positive
- Explore alternative energy sources / diversify energy sources and nature based green-blue infrastructure solutions
- Attract industries with green credentials



### Diverse and Affordable housing

- Build good quality, sustainable and energy efficient housing
- Provide varied housing typologies and tenures

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### Leisure

- Create a destination for recreation and leisure through connected natural, tranquil and activity based open spaces
- Provide access to protected and enhanced environmental and heritage assets
- Provide appropriate services to encourage local tourism



### Connectivity

- Create well connected places through enabling active travel and prioritising sustainable public transport
- Create high quality and accessible public realm



### Health and well-being

- Maximise access to nature through accessible paths
- Promote inclusive design and accessibility



### Biodiversity Enhancement

- Peatland Protection and Enhancement
- Protect existing ecological habitats and create new habitat nodes
- Potential creation of a Local Nature Reserve
- Promote community stewardship and management

Source: Westerhill Masterplan, Project Vision and Spatial Options Report (March, 2022)

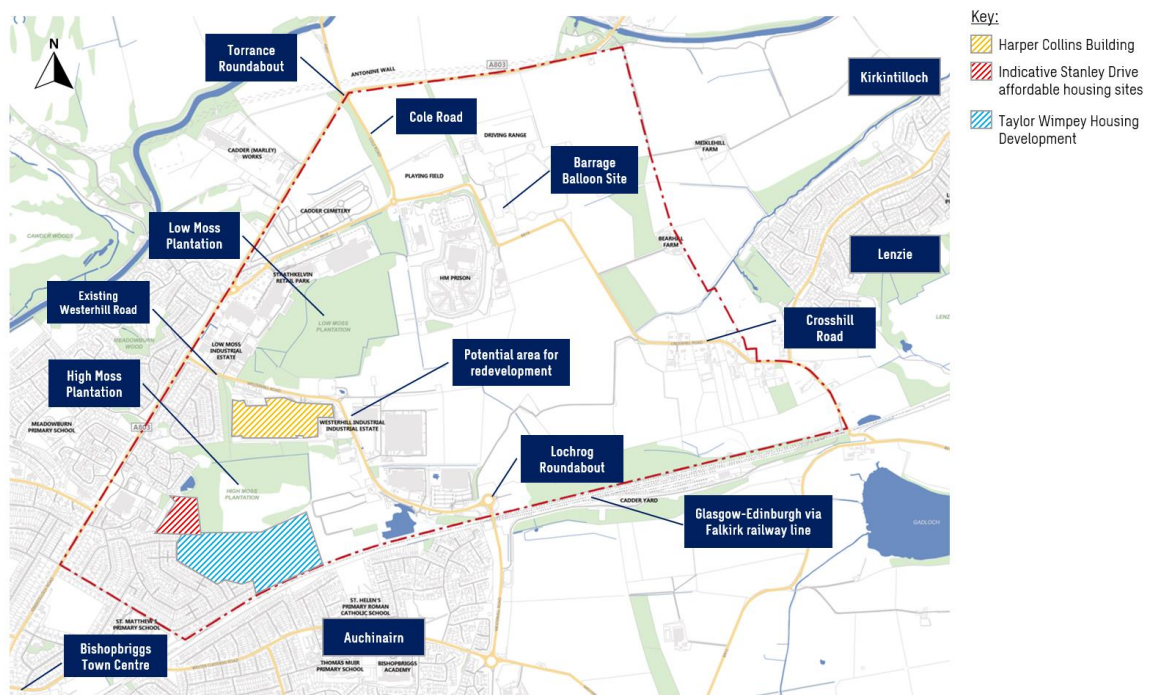


### 6.3. Key References

6.3.1. To help the reader identify where elements of the Masterplan options are located, Figure 6.2 has been provided with key references used in the text description highlighted.

6.3.2. Descriptions of spatial options 1 to 4 are provided in section 6.4.

Figure 6.2: WRA Masterplan key sites



## Spatial Option 01



Figure 33. Spatial Option 1 plan

Table 2. Spatial Option 1 Development Schedule

Proposed Land for Development, incl. retained Westerhill industrial estate	Proposed Open Space Area and Primary Roads	Proposed no. of Homes	Proposed Employment Space (sqm)	Retained Employment (sqm), incl. Low Moss industrial estate	Proposed Community and Leisure Use (sqm) - excl. glamping
48.9 ha	180 ha	183	67,920 (17 ha proposed land for development)	112, 590	15,841



## Spatial Option 02

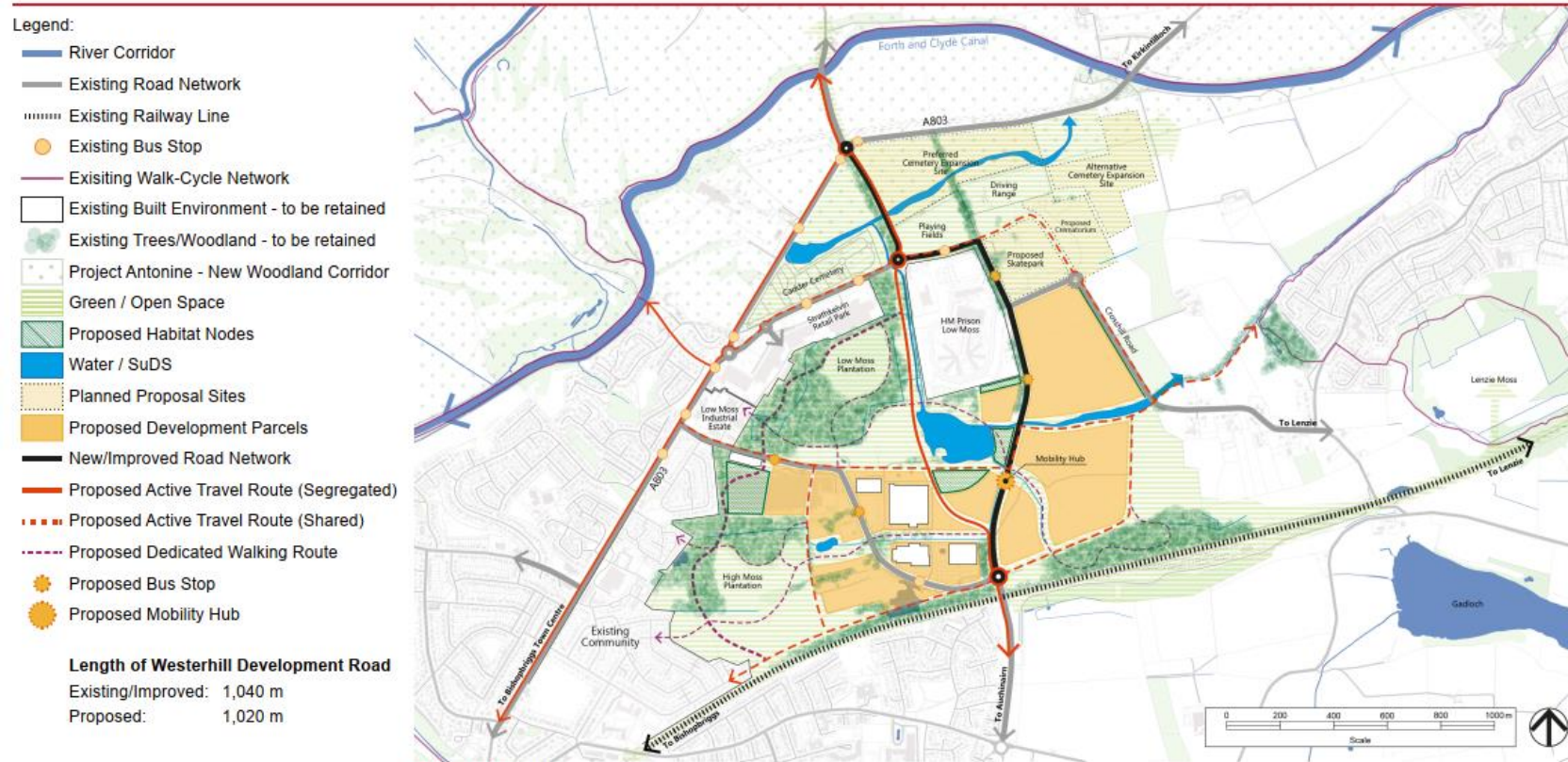


Figure 34. Spatial Option 2 plan

Table 3. Spatial Option 2 Development Schedule

Proposed Land for Development, incl. retained Westerhill industrial estate	Open Space Area and Primary Roads	Proposed no. of Homes	Proposed Employment Space (sqm)	Retained Employment (sqm), incl. Low Moss industrial estate	Proposed Community and Leisure Use (sqm) - excl. glamping
62.5 ha	167 ha	312	108,750 (34 ha proposed land for development)	66,147	13,415

## Spatial Option 03

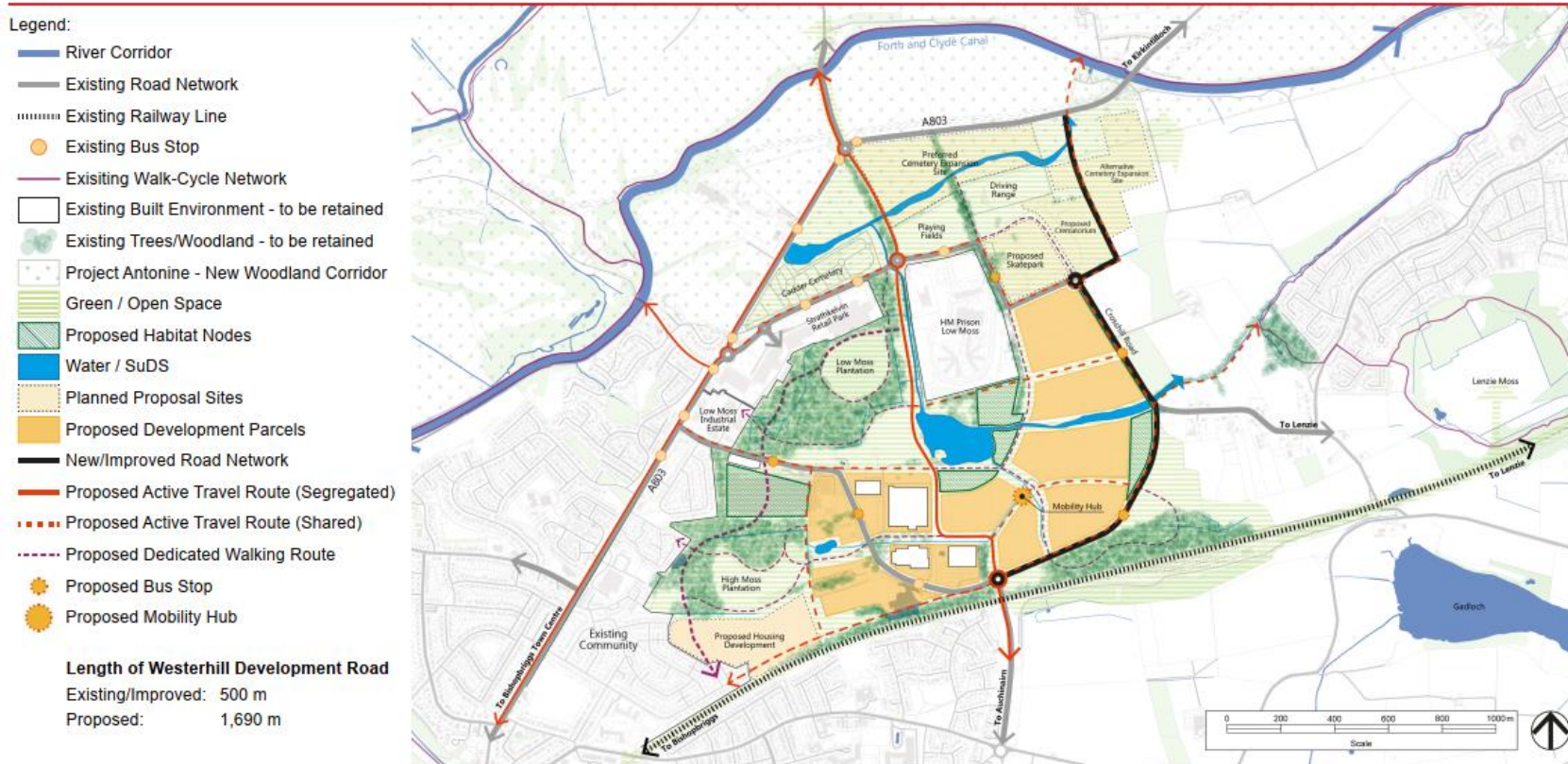


Figure 35. Spatial Option 3 plan

Table 4. Spatial Option 3 Development Schedule

Proposed Land for Development, incl. retained Westerhill industrial estate	Open Space Area and Primary Roads	Proposed no. of Homes	Proposed Employment Space (sqm)	Retained Employment (sqm), incl. Low Moss industrial estate	Proposed Community and Leisure Use (sqm) - excl. glamping
65 ha	163 ha	450	107,140 (29.4 ha proposed land for development)	66,147	18,890



