



Aberdeen Beachfront Development Framework Strategic Environmental Assessment (Environmental Report)



September 2022

Aberdeen Beachfront Development Framework Strategic Environmental Assessment (Environmental Report)

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NON- TECHNICAL SUMMARY

Introduction

The Strategic Environmental Assessment (SEA) of the draft Aberdeen Beachfront Development Framework has been carried out by EnviroCentre, on behalf of Aberdeen City Council.

A SEA is required for the draft Aberdeen Beachfront Development Framework under the Environmental Assessment (Scotland) Act 2005. The SEA has been carried out alongside the development of the draft Beachfront Development Framework and seeks to ensure that, once adopted, the Beachfront Development Framework contributes positively to the high level of environmental protection now expected by the Scottish Government. The SEA seeks to ensure that potential significant effects on the environment of implementing the Beachfront Development Framework, and of reasonable alternatives, are identified, described, evaluated and taken into account before the Beachfront Development Framework is adopted.

To support the public consultation on the draft Beachfront Development Framework and the potential effects on the environment of its implementation, an Environmental Report, which documents the SEA process and outcomes, is required under the SEA legislation. This Non-Technical Summary of the Environmental Report is also required to facilitate wider consultation.

Consultation on Aberdeen Beachfront Development Framework

The **six week** consultation period on the Beachfront Development Framework is from:

12 September 2022 to 24 October 2022.

Responses to the consultation on the draft Beachfront Development Framework and its potential effects on the environmental should be sent to: <u>LaRobertson@aberdeencity.gov.uk</u> OR

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Background to the Beachfront Development Framework

The Aberdeen Beachfront Development Framework highlights the main issues for development in the Beachfront Area and sets out options for how these will be dealt with, including consideration of existing and new sites. The draft Beachfront Development Framework sets out a Vision and a series of Objectives and Actions for regenerating Aberdeen Beachfront.

Integration of the SEA with the Aberdeen Beachfront Development Framework - development process & engagement with stakeholders

Whilst the Beachfront Development Framework's development process was not explicitly subject to SEA from the outset, a number of SEA-type activities were undertaken by Aberdeen City Council and their consultants during the preparation of the Beachfront Development Framework and the Masterplan which informed it including community consultation and engagement, and undertaking initial scoring of the three masterplan options and three development options. These activities played a key role in informing the early development of the Beachfront Development Framework in advance of the formal SEA process.

The SEA process began in April 2022 and since then has been undertaken in parallel with the development of the draft Beachfront Development Framework with interaction between the SEA team and the Beachfront Development Framework team.

SEA overview

The SEA aims to inform the draft Beachfront Development Framework development process. It is important to note that the draft Beachfront Development Framework is a high-level plan and as such, the approach taken to the SEA has been of a high-level assessment. This SEA is not intended to address issues that should be considered during the assessment of lower-level plans or complementary strategies which may support the implementation of the Beachfront Development Framework.

SEA Screening

Aberdeen City Council screen plans to determine whether a SEA for the plan should be undertaken. When a plan is likely to have significant (i.e., negative, damaging, large or long-lasting) effects on the environment, the Council will undertake a SEA. (If the effect is not significant, no further action is taken and a pre-screening report would be prepared). In this case, it was determined by the Council that the environmental effects of the Beachfront Development Framework will potentially be significant and therefore a full SEA is required.

Scoping the level of detail for the assessment

The approach to the SEA of the draft Beachfront Development Framework initially involved determining the level of detail of the SEA to ensure it was appropriate to the draft Beachfront Development Framework (called 'Scoping'). A SEA Scoping Report was produced and consulted upon during June and July 2022. The Scoping Report presented the findings of the initial consideration of the potential environmental effects of the draft Beachfront Development Framework. It included information on the environmental baseline information) and a proposed approach to assessing the environmental effects of the draft Beachfront Framework.

The responses to the Scoping Report were taken into account to inform and adapt the approach to the development of the Beachfront Development Framework and the undertaking of the assessment of the Beachfront Development Framework's potential effects on the environment (Appendix A). The responses to the Scoping Report consultation provided comments on an initial review of relevant plans, programmes, strategies and associated environmental protection objectives to which the Beachfront Development Framework and the SEA would need to refer. A list of environmental protection objectives (termed 'SEA objectives') was identified under nine environmental topics, which would be appropriate for the Beachfront Development Framework to work towards. The SEA Objectives used as a framework for the assessment of the Beachfront Development Framework are included below in Table 1.

Within Table 1 we have attempted to align air, noise and climate objectives as they are related in terms of sources and impacts and ideally should not be considered in isolation. Air quality is also considered under population and human health given it is a public health issue as well as environmental.

SEA Topic	Objectives	Indicators
Biodiversity, flora	Protect or conserve and, where	Condition of designated sites
and fauna	possible, restore and enhance	
	biodiversity and valued nature	Loss of designated sites
	conservation habitats and species.	
		Habitat fragmentation
	(*Amended at the request of	
	NatureScot)	LBAP species/habitats stable or
•		increasing
Soil	Protect and enhance soil quality and	SUDS are delivered in new
	prevent any further degradation of soils*.	development.
	 Reduce the amount of Vacant and 	Developments should avoid soil
	Derelict Land in the Aberdeen	contamination.
	Beachfront boundary area.	
	Deachment boundary area.	The waste hierarchy should be
	(*Amended at Request of NatureScot)	promoted.
Landscape	Protect and enhance landscape	Impact on visually prominent
	character, local distinctiveness, visual	areas
	amenity and promote access to the	
	wider environment.	Development adversely affects
		the landscape/ townscape/
	(*Amended at the request of	seascape setting.
	NatureScot)	
Cultural heritage	Protect, conserve and enhance the	Number and condition of
	historic environment.	designated/non-designated sites
		and undiscovered remains.
Water	Prevent deterioration, protect and	Impact on Flooding
	enhance water quality and ecological	Impact on water pollution
	status*.	Impact on water pollution.
	 Reduce the risk of flooding. Provide adequate drainage and	Impact on water bodies and the
	sewerage.	coast
	Sewerage.	
	(*Amended at Request of NatureScot)	
Population and	Improve human health and community	Impact on human health and
human health	wellbeing, while promoting a range of	community wellbeing,
(Note interactions	outdoor and recreational attractions.	
between Population	Encourage physical activity.	
and human health	Creation of community facilities.	
Air and Climatic		
Factors)		
Air	Maintain and improve air quality and	Air quality trends
	reduce emissions of key pollutants.	
Climatic factors	Reduce emissions of greenhouse s in	Electricity is generated from
	line with Scottish Government targets.	renewable energy sources.
	 Promote active travel and sustainable transport* 	Impact on human health and
	transport*.Reduce risks from climate change	Impact on human health and community wellbeing,
	 Reduce risks from climate change problems in the Aberdeen City Council 	Quality and distance of new
	area include increased flood risk of	active travel routes created.
	coastal and fluvial sources.	

Table 1: Key Environmental Receptors and SEA Objectives

	Promote renewable energy sources. (*Amended at Request of NatureScot)	SUDS. Flood risk
Material assets	 Promote the sustainable use of community assets, natural resources and material assets. Promote quality urban design. 	Enhancing positive effects on community assets, natural resources and material assets.
	 Promote sustainable waste management and the circular economy. 	Waste minimisation and promotion of the circular economy.

To set the context within which the draft Beachfront Development Framework will need to operate, the SEA Objectives were used to support the identification of key environmental issues and used as a framework for establishing the environmental baseline against which the effects of the implementation of the draft Beachfront Development Framework would be assessed. Through this process, some initial monitoring indicators were identified for measuring progress of the Beachfront Development Framework towards achieving the SEA Objectives.

Description of the Proposed Beachfront Development Framework

A Development Framework is one of the tools under the Council's 'masterplanning' umbrella and sets out a two-dimensional framework of development principles and parameters for the way in which the wider site is to be developed in the future. The Development Framework will serve as a strategy document used by Aberdeen City Council to guide the future development of the Beachfront. The Beachfront Development Framework will not be adopted as Supplementary Planning Guidance, but rather will be a Council-approved strategy, and will be assimilated into a recalibrated City Centre and Beach Masterplan. These documents will be material considerations in the assessment of any future planning applications for development at the Beachfront.

It is proposed that, following the approval of the Development Framework by the Council, detailed planning applications for the new buildings at the Beachfront would be submitted, while the public realm aspects will be progressed by the Council under statutory powers, as previously confirmed by Committees. It is important to stress that the Development Framework sets out principles and parameters to be followed and will not be 'set in stone' or represent a final design solution for the Beach or any of the constituent developments. The document will outline a potential phasing strategy for the prospective developments and interventions at the Beachfront. **Chapter 4** of the main report contains a detailed description of the content of the Beachfront Development Framework, and the different options and alternatives considered.

Context of the Proposed Beachfront Development Framework

To guide and deliver what Aberdeen City Council plan to do in the Beachfront Development Framework EnviroCentre has made use of high-level documents, statements and pieces of legislation to influence how the Council have prepared the Framework which affects Aberdeen.

Chapter 3 of the main report contains a list of all the relevant plans, programmes, strategies and policies which have a bearing on the Beachfront Development Framework. **Appendix B** contains a more detailed description of these.

Environmental Baseline

We have collected information on the key characteristics of the environment in Aberdeen and the Beachfront area where information is available, to provide a snapshot of the state of the environment in Aberdeen at this time (**Chapter 3 and Appendix C**). We have also identified a number of environmental problems in Aberdeen, and what the role of the Beachfront Development Framework might be in addressing these problems.

The main challenges The challenges we must deal with:

- Aberdeen has air quality issues and has implemented three Air Quality Management Areas AQMA's), the closest to the Beachfront area being the City Centre AQMA;
- Aberdeen releases significant amounts of CO₂ as a result of heating, and driving vehicles among others. This is releasing CO₂ into the air and contributing to climate change;
- Past and present development have all affected soil and water quality;
- Dealing with waste also has implications for soils, water and climate;
- Aberdeen has a rich cultural heritage, development is putting pressure on these resources;
- New development can put pressure on biodiversity; and
- The diversity of the Aberdeen population needs to be considered for future development. For example, there are a range of ages living in Aberdeen who seek open space and recreational facilities, therefore the Beachfront Development Framework must cater for all, including people moving to live in the area.

The main part of SEA is assessing the effect of the strategy, policies and supplementary guidance on the environment. A summary of our findings can be found in the table below:

SEA Topic	Impact of the Development Framework
Air	The effects of the Beachfront Development Framework on the
	environment are generally positive.
	The Beachfront Development Framework "Development Options" could
	increase recreational activity in the area, and could result in vehicles on
	the roads which emit greenhouse gases, however, the Development
	Framework includes key "Design Principles" to promote sustainable
	modes of transport such as walking, cycling and public transport.
	The promotion of sustainable transport is also likely to benefit the Low
	Emission Zone (LEZ), covering the city centre and proposed
	enhancements to active travel connections between the city centre and
	the Beachfront could contribute towards LEZ objectives.
Climatic Factors	The overall effects of the Beachfront Development Framework are
	generally positive. The Beachfront Development Framework sets out the
	approach, pathway, and actions towards meeting NetZero and climate-
	resilient assets and operations by 2045. As such, energy-efficient designs will be incorporated alongside renewable and low-carbon energy sources,
	with consideration provided on how further decarbonisation could be
	achieved in the future.
Water	The overall effects of the Beachfront Development Framework on water
Water	are also mixed. The "Design Principles" promote the use of Sustainable
	drainage systems (SuDS) and blue/green infrastructure. The provision of
	SUDs and blue/green infrastructure can provide opportunities for
	biodiversity gain. Flood and Drainage impact assessment will be required
	prior to development.
Soil	The site is located on the edge of an area which has former industrial uses
	including chemical, gas, iron, rope and granite works. All of these have the
	potential to leach contaminants into the surrounding areas. Without
	knowing how contaminated material, if any, was dealt with when the site
	was first developed, it is not possible to discount the possibility that
	contaminated material will be encountered on site.

	The Development Framework does not contain any specific guidance on	
Biodiversity	the protection or enhancement of soils. The overall effects of the Beachfront Development Framework on biodiversity is generally positive and includes key "Design Principles" which indicate all new development will give consideration to biodiversity.	
Population and Health	The overall effects of the Beachfront Development Framework on population and health are generally positive because the new development will provide access to recreational/leisure facilities, improved infrastructure and potential new employment opportunities. However, traffic from new development and other polluting uses could have a negative effect on air quality which may have a negative effect on human health. The Beachfront Development Framework includes Design Principles to try and limit this effect through sustainable transport options.	
Cultural Heritage	The effects of the Beachfront Development Framework on cultural heritage are generally positive, particularly the refurbishment of the Beach Ballroom which is a Category B listed building are mixed. The Design Principles indicate that heritage will be protected, and people's understanding and enjoyment of it enhanced through the new developments. However, there may inevitably be some impact on their setting as a result of new development.	
Landscape	The overall effects of the Beachfront Development Framework on our surroundings are mixed, some positive and others negative. Large-scale development, which can be seen from a number of locations, will have a negative effect on views and scenery and the character of the Beachfront Area. However, the Beachfront Development Framework also contains design principles" for new development which aims to minimise this impact.	
Material Assets	The overall effect of the Beachfront Development Framework is mixed.	

Chapters 5 and 6 of the main report describe in more detail how we approached the assessment of environmental effects and mitigation measures to help mitigate the negative (or enhance the positive) effects of the development options.

Chapter 7 Implementation and Monitoring the Beachfront Development Framework

Monitoring the significant environmental effects of implementing the Beachfront Development Framework is a fundamental part of the SEA process. The Environmental Assessment (Scotland) Act 2005 requires the significant environmental effects of a plan or programme to be monitored and that the Environment Report (this report) should include a description of measures 'envisaged' for monitoring the implementation of the plan. This may help identify opportunities for subsequent revisions of the Beachfront Development Framework to contribute further to the environmental protection and enhancement of the Aberdeen beachfront area. Chapter 7 explains how significant negative and positive effects of the plan and provides a description of what will be monitored, how this can be undertaken and how often.

Chapter 8 Conclusions and next steps

Following consultation on the Environmental Report (including this Non-technical summary) and the draft Beachfront Development Framework, all responses will be collated and analysed by the Beachfront Development Framework -development team. The results of the analysis will be taken into account in the finalisation of the Beachfront Development Framework. In line with SEA legislative requirements, if any significant changes are made to the Beachfront Development Framework, an assessment of its potential effect on the environment of the changes will be undertaken and summarised in an addendum to the Environmental Report. A post-adoption statement on how the Environmental Report itself and the responses to the SEA and draft Beachfront Development Framework have been taken into account will also be published along with a list of the Consultees.

The Environmental Report (along with any addendum required), and the Post-Adoption Statement, will be published alongside the final Beachfront Development Framework.

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1 BACKGROUND AND INTRODUCTION

1.1 Purpose of the Environmental Report and key facts

To meet its legislative requirements under the Environmental Assessment (Scotland) Act 2005 for the preparation of its draft Beachfront Development Framework, Aberdeen City Council contracted EnviroCentre to prepare Strategic Environmental Assessment (SEA) Scoping and Environmental Reports. Aberdeen City Council will take into account the consultation responses and prepare the SEA Post-adoption Statement for publication with the final adopted Beachfront Development Framework.

This Report constitutes an Environmental Report in accordance with the requirements of the Environmental Assessment (Scotland) Act (2005).

This section describes the purpose of SEA and the Environmental Report (ER), the background on the Aberdeen City Council draft Beachfront Development Framework, the structure and content of this Environmental Report and where to locate relevant SEA statutory requirements by ER chapter. The ER as a whole is split into two distinct sections:

- **Chapters 1-3** provide information on the background to the draft Beachfront Development Framework and describe the environmental, legislative and policy context within which it will operate once adopted. This contextual information informed the development of a bespoke approach to the assessment of the draft Beachfront Development Framework's potential environmental effects. The approach taken to the SEA as a whole and, in particular, the assessment is described here also; and
- **Chapters 4-8** describe the outcomes of the assessment of the draft Beachfront Development Framework, recommendations for improving its environmental performance and measures proposed to monitor its significant environmental effects.

In addition, there is a separate Non-technical Summary (NTS) which summarises the SEA of the draft Beachfront Development Framework.

1.2 Key Facts

Name of Responsible Authority	Aberdeen City Council
Title of the of the policy, plan, programme (PPS)	Beachfront Development Framework
What Prompted the PPS	Planning & etc. (Scotland) Act 2006
Subject	Land Use (Sister Document to the City Centre Masterplan (CCMP))
Period Covered by the PPS	Annual review of progress and delivery

Frequency of Updates	The development framework sets out the aspirations for planning applications which will be submitted to Aberdeen City Council. It is not anticipated that the framework will be updated.
Area covered by the PPS	The Beachfront Development Framework Area is located to the north-east of the city centre connected by the primary route of Beach Boulevard which links the Beachfront to Justice Street and on to Cast legate. The site is bounded to the east by the North Sea; to the south is Codona's amusement park and a mixture of commercial, hospitality and retail uses; to the west of the site there are existing hotel and leisure units with a mix of residential typologies beyond; and to the north is the Kings Links Golf Course. The area of the proposed site is approximately 50 hectares.
	The site is currently occupied by existing entertainment and leisure facilities, namely Aberdeen Beach Ballroom, Linx Ice Arena, and the Beach Leisure Centre; public space, Queens Links including Queens Links Play Park and Crescent Cricket Club's Cricket Pitch; existing landscape features such as the beach and Broad Hill; and a series of existing vehicular routes including Beach Boulevard, Esplanade and Links Road. There are a number of separate uses bordering the Development Framework area which will require consideration as part of the proposals: to the west of the area are two sites owned by Aberdeen City Council but on long-term leases to a hotel operator and extreme sports venue; to the north is a site under separate ownership which is operating as golf driving range; to the south is an amusement park owned and operated by Codona's. There are a series of small-scale structures and pavilions situated across the Development Framework area which will also need to be considered as part of the proposals.
	The Development Framework area figures prominently within the current leisure and public space provision of Aberdeen City (Figures 2-1 and 2-2).
Purpose of PPS	The Development Framework (a sister document to the City Centre Masterplan (CCMP)) is one of the tools under the 'masterplanning' umbrella and will set out a two-dimensional framework of development principles and parameters for the way in which the wider site is to be developed in the future. It is proposed that, following the approval of the Development Framework by the Council, detailed planning applications for the constituent parts of the Beachfront proposals would be submitted. As such, the Development Framework will also include a visual assessment of the indicative three-dimensional forms of the proposed development from key viewpoints. It is important to stress that the final approved Development Framework will set out principles and parameters to be followed and will not be 'set in stone' or represent a final design solution for the Beach or any of the constituent developments, which may require ongoing detailed design development in advance of any detailed planning applications in the future.

1.3 Compliance with the Environmental Assessment (Scotland) Act 2005

The requirements of the Environmental Assessment (Scotland) Act 2005 for information to be included in Environmental Reports are listed in Table 1-2. Table 1-2 cross-references the requirements of the Act to where the information can be found in this Environmental Report.

Table 1-2 Summary of SEA requirements and where these are covered in the EnvironmentalReport

Information to be included in the Environmental Report under the Environmental Assessment (Scotland) Act (2005)	Relevant Sections in the Environmental Report
Schedule 3 (10) – Non-technical Summary (including consultation timescale and address for comments)	See Non-Technical Summary
Schedule 3 (1) – An outline of the contents and main objectives of the plan, programme or strategy and its relationship with other qualifying plans, programmes and strategies	See section 3.1. and Appendix B
Schedule 3 (5) – Environmental protection objectives set at the international, Community or Member state level	See section 3.1, Table 3.1 and Appendix B
Schedule 3 (2) and (3)- The relevant aspects of the current state of the environment and the environmental characteristics of areas likely to be significantly affected – the Baseline	See section 3.2 and Appendix C
Schedule 3 (4) – any existing environmental problems or issues which are relevant to the plan, programme or strategy.	See section 3.4
Schedule 3 (6), (7) and (8) – Assessment of environmental effects of the plan, programme or strategy, including reasonable alternatives and proposed mitigation measures.	See section 2.4, chapters 4, 5 and 6 Appendix E
Schedule 3 (9) – Monitoring	See section 2.6 and Chapter 7

1.4 SEA activities to date

Table 1-2 summarises the SEA activities to date in relation to the Beachfront Development Framework.

SEA Action/Activity	When carried out
Screening: to determine whether the plan is	Not required, the Beachfront Development
likely to have significant environmental effects	Framework qualifies under Section 5(3) of the
	Environmental Assessment (Scotland) Act 2005.
Scoping: Scoping sets out sufficient information	Scoping report submitted to SEA Gateway 21st
on the Beachfront Development Framework to	June 2022
enable the Consultation Authorities (Historic	
Environment Scotland, NatureScot and Scottish	Consultee comments received 26 th July 2022
Environment Protection Agency) to form a view	

Table 1-3: SEA activities to date

on the scope, level of detail and consultation	
period that would be appropriate.	
Preparation of Environmental Report Version:	Environmental appraisal carried out between
An environmental appraisal has been carried out	May 2022 and August 2022
on the issues and options set out in the	
Beachfront Development Framework.	
Publication and submission of Environmental	12 th September 2022
Report to SEA Gateway	

2 SEA APPROACH

2.1 Overview of approach

This section summarises the overall approach to the SEA of the draft Beachfront Development Framework. It follows the relevant legislation and draws on guidance, especially the Scottish Governments SEA Toolkit (Scottish Government guidance on Strategic Environmental Assessment (SEA), 2013), but the approach has been tailored to meet the specific needs of the assessment of the draft Beachfront Development Framework.¹ After Aberdeen City Council screened the draft Beachfront Development Framework internally and made a decision that SEA was required, the main stages of SEA undertaken have been:

- Setting the context, developing SEA objectives, establishing the environmental baseline and deciding on the scope;
- Assisting in the development and refinement of strategic alternatives and assessing the environmental effects of the draft Beachfront Development Framework; and
- Preparing the Environmental Report;

Further to consultation on this Environmental Report and the draft Beachfront Development Framework consultation comments will be collated and accounted for in final decision-making stages. Once adopted, the significant environmental effects of the Beachfront Development Framework will be monitored. Table 2-1 summarises the key tasks in the SEA of the draft Beachfront Development Framework.

Stage	Purpose	Tasks
Screening	Establish whether SEA is required	Aberdeen City Council determined there would be a requirement for SEA and went straight to Scoping
Scoping	Establish an appropriate level of detail for, and approach to, the SEA	 Identify other relevant PPSs & environmental protection objectives Collect baseline information Develop SEA Objectives Identify environmental problems and sensitive areas Consult on the scope of the SEA
Assessment	To assess the likely environmental effects of the Plan and its alternatives	 Test Plan objectives against SEA Objectives Develop strategic alternatives Predict and evaluate the effect of the Plan, including alternatives Consider ways to mitigate adverse effects Propose to monitor the environmental effects of the plan implementation
Reporting	Prepare an Environmental Report on the SEA	Report the SEA process including the likely significant environmental effects of the Plan and its alternatives for consultation with the draft.
Consultation & Decision Making	To consult on the likely significant effects of the Plan and the proposed monitoring plan	 Consult on the Environmental Report and Draft Plan Assess significant changes Decision-making and providing Information
Monitoring	To monitor the likely significant effects of the plan and the proposed monitoring plan	 Develop aims and methods for monitoring the significant environmental effects of the Plan Respond to adverse effects of the Plan

Table 2-1: SEA Process summary

¹ <u>https://www.gov.scot/publications/strategic-environmental-assessment-guidance/</u> (Accessed 15/06/2022)

2.2 Stakeholder consultation and engagement

The approach taken to stakeholder consultation and engagement involved both formal statutory consultation and also more informal consultation and engagement activities. The overall aim of the approach was to be as inclusive and transparent as possible given the timescales and other constraints. Table 2-2 summarises who was involved and when in the SEA of the draft Beachfront Development Framework.

As the development of the Beachfront Development Framework unfolded, a number of consultation and engagement activities were undertaken. This was necessary to, on a more ad hoc basis, capture information, opinion and guidance from various stakeholder groups. Informal engagement and consultation was carried out using various approaches including presentations, workshops etc. More detail on the approach is provided in Table 2-2.

In April 2022 EnviroCentre was commissioned to undertake the Strategic Environmental Assessment. EnviroCentre staff were involved in a number of Beachfront Development Framework team meetings involving Aberdeen City Council, Keppie Design, Goodson Associates (hydrology drainage and flooding), OPEN (Landscape and Visual), Systra (Transport), and developed the SEA Scoping Report, which was submitted to the SEA Gateway 21st June 2022 for consultation, with consultee comments received 26th July 2022.

Date	Type of consultation/ engagement activity	Attendees	Aim
06/08/21	Presentations and workshop	Vanguard are part of Aberdeen Chamber for Commerce which includes working groups for economic development and the environment, including a working group for the Beachfront. North East Scotland Cricket are looking for alternative relocation locations. Surf Club/Life Saving Organisations	To present the development framework to local stakeholders and identify key issues relevant to the development framework and elicit feedback on key problems, pressures and opportunities
23&24/09/21	Options Workshop Schools and Young People Workshops	Beachfront Consultants Primary 6 Pupils from the following schools • Seaton	Scoring the Masterplan and Stadium options Workshops with the intention of an environment that
		 Ashley Road Ferryhill Hanover Street Skene Square St Josephs St Peters 	supported them to think about play, think about aspects of their city, how they feel about it and how they would like it to be.
	Youth Engagement	A call was put out to all Academies to see which ones would be interested in running the Post Card engagement activity before the October 20221 holidays. Of the Academies contacted	Postcard engagement.

Table 2-2: Timetable for the preparation of the Beachfront Development Framework and SEA

		Hazelhead Academy and Northfield Academy expressed interest and sent out 200 and 100 copies respectively.	
28/09/21	Presentation and workshop	Beachfront Consultants with key stakeholders associated with the beachfront facilities	Key Stakeholder Discussion. The workshop session presented the design team's thoughts to stakeholders
06/04/22	Round table discussion	Aberdeen City Council, Keppie Design and SEA Consultants (EnviroCentre)	SEA inception meeting. Identify Beachfront Development Framework / SEA programme and interactions. Early scoping of issues and agreement on an approach to scoping.
19/04/22	Round table discussion	Aberdeen City Council, Keppie Design, SEA Consultants (EnviroCentre), Goodson Associates (hydrology and terrestrial flooding), OPEN (LVIA) NatureScot, HES, Marine Scotland, SEPA	Beachfront Development Framework Technical workshop to introduce and discuss the Framework with stakeholders
20/04/22	Round table discussion	Aberdeen City Council, Keppie Design, Goodson Associates, EnviroCentre	Beachfront Development Framework/ SEA Scoping meeting. Review the progress of the Beachfront Development Framework. Clarify the approach to scoping and identify a forward plan for the SEA
06/05/22	Round table discussion	Aberdeen City Council Flooding Team, Goodson Associated (Terrestrial Flooding) EnviroCentre (Coastal Flooding	Beachfront Development Framework - Flooding and Coastal Team Discussion. The Council are looking to upgrade coastal flood defences in the area (but outwith the Framework area) and was keen to understand what is being proposed, modelled and potential mitigation.
12/05/22	Round table discussion	Aberdeen City Council, Keppie Design, Goodson Associates, EnviroCentre	Beachfront Development Framework/ SEA Scoping meeting. Review the progress of the Beachfront Development Framework. Review SEA scoping progress
26/05/22	Round table discussion	Aberdeen City Council, Keppie Design, EnviroCentre (SEA), Goodson	Beachfront Development Framework/ SEA Scoping

		Associates (Hydrology), OPEN (Landscape), Systra (Transport)	meeting. Review the progress of the Beachfront Development Framework. Review SEA scoping progress
27/05/2022	Draft	Draft Beachfront Development	
	Beachfront	Framework issues to Aberdeen City	
	Development	Council ahead of Committee Meeting	
	Framework	on 22 nd June 2022.	
21/06/2022	SEA Scoping	SEA Scoping Report submitted to the	
	Report	SEA Gateway for Comment (Historic	
		Environment Scotland, NatureScot	
		and SEPA)	

2.3 SEA Methodology

2.3.1 Scoping the SEA

The scoping stage of the Beachfront Development Framework SEA involved the following key tasks:

- Identifying how the draft Beachfront Development Framework may influence and be influenced by other relevant Plans, Programmes and Strategies and environmental protection objectives;
- Collation of environmental baseline information related to the draft Beachfront Development Framework and the environment likely to be affected;
- Developing SEA objectives, assessment criteria and significance criteria as a framework against which the potential environmental effects of the draft Beachfront Development Framework were assessed;
- Identifying key environmental problems and sensitive areas relevant to the draft Beachfront Development Framework and the Beachfront area; and
- Consulting on the proposed scope of the SEA.

2.3.2 Approach to scoping

Scoping is an iterative process and all tasks undertaken informed each other throughout their development and the early development of the draft Beachfront Development Framework. Consultation on the SEA Scoping Report which ran between June and July 2022 marked the point at which views were sought from the statutory Consultation Authorities detailed below on the proposed scope of the SEA.

- Scottish Environment Protection Agency (SEPA);
- NatureScot; and
- Historic Environment Scotland

The Scoping Report was produced by EnviroCentre Ltd in collaboration with Keppie Design and Aberdeen City Council between April 2022 and June 2022. It was supported by formal and informal engagement with relevant stakeholders between August 2021 and June 2022 as the development of the SEA and the draft Beachfront Development Framework unfolded. In particular, a number of meetings took place between the SEA team and representatives from Aberdeen City Council. A more

comprehensive description of the approach taken to stakeholder consultation and engagement in the SEA as described in Section 2.2 and Table 2-2 is provided in Section 3 *Consultation & Engagement* of the Beachfront Development Framework (Appendix F).

Outcomes from the meetings and other informal engagement processes informed the development of scoping tasks. Appendix A provides a detailed analysis of how scoping consultation responses have been incorporated into the approach to the SEA. Furthermore, section 2.3.6 summarises how scoping responses have been accounted for in the revised approach to the assessment.

2.3.3 Key scoping tasks undertaken

Identifying other relevant plans, programmes and strategies and environmental protection objectives

The review of other relevant plans, programmes and strategies (PPS) helped to identify potential constraints and synergies that outside factors may place on the development and implementation of the draft Beachfront Development Framework and vice versa. For example, the Beachfront Development Framework has the potential to work towards delivering national and local level health objectives by supporting development that improves access to and encourages outdoor recreation.

In addition, the review of other relevant PPS was instrumental in identifying potential SEA objectives, assessment criteria and baseline information. These were considered and, where appropriate, incorporated into the SEA framework (see Section 3.1). A summary of the relationships between the draft Beachfront Development Framework and the most relevant PPS is provided in Chapter 3 Environmental Protection Objectives, Baseline and Context. A full list of the PPS considered is provided in Appendix B.

2.3.4 Collation of environmental baseline information

An initial review of available baseline data was undertaken during the scoping stage which sought to identify, as far as possible the following information:

- The current state of the environment;
- Past and likely future trends; and
- Key current environmental problems, sensitive areas and opportunities in the Aberdeen Beachfront area, particularly those of relevance to the development of the draft Beachfront Development Framework.

The initial approach was to collate broad environmental information for all SEA topics:

- Biodiversity, Flora and Fauna;
- Population and Human Health;
- Water;
- Soil;
- Air;
- Climatic Factors;
- Material Assets;
- Cultural Heritage; and
- Landscape

This informed the identification of key environmental issues and both these and the initial draft baseline were consulted on externally during the formal scoping consultation. As a consequence of the scoping

consultation and subsequent informal engagement, a number of environmental issues have emerged as being particularly important in the area. The implications of these key issues are discussed in further detail in Section 3.

The SEA topics to be scoped in/out of this Environmental Report and the associated justification are provided in Table 2-3.

SEA Topic	Scoped	Scoped	Justification
	In	Out	
Biodiversity,	✓		Development has the potential to affect habitats and
flora and fauna			species through loss of habitat and disturbance.
Soil	\checkmark		Development will result in changes to soils and geology.
Landscape	✓		Proposed development has the potential for significant
			effects on landscape/ seascape quality and character.
Cultural	\checkmark		There are sites such as Aberdeen Ballroom, within the area
heritage			which the proposals have the potential to affect.
Water	✓		Increased run-off from development areas may increase
			flood risk albeit SUDS/ green infrastructure measures are
			proposed.
Air	✓		New development may result in traffic at certain times of the
			day. These indirect effects may give rise to changes in local
			air quality and noise along affected routes.
Climatic factors	\checkmark		Indirect effects on carbon emissions from increases
			buildings. The proposals offer an opportunity to build with
			very low carbon emissions through energy efficiency,
			insulation and microgeneration.
Material assets	\checkmark		The proposals provide an opportunity for sustainable
			construction methods and materials to minimise waste. The
			Beachfront Development Framework will enhance
			recreational and open space provision.
Population and	✓		The Beachfront Development Framework incorporates open
human health			space, formal recreation and community facilities which
			offer potential benefits for the population.