## Spatial Option 04

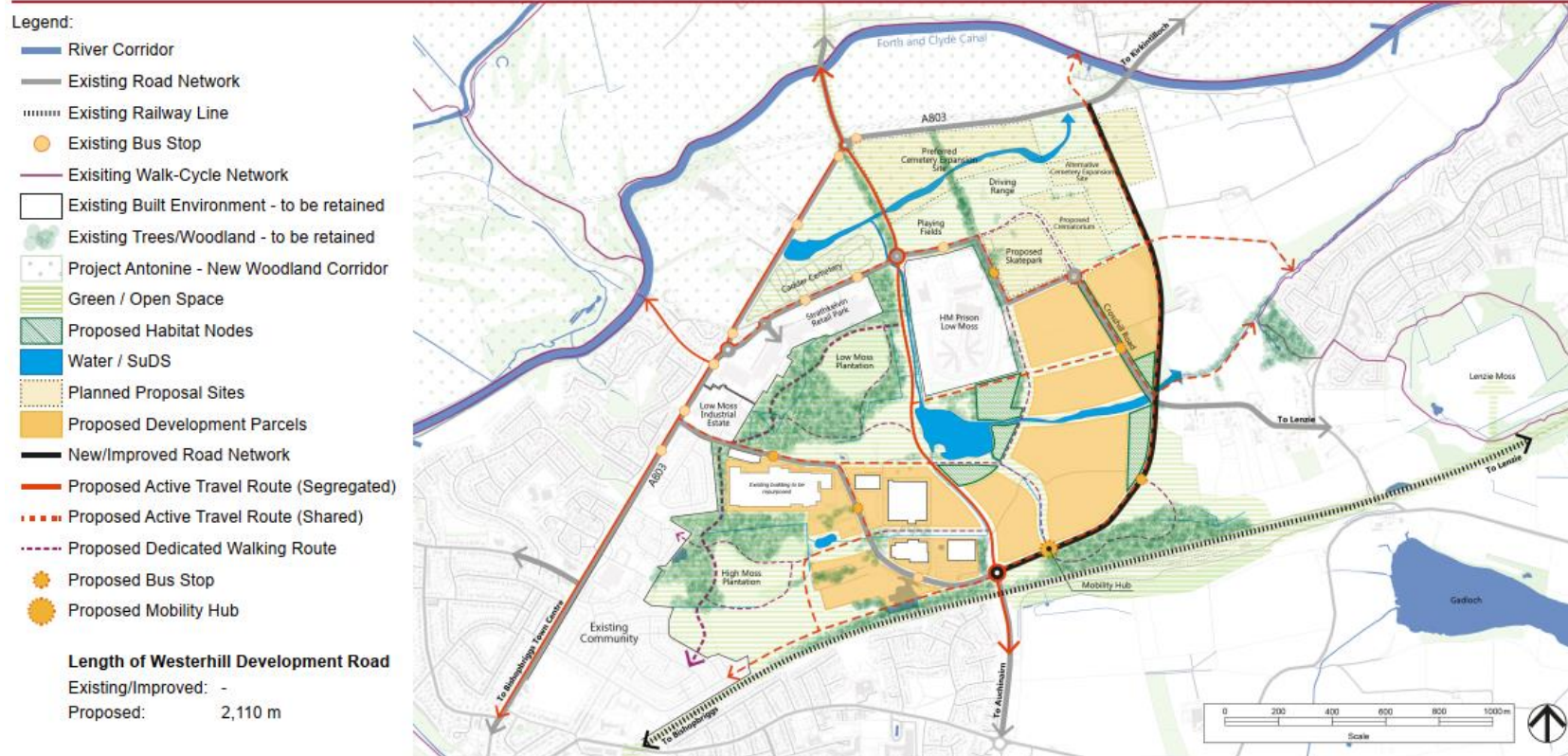


Table 5. Spatial Option 4 Development Schedule

Proposed Land for Development, incl. retained Westerhill industrial estate	Open Space Area and Primary Roads	Proposed no. of Homes	Proposed Employment Space (sqm)	Retained Employment (sqm), incl. Low Moss industrial estate	Proposed Community and Leisure Use (sqm) - excl. glamping	Potential Expansion to the east (sqm)
70.1 ha	155 ha	450	101,687 (28.5 ha proposed land for development)	112,590	16,595	75,674

## 6.4. Proposed Options

### Spatial Option One

- 6.4.1. This option limits the extent of development to Crosshill Road and overall utilises the least amount of greenfield area for development.
- 6.4.2. The Cole Road and Crosshill Road are retained and widening of / improvements to the existing Westerhill Road.
- 6.4.3. The WDR is proposed to originate from the A803 to the west, utilising the existing Westerhill Road, extending to the east of Westerhill Industrial Estate and connecting to Lochgrog roundabout to the south.
- 6.4.4. Development is facilitated on both sides of the proposed WDR.
- 6.4.5. The proposed development includes a mix of employment, housing, community and leisure uses.
- 6.4.6. The proposed defensible boundary is a mix of planned cemetery expansion and a Crematorium to the north east, Crosshill Road to the east and proposed active travel route to the south east.

### Spatial Option Two

- 6.4.7. This option limits the extent of development to Crosshill Road.
- 6.4.8. The existing Westerhill Road, Cole Road and Crosshill Road are retained.
- 6.4.9. The WDR is proposed to originate from Torrance roundabout to the north, utilising the existing Cole Road and a section of Crosshill Road, further aligned along the eastern edge of the HMP Low Moss and connecting to Lochgrog roundabout to the south.
- 6.4.10. Widening of / improvements to existing Cole Road, Crosshill Road and Torrance roundabout are proposed.
- 6.4.11. Widening of / improvements to existing Cole Road, Crosshill Road and Torrance roundabout are proposed.
- 6.4.12. Development is facilitated on both sides of the proposed WDR.
- 6.4.13. The proposed development includes a mix of employment, housing, community and leisure uses.
- 6.4.14. This Spatial Option lacks a defensible boundary; however a proposal has been suggested as part of the further recommendations section in an additional appraisal matrix.

### Spatial Option Three

- 6.4.15. This option limits the extent of development to Crosshill Road.
- 6.4.16. The existing Westerhill Road and Crosshill Road are retained. Cole Road will be downgraded as an active travel route.
- 6.4.17. The WDR is proposed to originate from the A803 to the northeast of the Site, aligned to the eastern edge of the planned Crematorium, utilising a section of Crosshill Road and going westwards connecting to Lochgrog roundabout to the south.
- 6.4.18. Widening of / improvements to Crosshill Road are proposed.
- 6.4.19. Development is facilitated to the west of the proposed WDR.



- 6.4.20. The existing Harper Collins building on Westerhill Road is proposed for partial demolition to establish a stronger visual and physical connection between High Moss and Low Moss Plantation Sites.
- 6.4.21. The proposed development includes a mix of employment, housing, community and leisure uses.
- 6.4.22. Potential inclusion of planned housing proposals to the south of High Moss Plantation Site.
- 6.4.23. The proposed WDR forms a defensible boundary to the Site.

#### Spatial Option Four

- 6.4.24. This option extends the limit of development up to the proposed WDR
- 6.4.25. The existing Westerhill Road and Crosshill Road are retained. Cole Road will be downgraded as an active travel route.
- 6.4.26. The WDR is proposed to originate from the A803 to the northeast of the Site, aligned to the east of the planned Crematorium (dividing the cemetery expansion Site into two), and going westwards to connect to Lochgrog roundabout to the south. The proposed WDR does not utilise any existing road infrastructure on the Site.
- 6.4.27. Development is facilitated to the west of the proposed WDR.
- 6.4.28. The existing physical connection between High Moss and Low Moss Plantation Sites is retained and strengthened.
- 6.4.29. The proposed development includes a mix of employment, housing, community and leisure uses.
- 6.4.30. The proposed WDR forms a defensible boundary to the Site and is the longest route amongst the three options presented.

### **6.5. Individual Variations**

- 6.5.1. In addition to the Masterplan options, specific variations were also considered within the assessment to consider the impacts if they were to be implemented. These are:

#### Harper Collins Building

- 6.5.2. Discussion with East Dunbartonshire Council and Harper Collins have indicated that the building located at 103 Westerhill Road is due to be vacant in 2025. It is unclear at this stage what the future use of the building will be. In response, the assessment has considered:
  - Retention of the building and redevelop / refurbish within the same footprint (spatial options 1, 2 and 4).
  - Demolition of the existing building, build within a smaller footprint on the eastern side of the plot and provide green space that adjoins with high moss LNCS (spatial option 3 – Figure 6.3).

Figure 6.3: Harper Collins Building Variation



Taylor Wimpey Housing

6.5.3. A proposed housing development is located in the south west corner of the Site. The proposals are within the High Moss LNCS and overlaps with proposed active travel routes of the WRA Masterplan options.

6.5.4. Proposals developed by Taylor Wimpey are shown in Figure 6.4.

Figure 6.4: Taylor Wimpey development proposal





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#### Stanley Drive Affordable Housing

- 6.5.5. East Dunbartonshire Council own a parcel of land at Birnam Avenue Playground. A feasibility study by the council has identified this area as suitable for affordable housing. The number, type and density of housing is unknown at this stage but thought to be less than 50 properties.
- 6.5.6. This area has ancient woodland, high potential for quality peat and an existing green space and playground amenity.
- 6.5.7. There are recorded antisocial incidents at the existing playground.

## 7. Preferred WRA Masterplan Option

- 7.1.1. Spatial option 1 had the best overall scoring on the appraisal (Appendix B). Positives of this option include; new active travel infrastructure, new green / blue habitats and the smallest footprint for development. A smaller footprint is generally preferred as this is likely to have a reduced impact on the environment by reducing habitat loss, impacts on soil and peat, and material requirements. All of which will reduce project carbon emissions.
- 7.1.2. While the reduced footprint scores favorably for environmental considerations, it does have an impact on the environment, including 785m of new road. This will have an associated embedded carbon as well as other adverse environmental effects.
- 7.1.3. The new development would increase traffic in the area. At this stage in the design it is not possible to assess the magnitude of change and conclude an effect. However, Option 1 is dependent on all traffic arriving / leaving from the north and west of the Site to travel via the local AQMA. Increase traffic does have the potential to impact the residential receptors on the western extents of the Site.
- 7.1.4. The land north of the proposed road for Option 1 is identified as deep peat and would likely result in significant adverse effects if this land is developed.
- 7.1.5. The Option 1 road option would likely increase journey times compared to the existing Westerhill Road. The road location provides limited access to areas allocated for development (i.e. future employment sites) when compared to the other options considered.
- 7.1.6. Based on the information available at the time of this assessment, it is not considered justifiable from an environmental perspective to build a new road as shown for the layout of Option 1 as there is little evidence of additional social, economic and environmental benefit when compared to the existing baseline conditions.
- 7.1.7. Spatial Option 2, while having a potentially greater environmental impact, provides a significantly greater area of proposed employment space and potential for social and economic benefit when compared to Option 1 (an additional 100%) and a proportionally better ratio to the road length requirements. This is shown in Table 7.1. Option 2 provides very similar proposals for community space, active travel routes, SuDS and existing trees / woodland as the other options.

Table 7.1: Preferred option justification

	Option 1	Option 2	Difference
Total Proposed Land for Development	48.9ha	67.1ha	+37%
Proposed Employment Space	17ha	34ha	+100%
Length of WDR (new / improved)	785m / 800m	1,020m / 1,040m	+30%

- 7.1.8. Options 3 and 4 both propose longer new road lengths, which have inherently greater carbon costs and greater risk of other environmental impacts (see preliminary appraisal). They both also reduce the amount of available proposed land for development when compared to option 2.
- 7.1.9. Further investigation will be required to understand the economic, transport and environmental considerations for the Site. At this stage in the process, spatial option 2 provides the best score in the appraisal for the environment and the greatest proportionate opportunity for development and economic and social improvements.

- 7.1.10. On this basis, spatial option 2 was carried forward for the compatibility assessment against the SEA objectives to inform East Dunbartonshire Council and stakeholders for the decision making.

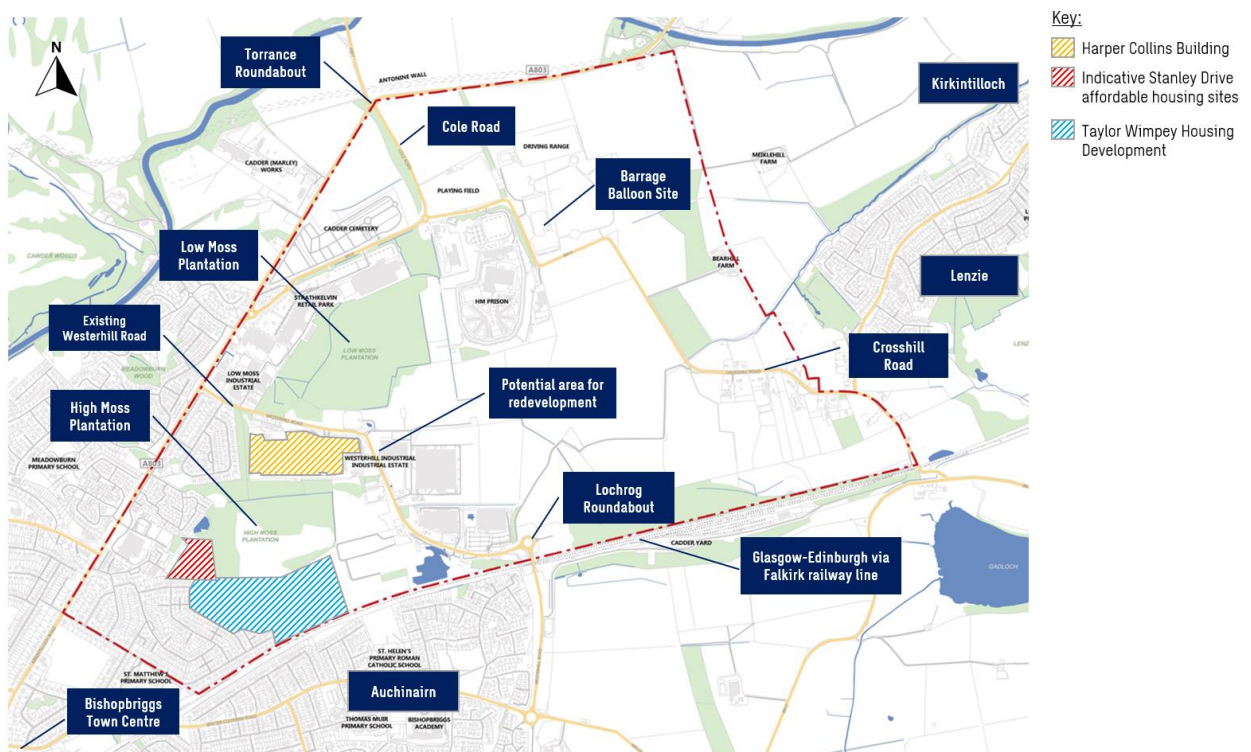


## 8. Individual Variations Assessment

### 8.1. Introduction

- 8.1.1. This section considers potential variations to the WRA Masterplan. These variations are elements that will be decided at a later stage in the Projects development and therefore have been considered on a case-by-case basis as they are not specific to a particular option. This assessment also helped inform the decision-makers, through a greater understanding of the environmental implications should these variations be developed further and lifted into the Masterplan.

Figure 8.1: Variations on the WRA Masterplan



### 8.2. Harper Collins

- 8.2.1. For the preliminary appraisal the WRA Masterplan options include retention and partial demolition of this site. This section assesses those two variables.

#### Retention of building

- 8.2.2. Retention of the Harper Collins building will likely reduce the area of development required to achieve the economic goals of the WRA Masterplan. This has numerous environmental advantages as this will repurpose a building, making use of the existing structure and space, minimising impacts from demolition and construction. This also helps to reduce wider environmental impacts upon air quality, noise, etc but also reduces the probability and magnitude of impacts on existing green space (including; prime agricultural land, wetlands, hedgerows and woodland) and peat.



- 8.2.3. Refurbishing existing buildings does have limitations depending on the condition and layout of the building, and what would be deemed to be suitable future uses. Further feasibility assessments would therefore be required in addition to environmental assessment.

Demolish Building & Develop Western Side of Plot

- 8.2.4. Demolition of the building and partial of the western side is shown in spatial option three. The WRA Masterplan shows more green space and a greater connectivity between Low Moss and High Moss. It is unlikely that increased green space at the Harper Collins building would result in improvements to Low Moss (located north Westerhill Road). This is due to the existing infrastructure acting as a barrier between the sites, including; Westerhill Road (traffic, dropped curb and lighting and the residential properties between the Harper Collins building and Low Moss.

Demolish Building & Develop Eastern Side of Plot

- 8.2.5. Demolition of the building and partial development of the eastern side of the footprint would provide an opportunity to introduce new green space and active travel routes. This is likely to increase opportunities for biodiversity and green space amenity – the proximity of the High Moss LNCS would result in tangible benefits for that receptor.

Recommendation

- 8.2.6. Should retention of the building not be viable for the future use of the site, the following would be recommended for consideration:
- The western half of the Harper Collins building be used for development. Access to site can be established immediately east of the Westerhill residential properties.
  - The remaining eastern half of the site could be designated for green space.
  - All trees connected to High Moss should be retained.
  - No street lighting east of the new access.
  - Green infrastructure employed as traffic calming measures to reduce the road width to single lane. Suggest multiple locations over a 250m road section.
  - Additional tree planting north of Westerhill Road to connect with Low Moss.
  - No HGV travel through the road calming section (east of Westerhill Road properties).

### **8.3. Taylor Wimpey Housing Development**

- 8.3.1. Taylor Wimpey promoted land at Birkhill Avenue through the Local Development Plan (2) for a housing development and associated active travel routes, habitat restoration and boardwalks.
- 8.3.2. New housing is proposed in the southern half of the site which is currently comprised of open rough grassland. Initial survey information indicates that deep peat will exist in this area<sup>15</sup>. Housing development will therefore need to be sensitively designed and delivered in order to preserve as much of peatland as possible and minimise removal off site.
- 8.3.3. The proposals also include boardwalks and footpaths through High Moss, again these will be designed to avoid areas of peat and minimise disturbance.

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<sup>15</sup> Birkhill and High Moss, Bishopbriggs Taylor Wimpey Vision Document (2021)



- 8.3.4. Access to green space is known to provide wellbeing benefits for users, however this needs to be designed in balance with the needs of the natural environment. Footpaths and boardwalks should be designed to complement the existing space and allow for quiet areas for wildlife i.e. routes should be on the periphery of sensitive receptors such as ancient woodland and peat.

#### **8.4. Stanley Drive Affordable Housing**

- 8.4.1. East Dunbartonshire Council have identified a wider challenge to meet affordable housing goals.
- 8.4.2. The land in proximity to the Birnam Avenue Playground has a number of sensitive environmental constraints including ancient woodland, peat and carbon rich soils, water bodies and green space / playground amenity.
- 8.4.3. Development at this location would likely impact these sensitive receptors and likely result in significant adverse effects. Mitigation requirements are likely to be substantial in terms of cost and a burden of proof that the measures will suitably reduce / compensate loss of habitat and priority habitat.
- 8.4.4. These effects would be compounded when considered cumulatively with the WRA Masterplan development and the Taylor Wimpey housing proposals.
- 8.4.5. It is recommended that other potential sites are considered prior to further assessment work at this site.

## 9. Cumulative Effects Assessment

### 9.1. Introduction

- 9.1.1. As part of the Act (2005), a PPS must consider cumulative effects as part of the SEA. This includes both cross topic considerations from the WRA Masterplan (intra-cumulative) and the implications of multiple developments acting on a single receptor or group of receptors (inter-cumulative).
- 9.1.2. The SEA objectives were produced with the input of technical understanding of cross topic considerations and both the preliminary appraisal and compatibility assessment are informed by identified intra-cumulative effects.
- 9.1.3. The inter-cumulative assessment considered other developments, agreed in advance with East Dunbartonshire Council. This included:
- Proposed Crematorium Site;
  - Preferred Cemetery Expansion Site;
  - Stanley Drive (Park) Affordable Housing Development;
  - Taylor Wimpey Housing Development;
  - A803 Corridor Improvements<sup>16</sup>; and
  - Bishopbriggs Town Centre Regeneration<sup>17</sup>

### 9.2. Other Developments

#### *Proposed Crematorium and Cemetery*

- 9.2.1. The location of both the cemetery extension and the crematorium are unlikely to have direct impact on the WRA Masterplan development.
- 9.2.2. The proposed developments are located within the Antonine Wall Buffer Zone. Consultation with HES indicated that this type of development was preferred over high density urban form. HES indicated there was unlikely to be a cumulative effect as a result of the WRA Masterplan on the Scheduled Monument based on the proposals shown. Further consultation was welcomed as design develops.

#### *Stanley Drive*

- 9.2.3. The location of the development is in close proximity to a number of sensitive ecological receptors. This is likely to act cumulatively with the WRA Masterplan proposals where there are impacts on:
- biodiversity habitat loss – PEA indicates bat roosting potential, ancient woodland and invertebrate habitat
  - carbon rich soil and peat – both habitat loss and carbon emissions
- 9.2.4. Further surveys will need to be carried out prior to the development being carried out.

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<sup>16</sup> [eastdunbarton.gov.uk/residents/council-democracy/city-deal/a803-corridor-improvements](http://eastdunbarton.gov.uk/residents/council-democracy/city-deal/a803-corridor-improvements)

<sup>17</sup> <https://www.eastdunbarton.gov.uk/residents/council-democracy/city-deal/bishopbriggs-town-centre-regeneration>

*Taylor Wimpey Housing development*

- 9.2.5. Based on the peatland survey report<sup>18</sup> for the Taylor Wimpey site, peat deposits are present across the area, both within the raised bog and marshy grassland habitats. The average peat depth across the southern marshy grassland, where development is being considered, is 2.1m. There are very localised pockets without peat along the southern boundary of the site.
- 9.2.6. The southern area does not feature high nature conservation value peatland habitat and will no longer be acting as a carbon sink, it will nonetheless still act as a significant store of carbon.
- 9.2.7. Should the housing development have an impact on peat this will likely have potential cumulative effects in combination with the wider WRA development as this is also located in an area with moderate to high probability of quality peat<sup>19</sup>.
- 9.2.8. Traffic considerations should also be included in the decision making as this will potentially impact biodiversity and residential receptors as well as limit the opportunities to avoid / reduce severance.
- 9.2.9. Outline principles of the housing development appear to align with the WRA Masterplan active travel routes. It is important that this is maintained to ensure routes are direct, practical, safe and complete.
- 9.2.10. Due to the proximity of the railway line, it is likely that residential properties will be set back from this constraint to avoid noise impacts. This will likely provide enough space to construct an active travel route and an opportunity to maintain / improve biodiversity corridors from east to west in the southern extents of the Site.

*A803 Active Travel Corridor and Bishopbriggs Town Centre Redevelopment*

- 9.2.11. Both projects aim to achieve a more sustainable environment for Bishopbriggs and the travel infrastructure; connecting communities which are severed by the route corridor, as well as improving connections between areas of multiple deprivation and employment opportunities, within the region and locally.
- 9.2.12. The aims of the projects align with the vision of the WRA Masterplan.
- 9.2.13. The extents of the developments are understood to be located within the current footprint of the existing A803 and Bishopbriggs town centre, therefore unlikely to overlap with the WRA Masterplan.
- 9.2.14. Based on the nature and location of the proposed developments, significant adverse cumulative effects are considered unlikely. However, consultation between design teams are recommended to maximise potential synergies and benefits for the area – particularly through active travel corridors.

**9.3. Cumulative Assessment**

- 9.3.1. There is the potential for significant cumulative effects upon both high-risk peat areas identified within the WRA Masterplan site (and therefore carbon) and biodiversity, depending on the design and outcomes of these developments. This should be considered carefully during the planning and design phase.

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<sup>18</sup> Birkhill Avenue, Bishopbriggs Peatland Survey. Taylor Wimpey Strategic Land (2021)

<sup>19</sup> Preliminary Peat Risk Appraisal, Sweco (2022)

- 9.3.2. The proposed WRA Masterplan has the potential to impact up to 44ha (Option 2 does not impact all 44ha) of prime agricultural land, which is approximately 5% of the total within East Dunbartonshire Council. On its own, this may not be considered significant but in combination with other development across the region potentially removing prime agricultural land and the anticipated pressures of climate change (drought, flooding, soil erosion, etc), could have a significant cumulative effect. East Dunbartonshire Council would benefit from a strategy to establish a baseline, impacts and an action plan to ensure food security.
- 9.3.3. Multiple developments are located in and around Antonine Wall buffer zone within the northern extents of the Site, which has the potential to cumulative effect the heritage asset. Initial conversations with HES have indicated they are pleased with the type and scale of development in this area, which proposes low density land use and plenty of green space. Further consultation will be required as the design develops.
- 9.3.4. Finally there is also a potential cumulative effects upon local residents as the combination of projects would change the area significantly, this change could be seen to be positive or negative depending on the final design and outcomes presented from the WRA Masterplan.



## 10. Adaptation

- 10.1.1. With climate change and the associated impacts becoming ever more visible, it is critical that adaptation measures are promoted within the earliest possible stages of planning / design<sup>20</sup>.
- 10.1.2. The changing climate conditions and increasing severity and regularity of weather events means that decision makers need to understand more and plan robustly for PPS to be sustainable, viable and successful.
- 10.1.3. The Stern Review on the Economics of Climate Change, commissioned by the UK Treasury, assessed a wide range of evidence on the impacts of climate change and on the economic costs. The review concluded that if we (humanity) don't act, the overall costs and risks of climate change will be equivalent to losing at least 5% of global Gross Domestic Product (GDP) each year, now and forever. If a wider range of risks and impacts is taken into account, the estimates of damage could rise to 20% of GDP or more<sup>21</sup>.
- 10.1.4. Acting sooner and planning better has an overall cost reduction and improved quality of life for people, the economy and the wider natural environment.
- 10.1.5. Fifteen years on from Lord Stern's review, climate change has continued at an accelerated rate. As a result, sustained action will need to take place over a prolonged period to prevent the worst-case scenario conclusions of the Stern Review becoming a reality<sup>22</sup>.
- 10.1.6. The WRA Masterplan is an opportunity to proactively address the potential acute shocks and long-term stresses of climate pressures.
- 10.1.7. Economic and environmental reporting, in combination with experience shows that spending more in the short term, reduces the overall financial, environmental and social risk significantly.
- 10.1.8. The recommendations section of this report incorporates key measures which would contribute to decisive action being taken to help tackle climate change and mitigate the increased effects of this global phenomenon.
- 10.1.9. Figure 10.1 shows the key issues identified by the European Environment Agency (2015) as a result of climate change, including; flooding, more frequent and more severe storms, higher temperatures and longer summers.
- 10.1.10. In addition, global temperatures are rising. To date, the UK's ten hottest years on record have all occurred since 2002<sup>23</sup>. Record temperatures<sup>24</sup>, increased frequency of hosepipe bans and impacts on health has increased media coverage and public awareness. These issues are likely to impact developments more and more.

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<sup>20</sup> Environment Agency: Climate Change Impacts and Adaptation Report (2018)

<sup>21</sup> The Economics of Climate Change: The Stern Review (2006)

<sup>22</sup> 15 years on from the Stern Review: the economics of climate change, innovation, and growth (2021)

<sup>23</sup> <https://www.metoffice.gov.uk/about-us/press-office/news/weather-and-climate/2019/state-of-the-uk-climate-2018> (Accessed: July, 2022)

<sup>24</sup> <https://www.pressandjournal.co.uk/fp/news/aberdeen-aberdeenshire/4555021/aboyne-record-high-temperatures-during-uk-heatwave/> (Accessed: July, 2022)



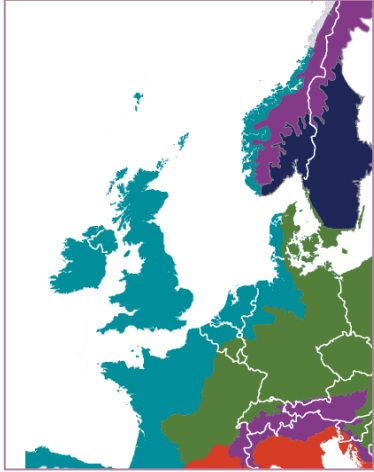
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Figure 10.1: Climate Change Impacts in Europe



**North-western Europe**

- Increase in winter precipitation
- Increase in river flow
- Northward movement of species
- Decrease in energy demand for heating
- Increasing risk of river and coastal flooding

**Coastal zones and regional seas**

- Sea-level rise
- Increase in sea surface temperatures
- Increase in ocean acidity
- Northward expansion of fish and plankton species
- Changes in phytoplankton communities
- Increasing risk for fish stocks

European Environment Agency



Source: European Environment Agency (2015)

## 11. Compatibility Assessment

- 11.1.1. In line with the methodology set out in section four, Spatial Option 2 has been assessed twice. At this part in the optioneering, a preferred Masterplan option has not been selected. It was agreed with East Dunbartonshire Council that the compatibility assessment would be for the option selected from the preliminary assessment (Appendix B). The compatibility assessment identifies the effects of the proposed WRA Masterplan in relation to the SEA Objectives. Following the first assessment, a series of environmental recommendations were made to mitigate and enhance adverse and beneficial effects respectively. The assessment was then repeated to demonstrate to the decision makers what could be achieved and the resulting effects.
- 11.1.2. The preferred Masterplan option, due to be selected after further consultation and after the preparation of this report, will be assessed as part of the post adoption statement and conclusions drawn against the table below.
- 11.1.3. A full list of the indicators are outlined in Appendix A. For the purposes of the compatibility assessment table below, the draft indicators have been summarised to ensure clarity for the reader.