Table 2-3: SEA Topics for Scoping

2.3.5 Alternatives

Schedule 3 of the Environmental Assessment (Scotland) Act (2005) requires that "reasonable alternatives" be considered. As the Beachfront Development Framework included preferred and alternative options, the assessment of reasonable alternatives was carried out at this stage and included in the Environmental Report.

2.3.6 Taking account of responses to the scoping consultation

The key outcomes from scoping were documented in a SEA Scoping Report. This was consulted between late June and early July 2022. A number of responses were received from the statutory Consultation Authorities; NatureScot, Scottish Environment Protection Agency and Historic Environment Scotland. Where practicable, these were accounted for in the revised approach to the SEA which is described in Appendix A which describes how specific scoping responses were incorporated into the revised approach to the SEA.

2.3.7 Developing the SEA Framework

The scoping tasks described above informed the development of the following:

- Headline SEA objectives;
- Sub-objectives or assessment criteria;
- Significance criteria; and
- Draft indicators.

These elements, which constitute the SEA framework, were used to help predict and evaluate the environmental effects of the draft Beachfront Development Framework.

Following the scoping consultation and early stages of assessment, the SEA framework was refined to take account of scoping responses received on the Scoping Report and any new issues that arose. The SEA Framework is described in Section 3.5.

2.4 Assessment of Environmental effects

The approach taken to assessing the potential environmental effects of the draft Beachfront Development Framework was split into three key stages.

The three stages of assessment, including key aims and outcomes, are summarised in Table 2-4. These criteria were developed to take account of the requirements of Schedule 2 of the Environmental Assessment (Scotland) Act to include the following types of environmental effects:

- Secondary, cumulative and synergistic;
- Medium and long term;
- Permanent and temporary; and
- Positive and negative.

The assessment has been summarised in assessment matrices as described in section 2.4.4. The assessment process involved an appraisal of each draft Beachfront Development Framework option under consideration to identify potential environmental effects. Each individual assessment was informed by assessment criteria, the environmental baseline, key issues, trends and expert judgement. Finally, the significance criteria were used to facilitate attribution of significance to the effects i.e., to help distinguish a major positive effect from a minor positive effect along a 5-point scale as described in Table 2-4.

The Environmental Assessment (Scotland) Act 2005 requires that significant environmental effects are identified, described and evaluated. The criteria used for evaluating the significance of predicted environmental effects are shown in Table 2-4. These criteria were developed to take account of the requirements of Schedule 2 of the Environmental Assessment (Scotland) Act to include the following types of environmental effects:

- Secondary, cumulative and synergistic;
- Medium and long term;
- Permanent and temporary; and
- Positive and negative.

The assessment has been summarised in assessment matrices as described in section 2.4.3. The assessment process involved an appraisal of each draft Beachfront Development Framework option under consideration to identify potential environmental effects. Each individual assessment was informed by assessment criteria, the environmental baseline, key issues, trends and expert judgement. Finally,

the significance criteria were used to facilitate attribution of significance to the effects i.e., to help distinguish a major positive effect from a minor positive effect along a 5-point scale as described in Table 2-4

Score	Description
Major positive effect (√√)	An action very likely to lead to significant improvement, or a series of long-term improvements, leading to large-scale and permanent benefits to the SEA objective being appraised. A major effect is also likely to have cumulative and indirect beneficial effects and is also likely to have positive transboundary effects.
Positive effect (✓)	An action likely to lead to moderate improvement in both the short and long-term, leading to large-scale temporary, or medium-scale permanent benefits to the objective being assessed, Even when beneficial effects are felt to be temporary, they should not be easily reversible in the long-term (to detriment of the SEA Objective).
Neutral effect (0)	An action which is unlikely to have any beneficial or negative effects on the SEA objective being assessed in either the short or long-term. Neutral scoring should only be used when it is very unlikely that the effect will be neither positive nor negative. A neutral score is not the same as uncertain where an appraiser is not sure if an effect is likely to be positive or negative, or 'mixed/. Where the appraiser feels that the effects are likely to be both positive and negative(see below for more details).
Negative effect (x)	An action is likely to moderate or loss in both the short and long term, leading to a large-scale temporary, or medium-scale permanent negative effect on the objective. An action which may also have limited cumulative and indirect detrimental effects and/or limited degradation of conditions outside the specific strategy area. It is also likely that it will be possible to mitigate or reverse a minor negative effect through policy or project intervention.
Major negative effect (xx)	A scheme/measure was likely to lead to significant or severe damage or loss, or a series of long-term negative effects, leading to large-scale and permanent negative effects on the SEA objective being assessed. A scheme/ measure which may also have significant cumulative and indirect detrimental effects and/or degrade conditions outside the specific scheme area so will have negative transboundary effects. A scheme/measure which is likely to threaten environmental thresholds or capacities in areas already under threat. The detrimental effects of a scheme/measure will be hard to reverse and are unlikely to be easily mitigated through policy or project intervention. Any damage or detrimental effect in or too environmentally sensitive areas, issues or landscapes which are recognised and/or protected locally, regionally, nationally or internationally.
Mixed effect (√√/x √/xx etc.)	The effect is likely to be a combination of beneficial and detrimental effects, particularly where effects are considered on sub-issue, areas or criteria. For example, a scheme/measure enhances the viability of certain protected species or habitats (such as native woodland) but through this, damages existing (non-native) habitats which may themselves be important. Such mixed effects will be hard to predict, but could be significant in the long term, or when taken with others e.g., cumulative or synergistic which may have.
Uncertain effect (?)	The effect of an action is not known or is too unpredictable to assign a conclusive score. The appraiser is not sure of the effect. This may be the case where an action covers a range of issues, or where the manner in which the action is implemented will have a material impact on the effects it will have.

The approach taken to assessing the potential environmental effects of the draft Beachfront Development Framework was split into three key stages. The three stages of assessment, including key aims and outcomes, are summarised below in Table 2-5.

The following details the approach taken to assessment of potential environmental effects of the draft Beachfront Development Framework. The assessment considered the potential environmental effects of:

- Draft Beachfront Development Framework Vision and Objectives;
- Options identified in the draft Beachfront Development Framework; and
- Broad categories of Beachfront Development Framework Projects.

Table 2-5:	Staged	approach to	assessment
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Assessment	Tasks	Key aims and outcomes of stage
stage Stage 1 Assessment of	Environmental commentary on strategic elements Beachfront	Provide an environmental commentary on the Beachfront Development
strategic elements of the draft Beachfront Development Framework	 Development Framework: Vision and Strategic Focus Compatibility analysis of Beachfront Development Framework objectives and SEA objectives 	 Framework's vision and strategic focus to identify potential conflicts and synergies with environmental objectives. To focus the assessment of Beachfront Development Framework project categories on key issues and potential environmental effects
Stage 2 Assessment of alternative approaches to the draft Beachfront Development Framework	 Identify and develop reasonable alternative approaches to the draft Beachfront Development Framework. Assess reasonable alternatives based on their potential environmental effects. 	To inform the development of the Beachfront Development Framework by providing information on the environmental performance of the draft Beachfront Development Framework relative to other reasonable alternatives
Stage 3 Assessment of significant environmental effects	 Characterisation of the Beachfront area in terms of its key environmental and legislative constraints, vulnerabilities and opportunities Assessment of potential environmental effects of Beachfront Development Framework options and broad categories of proposed Beachfront Development Framework projects. Assessment of potential cumulative environmental effects of the draft Beachfront Development Framework as a whole. Develop mitigation measures for negative and enhancement measures for positive environmental effects. Develop a framework for monitoring the significant environmental effects of Beachfront Development Framework implementation 	 Overall aim: to ensure that the potential environmental effects of the draft Beachfront Development Framework have been fully considered and accounted for before its adoption. Related aims and outcomes include: To map and understand the key environmental and legislative constraints, vulnerabilities and opportunities in the Aberdeen Beachfront area. To predict and understand the potential environmental effects of broad categories of options in the draft Beachfront Development Framework. Evaluate the significance of potential environmental effects of categories of projects in the draft Beachfront Development Framework and groups of projects. Develop appropriate mitigation/ enhancement measures and monitoring proposals for significant potential environmental effects of the draft Beachfront Development Framework.

2.4.1 Environmental commentary on Beachfront Development Framework vision

The purpose of this task was to provide a high-level commentary and recommendations from an environmental perspective, on the content and wording of the Vision included in the draft Beachfront Development Framework.

2.4.2 Compatibility analysis of draft Beachfront Development Framework objectives and SEA objectives

This was done using a compatibility analysis approach. The compatibility analysis aimed to identify potential areas of conflict or support between what the draft Beachfront Development Framework aims to achieve, and the aspirations for the environment encapsulated in the SEA objectives.

A list of key SEA Receptors organised by SEA topic and objectives identified as relevant to Aberdeen Beachfront are summarised and presented in Table 2-6. The key receptors and objectives will be considered throughout the SEA process and used to inform the development of the draft Aberdeen Beachfront Framework at key decision-making stages.

Within Table 2-6 we have attempted to align air, noise and climate objectives as they are related in terms of sources and impacts and ideally should not be considered in isolation. Air quality is also considered under population and human health given it is a public health issue as well as environmental.

SEA Topic	Objectives	Indicators
Biodiversity, flora and fauna	 Protect or conserve and, where possible, restore and enhance biodiversity and valued nature conservation habitats and species. (Amended at the request of NatureScot) 	Condition of designated sites Loss of designated sites Habitat fragmentation LBAP species/habitats stable or increasing
Soil	 Protect and enhance soil quality and prevent any further degradation of soils*. Reduce the amount of Vacant and Derelict Land in the Aberdeen Beachfront boundary area. (*Amended at Request of NatureScot) 	SUDS are delivered in new development. Developments should avoid soil contamination. The waste hierarchy should be promoted.
Landscape	 Protect and enhance landscape character, local distinctiveness, visual amenity and promote access to the wider environment. (Amended at the request of NatureScot) 	Impact on visually prominent areas Development adversely affects the landscape/ townscape/ seascape setting.
Cultural heritage	Protect, conserve and enhance the historic environment.	Number and condition of designated/non-designated sites
Water	 Prevent deterioration, protect and enhance water quality and ecological status*. Reduce the risk of flooding. Provide adequate drainage and sewerage. 	Impact on Flooding Impact on water pollution. Impact on water bodies and the coast

 Table 2-6: Key Environmental Receptors and SEA Objectives

Population and human health (Note interactions between Population and human health Air and Climatic Factors)	 (*Amended at Request of NatureScot) Improve human health and community wellbeing, while promoting a range of outdoor and recreational attractions. Encourage physical activity. Creation of community facilities. 	Impact on human health and community wellbeing,
Air	Maintain and improve air quality and reduce emissions of key pollutants.	Air quality trends
Climatic factors	 Reduce emissions of greenhouse s in line with Scottish Government targets. Promote active travel and sustainable transport*. Reduce risks from climate change problems in the Aberdeen City Council area include increased flood risk of coastal and fluvial sources. Promote renewable energy sources. (*Amended at Request of NatureScot) 	Electricity is generated from renewable energy sources. Impact on human health and community wellbeing, Quality and distance of new active travel routes created. SUDS. Flood risk.
Material assets	 Promote the sustainable use of community assets, natural resources and material assets. Promote quality urban design. Promote sustainable waste management and the circular economy. 	Enhancing positive effects on community assets, natural resources and material assets. Waste minimisation and promotion of the circular economy.

Compatibility analysis informed the development of the SEA and draft Beachfront Development Framework by:

- Identifying areas where the plan lacked support for the SEA objectives;
- Identifying aspects of the environment that may be more vulnerable to the potential environmental effects affected by the draft Beachfront Development Framework; and
- Focusing the assessment of effects on key issues.

A summary of the compatibility analysis was presented in an assessment matrix with the SEA headline objectives across the top and the draft Beachfront Development Framework objectives on the left-hand side.

The key to scoring the compatibility of the draft Beachfront Development Framework objectives with the SEA objectives is summarised in Table 2-7.

Score	Description of score	
✓	Plan objective supportive of SEA objectives	
X	Potential conflict between plan and SEA objectives	
?	Uncertain whether the plan objectives conflict with or support the SEA objectives	
0	Plan objectives have no identified conflict or support of SEA objectives	

Table 2-7 Key to compatibility scoring

2.4.3 Assessment of alternatives

The approach taken to assessing the potentially significant environmental effects of the alternatives to the draft Beachfront Development Framework expanded on stage 2 of the assessment approach outlined in Table 2-5 above. This part of the assessment adopted a relatively strategic approach, initially identifying through discussion with Aberdeen City Council and review of the main alternatives for achieving the stated vision and objectives that were considered during the process of developing the Beachfront Development Framework, and that would be considered reasonable from a SEA perspective.

An environmental commentary on the alternatives was prepared and the likely significant environmental effects of the Beachfront Development Framework's key alternatives were predicted and evaluated. The results were recorded in an assessment matrix. An example of the type of assessment matrix is shown below in Table 2-8.

Assessment of draft options/ alternatives				
SEA Objectives		Scores		Comments
	Option 1	Option 2	Option 3	Notes on: short, medium and long-term effects, the scale of effects, cumulative and spatially concentrated effects, potential mitigation and enhancement etc
Improve human health and community wellbeing, while promoting a range of outdoor and recreational attractions.	X	~	√/x	
Encourage physical activity.				
Creation of community facilities				
Promote sustainable transport.				
Reduce emissions of greenhouse s in line with Scottish Government targets.				
Overall comments: <u>Note</u> : To include a summary of comments and overall alternative. Option 1: Option 2: Option 3:	l asses	esment	of the	effects of the option/

Table 2-8:Example matrix for comparing alternatives

2.4.4 Assessment of potential significant environmental effects of the draft Beachfront Development Framework

The approach taken to assessing the potentially significant environmental effects of the draft Beachfront Development Framework expanded on **Stage 3** of the assessment approach outlined in Table 2-5. A further five assessment **tasks** were undertaken as detailed in Table 2-9.

Table 2-9 Tasks undertaken to assess the potentially significant environmental effects of theBeachfront Development Framework

Task	Details	
Task 1	Characterisation of the Aberdeen Beachfront area in terms of its key environmental and legislative vulnerabilities, constraints and opportunities	
Task 2	Prediction and evaluation of potential environmental effects of: • Options; and	

	Broad categories of Beachfront Development Framework project.
	Note: the above are all assessment parameters under consideration.
Task 3	Prediction and evaluation of potential cumulative effects of the draft
	Beachfront Development Framework
Task 4	Develop measures to mitigate negative and enhance positive
	environmental effects
Task 5	Develop a framework to monitor the significant environmental effects of the
	Beachfront Development Framework.

The remainder of this section describes the approach taken to the five assessment tasks outlined in Table 2-9.

2.4.5 Characterisation of the Aberdeen Beachfront area

This task aimed to identify key environmental and legislative sensitivities, vulnerabilities and opportunities in the Aberdeen Beachfront area.

Publicly available data was sourced from, among others, Aberdeen City Council, Historic Environment Scotland, SEPA and NatureScot. This task was not undertaken as a feasibility study of potential Beachfront Development Framework project locations, rather it identified which parts of the Aberdeen Beachfront area are vulnerable, in environmental terms, to the effects of Beachfront Development Framework development to inform the assessment of significant environmental effects. Conversely, this task also identified a number of environmental opportunities in the Aberdeen Beachfront area (Refer to Appendix C Environmental Baseline Appraisal).

2.4.6 Prediction and evaluation of potential environmental effects of the draft Beachfront Development Framework

The framework for assessing the environmental effects of the Beachfront Development Framework, both positive and negative, has been formulated from:

- The guidance in the Environmental Assessment (Scotland) Act (2005), specifically Schedule 3, which sets out the information required in the Environmental Report;
- The advice and example tables contained in the Scottish Government's SEA Guidance (2013)
- The study of other Council plans programmes and strategies that have been subject to SEA.

The approach adopted to predict the potential environmental effects of the draft Beachfront Development Framework is described below.

2.4.7 Detailed assessment

This assessment was informed by the key issues identified through the Beachfront Development Framework and supported by SEA objectives and assessment criteria (the 'SEA Framework'), maps, environmental baseline, key issues, trends and significance criteria.

The outcomes of the assessment have been summarised in a matrix. The assessment parameters have been listed across the top of the matrix, and the SEA objectives down the side of the matrix. A matrix has been developed for each of the assessment parameters under consideration. Each individual assessment was appraised against the significance criteria to attribute significance to potential environmental effects identified. At this stage, the assessment informed the identification of some generic measures to mitigate and enhance potential environmental effects. Comments columns/ rows

on the assessment matrices were used to pull out significant issues related to individual projects/ sites where appropriate.

2.4.8 Cumulative Effects Assessment

As required by Schedule 3 of the Environmental Assessment (Scotland) Act 2005, the cumulative and synergistic effects of the strategies, policies and development opportunities in the Plan were assessed.

There are different types of cumulative effects, but what we were principally concerned with here was the overall combined effects of the whole plan and multiple actions it contains on a single 'receptor', which could be a certain group within the population, the water environment or flora and fauna for example. Many impacts arising from the draft Beachfront Development Framework are likely to be cumulative (e.g., emissions of air pollutants and greenhouse gases). From the assessment of the various parameters of the plan described in the section above, many effects that were already identified are cumulative in character. This was particularly emphasised where several aspects of the plan were predicted to impact upon the same or similar SEA issues e.g., water quality, designated sites, landscape etc.

At this stage, the most significant potential cumulative effects were identified, both positive and negative, which were predicted to occur due to the effects of a number of aspects of the plan on a particular issue or receptor or location. This was not intended to be an exhaustive list as predicting the interactions and additive effects is complex and uncertain, however these cumulative effects were considered some of the most significant.

In addition, consideration was given to the cumulative effects of the draft Beachfront Development Framework overall in combination with the potential effects of other related plans, such as the Local Plan.

2.4.9 Development of measures to mitigate adverse and enhance positive environmental effects

Where potential negative effects of the draft Beachfront Development Framework were identified, actions to avoid these through changes to the plan itself will be sought such as:

- Altering or changing the option causing the negative effect;
- Altering or changing a specific objective or sub-objective within the plan;
- Alterations to the broad project types promoted by the plan; and
- Inclusion of new provisions within the plan.

However, if there were potential negative effects identified which cannot be avoided through changes to the plan itself, other measures were identified to mitigate the potential effects such as:

- Recommendation for the application of technical measures during the implementation stage of the plan, e.g., buffer zones, application of design principles;
- Identifying issues to be addressed at a more detailed level in subsequent SEAs of lower level more detailed plans or project level Environmental Impact Assessments (EIA); and
- Proposals for amendments to other related plans.

Similarly, if potential positive environmental effects were identified, measures to enhance these were identified using a similar framework to the one described above for negative effects.

2.4.10 Predicting and evaluating the potential effects of the Beachfront Development Framework, including alternatives

The SEA Regulations require that the Environmental Report identifies, describes and evaluates the likely significant environmental effects of the Beachfront Development Framework. The Environmental Report will also include measures to avoid, reduce or mitigate any significant effects of the Beachfront Development Framework.

The Beachfront Development Framework's objectives and proposals will be assessed against the SEA objectives to be agreed through the scoping process. Significant environmental effects of the plan will be predicted to determine whether the Beachfront Development Framework has negative, positive, uncertain or neutral effects.

In addition, the effects will further be evaluated to determine damage or otherwise to the receptors in relation to reversibility or irreversibility of effects, risks, duration (permanent, temporary, long-term, short-term and medium-term) and cumulative (direct, indirect, secondary and synergetic). Table 5.4 shows the assessment framework that will be used to assess the effects of the Beachfront Development Framework. This will be reported in the Environmental Report.

Proposals will be assessed against the SEA Objectives, in accordance with guidance in Planning Advice Note 1/2010.

To assist with assessment against the objectives identified within Table 2-6, the following questions were considered in relation to site proposals (Table 2-10 and Table 2-11). A number of questions have either been modified or added as a result of the Scoping exercise.

Table	2-10:	SEA	Questions
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able 2-10: SEA Questions
Biodiversity, flora and fauna
Does the site impact on designated sites?
Does the site impact on priority habitats or species?
To what extent will the site promote green network provision and habitat connectivity? (Question
amended at the request of NatureScot)
To what extent will the site impact wider biodiversity? (Question added at request of NatureScot)
To what extent will the site enhance biodiversity? (added - NatureScot response)
Population and human health
To what extent will the site connect to the local path network? (Question amended at request of
NatureScot)
How does the site relate to areas with high SIMD?
To what extent will the site impact access to open space? (Question amended at request of
NatureScot)
Water
Is the site at risk of flooding?
Are there water courses within the site or which would be affected by increased levels of flooding
resulting from the development of the site?
Are there water courses within the site or which would be affected by increased levels of pollution,
or other pressures, from development within the site?
Are there opportunities to improve the status of water courses?
Will the Beachfront Development Framework increase geomorphology and morphological erosion pressures?
Are flooding/water & foul drainage issues addressed including in relation to ACC & Scottish Water infrastructure? (Question added at request of SEPA)
To what extent will the site impact the ecological status of water bodies? (Question added at request
of NatureScot)
Soil

Does the site include areas of vacant or derelict land? Is the site prime agricultural land? Does the site include carbon-rich soil? To what extent will the site impact soil quality? (Question added at request of NatureScot) Air Is the site easily accessible by the core path network, and provide access to settlements and services? Does the site lie within an area where levels of air pollution are close to current limit values? Would development on the site contribute to higher traffic flows along transport routes or at key junctions where levels of air pollution are close to current limit values Does the development reduce the need to travel? (Question added at request of SEPA) **Climatic Factors** Does the location of the development reduce the need to travel? Is the site at risk of increased flooding or instability as a result of climate change? Does the framework promote the efficient use of energy? Does the framework promote the efficient use of water? Does the framework increase the resilience of people, material assets and the natural environment Does the framework include mitigation and adaptation measures in light of a changing climate and local environment? (Question added at request of SEPA). Does the framework seek to protect, create or enhance natural resources for carbon capture? (Question added at request of SEPA) To what extent will the site promote nature-based solution provision? (Question added at request of NatureScot) Does the framework increase the resilience of people, infrastructure and the natural environment to the impacts of climate change (including flood risk, extreme weather, heat and cold)? (Question added at request of SEPA) **Cultural Heritage** Would development impact the integrity of sites, monuments, buildings or areas designated for their cultural heritage value? Would development impact the setting of sites, monuments, buildings or areas designated for their cultural heritage value? Would development within the site impact archaeological remains? Landscape To what extent will the site impact landscape designations? (Question amended at request of NatureScot) To what extent will the site impact settlement setting and identity? (Question amended at request of NatureScot) To what extent will the site impact visual amenity and key views (Question amended at request of NatureScot) To what extent will the site impact landscape character? (Question added at request of NatureScot) **Material Assets** Is the site located close to existing transport, services, water and energy infrastructure? Is the site located to make the best use of shelter, solar gain and reduce the need to travel? Does the site reduce waste generation and promote waste recovery, recycling and composting? Table 2-11: Assessment matrix for plan, strategy and policy issues, and site assessment Description/summary of option/element/action SEA theme Impact Comments Mitigation/ enhancement Biodiversity, flora and fauna **Climatic factors** Air Water

Material assets

Soil			
Cultural Herita	ge		
Landscape			
Population and	human health		
Кеу	Кеу		
++	Major positive effect		
+	Positive effect		
0	Neutral effect		
-	Negative effect		
	Major negative effect		
++/- +/ etc.	Mixed effect		
?	Uncertain effect		
S	Short term effect		
М	Medium-term effect		
L	Long term effect		
Imp	The effect will depend on how the Beachfront Development Framework is implemented		

2.5 Mitigation and Monitoring

2.5.1 Development of measures to monitor significant environmental effects

Monitoring is an integral part of SEA and the significant environmental effects of implementing the draft Beachfront Development Framework should be monitored to check the predictions made during the assessment, identify any unforeseen adverse effects and undertake any remedial action required. A proposed monitoring framework was developed during the SEA which identified the significant environmental effects predicted and potential indicators for monitoring them (see Chapter 7). Ideally, this SEA monitoring framework will be integrated with the monitoring requirements for delivery of the finalised Beachfront Development Framework and any other existing monitoring (e.g., undertaken by the Council or environmental regulators) to avoid duplication of effort.

The Environmental Report will consider measures to prevent, reduce or offset any significant adverse effects as far as possible before measures are considered to mitigate residual adverse effects. Mitigation measures could include changes to alternatives, changes to a specific proposal, inclusion of new provisions, technical measures to be applied, identifying issues to be addressed at a subsequent stage and proposals for changing other relevant plans, programmes or strategies.

The key monitoring tasks and their purpose are summarised below in Table 2-12.

Monitoring Tasks	Purpose		
1. Post-Implementation	To measure the environmental performance of the draft Beachfront		
Review	Development Framework in order to determine whether its effects are as		
	anticipated, and thereby inform future revisions.		
2. Learning on	Ensure that the adverse effects identified inform future revisions of the		
predictions	Beachfront Development Framework should they arise.		

Table 2-12: Monitoring tasks and their purpose

3 ENVIRONMENTAL OBJECTIVES, BASELINE AND CONTEXT

This section summarises the environmental baseline and key relationships between the draft Beachfront Development Plan and other relevant plans, programmes and strategies and environmental protection objectives. Establishing the environmental baseline and context is key to understanding the relevant environmental problems, sensitivities and opportunities that the development of the draft Beachfront Development Plan should consider. The environmental baseline and context have informed the development of the 'SEA Framework' against which the potential environmental effects of the draft Beachfront Development Plan have been assessed and will be monitored.

3.1 Relationships with other plans, programmes, strategies and environmental protection objectives

A key requirement of the Environmental Assessment (Scotland) Act is the consideration of relationships between the draft plan, programme or strategy (PPS) under development and other relevant PPS and environmental protection objectives. This supports the identification of the policy and legislative framework within which the draft Beachfront Development Framework sits. In addition, it helps the Responsible Authority (in this instance Aberdeen City Council) to account for any potential constraints and inconsistencies and take advantage of any synergies or opportunities. The approach taken to the consideration of other relevant PPS and environmental protection objectives is described in section 2.3.3.

The review of relevant PPS, in conjunction with the collation of environmental baseline information, has been key to the identification of key environmental problems, threats and opportunities in the Aberdeen Beachfront area. Many of the local and regional level PPS reviewed (such as the Aberdeen City Council Local Development Plan) include specific targets, actions and objectives for the Beachfront and wider Aberdeen City environment. The process of collating environmental baseline information has, by definition, identified the current state of the environment relevant to the development of the draft Beachfront Development Framework. Consideration of the environmental baseline in conjunction with environmental targets, actions and objectives from key PPS helps identify the environmental constraints within which the draft Beachfront Development Framework must operate. In addition, it identifies key environmental opportunities and strengths of the area which the development of the draft Beachfront Development Framework can capitalise and build on. Environmental constraints, vulnerabilities and opportunities in the Beachfront area are explored more in section 3.4.

Appendix B contains a full list of all relevant PPS considered as part of the SEA of the draft Beachfront Development Framework. It highlights their relevance to the draft Beachfront Development Framework and key opportunities, synergies and constraints. It identifies how the draft Beachfront Development Framework may respond and its implications for the SEA.

Table 3-1 below summarises the key PPS reviewed and the implications for the development of the draft Beachfront Development Framework and the SEA. These PPS are considered to be of most relevance to the scale of the draft Beachfront Development Framework and the scope of its objectives (Refer also to Appendix B: Summary of Plans, Programmes and Strategies relevant to the development of the Beachfront Development Framework).

Table 3-1: Name of Plan, Programme, Strategy or Environmental Protection Strat	egy
International Lovel	

International Level	
Nature Conservation	
	The Habitats Directive 92/43/EEC
	The Birds Directive 2009/147/EC
Water	
	Water Framework Directive 2000/60/EC
	Nitrate Directive 91/43/EC
Waste	
	The Landfill Directive 99/31/EC
	The Waste Framework Directive 2008/98/EC
Climate Change	
	Paris Agreement 2015
	International UN Agreements - Kyoto Protocol (2005)
	UN Climate Change Conference of the Parties (COP26) (Glasgow)
National Level	
Overarching Planning Poli	су
	Planning (Scotland) Act 2019
	National Planning Framework for Scotland 3 (NPF3) (2014)
	Scottish Planning Policy 2014
	Draft National Planning Framework for Scotland 4 (NPF4)
Cross-Sectoral	
	Transport (Scotland) Act 2019
	National Transport Strategy 2 (2020)
	Strategic Transport Projects Review (2009)
	The Government's Economic Strategy (2007)
	Choosing Our Future: Scotland's Sustainable Development Strategy (2005)
	Natural Resource Productivity (2009)
	Getting the best from our land: A land use strategy for Scotland 2016-2021
	Building a Better Scotland Infrastructure Investment Plan: Investing in the Future of Scotland (2005)
Air and Climate Change	
	Environment Act 1995
	Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 UK Air Quality Strategy for England, Scotland, Wales and Northern Ireland - Volume 1 (2011)
	Climate Ready Scotland: climate change adaptation programme (SCCAP2) 2019-2024
	Update to the Climate Change Plan 2018 – 2032
	Scottish Climate Change Adaptation Programme (SCCAP) Progress Report 2018
	Climate Change Plan: Third Report on Proposals and Policies 2018-2032 (RPP3)
	Scottish Climate Change Delivery Plan (2009)
	Clean Air Scotland – The Road to a Healthier Future (2015)
	A Low Carbon Economic Strategy for Scotland (2010)
	Scottish Energy Strategy 2017
	Planning Advice Note 84 Reducing Carbon Emissions in New Development (2008)
Heritage, Design and Rege	
	The Planning (Listed Buildings and Conservation Areas) Act 1997
	Ancient Monuments and Archaeological Areas Act 1979
	Historic Environment Policy for Scotland (HEPS 2019)

	Dianning Advice Note (DAN) 2/2011, Dianning and Archaeolagy
	Planning Advice Note (PAN) 2/2011: Planning and Archaeology
	Our Place in Time: The Historic Environment Strategy for Scotland (2014)
	Creating Places - A policy statement on architecture and place for Scotland (2013)
	Designing Streets: A Policy Statement for Scotland (2010)
	People and Place: Regeneration Policy Statement (2006)
	Green Infrastructure: Design and Placemaking (2011)
Soil and Landscape	
	The Scottish Soil Framework (2009)
	Scottish Landscape Forum: Scotland's Living Landscape (2007)
Population and Health	
•	All Our Futures: Planning for a Scotland with an Ageing Population (2007)
	Reaching Higher- Building on the Success of Sport 21 (2007) (Scotland's Sport Strategy)
	Let's Make Scotland More Active: A Strategy for Physical Activity (2003)
	Let's Make Scotland More Active: A Strategy for Physical Activity (2003)
	Let's Get Scotland Walking – The National Strategy
	Cycling Action Plan for Scotland 2017-2020
	A Long-Term Vision for Active Travel in Scotland 203
	Equality Act 2010
	Disability Discrimination Acts 1995 and 2005
	Community Empowerment Act 2015
Natural Conservation	
	Wildlife and Countryside Act 1981 (as amended)
	The Nature Conservation (Scotland) Act 2004
	Scotland's Biodiversity Strategy- It's in your hands (2004)
	2020 Challenge for Scotland's Biodiversity - A Strategy for the conservation and enhancement of biodiversity in Scotland (2013)
	The Conservation (Natural Habitats etc.) Regulations 1994 (as amended)
	The Conservation (Natural Habitats) Amendment (Scotland) Regulations 2007
Water	
	Water Environment (Controlled Activities) (Scotland) Regulations 2011, as amended
	Water Environment and Water Services (Scotland) Act 2003
	Flood Risk Management (Scotland) Act 2009
	The river basin management plan for the Scotland river basin district: 2015–2027 (2015)
	Scottish Water Strategic Asset and Capacity Development Plan (2012)
	SEPA Groundwater Protection Policy for Scotland v3: Environmental Policy 19 (SEPA)
	Action Programme for Nitrate Vulnerable Zones (Scotland) Regulations 2008)
Waste	
	Scotland's Zero Waste Plan (2010)
	Waste (Scotland) Regulations 2012
	SEPA Guidelines for Thermal Treatment of Municipal Waste
Marine and Coastal	
	SEAS The Opportunity: A Strategy for the Long-Term Sustainability of Scotland's Coasts and Seas (2005)

	Marine (Scotland) Act 2010
	UK Marine Policy Statement
	Our Seas- a Shared Resource. High-Level Marine Objectives (2009)
Cross-Sector Guidance	
	PAN 60: Planning for Natural Heritage
	PAN 61: Planning and Sustainable Urban Drainage Systems
	Planning and Waste Management Advice (2015)
	PAN 65: Planning and Open Space
	PAN 75: Transport and Planning
	PAN 76: New Residential Streets
	PAN 77: Designing Safer Places
	PAN 78: Inclusive Design
Regional Level	
Overarching Planning Poli	
	Aberdeen City and Shire Strategic Development Plan 2020
Cross-Sectoral	
	Regional Economic Strategy – Securing the Future of the North East 2015
	Regional Economic Strategy: Action Plan (2018-2025)
	The Economic Action Plan for Aberdeen City and Shire to 2025
	NESTRANS Regional Transport Strategy Refresh (2013)
	Aberdeen Rapid Transit
	Destination Aberdeen & Aberdeenshire Tourism Strategy (2018- 2023)
Nature Conservation	2023)
	North East of Scotland Biodiversity Partnership - Action Plan 2014 -
	2017
	River Dee Catchment Management Plan (2007)
	Forestry and Woodlands Strategy 2017
Local Level	
20001 20101	Aberdeen Local Development Plan 2017
	Aberdeen Local Development Plan 2020 (Draft)
	Aberdeen City Council Supplementary Guidance
	Aberdeen City Local Transport Strategy 2016 - 2021
	Aberdeen City Air Quality Action Plan
	Net Zero Aberdeen Routemap - towards becoming a net zero
	emissions city by 2045
	Aberdeen Socio-Economic Rescue Plan 2020/21
	ACC Open Space Strategy 2011-2016
	Local Outcome Improvement Plan 2016-26
	Aberdeen Nature Conservation Strategy
	Aberdeen City Air Quality Action Plan
	Aberdeen City Core Paths Plan
	Aberdeen Rapid Transit
	Healthy Cities Agenda
	Landscape Character Assessment of Aberdeen
	Contaminated Land Strategy
	Aberdeen City Waste Strategy 2014-25
	Powering Aberdeen – Aberdeen Sustainable Energy Action Plan
	2016 (has been superseded.)
	Aberdeen Adapts: Climate Adaptation Framework
	Aberdeen Electric Vehicle Framework
	Granite City Growing, Aberdeen's food-growing strategy
	Cranice only crowing, Abordcon 3 lood-growing strategy

3.1.1 Implications

As can be seen from Table 3-1 and Appendix B, there are a significant number of PPS which may influence the development of the draft Beachfront Development Framework and *vice versa*. Some PPS will have more influence than others. For example, the Aberdeen Local Development Plan 2017 establishes the land use and spatial planning framework for the City Centre and Beachfront area within which the spatial element of the regeneration of the area will need to operate i.e., what type of development can be pursued and where. Other, non-statutory PPS such as the ACC Open Space Strategy 2011-2016 and Healthy Cities Agenda will also have a significant influence on the development of the draft Beachfront Development Framework and *vice versa*.