Proposed SEA Objective	Questions for Assessment <i>Will the proposed vision...</i>	Indicators <i>Change to...</i>	Effect	Score 1.	Recommendation	Score 2.
To protect and improve population, human health and wellbeing	Promote active travel?	Efficiency	<ul style="list-style-type: none"> <li>More direct routes available between Lenzie, Torrance and Bishopbriggs.</li> <li>Increase in active travel routes and public transport.</li> <li>Reduction in travel time required between local community, economic and amenity focal points.</li> </ul>	+	<ul style="list-style-type: none"> <li>Masterplan design should identify the most direct and even distribution of active travel routes first before setting the alignment of the WDR.</li> <li>Greater connectivity with both existing and future strategic transport networks.</li> <li>Greater interconnectivity and efficiency between modes of transport.</li> <li>Active travel routes should: <ul style="list-style-type: none"> <li>avoid crossing traffic where possible and maximise the length of routes separate from traffic and adjacent to green space.</li> <li>not compromise the viability of plots of land for economic development.</li> <li>connect with the existing wider strategic network of active travel routes within East Dunbartonshire Council.</li> <li>Provide access to the entirety of the proposed land for development i.e. recreation, rest stops as well as employment.</li> <li>Connect with all key surrounding communities.</li> <li>Avoid segregating or overcrowding habitat.</li> <li>Provide shade and water</li> <li>Consider all users – i.e. those that will use the whole route and perhaps those who will want to do far shorter journeys.</li> </ul> </li> </ul>	++
		Distribution	<ul style="list-style-type: none"> <li>Introduction of multiple active travel corridors where previously there were none.</li> <li>New active travel corridors tie in with existing and future infrastructure on the periphery of the WRA Masterplan.</li> <li>Greater access provided for SIMD data zones that are low scoring on the geographic access domain.</li> </ul>	+		
		Quality	<ul style="list-style-type: none"> <li>New connectivity between main travel corridors of Auchinairn, Torrance (Forth and Clyde canal), A803 and Lenzie, but no connectivity to Kirkintilloch.</li> <li>New active travel routes and dedicated walking routes through and adjacent to green space.</li> <li>New proposed active travel routes and dedicated walking routes throughout the Site.</li> <li>Reasonable level of confidence to travel into or across the Site from existing active travel corridors.</li> </ul>	+		
	Create, improve and encourage use of amenity / green space?	Number	<ul style="list-style-type: none"> <li>Greater number of active travel routes across green space within the WRA Masterplan.</li> </ul>	+		<ul style="list-style-type: none"> <li>A greater focus on ‘complete’ and ‘connecting’ active travel routes i.e. routes that provide a recreational route away from traffic / obstacles.</li> <li>Increase integration between different transport links to help improve confidence levels with route completion to and from areas within and around the Site boundary.</li> </ul>
Quality	<ul style="list-style-type: none"> <li>Quality of the transport links to and from each of the various open public spaces reflect a reasonable level of integration.</li> </ul>	+				

Proposed SEA Objective	Questions for Assessment <i>Will the proposed vision...</i>	Indicators <i>Change to...</i>	Effect	Score 1.	Recommendation	Score 2.	
Reduce pressure on existing environmental / health constraints?			<ul style="list-style-type: none"> <li>Addition of 'green adjacent' active travel routes both improves and encourages the use of amenity / green space within the WRA Masterplan.</li> </ul>		<ul style="list-style-type: none"> <li>Better distribution across other forms of open space including access to local community, economic and amenity focal points situated across the WRA Masterplan.</li> <li>Create EV charging hub in proximity to green space to promote recreational activity while waiting for charge i.e. could you have an outdoor gym beside the charge points?</li> </ul>		
		Equality / distribution	<ul style="list-style-type: none"> <li>Equality and distribution of access increases connectivity within East Dunbartonshire Council.</li> </ul>	+			
			Need for travel	<ul style="list-style-type: none"> <li>The WRA Masterplan is likely to increase the need for travel in and around the Site.</li> <li>The proposals include diversified travel infrastructure.</li> <li>Option 2 has the potential to divert the distribution of new traffic away from the A803 and Bishopbriggs town centre.</li> </ul>	-	<p>To diversify transport methods to and from the Site and reduce pressures on potential traffic congestion, the following is proposed:</p> <ul style="list-style-type: none"> <li>Consider how to provide the new development to avoid people having to use a car to travel</li> <li>Introduce traffic calming measures east of residential properties on Westerhill Road.</li> <li>Greater distribution and efficiency of active travel network.</li> <li>Greater interconnectivity with public transport and existing / future transport network.</li> <li>Transport assessment and modelling to understand future conditions.</li> <li>Prioritise transport strategy that puts pedestrians and cyclists first and facilitates the development of a '20-minute neighbourhood'.</li> </ul>	0
			Traffic for existing / proposed AQMA's / NIA's	<ul style="list-style-type: none"> <li>The WRA Masterplan is likely to increase overall traffic levels, which may adversely impact the existing AQMA.</li> <li>Option 2 has the potential to reduce the distribution of traffic from the existing AQMA.</li> <li>Further investigation will be required to understand potential effects.</li> </ul>	U		U
			Traffic for low scoring SIMD areas	<ul style="list-style-type: none"> <li>Provision of the WDR route would likely reduce travel time for north to south journeys (and vice versa)</li> <li>New active travel routes and WDR would increase access opportunities for low scoring SIMD.</li> <li>WRA Masterplan development is likely to increase traffic in and around the location.</li> <li>Further investigation will be required to understand potential effects.</li> </ul>	U		U
			Traffic around biodiversity designated Sites	<ul style="list-style-type: none"> <li>There are no designated biodiversity sites identified within the Site or likely affected road network.</li> <li>No significant effect is anticipated.</li> </ul>	0		0
Health and Social Care Partnerships (HSCP) Themes	<ul style="list-style-type: none"> <li>Increases access to green / open space and community facilities</li> <li>Community consultation on design offers greater transparency and empowerment to local people and communities.</li> </ul>	+	<ul style="list-style-type: none"> <li>Increased integration of transport connections and use of inclusive and considerate infrastructure design for all users.</li> <li>Addition of public facilities (toilets) and café space to accommodate longer day visits.</li> <li>Additional healthcare facilities and community assets reflective of the current and future needs of the community.</li> </ul>	++			

Proposed SEA Objective	Questions for Assessment <i>Will the proposed vision...</i>	Indicators <i>Change to...</i>	Effect	Score 1.	Recommendation	Score 2.
Improve access					<ul style="list-style-type: none"> <li>Provide space for flexible and pop up use to accommodate future changes in the communities that will be located or will travel into this area for work, recreation and tourism.</li> </ul>	
		Food Growing Strategy	<ul style="list-style-type: none"> <li>There are currently no designated areas specified within the WRA Masterplan to support the emerging East Dunbartonshire Food Growing Strategy.</li> </ul>	0	<ul style="list-style-type: none"> <li>Addition of orchards, allotments and community food growing in the Masterplan.</li> <li>Include space allocated for a locally-focused, social enterprise to promote local food production.</li> </ul>	+
		Number and integration	<ul style="list-style-type: none"> <li>Number of modes / nodes has increased through the alignment of the WDR, and a variety of active travel routes proposed.</li> <li>Integration of new modes / nodes into the existing road network reflects some degree of integration.</li> </ul>	+	<ul style="list-style-type: none"> <li>Review and gap analysis of proposed transport network. Current option does not link directly with Kirkintilloch and greater efficiency / integration within the WRA Masterplan would improve access, quality and equality / distribution.</li> <li>Addition of resting spots to facilitate users who want to travel a variety of distances or simply want to access the green / open space.</li> </ul>	++
		Quality	<ul style="list-style-type: none"> <li>A number of the active travel routes proposed offer direct paths through green space, which offers a quality experience.</li> </ul>	+		
	Equality / distribution	<ul style="list-style-type: none"> <li>Introduction of new transport modes / nodes to areas within the Site that previously had none.</li> <li>Gaps in distribution exist within the current proposals.</li> </ul>	+			
To protect, conserve and enhance the historic environment	Impact heritage assets (listed buildings, scheduled monuments and other key assets)	Number of affected historical assets	<ul style="list-style-type: none"> <li>Sympathetic development within the Antonine Wall buffer zone. HES did not raise any objections at this stage.</li> <li>No other impacts on listed buildings, schedule monuments or other key assets.</li> </ul>	0	<ul style="list-style-type: none"> <li>Spatial layout and the intended use of the WRA Masterplan should be sympathetic to historical land use and cultural identity of the area.</li> <li>Physical design and naming conventions increases awareness and understanding of historical land use.</li> <li>Include community amenity to update land use and integrate heritage into design, this could include: <ul style="list-style-type: none"> <li>Skatepark</li> <li>Five-a-side football / basketball court.</li> <li>Footways and planting to highlight the layout</li> <li>Bike</li> <li>Bouldering</li> <li>Adventure play</li> <li>Woodland workout</li> <li>Sculpture</li> <li>Café / food hub, examples:</li> </ul> </li> </ul>	+
	Enhance the historic environment	Number of improvements	<ul style="list-style-type: none"> <li>Increased access towards the Antonine Wall (UNESCO World Heritage Site).</li> <li>The WRA Masterplan seeks to redevelop the Barrage Balloon site with a Skatepark.</li> </ul>	+		++



Proposed SEA Objective	Questions for Assessment <i>Will the proposed vision...</i>	Indicators <i>Change to...</i>	Effect	Score 1.	Recommendation	Score 2.	
					<ul style="list-style-type: none"> <li>Ayrshire Food Hub<sup>25</sup></li> <li>Cuningar Loop Bothy &amp; Tur<sup>26</sup></li> </ul>		
To protect, enhance, create and restore biodiversity and encourage habitat connectivity	Impact designated Sites and protected species	The size and / or number of designated Sites	<ul style="list-style-type: none"> <li>No direct impacts to designated sites.</li> </ul>	0	<ul style="list-style-type: none"> <li>Establish designated green habitat area for the entirety (north to south) of the eastern boundary of the Site to define a clear defensible boundary.</li> <li>Allocate suitable areas of land that promote habitat in line with LBAP.</li> <li>Adopt Lawton principles of conservation and enhancement; bigger, better and more joined up.</li> <li>Consider how the landscape and habitats can help with climate resilience (shade, better water retention etc).</li> </ul>	+	
		Number of LBAP habitats	<ul style="list-style-type: none"> <li>Proposals directly impact land within the Cadder LNCS – however, desk-based assessment and site visit shows this area has already been developed on.</li> <li>WRA Masterplan includes active travel routes through High and Low Moss LNCS.</li> <li>Proposed Habitat Nodes are included in the proposals.</li> </ul>	0			
	Enhance biodiversity	BNG (or equivalent metric)	<ul style="list-style-type: none"> <li>Not possible to assess at this stage. However Masterplan Option 2 is likely to have sufficient space to achieve an increase in biodiversity or similar metric.</li> </ul>	U		<ul style="list-style-type: none"> <li>Avoid removing existing high quality biodiversity areas through careful design.</li> <li>Improve those areas with biodiversity potential and incorporate a wider, connecting strategy for all sites proposed for development to achieve greater biodiversity mitigation and enhancement.</li> <li>Promote greater number of green corridors that traverse the Site to help generate a ‘green network’ of which the WDR should be integrated with.</li> <li>Avoid loss / severance of habitat with linear infrastructure.</li> <li>Promote the enhancement and restoration of all LNCS’s situated within the WRA Masterplan.</li> <li>Prioritise the retention of green / open space before seeking to replace habitat.</li> </ul>	++
		Access and understanding of natural environment	<ul style="list-style-type: none"> <li>Proposed Habitat Nodes are included in the proposals.</li> </ul>	+			
	Promote the connectivity, protection and integration of habitats, including the green network habitat links	Habitat connectivity and fragmentation	<ul style="list-style-type: none"> <li>Introduction of green network nodes reflects a positive step towards increased habitat connectivity over fragmentation and provides a holistic approach to considering biodiversity over a wider area.</li> </ul>	+			
	Impact on or result in the removal of biodiversity habitats	Size, length and quality of habitats	<ul style="list-style-type: none"> <li>The WRA Masterplan seeks to retain the three LNCS’s located within the confines of the boundary.</li> <li>Introduction of proposed habitat nodes</li> </ul>	+			
		Management of woodlands and native planting	<ul style="list-style-type: none"> <li>Walking routes are located within Low Moss and High Moss plantation, although WRA Masterplan shows that the woodland would be retained.</li> </ul>	0			

<sup>25</sup> <https://crossroadshub.org.uk/>

<sup>26</sup> [http://www.clydegateway.com/news\\_post/cuningar-loop-information-page/](http://www.clydegateway.com/news_post/cuningar-loop-information-page/)