There are a number of additional key issues highlighted by the PPS review as detailed in Table 3-1 and Appendix B. It will be important that the adopted Beachfront Development Framework reflects this context and incorporates the requirements of these other PPS as appropriate.

3.2 Description of the environmental baseline

In order to support the assessment and monitoring of the potential effects of implementing the draft Beachfront Development Framework a description of the existing state of the environment, relevant to the objectives and geographical scope of the draft Beachfront Development Framework, has been compiled. Where appropriate, this includes information on areas outside of the Beachfront area. The environmental baseline presents information on the current and potential future environmental problems, sensitive areas and opportunities relevant to the Plan. The likely future state of the environment in the absence of the Plan has been predicted by establishing, reviewing and extrapolating past trends, where relevant, and through discussions with Aberdeen City Council and other key stakeholders. In addition, the review of other relevant PPS has identified a number of statutory targets (such as air quality objectives) and non-statutory aspirations (such as aims for increased involvement in outdoor recreation) for the environment. Consideration of how these targets, actions, objectives and aspirations may affect the environment, both positively and negatively has been key in predicting its likely future state.

The identification of current and likely future environmental problems, sensitive areas and opportunities has helped to inform other aspects of the SEA and draft Beachfront Development Framework - development processes. The SEA objectives have been aligned with the potential environmental effects of the draft Beachfront Development Framework with consideration of the potential significance of these effects given the existing environmental problems in the Beachfront area. This aims to ensure that the assessment stages of the SEA process have been focused on fully understanding the potential implications that the draft Beachfront Development Framework may have on the environment. The environmental baseline (in conjunction with the review of other relevant PPS and environmental protection objectives) has identified environmental opportunities in the Beachfront area where the Beachfront Development Framework can work towards achieving environmental goals whilst simultaneously delivering economic and social regeneration. These are discussed further at the end of this chapter.

Consideration of the environmental baseline and the identified environmental problems and sensitive areas have helped to identify and develop a suitable approach to monitoring the potentially significant environmental effects of implementing the Draft Beachfront Development Framework.

3.3 Establishing the environmental baseline

The Environmental Assessment (Scotland) Act 2005 Schedule 3 requires that the Environmental Report includes a description of the relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the PPS, and "the environmental characteristics of areas likely to be significantly affected". This section aims to describe the environmental context within which the PPS operates and the constraints and targets that this context imposes on the PPS.

The Environmental Assessment (Scotland) Act 2005 Schedule 3 requires that the Environmental Report includes a description of the relevant aspects of the current state of the environment and the environmental characteristics of areas likely to be significantly affected. An Environmental Baseline Appraisal report providing baseline environmental information is in Appendix C

3.4 Environmental problems and opportunities identified

A requirement of the SEA Act is to identify key environmental problems relevant to the plan being developed. Given the potentially broad scope of the draft Beachfront Development Framework, input from stakeholders and evidence in this environmental baseline and context chapter, this section has been expanded to incorporate consideration of environmental opportunities in the Aberdeen Beachfront area. Opportunities relate to potential synergies whereby protection and enhancement of the Aberdeen Beachfront Beachfront environment can be delivered alongside socio-economic regeneration.

The main environmental considerations are outlined in Table 3-2 below. These issues will be reviewed in more detail during the SEA and discussed in Chapters 5 and 6 of the Environmental Report.

3.5 SEA Framework

The development of SEA objectives and assessment criteria is central to the process. The SEA framework, based on these objectives, provides a way in which potential environmental effects of the draft Beachfront Development Framework can be described, assessed and compared.

The SEA objectives and assessment criteria are described below in Table 3.3. These were developed in line with the environmental topics scoped into the assessment and the environmental baseline set out in Appendix C.

SEA Topic	Environmental Issue	How the Framework contributes to tackling the problem?	Relevant Data
	Access to social and community facilities and the amenity	Promoting access to employment,	National Records of Scotland (NRS).
	of the area will have an impact on general wellbeing. The Beachfront Development Framework can influence the	supporting accessibility and health Improvement.	Scottish Public Health Observatory (ScotPHO).
	relationship between facilities, amenity and the general vitality of communities.The Beachfront Development area is adjacent to the City	Framework aims to identify open space to improve health through increased	Health and Wellbeing Profiles (life expectancy and mortality by cause).
Population & Human	Centre Air Quality Management Area at the Beach Boulevard roundabout which leads to Commercial Street, Justice Street and the A956. A low-emission zone was introduced in May 2022 to tackle the health implications	physical activity, reduce pollution by encouraging walking and cycling as an alternative to the car. Positive effects on mental health and wellbeing.	Access to outdoors / open space Sport and recreation participation Physical activity levels
Health	associated with poor air quality.	Promote sustainable alternatives to car travel.	Scottish Index of Multiple Deprivation.
		The form and location of new development within the Beachfront Development Framework area can contribute to social integration and improved wellbeing opportunities for	Core paths Aberdeen City Council LDP. LAQM Annual Progress Report.
	 Potential impact on nature conservation designations. Potential impacts on protected species and priority habitats. 	the whole community. Protection and enhancement of designated areas, and important	NatureScot Sitelink. Designated sites.
	Potential loss of green linkages and wildlife corridors.	habitats.	Scotland's Environment.
Biodiversity	• Pressure on Protected Species from new development through disturbance or loss of resting places and habitats.	Safeguard and enhance biodiversity.	Protected Species data.
			UK BAP & North East Scotland Biodiversity Action Plan (NESBAP) priority habitats and species.
			Scottish Ancient Woodland Inventory.

Table 3-2: Data Sources for Providing Baseline Environmental Assessment

SEA Topic	 The potential impact from the loss of organic matter or compaction/ structural degradation within the soil. The potential impact related to soil sealing is associated with the proposed development design. The potential for impact is associated with existing soil contamination. The potential for changes in soil biodiversity as a result of the development. Impact on existing water and wastewater infrastructure. The surface water management strategy for the. 	How the Framework contributes to tackling the problem?	Relevant Data
Soils & Geology	 or compaction/ structural degradation within the soil. The potential impact related to soil sealing is associated with the proposed development design. The potential for impact is associated with existing soil contamination. The potential for changes in soil biodiversity as a 	Consider the impacts of the proposals on	Land Capability for Agriculture classifications. Scotland's Soils website Contaminated land. Geology of Britain viewer. Scotland's Environment.
Water	infrastructure.The surface water management strategy for the.Geomorphology and morphological erosion	Protection and enhancement of water status and avoidance of flood risk areas and areas which would contribute to increased flood risk. Beachfront Development Framework will be based on the principles of Sustainable Urban Drainage Systems (SUDs) and green infrastructure to incorporate best management practices for the treatment of surface water	SEPA flood maps. SEPA Water Classification Hub. Scottish Water Records Plan. Local water quality data. SEPA River Basin Management Plan (RBMP) Maps SEPA – RBMP Data. Aberdeen Catchment Study (once completed)
Landscape	 The area may have a direct impact on the quality of the landscape/seascape. Landscape character. Design quality and layout. 	The Beachfront Development Framework should seek to ensure that development takes account of the important landscape characteristics within the Beachfront area. Sites within the framework area will provide access to open space and recreation facilities and encourage walking and cycling through the provision of designated paths and will thus contribute to health promotion.	Local Development Plan. Landscape Character Assessment. Designated landscape areas. Inventory and non-inventory Gardens and Designed landscapes.

SEA Topic	Environmental Issue	How the Framework contributes to	Relevant Data			
	 Need to examine the impacts of the proposals on culture heritage sites and settings in adjacent areas. (1) (2) (2) (2) (2) (2) (2) (2) (3) (2) (3) (4) (5) (5) (6) (7) (7)	tackling the problem?				
	Need to examine the impacts of the proposals on cultural	The Beachfront Development	Local Development Plan.			
	heritage sites and settings in adjacent areas.	Framework should support the protection and enhancement of the	Pastmaps.			
		cultural heritage resource, including	Canmore.			
Archaeology		through consideration of the locations and impacts on specific resources and the wider historic landscape.	Scotland's Environment.			
& Cultural Heritage		The Beachfront Development Framework can contribute to the overall conservation of cultural heritage through the protection of listed buildings and sites of historic or archaeological interest conservation areas				
Air	Road traffic movements.	One of the main sources of NO ₂ and PM ₁₀ emissions is road traffic, therefore, sustainable transport will be a key issue for the Beachfront Development Framework.	LAQM Annual Progress Report. Scottish Air Quality (<u>https://www.scottishairquality.scot/</u>).			
Climatic Factors	environment including water resources, flooding, biodiversity, population and health and wellbeing.	The extent of the sites identified should seek to minimise contributions to the emissions of greenhouse gases and seek to avoid locations vulnerable to the effects of climate change. The Beachfront Development Framework will include measures to enhance existing transport links and accessibility in the area through additional bus services, cycling and	UKCP18 - <u>https://www.metoffice.gov.uk/researc</u> <u>h/approach/collaboration/ukcp</u> Local temperature levels. UKCIP09 Climate Change Projections Indicative SEPA river and coastal flood maps. Flood defences.			

	 Opportunities for renewable energy provision and low/zero carbon technologies will be explored. Carbon of building materials and emissions caused by the change of use (LULUCF) 	walking with associated infrastructure improvements. Development will be laid out to allow direct and frequent connections throughout the area, to points of interest, neighbourhood centres and public transport.	https://www.gov.uk/government/colle ctions/uk-local-authority-and- regional-greenhouse-gas-emissions- national-statistics
Material Assets	 Open space and recreational facilities. Roads and pavements Waste minimisation and management. Drainage and wastewater capacity. 	Waste disposal incurs significant transport implications. Support for increased levels of recycling and composting and waste minimisation. The Beachfront Development Framework will ensure that maximum use is made of existing infrastructure where practicable (roads, pavements, water treatment, drainage). Where this is at capacity sustainable system will be put in place.	Open Space Audit and Strategy 2011-2016 (amount/type of space). Core Paths. Walking and cycle routes. SEPA data. Transport and infrastructure data.

Table 3-3: SEA Framework

SEA Topic	SEA Objectives	Questions
Biodiversity,	Protect or conserve and, where	Does the site impact on designated sites?
flora and fauna	possible, restore and enhance	Does the site impact on priority habitats or species?
	biodiversity and valued nature	To what extent will the site promote green network provision and habitat connectivity? (Question
	conservation habitats and species.	amended at request of NatureScot)
		To what extent will the site impact wider biodiversity? (Question added at request of NatureScot)
		To what extent will the site enhance biodiversity? (added - NatureScot response)
Soil	 Protect and enhance soil quality 	Does the site include areas of vacant or derelict land?
	and prevent any further	Is the site prime agricultural land?
	degradation of soils.	Does the site include carbon-rich soil?
	Reduce the amount of Vacant	To what extent will the site impact soil quality? (Question added at request of NatureScot)
	and Derelict Land in the	
	Aberdeen Beachfront boundary	
	area.	
Landscape	Protect and enhance landscape	To what extent will the site impact landscape designations? (Question amended at request of
	character, local distinctiveness,	NatureScot)
	visual amenity and promote	To what extent will the site impact settlement setting and identity? (Question amended at request
	access to the wider environment.	of NatureScot)
		To what extent will the site impact visual amenity and key views (Question amended at request of
		NatureScot)
		To what extent will the site impact landscape character? (Question added at request of
		NatureScot)
Cultural	Protect, conserve and enhance	Would development impact the integrity of sites, monuments, buildings or areas designated for their
Heritage	the historic environment	cultural heritage value?
		Would development impact the setting of sites, monuments, buildings or areas designated for their
		cultural heritage value?
		Would development within the site impact archaeological remains?

SEA Topic	SEA Objectives	Questions
Water	 Prevent deterioration, protect and enhance water quality and ecological status. Reduce the risk of flooding. Provide adequate drainage and sewerage 	Is the site at risk of flooding? Are there water courses within the site or which would be affected by increased levels of flooding resulting from the development of the site? Are there water courses within the site or which would be affected by increased levels of pollution, or other pressures, from development within the site? Are there opportunities to improve the status of water courses? Will the Beachfront Development Framework increase geomorphology and morphological erosion pressures? Are flooding/water & foul drainage issues addressed including in relation to ACC & Scottish Water infrastructure? (Question added at request of SEPA) To what extent will the site impact the ecological status of water bodies? (Question added at
Air	Maintain and improve air quality and reduce emissions of key pollutants.	request of NatureScot) Is the site easily accessible by the core path network, and provide access to settlements and services? Does the site lie within an area where levels of air pollution are close to current limit values? Would development on the site contribute to higher traffic flows along transport routes or at key junctions where levels of air pollution are close to current limit values Does the development reduce the need to travel? (Question added at request of SEPA)
Climatic Factors	 Reduce emissions of greenhouse s in line with Scottish Government targets. Promote active travel and sustainable transport. Reduce risks from climate change problems in the Aberdeen City Council area include increased flood risk of coastal and fluvial sources. Promote renewable energy sources. 	Does the location of the development reduce the need to travel? Is the site at risk of increased flooding or instability as a result of climate change? Does the framework promote the efficient use of energy? Does the framework promote the efficient use of water? Does the framework increase the resilience of people, material assets and the natural environment Does the framework include mitigation and adaptation measures in light of a changing climate and local environment? (Question added at request of SEPA). Does the framework seek to protect, create or enhance natural resources for carbon capture? (Question added at request of SEPA) To what extent will the site promote nature-based solution provision? (Question added at request of NatureScot) Does the framework increase the resilience of people, infrastructure and the natural environment to the impacts of climate change (including flood risk, extreme weather, heat and cold)? (Question added at request of SEPA)

SEA Topic	SEA Objectives	Questions
Material Assets	 Promote the sustainable use of community assets, natural resources and material assets. Promote quality urban design. Promote sustainable waste management and the circular economy. 	Is the site located close to existing transport, services, water and energy infrastructure? Is the site located to make the best use of shelter, solar gain and reduce the need to travel? Does the site reduce waste generation and promote waste recovery, recycling and composting?
Population and Human Health	 Improve human health and community wellbeing, while promoting a range of outdoor and recreational attractions. Encourage physical activity. Creation of community facilities. 	To what extent will the site connect to the local path network? (Question amended at request of NatureScot) How does the site relate to areas with high SIMD? To what extent will the site impact access to open space? (Question amended at request of NatureScot)

4 ASSESSMENT OF ABERDEEN DEVELOPMENT FRAMEWORK ALTERNATIVES

4.1 Background to the assessment of strategic alternatives

One of the key requirements of SEA is to consider reasonable alternatives as part of the assessment process. During the development of the draft Beachfront Development Framework, a range of options for framework have been considered and debated with the local community and other stakeholders, especially as part of the development of earlier versions of the Beachfront Development Framework and as part of the masterplanning process. This has resulted in the approach presented in the current draft Beachfront Development Framework and the potential projects it contains.

Given the scale and importance of the site, a number of options were developed to test out initial thoughts for the concept masterplanning approach for the Beachfront. This testing process has been crucial in allowing the development of a preferred Beachfront Development Framework approach, along with alternative options, which are viable, deliverable and which will maximise the potential of the area. This iterative process was undertaken by the design team alongside Aberdeen City Council to ensure the benefits and drawbacks of the potential design solutions were understood and the most appropriate proposal agreed upon by consensus.

The concept masterplan work and the development optioneering that has been undertaken to date for the Beachfront have moved at a significant pace since the initial reporting to the City Growth and Resources Committee. This work to date, and the masterplan concepts and indicative development options that have subsequently emerged for consideration, have been directly influenced by the significant public engagement undertaken between June-July 2021 on "*The Future of Aberdeen City Centre and the Beach*", to which there were 7,697 responses, the largest response that the Council has received to any such consultation (Beachfront Projects Feasibility Report (25.06.21)). A number of further engagement and consultation approaches have also been undertaken with the local community and key stakeholders. This consultation has been key in shaping the Development Framework proposals so far:

- A series of stakeholder engagements have taken place with those associated with the core Beachfront facilities Beach Ballroom, Beach Leisure Centre and Stadium;
- Discussions also took place with a range of organisations that use and/or have an interest in the Beachfront, including the Chamber of Commerce, the Cricket Club, and the Surf Club;
- Workshop sessions were also held with key stakeholders associated with the Beachfront facilities forming the basis of this review – The ballroom management, Sport Aberdeen, and Aberdeen Football Club. During these sessions' outputs from the Options Appraisal exercise were presented and confirmed as an agreed recommendation;
- Extensive consultation and engagement was undertaken with children and young people. The exercises included the following:
 - Workshops with P6 Primary School children followed by a presentation of their ideas to members of the design team.
 - A 'creative postcard exercise' undertaken with secondary school students.
 - Consultation through a QR code and online survey;
- Further consultation has also taken place with local bus operators, with taxi and cycle groups also approached;
- Several technical workshops have been undertaken with Aberdeen City Council technical teams in order for the Beachfront Development Framework proposals to respond to their queries and feedback

- Attended stakeholder meetings with Accessible City Transport Users Partnership (ACTUP) and Disability Equity Partnership (DEP), including User Journey Mapping, undertaken with members of DEP; and
- Historic Environment Scotland (HES), Scottish Environment Protection Agency (SEPA), NatureScot and Scottish Water, were also consulted as part of the initial consultation and engagement process.

4.2 Evaluation Process

During September and October 2021, the Beachfront design team set out criteria for the evaluation of both the Masterplan concepts and the Leisure options combining the proposed new Stadium, Water Leisure, Ice Rink, Gym and Spa. The selection criteria were partly prepared by the Council Programme Management Office (PMO) in collaboration with the design team and its content was also reviewed by senior officials from Aberdeen City Council.

Following a series of workshops on the 23rd and 24th September 2021, each Beachfront consultant scored the following scenarios. Firstly, the masterplan options were scored (refer to Section 4.5)

- Masterplan Rope Works Option
- Masterplan Tram Lines Option
- Masterplan Groynes Option

Following the masterplan scoring process, the alternative Development Options were scored (refer to Section 4.8)

- Stadium Option 1(A) + 1(B)
- Stadium Option 2
- Stadium Option 3

4.3 Scoring Criteria

The key headings for the scoring criteria of options are illustrated in Table 4-1.

In summary, these were based on the following principles:

- Accessibility and Social Value
- Vision & Culture
- Urban Design & Planning
- Commercial Considerations
- Adaptability & Sustainability

The relevant sections of the submission:	Very Poor	0
Proposes a solution which performs poorly in all of the characteristics		
identified in the requirements.		
The relevant sections of the submission:	Poor	2-4
Proposes a solution which performs poorly in all of the characteristics		
identified in the requirements.		
The relevant sections of the submission:	Satisfactory	5
Proposes a solution which performs satisfactorily in all of the characteristics		
identified in the requirements.		
The relevant sections of the submission:	Good	6-7

Table 4-1: Scoring Criteria

Proposes a solution which performs well in all of the characteristics identified in the requirements.		
The relevant sections of the submission:	Very Good	8-9
Proposes a solution which performs well in all of the characteristics identified		
in the requirements.		
The relevant sections of the submission:	Excellent	10
Proposes a solution which performs very well in all of the characteristics		
identified in the sub-criteria and excels in some of the characteristics		
identified in the requirements.		
Criteria	Score (0-10)	
Accessibility & Social Value		
 Availability of and opportunity for free activities and open space 		
Consideration for and provision of accessible movement to and within		
 Consideration of inclusivity within the design 		
 Consideration and opportunity for green methods of travel 		
Design for employment and opportunity		
Vision & Culture		
 Promotion of Aberdeen as a cultural destination 		
 Integration of landmark design features 		
 Promotion of and support for emerging cultures 		
Aspirational design quality		
 Integration of heritage and promotion of legacy 		
Urban Design & Planning		
Consideration of design for safe spaces		
Design for flexibility of scale; intimate spaces and gathering spaces		
Promotion of a sense of place and social ownership		
 Consideration of local planning principles and city plan 		
Integration with immediate site constraints		
Commercial		
Design for commercial opportunities of various scales		
Consideration for footfall and yield		
Consideration for affordability / commercial feasibility		
Consideration for technical viability and deliverability of design		
 Appropriateness of proposed commercial uses and scale 		
Adaptability & Sustainability		
Design for flexible adaptable spaces		
 Design for the permanent and temporary spaces 		
Opportunities for incorporation of emerging technologies and energy		
Consideration for renewable energy consumption and production		
Integration with natural habitat and promotion of biodiversity		
Total	1	

The selection criteria were based on the following:

Accessibility & Social Value

A key focus of the Masterplan is to create a transformational environment for the Beachfront with an emphasis on tariff-free play zones and scenarios within an inclusive design, allowing access for everyone.

The ability of these spaces to be seamlessly linked allowing for the ease of movement between zones for pedestrians, cyclists and other active sustainable travel was also a key consideration.

Vision & Culture

This scoring section focussed on how the Masterplan can best promote Aberdeen's Beachfront as an emerging civic, regional and international asset.

This evaluation scoring also examined the integration of heritage and culture in the Masterplan and Leisure elements.

Urban Design & Planning

This section focussed on the ability of each option to address the emerging city plan and planning policy guidelines. Each option was also tested against placemaking principles to ensure the Urban Design solutions were of the highest quality.

Commercial

Whilst not the highest priority, all options were scored against affordability, commercial viability, and potential footfall. Employment opportunities and potential revenue generation were also evaluated in conjunction with an assessment of technical complexity, deliverability and future maintenance considerations.

Adaptability & Sustainability

The ability of each Masterplan to be able to be adapted to suit future requirements was a key consideration. These flexible Masterplan options were also tested against key environmental considerations such as Low or Net Zero Carbon technologies, renewable energy, the preservation of natural habitat and the promotion of biodiversity.

4.4 Masterplan Options

The creation of a transformational new Beachfront destination will rely on progressive and innovative Masterplan solutions, alongside a respectful acknowledgement of the heritage of the site. As the proposed Masterplan will be centred around the iconic Beach Ballroom as the main focal point of the redevelopment, the history of the Beachfront is intrinsic to the character of the wider area.

Aberdeen was a successful and thriving destination in the early 1900s, with a range of well-utilised leisure facilities and recreational activities located along the Beachfront.

Capturing the nostalgia of that glorious bygone era, the celebration of what has gone before provides inspiration for the future development of the Beachfront.

Touted as 'the finest beach and most beautiful resort in Britain', Aberdeen was known as 'The Silver City by the Sea' - a popular picture-postcard holiday spot. The vision for the Masterplan is to rejuvenate the Beachfront back to its former glory as a major waterfront destination for future generations. The component parts of previous successes can be re-imagined creating a contemporary new Masterplan solution which establishes Aberdeen Beachfront as a world-class leisure destination once more.

3 main initial Masterplan concepts have been developed in collaboration with the Design Team,

- Option 1: Rope Works:
- Option 2: Tram Lines: and
- Option 3: Groynes.

All three concepts described below draw upon the history and heritage of the Beachfront in an innovative, forward-thinking way.

4.4.1 Option 1: Rope Works

Rope Works is inspired by Aberdeen's shipbuilding industry. Historically, the Rope & Sail Making Works were located on the site at the South of Queen's Links. The Rope Works concept uses the formation of the rope itself to inspire a Masterplanning design approach for the main character area of the site. The Rope Works concept takes the organic form of the rope to create a network of footpaths and desired routes, extending down from Beach Boulevard and opening up towards the Beach Ballroom at the heart of the proposed Masterplan.

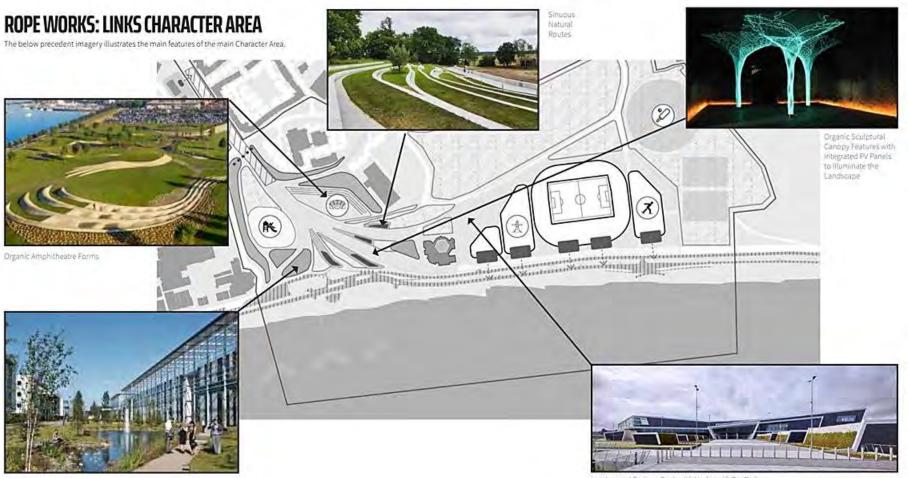
The Rope Works concept takes the organic form of the rope weave and unravels the strands to form a hierarchical network of sinuous footpaths and desire routes, extending down from Beach Boulevard and opening up towards the Beach Ballroom at the heart of the proposed Masterplan. The open strands shape the Masterplan framework to create the geometry of the key elements of the proposal, including areas of Play, Park, Gathering, Amphitheatre and potential Water Features. Natural landforms offer protection from the elements, with proposed dune formations providing shelter from North Easterly winds. The Rope Works concept allows the main desire route from Beach Boulevard to transition from a formal, dense character to more natural and softer forms, as the circulation pathways extend out organically to link the key features of the Masterplan

ROPE WORKS: CONCEPTUAL MASTERPLAN

The main features of the Rope Works conceptual Masterplan are outlined below:

- An organic network of pedestrian-focussed hierarchical desire routes and sinuous meandering pathways
- · An outdoor gathering area for large scale events
- Natural pods / lagoon feature
- Relocated & upgraded play park with potential water feature
- Natural dune formations providing shelter from North Easterly winds
- · Potential canopy features with opportunities for solar power
- Reflection pool grand setting for re-imagined Beach Ballroom
- Integrated Stadium, Leisure & outdoor sports facilities
- Upgraded Esplanade with active frontage
- Integration with Broadhill and links to existing footpaths
- Podium deck offering high quality hard/soft landscape opportunities
- Undercroft car park to conceal vehicular impact





Lagoon Water Feature

Landscaped Podium Deck with Undercroft Car Park

ROPE WORKS: MOVEMENT - PEOPLE

An initial, high-level analysis of movement and connectivity has been undertaken for each of the 3 Masterplan concepts.

The adjacent diagram suggests potential Pedestrian and Cyclist routes for the Rope Works concept, which looks to achieve the following:

- · Pedestrian-focussed environment
- · Highly permeable pedestrian movement
- Maintain cycle route along Beach Esplanade with managed crossover points



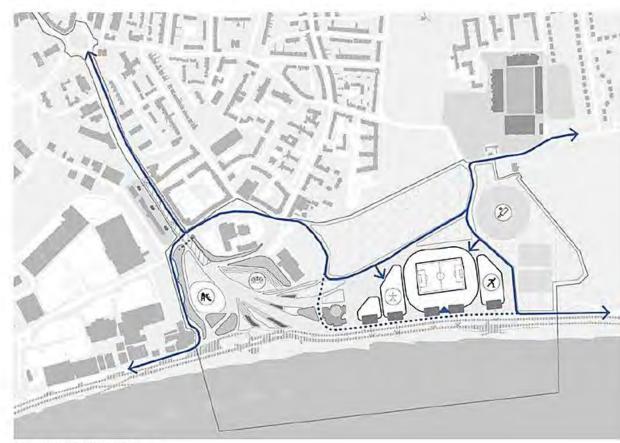


Rope Works Pedestrian & Cyclist Movement Diagram

ROPE WORKS: MOVEMENT - CARS

The adjacent diagram suggests potential Vehicular routes for the Rope Works concept, which looks to achieve the following:

- Create a car free environment
- Potential drop-off and lay by provision
- Controlled surface allowing VIP/Coach drop-off to front of Stadium
- Service access to rear

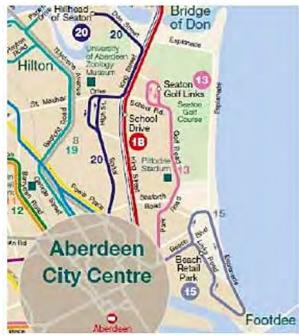


Rope Works Vehicular Movement Diagram

ROPE WORKS: MOVEMENT - BUSES

The adjacent diagram suggests potential Public Transport routes for the Rope Works concept, which looks to achieve the following:

- Maintain and enhance public transport options from City Centre to Beachfront
- Modification of existing No. 13 & 15 Bus routes
- Bus Stops to perimeter of site

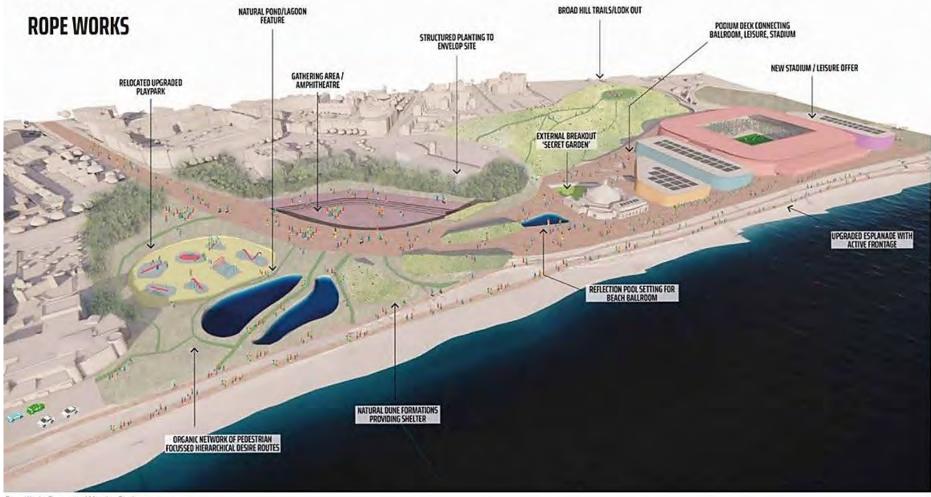


Existing Bus Routes



Rope Works Public Transport Movement Diagram

Robertson Construction Group Ltd Aberdeen Beachfront Development Framework; Strategic Environmental Assessment (Environmental Report)



Rope Works Conceptual Massing Study

4.4.2 Option 2: Tram Lines

Tram Lines uses the linearity of the historic tram routes to organise the central features of the Masterplan, alongside influences such as the octagonal geometry of the Beach Ballroom and Bandstand. The Tram Lines concept in centred around the existing remnant of the physical tram line located at the North of Queen's Links. The historic lines would be retained and enhanced to form an organizing geometry from which to build a re-imagined Urban Park.

The historic lines would be retained and enhanced to form an organizing geometry from which to build the re-imagined Park. The new Play Park could incorporate the existing Tram Lines within its design, with the opportunity for a Café at the end of the line. The linear design could then extend out into the sea, with a potential pier structure inspired by the historic 1852 proposal in the same location. The main octagonal gathering space would link all elements of the Masterplan, with a central focal point drawing pedestrians down from Beach Boulevard towards the re-imagined Ballroom with an enhanced and more formal setting.

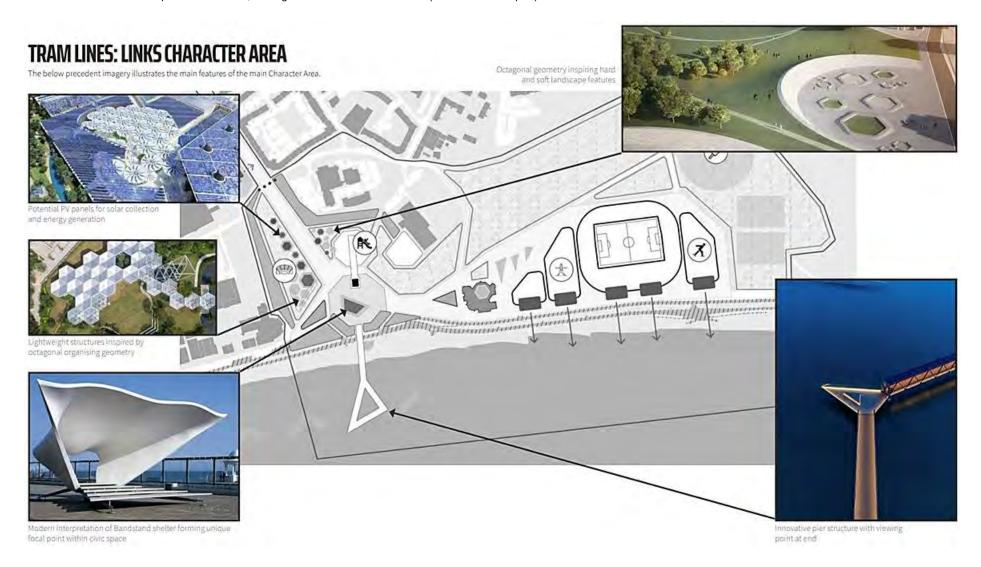
TRAM LINES: CONCEPTUAL MASTERPLAN

The main features of the Tram Lines conceptual Masterplan are outlined below:

- · Play Park centred on retained tram lines with potential feature tram cafe
- Tram line & Beach Ballroom central organising geometry with octagonal focal point
- · Pedestrian-focussed Avenue following desire line from Beach Boulevard
- · Striking pier structure extending from tram line with feature viewing platform
- · Formal mounding providing shelter from the elements
- Lightweight structures collecting solar energy & providing rain cover
- · Potential pump park adjacent to existing extreme sports facility
- Active frontage with food & beverage units and water sports
- · External gathering space for large events with potential amphitheatre
- · Formal setting for re-imagined Beach Ballroom incorporating reflection pool-
- Secret Garden offering external break-out for Ballroom
- Podium deck joining all leisure elements together with enhanced public realm and concealed parking
- Active frontage along Beach Esplanade
- External Sports Fields/Cricket Pitch



Robertson Construction Group Ltd Aberdeen Beachfront Development Framework; Strategic Environmental Assessment (Environmental Report)



TRAM LINES: MOVEMENT - PEOPLE

The adjacent diagram suggests potential Pedestrian and Cyclist routes for the Tram Lines concept, which looks to achieve the following:

- · Pedestrian desire route from Beach Boulevard through new civic space
- Cycle route along Beach Esplanade with managed crossover points
- · Pier structure destination offering spectacular views of Aberdeen Beach



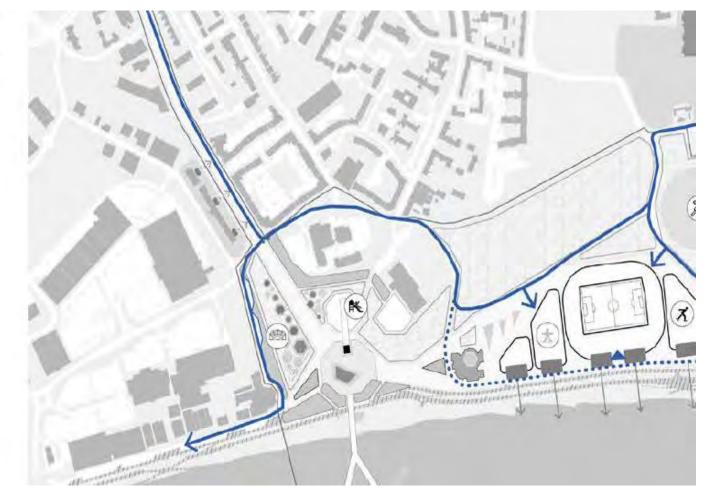


Tram Lines Pedestrian & Cyclist Movement Diagram

Robertson Construction Group Ltd Aberdeen Beachfront Development Framework; Strategic Environmental Assessment (Environmental Report)

th managed access to front of Beach Ballroom and

ovision at the periphery of the Links character area



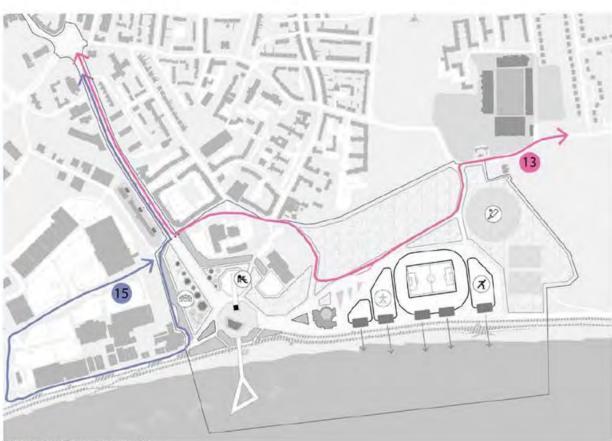
TRAM LINES: MOVEMENT - BUSES

The adjacent diagram suggests potential Public Transport routes for the Tram Lines concept, which looks to achieve the following:

- Maintain and enhance public transport options from City Centre to Beachfront
- Modification of existing No. 13 & 15 Bus routes
- Bus Stops to perimeter of site

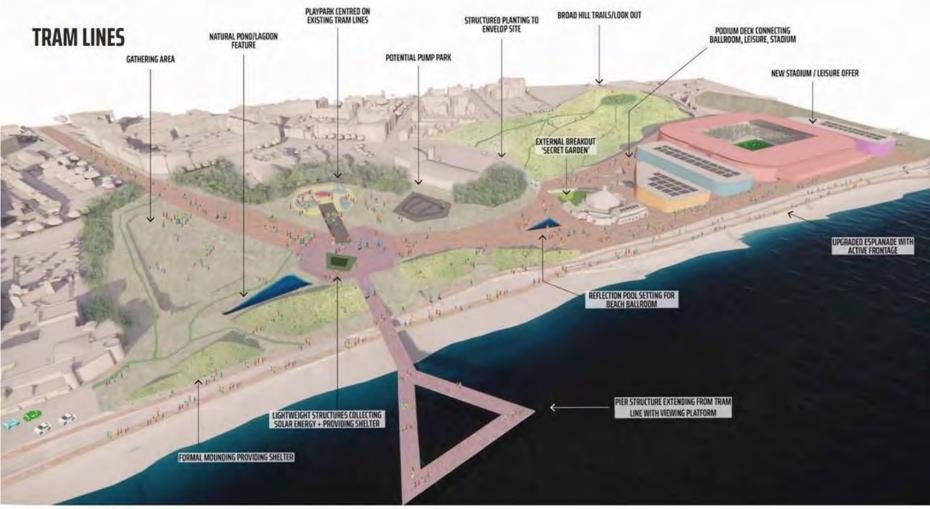


Existing Bus Routes



Tram Lines Public Transport Movement Diagram

Robertson Construction Group Ltd Aberdeen Beachfront Development Framework; Strategic Environmental Assessment (Environmental Report)



Tram Lines Conceptual Massing Study

4.4.3 Option 3: The Groynes

The Groynes concept is inspired by the existing shore protection structures built perpendicular to the shoreline of the Aberdeen coast. These linear structures are an integral part of the unique Aberdeen sea-scape, creating a strong organising geometry from which the Masterplan builds.

The Groynes concept uses these unique linear structures to create a powerful organising geometry from which the Masterplan builds. The 2 central Groynes form the basis of an overall design language for the Links character area, extending out into the sea to form a dramatic new pier structure with a spectacular focal viewing point. The geometry of the existing Groynes also extends back around in a loop to form a suggested amphitheatre-style external gathering space, with surrounding water features and organic dune formations to offer shelter from the elements. A re-imagined Play Park is situated to the South of the central Groynes, with the potential for a landmark or 'Gateway' feature to signal arrival from Beach Boulevard into the new Links character area. There is also an opportunity to extend the Park westwards up on to Beach Boulevard, with active frontages and potential redevelopment of the existing, tired industrial units. The main Avenue then follows the desire route through the Links towards the iconic Beach Ballroom, which has a more formal setting and enhanced public realm.

GROYNES: CONCEPTUAL MASTERPLAN

The main features of the Groynes conceptual Masterplan are outlined below:

- · Utilise powerful linear geometry of unique Groyne structures
- · Create dramatic new pier structure extending the footprint of the existing Groynes
- Opportunities for changes in level within pier design with feature focal viewing
 platform
- Extend geometry around elliptical terraced outdoor gathering area / amphitheatre
- Potential landmark or Gateway feature to signal arrival from Beach Boulevard into the new Links character area
- Extension of Park westwards to Beach Boulevard with potential for redevelopment of existing industrial units
- Creation of organic dune mounding structures to provide shelter
- · Re-imagined and upgraded Play Park with potential for Water Play
- Podium deck with enhanced public realm connecting Ballroom, Leisure & Stadium
- · Formal setting to ballroom with potential water feature and new civic space
- External break out to beach ballroom forming 'secret garden' feature
- Upgraded esplanade with active frontage to Beach



Robertson Construction Group Ltd Aberdeen Beachfront Development Framework; Strategic Environmental Assessment (Environmental Report)



Sinuous pathways following desire route through Links character area

Elegant structural solution with potential changes in level

Dynamic pier structure extending out from existing linear Groynes with focal viewing platform

GROYNES: MOVEMENT - PEOPLE

The adjacent diagram suggests potential Pedestrian and Cyclist routes for the Groynes concept, which looks to achieve the following.

- · Pedestrian focused, cyclist friendly environment
- Desire route from Beach Boulevard to re-imagined Beach Ballroom and enhanced . public realm/plaza
- Footpaths linking up to Broadhill, Stadium and Leisure facilities .
- Dramatic Pier structure destination with opportunities for changes in level .
- Focal point viewing platform destination with spectacular views over Aberdeen • Beach



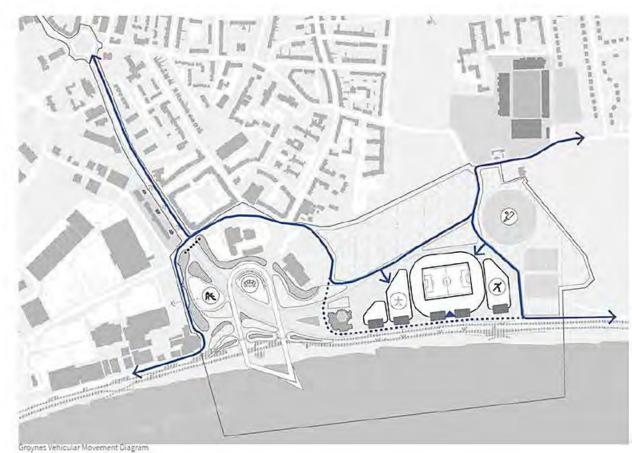


Groynes Pedestrian & Cyclist Movement Diagram

GROYNES: MOVEMENT - CARS

The adjacent diagram suggests potential Vehicular routes for the Groynes concept, which looks to achieve the following:

- · Remove cars from main character area where possible
- · Podium deck solution with undercroft parking
- Pedestrian-focussed shared surface with managed access to Beach Ballroom and Stadium/Leisure
- Potential drop-off and lay by provision at the periphery of the Links character area
- · Service access to rear



GROYNES: MOVEMENT - BUSES

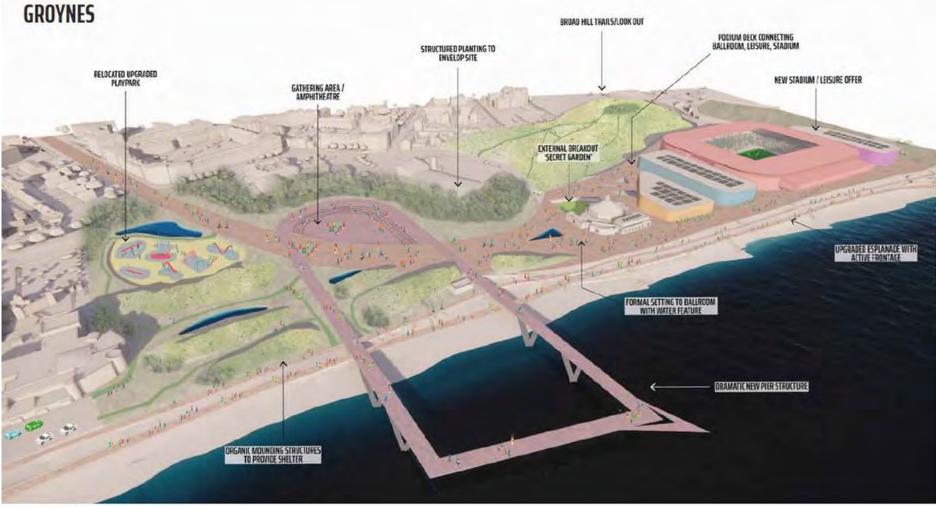
The adjacent diagram suggests potential Public Transport routes for the Groynes concept, which looks to achieve the following:

- · Maintain and enhance public transport options from City Centre to Beachfront
- Modification of existing No. 13 & 15 Bus routes
- Bus Stops to perimeter of site





Robertson Construction Group Ltd Aberdeen Beachfront Development Framework; Strategic Environmental Assessment (Environmental Report)



Groynes Conceptual Massing Study

4.5 Masterplan Option Scoring

At the time the scoring exercise was undertaken the wider environment was a consideration but loosely, given the early stage in the preparation of the Beachfront Development Framework, and no survey work had been undertaken.

The Rope Works concept allows the main desire route from Castlegate to flow down Beach Boulevard and transition from a formal character to more natural, softer and playful forms, as the pathways extend out organically to link the key features of the Masterplan, culminating in a dramatic Boardwalk structure and viewpoint which extends out towards the sea.

The core principles that form the basis for the Beach Masterplan proposals and embody the essence of the initiative for the Beachfront regeneration are:

- The importance of the re-imagined Beach Ballroom, including a desire to return it to its former glory when it was known as the 'People's Ballroom'. This needs to recognise the buildings heritage and historic significance whilst equipping it for the future as a modern events venue;
- The potential to share / link facilities associated with the new Stadium and Leisure facilities to support joint funding with the Stadium Anchor tenant and realise economies of scale;
- A desire for a dynamic waterfront making the most of the Beach Boulevard and considering support facilities such as changing accommodation/beach huts and a potential pier structure.
- Excellent, high-quality public realm;
- Leisure activities that are inclusive and accessible to all income groups that may visit the Beachfront;
- Improved Access and Connectivity between the Beachfront and City Centre;
- Infrastructure, including traffic management that reduces the impact of the existing road network to promote alternative forms of travel, including walking and cycling, whilst improving the public realm; and
- Co-ordination with potential flood and/or sea defence works planned for the area.

The Masterplan scoring outcomes can be found in Table 4-2.

Table 4-2: Masterplan Options- Scoring

CRITERIA		Rope Works					<u>Total</u>	Tram Lines					<u>Total</u>	The Groynes								
Accessibility and social value								I							I							
Availability of and opportunity for free activities and open space	10	9	8	9	10	10	10	66	10	9	9	10	10	10	58	10	9	9	10	10	10	5
Consideration for and provision of accessible movement to and within	10	9	7	9	10	10	10	65	8	7	9	10	9	10	53	8	7	9	10	9	10	5
Consideration of inclusivity within the design	10	9	8	9	10	9	10	65	8	8	9	9	9	9	52	8	8	9	7	9	8	4
Consideration and opportunity for green methods of travel	10	8	7	9	10	10	10	64	8	7	9	10	10	10	54	8	7	9	10	10	10	5
Design for employment and opportunity	9	8	7	7	10	8	10	59 319	10	7	7	10	8	10	52 269	8	7	7	7	8	7	4 2
Vision & Culture		1	1	1	1	ļ	ļ	010		II			ļ	<u> </u>				-	<u> </u>	1	<u> </u>	
Promotion of Aberdeen as a cultural destination	10	9	8	8	10	9	10	64	9	8	9	9	9	9	53	8	8	9	8	8	8	4
ntegration of landmark design features	10	8	7	8	10	10	10	63	8	9	9	10	10	10	56	8	9	9	10	10	10	5
Promotion of and support for emerging cultures	8	8	6	8	7	7	8	52	8	6	9	8	7	8	46	8	6	9	6	7	7	4
Aspirational design quality	10	9	8	8	10	10	9	64	8	8	9	10	10	9	54	8	8	9	10	10	9	5
Integration of heritage and promotion of legacy	10		8	8	10	10	10	65 308	9	8	9	9	10	9	54 263	8	8	9	8	10	8	<u>ع</u>
Urban Design & Planning		1	1	<u>I</u>	1	ļ	ļ	300	<u> </u>	II			ļ	<u> </u>	203	<u> </u>		L	<u> </u>	1	ļ	
Consideration of design for safe spaces	8	8	7	9	10	9	10	61	10	7	9	10	9	10	55	8	7	8	10		10	4
Design for flexibility of scale; intimate spaces and gathering spaces	10	9	7	9	10	10	10	65	8	7	9	9	8	9	50	8	8	8	8	9	8	4
Promotion of a sense of place and social ownership	10		9	8	10	10	10	65	9	9	9	9	10	9	55	8	9	8	7	8	8	4
Consideration of local planning principles and city plan	10		9	8	10	8	10	64	9	9	9	10	8	10	55	9	9	8	10	10	10	Ę
Integration with immediate site constraints	10		8	8	10	9	10	64 319	9	8	9	9	9	9	53 268	9	8	8	8	8 8	8	2
Commercial		1	<u> </u>	1		<u> </u>	<u> </u>	213	<u> </u>	<u> </u>]		<u> </u>	<u> </u>	200	<u> </u>		I	1	0	ļ	2
Design for commercial opportunities of various scales	8	9	7	7	10	9	10	60	9	7	9	9	9	9	52	8	7	9	8	9	8	4
Consideration for footfall and yield	10	8	7	7	10	10	10	62	8	7	9	9	9	9	51	8	7	9	7	7	8	4
Consideration for affordability / commercial feasibility	10	9	7	7	10	9	10	62	8	7	9	9	8	9	50	8	7	9	7	7	8	4
Consideration for technical viability and deliverability of design	10	9	7	7	10	10	9	62	8	7	9	10	10	10	54	8	7	9	8	8	8	4
Appropriateness of proposed commercial uses and scale	10	9	7	7	8	10	8	59 305	8	7	9	10	9	10	53 260	8	7	9	7	7	7	2 2
Adaptability & Sustainability		1	1	<u> </u>	1	ļ	ļ	305		<u> </u>			I	<u> </u>	200				<u> </u>	1		<u>_</u>
Design for flexible adaptable spaces	10	9	6	8	10	10	10	63	7	7	8	9	9	9	49	8	8	8	7	7	8	4
Design for the permanent and temporary spaces	8	8	8	8	8	10	8	58	10	8	8	9	9	9	53	8	9	8	7	7	7	4
Opportunities for incorporation of emerging technologies and energy	10	9	9	8	9	8	10	63	10	9	8	9	8	10	54	10	9	8	8	8	10	Ę
Consideration for renewable energy consumption and production	8	7	8	8	9	8	9	57	8	9	8	9	8	9	51	8	9	8	8	8	9	Ę
ntegration with natural habitat and promotion of biodiversity	10	9	7	8		10	9	63 304	8	7	8	7	8	7	45 252	9	7	8	6	8	7	2
								<u>304</u> 1555							<u>252</u> 1312			<u> </u>		1		2 12
Highest Scoring Option								1000							1312		_	_				

Lowest Scoring Option

Total Score

4.6 Preferred Masterplan Option

Following scoring, the **<u>Rope Works</u>** was selected by the Beachfront Masterplan team as the preferred masterplan option, as in summary, it had the following qualities:

History & Heritage

This option celebrates the historical character of the site and the previous Rope Works which supported Aberdeen's Shipbuilding heritage. The key pathways and routes are created in an organic manner simulating the unravelling of a rope.

Free Play

This Masterplan generates a multitude of zones and opportunities for free play. The layout creates zones for a range of activities such as a pump park, child play, teenager play and water-based play areas together with water sports and other outdoor Leisure experiences associated with the beach. An amphitheatre, mounding, a variety of paths and walkways culminating in the boardwalk /pier structure also added an additional dynamic to the visitor experience.

Natural Environment

The organic design characteristics of Rope Works create a natural geometry of sinuous footpaths and routes linking seamlessly with Broad Hill and appear in harmony with the topography of the site. This geometry allows all elements to flow together and is consistent with the emerging natural design shell form of the Stadium and Leisure buildings.

Attributes

Whilst all Masterplan options were considered to be successful, the Rope Works concept was selected as the preferred solution due to these aforementioned features.

Boardwalk & Pier

The Ropeworks masterplan originally did not have a boardwalk and Pier, but this option was included in the Tram Lines and Groyne masterplan options. The Boardwalk and Pier were incorporated into the Ropeworks masterplan largely as a result of feedback from Councillors at either Committee/Council meetings, or via officers. Following the options scoring Councillors requested this feature be included. Other elements (slipway and beach pavilion) evolved out of feedback from further stakeholder sessions.

4.7 Development Option Scoring

Using the scoring criteria identified within Section 4.3, the development options were scored to determine the preferred option and alternatives.

4.7.1 Development Option 1: Retain and refurbish the existing leisure centre, ice arena, new football stadium

Option 1 assumes that the existing leisure centre and ice arena are retained and upgraded as part of the development but does not seek to integrate the existing leisure centre and ice arena (which are already separate) or the new football stadium (Figure 4-1).

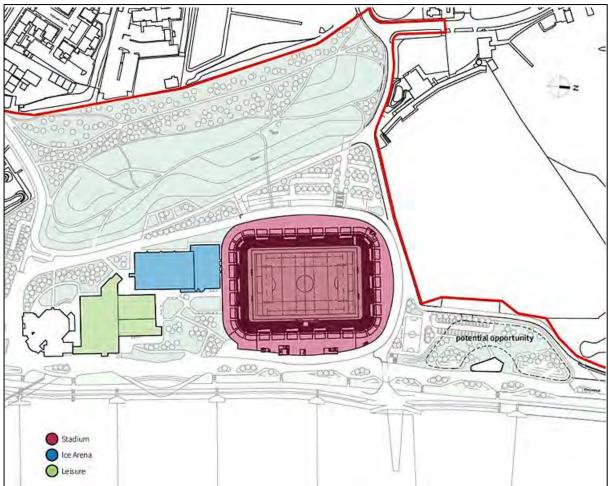


Figure 4-1: Option 1-Retain and refurbish the existing leisure centre, ice arena, new football stadium

The refurbishment of the existing leisure centre is based on work already undertaken by Sport Aberdeen with the aim of improving the condition and utilisation of the facility, increasing participation, providing new revenue streams and creating a destination venue. The proposals comprise the following:

- New double-height atrium entrance, new reception, connectivity between levels;
- Existing sports hall dedicated to new commercial play park with party rooms and sensory spaces. New curtain walling;
- New spa with treatment rooms, changing, showers, sauna & steam rooms, jacuzzi and plunge pool on lower level;
- Enlarged fitness and gym with toning, studios, spin studio, community use spaces and dedicated dry changing on upper level; and
- External re-working of public realm and parking.

These proposals have not been developed in detail but envisage developing the project brief, design proposals, cost plan and Beachfront Development Framework in greater detail with the Client and key stakeholders in the event that this option is pursued.

The refurbishment of the ice arena is based on a light touch refresh focusing on redecoration, replacement of seats, fixtures and fittings, and dealing with outstanding maintenance to the building fabric and building services installations. The proposals do not seek to link the existing leisure centre and ice arena to share reception, management offices and food & beverage provision.

Aberdeen FC's existing Pittodrie Stadium is near it's 'end of life' and therefore requires either major redevelopment on the existing site or the building of a new stadium at a new location. Various sites have been earmarked over the years and there is an existing planning permission to build on an out of town site. However, retaining the stadium and its footfall close to Aberdeen city centre would be an ideal outcome for all concerned.

The new football stadium will comprise the following:

- Stadium seating bowl;
- General Admission (GA) seating with contemporary concourse facilities;
- Premium GA seating and concourse with upgraded F&B offer and toilets;
- Various grades of hospitality seating and lounges with pitch views, some with sea views;
- Sky Boxes;
- State of the art UEFA compliant Players areas;
- Field of play capable of hosting football and Rugby Union; and
- SPL and UEFA compliant Media areas with flexibility to expand depending on match coverage.

4.7.2 Development Option 2: New build leisure centre and ice arena, new build football stadium

Option 2 assumes that the existing leisure centre and ice arena are demolished and will be replaced by an integrated facility that links the new leisure centre, ice arena and football stadium as part of the development (Figure 4-2). The integration aims to provide an efficient building plan and form that provides the opportunity to share facilities and operational benefits where possible.

The brief and facility mixed use for the new leisure centre has been derived from consultation with the Client and key stakeholders including the Beachfront Leisure Facility Concept Ideas document dated September 2021 and prepared by Sport Aberdeen. The facility mix in this document has been enhanced in line with the Client's aspiration to make the most of the beach area as an opportunity and tourism asset as well as to generate new visits and spend.

The brief and facility mixed for the new ice arena has been to largely replicate the facilities in the existing ice arena but to comply with the latest version of International Ice Hockey Federation (IIHF) design guidance (including the size of the ice pad), allow for the increase of seating capacity beyond 1200 seats that the existing ice arena provides and incorporate an improved hospitality offer.



Figure 4-2: Option 2-New build leisure centre and ice arena, new build football stadium

The new football stadium will comprise the following:

- Stadium seating bowl
- General Admission (GA) seating with contemporary concourse facilities
- · Premium GA seating and concourse with upgraded F&B offer and toilets
- Various grades of hospitality seating and lounges with pitch views, some with sea views
- Sky Boxes
- State of the art UEFA compliant Players areas
- Field of play capable of hosting football and Rugby Union
- SPL and UEFA compliant Media areas with flexibility to expand depending on match coverage

4.7.3 Development option 3: New leisure centre and ice arena, football stadium excluded

Option 3 assumes that the existing leisure centre and ice arena are demolished and will be replaced by an integrated facility that links the new leisure centre and ice arena but that the stadium does not form part of the development and is re-provided elsewhere in the city (Figure 4-3). The aim of the integrated leisure centre and ice arena is to provide an efficient building plan and form that can be operated as a single entity and avoid the duplication of café and management spaces that occurs at the existing leisure centre and ice arena.

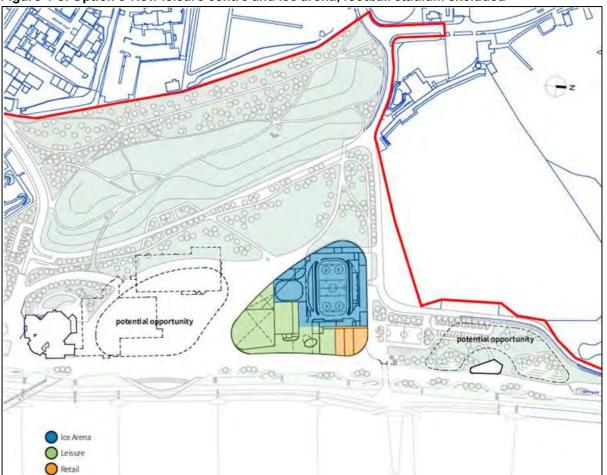


Figure 4-3: Option 3-New leisure centre and ice arena, football stadium excluded

The brief is as per option 2 and facility mixed used for the new leisure centre has been derived from consultation with the Client and key stakeholders including the Beachfront Leisure Facility Concept Ideas document dated September 2021 and prepared by Sport Aberdeen. The facility mix in this document has been enhanced in line with the Client's aspiration to make the most of the beach area as an opportunity and tourism asset as well as to generate new visits and spend.

As for Option 2, the brief and facility mixed for the new ice arena has been to largely replicate the facilities in the existing ice arena but to comply with the latest version of International Ice Hockey Federation (IIHF) design guidance (including the size of the ice pad), allow for the increase of seating capacity beyond 1,200 seats that the existing ice arena provides and incorporate an improved hospitality offer.

It has been assumed that it is desirable to keep both the existing leisure centre and ice arena in operation during the construction of the new facilities. This allows the leisure centre and ice arena to continue to meet local and regional demand for the facilities, continue swimming lessons, support local clubs and maintain staff at both buildings.

As a result, the new leisure centre and ice arena building should avoid any overlap on plan with the existing facilities and therefore be located approximately 180m north of the Beach Ballroom with the existing leisure centre and ice arena demolished after completion of the new facilities and the area used for the new public realm, parking or further recreational facilities.

4.8 **Preferred Development Option.**

The development options evaluated were scored using the same scoring criteria as the Masterplan option under the headings of accessibility and social value, vision and culture, urban design and planning, commercial, and adaptability and sustainability.

The scoring favoured **Option 2: New Leisure, Ice Arena & Stadium** principally due to the ability to deliver a coordinated and integrated sport and leisure development within a transformational new waterfront destination for the City of Aberdeen (Table 4-3). Aberdeen FC's existing Pittodrie Stadium is near it's 'end of life' and therefore requires either major redevelopment on the existing site or the building of a new stadium at a new location. Various sites have been earmarked over the years and there is an existing planning permission to build on an out of town site. However, retaining the stadium and its footfall close to Aberdeen city centre would be an ideal outcome for all concerned.

Option 1 scored less well, particularly under the accessibility and social value, urban design and planning, and adaptability and sustainability headings with concerns around the retention of the existing leisure centre and ice arena. Option 3 providing new leisure facilities scored more favourably than Option 1, however, there was concern that the absence of the stadium meant that the option contributed less to the overall development compared with Option 2, therefore Option 2 was selected as the preferred option to be taken forward in the Beachfront Development Framework.

4.9 Business as Usual Option

A 'Business as Usual Option' was not assessed as part of the options appraisal. Business as usual would involve not implementing the draft Beachfront Development Framework, assuming development at the beachfront would be ad-hoc. This option, therefore, represents the likely evolution of the baseline without the Beachfront Development Framework.