Proposed SEA Objective	Questions for Assessment <i>Will the proposed vision...</i>	Indicators <i>Change to...</i>	Effect	Score 1.	Recommendation	Score 2.
To promote the management, improvement and protection of soils and conserve recognised geodiversity assets	Impact peatland, carbon-rich soils and priority peatland habitats	Number, area and quality of peatlands/ carbon-rich soils	<ul style="list-style-type: none"> <li>The WRA Masterplan does impact small areas identified as 'high risk' – Peatland / carbon rich soils.</li> </ul>	-	<ul style="list-style-type: none"> <li>Avoid areas of peat where possible.</li> <li>Adopt a peat restoration and enhancement strategy to aid the WRA Masterplan towards the adoption of carbon sequestration methods / techniques.</li> <li>Raise the water table at targeted areas to improve peat quality and resilience of habitat.</li> <li>Consider whether these measures could also help future proof the area with regards to flooding or extreme weather events</li> </ul>	0
	Impact food production relating to soils	Area and access to agricultural land	<ul style="list-style-type: none"> <li>Masterplan includes removal of prime agricultural land</li> </ul>	-	<ul style="list-style-type: none"> <li>Prioritise brownfield development over agricultural land.</li> <li>Include community food production sites (orchards, allotments, etc) within the WRA Masterplan.</li> <li>Include the potential impact within a food security strategy and include in future decision making.</li> </ul>	0
		Number / area and access to allotments	<ul style="list-style-type: none"> <li>The WRA Masterplan does not propose provisions for local community food growing. (i.e. Emerging food growth strategy).</li> </ul>	0	<ul style="list-style-type: none"> <li>Include of orchards, allotments and other community food growing assets in the WRA Masterplan, consider whether these can be located to link the new uses together.</li> </ul>	+
	Impact Ancient Woodland Inventory (AWI)	Area of AWI	<ul style="list-style-type: none"> <li>The WRA Masterplan does not impact on Ancient Woodland and TPO's.</li> </ul>	0	<ul style="list-style-type: none"> <li>Link AWI with other habitat</li> </ul>	+
	Impact Sites of geological importance	Indirect or direct impact on Sites defined as Regionally Important (geology)	<ul style="list-style-type: none"> <li>Direct and indirect impacts to the Glacial meltwater channel from works associated with improving Cole Road.</li> </ul>	-	<ul style="list-style-type: none"> <li>Maximise use of existing road network footprint.</li> <li>Keep proposed new development footprint as small as possible and in proximity to the existing road.</li> <li>Prepare drainage strategy prior to works and consider how the drainage strategy could provide biodiversity enhancements.</li> </ul>	0
	Impact areas of potentially contaminated land	Number and area of potentially contaminated land Sites	<ul style="list-style-type: none"> <li>WDR route alignment impacts areas of potentially contaminated land.</li> </ul>	-	<ul style="list-style-type: none"> <li>Identify levels of contamination and prepare a strategy that considers the proposed end users whilst weighing up benefits and costs.</li> </ul>	+
	Promote the use and development of vacant and derelict and	Number of vacant, derelict and brownfield	<ul style="list-style-type: none"> <li>The WRA Masterplan has included the development of brownfield sites</li> </ul>	+	<ul style="list-style-type: none"> <li>Phased development</li> <li>Undertaking a viability assessment where there is proposed development on greenfield land (i.e. assessment of whether</li> </ul>	++

Proposed SEA Objective	Questions for Assessment <i>Will the proposed vision...</i>	Indicators <i>Change to...</i>	Effect	Score 1.	Recommendation	Score 2.
	brownfield land over the allocation of greenfield land for development	land parcels in East Dunbartonshire Council			<p>the development is viable on brownfield land in and around the Site).</p> <ul style="list-style-type: none"> <li>Where brownfield sites cannot be developed or redeveloped for employment space, land should be promoted for social enterprise and / or biodiversity.</li> </ul>	
<p>To protect and enhance the landscape character, local distinctiveness and</p> <p>To retain key viewpoints</p>	Impact local distinctiveness in and around East Dunbartonshire.	Designations	<ul style="list-style-type: none"> <li>There are no designated landscape, conservation or protected areas situated on Site.</li> </ul>	0	<ul style="list-style-type: none"> <li>Introduce new designated habitat on eastern extents</li> <li>Active travel routes integrated with green travel corridors.</li> <li>Introduction of more diverse hedgerows and species rich vegetation.</li> <li>Phased development that matches the demand for economic growth.</li> <li>Redevelop existing buildings</li> <li>Use brownfield sites</li> <li>Integrated active travel routes with green corridors that introduce hedgerows, green features and placemaking opportunities.</li> <li>Community facilities and access to green / open space (allotments, orchards and LNCS) has the opportunity to provide a coherent destination and local distinctiveness.</li> <li>Preservation and avoidance of fragmentation of culturally historic assets helping to shape the natural landscape character.</li> </ul>	++
		Green features:	<ul style="list-style-type: none"> <li>The proposals are likely to impact existing hedgerows within the Site, however these hedgerows have been identified as poor. There is sufficient space to incorporate new hedgerows within the design.</li> </ul>	0		
		Townscape features:	<ul style="list-style-type: none"> <li>The WRA Masterplan outlines low density development occurring in the northern half of the Site to preserve heritage assets such as the Antonine wall and its respective buffer zone.</li> </ul>	+		
To protect and enhance the water environment	Impact flood risk	Development within the floodplain	<ul style="list-style-type: none"> <li>Significant increase in impermeable surfacing (road, roofs and parking) as part of the WRA Masterplan; likely to increase the risk of surface water flooding for those areas already susceptible to flooding.</li> <li>Option 2 proposes development upstream of Park Burn, which is an identified area of pluvial flooding.</li> </ul>	-	<ul style="list-style-type: none"> <li>Detailed modelling of pluvial and fluvial flooding prior to development.</li> <li>Integration of green corridors (permeable space and water retention) with surface drainage strategy.</li> <li>Where possible the WRA Masterplan should look to employ the use of permeable surfaces (green/blue roofs, green walls, drainage schemes that provide biodiversity rich areas and where possible avoid draining to the water sewage network for clean surface water)</li> <li>Improve water retention capacity in the wider LNCS areas that would enhance the health of ground water dependent terrestrial ecosystems and peat/carbon rich soils.</li> </ul>	0
		Increase / decrease of permeable surface area				
		Formal and informal flood defence	<ul style="list-style-type: none"> <li>The WRA Masterplan indicates the use of Sustainable urban Drainage Systems (SuDS) through the central water feature and utilising the Park Burn water course.</li> </ul>	+		++
	Future proofing					
	Impact on the water environment	Switch from Grey to	<ul style="list-style-type: none"> <li>Masterplan design of SuDS incorporates amenity and biodiversity asset.</li> </ul>	+	<ul style="list-style-type: none"> <li>Greater use of green / blue space within the existing developed land.</li> </ul>	++

Proposed SEA Objective	Questions for Assessment <i>Will the proposed vision...</i>	Indicators <i>Change to...</i>	Effect	Score 1.	Recommendation	Score 2.
		Green/Blue infrastructure			<ul style="list-style-type: none"> <li>Rewilding and planting in and around linear drainage ditches.</li> </ul>	
		Aquifers	<ul style="list-style-type: none"> <li>Impact on aquifers cannot be determined at this stage of the design</li> </ul>	U	<ul style="list-style-type: none"> <li>Water table improvements should be considered to help peat health and other habitats.</li> </ul>	+
		Number and linear metres of de-culverted watercourses	<ul style="list-style-type: none"> <li>Based on the utilities constraints map as part of the WRA Masterplan there is approximately 200m of culvert proposed to be opened up.</li> <li>The WDR road alignment is likely to result in a minimum of two new culverts.</li> </ul>	-	<ul style="list-style-type: none"> <li>Avoid use of culverts as this type of infrastructure, in combination with the wider road network, can act as a significant severance to people and wildlife.</li> </ul>	0
		Habitat in and around watercourses	<ul style="list-style-type: none"> <li>WRA Masterplan includes new watercourses and proposed habitat nodes.</li> </ul>	+	<ul style="list-style-type: none"> <li>Align habitat creation with LBAP and relevant environmental consultees.</li> </ul>	++
To enhance air quality and prevent further deterioration	Impact on transport emissions	The number and proportion of L / ULEV	<ul style="list-style-type: none"> <li>The WRA Masterplan does not propose facilities at this stage. This level of detail likely to be progressed later.</li> </ul>	U	<ul style="list-style-type: none"> <li>Implement EV-charging stations and hubs to encourage EV-car user adoption.</li> <li>Integration of EV charging around active travel routes and local amenities to encourage user adoption.</li> </ul>	+
		The traffic volume for sensitive receptors and / or AQMAs	<ul style="list-style-type: none"> <li>AQMA located west of the site on the A803 is likely to see a reduction in the proportion of traffic travelling north to south across the Site. However further assessments would be needed.</li> <li>No significant adverse effects identified within the Site.</li> </ul>	U	<ul style="list-style-type: none"> <li>People first design for WDR to reduce reliance on car use</li> <li>Introduce traffic calming measures along existing Westerhill Road (east of residential properties) to reduce through traffic and HGVs.</li> <li>Further traffic assessments needed.</li> </ul>	U
	Improve air quality	Decreased demand on fossil fuel-based energy supply	<ul style="list-style-type: none"> <li>Not enough information at this stage in the design. An energy strategy is being prepared but has not been included in the assessment.</li> </ul>	U	<ul style="list-style-type: none"> <li>Meeting the placemaking objectives outlined in the WRA Masterplan:               <ul style="list-style-type: none"> <li>Encourage net-zero carbon development with a potential for carbon positive</li> <li>Explore alternative energy sources / diversify energy sources and nature based green-blue infrastructure solutions</li> <li>Attract industries with green credentials</li> <li>Build good quality, sustainable and energy efficient housing</li> </ul> </li> </ul>	U

Proposed SEA Objective	Questions for Assessment <i>Will the proposed vision...</i>	Indicators <i>Change to...</i>	Effect	Score 1.	Recommendation	Score 2.
		Access to public transport	<ul style="list-style-type: none"> <li>Public transport nodes included in the proposals, including the 'Mobility Hub'.</li> </ul>	+	<ul style="list-style-type: none"> <li>Increased number of bus stops and level of integration between them to increase user adoption over car usage.</li> <li>Further assessment to place the Mobility Hub in a strategic location to maximise benefits.</li> </ul>	++
		Access to active travel	<ul style="list-style-type: none"> <li>Significant increase in the provision of active travel routes site wide.</li> <li>Different variations of active travel routes catering to all needs (i.e. segregated active travel route, shared active travel route and proposed dedicated walking route).</li> </ul>	+	<ul style="list-style-type: none"> <li>Improve inclusivity of active travel routes to cater for all users.</li> </ul>	++
Reduce contribution towards future emissions  To prevent vulnerability to future climate related impacts	Impact the Scottish Government's greenhouse gas emissions reduction targets	Construction emissions	<ul style="list-style-type: none"> <li>Increase in construction emissions based on the WRA Masterplan impacting East Dunbartonshire Council's carbon budget.</li> <li>Impact on peat due to WRA Masterplan development.</li> </ul>	--	<ul style="list-style-type: none"> <li>Development will need to closely consider:               <ul style="list-style-type: none"> <li>Avoiding carbon release through avoiding peat</li> <li>Reduce carbon emissions associated with the design</li> <li>Investigate potential for re-use rather than demolition</li> <li>Adopt a low carbon energy strategy across the Masterplan area to achieve operational net zero.</li> </ul> </li> <li>Behavioural change to increase;               <ul style="list-style-type: none"> <li>Access outdoors</li> <li>Abundance of wildlife</li> <li>Travel alternatives to private vehicles</li> <li>Increased EV uptake and quality facilities</li> </ul> </li> </ul> <p>The WRA Masterplan offers an opportunity to provide an exemplar development to embody the CRC themes and delivers:</p> <ul style="list-style-type: none"> <li>New economic opportunities</li> <li>Access to green space</li> <li>High quality green / blue infrastructure</li> <li>Active travel network (in and around the Site)</li> <li>Community facilities</li> <li>Preservation and recognition of built heritage environment</li> <li>Avoids peat</li> </ul>	-
		Operational emissions	<ul style="list-style-type: none"> <li>The operation emissions of the WRA Masterplan and the tail pipe emissions of the proposed WDR route alignment are likely to impact East Dunbartonshire Council's carbon budget.</li> </ul>	--		
		Energy strategies	<ul style="list-style-type: none"> <li>The energy strategy has not been available for review at this stage.</li> </ul>	U		
		National Walking Strategy	<ul style="list-style-type: none"> <li>There is an increased provision of active travel routes within the Site.</li> </ul>	+		
	Cycling Action plan	+				
	Impact climate resilience and adaptation	Vulnerability/preparedness for extreme weather	<ul style="list-style-type: none"> <li>The WRA Masterplan design is likely to improve the resilience of the central location of the Site prone to surface water flooding through the provision of deculverting and increased area for water / SuDS features.</li> </ul>	+	<ul style="list-style-type: none"> <li>Climate resilience and adaptation measures should be designed to protect both the development and the most vulnerable communities highlighted in the SIMD. The impacts associated with climate change are likely to impact</li> </ul>	++



Proposed SEA Objective	Questions for Assessment <i>Will the proposed vision...</i>	Indicators <i>Change to...</i>	Effect	Score 1.	Recommendation	Score 2.
			<ul style="list-style-type: none"> <li>Active travel routes and proposed dedicated walking routes are located in wooded areas which are likely to provide amenity and respite for users when experiencing higher temperatures.</li> </ul>		<ul style="list-style-type: none"> <li>those areas which are already exhibiting high levels of deprivation.</li> <li>Recommendations on biodiversity, active travel routes and community amenity have direct implications for climate resilience and adaptation.</li> <li>Avoid peat to prevent adverse changes to water table and flood storage capacity.</li> </ul>	
		Vulnerable locations	<ul style="list-style-type: none"> <li>Some of the areas susceptible to surface water flooding have been outlined as permanent water features to improve SuDS and therefore protect vulnerable locations from likely future increases in flood severity and frequency.</li> </ul>	+		
		Compliance with East Dunbartonshire Council's SCCF Action Plan, integration with LBAP and upcoming CAP	<ul style="list-style-type: none"> <li>Protection of green / open space wherever possible.</li> <li>Preservation of LNCS</li> <li>Preservation of high-risk peatland and carbon rich soils</li> </ul>	-	<ul style="list-style-type: none"> <li>Create a net gain in biodiversity</li> <li>Increase the amount of quality green / open space that can be accessed by all of the community</li> <li>Introduce community facilities that incorporate green space.</li> </ul>	++
			<ul style="list-style-type: none"> <li>Enhancement of the local active travel network.</li> <li>Creation of habitats and green network corridors.</li> <li>Climate resilience measures through the provision of SuDS.</li> </ul>	+	<ul style="list-style-type: none"> <li>Design active travel routes to be away from traffic / obstructions and in / adjacent to green space.</li> <li>Improve connectivity between habitats.</li> <li>Incorporate adaptation measures in design</li> <li>Drive behavioural change through design.</li> <li>Deliver the SuDS design in phase 1 of the Masterplan delivery.</li> </ul>	
<p>To promote the sustainable management of waste / materials</p> <p>To encourage and enhance the lifecycle of materials</p>	Promote the sustainable use and protection of natural resources	Natural resources	<ul style="list-style-type: none"> <li>Development will require use of resources</li> <li>Land take on agricultural land (soil) and peat</li> </ul>	-	<ul style="list-style-type: none"> <li>Adopt the EU Waste Hierarchy (Prevention, reuse, recycle, recover and disposal) into design decision making (i.e. building reuse and repurposing rather than demolition).</li> <li>Adopted a phased development starting with a 'brownfield first' approach to ensure greenfield development is justified.</li> <li>Improvements to the existing road network is likely to require significantly less material (and therefore have less embodied carbon) than building new roads.</li> <li>Establish waste water treatment onsite via greenfield space (e.g. natural filtration by willow trees)</li> </ul>	0
		Off Site waste / landfill requirements	<ul style="list-style-type: none"> <li>Proposals likely to impact landfill capacity</li> </ul>	-		
		Reuse of existing resources	<ul style="list-style-type: none"> <li>Use of brownfield sites</li> </ul>	+		
		Footprint of infrastructure	<ul style="list-style-type: none"> <li>Proposals included development on both the existing development area and greenfield site</li> </ul>	-		

Proposed SEA Objective	Questions for Assessment <i>Will the proposed vision...</i>	Indicators <i>Change to...</i>	Effect	Score 1.	Recommendation	Score 2.
		Import / export of material	<ul style="list-style-type: none"> <li>Further design work required to understand the likely import / export balance of material.</li> </ul>	U		
To prevent significant noise and vibration levels and prevent further deterioration	Impact of construction/ operational noise	Sensitive receptors	<ul style="list-style-type: none"> <li>Given the low number of receptors within and in proximity to the Site it is unlikely that there would be significant adverse effects due to noise and vibration.</li> </ul>	0	<ul style="list-style-type: none"> <li>Design should reflect key noise sources (existing / future road network, railway line, operational activities of development) and provide buffers for recreational and community spaces.</li> <li>Noise and vibration will need to be considered for the construction stages.</li> </ul>	+



## 12. Recommendations

12.1.1. This section summarises the key recommendations of the proposals. It is acknowledged that the level of detail in the WRA Masterplan does not account for some of the measures outlined and that this will be looked at as the design progresses and consultation is undertaken.