Table 4-3: Development Options- Scoring

CRITERIA	Option 1A	Total Option 1B	Total Option 2	Total Option 3	<u>Total</u>
Accessibility and social value	-1		- ! - !		
Availability of and opportunity for free activities and open space Consideration for and provision of accessible movement to and within Consideration of inclusivity within the design Consideration and opportunity for green methods of travel Design for employment and opportunity	3 4 3 6 4 4 4 2 4 6 6 5 5 4 7 4 6 7 5 5 5 4 5 7 8 8 4 5 4 4 6 7 5 5 5	32 3 6 7 6 5 5 39 8 6 7 7 5 6 41 7 5 7 8 8 7	4 27 3 6 3 6 4 4 4 4 36 8 7 9 7 7 9 8 5 44 8 8 9 9 10 9 10 8 50 7 7 7 8 8 8 8 7 47 10 8 9 9 10 9 10 204	53 7 7 7 8 8 8 8	43 58 63 53 51 268
Vision & Culture					
Promotion of Aberdeen as a cultural destination Integration of landmark design features Promotion of and support for emerging cultures Aspirational design quality Integration of heritage and promotion of legacy	3 4 6 5 4 5 4 3 4 6 5 4 6 4 3 4 6 7 5 5 5 3 4 6 5 5 6 5 3 4 6 5 5 6 5 3 5 7 5 5 4 5	32 5 7 7 5 5 6 35 5 7 7 7 5 6 34 5 7 7 5 5 6	5 40 9 8 9 9 10 10 10 5 40 9 8 9 8 8 10 8 5 42 6 7 7 7 8 9 8 5 40 9 9 9 9 10 10 10 5 40 9 9 9 9 10 10 10 5 39 8 8 8 6 6 10 6 201 0 0 0 0 0 0 0 0	65 7 7 7 9 10 9 10 60 7 9 7 8 7 8 7 52 8 8 9 7 7 8 7 66 8 9 7 9 10 8 10 52 6 7 6 6 6 8 6 52 6 7 6 6 6 8 6 295 6 7 6 6 6 8 6	59 53 54 61 45 272
Urban Design & Planning					
Consideration of design for safe spaces Design for flexibility of scale; intimate spaces and gathering spaces Promotion of a sense of place and social ownership Consideration of local planning principles and city plan Integration with immediate site constraints	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	33 7 6 6 6 6 6 34 7 7 6 7 5 5 37 7 5 6 8 6 6	7 44 10 9 9 9 10 10 10 6 43 10 9 9 9 9 10 9 10 5 42 10 9 9 9 9 9 10 9 6 44 10 8 9 8 10 8 10 7 44 10 8 9 6 6 9 6 217 44 10 8 9 6 6 9 6	65 7 8 8 7 7 9 8 63 7 8 8 8 8 8 8 54 7 7 8 6 6 8 6	61 53 54 55 48 271
Commercial					
Design for commercial opportunities of various scales Consideration for footfall and yield Consideration for affordability / commercial feasibility Consideration for technical viability and deliverability of design Appropriateness of proposed commercial uses and scale	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	36 5 6 7 8 6 6 40 5 5 7 6 6 6 37 5 6 7 7 6 6	7 46 10 8 9 9 10 10 10 6 44 10 8 9 9 10 10 10 6 41 10 8 9 9 8 8 9 7 6 43 10 8 9 8 8 8 8 6 43 10 8 9 9 10 9 10 217 43 10 8 9 9 10 9 10	66 7 7 8 9 10 9 10 59 7 7 8 8 8 8 7 59 7 7 8 8 8 8 8 65 7 8 8 9 10 8 10	61 60 53 54 60 288
Adaptability & Sustainability					
Design for flexible adaptable spaces Design for the permanent and temporary spaces Opportunities for incorporation of emerging technologies and energy Consideration for renewable energy consumption and production Integration with natural habitat and promotion of biodiversity	$\begin{array}{cccccccccccccccccccccccccccccccccccc$	35 5 6 6 7 6 6 35 5 7 6 6 4 4 4 33 5 7 6 6 4 4	6 42 10 8 9 9 10 10 10 6 42 10 9 9 8 8 9 8 10 42 10 9 9 9 10 9 9 10 42 10 9 9 9 10 9 10 8 40 10 7 9 9 9 9 10 5 36 10 7 9 8 5 9 5 202 <td< td=""><td>61 7 9 8 8 6 6 6 66 7 8 8 9 10 8 10 63 7 7 8 9 9 9 10 53 7 7 8 8 5 7 5</td><td>54 50 60 59 47 270</td></td<>	61 7 9 8 8 6 6 6 66 7 8 8 9 10 8 10 63 7 7 8 9 9 9 10 53 7 7 8 8 5 7 5	54 50 60 59 47 270
		876	1041		1369
Highest Scoring Option Second Scoring Option					

Lowest Scoring Option

Total Score

September 2022

4.10 Corroboration of Scoring Outcomes

The final scoring results have been shared with representatives of the following organisations:

- Aberdeen City Council
- Sport Aberdeen
- Aberdeen Football Club

All stakeholders agreed in principle with the scoring outcomes of the evaluation and were very supportive of the design process.

In addition, Key Stakeholder sessions were also held which ratified Ropeworks and Stadium Option 2 as the preferred solutions.

The following Masterplan and Leisure options were therefore selected as the preferred solutions and taken forward as the Aberdeen Beachfront Development Framework:

- Preferred Masterplan Option: Rope Works
- Preferred Stadium & Leisure Option: 2 New build leisure centre and ice arena, new build football stadium

It should also be noted at this stage that all options received high ratings and all could easily be considered as successful, high-quality, potential design solutions.

4.10.1 Change of Option Names

Option 2 was subsequently renamed *Preferred Option*: New build leisure centre and ice arena and a new stadium.

Option 1 was renamed *Alternative Option A:* Retain and refurbish existing leisure centre, ice arena, new stadium.

Option 3 was renamed Alternative Option B: New leisure centre and ice arena, football stadium excluded

4.11 Recommendations for improving the environmental performance of the 'preferred option'

Given their shared remit of socio-economic regeneration and being development led to a degree, all three of the alternatives considered in this assessment have the potential to cause both positive and negative environmental effects. As discussed above, Aberdeen City Council are working to a brief defined by the vision of the draft Beachfront Development Framework. It should be noted that Development Option 1 would be unlikely to deliver these objectives given the nature of the refurbishment detailed for the leisure centre and ice area. Furthermore, despite being likely to have a lower overall environmental impact. Development Option 3 would be unlikely to deliver the same objectives due to less emphasis on built development i.e., no stadium, and thus lower socio-economic benefits.

The process of assessing and comparing the environmental performance of alternatives in SEA can help identify measures to improve the draft plan or the 'preferred alternative'. In this instance, the alternatives assessment has highlighted the need to consider a number of minor changes to the Beachfront Development Framework's preferred Alternative Development Option, to help realise some key environmental opportunities and reduce its overall potential environmental impact. Clearly, there will

always be areas of conflict where environmental impact cannot be avoided or mitigated. In these instances, Aberdeen City Council will have to make the case to key stakeholders that the socio-economic benefits of development outweigh the consequences of the environmental impact.

5 ASSESSMENT OF DRAFT BEACHFRONT DEVELOPMENT FRAMEWORK VISION AND OBJECTIVES

5.1 Environmental Commentary on Draft Beachfront Development Framework Vision

The vision for improving the Beachfront and the associated facilities has been developed by the Council. This was initially developed and set out in the 2015 Aberdeen City Centre Masterplan (CCMP). The CCMP is a regeneration blueprint that is transforming the city centre while conserving its proud heritage. Eight objectives feed through the masterplan: to change perceptions, grow the city centre employment base, introduce a metropolitan outlook, create a living city for everyone, made in Aberdeen, reveal the waterfronts, become technologically advanced and environmentally responsible, and be culturally distinctive. In all the Council has 50 projects that range from delivering enhanced civic space to helping support exciting new events like the Great Aberdeen Run. The City Centre Masterplan is targeted at making Aberdeen an even better place to live, work, visit and do business.

The draft Beachfront Development Framework builds on the CCMP stating that the vision for Aberdeen Beachfront is:

'The Beachfront proposals will seek to revitalise and renew the area to maximise the potential of this unique space and create an exceptional asset for the city of Aberdeen. Due to the special location of the site, its overall connection to the natural environment the approach to design has been collaborative and landscape led in order to set an appropriate structure to accommodate a broad range of leisure uses, events and public spaces. This enhanced nature-based environment will be attuned to the needs of the local community whilst aiming to position the Beachfront as a prominent visitor location and reconnect the beach with the city centre.'

From an environmental perspective, the focus the vision places on the importance of enhancing the environment is welcomed and supported. The quality of both the natural and built environment is central to achieving the regeneration aims for Aberdeen Beachfront. As the vision acknowledges, utilising the natural assets of the coast will need to be an important aspect of the strategy for the area as it is a very valuable asset and fundamental to Aberdeen Beachfront's sense of place. Clearly there are potential tensions between achieving a "strong economy" and an "enhanced environment" and therefore opportunities with a win-win outcome will be needed rather than economic regeneration at the expense of the environment.

A key challenge for finalising the Beachfront Development Framework will be to ensure, as far as reasonably possible, that the vision's aspirations for the environment are delivered. The first step in delivering this will be to ensure that this aspiration is fully integrated into the whole of the Plan. The more detailed parts of the SEA, therefore, sought to assess how well environmental thinking had been integrated into the rest of the Plan and the likelihood of the vision's aspirations for an enhanced environment being realised.

As part of any successful "regeneration" strategy, it will be important to regularly assess the vision and plan and review it in light of changing circumstances. It would therefore be beneficial if the Beachfront Development Framework clearly set out an overview of how and when it will be reviewed. Whilst it is not appropriate to add this to the vision itself, it would be useful to include it somewhere in the Beachfront Development Framework, for example Chapter 5 "*Vision, Opportunities & Design Development*".

Similarly in order to develop a common agenda for Aberdeen Beachfront, the "top-down" Beachfront Development Framework also needs to link to "bottom-up" community-led innovation in a manner which fosters community involvement. An overview of the role of the community and how they were included is discussed in section 2.2 of this report.

5.2 Compatibility analysis of draft Beachfront Development Framework objectives and SEA objectives

The approach taken to the compatibility analysis of the draft Beachfront Development Framework objectives and SEA objectives are described in the Environmental Report in section 2.4.2. The purpose of the compatibility analysis was to identify potential synergies and inconsistencies between what the Beachfront Development Framework is trying to achieve and relevant aspirations for the environment as summarised in the SEA objectives. In addition, the compatibility analysis has informed the scope of the detailed assessment by highlighting particular issues that have benefited from more detailed consideration.

The compatibility analysis has been summarised in a matrix which is provided in Appendix D. The remainder of this section lists the draft Beachfront Development Framework objectives and summarises the outcome of the compatibility analysis and recommendations made.

5.3 Draft Beachfront Development Framework Objectives

The draft Beachfront Development Framework does not include an explicit list of plan objectives. However, through discussions with the Aberdeen City Council, they stated that the approach to the development of the Beachfront Development Framework was informed by the following objectives:

- 1. Revitalise and renew the area to maximise the potential of this unique space and create an exceptional asset for the city of Aberdeen;
- 2. Improve connectivity to the Beachfront area and the city with a focus on public transport, pedestrians, and cyclists;
- 3. Sympathetically restore the Beach Ballroom to its former glory when it was known as the People's Ballroom' while recognising the building's heritage and historic significance:
- 4. Improve the physical and built environment and provide a high-quality public realm;
- 5. Create quality and sustainable facilities for local people and visitors;
- 6. Maximise and enhance the outstanding natural coastal assets by attracting visitor attractions, leisure facilities, stadium and creating a dynamic waterfront destination; and
- 7. Develop a clear role for the area within the wider Aberdeen City area, making the most of the areas transport links.

5.4 Summary Commentary

Generally speaking, a degree of uncertainty was identified between the compatibility of the draft Beachfront Development Framework objectives and the SEA objectives. This was largely due to the potential for negative and/or positive effects depending on how the Beachfront Development Framework objectives are implemented.

The compatibility analysis highlighted a number of potential issues which were subsequently treated to more detailed consideration in the assessment of the draft Beachfront Development Framework (**see Chapter 6 of this report**). Recommendations/ issues highlighted for consideration in the detailed assessment are outlined below.

Key areas of potential conflict identified:

- Beachfront Development Framework relating to Landscape are potentially incompatible with SEA objective to 'Protect and enhance landscape character, local distinctiveness and promote access to the wider environment'. The potential New Stadium and Leisure Facilities will need to be designed and landscaped sympathetically to ensure they fit into the landscape.
- Development of the Aberdeen Beachfront area, in terms of attracting new visitors, could result in deterioration of water quality and potential flood risk.

Key areas of potential synergy identified:

- The SEA objectives 'Creation of community facilities', 'Provide adequate drainage and sewerage', 'to improve the quality of surrounding' and 'promote the sustainable use of community assets, natural resources and material assets' are all compatible with the Beachfront Development Framework objectives
- Beachfront Development Framework objectives are generally positive with SEA objective 'Maintain and improve air quality and reduce emissions of key pollutants'. Increased numbers of visitors to the Aberdeen Beachfront area could result in increased emissions of air pollutants from transport and commercial sources, however, there is a strong focus on the Beachfront Development Framework providing sustainable alternatives to car travel including promoting walking, cycling and public transport use, while improving connectivity to the City Centre.
- Beachfront Development Framework aims to improve the physical and built environment and provide a high-quality public realm and open space. This has key areas of support with several SEA objectives, primarily related to health, landscape, the quality of surroundings, promotion of energy-efficient development, renewables and targeting NetZero. Sensitive development in compliance with national planning policy and the ACC Local Plan is likely to deliver significant improvements in the area.

Recommendations

Recommendations for improving the draft Beachfront Development Framework objectives are summarised below in Table 5-1. Please refer to Appendix D for a summary of how the compatibility analysis informed subsequent stages of the SEA.

A key overarching recommendation is that the draft Beachfront Development Framework-development process would have benefited by including the Beachfront Development Framework objectives in the consultation document. It is a widely recognised approach to plan/strategy development to establish an overarching vision supported by a number of objectives or goals that the plan/ strategy aims to achieve. These should be linked to indicators (see Section 7 of this report) to facilitate monitoring of progress towards the achievement of the objectives/ goals. Though the development of the draft Beachfront Development Plan has been guided by the seven objectives listed above, their absence from the consultation document does not aid the transparency of the process of consultation on the draft plan as a whole.

Draft Beachfront Development Plan objective	Recommendations for improving the draft objectives
1. Revitalise and renew the area to maximise the potential of this unique space and	 Ensure sympathetic design of new facilities and maximise the public open realm; Ensure sympathetic design and restoration of the Beach Ballroom; and

 Table 5-1 Recommendations for improving the draft Beachfront Development Framework

 objectives

create an exceptional asset for the city of Aberdeen.	 Further information on the approach to development may identify potential support and/ or conflict for SEA objectives addressing noise and waste management and the circular economy.
2. Improve connectivity to the Beachfront area and the city with a focus on public transport, pedestrians, and cyclists.	 Ensure sustainable alternatives to car use are fully explored; Prioritise pedestrians, cyclists, and public transport wherever practicable; and Ensure there is adequate connectivity with the city centre.
3. Sympathetically restore the Beach Ballroom to its former glory when it was known as the People's Ballroom' while recognising the buildings heritage and historic significance.	 Ensure the plan includes sufficient details on why the Beach Ballroom is being restored, how it is envisaged it will be restored and what it means for Aberdeen Beachfront and Aberdeen as a whole.
4. Create quality and sustainable facilities for local people and visitors.	 Ensure that the word "sustainable" and/ or "sustainable development" is clarified in supporting text elsewhere in the Beachfront Development Framework so it is clear what these terms mean in the context of how they are being used and in the context of Aberdeen Beachfront. Achieve Net Zero and contribute to achieving Sustainable Development Goals
5. Improve the physical and built environment and provide a high-quality public realm.	 Ensure that the Beachfront Development Framework includes sufficient details on how potential conflicts should be avoided; and Ensure design is sympathetic to the natural environment including the landscape.
6. Maximise and enhance the outstanding natural coastal assets by attracting visitor attractions and encouraging leisure facilities	 Ensure that the plan includes sufficient details on how potential conflicts should be avoided. Consider the implications of locating development on the coast in terms of potential negative effects on natural heritage sites, biodiversity, flood risk and climate change vulnerability. Focus this objective on the consideration of management and other activities which enhances the coast's natural assets. Include a caveat, stating that built development will only be promoted where it can be demonstrated that significant negative environmental effects will be avoided and/ or it will contribute to environmental enhancement.
7. Develop a clear role for the area within the wider Aberdeen City area, making the most of the areas transport links.	 Ensure that the plan includes sufficient details on how potential conflicts should be avoided. Expand the coverage of the term 'transport' to ensure that walking, cycling and public transport are included and that transport is not based entirely on private car use.

5.5 Environmental commentary on draft Beachfront Development Framework development options

It is common practice in plan/ strategy development to link strategic vision, aims and objectives to output measures or indicators to monitor progress towards the achievement of these goals. This approach can help highlight where adequate progress is not being made and inform appropriate action to get the plan/ strategy back on track. The draft Beachfront Development Framework has limited scope to monitor progress towards achieving the Framework's environmental goals, particularly the statement in the Vision on creating an "..enhanced public realm setting for the re-imagined Ballroom, integrated with a potential new Stadium and Leisure complex, will create a dynamic new Urban Park which connects back into the City Centre. This **people-focused environment** will be inclusive for all, creating a real community asset and bringing the 'Wow' factor back to the Beachfront". In addition, the draft Beachfront Development Framework does not include a description of where/ how/ with what frequency monitoring data will be collected and how/ when it will be reported.

Chapter 7 summarises recommendations for monitoring the significant environmental effects of the Beachfront Development Framework. Where appropriate, monitoring recommendations have been identified that would allow integration of monitoring for SEA with monitoring progress towards the environmental goals of the Beachfront Development Framework (see **Chapter 7** of this report for further details).

6 ASSESSMENT OF BEACHFRONT DEVELOPMENT FRAMEWORK PROPOSALS

6.1 Introduction

Schedule 3 of the Environmental Assessment (Scotland) Act (2005) requires that "reasonable alternatives" be considered. As the Beachfront Development Framework included preferred and alternative options, the assessment of reasonable alternatives was carried out at this stage and included in the Environmental Report. It should be noted that the three development options all comprise common elements such as:

- Beach Ballroom
- Hidden Garden
- Public Plaza
- Urban park
- Public Space
- Amphitheatre
- Mounding
- Pavilion
- Water Feature
- Pedestrianised Boulevard
- Pier
- Esplanade
- Slipway
- Surf Pavilion

The differences between the three options primarily relate to the potential stadium & leisure/ ice arena elements i.e., inclusion/exclusion of the stadium and refurbished/new build leisure/ ice arena elements.

6.1.1 Ropeworks - Potential Stadium & Leisure

Three options for the potential stadium and leisure elements of the proposals have been identified with the ropeworks concept, one preferred option and two alternative options (Refer to Table 4-3).

Preferred Stadium & Leisure Option

Potential new build leisure centre/ice arena with potential new build football stadium (Figure 6-1).

The preferred potential stadium & leisure option assumes that the existing leisure centre and ice arena are demolished and would be replaced with a new facility that integrates leisure centre, ice arena, and football stadium uses as part of the development. The potential mix and integration of facilities would be in line with the Council's aspiration to make the most of the beach area as an opportunity and tourism asset as well as to generate new visits and spend. Furthermore, the potential to retain the stadium and its footfall close to Aberdeen Centre would be an ideal outcome for all concerned.



Figure 6-1: Preferred Option A: Potential Stadium & Leisure Sketch

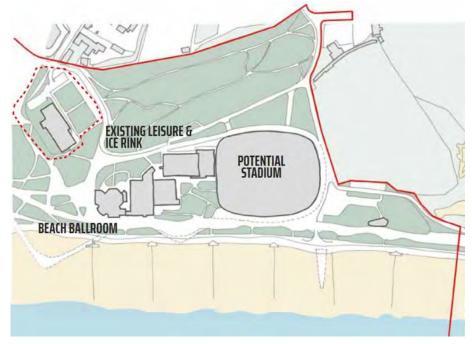
Alternative Option A

Alternative Option A assumes that the existing leisure centre and ice arena are retained and upgraded as part of the development alongside a potential standalone new football stadium (Figure 6-2).

The refurbishment of the existing leisure centre would be based on work already undertaken by Sport Aberdeen with the aim of improving the condition and utilisation of the facility, increasing participation, providing new revenue streams and creating a destination venue.

The refurbishment of the ice arena would be based on a light touch refresh focusing on redecoration, replacement of seats, fixtures, and fittings, and dealing with outstanding maintenance to the building fabric and building services installations. The proposals do not seek to link the existing leisure centre and ice arena.

Figure 6-2: Alternative Option A Sketch



Alternative Option B

Potential new leisure centre/ice arena with potential football stadium excluded (Figure 6-3).

Alternative Option B assumes that the existing leisure centre and ice arena are demolished and would be replaced by an integrated facility that links a potential new leisure centre and ice arena but that the potential stadium does not form part of the development and is re-provided elsewhere in the city. The aim of the integrated leisure centre and ice arena would be to provide an efficient building plan and form that can be operated as a single entity and avoid the duplication of café and management spaces that occurs at the existing leisure centre and ice arena.

It has been assumed that it is desirable to keep both the existing leisure centre and ice arena in operation during construction of the new facilities. This allows the leisure centre and ice arena to continue to meet local and regional demand for the facilities, continue swimming lessons, support local clubs, and maintain staff at both buildings.

POTENTIAL LEISURE 5 LEE RINK

Figure 6-3: Alternative Option B Sketch

6.1.2 Environmental Assessment

The approach taken to the assessment has been evaluated to determine positive and negative effects on the environment in relation to reversibility or irreversibility of effects, risks, duration (permanent, temporary, long-term, short-term and medium-term) and cumulative (direct, indirect, secondary and synergetic).

Proposals have been assessed against the SEA Objectives, in accordance with guidance in planning advice note 1/2010.

The aim of the assessment was to:

 Identify significant environmental effects (positive and negative) that the draft Beachfront Development Framework may give rise to;

- Inform recommendations for amending the draft Beachfront Development Framework to reduce the likelihood of significant negative environmental effects arising;
- Inform the development of mitigation measures for significant negative effects that cannot be avoided by amending the draft plan;
- Inform the development of measures to enhance positive environmental effects; and
- Inform the development of a framework for monitoring the significant environmental effects of the adopted Beachfront Development Framework.
- The remainder of this chapter summarises the assessments of each of the Beachfront Development Framework Projects. Please refer to Appendices D and E for assessment matrices. The scoring used in the assessment matrices is based on the five-point significance scale based on Schedule 2 of the Environmental Assessment (Scotland) Act and described in Section 2.4. Each score has been informed by maps, environmental baseline information, key issues, trends and based on criteria established through the SEA objectives and sub-objectives and significance criteria.

Table 6-1 summarises the assessment of the three Development Options.

Image: Second	Alt Option A 0 ✓ S-M-L	Alt Option B
0 Neutral effect × Negative effect ×× Major negative effect ×× Major negative effect ×× Major negative effect ×× Mixed effect · Uncertain effect S Short term effect L Long term effect Imp The effect will depend on how the Beachfront Development Framework is implemented SEA Objective(s) Questions Biodiversity, flora and fauna Does the site impact on designated sites? · O Does the site impact priority habitats or species? · · O · O what extent will the site promote green network provision and habitat · O what extent will the site impact of NatureScot) · To what extent will the site impact wider biodiversity? (Question added at the request of NatureScot) · To what extent will the site enhance biodiversity? (added - NatureScot) · S-M-L To what extent will the site enhance biodiversity? (added - NatureScot) · S-M-L	Option A 0 ✓	
× Negative effect ×× Major negative effect ×× Mixed effect ✓ √/x √/xx etc. Mixed effect ? Uncertain effect S Short term effect M Medium-term effect L Long term effect Imp The effect will depend on how the Beachfront Development Framework is implemented SEA Objective(s) Questions Pref Option Biodiversity, flora and faura Does the site impact on designated sites? 0 Protect or conserve and, where possible, restore and enhance biodiversity and valued nature conservation habitats and species Does the site impact priority habitats or species? 0 To what extent will the site promote green network provision and habitat connectivity? (Question amended at the request of NatureScot) S-M-L To what extent will the site impact wider biodiversity? (Question added at the request of NatureScot) S-M-L To what extent will the site enhance biodiversity? (added - NatureScot) S-M-L To what extent will the site enhance biodiversity? (added - NatureScot) S-M-L	Option A 0 ✓	
×x Major negative effect Image: Variation of the stree in the stree	Option A 0 ✓	
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? Uncertain effect S Short term effect M Medium-term effect L Long term effect Imp The effect will depend on how the Beachfront Development Framework is implemented SEA Objective(s) Questions Pref Option Biodiversity, flora and faura Does the site impact on designated sites? 0 Protect or conserve and, where possible, restore and enhance biodiversity and valued nature conservation habitats and species Does the site impact priority habitats or species? \$-M-L To what extent will the site promote green network provision and habitat connectivity? (Question amended at the request of NatureScot) \$-M-L To what extent will the site impact wider biodiversity? (Question added at the request of NatureScot) \$-M-L To what extent will the site enhance biodiversity? (added - NatureScot) \$-M-L To what extent will the site enhance biodiversity? (added - NatureScot) \$-M-L To what extent will the site enhance biodiversity? (added - NatureScot) \$-M-L	Option A 0 ✓	
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To what extent will the site enhance biodiversity? (added - NatureScot response)	✓ S-M-L	∽ S-M-L
response) S-M-L	√ 	✓ V
Population and human health	S-M-L	S-M-L
• Improve human health and community To what extent will the site connect to the local path network? (Question amended at the request of NatureScot)	∽ S-M-L	∽ S-M-L
wellbeing, while promoting a range of		
 outdoor and recreational attractions. Encourage physical activity. How does the site relate to areas with high SIMD? S-M-L 	S-M-L	S-M-L
Creation of community facilities To what extent will the site impact access to open space? (Question)	√ € M I	√ € M I
amended at the request of NatureScot) S-M-L Water S-M-L	S-M-L	S-M-L
Is the site at risk of flooding?	√/×	√/×
Are there water courses within the site or which would be affected by	0	0
increased levels of flooding resulting from development of the site?	0	U
Are there water courses within the site or which would be affected by increased levels of pollution, or other pressures, from development within the site?	о	о
• Prevent deterioration, protect and enhance water quality and ecological Are there opportunities to improve the status of watercourses?	√ S-M-L	√ S-M-L
Reduce the risk of flooding. Will the Beachfront Development Framework increase geomorphology and 2	?	?
Are flooding/water & foul drainage issues addressed including in relation to ACC & Scottish Water infrastructure? (Question added at the request of SEPA)	?	?
To what extent will the site impact the ecological status of water bodies? (Question added at the request of NatureScot) S-M-L	√ S-M-L	√ S-M-L
Soil		
 Protect and enhance soil quality and prevent any further degradation of Is the site prime agricultural land? 	0	0
soils. Does the site include carbon-rich soil?	0	0
Reduce the amount of Vacant and To what extent will the site impact soil quality? (Question added at the first of the site impact soil quality?)	√/x	√/×
Beachfront boundary area. request of NatureScot)	•/x	•/*
Air		
Is the site easily accessible by the core path network, and provide access to settlements and services?	✓ S-M-L	✓ S-M-L
Maintain and improve air quality and Maintain and improve air quality and	√ S-M-L	√ S-M-L
reduce emissions of key pollutants. Would development on the site contribute to higher traffic flows along transport routes or at key junctions where levels of air pollution are close to	√ S-M-L	√ S-M-L
current limit values Comparison Does the development reduce the need to travel? (Question added at the request of SEPA) S-M-L	√ S-M-L	√ S-M-L
Climatic Factors		
Does the location of the development reduce the need to travel?	√ SM I	√ SM I
Is the site at risk of increased flooding or instability as a result of climate ?	<mark>S-M-L</mark> ?	<mark>S-M-L</mark> ?
	، M-L	، M-L
с ,	✓	✓
 Reduce emissions of greenhouses in line with Scottish Government targets. Does the framework promote the efficient use of energy? 	S-M-L	S-M-L
 Reduce emissions of greenhouses in line with Scottish Government targets. Promote active travel and sustainable Change? Does the framework promote the efficient use of energy? M-L S-M-L 	?	? ✓
 Reduce emissions of greenhouses in line with Scottish Government targets. Promote active travel and sustainable transport. Change? Does the framework promote the efficient use of energy? M-L S-M-L Does the framework promote the efficient use of water? 	\checkmark	
 Reduce emissions of greenhouses in line with Scottish Government targets. Promote active travel and sustainable transport. Change? Does the framework promote the efficient use of energy? Does the framework promote the efficient use of water? Promote active travel and sustainable transport. 	✓ S-M-L	S-M-L
 Reduce emissions of greenhouses in line with Scottish Government targets. Promote active travel and sustainable transport. Reduce risks from climate change problems in the Aberdeen City Council area include increased flood risk of Change? Change? Does the framework promote the efficient use of energy? Does the framework promote the efficient use of water? Does the framework increase the resilience of people, material assets and the natural environment Does the framework include mitigation and adaptation measures in light of a 	S-M-L	S-M-L
 Reduce emissions of greenhouses in line with Scottish Government targets. Promote active travel and sustainable transport. Reduce risks from climate change problems in the Aberdeen City Council Change? Change? Change? Does the framework promote the efficient use of energy? Does the framework promote the efficient use of water? Does the framework increase the resilience of people, material assets and the natural environment 		

	To what extent will the site promote nature-based solution provision? (Question added at the request of NatureScot)	√ S-M-L	√ S-M-L	√ S-M-L
	Does the framework increase the resilience of people, infrastructure and the natural environment to the impacts of climate change (including flood risk, extreme weather, heat and cold)? (Question added at the request of SEPA)	√/× S-M-L	√/× S-M-L	√/× S-M-L
Cultural Heritage				
Durate at a surger up and an house the	Would development impact the integrity of sites, monuments, buildings or areas designated for their cultural heritage value?	√ S-M-L	√ S-M-L	√ ⁄× S-M-L
Protect, conserve and enhance the historic environment.	Would development impact the setting of sites, monuments, buildings or areas designated for their cultural heritage value?	о	o	0
	Would development within the site impact archaeological remains?	?	?	?
Landscape				
	To what extent will the site impact landscape designations? (Question amended at the request of NatureScot)	о	o	О
Protect and enhance landscape character, local distinctiveness, visual amenity and promote access to the wider environment.	To what extent will the site impact settlement setting and identity? (Question amended at the request of NatureScot)	√/x	√/×	√/x
	To what extent will the site impact visual amenity and key views (Question amended at request of NatureScot)	√/×	√/×	√/x
	To what extent will the site impact landscape character? (Question added at the request of NatureScot)		√/×	√/×
Material Assets				
Promote the sustainable use of community assets, natural resources	Is the site located close to existing transport, services, water and energy infrastructure?	√ S-M-L	√ S-M-L	√ S-M-L
and material assets.Promote quality urban design.	Is the site located to make the best use of shelter, solar gain and reduce the need to travel?	Imp	Imp	Imp
 Promote sustainable waste management and the circular economy 	Does the site reduce waste generation and promote waste recovery, recycling and composting?	√/×	√/×	√/×

81

Section 6.2 provides a summary of the key findings of the assessment which can be found in Appendix E of this report. Section 6.3 describes the assessment of the potential cumulative effect on the environment of the Beachfront Development Framework as a whole.

Whilst the assessment of the draft Beachfront Development Framework has not specifically addressed individual projects in detail, the assessment was informed by consideration of the potential key effects of a project. Where an individual project was identified as having particularly significant effects, alternatives and/ or mitigation and enhancement have been suggested.

6.2 Summary of Findings

As noted within section 4.10 of this report, the initial option scoring process found that all options received high ratings and all could easily be considered successful, high-quality, potential design solutions. Similarly, Table 6.-1 indicates all three Development Options again scored similarly, and there were only minor differences between the three Development Options. Overall, the three Development Options are generally positive. The environmental effects which stood out relate to Population and Human Health, Climatic Factors and Cultural Heritage, and are discussed below.

Population & Human Health

The Beachfront Development Framework area is located partly within Seaton (north) which is one of the most deprived 20% data zones in Aberdeen City. The southern area of the Development Framework is located in Hanover South. As such the Framework has the potential to meet all SEA objectives.

The Development Framework proposals will provide potential long-term significant economic benefits for the area that will arise through the provision of high-quality amenities and relocation of the Football stadium within 500m of the existing stadium retaining economic activity within the city centre./ local area.

The development principle is to develop a world-class sport, leisure and tourism destination which would revitalise the Beachfront area and reconnect it to the city centre.

The health benefits associated with physical activity are actively supported by the Beachfront Development Framework.

Other benefits as a result of the Preferred Option potentially include the provision of employment as a result of the new build leisure facility ice area and stadium alongside the refurbishment of the Beach Ballroom public realm elements, integrated transport links and environmental improvements. This will ensure the key elements of a sustainable community are looked at holistically.

The proposed new stadium would provide a new home for Aberdeen Football Club. The stadium would seek to support the local, national, and international strategies that the Aberdeen FC Trust are involved with that address the importance of increasing physical activity, and tackling issues such as poverty, inequalities, and wellbeing.

The Beachfront Development Framework also locates the 16,000 seater stadium close to its original Pittodrie home and maintains its heritage with the local community and also continues to benefit city centre businesses.

Under Alternative Option A, the refurbishment of the ice arena is based on a light touch refresh focusing on redecoration, replacement of seats, fixtures and fittings, and dealing with outstanding maintenance to the building fabric and building services installations. This will not, therefore, be a new facility as compared to the Preferred Option. The refurbishment of the existing leisure centre is based on work already undertaken by Sport Aberdeen with the aim of improving the condition and utilisation of the facility, to increase participation, provide new revenue streams and to create a destination venue. This will not, therefore, be a new facility as compared to the Preferred Option.

Benefits will potentially include the provision of employment and community facilities, integrated transport links and environmental improvements. Nevertheless, refurbishment as opposed to the new build associated with the Preferred Option potentially reduces employment opportunities, however Alternative Option B retains the new build stadium at the Beachfront.

Alternative Option B removes the new football stadium and could see Aberdeen FC move to a new stadium elsewhere within the city. This could have detrimental socio/economic effect(s) on city centre businesses and the local community, including employment opportunities.

Climatic Factors

The minor differences relating to Climatic Factors revolve around three question

- 1. Does the framework promote the efficient use of energy?
- 2. Does the framework increase the resilience of people, material assets and the natural environment?
- 3. Does the framework include mitigation and adaptation measures in light of a changing climate and local environment?

With reference to **Question 1**, the Preferred Option scored highest. The Beachfront Development Framework assumes that the existing leisure centre and ice arena are demolished and would be replaced with a new facility that integrates leisure centre, ice arena, and football stadium uses as part of the development. Opportunities for renewable energy provision and low/zero carbon technologies are being explored during the development of the Beachfront Development Framework. This may include small-scale renewables/microgeneration and the identification of sites for local energy generation.

Alternative Option A includes the restoration of the Beach Ballroom, the leisure centre and the ice arena. The refurbishment of the ice arena is based on a light touch refresh focusing on redecoration, replacement of seats, fixtures and fittings, and dealing with outstanding maintenance to the building fabric and building services installations. The proposals do not seek to link the existing leisure centre and ice arena to share reception, management offices and food & beverage provision.

The refurbishment of the existing leisure centre is based on work already undertaken by Sport Aberdeen with the aim of improving the condition and utilisation of the facility, to increase participation, provide new revenue streams and to create a destination venue. The restoration proposals could be less energy efficient than new build due to existing constraints within the buildings.

Alternative Option B assumes that the existing leisure centre and ice arena are demolished and would be replaced with a new facility that integrates leisure centre and ice arena uses as part of the development. The removal of the stadium from this option potentially reduces energy efficiency opportunities.

With reference to **Question 2**, it is acknowledged that the energy strategy still requires to be fully developed, but it may include an Energy Centre potentially located at the Leisure Centre to serve the entire development. Architectural interventions are proposed to adopt some Passivhaus-style construction principles such as super-insulated building envelopes, high-performance glazing and mechanical ventilation with heat recovery. They will also potentially feature the use of smart controls, an off-site sourced 'green electricity' supply and some on-site renewable technologies including

Photovoltaic Panels with associated battery storage. Distribution of heating & cooling is potentially via an Ambient Loop system with water-to-water heat pumps connected to terminal units throughout. For added resilience backup heating & power could be sourced from the existing Aberdeen Heat & Power District Heating System which it is anticipated will switch to a green hydrogen fuel source in the future.

Alternative Options A and B scored slightly lower than the Preferred Option. The refurbishment of the Beach Ballroom, leisure facilities and ice arena and the inclusion of a new stadium under Alternative Option A and new build elements under Option B (but excluding the stadium), could include mitigation and adaptation measures, however, the nature of the proposals mean opportunities will likely be less than for the Preferred Option.

With reference to **Question 3**, the Beachfront Development Framework sets out the approach, pathway, and actions towards meeting NetZero and climate-resilient assets and operations by 2045. As such, energy-efficient designs will be incorporated alongside renewable and low-carbon energy sources, with consideration provided on how further decarbonisation could be achieved in the future.

Given the scale and importance of the facilities planned within the development, the energy demands could be significant and critical to function. Consideration shall therefore be given to added robustness and security of energy supplies as advocated by the Preferred Option.

The refurbishment of the Beach Ballroom, leisure facilities and ice arena and the inclusion of a new stadium associated with Alternative Option A could include mitigation and adaptation measures in light of a changing climate and local environment, however, the proposals mean opportunities for improvement will likely be similar to the current situation.

The refurbishment of the ice arena is based on a light touch refresh focusing on redecoration, replacement of seats, fixtures and fittings, and dealing with outstanding maintenance to the building fabric and building services installations. This will not, therefore, be a new facility as compared to the Preferred Option and is potentially unlikely to include the most effective energy-efficient technology capable of mitigating GHG emissions.

The refurbishment of the existing leisure centre is based on work already undertaken by Sport Aberdeen with the aim of improving the condition and utilisation of the facility, to increase participation, provide new revenue streams and to create a destination venue. This will not, therefore, be a new facility as compared to the Preferred Option, and will potentially be unlikely to include the most effective energy-efficient technology capable of mitigating GHG emissions. There is scope to include effective energy-efficient technology capable of mitigating GHG emissions into the design of the new stadium.

Alternative Option B involves the refurbishment of the Beach Ballroom, new leisure facilities and ice arena and excludes the new stadium, and similar to Alternative Option A mitigation and adaptation opportunities could potentially be lower than for the Preferred Option.

Cultural Heritage

With reference to cultural heritage, the question was "*Would development impact on the integrity of sites, monuments, buildings or areas designated for their cultural heritage value*?" Again, the differences were minimal, it was only the removal of the stadium option which created a negative effect. Removal of the proposed stadium from the Beachfront area could result in the relocation of Aberdeen FC elsewhere within the city. Importantly the club could lose an important part of its heritage i.e., the close connection it has with the local area and break a longstanding tie with the local community. Pittodrie Stadium was first used in 1899 and, from 1903, has been the home of Aberdeen FC. It could also have a detrimental economic impact on city centre businesses and local employment opportunities should the club move elsewhere.

6.3 Cumulative Effects

A key requirement of the Environmental Assessment (Scotland) Act (2005) is the consideration of potential cumulative, secondary and synergistic environmental effects of draft plans. Previous sections of this report have described the potential environmental effects of individual elements of the draft Beachfront Development Framework. This section takes a view on the plan as a whole and summarises its key cumulative effects on the environment.

In SEA, cumulative effects assessment should consider the effects of the draft plan in conjunction with other relevant plans outwith the geographical and temporal scope of the plan in question. In the context of the draft Beachfront Development Framework, the majority of its effects are likely to be 'internal', that is they are likely to arise from the various elements of the draft Beachfront Development Framework itself rather than from the Beachfront Development Framework in combination with other plans and programmes (assuming that the City Centre and any subsequent revisions to the Local Plan are treated as all part of a single overall strategy for the area – if they extend or diverge from the contents of the draft Beachfront Development Framework clearly there is the potential for additional cumulative effects from these various plans in combination). Once formally adopted, the individual Beachfront Development Framework projects will be subject to the planning application process through Aberdeen City Council, informed by the land use allocations in the current and/ or future Aberdeen City Council Local Plans. As part of this process, it is recommended that the cumulative effects of the project in question are considered in combination with other Beachfront Development Framework projects, on a case by case basis and in the context of the wider Aberdeen area, by the Aberdeen City Council Planning Department.

The cumulative effects of the draft Beachfront Development Framework have been identified based on:

- Similar environmental effects occurring repeatedly from different activities within the draft Beachfront Development Framework which individually may not be significant but are when in combination or the significance is increased by them occurring repeatedly
- Individual receptors (e.g., water quality, a particular type of habitat etc) are being impacted repeatedly by potentially different effects from Beachfront Development Framework activities

Similar environmental effects occurring repeatedly

The following is a list of environmental effects that have been identified as occurring repeatedly:

Positive cumulative effects

- Potential for tree planting under Beachfront Development Framework activities has the potential to contribute to enhancing natural resources for carbon capture.
- Potential for habitat creation and enhancement.
- Provision of employment and community facilities, integrated transport links, environmental improvements, and contributions to the regeneration including refurbishment of the Beach Ballroom.
- Aberdeen Beachfront area under the Beachfront Development Framework is likely to result in improvements to the general quality of surroundings.
- An energy strategy for the proposals is being progressed but still requires to be fully developed.
- Energy-efficient designs will be incorporated alongside renewable and low-carbon energy sources, with consideration provided on how further decarbonisation could be achieved in the future.
- Given the scale and importance of the facilities planned within the development, the energy demands will be significant and critical to function. Consideration should therefore be given to added robustness and security of energy supplies so the energy centre solution should incorporate a degree of redundancy and backup.

• The Development Framework proposal will have a positive impact by providing new green networks, particularly SUDs which will benefit biodiversity.

Negative cumulative effects

- Increased jobs, recreational/leisure facilities, commercial, football stadium etc. has the potential to result in increased GHG emissions (both through increased car use and energy use).
- The preference for site development on or in close proximity to the coast has the potential to increase vulnerability to climate changes including flooding, accelerated coastal erosion and sea level rise.
- Many Beachfront Development Framework activities, during construction and operational phases, have the potential to cause an increase in diffuse source water pollution.
- Beachfront Development Framework projects have the potential to result in soil sealing/ impermeable ground cover and as a result have the potential to increase flood risk and water pollution.
- Coastal developments may cause significant visual impact.
- Beachfront Development Framework activities have the potential to result in disturbance impacts on biodiversity during both the construction and operational phases.
- Beachfront Development Framework development is likely to increase the production of waste.

Individual receptors being affected repeatedly by several Beachfront Development activities

Many of the potential environmental effects of the Beachfront Development Framework affect the same type of receptor (e.g., water quality, air quality, historic environment features etc.) or the same receptor in a particular location (e.g., woodland). Some key receptors, identified as being subjected to repeated effects of the Beachfront Development Framework are outlined below:

People: current and potential future visitors have been consistently highlighted as receptors of potential positive and negative effects e.g., improved amenity value of open space and recreational facilities. Tendency to site development on or in proximity to the coast is likely to increase people and development vulnerability to flood risk. Potential increases in water and air pollution and nuisance impacts such as noise and vibration may all negatively affect health.

Climate change contribution: the proposed Beachfront Development Plan development seeks to minimise and mitigate short, medium and long-term increases in GHG emissions through an energy strategy, energy efficiency and actively promoting sustainable alternatives to private car use where practicable. The energy strategy being prepared for the area could provide significant benefits in regard to energy efficiency and reduction in CO_2 emissions

Water quality: Beachfront Development Framework activities have the potential to cause diffuse source water pollution during both the construction and operational phases. This could potentially negatively affect water quality, in particular bathing and coastal water quality which will require assessment prior to development.

Soil: much of the proposed Beachfront Development Framework development has the potential to increase soil sealing, with potential areas of contaminated land as a result of historic industrial works on the edge of the Beachfront area.

Landscape: potential for both positive and negative effects. Proposed development along the coast is likely to be detrimental to the coastal landscape. Sympathetic design, tree planting and other activities improving the public realm are likely to help minimise negative environmental effects.

Biodiversity: The Beachfront Development Framework could negatively affect biodiversity through land-take, water pollution, disturbance and trampling impacts. However, habitat creation and enhancement are at the core of the Beachfront Development Framework.

Material Assets: preference for siting development on the coast is likely to increase the vulnerability of new recreational facilities, stadium, boardwalk, slipway etc. to flood risk and climate change impacts including coastal erosion and sea level rise. Development activity under the Beachfront Development Framework is likely to result in increases in waste generation. There is potential for significant positive effects through increased uptake of sustainable waste management practices/ circular economy developed through advice/ guidance in awareness-raising programmes.

7 IMPLEMENTATION AND MONITORING THE BEACHFRONT DEVELOPMENT FRAMEWORK

7.1 **Proposals for monitoring**

Monitoring the significant environmental effects of implementing the Beachfront Development Framework is a fundamental part of the SEA process. The SEA Act require the significant environmental effects of a plan or programme (and in the case of the Act, a strategy) to be monitored and that the Environment Report (this report) should include a description of measures 'envisaged' for monitoring the implementation of the plan. This may help identify opportunities for subsequent revisions of the Beachfront Development Framework to contribute further to the environmental protection and enhancement of the Aberdeen beachfront area.

It is important to monitor performance against the SEA objectives, which have formed the core of this assessment, and identify where they are being achieved and where they are not so that appropriate remedial action can be taken. Table 7-1 below summarises the key significant environmental effects of the draft Beachfront Development Framework and proposed indicators for monitoring them.

As noted previously, assessment, mitigation/ enhancement recommendations and **monitoring proposals** outlined in this report will need to be re-visited after the consultation has been undertaken on the draft Beachfront Development Framework and this Environmental Report to take account of any responses and significant changes that may be made to the plan. In addition, a comprehensive framework for monitoring the significant environmental effects of the Beachfront Development Framework will need to be developed and submitted to the Scottish Government SEA Gateway within a statutory period after the Beachfront Development Framework is adopted. As such, the monitoring proposals outlined in Table 7-1 are only a starting point. They are likely to require significant refinement and update once final changes to the Beachfront Development Framework have been made.

Where possible, monitoring of significant environmental effects for SEA should be integrated with performance monitoring of the Beachfront Development Framework and any existing monitoring regimes e.g., water quality, public health and well-being, condition of SPAs and SACs etc. As discussed previously, the monitoring currently proposed in the draft Beachfront Development Framework is not adequate to monitor progress towards the environmental goals it enshrines in its vision and some of the objectives. We would recommend that Aberdeen City Council incorporate some environmental monitoring as part of its overall monitoring of output measures. Examples of monitoring for environmental performance might include improvements in the condition of Sensitive Landscape/seascape areas, UK Biodiversity Action Plan (BAP) and the North East Scotland Local Biodiversity Action Plan NESLBAP habitats brought back into favourable condition, the number of developers endorsing sustainable construction/ demolition guidance etc.

Table 7-1 identifies several different types of potential indicators including contextual, outcome and significant effects indicators. Further information on these types of indicators is provided below.

- **Contextual indicators** monitor the background against which the Beachfront Development Framework will operate once adopted. Examples of information collected under context indicators may include mortality rates, air quality and area of available open space.
- **Output indicators** monitor specific actions arising from the plan such as the number of flood defence schemes put in place or traffic management plans produced.
- **Outcome or significant effects indicators** facilitate an understanding of the actual nature of predicted effects. For example, monitoring the health impacts of increased traffic-related air

pollution in Aberdeen City Centre might consider the additional number of asthma cases within the population of Aberdeen.

Robertson Construction Group Ltd Aberdeen Beachfront Development Framework; Strategic Environmental Assessment (Environmental Report)

Table 7-1: Monitoring Plan

Key significant environmental effects	Potential monitoring indicators	Data Source	Who is responsible	Timescale	What remedial actions could be taken?
		Population and human health			
Recreation and access effects Increase in size of population, potentially over a short period of time, may increase pressure on existing recreational facilities, open space and other green infrastructure.	 Impact on Open Space Provision Open space quality (Improve or degradation) 	Aberdeen City Council Open Space Strategy and Greenspace Network reviews	Aberdeen City Council Environment Team	Open Space Strategy Annual Monitoring	Review of supplementary guidance on open space and greenspace network
Nuisance effects Significant short-term nuisance effects may arise during construction phases in relation to noise, dust, vibration and other disruption impacts.	 Number of complaints for nuisance (within Aberdeen beachfront area per 6 months) 	Aberdeen City Council Environmental Health complaint procedure	Environmental Health	Annually	Responding to complaints
		Biodiversity, flora and fauna	•	·	•
Effects on various biodiversity receptors are likely as a result of the construction and operational impacts of development including disturbance, trampling, vegetation removal, and land take.	 Impacts on the status of National and/or International natural heritage designations. Impacts on local natural heritage designations. Impacts on the wider biodiversity, flora and fauna. 	NatureScot NatureScot data services Aberdeen City Council 'Biodiversity Duty Report'	Aberdeen City Council Environment Team, NatureScot, North East Scotland Biodiversity Partnership	Annually Every 3 years	Review of Supplementary Guidance on Natural Heritage
		Water	•		
Water quality and pollution effects Increased diffuse source water pollution including contaminated run-off from expanded urban areas and accidental discharges from beachfront facilities can potentially negatively affect water quality, particularly coastal and bathing.	 Impact on water quality Impact on the morphology of watercourses 	SEPA – Water Classification Hub	SEPA and Aberdeen City Council	Annually	Review supplementary guidance on flooding and drainage
Flood risk Proposed development along the coastal strip, either in or in close proximity to the coastal flood risk zones, is likely to increase vulnerability to flooding.	 Impact on the number of flood events 	Aberdeen City Council Flooding Team Flood monitoring data from SEPA <u>Scottish Environment Protection</u> <u>Agency</u> (SEPA)	SEPA and Aberdeen City Council	As and when flood risk and pollution increase	Review supplementary guidance on flooding and drainage Apply policy on water efficiency
		Air	I		
Air quality and emissions to air Proposed development under the Aberdeen Beachfront Development Framework has the potential to increase traffic in the area during construction (delivery vehicles/ heavy plant,	Effect on Air Quality Management Areas	Aberdeen City Council ' <u>Local Air</u> Quality Monitoring Progress Reports'	Environmental Health	As part of the Air Quality Action Plan or as and when is necessary	Review Supplementary Guidance on Air Quality
increased congestion due to temporary traffic lights etc) and operation (increased leisure traffic, delivery traffic, fan traffic etc) and as a result, increased emissions of traffic related air pollutants, including PM_{10} and NO _x , are likely.		Monitoring of Active Travel Local Transport Strategy Monitoring of modal shift in transport modes	Transportation	Annually Annual Progress Reports on the LTS	Review Local Transport Strategy

Key significant environmental effects	Potential monitoring indicators	Data Source	Who is responsible	Timescale
		Soil		
Contaminated Land With reference to the draft Engineering Site Appraisal prepared by Goodson Associates, the site was previously used as a rifle range and rocket battery. In addition, there is made ground and ashy waste, and a gravel pit. The site is located on the edge of an area which has former industrial uses including chemical, gas, iron, rope and granite works. All of these have the potential to leach contaminants into the surrounding areas. Without knowing how contaminated material, if any, was dealt with when the site was first developed, it is not possible to discount the possibility that contaminated material will be encountered on site. The level of potential soil sealing/ increased	Remediation of contaminated land Reductions in soil health/ quality.	Aberdeen City Council Contaminated Land Unit Aberdeen City Council - <u>Aberdeen</u> <u>Adapts Climate Adaptation</u> <u>Framework</u>	Contaminated Land Unit, SEPA	As and when
impermeable ground cover has the potential to increase surface run-off potential and the associated risk of existing and planned material assets flooding.		Climatic factors		
GHG emissions	Increase/decrease in Greenhouse Gas	Aberdeen City Council – Submission	Aberdeen City Council	Annually
Increased numbers of visitors and businesses in the Aberdeen beachfront area can potentially result in significant increases in GHG emissions, mainly from the transport and domestic sectors.	Emissions Energy Efficiency	Aberdeen City Council – Submission to Scottish Public Bodies Climate Change Reporting. The Climate Change Report uses BEIS UK local authority emissions data sets https://www.gov.uk/government/colle ctions/uk-local-authority-and- regional-greenhouse-gas-emissions- national-statistics Net Zero Aberdeen Routemap	Aberdeen City Council	Annually
Increased numbers of visitors, businesses and commercial properties in the Aberdeen beachfront area can potentially result in increased energy consumption.	Energy Enciency	Net Zero Aberdeen Koutemap	Environment Team	As upualed
Climate change adaptation and vulnerability The proposed development along the coastal strip has the potential to increase vulnerability to local climate change impacts including flooding, accelerated coastal erosion and sea level rise.	Priorities, goals and action areas for city resilience.	Aberdeen City Council - <u>Aberdeen</u> <u>Adapts Climate Adaptation</u> <u>Framework</u>	Aberdeen Adapts team	Annually

	What remedial actions could be taken?
en	Prepare or revise supplementary guidance.
	Prepare or revise supplementary guidance.
	Prepare or revise supplementary guidance.
	Prepare or revise supplementary guidance.

Robertson Construction Group Ltd Aberdeen Beachfront Development Framework; Strategic Environmental Assessment (Environmental Report)

Key significant environmental effects	Potential monitoring indicators	Data Source	Who is responsible	Timescale
		Material Ass	ets	
Existing and planned utilities, infrastructure, transport, etc.	 Number of new recreational/ commercial developments incorporating SuDS within Aberdeen beachfront area Information on the City's larger developments 	Monitoring of planning applications Aberdeen Development Activity Report	Development Management	Annually
Waste and resource management Increased numbers of visitors and businesses in the Aberdeen beachfront area has the potential to cause a significant increase in production of waste, both during construction and operational phases.	 Percentage of Municipal Solid Waste recycled or composted (within Aberdeen beachfront area per year) Percentage of Municipal Soil Waste sent to landfill Number of developers endorsing sustainable construction using Construction Environmental Management Plans (CEMPs) 	Aberdeen City Council Waste and Recycling Team- Monitoring of Waste	Development Management, Waste Team, SEPA	Annually
		Cultural Heritage		
Nationally, regionally and locally important historic environment features Potentially insensitive development under the Development Framework, including inappropriate design and/ or siting of projects, may negatively affect the site and setting of historic environment features.	historic environment features within Aberdeen beachfront areaIntegrity of site and setting of non-statutory	Masterplanning, Design and Conservation (MDC) team, Historic Environment Scotland	Aberdeenshire Council Archaeology Service, Historic Environment Scotland	Annually
		Landscape	1	1
Landscape Character Types Potential development activity under the Beachfront Development Framework, in particular recreational expansion along the coastal strip, has the potential to negatively affect the Coastal Landscape.	Condition of sensitive landscape/seascape within Aberdeen beachfront area.	Development Management and developers	Development Management and developers	Biannually

What remedial actions could be taken?
Prepare or revise supplementary guidance.
Prepare or revise supplementary guidance.
Prepare or revise supplementary guidance.
Review land allocations and/or prepare supplementary guidance

8 CONCLUSIONS AND NEXT STEPS

This SEA has highlighted that the draft Beachfront Development Framework may cause a number of significant positive and negative environmental effects. Where relevant, the SEA has made a number of recommendations for mitigating negative and enhancing positive environmental effects.

The difference the SEA has made

Whilst the Beachfront Development Framework's plan-development process was not explicitly subject to SEA from the outset, a number of SEA-type activities were undertaken by Aberdeen City Council and their consultants during the preparation of the Beachfront Development Framework and the Masterplan which informed it including community consultation and engagement, and undertaking initial scoring of the three masterplan options and three development options. These activities played a key role in informing the early development of the Beachfront Development Framework in advance of the formal SEA process.

Whilst this SEA has assessed a draft Beachfront Development Framework which was essentially a finalised document, consultation with internal Aberdeen City Council stakeholders during the latter stages of the SEA process identified an alternative approach whereby the SEA could play a key role in informing the implementation and indeed the future development of the Beachfront Development Framework. As documented in Sections 4, 5 and 6, the broadly socio-economic remit has historically driven an approach to regeneration that has attempted to maximise environmental opportunities and, in some instances, may contribute to conflicts with environmental protection objectives. Clearly, there will still be instances where the Aberdeen City Council's socio-economic objectives drive proposals that may conflict with environmental objectives and are likely to give rise to adverse environmental effects. In these circumstances, Aberdeen City Council will need to make the case to key stakeholders (including the public) for the socio-economic benefit outweighing the environmental impact.

As documented in the Environmental Report, the current environmental baseline and key trends in the Aberdeen Beachfront area indicate that in the absence of targeted action, certain aspects of the environment are likely to suffer from continued decline. This is particularly true of issues related to key material assets issues such as flood defence provision and quality of the built environment, environmental determinants of health such as open space provision and some issues related to biodiversity and conservation management. As described above, a key outcome of the SEA process has been Aberdeen City Council's recognition of an emergent alternative approach to regeneration combining the socio-economic benefits of the existing draft Beachfront Development Framework with the environmental protection and mitigation/enhancement benefits. As documented in Chapter 7, proposed measures for monitoring the significant effects of the Beachfront Development Framework have been developed. These measures should capture key emerging environmental issues related to Beachfront Development Framework implementation and inform Aberdeen City Council, stakeholders and the public of the Beachfront Development Frameworks' overall environmental performance.

Problems encountered during the SEA

As a result of the available timescales and scope of this SEA project, there are several gaps in the environmental baseline, particularly in relation to coastal erosion. These will require to be addressed in the future to support monitoring of the Beachfront Development Framework's significant environmental effects and any future assessments.

Key next steps

The key next steps and outputs should be as follows:

- Submission of the Environmental Report and draft Aberdeen Beachfront Development Framework to the Scottish Government SEA Gateway marking the beginning of the formal consultation period.
- Formal consultation on the draft Aberdeen Beachfront Development Framework and this Environmental Report.
- Amendments to the draft Aberdeen Beachfront Development Framework in light of consultation responses.
- Assessment of any significant changes, leading to either revisions to the Environmental Report, or an addendum to the Environmental Report, if changes are minor.
- Adoption of the final Aberdeen Beachfront Development Framework.
- Adoption Statement prepared by Aberdeen City Council to notify the public that the Aberdeen Beachfront Development Framework has been adopted. This should include information on the main issues raised during consultation and how these were taken into account in developing the Beachfront Development Framework and other information required as part of the SEA.
- Ongoing monitoring and review.

APPENDICES

A TAKING ACCOUNT OF RESPONSES TO THE SCOPING CONSULTATION

Beachfront Development Framework SEA – Responses from Consultation Authorities on the Scoping Report.			
Summary of responses to SR and recommended changes for SEA from the Consultation Authorities	How response has been accounted for		
Historic Environment Scotland			
Relationship with other Plans, Programmes and Strategies			
We welcome the review of the relevant plans, programmes and strategies listed in Table 3.1. As you will be aware from this review, the Historic Environment Policy for Scotland sets out the policies and principles that should be considered in decision-making that affect the historic environment. Of particular relevance to the creation of development frameworks is HEP3 which states that " <i>Plans, programmes, policies and strategies, and the allocation of resources, should be approached in a way that protects and promotes the historic environment.</i> " In light of this, we welcome the recognition of the importance of the Category B listed Beach Ballroom within the development framework area and the key role that this asset can play in plans for the site.	Noted		
Environmental Baseline			
Locational data and information on historic environment assets such as listed buildings, scheduled monuments, gardens and designed landscapes, historic battlefields and historic marine protected areas can be found at the Historic Environment Portal. We also welcome that Aberdeen City Council Historic Environment Record has been reviewed.	Noted Review Historic Environment Portal		
Scope and Methodology Proposed for the Strategic Environmental Assessment	it		
We note that a standard matrix approach to the assessment is to be adopted. This includes SEA Objectives and SEA Questions and we can confirm that we consider these appropriate for testing the component parts of the framework. We particularly welcome the recognition that proposals have the potential to have both positive and negative effects on historic environment assets (for example potentially negative effects on the setting of sites and potentially positive effects from reuse, promotion or access). We also welcome that the environmental report will set out reasonable alternatives to the proposed actions and types of projects.	Noted		

Mitigation and Monitoring		
We welcome that the environmental report will set out both mitigation and enhancement for identified significant effects. Monitoring requirements will largely be driven by the type of significant effects identified and we look forward to further detail on this within the environmental report.	Agreed Refer to Chapter 7	
Next Steps		
We welcome that the Environmental Report will be out for consultation for a minimum period of 6 weeks alongside a draft Framework. It will be beneficial for the Environmental Report to clearly set out where the assessment has informed and influenced the draft Framework that is out for consultation alongside the report	Noted	
Scottish Environmental Protection Agency (SEPA)		
Relationship with other Plans, Policies and Strategies (PPS)		
Some of the PPS included have themselves been subject to SEA. Where this is the case you may find it useful to prepare a summary of the key SEA findings that may be relevant to the Aberdeen Beachfront Framework. This may assist you with data sources and environmental baseline information and also ensure the current SEA picks up environmental issues or mitigation actions which may have been identified elsewhere.	Noted, this has not been possible within the timescale being worked to in preparing the Beachfront Development Framework and SEA	
Environmental problems		
The Scottish Government SEA Guidance provides guidance to Responsible Authorities about the type of information that is expected to be provided at each SEA stage; we have also produced SEA topic guidance for those issues which fall within our remit.	Noted	
We consider that the environmental problems described generally highlight the main issues of relevance for the SEA topics within our remit subject to the topic specific comments below.		
Scoping in/out of environmental topics		
We agree that in this instance all environmental topics should be scoped into the assessment.	Noted	

Aberdeen Beachfront Development Framework; Strategic Environmental Assessment (Environmental Report)

Mathedalam, far accessing an incompanial effects		
Methodology for assessing environmental effects		
We support the use of SEA objectives as assessment tools as they allow a systematic, rigorous and consistent framework with which to assess environmental effects.	Noted Refer to the Environmental Appraisal Report (Appendix C) and	
 4.2 When it comes to setting out the results of the assessment in the Environmental Report please provide enough information to clearly justify the reasons for each of the assessments presented. It would also be helpful to set out assumptions that are made during the assessment and difficulties and limitations encountered. 	Appendix E	
Mitigation and enhancement		
We encourage you to use the assessment as a way to improve the environmental performance of individual aspects of the final option; hence we support proposals for enhancement of positive effects as well as mitigation of negative effects. It is useful to show the link between potential effects and proposed mitigation/enhancement measures in the assessment framework. We encourage you to be very clear in the Environmental Report about mitigation measures which are proposed as a result of the assessment. These should follow the mitigation hierarchy (avoid, reduce, remedy or compensate). One of the most important ways to mitigate significant environmental effects identified through the assessment is to make changes to the plan itself so that significant effects are avoided. The Environmental Report should therefore identify any changes made to the plan as a result of the SEA.	Refer to the Chapter 7 <i>Implementation and Monitoring the Beachfront Development Framework</i> (Table 7-1 Monitoring Plan) and Appendix E	
Topic Specific Comments		
Energy		
Table 3-1: Name of Plan, Programme, Strategy or Environmental ProtectionStrategy	Noted and Included	
We recommend that the reference to the Scottish Energy Strategy (2017) also includes Scottish Energy Strategy Position Statement (2021) which sets out key priorities for the short to medium-term in anticipation of the forthcoming second Scottish Energy Strategy due for publication in the coming year.		