12.1.2. These recommendations should be reviewed and refined by East Dunbartonshire Council and the WRA Masterplan design team as more information is gathered and the design progresses.

12.1.3. Based on the understanding of the environmental baseline and future use requirements of the Site, including the economic development goals of East Dunbartonshire Council, the following is recommended for the future design of the WRA Masterplan.

### *Phased Development*

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12.1.4. The WRA Masterplan should ensure that the existing built environment is fully utilised before expanding into greenfield areas.

12.1.5. Not developing the existing sites would likely result in a disconnect between the proposed land for development and the Bishopbriggs community as well as increased land requirements and greater impacts on the environment.

12.1.6. Delivery of the WRA Masterplan should be rolled out in phases and each phase be self-contained and viable. Key milestones and objectives, including sustainability goals and environmental parameters, should be set and periodically reviewed before triggering the next phase. There should however be an agreed set of design principles that are adopted across each phase to provide a holistic development.

### *Climate*

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12.1.7. The projected figures indicate the need for East Dunbartonshire Council to implement a rapid and stringent action plan with immediate effect to stand a chance of meeting their climate goals. This includes decision making on existing and future developments and the WRA Masterplan.

12.1.8. Development will need to closely consider:

- minimising carbon construction emissions through avoiding areas of peat, minimising earthworks and reusing buildings and brownfield land where possible;
- improving environmental resilience with integrated blue / green infrastructure, shading and food security; and
- reducing operational carbon by diversifying transport modes, increasing EV uptake, executing a low carbon energy strategy and operational net zero.

12.1.9. Behavioural change to increase:

- access outdoors;
- abundance of wildlife; and
- sustainable travel alternatives.

12.1.10. The WRA Masterplan offers an opportunity to provide an exemplar development to embody the CRC themes and delivers:

- new economic opportunities;



- access to green space;
- climate resilience;
- high quality green / blue infrastructure;
- active travel network (in and around the Site);
- community facilities;
- preservation and recognition of built heritage environment; and
- avoid peat.

*Active Travel Routes*

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12.1.11. Wider distribution of active travel routes to include direct routes to all areas of land proposed for development and all surrounding key community hubs, attractions and exiting / planned transport networks, including:

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<b>Community hubs:</b>	<b>Transport networks:</b>	<b>Attractions:</b>
Kirkintilloch	A803 Corridor Improvements	Antonine Wall
Lenzie	Lenzie Moss Explorer	Playing fields
Bishopbriggs town centre	Forth and Clyde Canal	WWII Barrage Balloon
Torrance	Hayston Loop	New community hub
Auchinairn		New access to green space

12.1.12. A ‘walking-led’ design that identifies the most efficient and high-quality active travel routes available, in combination with the most suitable land for development before identifying the WDR route alignment. Only by prioritising alternatives to private vehicle transport will there be an opportunity to cultivate behavioural change.

12.1.13. Integrate active travel routes with green corridors to:

- promote biodiversity connectivity and habitat security;
- improve quality, placemaking and setting of active travel corridor; and
- build in resilience and adaptation to the design

12.1.14. Green corridors should be minimum 10m wide and incorporate wildflower meadow, hedgerow, individual trees and habitat identified within the LBAP to provide connecting habitat across the Site. Corridors should also seek to link with existing woodland, wetland and watercourses to facilitate a diverse network of habitats. These corridors should be designed to be ‘accessible for all’, considering equality as a fundamental part of the design. If planned correctly, these corridors will provide a biodiversity rich area that also saves money on maintenance.

12.1.15. Consideration of shade and shelter should also be considered as part of the design so that in increasingly common hot weather or the traditional Scottish downpours, users have some shelter.

12.1.16. Water fountains and refill stops should be included with consideration to wifi hotspots at resting points.



### *Recreational routes*

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- 12.1.17. 'Complete' recreational routes with uninterrupted paths, exploring the green space in and around the Site with options for short, medium and long walks.
- 12.1.18. Routes should be located on the periphery of the LNCS located within the Site.
- 12.1.19. Quiet (undeveloped) areas of green space to be retained to avoid increased probability of adverse impacts to the flora and fauna of the area through overcrowding, islanding and / or segregation.

### *Westerhill Road Traffic Calming*

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- 12.1.20. The existing Westerhill Road has a key influence over the existing environment in and around the Site, by acting as a barrier between High and Low Moss LNCS and connects traffic with the current AQMA.
- 12.1.21. Introducing traffic calming measures east of the residential properties (20 to 48) would likely reduce the proportion of traffic using the WRA Masterplan travelling via the current AQMA.
- 12.1.22. Traffic calming measures would create more placemaking opportunities and provide space for segregated active travel routes.
- 12.1.23. Expanding the curb line into the existing carriageway using 'build outs' (see Figure 12.1) would:
  - a) provide opportunity to link habitat north and south of the road
  - b) increase resilience of the infrastructure
  - c) introduce rest areas to create a more inclusive public space

Figure 12.1: Traffic calming measures



### *Community facilities*

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- 12.1.24. The WRA Masterplan should include both healthcare and childcare amenity within the community facilities.
- 12.1.25. Space should be allocated for orchards (historically located on the edge of urban areas) and community allotment space.
- 12.1.26. Ecosystem services should be included as part of the detailed design of the Masterplan to improve social, environmental and economic potential.

### *Heritage development*

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- 12.1.27. Greater integration of active travel routes to facilitate access to / from the Antonine Wall site provide a desirable recreational route and a design that enhances the features and historical land use of the site.
- 12.1.28. Active travel route and planting to mirror the layout / footprint of the WWII Barrage Balloon site and proposed land use (skatepark, children's playground and outdoor fitness) with information that provides a link back to the cultural past of the area.
- 12.1.29. A cafe and public toilet facilities would increase the accessibility of these remote sites.
- 12.1.30. Naming conventions can strengthen the identity of the area and increase the awareness of the heritage. Recommend wider consultation, including local heritage officers but active





travel routes, placemaking areas, community green space all provide ample opportunity to be named from historic people, places and events linked to the Site.

#### *Peat*

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- 12.1.31. Recommend avoiding peat habitat wherever possible.
- 12.1.32. When potential impacts cannot be avoided or mitigated, compensation through habitat management and enhancement should seek to improve the condition of existing peatland habitats<sup>27</sup>. The Taylor Wimpey Peatland Survey identified evidence of peatland degradation due to works / land use resulting in lowering the water table and drying out the peat. A peat strategy should be developed and the water table raised where possible / suitable as part of the drainage design. It should be investigated whether there is the potential for this to help reduce flood risk.
- 12.1.33. During the site visit, indications of previous peatland restoration works including plastic piling dams were observed. Recommend a review of the effectiveness and suitability of the interventions.

#### *Electric Vehicle Charging*

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- 12.1.34. Placement of EV charging stations presents an opportunity to attract visitors and establish a destination. EV charging should be included in relation to the community facilities as well as recreational walking routes proportionate to charging times.
- 12.1.35. Wider transport networks should link directly with EV charging hubs.

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<sup>27</sup> NatureScot (2018). Advising on carbon-rich soils, deep peat and priority peatland habitat in development management – Guidance.



## **13. Other Considerations**

### **13.1. Equality**

- 13.1.1. East Dunbartonshire Council has recently replaced the Policy Development Framework (PDF) on equality with an Impact Assessment Guide (IAG) and Checklist in 2019.
- 13.1.2. The IAG was developed in response to the legislative, regulatory and administrative requirements placed on local authorities by the Equality Act (2010) (Equality Impact Assessment), Environmental Assessment (Scotland) Act 2005, (Strategic Environmental Assessment), East Dunbartonshire Corporate Risk Management Strategy (Risk Assessment), General Data Protection Regulations (GDPR) and Data Protection Act 2018 (Data Protection Impact Assessment).
- 13.1.3. The IAG is a central source of information for policy and plan-makers to assess, identify and alter the Public Plans, Programmes and Strategies (PPS)(i.e. Masterplans) being developed within the council. The IAG and related checklist has been used as a proactive tool to ensure that plan-makers know the legislative, regulatory and administrative requirements of any policy document being produced ahead of its development.
- 13.1.4. All policy or practice developments are subject to an initial screening for impact on equality and then the full assessment if applicable.
- 13.1.5. An equality impact assessment should be completed in conjunction with the design / planning of the WRA Masterplan to allow for design evolution and should be revisited at each key funding stage of the development. This will ensure that it is in accordance with the regulations but also that equality will be embedded in the design process.

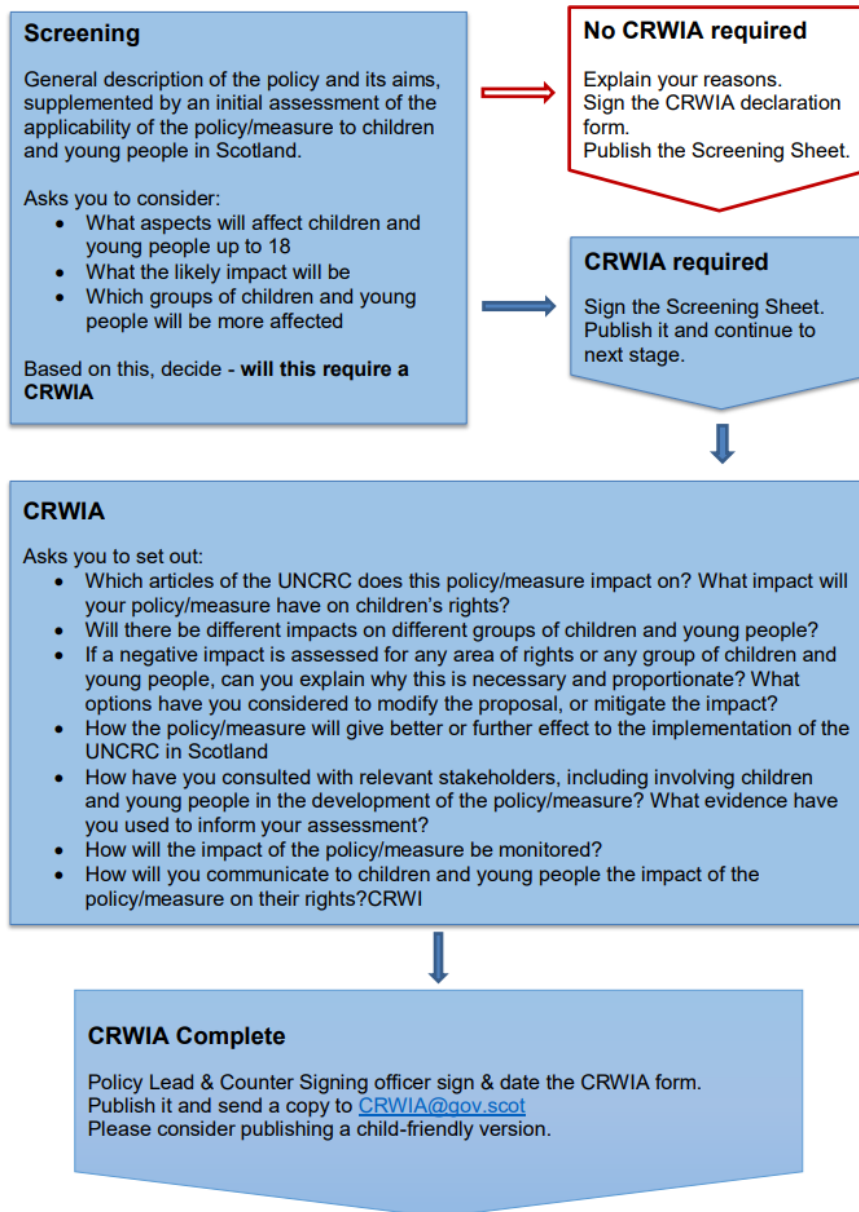
### **13.2. Child Rights**

- 13.2.1. In December 2018 the Scottish Government published the Scottish Parliament the Progressing the Human Rights of Children in Scotland: 2018-2021 Action Plan and the Progressing the Human Rights of Children in Scotland: Report 2018, in line with the duties placed on Scottish Ministers under Part 1 of the Children and Young People (Scotland) Act 2014.
- 13.2.2. Child Rights and Wellbeing Impact Assessment (CRWIA) of legislation and policy in Scotland is a tool that can help to inform and meet these duties. CRWIA is a process through which you can identify, research, analyse and record the anticipated impact of any proposed law, policy or measure on children's human rights and wellbeing.
- 13.2.3. This non-statutory guidance was originally produced for Scottish Government officials but is also suitable for use by public authorities (such as East Dunbartonshire Council) and third sector organisations.
- 13.2.4. CRWIA follows accepted impact assessment practice, and should take place as early as possible in the development of a PPS (i.e. the WRA Masterplan). The CRWIA takes the UN Convention on the Rights of a Child as its starting point for measuring policy / measures for their compliance with the Articles of the Convention. Then it requires the consideration of how the policy / measure will advance the realisation of children's rights in Scotland providing evidence for any conclusions made in the process.
- 13.2.5. All policy or practice developments are subject to an initial screening for impact on child rights and wellbeing and then the full assessment if applicable.