 We also recommend the inclusion of the Heat in Buildings Strategy (2021) which focuses on improving the energy efficiency of Scotland's existing buildings and supporting the deployment of low-carbon heat options including Local Heat and Energy Efficiency Strategies (LHEES) which be highly influential on the energy and heat specific objectives of the proposed framework. Table 3-8: Data Sources for Providing Baseline Environmental Assessment: We note the SEA scoping document does not reference Local Heat and Energy Efficiency Strategies (LHEES). LHEES Strategies will set out the long-term plan for decarbonising heat in buildings and improving their energy efficiency across an entire local authority area. For each local authority area, the Strategies will draw on the standardised methodology to: set out how each segment of the building stock needs to change to meet national objectives, including achieving zero greenhouse gas emissions in the building sector, and the removal of poor energy efficiency as a driver of fuel poverty; identify strategic heat decarbonisation zones, and set out the principal measures for reducing buildings emissions within each zone; and prioritise areas for delivery, against national and local priorities. We are aware that the LHEES for the Aberdeen City Council may have not commenced and therefore appreciate the complexity associated with integrating strategies which will contain spatial information and policy guidance into a broader development framework. However as outlined in the Heat in Buildings Artategy (October 2021) LHEES documents will provide a framework for taking an areabased approach to heat and energy efficiency planning and delivery, and their development that the SEA and the Beachfront Framework document is cognisant of LHEES and potential opportunities for identifying and delivering energy efficiency and net zero emission energy generation proposals in the right place and the impacts of this are considered as part o	Noted – for consideration in due course once prepared by Aberdeen City Council.
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Proposed SEA Objectives	
We reiterate the value of the information gathered by the Local Authority as part of the LHEES development process may provide valuable data from which indicators to measure climatic factors can be developed.	Noted – for consideration in due course once prepared by Aberdeen City Council.
Table 5-4: SEA Questions	Noted
We consider the SEA questions to be appropriate with regards to energy considerations, particularly with the inclusion of the question of energy efficiency.	Questions added as suggested
We also encourage the assessment to consider the following questions under the Climatic Factors heading:	
 Does the framework include mitigation and adaptation measures in light of a changing climate and local environment? 	
 Does the framework seek to protect, create or enhance natural resources for carbon capture? 	
 Does the framework increase the resilience of people, infrastructure and the natural environment to the impacts of climate change (including flood risk, extreme weather, heat and cold)? 	
Air	
The baseline information source for air quality is out of date and the most up to	Noted and amended.
date Air Quality Annual Progress Report for Aberdeen City Council should be used, this is the 2021 report. It is important the most up to date report is used in the SEA as it shows the most recent trends in air quality across the city, including any pollution hotspots. In addition, Aberdeen City Council implemented a low- emission zone in May 2022 which has not been considered in the SEA.	Reference to low emission zone included within the Environmental Baseline Appraisal
Table 3-8: Data Sources for Providing Baseline Environmental Assessment	Noted, amended and included with the SEA.
We advise that air quality should be considered under population & human health as an environmental issue given that poor air quality is a public health issue. The Annual Progress reports should be used to obtain relevant data regarding the location and extend of poor air quality across the city. The Scottish Government's Cleaner Air for Scotland 2 strategy provides information on the health impacts of poor air quality.	Cleaner Air for Scotland 2 is in Appendix B
Under SEA topic 'Air' – the environmental issues for this topic are closely related to noise and climate and this is not reflected in the current version of the SEA. We	

recommend that this section is reviewed to reflect the potential impact that the proposed development could have on air quality in terms of increased emissions from both transport and energy sources and whether public exposure to poor air quality may change. This would demonstrate that the council is considering an integrated approach to dealing with environmental issues such as climate change, transport, noise, health, and energy etc.	
Please note that this paragraph should be amended as nitrogen dioxide is NO2. Please amend to remove NO2 (highlighted) - <i>One of the main sources of nitrogen dioxide emissions is road traffic; road traffic is also a contributor to NO2 and PM10 emissions. Sustainable transport will be a key issue for the Beachfront Development Framework.</i>	
Table 4-1: Key Environmental Receptors and SEA Objectives	Noted and Amended. Air quality is also considered under population
We advise that the section is revised to align air, noise and climate objectives as they are related in terms of sources and impacts and should not be considered in isolation. We advise that air quality is also considered under population& human health given it is a public health issue as well as environmental. It should be demonstrated that the Council is taking an integrated approach to addressing environmental issues in this SEA.	and human health (Refer to, for example, Table 1: Key Environmental Receptors and SEA Objectives)
Table 5-4: SEA Questions	Noted
We recommended including 'does the development reduce the need to travel?' as	
a question under 'air.'	Questions added as suggested
o	Questions added as suggested
a question under 'air.'	Questions added as suggested Refer to the Water Section of the Environmental Bassline Appraisal
a question under 'air.' Water	
a question under 'air.' Water Table 3-8: Data Sources for Providing Baseline Environmental Assessment It should be clarified what relevant data is available from Scottish Water and also	Refer to the Water Section of the Environmental Bassline Appraisal

Table 5-4 S Questions added as suggested In relation to impact on existing water and waste water infrastructure, we also encourage the assessment to consider the following question under the water heading:

Aberdeen Beachfront Development Framework; Strategic Environmental Assessment (Environmental Report)

 Are flooding/water & foul drainage issues addressed including in relation to ACC & Scottish Water infrastructure? 		
NatureScot		
Scope of Assessment and Level of Detail		
We are content with the scope and level of detail proposed for the Environmental Report. The scoping report is well-structured and comprehensive.	Noted	
Our specific comments set out in the annex to this letter provide suggested amendments to further strengthen the assessment.		
Methodology		
We note that the use of SEA Objectives and an assessment matrix is proposed to assess for significant environmental effects. This is a tried and tested approach which we support. We have made some recommendations below in relation to the SEA Questions in particular, which could be expanded and reworded to fully assess the potential environmental impacts as well as their significance.	Noted	
The inclusion of enhancement as well as mitigation measures in the assessment matrix is strongly supported as this will allow for the identification of precise enhancement measures such as positive effects for biodiversity in line with the emerging National Planning Framework 4 (NPF4). We consider that the SEA a valuable tool in creating successful, nature-rich places and therefore we would like to see the Beach Development Framework maximise on this opportunity.		
Consultation Period for the Environmental Report		
We note that the proposed consultation period for the Environmental Report is 6 weeks which we are happy with.	Noted	
3.7 Relationship with other Plans, Programmes and Strategies (Table 3.1, page 11)	Noted and added to Appendix B	
We note that the Aberdeen City Local Development Plan 2017 has been included but the 2020 Plan does not appear to be mentioned. We suggest including this.		
We suggest that the SEA also considers the draft NPF4 as it is likely to be in effect when the Framework is adopted and whilst there are likely to be some amendments made to the draft, it is likely that the main themes issues will remain.		

It is also worth considering the emerging Scottish Biodiversity Strategy should this be published as the Framework is being prepared. A consultation document was	
recently published here. Environmental Baseline (p. 14)	
We note that the Development Framework area is of " <i>intrinsic low ecological and nature conservation value</i> " and are pleased to note that the Development Framework is expected to enhance biodiversity, flora and fauna (Section 3.10.3, p. 20-22), including carefully designed planting, and also providing a green network. We look forward to the Environmental Report providing further detail on this and setting out specific biodiversity enhancement opportunities and measures.	Noted and amended where necessary
The consideration of SPAs and SACs in the baseline is welcomed. We suggest amending the title of these from "Natura 2000" sites to 'European sites' to align with the terminology changes following Brexit.	
Under 3.10.5 Water, we welcome the intention to incorporate best management practices for SUDs and green infrastructure and suggest that the SEA is used to identify specific opportunities for precise habitat opportunities as well as wider multifunctional benefits which should directly inform the development framework.	
In relation to 3.10.7 Landscape, we note that longer-term landscape impacts will be determined by the nature, scale and extent of development submitted as part of future planning applications. The intention to create green networks and open spaces is welcomed and should be informed by the environmental assessment, setting out clear requirements for planning applications.	
The consideration of active travel / recreation is welcomed under 3.10.10 Climatic Factors. The intention to explore local energy generation is also welcomed and should be suitably assessed through the SEA, including Landscape & Visual impacts.	
The inclusion of Table 3-8 which details the data sources for the Environmental Baseline is welcomed.	
4.1 SEA Objectives (p. 35)	
We strongly support that the "key receptors and objectives will be considered throughout the SEA process and used to inform the development of the draft Aberdeen Beachfront Framework at key decision making stages".	Noted and amended where necessary

In line with the emerging NPF4, we suggest amending the Objective under Biodiversity, Flora and Fauna to " <i>Protect or conserve and, where possible, restore</i> <i>and enhance biodiversity and valued nature conservation habitats and species</i> ".	
We suggest amending the Objective under Soils also enhance soil quality, for example, " <i>Protect and enhance soil quality…</i> "	
Under Landscape, we suggest amending to consider visual amenity. For example, " <i>Protect and enhance landscape character, local distinctiveness, visual amenity and promote access to the wider environment</i> ".	
Under Water, we suggest that the Objective also protects and enhances the ecological status. This could be added to the first bullet point, for example, " <i>Protect and enhance water quality and ecological status</i> ".	
Under Climatic Factors, we suggest explicitly including active travel. This could be added to the second bullet point, for example, " <i>Promote active travel and sustainable transport</i> ". An indicator for this could be the quality and distance of new active travel routes created.	
In relation to Material Assets and Population and Human Health, it is unclear what is meant by 'Enhancing positive effects" in the Indicator column. We suggest clarifying this and ensuring that there is a specific, measurable indictor. The Indicators could also be more specific in relation to Climatic Factors.	
Scope (p. 37)	
We note that all SEA topics have been scoped into the SEA and we are content with this conclusion.	Previous Table 5-2 replaced by Table 2-5: Staged approach to assessment and includes identification of enhancement opportunities
Under 5.3 'Framework for Assessing the Beach Development Framework' we note that "The Environmental Report will also include measures to avoid, reduce or mitigate any significant	
effects". We consider the SEA process an excellent opportunity to also identify enhancement opportunities and suggest this is reflected throughout the SEA. As such, sub-task 5 in Table 5-2 (p. 38) could be amended to ensure that all enhancement opportunities have been considered.	
SEA Questions (Table 5-4, p. 40-41)	
For ease of use, it could be beneficial to include the SEA Objectives in Table 5-4 alongside the SEA Questions. It could also be useful to consider questions which	Noted

explore the significance of the impact, for example, " <i>To what extent does it site impact?</i> "	Amended/ added as suggested
In Table 5-4: SEA Questions, we suggest adding the following questions:	
Biodiversity, flora and fauna	
To what extent will the site impact wider biodiversity?	
To what extent will the site enhance biodiversity?	
• To what extent will the site promote green network provision and habitat connectivity? (Could replace habitat fragmentation question to shift focus onto delivery of positive outcomes)	
Population and Human Health	
• To what extent will the site impact access to open space? (could replace current question)	
• To what extent will the site connect to the local path network? (could replace current question)	
Water	
• To what extent will the site impact the ecological status of water bodies?	
Soils	
To what extent will the site impact soil quality?	
Climatic Factors	
To what extent will the site promote nature-based solution provision?	
Landscape	
• To what extent will the site impact landscape designations? (could replace current question on designations)	
• To what extent will the site impact settlement setting and identity? (could replace current question on settlement setting)	
To what extent will the site impact on landscape character?	
 To what extent will the site impact on visual amenity and key views? (could replace the current question on key views) 	

Assessment Matrix (Table 5-5, pg. 41)		
This is a tried and tested tool which is clear and well-structured in Table 5-5. We welcome the mitigation/enhancement column which will be an excellent opportunity to identify precise mitigation measures and enhancement opportunities to be delivered on-site, for example, biodiversity enhancements in line with the emerging NPF4. The commentary column is also welcomed and it would be useful to include space for commentary on cumulative effects etc. For example, this could be added in another row at the bottom of the table.	Noted – cumulative effects are discussed in Section 6.3.	
Consultation Period		
We note the consultation period of 6 weeks and are happy with this. The inclusion of the anticipated milestones is really useful.	Noted	

B SUMMARY OF PLANS, PROGRAMMES AND STRATEGIES RELEVANT TO THE DEVELOPMENT OF THE ABERDEEN BEACHFRONT DEVELOPMENT FRAMEWORK

Other Relevant Plans, Policies and Strategies to be analysed in the Environmental Report for their Relationship to the Beachfront Development Framework

Level	Main Requirements of the PPS	Implications of the PPS for Beachfront Development Framework
International Level		
Nature Conservation		
Paris Agreement 2015	The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 Parties at COP 21 in Paris, on 12 December 2015 and entered into force on 4 November 2016. Its goal is to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels.	United Nations. The Agreement includes commitments from all countries to reduce their emissions and work together to adapt to the impacts of climate change and calls on countries to strengthen their commitments over time.
International UN Agreements - Kyoto Protocol (2005)	Commitment by industrialised countries to reduce four greenhouse gases (carbon dioxide, methane, nitrous oxide, sulphur hexafluoride) plus two groups of gases (hydrofluorocarbons and perfluorocarbons).	United Nations Framework Convention on Climate Change (UNFCCC or FCCC) protocol aimed at fighting climate change.
UN Climate Change Conference of the Parties (COP26) (Glasgow)	The COP26 climate change conference took place in Glasgow from 31 October to 12 November 2021. The main goal was to secure global net zero by mid-century and keep a maximum of 1.5 C degrees of warming within reach.	Net zero aligns with the aims of both the Scottish Government and Aberdeen City Council.
The Habitats Directive 92/43/EEC	Protects habitats and species. Gives a basis to classify SACs and SPAs	The Beachfront Development Framework will aim to protect and enhance the natural habitats of associated flora and fauna.
The Birds Directive 2009/147/EC	Protection of wild birds and their habitats	The Beachfront Development Framework is designed to protect and conserve ecosystems and biodiversity, specifically rare or vulnerable birds.
Water		
Water Framework Directive 2000/60/EC	The purpose of the Directive is to establish a framework for the protection of inland surface waters (rivers and lakes), transitional waters (estuaries), coastal waters and groundwater. It will ensure all aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands meet 'good status'. Addresses groundwater pollution; flooding and droughts; river basin management planning.	Through the development of the Beachfront Development Framework, account will be taken to protect water bodies from fragmentation, pollution and degradation.

Waste		
The Landfill Directive 99/31/EC The Waste Framework	 The Landfill Directive aims to reduce, as far as possible. the negative effects of landfilling waste; and sets targets and timescales for reducing the amount of biodegradable municipal waste (BMW) sent to landfill Requires the planning system to: 	The Framework should reflect the needs of the Landfill Directive, including the infrastructure required to meet municipal biodegradable waste targets. The Framework should ensure it utilises waste
Directive 2006/12/EC	 Provide policies and sites for waste disposal. Recover or dispose of waste without endangering human health and without processes or methods which could harm the environment. Liaison between planning authorities and SEPA. Provide the right infrastructure for the new thematic strategy on the prevention and recycling of waste. 	management facilities identified under higher-tier plans whilst safeguarding the natural and built environment including designated areas, green belts, open countryside and the coast.
National Level		
Overarching Planning Policy		
Town & Country Planning (Scotland) Act 1997	This is the principle piece of legislation governing the use and development of land in Scotland.	The Council must adhere to the requirements of the Act in the preparation and production of the Beachfront Development Framework.
Planning Etc (Scotland) Act 2006	Amends certain aspects of the 1997 Act, relating to both Development Planning and Development Management. Introduces a new development plan hierarchy: National Planning Framework; Strategic Development Plans; Local Development Plans.	The Council must take account of the requirements of the Act in the preparation and production of the Beachfront Development Framework, in protecting and enhancing the environment and biodiversity and promoting low carbon economic growth.
National Planning Framework for Scotland 3 (NPF3) (2014)	 Provides a framework to guide sustainable growth and development of Scotland. Identifies priorities for strategic investment which will be a material consideration in making sustainable planning policy. It sets out key planning outcomes for Scotland: 1. A successful sustainable place – supporting economic growth, regeneration and the creation of well-designed places 2. A low carbon place – reducing our carbon emissions and adapting to climate change 3. A natural resilient place – helping to protect and enhance our natural cultural assets and facilitating their sustainable use 4. A connected place – supporting better transport and digital connectivity 	The Beachfront Development Framework should contribute to each of these planning outcomes: through developing a more coordinated Beachfront Development Framework, this could create well- designed places, such as regenerating natural and cultural assets, this should enhance the area and increase visitor numbers. Additionally, the role of green infrastructure, vegetation and water bodies will help create carbon sinks which contribute to the aesthetics of the natural environment and the variety of biodiversity.

Draft National Planning Framework for Scotland 4 (NPF4)	NPF4 will, when adopted, set out the Scottish Governments priorities and policies for the planning system up to 2045 and how our approach to planning and development will help to achieve a net zero, sustainable Scotland by 2045. NPF4 differs from previous NPFs in two ways. It incorporates Scottish Planning Policy and the NPF into a single document and will form a part of the statutory development plan.	Once NPF4 is adopted, development associated with the Beachfront Development Framework should be mindful of Part 3, National Planning Policy Handbook which includes the following: • Sustainable Places (Universal policies) • Liveable Places • Productive Places and • Distinctive Places
Scottish Planning Policy 2014	Economic development should raise the quality of life of the Scottish people through increasing economic opportunities for all, on a socially and environmentally sustainable basis. The planning system should provide strong support for economic development, to both new and expanding businesses, where it is consistent with other national and local policies, in particular the promotion of social justice and sustainable development.	The Beachfront Development Framework should take account of the principles set out in the SPP, and as a result, the Beachfront Development Framework should incorporate elements of the SPP where appropriate.
The Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997	Primary legislation which sets out the legal requirements for the control of development and alterations that affect buildings that are listed, and the framework by which control is maintained.	If appropriate, the Beachfront Development Framework should take account of this legislation in relation to Listed Buildings.
Cross-Sectoral		
Transport (Scotland) Act 2019	The Act aims to make Scotland's transport network cleaner, smarter and more accessible by empowering local authorities and establishing consistent standards to tackle current and future challenges. The Act seeks to deliver a more responsive and sustainable transport system for everyone.	The Beachfront Development Framework shall consider the requirements of the ACT.
National Transport Strategy 2 (2020)	The National Transport Strategy sets out a vision for Scotland's transport system for the next 20 years. The vision is underpinned by four priorities: Reduces Inequalities, Takes Climate Action, Helps Deliver Inclusive Economic Growth and Improves our Health and Wellbeing, each with three associated outcomes.	The Beachfront Development Framework should consider the integration of LTS objectives, actions and committed projects into project.
Getting the best from our land: A land use strategy for Scotland 2016-2021	Scotland's first land use strategy, which identifies key principles for sustainable land use which reflect Government policies on the priorities which should influence land use choices. Sets out a long- term vision towards 2050 with three clear objectives relating to economic prosperity, environmental quality and communities.	The Beachfront Development Framework should aim to conserve Scotland's biodiversity whilst reducing resource depletion and encouraging responsible use of our natural resources.
Air and Climate Change		

Environment Act 1995	Provides the legal basis for the local air quality management (LAQM) regime, secondary legislation and the UK Air Quality Strategy	The Beachfront Development Framework should include measures to improve local air quality.
Climate Change (Emissions Reduction Targets) (Scotland) Act 2019	The Climate Change (Emissions Reduction Targets) (Scotland) Act 2019 sets targets to reduce Scotland's emissions of all greenhouse gases to net-zero by 2045.	The Beachfront Development Framework should promote measures to reduce and minimise carbon emissions
UK Climate Change Risk Assessment 2017	The UK Climate Change Risk Assessment 2017 Evidence Report is the most up-to-date and comprehensive analysis of the risks and opportunities posed by climate change to the UK	The Beachfront Development Framework should promote measures to reduce and minimise carbon emissions
Heat in Buildings Strategy (2021)	Sets out how the UK will decarbonise our homes, and our commercial, industrial and public sector buildings, as part of setting a path to net zero by 2050.	Refer to and apply as practicable.
Climate Change Plan 2018-2032	This is the third report on proposals and policies (RPP3). It sets out the path to a low-carbon economy while helping to deliver sustainable economic growth and secure the wider benefits to a greener, fairer and healthier Scotland in 2032.	The Beachfront Development Framework will contribute to delivering on the policies and proposals set out in the plan.
Climate Ready Scotland: climate change adaptation programme 2019-2024	The second Scottish Climate Change Adaptation Programme sets out policies and proposals to prepare Scotland for the challenges that we will face as our climate continues to change in the decades ahead. The Programme is a requirement of the Climate Change (Scotland) Act 2009 and addresses the risks set out in the UK Climate Change Risk Assessment (UK CCRA) 2017, published under section 56 of the UK Climate Change Act 2008	The Beachfront Development Framework will reflect the changes in the greenhouse gas emissions targets and outline how the Council will contribute to meeting them
Securing a green recovery on a path to net zero: climate change plan 2018–2032 - update	This update to Scotland's 2018-2032 Climate Change Plan sets out the Scottish Government's pathway to new and ambitious targets set by the Climate Change Act 2019. It is a key strategic document on Scotland's green recovery from COVID-19.	The Beachfront Development Framework will incorporate the updates in the plan
UK Air Quality Strategy for England, Scotland, Wales and Northern Ireland (2011)	The Strategy sets a number of air quality objectives for pollutants to improve and protect ambient air quality in the UK including sulphur dioxide, nitrogen dioxide, particulate matter, lead and ozone.	The Beachfront Development Framework should provide actions that contribute to reducing air pollution and improving air quality.
Cleaner Air for Scotland 2 (CAFS2) strategy (2021)	Scotland's second air quality strategy, setting out how the Scottish Government and its partner organisations propose to further reduce air pollution to protect human health and fulfil Scotland's legal responsibilities over the period 2021-2026.	The Beachfront Development Framework should include measures to reduce air pollution

Planning Advice Note 84 Reducing Carbon Emissions in New Development Scottish Energy Strategy	Provides information on low and zero-carbon development through the use of energy-efficient and renewable energy systems The Energy Strategy position statement provides an overview of our	The Beachfront Development Framework should include measures encouraging new development to incorporate low-carbon and renewable sources of energy. Refer to and apply "Key Priorities For Energy" as
Position Statement (2021)	key priorities for the short to medium-term in ensuring a green economic recovery, whilst remaining aligned with Scottish Government net zero ambitions.	practicable.
Heritage, Design and Regene		
Historic Environment Policy for Scotland (HEPS 2019)	HEPS should be taken into account whenever a decision will affect the historic environment. This includes plans and policies that deal with funding decisions or estate management or other specific topics such as agriculture or energy. It is also a material consideration for planning proposals that might affect the historic environment and in relation to listed building consent and scheduled monument consent ('material consideration' means that decision-makers should take it into account when coming to a decision). Decisions on scheduled monument consent are made in line with Historic Environment Scotland's policy for determining consents at scheduled monuments.	The HEPS shall be taken into consideration when developing the Beachfront Development Framework to ensure it serves to promote and improve the historic environment, where relevant.
Our Place in Time: The Historic Environment Strategy for Scotland (2014)	A high-level framework produced by the Scottish Government which sets out a 10-year vision for Scotland's historic environment.	The Beachfront Development Framework should consider the role of carrying forward this strategy at a local level to protect and/or enhance Scotland's historic environment, particularly listed buildings and other locally important sites.
Creating Places - A policy statement on architecture and place for Scotland (2013)	The policy statement sets out the Scottish Government's overarching position on architecture and place. Architecture and place has an established, strong relationship with planning. Therefore, the policies contained in the document are material considerations in determining planning applications and appeals.	The policy framework for how design issues will be considered in relation to development and the different ways of doing things. The design factors and overarching objectives will be considered when selecting sites for play, open space projects and coordinating green network developments as part of the Beachfront Development Framework.
Designing Streets: A Policy Statement for Scotland (2010)	Sets the context for good street design and the policies for implementation, planning considerations and embraces the six qualities of successful places as promoted in Designing Places	The policy framework for how design issues will be considered in relation to development and the different ways of doing things. The design factors

Green Infrastructure: Design and Placemaking (2011)	Provides practical guidance to help achieve successful places.	and overarching objectives will be considered when selecting sites for play, open space projects and coordinating green network developments as part of the Beachfront Development Framework. The Beachfront Development Framework should promote the use of green infrastructure in
Soil		development.
Scottish Soil Framework (2009)	The main aim of the Framework is to promote the sustainable management and protection of soils consistent with the economic, social and environmental needs of Scotland	The Beachfront Development Framework will take cognisance of soil outcomes.
Landscape		
Scottish Landscape Forum: Scotland's Living Landscape, Places for People (2007)	Considers how to promote good management of all landscapes, to secure benefits for all. It provides seven key recommendations to the Scottish Government and other public bodies as first steps to delivering better care for Scottish landscapes.	Consider how the Beachfront Development Framework can maintain and restore natural habitats to ensure biodiversity and landscapes
All Our Futures: Planning for a Scotland with an Ageing Population (2007)	The strategy covers topics such as the role of public services, increased opportunities for older people, better intergenerational relationships, improving health and providing lifelong learning opportunities.	The Beachfront Development Framework should consider the needs of an ageing population.
Let's Make Scotland More Active: A Strategy for Physical Activity (2003)	Aims to increase and maintain the proportion of physically active people in Scotland setting out targets to 2022.	The Beachfront Development Framework should promote physical activities.
Let's Get Scotland Walking – The National Strategy (2014)	Let's Get Scotland Walking - the National Walking Strategy sets out a vision where everyone benefits from walking as part of their everyday journeys, and everyone has access to welcoming and safe environments to walk in.	The Beachfront Development Framework will take cognisance of the national walking strategy and improve opportunities to access both formal and informal greenspaces.
Cycling Action Plan for Scotland 2017-2020	The Cycling Action Plan for Scotland (CAPS), sets out a framework aiming to increase cycling across Scotland.	Encourage cycling and improve opportunities to access cycling infrastructure.
A Long-Term Vision for Active Travel in Scotland 2030	This document sets out how we hope Scotland will look in 2030 if more people are walking and cycling for short, everyday journeys to reap the benefits of active travel.	The Beachfront Development Framework should align with the objectives of the long-term vision where practicable.
Equality Act 2010	Sets out a framework which prevents individuals from unfair treatment and promotes a more equal society.	The Beachfront Development Framework should build the needs of people with protected characteristics into its strategic actions.

Disability Discrimination Acts 1995 and 2005	Ensures that discrimination law covers all the activities of the public sector; and requires public bodies to promote equality of opportunity for disabled people. Aims to end the discrimination that many disabled people face and gives disabled people rights in the areas of employment, education, access to goods, facilities and services and buying or renting land or property.	The Beachfront Development Framework should build the needs of disabled persons into its strategic actions.
Community Empowerment Act 2015	Provides a framework to increase community empowerment and engagement. Targets regeneration and community participation. Requires local authorities to produce a Food Growing Strategy.	The Beachfront Development Framework should encourage and promote community involvement in the development of the framework, where appropriate.
Natural Conservation		
Wildlife and Countryside Act 1981 (as amended)	The Wildlife and Countryside Act 1981 is the primary legislation which protects animals, plants and habitats in the UK.	The Beachfront Development Framework will take cognisance of the Act.
The Nature Conservation (Scotland) Act 2004	The Nature Conservation (Scotland) Act 2004 places a duty on public bodies to further the conservation of biodiversity and increases protection for Sites of Special Scientific Interest.	The Beachfront Development Framework will take cognisance of the Act.
2020 Challenge for Scotland's Biodiversity - A Strategy for the conservation and enhancement of biodiversity in Scotland (2013)	The 2020 Challenge is a supplement to the Scottish Biodiversity Strategy (2004), focused on desired outcomes for 2020. It shows how the Scottish Government, its public agencies, Scottish business and others can contribute to the Strategy's aims as well as supporting sustainable economic growth.	The Beachfront Development Framework will take cognisance of this strategy.
The Conservation (Natural Habitats etc.) Regulations 1994 (as amended)	In Scotland, the Habitats Directive is translated into specific legal obligations by the Conservation (Natural Habitats, &c.) Regulations 1994.	The Beachfront Development Framework will
The Conservation (Natural Habitats) Amendment (Scotland) Regulations	The Habitats Regulations have been amended in Scotland, most recently in 2019 as a result of the UK leaving the EU. These amendments mean that we must continue to apply the requirements of the Habitats and Birds Directives to how European sites are designated and protected	comply with the Regulations by not adversely affecting European sites or any species listed under the Directive.
Water	1	
Water Environment (Controlled Activities) (Scotland) Regulations 2011, as amended	Outlines the different levels of authorisations to allow for proportionate regulation depending on the risk an activity poses to the water environment. Some activities require authorisation including point source discharges, impoundments and abstractions.	The Beachfront Development Framework will take cognisance of these regulations

Water Environment and Water Services (Scotland) Act 2003	Sets out the framework for protecting the water environment that integrates the control of pollution, abstractions, dams and engineering activities in the water environment.	The Beachfront Development Framework will take cognisance of the importance of the water environment
Flood Risk Management (Scotland) Act 2009	Creates a framework in which organisations involved in flood risk management can co-ordinate actions to deliver sustainable and modern approaches to flood risk management	The Beachfront Development Framework must take into account the provisions of the Act, in particular the assessment of flood risk and the preparation of flood risk management plans.
Scottish Planning Policy - Planning and Flooding	The central purpose is to prevent further development which would have a significant probability of being affected by flooding, or which would increase the probability of flooding elsewhere	The Beachfront Development Framework will contribute to meeting the overall aim of reducing the negative effects of all sources of flooding on the environment.
The river basin management plan for the Scotland river basin district: 2015–2027 (2015)	River basin management plans (RBMPs) set out how organisations, stakeholders and communities will work together to improve the water environment.	The Beachfront Development Framework will support the protection and enhancement of water bodies.
Scottish Water Strategic Asset and Capacity Development Plan (2012)	Describes Scottish Waters processes and systems for calculating capacity available, at waste/ water treatment works in Scotland.	The Beachfront Development Framework will take cognisance of the importance of the Plan.
SEPA Groundwater Protection Policy for Scotland v3: Environmental Policy 19 (SEPA)	 This policy aims to provide a sustainable future for Scotland's groundwater resources by protecting legitimate uses of groundwater and providing a common SEPA framework to: Protect groundwater quality by minimising the risks posed by point and diffuse sources of pollution; Maintain the groundwater resource by authorising abstractions and by influencing developments, which could affect groundwater quantity. 	The Beachfront Development Framework will take cognisance of the Policy.
Waste		l
Scotland's Zero Waste Plan (2010)	The plan outlines Scotland's key objectives in relation to waste prevention, recycling and reducing the amount of waste sent to landfill on the journey to a zero-waste Scotland. The plan proposes targets for Scotland's waste	The Beachfront Development Framework will take cognisance of this plan and the importance of a circular economy in tackling climate change.
Marine and Coastal		
SEAS The Opportunity: A Strategy for the Long-Term Sustainability of Scotland's Coasts and Seas (2005)	Presents the marine strategy for Scotland's coast and marine environment.	The Beachfront Development Framework will take cognisance of this plan and the importance of a circular economy in tackling climate change.

Marine (Scotland) Act 2010	 The Act provides a legislative and management framework for the Scottish marine environment, which includes: a marine planning system; a licensing system; powers to establish marine protected areas that protect natural and cultural marine features. The Act also introduces a regime for seal conservation and provides for Scottish marine enforcement officers to ensure compliance with the new licensing and conservation measures. This is a very detailed Act and the following Parts are of particular relevance: 	The Beachfront Development Framework must take into account the provisions of the Act, as they relate to marine planning and protected areas/species.
UK Marine Policy Statement	The UK Marine Policy Statement (MPS) provides the policy framework for the marine planning system and taking decisions affecting the marine	The Beachfront Development Framework will take cognisance of the policy statement.
Cross-Sector Guidance		
PAN 60: Planning for Natural Heritage	Provides advice on how the land use planning system can contribute to the conservation and enhancement of Scotland's natural environment. It describes the planning system in Scotland as it was at the time when it was published and refers to the way that Natural Heritage is considered in both plan-making and decision-making.	The Beachfront Development Framework should contribute to the conservation, enhancement, enjoyment and understanding of the natural environment.
PAN 61: Planning and Sustainable Urban Drainage Systems	Describes how planning policy should set the framework for implementing Sustainable Urban Drainage Systems (SUDS) through the development control process.	The Beachfront Development Framework should consider the role of sustainable urban drainage.
Planning and Waste Management Advice (2015)	The Planning Advice complements the National Planning Framework (NPF3), Scottish Planning Policy (SPP) and Scotland's Zero Waste Plan (ZWP). A low carbon place and 'circular economy' are alternatives to the 'make, use, dispose' culture which means re- using products and materials continually and growing a low carbon economy. The advice provides step-by-step advice on development planning and development management.	The Beachfront Development Framework should consider waste management from the inception process. It should promote integrated waste management.

PAN 65: Planning and Open Space	 Planning Advice Note (PAN) 65 provides advice on the role of the planning system in protecting and enhancing existing open spaces and providing high-quality new spaces. Raises the profile of open space as a planning issue. Sets out how local authorities can prepare open space strategies and gives examples of good practices in providing, managing and maintaining open spaces. 	The Beachfront Development Framework aims to improve the quality of open spaces in the city and will set out measures to improve the quality/quantity of publicly accessible open spaces.
PAN 75: Transport and Planning	The PAN aims to create greater awareness of how linkages between planning and transport can be managed. It highlights the roles of different bodies and professions in the process and points to other sources of information. Establishes linkages between planning and transport and how it can be managed.	The Beachfront Development Framework should promote the use of existing transportation networks and develop new cycling and walking alternatives.
PAN 77: Designing Safer Places	Planning Advice Note (PAN) 77 provides advice on how planning can help to create attractive well-managed environments which help to discourage antisocial and criminal behaviour.	The Beachfront Development Framework should safeguard safety.
PAN 78: Inclusive Design	Looks at how to improve the design of places so that they can be used by everyone - regardless of age, gender or disability. Makes it a legal requirement to consider the needs of disabled people under the terms of Disability Discrimination legislation	The Beachfront Development Framework should promote a high standard of design.
Regional Level		•
Overarching Planning Policy		
Aberdeen City and Shire Strategic Development Plan 2020	Creates a long-term sustainable framework of settlements in a hierarchy, which focuses major development on the main settlements in the North East. Sets the strategic context for Aberdeen City Local Development Plan which in turn sets the framework for land use development.	By setting the spatial development strategy and supporting policies at a regional level, the Aberdeen City and Shire Strategic Development Plan aims to achieve alignment with the Scottish Governments national outcomes and helps to direct and inform the local interpretation of planning. This will need to be fully reflected within the Beachfront Development Framework.
Cross-Sectoral		
Regional Economic Strategy – Securing the Future of the North East (2015)	Sets the context for economic prosperity in the North East. The four key strands are investment in infrastructure innovation, inclusive economic growth and internationalisation.	The Beachfront Development Framework should support sustainable economic growth.