- 13.2.6. A CRWIA should be completed in conjunction with the design / planning of the WRA Masterplan to allow for design evolution and should be revisited at each key funding stage of the development. This will ensure that it is in accordance with the regulations but also that child rights and wellbeing will be embedded in the design process.
- 13.2.7. Detailed below, is a flow chart of the CRWIA process. Figure 13.1 outlines the key points at each stage in the CRWIA to achieve maximum impact in the development of a PPS such as the WRA Masterplan.

Figure 13.1: CRWIA flowchart



## **14. Monitoring**

- 14.1.1. Under Section 19 of the Environmental Assessment (Scotland) Act 2005, East Dunbartonshire Council is required to monitor significant environmental effects of the implementation of the WRA Masterplan.
- 14.1.2. The development within the WRA Masterplan will be subject to further environmental assessment and continued consultation.
- 14.1.3. The WDR will likely trigger an Environmental Impact Assessment. It is the intention of East Dunbartonshire Council that the objectives, significant effects and recommendations of this SEA are reviewed, assessed and reflected in the design process.
- 14.1.4. This SEA Environmental Report has provided a narrative of the assessment and consultation work undertaken to date and sets out strategic recommendations for this stage in the design.
- 14.1.5. The proposed approach to the monitoring will be the continued environmental assessment under the planning requirements, managed by East Dunbartonshire Council and included in the consultation stages as the design progresses. Objectives and environmental priorities are to be reviewed and refined as part of this design process.



## **15. Statutory Consultation and SEA Timetable**

### **15.1. Statutory Consultation**

15.1.1. Consultation with statutory consultees has been undertaken as part of the development of the WRA Masterplan options. Discussions included a high level review of the SEA objectives and the assessment approach to be carried forward.

15.1.2. The statutory consultees have included:

- Historic Environment Scotland;
- Nature Scot;
- SEPA; and
- the wider East Dunbartonshire Council environment teams

15.1.3. Following the completion of the SEA Environmental Report, it will be issued to consultees, via the SEA Gateway. Relevant feedback will be recorded and responded to in the Post Adoption Statement.

### **15.2. Post adoption statement**

SEA Post Adoption Statements are intended to improve the transparency of the decision-making process within PPS such as the WRA Masterplan.

15.2.1. The SEA Post-Adoption Statement will document:

- how the findings of the Environmental Report have been taken into account and carried forward into the design and planning of the WRA Masterplan;
- the reasons for choosing the preferred option as adopted in light of other reasonable alternatives considered by the SEA; and
- the measures to be taken to monitor the significant environmental effects of implementing the WRA Masterplan.

### **15.3. Ongoing consultation and Public consultation**

15.3.1. Throughout the wider SEA process there will be continued engagement with the statutory consultees. In addition, the wider public will be given the opportunity to comment / engage to ensure a high degree of transparency in the SEA decision-making process.

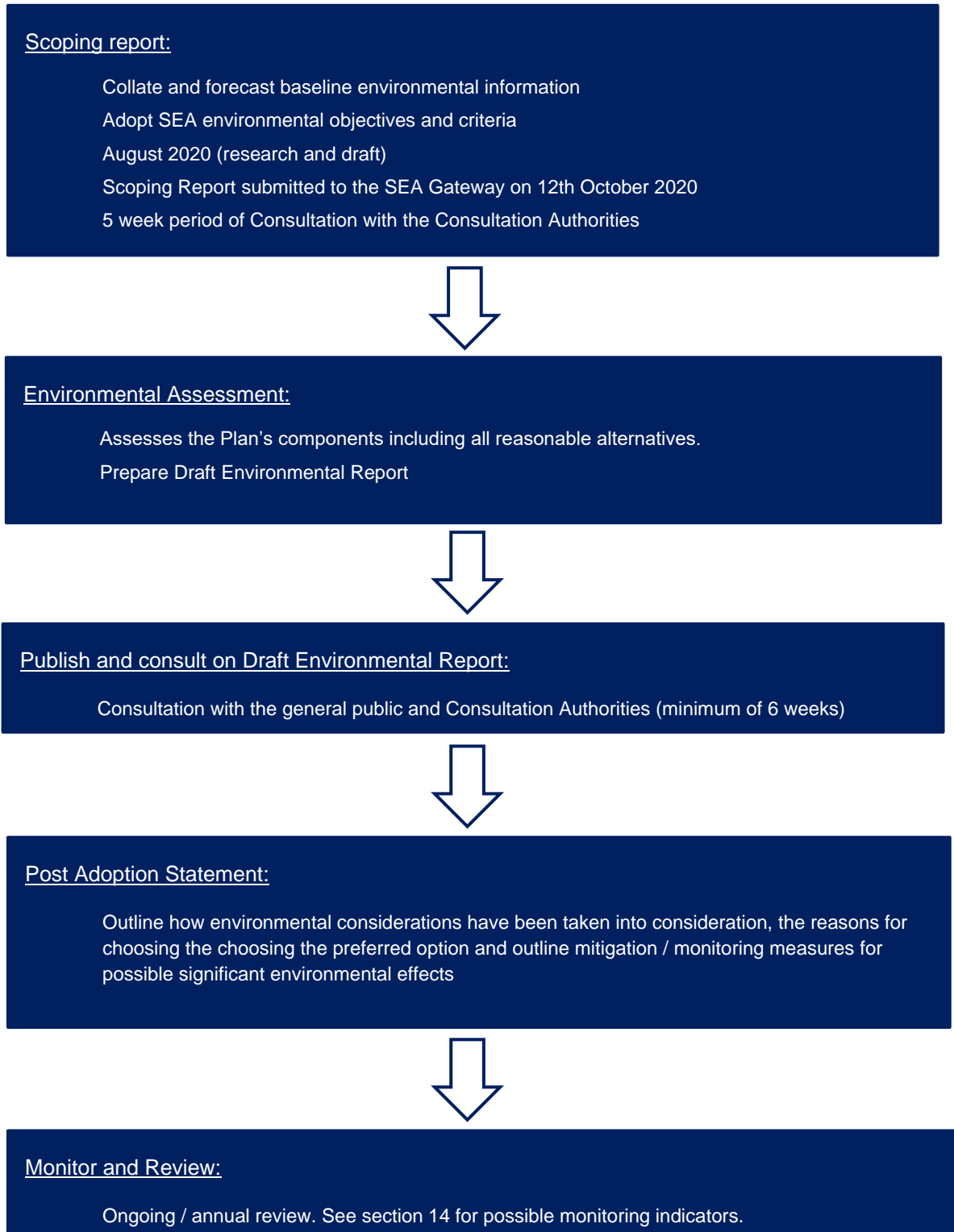
### **15.4. SEA Timetable**

15.4.1. Figure 15.1 provides the anticipated timescales for each of the various SEA stages and their approximate consultation periods.





Figure 15.1: Proposed Timescale & Milestones



## Appendix A: Proposed SEA Objectives, Assessment Questions and Indicators

Proposed SEA Objective	Draft Questions for Assessment Will the proposed vision / objectives / projects ...	Draft Indicators Change to...
To protect and improve population, human health and wellbeing	Promote active travel?	<b>Efficiency</b> <ul style="list-style-type: none"> <li>• Direct routes i.e. less distance between settlement envelopes/amenities/etc</li> <li>• Broader access i.e. increase connectivity to/from settlement envelopes/amenities/etc</li> <li>• Travel time i.e. reduce</li> </ul>
		<b>Distribution</b> <ul style="list-style-type: none"> <li>• Number of active travel corridors in areas that have historically not had or a relatively low number.</li> <li>• Quality of active travel corridors in areas that have historically not had high quality infrastructure.</li> </ul>
		<b>Quality</b> <ul style="list-style-type: none"> <li>• Connectivity to main travel corridors and existing cycling routes</li> <li>• Active travel safety infrastructure</li> <li>• Aesthetic features including surroundings and surfacing</li> <li>• Integrated active travel route in/adjacent to green space and/or local landscape areas</li> <li>• Accessibility (number/length of routes accessible to all non-motorised users)</li> <li>• Obstructions (traffic lights/road crossings/staircases/etc)</li> <li>• Confidence in completing the route – i.e. guaranteed arrival to planned destination</li> </ul>
	Create, improve and encourage use of amenity/green space?	Number of transport modes to/from: <ul style="list-style-type: none"> <li>• Special Landscape Areas</li> <li>• Protected Open Spaces</li> <li>• Green Belt</li> <li>• Neighbourhood Open Spaces</li> <li>• Local Open Spaces</li> <li>• Regional Open Spaces</li> </ul>
		Quality of transport links to/from: <ul style="list-style-type: none"> <li>• Special Landscape Areas</li> <li>• Protected Open Spaces</li> <li>• Green Belt</li> <li>• Neighbourhood Open Spaces</li> <li>• Local Open Spaces</li> <li>• Regional Open Spaces</li> </ul>
		Equality/distribution of access to: <ul style="list-style-type: none"> <li>• Special Landscape Areas</li> <li>• Protected Open Spaces</li> <li>• Green Belt</li> <li>• Neighbourhood Open Spaces</li> </ul>

		<ul style="list-style-type: none"> <li>Local Open Spaces</li> <li>Regional Open Spaces</li> </ul>
	Reduce pressure on existing environmental/health constraints?	<p>Need for travel</p> <p>Traffic for existing/proposed Air Quality Management Areas and/or Candidate Noise Management Areas</p> <p>Traffic in and around areas scoring low on the Scottish Index of Multiple Deprivation</p> <p>Traffic around biodiversity designated sites – SSSI, LNR, SINCS &amp; LINCSSs etc.</p> <p>Prioritise themes defined in the East Dunbartonshire Health and Social Care Partnerships (HSCP) Strategic Plan</p> <p>Prioritise themes defined by the emerging East Dunbartonshire Food Growing Strategy – Giving local people the opportunity to grow their own fruit, vegetables and flowers in allotments and other growing spaces such as community gardens and orchards.</p>
	Improve access	<p>Number of transport modes/nodes available whilst ensuring integration in the network</p> <p>Quality of transport modes/nodes available in the network</p> <p>Equality/distribution of transport modes/nodes available in the network</p>
	Meet community wealth benefits objectives	<p>Progressive procurement of services – outlined in the East Dunbartonshire Economic Recovery Plan</p> <p>Socially productive use of land and assets</p>
To protect, conserve and enhance the historic environment	Impact heritage assets (listed buildings, scheduled monuments and other key assets)	Number of historical assets (both directly and indirectly)
	Enhance the historic environment	<p>Number of improvements to historical assets including</p> <ul style="list-style-type: none"> <li>Restoration</li> <li>Improved understanding (recording of findings, etc)</li> <li>Increased information and engagement (noticeboards, etc)</li> <li>Increased access (new/improved links to heritage assets)</li> </ul>
To protect, enhance, create and restore biodiversity and encourage habitat connectivity	Impact designated sites and protected species	<p>The size and/or number of designated sites (including indirect impacts up to 2km)</p> <p>Number habitats identified in East Dunbartonshire LBAP and associated protected species</p>
	Enhance biodiversity	<p>Biodiversity Net Gain (or equivalent metric)</p> <p>Access and understanding of natural environment</p>
	Promote the connectivity, protection and integration of habitats, including the green network habitat links	Habitat connectivity and fragmentation
	Impact on or result in the removal of biodiversity habitats	<p>Size, length and quality (where information is available) of habitats (indicating retention, loss and enhancement)</p> <p>The management of woodlands and native planting</p>
To promote the management, improvement and protection of soils and conserve recognised geodiversity assets	Impact peatland, carbon-rich soils and priority peatland habitats	The number, area and quality of peatlands, carbon rich soils and or priority peatland habitats
	Impact food production relating to soils	<p>Area and access to agricultural land</p> <p>Number/area and access to allotments</p>
	Impact Ancient Woodland Inventory (AWI)	Area of AWI
	Impact sites of geological importance	Indirect or direct impact on sites defined as Regionally Important Geological and Geomorphological Sites and Local Nature Conservation Sites for Geodiversity.

	Impact areas of potentially contaminated land	Number and area of potentially contaminated land sites
	Promote the use and development of vacant and derelict and brownfield land over the allocation of greenfield land for development	The number of vacant, derelict and brownfield land parcels in East Dunbartonshire
To protect and enhance the landscape character, local distinctiveness and  To retain key viewpoints	Impact local distinctiveness in and around East Dunbartonshire.	Local landscape area, conservation area, protected open spaces and green belt etc. Green features: hedgerows, mature trees and other key local features  Townscape features: built heritage assets, garden and designed landscape and other key local features
To protect and enhance the water environment	Impact flood risk	Number and area of development within the floodplain Resulting increase/decrease of permeable surface area Number and capacity of formal and informal flood defence (including vegetation) as outlined in the East Dunbartonshire Surface Water Management Plan. Future proofing developments and factoring in climate change impacts (i.e. 1:200 year peak surface water levels)
	Impact on the water environment	Switch from Grey to Green/Blue infrastructure (i.e. single function to multifunctional) outlined in the Central Scotland Green Network (CSGN) Vision and East Dunbartonshire Green Network Strategy Aquifers Number and linear metres of de-culverted watercourses Bioretention Habitat in and around watercourses (including rivers, ponds and bogs)
To enhance air quality and prevent further deterioration	Impact on transport emissions	The number and proportion of low/ultra-low emission vehicles The traffic volume for sensitive receptors and/or AQMAs
	Improve air quality	Decreased demand on fossil fuel-based energy supply Access to public transport Access to active travel Carbon sequestration
Reduce contribution towards future emissions  To prevent vulnerability to future climate related impacts	Impact the Scottish Government's greenhouse gas emissions reduction targets	Construction emissions of future developments within East Dunbartonshire Operational emissions of future developments within East Dunbartonshire Production & Implementation of energy strategies for East Dunbartonshire National Walking Strategy Cycling Action plan

	Impact climate resilience and adaptation	Vulnerability/ preparedness for extremes in temperature, rainfall and storms Vulnerable locations Compliance with East Dunbartonshire's Sustainability & Climate Change Framework (SCCF) Action Plan, integration with Local Biodiversity Action Plan (nature-based solutions) and upcoming Climate Action Plan
To promote the sustainable management of waste/materials  To encourage and enhance the lifecycle of materials	Promote the sustainable use and protection of natural resources	Natural resources Offsite waste/landfill requirements Reuse of existing resources Footprint of infrastructure Import/export of material
To prevent significant noise and vibration levels and prevent further deterioration	Impact of construction/operational noise	Noise environment for sensitive receptors
	Enhance noise environment	Reduce the number of and frequency of night-time services in and around sensitive receptors Access to active travel



## Appendix B: Preliminary Appraisal of all Spatial Options

Proposed SEA Objective	Elements Consistent with All Options (inc. Slight Variations)	Option 1 Specific Elements	Option 2 Specific Elements	Option 3 Specific Elements	Option 4 Specific Elements
To protect and improve population, human health and wellbeing	No significant adverse effects identified. Potential for beneficial impacts (inc. air quality, community amenities, noise, etc) but detail at this stage is limited and therefore not included at this point in time.				
To protect, conserve and enhance the historic environment	Active travel corridors proposed within Antonine Wall Buffer Zone.  Skatepark and active travel routes proposed at Barrage Balloon Site	No additional impact on built heritage identified.	Widening of existing road directly impacts the Antonine Wall buffer zone.  Widening of existing road potentially directly impacts on Barrage Balloon Site.	New road directly impacts to the Antonine Wall buffer zone.  New junction potentially directly impacts on Barrage Balloon Site.	New road directly impacts to the Antonine Wall buffer zone.
To protect, enhance, create and restore biodiversity and encourage habitat connectivity	Active travel routes proposed in and around woodland and LNCS.	No additional direct impact on woodland and LNCS identified.  Increase in traffic along existing Westerhill Road potentially increases the barrier effect of the road between High and Low Moss LNCS.	Widening of existing road potentially directly impacts woodland belt adjacent to Crosshill Rd and Cole Rd.  Likely severance of mammal movements across existing green space in the centre of the Site.	In proximity to woodland. Direct impact on plantation.  Direct impact on LNCS.  Likely severance of mammal movements across existing green space along the eastern extents.  Potential additional impact on hedgerows.	In proximity to woodland. Direct impact on plantation.  Direct impact on LNCS.  Likely severance of mammal movements across existing green space along the eastern extents.  Potential impact on hedgerows.
To promote the management, improvement and protection of soils and conserve recognised geodiversity assets	Active travel routes proposed in and around moderate and high risk peat areas.  Development and road alignment within moderate risk peat area.	No additional direct impact on peat/carbon rich soils identified.  Area of development around the new road section is restricted due to peat.	Low potential to impact moderate risk peat area at BB Site.	Direct impact on moderate and high risk peat/carbon rich soils	Direct impact on moderate and high risk peat/carbon rich soils.  Route alignment likely to result in abnormal field boundaries and risk viability of agricultural businesses.
To protect and enhance the landscape character, local distinctiveness and to retain key viewpoints	No direct impact on Landscape Conservation Areas.	Minimal development proposed as a portion of Masterplan area.	Route utilises a significant portion of existing road infrastructure and existing landscape features. New road alignment follows existing linear shapes (including field boundaries and tree lines) within the rural landscape.	Route utilises a moderate portion of existing road infrastructure and existing landscape features. New road alignment follows existing linear shapes (including field boundaries and tree lines) within the rural landscape.	Route does not use existing road infrastructure and does not follow existing landscape features.

To protect and enhance the water environment	<p>Enhancements proposed for glacial meltwater channel and water body centrally located south of HMP Low Moss.</p> <p>All options mitigate surface water flooding through SuDS.</p> <p>All development options would require crossing point for small watercourse.</p>	No additional impacts identified.	Road widening likely to directly impact glacial melt water channel.	New junction adjacent to Park Burn. New road crosses glacial melt water channel.	New road alignment crosses Park Burn.																																																
To enhance air quality and prevent further deterioration	No significant adverse effects identified. Beneficial impacts are likely but detail at this stage is limited and therefore not detailed at this point in time.																																																				
Reduce contribution towards future emissions	See specific	<p>Construction: <b>Shortest alignment</b>  Reuse of existing road: <b>50%</b>  Operational Traffic*:  <b>No significant change</b></p> <table border="1" data-bbox="1020 932 1374 1100"> <thead> <tr> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td rowspan="4">Auchinairn</td> <td>Torrance</td> <td>+100m</td> </tr> <tr> <td>K-tilloch</td> <td>+100m</td> </tr> <tr> <td>Lenzie</td> <td>+100m</td> </tr> <tr> <td>A803 / Wst Rd</td> <td>+100m</td> </tr> </tbody> </table> <p>Peat: <b>Development and road alignment within moderate risk peat area.</b></p>				Auchinairn	Torrance	+100m	K-tilloch	+100m	Lenzie	+100m	A803 / Wst Rd	+100m	<p>Construction: <b>Second shortest alignment</b>  Reuse of existing road: <b>50%</b>  Operational Traffic*:  <b>Significant benefits</b></p> <table border="1" data-bbox="1481 968 1828 1136"> <thead> <tr> <th>From</th> <th>To</th> <th>Change</th> </tr> </thead> <tbody> <tr> <td rowspan="4">Auchinairn</td> <td>Torrance</td> <td>-600m</td> </tr> <tr> <td>K-tilloch</td> <td>-600m</td> </tr> <tr> <td>Lenzie</td> <td>-2600m</td> </tr> <tr> <td>A803 / Wst Rd</td> <td>0</td> </tr> </tbody> </table> <p>Peat: <b>Development and road alignment within moderate risk peat area.</b></p>	From	To	Change	Auchinairn	Torrance	-600m	K-tilloch	-600m	Lenzie	-2600m	A803 / Wst Rd	0	<p>Construction: <b>Second longest alignment</b>  Reuse of existing road: <b>25%</b>  Operational Traffic*:  <b>Significant benefits</b></p> <table border="1" data-bbox="1920 968 2267 1136"> <thead> <tr> <th>From</th> <th>To</th> <th>Change</th> </tr> </thead> <tbody> <tr> <td rowspan="4">Auchinairn</td> <td>Torrance</td> <td>0</td> </tr> <tr> <td>K-tilloch</td> <td>-1230m</td> </tr> <tr> <td>Lenzie</td> <td>-3400m</td> </tr> <tr> <td>A803 / Wst Rd</td> <td>0</td> </tr> </tbody> </table> <p>Peat: <b>Direct impact on moderate and high risk area</b></p>	From	To	Change	Auchinairn	Torrance	0	K-tilloch	-1230m	Lenzie	-3400m	A803 / Wst Rd	0	<p>Construction: <b>Longest alignment</b>  Reuse of existing road: <b>0%</b>  Operational Traffic*:  <b>Significant benefits</b></p> <table border="1" data-bbox="2365 932 2712 1100"> <thead> <tr> <th>From</th> <th>To</th> <th>Change</th> </tr> </thead> <tbody> <tr> <td rowspan="4">Auchinairn</td> <td>Torrance</td> <td>0</td> </tr> <tr> <td>K-tilloch</td> <td>-1500m</td> </tr> <tr> <td>Lenzie</td> <td>-3400m</td> </tr> <tr> <td>A803 / Wst Rd</td> <td>0</td> </tr> </tbody> </table> <p>Peat: <b>Direct impact on moderate and high risk area</b></p>	From	To	Change	Auchinairn	Torrance	0	K-tilloch	-1500m	Lenzie	-3400m	A803 / Wst Rd	0
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To prevent vulnerability to future climate related impacts	All options impact on SEPA pluvial flood areas. Based on the geography and desktop information, this is not considered a significant differentiator between options.																																																				
To promote the sustainable management of waste/materials To encourage and enhance the lifecycle of materials		Reuse of existing road: <b>50%</b>	Reuse of existing road: <b>50%</b>	Reuse of existing road: <b>25%</b>	Reuse of existing road: <b>0%</b>																																																
To prevent significant noise and vibration levels and prevent further deterioration	No significant adverse effects identified. Beneficial impacts are likely but detail at this stage is limited and therefore not detailed at this point in time.																																																				

\*Operational Traffic methodology was to select 5 key 'nodes' on the periphery of the red line boundary representing satellite settlements (see across) and to compare a limited number of current/future trips by car across the proposed options. Changes in journey distance are a proxy for potential future tailpipe emissions. This is indicative only and should not be used as a proxy for a transport assessment

## Appendix C: Initial List of the International, National and Local Legislative Drivers

### *International*

- European Union – Circular Economy Action Plan
- European Union – Waste Prevention and Management Hierarchy
- Global Strategy – UNESCO World Heritage 1994
- Gothenburg Protocol 1990
- Johannesburg Declaration 2002
- Kyoto Protocol 1997
- Paris Agreement 2015
- Rio Declaration 1992
- United Nations Sustainability Goals

### *National*

- 2020 Challenge for Scotland's Biodiversity
- A Culture Strategy for Scotland 2020
- A More Active Scotland: Scotland's Physical Activity Delivery Plan 2018
- Children and Young People (Scotland) Act 2014
- Climate Change (Emissions Reduction Targets) (Scotland) Act 2019
- Climate Change (Scotland) Act 2009
- Community Empowerment (Scotland) Act 2015
- Fair Work Action Plan 2019
- General Data Protection Regulations (GDPR) and Data Protection Act 2018
- Health and Social Care Delivery Plan 2016
- Historic Environment Policy for Scotland (HEPS) 2019
- Housing to 2040
- Impact Assessment Guide (IAG) 2019
- Land Reform (Scotland) Act 2016
- Land Use Strategy for Scotland 2021
- Making More of Scotland's Land: Scottish Land Commission: Our Strategic Plan 2018 – 2021
- National Peatland Plan 2015



- National Transport Strategy 2 2020
- Planning Advice Note 33: Development of contaminated land
- Planning etc. (Scotland) Act 2006
- Progressing the Human Rights of Children in Scotland: 2018-2021
- Reforming the Planning System
- Scotland River Basin District (2015-27)
- Scotland Town Centre Action Plan
- Scotland's Economic Strategy 2015
- Scotland's Future Skills Action Plan 2019
- Scotland's Zero Waste Plan
- Scottish Biodiversity Strategy
- Scottish Canals Heritage Strategy 2013-38
- Scottish Forestry Strategy 2019 – 2029
- Scottish Government National Outcomes 2018
- Scottish Government Update to the Climate Change Plan 2018-32
- Scottish Government, Creating Places, 2013
- Scottish Government, Designing Streets, 2010
- Scottish Planning Policy 2020
- Scottish Soil Framework
- SEPA Climate Change Allowances for Flood Risk Assessment in Land Use Planning Guidance (2019)
- SEPA Development Plan Guidance – Soils
- SEPA Scotland River Basin Management Plan 2
- Strategic Transport Projects Review 2 2022
- The Equality Act 2010
- The Government's Programme for Scotland 2020-21
- The National Waste Management Plan for Scotland Regulations 2007
- The Scottish Natural Heritage Carbon and Peatland Map 2016
- Town and Country Planning (Scotland) Act 1997
- Transport (Scotland) Act 2019
- UN Convention on the Rights of a Child 1990



### *Regional*

- Clyde and Loch Lomond Local Flood Risk Management Plan 2016
- Clydeplan Supplementary Guidance Forestry and Woodland Strategy (emerging)
- Clydeplan: Glasgow & Clyde Valley Strategic Development Plan 2017
- Community Learning and Development Planning 2021 - 2024
- Frontiers of the Roman Empire World Heritage Site: Antonine Wall Management Plan
- Glasgow and Clyde Valley Housing Need and Demand Assessment
- Glasgow City Region Economic Action Plan February 2017
- Regional Economic Strategy 2017 – 2035
- Regional Transport Strategy 2008-2021 – A Catalyst for Change
- SEPA Glasgow & Loch Lomond Flood Risk Management Strategy Climate Ready
- Clyde (2021) Glasgow City Region Climate Adaptation Strategy and Action Plan 2020–2030: Choosing to flourish in our future climate

### *Local*

- Active Travel Strategy 2015 – 2020
- Bishopbriggs Surface Water Management Plan
- Culture, Leisure and Sport Strategy 2016 – 2021 & associated Sports Pitches Strategy
- East Dunbartonshire Circular Economy Strategy
- East Dunbartonshire Climate Change Adaptation Strategy (emerging)
- East Dunbartonshire Community Learning and Development Plan 2021 – 2024
- East Dunbartonshire Community Planning Partnership Local Outcome Improvement Plan (LOIP) 2017 – 2027
- East Dunbartonshire Council Local Housing Strategy 2017 – 2022
- East Dunbartonshire Culture Leisure and Sport Strategy 2016 – 2021
- East Dunbartonshire Economic Development Strategy 2017
- East Dunbartonshire Local Development Plan 2 - 2020 (under examination)
- East Dunbartonshire Local Development Plan 2017 – 2022
- East Dunbartonshire Natural Environmental Planning Guidance
- East Dunbartonshire Strategic Housing Investment Plan
- Economic Development Strategy 2017 – 2020
- EDHSCP Joint Health Improvement Plan 2018 – 2021





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- Food Growing Strategy (emerging 2020)
- Green Network Strategy 2017 – 2022
- Local Biodiversity Action Plan 2017 – 2021
- Local Heat and Energy Efficiency Strategy (LHEES)
- Local Housing Strategy
- Local Transport Strategy 2020 – 2025
- Open Space Strategy 2015 – 2020
- Strategic Housing Investment Plan (SHIP)
- Sustainability and Climate Change Framework 2016
- Town Centre Strategies for Bearsden, Bishopbriggs, Kirkintilloch and Milngavie

## Appendix D: PEA

*Doc not included in this submission for review as already signed off. Will include in final SEA*

## Appendix E: PPRA

*Doc not included in this submission for review as already signed off. Will include in final SEA*