The Economic Action Plan for Aberdeen City and Shire to 2025	Sets out objectives identifying actions to be undertaken towards the longer-term economic ambitions for Aberdeen City and Shire.	The Beachfront Development Framework should support sustainable economic growth.
Nestrans 2040 Regional Transport Strategy (RTS)	The Regional Transport Strategy is a long-term strategy for the areas of Aberdeen and Aberdeenshire, which sets the vision and direction for transport in the region up to the year 2040.	The Beachfront Development Framework should contribute to meeting objectives set out in the Regional Transport Strategy.
Nestrans Aberdeen Rapid Transit	A competitive, affordable and efficient mode of public transport, offering an alternative to private vehicle travel.	The Beachfront Development Framework should contribute to meeting the objectives of Aberdeen Rapid Transit.
Nature Conservation		
North East of Scotland Biodiversity Partnership - Action Plan	North East Scotland Local Biodiversity Action Plan (NESLBAP) takes action to conserve important species and habitats for our benefit and for future generations.	The Beachfront Development Framework should promote and protect biodiversity.
River Dee Catchment Management Plan (2007)	The management plan records the current state of the Dee catchment, including water quality, the type and extent of habitats and species in the catchment, and important land management activities, identifies key issues and puts identifies potential solutions through a series of actions.	The Beachfront Development Framework should contribute to delivering the actions proposed in the Catchment Management Plan.
Local Level		
Aberdeen Local Development Plan 2022	The local development plan is reviewed every five years. Aberdeen City Council intend the next local development plan to be the Aberdeen Local Development Plan 2022. On 22 July 2021, Aberdeen City Council submitted to Scottish Ministers the Aberdeen Local Development Plan Proposed Plan 2020 to Scottish Ministers for examination. During November 2021 the reporter commenced the examination of conformity with the planning authority's participation statement as required by Section 19(4) of the Town and Country Planning Scotland Act 1997 (as amended).	Future development associated with the Beachfront Development Framework should be mindful of the policies set out within the LDP which are likely to have a direct influence on development.
Aberdeen Local Development Plan 2017	The Aberdeen LDP sets the framework for growth and development and establishes a presumption in favour of development that contributes to sustainable development as defined in Scottish Planning Policy.	The policies set out within the LDP have a direct influence on the development and implementation of the Beachfront Development Framework in regard to connecting green networks and developing active travel routes.
Policy NC9 – Beach and Leisure	Within the defined Beach and Leisure area development proposals will be permitted provided they:	The Beachfront Development Framework should contribute to delivering Policy NC9

	 contribute to the range and quality of the existing uses, facilities and activities of the wider beach area; are of an appropriate scale; do not have an unduly adverse effect on the character of the area, or cause negative visual or environmental impacts or affect the amenities of nearby residents; do not result in a significant generation of car-borne journeys, nor additional pressure for car parking. There is a presumption against retail development in this area. 	
Policy NE1 - Green Space Network	the Council will protect, promote and enhance the wildlife, access, recreation, ecosystem services and landscape value of the Green Space Network, which is identified on the Proposals Map. Development proposals that are likely to destroy or erode the character and/or function of the Green Space Network will not be permitted. Where major infrastructure projects or other developments necessitate crossing the Green Space Network, such developments should maintain and enhance the coherence of the network. In doing so, provision should be made for access across roads for wildlife and outdoor recreation. Masterplanning of new developments should consider the existing areas of Green Space Network and identify new areas incorporating Green Space Network. Masterplans will determine the location, extent and configuration of the Green Space Network within the area, and its connectivity with the wider network. Development which has a negative impact on existing wildlife habitats and connections, or other features of value to natural heritage, open space, landscape and recreation, should be mitigated through the enhancement of the Green Space Network.	The Beachfront Development Framework should contribute to delivering Policy NE1
Policy NE3 - Urban Green Space	Permission will not be granted to redevelop any parks, playing fields, sports pitches, woods, allotments or all other areas of urban green space (including smaller spaces not identified on the Proposals Map) for any use other than recreation and sport. Exceptions will be made when an equivalent and equally convenient and accessible area for public space is laid out and made available in the locality by the applicant for urban green space purposes, for	The Beachfront Development Framework should contribute to delivering Policy NE3 With reference to Section 3.10.3 the badger sett and foraging area needs to be protected and disturbance kept to a minimum.

Policy NE4 - Open Space Provision in New Development	 example through the replacement of school buildings. In all cases, development will only be acceptable provided that: 1. There is no significant loss to the landscape character and amenity of the site and adjoining area; 2. Public access is either maintained or enhanced; 3. The site is of no significant wildlife or heritage value; 4. There is no loss of established or mature trees; 5. Replacement green space of similar or better quality is located in or immediately adjacent to the same community, providing similar or improved health benefits to the replaced area and is accessible to that community, taking into account public transport, walking and cycling networks and barriers such as major roads. 6. They do not impact detrimentally on lochs, ponds, watercourses or wetlands in the vicinity of the development; and 7. Proposals to develop outdoor sports facilities, including playing fields and sports pitches should also be consistent with the terms of Scottish Planning Policy. The Council will require the provision of at least 2.8ha per 1,000 people of meaningful and useful open space in new residential development. Please see relevant Supplementary Guidance Open Space & Green Infrastructure, detailed below, for information on how to calculate open space requirements, as well as different types of provision and the expected accessibility and quality standards. Public or communal open space should be provided in all residential developments, including on brownfield sites. However, on some brownfield sites it may not be possible to increase the amount of open space, for example where existing buildings on the site are being retained. In these cases, commuted sums towards off-site provision or enhancement of existing open spaces will be sought instead. In areas where the Open Space Audit has shown that existing open space is of poor quality, contributions may be sought to enhance existing provision instead of new provision being require	Carefully designed planting should be considered for both badgers and bats to create natural screens and buffer zones to minimise disturbance, whilst providing a green network corridor.
Drainage and Water Quality	1. It would increase the risk of flooding:	contribute to delivering Policy NE6

a) by reducing the ability of the functional flood plain to store and convey water;
b) through the discharge of additional surface water; or
c) by harming flood defences.
2. It would be at risk itself from flooding;
3. Adequate provision is not made for access to waterbodies for
maintenance; or
4. It would require the construction of new or strengthened flood
defences that would have a significantly damaging effect on the
natural heritage interests within or adjacent to a watercourse.
5. Development on the functional floodplain will only be permitted
where its location is essential for operational reasons, and it
must be designed and constructed to remain operational during
floods and not to impede water flow. Applicants will be required
to provide a Flood Risk Assessment where a development is
likely to result in a material increase in the number of buildings
at risk of flooding, or where it has been indicated in the
opportunity sites schedule that one will be prepared. Windfall
sites may also require a Flood Risk Assessment. Drainage
Impact Assessment (DIA) will be required for new development
proposals comprising 5 or more homes or 250 square metres
of non-residential floorspace. DIA will also be required for
developments of any size that affect sensitive areas. DIA should
detail how surface water and wastewater will be managed.
Surface water drainage associated with development must:
6. Be the most appropriate available in terms of SuDS; and
7. Avoid flooding and pollution both during and after construction.
There is a presumption against excessive engineering and
culverting of waterbodies. Natural treatments of floodplains and
other water storage features will be preferred wherever possible.
There will be a requirement to restore existing culverted or
canalised water bodies to a naturalised state where this is possible.
Where the Council agrees that culverts are unavoidable for
technical reasons, they should be designed to maintain existing flow
conditions and aquatic life. Any proposals for new culverts should
have a demonstrably neutral impact on flood risk and be linked to

	long-term maintenance arrangements to ensure they are not the cause of flooding in the future. Connection to the public sewer will be a prerequisite of all development where this is not already provided. Private wastewater treatment systems in sewered areas will not be permitted. In areas not served by the public sewer, a private sewer treatment system for individual properties will be permitted provided that the developer demonstrates that there will be no adverse effects on the environment, amenity and public health.	
Policy NE7 - Coastal Planning	 Development will only be permitted in undeveloped coastal areas if it can be demonstrated that: 1. A coastal location is necessary given the purpose and operation of the development; 2. There is no other suitable site, including the re-use of brownfield land; and 3. It respects the character and value of the natural and historic environment, as well as the recreational value in the surrounding area; or 4. There is an overriding environmental benefit. In all cases: 1. Development will not be permitted in areas at risk from coastal erosion and flooding. New developments which require new defences against coastal erosion or flooding will not be supported except where there is clear justification to avoid development in areas at risk. 2. A Flood Risk Assessment will be required to accompany applications for development in coastal areas. 3. Public access to and along the coast will be protected and promoted wherever possible. Development proposals will be required to demonstrate through appropriate marine noise modelling that adverse impacts on bottlenose dolphins and Atlantic salmon are avoided. 	The Beachfront Development Framework should contribute to delivering Policy NE7
Policy NE9 - Access and Informal Recreation	New development should not compromise the integrity of existing or potential recreational opportunities including general access rights to land and water, Core Paths, other paths and rights of way. This includes any impacts on access during the construction phase of development. Applicants should provide detail on how public	The Beachfront Development Framework should contribute to delivering Policy NE9

	access and safety will be maintained during construction, for example through temporary diversions.	
	Wherever possible, developments should include new or improved	
	provisions for public access, permeability and/or links to green	
	space for recreation and active travel.	
Policy D4 - Historic	The Council will protect, preserve and enhance the historic	The Beachfront Development Framework should
Environment	environment in line with Scottish Planning Policy, SHEP and its	contribute to delivering Policy D4
	Supplementary Guidance and Conservation Area Character	
	Appraisals and Management Plan. There will be a presumption in	
	favour of the retention and reuse of listed buildings and buildings	
	within conservation areas that contribute to their character. High-	
	quality design that respects the character, appearance and setting	
	of the historic environment and protects the special architectural or	
	historic interest of its listed buildings, conservation areas and	
	historic gardens and designed landscapes, will be supported.	
	The physical in situ preservation of all scheduled monuments and	
	archaeological sites will be supported. Developments that would	
	adversely impact upon archaeological remains, including	
	battlefields, of either national or local importance, or on their setting	
	will only be permitted in exceptional circumstances, where there is no practical alternative site and where there are imperative reasons	
	for over-riding public need.	
	In any such case, the applicant must at their own expense:	
	 take satisfactory steps to mitigate adverse development 	
	impacts; and	
	 where the preservation of the site in its original location is not 	
	possible, arrange for the full excavation and recording of the	
	site in advance of development and the publication/ curation of	
	the finding	
Policy I1 - Infrastructure	Development must be accompanied by the infrastructure, services	The Beachfront Development Framework should
Delivery and Planning	and facilities required to support new or expanded communities	contribute to delivering Policy I1
Obligations	and the scale and type of developments proposed. Where	
	development either individually or cumulatively will place additional	
	demands on community facilities or infrastructure that would	
	necessitate new facilities or exacerbate deficiencies in existing	
	provision, the Council will require the developer to meet or	

	contribute to the east of providing or improving such infractives	
	contribute to the cost of providing or improving such infrastructure or facilities.	
	Infrastructure requirements relating to Masterplan Zone sites and	
	other allocated sites outwith the Masterplan Zones are set out in	
	Appendices 3 and 4. Actions for delivering infrastructure are	
	described in the Local Development Plan Action Programme.	
	Infrastructure requirements and the level of contributions for other	
	development will be assessed using the criteria set out in	
	Supplementary Guidance.	
	The precise level of infrastructure requirements and contributions	
	will need to be agreed with the Council, in consultation with other	
	statutory agencies where appropriate. The level of provision or	
	contribution required will relate to the development proposed either	
	directly or to the cumulative impact of development in the area and	
	be commensurate to its scale and impact.	
	Masterplans will be expected to reflect the infrastructure	
	requirements and contributions identified and should include a	
	Delivery Statement setting out details of how the proposed	
	development and supporting infrastructure will be delivered.	
	New infrastructure will either be provided by the developer or	
	through financial contributions. It will need to be compatible with	
	other Local Development Plan policies.	
Policy T2 - Managing the	Commensurate with the scale and anticipated impact, new	The Beachfront Development Framework should
Transport Impact of	developments must demonstrate that sufficient measures have	contribute to delivering Policy T2
Development	been taken to minimise traffic generated and to maximise	
	opportunities for sustainable and active travel.	
	Transport Assessments and Travel Plans will be required for	
	developments which exceed the thresholds set out in	
	Supplementary Guidance.	
	The development of new communities should be accompanied by	
	an increase in local services and employment opportunities that	
	reduce the need to travel and include integrated walking, cycling and public transport infrastructure to ensure that, where travel is	
	necessary, sustainable modes are prioritised. Where sufficient	
	sustainable transport links to and from new developments are not in	
	place, developers will be required to provide such facilities or a	
	suitable contribution towards implementation.	

	Further information is contained in the relevant Supplementary Guidance which should be read in conjunction with this policy.	
Policy T3 - Sustainable and Active Travel	New developments must be accessible by a range of transport modes, with an emphasis on active and sustainable transport, and the internal layout of developments must prioritise walking, cycling and public transport penetration. Links between residential, employment, recreation and other facilities must be protected or improved for non-motorised transport users, making it quick, convenient and safe for people to travel by walking and cycling. Street layouts will reflect the principles of Designing Streets and meet the minimum distances to services as set out in the Supplementary Guidance. Existing access rights, including core paths, rights of way and paths within the wider network will be protected and enhanced. Where development proposals impact on the access network, the principle of the access must be maintained at all times by the developer through the provision of suitable alternative routes. Recognising that there will still be instances in which people will require to travel by car, initiatives such as car sharing, alternative fuel vehicles and Car Clubs will also be supported where appropriate.	The Beachfront Development Framework should contribute to delivering Policy T3
Policy T4 - Air Quality	 Development proposals which may have a detrimental impact on air quality will not be permitted unless measures to mitigate the impact of air pollutants are proposed and agreed with the Planning Authority. Planning applications for such proposals should be accompanied by an assessment of the likely impact of development on air quality and any mitigation measures proposed. Supplementary Guidance sets out the likely circumstances in which applicants must submit an assessment of the potential impact of particular types of development on existing and future air quality, particularly in and around Air Quality Management Areas. It also provides guidance on the process of air quality assessment and how mitigation measures will be assessed and implemented. 	The Beachfront Development Framework should contribute to delivering Policy T4
Policy T5 – Noise	In cases where significant noise exposure is likely to arise from development, a Noise Impact Assessment (NIA) will be required as part of a planning application.	The Beachfront Development Framework should contribute to delivering Policy T5

Aberdeen City Council Supplementary Guidance	There will be a presumption against noise-generating developments, as identified by a NIA, being located close to noise- sensitive developments, such as existing or proposed housing, while housing and other noise-sensitive developments will not normally be permitted close to existing noisy land uses without suitable mitigation measures in place to reduce the impact of noise. Development within or near Candidate Noise Management Areas (CNMAs) and Candidate Quiet Areas (CQAs) will not be permitted where this is likely to contribute to a significant increase in exposure to noise or a deterioration of noise conditions in these areas, or where this will reduce the size of, or cause an increase in the noise level within, the CQA. Further information on NIAs, CNMAs and CQAs, including maps of these areas, can be found in the relevant Supplementary Guidance which should be read in conjunction with this policy. To provide guidance on policy implementation and forms part of the Development Plan and is a material consideration in the determination of planning applications.	Much of the Supplementary Guidance is relevant to the Beachfront Development Framework. A full list can be found on the Aberdeen City Council website at https://www.aberdeencity.gov.uk/services/planning- and-building/local-development-plan/aberdeen- local-development-plan/supplementary-guidance- and-technical-advice#995
Destination Aberdeen & Aberdeenshire Tourism Strategy (2018-2023)	Destination Aberdeen and Aberdeenshire Tourism Strategy 2018-2023 outlines the region's tourism ambition.	The Beachfront Development Framework should contribute to Tourism Strategy.
Aberdeen City Centre Masterplan	The Aberdeen City Centre Masterplan (CCMP) is a regeneration blueprint that is transforming the city centre while conserving its heritage. The goal is greater prosperity and a better quality of life for all.	The Beachfront Development Framework should contribute to delivering the actions proposed in the City Centre Masterplan
Aberdeen City Local Transport Strategy 2016 - 2021	Ensures the Local Development Plan takes full account of the environment, social and economic implications of transport; Promotes the maximisation of accessibility for all to services and jobs; sustainable and active travel, efficient resource use, as well as safety in delivering transportation.	The Beachfront Development Framework should consider the integration of LTS objectives, actions and committed projects into project.

Aberdeen City Air Quality Action Plan	To reduce nitrogen dioxide within the Air Quality Management Area (AQMA) in Aberdeen City Centre, and to a lesser extent reduce particulates (PM ₁₀) through short, medium and long-term infrastructure and other projects.	The Beachfront Development Framework should contribute to delivering the actions proposed in the Action Plan in order to improve air quality with the AQMA and ensure land required to implement the Action Plan is provided timeously	
Aberdeen City Health & Social Care Partnership Strategic Plan 2019-2022	Obesity is one of the contributing factors to the development of type 2 diabetes which can lead to other negative impacts on a person's health. Promoting a healthy diet and weight and increasing opportunities for physical activity will go some way to offset these effects.	The Beachfront Development Framework will contribute to the encouragement of physical activity.	
Local Outcome Improvement Plan 2016-26	 The vision is for Aberdeen to be 'a place where all people prosper'. Four themes are set out: Prosperous Economy, Prosperous People, Prosperous Place and Enabling Technology. It focuses on four priority areas for strategic partnership working: Aberdeen prospers Children are our future People are resilient, included and supported when in need Empowered, resilient and sustainable communities Creating a digital place 	The Beachfront Development Framework should support the themes and priority aims set out in the LOIP.	
Aberdeen Socio-Economic Rescue Plan 2020/21	The Plan is an immediate and dynamic response to the impact of Covid19, and aligns with the LOIP strategic themes of Economy, People and Place. While it focuses on immediate actions, it informs the scheduled refresh of the LOIP in 2021.	The Beachfront Development Framework will take cognisance of the Rescue Plan.	
Net Zero Aberdeen Routemap - towards becoming a net zero emissions city by 2045	The Net Zero Aberdeen Routemap - towards becoming a net zero emissions city by 2045 outlines how the city will adapt to changing climate conditions in the coming decades, focusing on six key theme strategies: mobility; buildings and heat; the circular economy; energy supply; the natural environment; and community empowerment.	The Beachfront Development Framework should support the theme strategies set out in the Net Zero Routemap	
Aberdeen City Council Climate Change Plan 2012-25	The Plan sets out the approach, pathway and actions towards net zero and climate-resilient Council assets and operations, by 2045.	The Beachfront Development Framework should support the themes and priority aims set out in the Climate Change Plan.	
Aberdeen Adapts: Climate Adaptation Framework	Aberdeen Adapts is a framework for city-wide working on adaptation. Incorporating the views of local organisations and communities, it sets the direction to build long-term city resilience.	The Beachfront Development Framework should ensure the Climate Adaption Framework is considered.	

Aberdeen Electric Vehicle Framework	The purpose of the EV framework for Aberdeen from 2020 to 2030 is to encourage and actively cater for greater uptake of electric vehicles in the city and will support relevant national, regional and local strategies.	The Beachfront Development Framework should ensure the EV framework is considered.
Granite City Growing, Aberdeen's food-growing strategy	'Granite City Growing: Aberdeen Growing Food Together 2020' is Aberdeen's first food growing strategy and has been co-produced with a range of community groups and key stakeholders.	The Beachfront Development Framework should ensure the EV framework is considered.
Aberdeen Nature Conservation Strategy	The strategy aims To conserve Aberdeen City's natural heritage for the benefit of our biodiversity, citizens and visitors, for current and future generations	The Beachfront Development Framework will consider the Granite City Growing strategy where practicable.
Open Space Audit and Strategy 2011-2016	Aberdeen City's Open Space Strategy sets out a vision and aims to improve the quality of our open spaces in the city. There is growing evidence that quality and accessible open spaces contribute towards improving health, economy, environment and wellbeing. It promotes sustainable development and helps in mitigating the impacts of climate change such as flooding and air pollution and provides green networks by linking various habitats benefiting biodiversity.	Ensure that the Beachfront Development Framework incorporates the findings of the Open Space Strategy audit and supports the aims of the strategy.
Aberdeen City Core Paths Plan (CPP)	The vision for Aberdeen's CPP is to "form a complete paths network throughout the City, encouraging healthy and sustainable access opportunities.	The objectives of the CPP should be considered in the Beachfront Development Framework and opportunities to enhance local core paths and active travel routes. The Core Paths Plan identified core paths within the Beachfront Development Framework boundary
Landscape Character Assessment: Aberdeen City - Landscape Evolution and Influences	This document provides information on how the landscape of the local authority area has evolved. It complements the Landscape Character Type descriptions of the 2019 dataset. The original character assessment reports are part of a series of 30, mostly for a local authority area.	The Beachfront Development Framework should take account of landscape character and promote good landscape design.
Aberdeen City Waste Strategy 2014-25	Sets out the long-term plans to reduce the social, economic and environmental consequences of waste. It aims for Aberdeen to see waste as a resource and not a problem, and for it to be a zero- waste city, providing long-term social, economic and environmental benefits to all.	The Beachfront Development Framework could attract an increased quantity of visitors and tourists which makes it more prone to litter and waste. The Beachfront Development Framework should be cognisant of the objectives outlined in the ZWS plan, and adapt accordingly in order to contribute to them.

C ENVIRONMENTAL BASELINE APPRAISAL



Aberdeen Beachfront Development Framework Environmental Baseline Appraisal



September 2022

Aberdeen Beachfront Development Framework Environmental Baseline Appraisal

Client: Robertson Construction Group Ltd

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1 INTRODUCTION

1.1 Terms of Reference

This Environmental Baseline Appraisal provides a desk-based study of the potential for the Aberdeen City Council Beachfront Development Framework to have significant environmental effects on the site and surrounding environment. The baseline appraisal is supplemented by the initial findings of the ecological fieldwork.

1.2 Scope of Report

The information and recommendations contained within this report have been prepared in the specific context stated above and should not be utilised in any other context without prior written permission from EnviroCentre.

If this report is to be submitted for regulatory approval more than 12 months following the report date, it is recommended that it is referred to EnviroCentre for review to ensure that any relevant changes in data, best practice, guidance or legislation in the intervening period are integrated into an updated version of the report.

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2 SITE SETTING AND PROPOSED DEVELOPMENT FRAMEWORK

2.1 Location

The Aberdeen Beachfront Development Framework Area is located to the north-east of the city centre connected by the primary route of Beach Boulevard which links the Beachfront to Justice Street and on to Castlegate. The site is bounded to the east by the North Sea; to the south is Codona's amusement park and a mixture of commercial, hospitality and retail uses; to the west of the site there are existing hotel and leisure units with a mix of residential typologies beyond; and to the north is the Kings Links Golf Course. The area of the proposed site is approximately 50 hectares (Figure 2-1).





The site is currently occupied by existing entertainment and leisure facilities, namely Aberdeen Beach Ballroom, Linx Ice Arena, and the Beach Leisure Centre; public space, Queens Links including Queens Links Play Park and Crescent Cricket Club's Cricket Pitch; existing landscape features such as the beach and Broad Hill; and a series of existing vehicular routes including Beach Boulevard, Esplanade and Links Road. There are a number of separate uses bordering the Development Framework area which will require consideration as part of the proposals: to the west of the area are two sites owned by Aberdeen City Council but on long-term leases to a hotel operator and extreme sports venue; to the north is a site under separate ownership which is operating as golf driving range; to the south is an amusement park owned and operated by Codona's. There are a series of small-scale structures and pavilions situated across the Development Framework area which will also need to be considered as part of the proposals.

2.2 Aberdeen Beachfront Development Framework

The Beachfront Development Framework seeks to set forth an overall design approach and key design principles which form a coherent strategy for Aberdeen Beachfront. When complete, this area will be a unique and world-leading leisure destination and as such it's important strategic location must be considered and a long-term vision for the area created.

The Framework has been developed in accordance with the guidance contained within Aberdeen City Council's 'Masterplanning Process' document to ensure an appropriate process of consultation and feedback is developed and is incorporated as the document evolves. Key to the process has been the creation of a clear organisational principle.

Due to the nature of masterplanning and the scale of the proposals, the detail of the individual elements of the design will inevitably evolve over time, however, by establishing a clear structure these changes can be accommodated whilst retaining an overall clarity and coherence to the place. The Framework provides the basis for more detailed proposals to come forward in the future.

The Development Framework:

- Provides an overall vision for the area whilst also allowing for flexibility and differing approaches;
- Establishes a clear and coherent spatial structure which can accommodate change in the long term as detailed proposals emerge;
- Describes character areas and areas of potential intervention;
- Sets out strategic transport proposals in terms of access and connectivity; and
- Illustrates the general directions and phasing of development within the area.

Aims

Key aims of the initial Beachfront project Brief as identified with Aberdeen City Council include:

- The importance of the re-imagined Beach Ballroom, including a desire to return it to its former glory when it was known as the 'People's Ballroom'. This needs to recognise the building's heritage and historic significance whilst equipping it for the future as a modern events venue;
- The potential to share/link facilities associated with the potential new Stadium and Leisure facilities to support joint funding with the potential Stadium Anchor tenant and realise economies of scale;
- A desire for a dynamic waterfront making the most of the beach and considering support facilities such as changing accommodation/beach huts and a potential pier structure;
- Excellent, high-quality public realm;
- Leisure activities that are inclusive and accessible to all income groups that may visit the Beachfront;
- Access and Connectivity between the Beachfront and the City Centre;
- Infrastructure, including traffic management that reduces the impact of the existing road network to promote alternative forms of travel, including cycling, whilst improving the public realm; and
- Co-ordination with potential flood/sea defence works planned for the area.

Proposed Character Areas

Several broad character areas have been identified across the Framework area which reflect a variety of anticipated approaches and identities. These will be progressed and refined at subsequent masterplan phases. The following character areas have been established:

- Beach Ballroom;
- Urban Park;
- Potential Stadium and Leisure;
- Esplanade;
- Broad Hill;
- Beach Village; and
- Beach Boulevard.

Each character area posits design principles and approaches which give definition to the spaces whilst retaining flexibility to allow for the brief of each area to evolve with any future refinement (Figure 2-2)

Figure 2-2: Conceptual Masterplan (Rope Works)



KEY:

- 1. BEACH BALLROOM
- 2. HIDDEN GARDEN
- 3. POTENTIAL STADIUM & LEISURE
- 4. PUBLIC PLAZA
- 5. URBAN PARK
- 6. PUBLIC SPACE
- 7. AMPHITHEATRE
- 8. MOUNDING 9. PAVILION
- 10. WATER FEATURE
- 11. PEDESTRIANISED BOULEVARD
- 12. PIER
- 13. ESPLANADE
- 14. SLIPWAY
- 15. SURF PAVILION

3 ENVIRONMENTAL BASELINE

The proposed Beachfront Development Framework has been considered against the environmental setting of the site and its surrounds. This has been undertaken through a review of publicly available desktop information.

The specific topic areas which have been considered are as follows:

- Population and Human Health
- Biodiversity;
- Land;
- Soil and Geology;
- Water;
- Cultural Heritage;
- Landscape;
- Air;
- Climate; ; and
- Material Assets and Waste.

The following sections note some of the local sensitivities apparent from a high review of available information and data.

4 POPULATION AND HUMAN HEALTH

4.1.1 Description of Local Environment

4.1.2 Scottish Index of Multiple Deprivation (SIMD)

The Scottish Index of Multiple Deprivation (SIMD) is the Scottish Government's official tool for identifying small area concentrations of multiple deprivation across all of Scotland

The Scottish Index of Multiple Deprivation (SIMD) uses several measures to understand the relative deprivation of areas across Scotland. This is not only in terms of 'low income' but can be people who have fewer resources or opportunities in health and education. SIMD ranks data zones from most deprived (ranked 1) to least deprived (ranked 6,976), where 1 is within '10% most deprived areas' and 10 is within '10% least deprived area.

Aberdeen City is one of six Council Areas which includes North Lanarkshire, Moray, East Lothian, Highland and North Ayrshire which have a larger share of the 20% most deprived data zones in Scotland Compared with SIMD 2016. levels of deprivation have increased in Aberdeen City. None of these increases are greater than 2 percentage points.

The Beachfront Development Framework area comprises two data zones, Seaton (S01006666) and Hanover South (S01006640) (Figure 4-1). The Seaton data zone is ranked 973 out of Scotland's 6,976 data zones, while Hanover South is ranked 5,973.

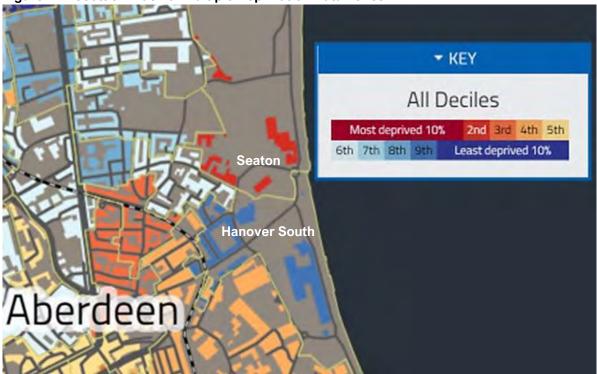


Figure 4-1: Scottish Index of Multiple Deprivation Data Zones

Figure 4-2 and Table 4-1 indicates that Seaton is within Decile 2, Quintile 1 which is one of the more deprived areas, while Hanover South is within Decile 9, Quintile 5 is one of the least deprived areas.



Figure 4-2: Scottish Index of Multiple Deprivation Zones - Seaton and Hanover South

Table 4-1: Scottish Index of Multiple Deprivation Zones - Seaton and Hanover South

Data Zone	Intermediate Zone	Total population	Working age population	SIMD 2020 Rank	Income Domain Rank	Employment Domain Rank	Health Domain Rank	Education Domain Rank	Access Domain Rank	Crime Domain Rank
S01006666	Seaton	1001	694	973	1033	956	855	1419	4581	629
	Hanover									
S01006640	South	822	743	5973	5695	6491	6692	3610	4951	2794

4.1.3 Aberdeen City Population

On 30th June 2020, the population of Aberdeen City was 229,060¹ over an area of 186 km² (18,600 ha). This results in a population density of 12.3 people per hectare.

There was an increase of 0.2% from 228,670 in 2019. Aberdeen City had the 8th highest population in 2020, out of all 32 council areas in Scotland.²

Between 1998 and 2020, the population of Aberdeen City has increased by 6.2%. This is the 16th highest percentage change out of the 32 council areas in Scotland. Over the same period, Scotland's population rose by 7.7% (Table 4-2).

Year	Population	% change from 1998	Scotland % change from 1998
1998	215,650	0.0	0.0
1999	214,630	-0.5	-0.1
2000	213,340	-1.1	-0.3
2001	211,910	-1.7	-0.3
2002	210,680	-2.3	-0.2
2003	209,280	-3.0	-0.2
2004	207,820	-3.6	0.1
2005	208,690	-3.2	0.7
2006	209,630	-2.8	1.1
2007	212,470	-1.5	1.8
2008	214,020	-0.8	2.5
2009	217,020	0.6	3.0
2010	219,730	1.9	3.6
2011	222,460	3.2	4.4
2012	224,910	4.3	4.7
2013	227,070	5.3	4.9
2014	228,920	6.2	5.3
2015	230,350	6.8	5.8
2016	229,840	6.6	6.5
2017	228,800	6.1	6.8
2018	227,560	5.5	7.1
2019	228,670	6.0	7.6
2020	229,060	6.2	7.7

 Table 4-2: Total population, Aberdeen City, 1998-2020

In 2020, there were more females (50.2%) than males (49.8%) living in Aberdeen City. There were also more females (51.2%) than males (48.8%) living in Scotland overall.

Between 2018 and 2028, the population of Aberdeen City is projected to increase from 227,560 to 230,170. This is an increase of 1.1%, which compares to a projected increase of 1.8% for Scotland as a whole.

¹ <u>https://www.nrscotland.gov.uk/statistics-and-data/statistics/statistics-by-theme/population/population-estimates/mid-2020</u>

² <u>https://www.nrscotland.gov.uk/files/statistics/council-area-data-sheets/aberdeen-city-council-profile.html#:~:text=Population%20Estimates.-</u>

 $[\]label{eq:last} \underline{Last\%20updated\%3A\%20June\&text=On\%2030\%20June\%202020\%2C\%20the, of\%20Scotland\%20increased\%20} \\ \underline{by\%200.0\%25.\&text=Aberdeen\%20City\%20had\%20the\%208th, 32\%20council\%20areas\%20in\%20Scotland}.$

Over the next 10 years, the population of Aberdeen City is projected to increase by 0.1% due to natural change (more births than deaths). Total net migration (net migration within Scotland, from overseas and from the rest of the UK) is projected to result in a population increase of 1.0% over the same period.

Between 2018 and 2028, the 0 to 15 age group is projected to see the largest percentage decrease (-3.2%) and the 75 and over age group is projected to see the largest percentage increase (+16.1%). In terms of size, however, 25 to 44 is projected to remain the largest age group.

The development framework proposals will provide long-term significant benefits for the area that will arise through the provision of high-quality amenities. The development principle is to develop a world-class sport, leisure and tourism destination which would revitalise the Beachfront area and reconnect it to the city centre. Other benefits include the provision of employment and community facilities, integrated transport links, environmental improvements and contributions to the regeneration of related areas. This will ensure the key elements of a sustainable community are looked at holistically.

4.1.4 Migrant Population

In 2019-20, Aberdeen City had the 12th highest level of net migration out of the 32 council areas in Scotland, with a net total of 500 people. This is a decrease of 310 from 810 people in 2018-19³.

Net migration is the difference between in-migration (those coming into an area) and out-migration (those leaving an area). Positive net migration means in-migration is higher than out-migration. Negative net migration means out-migration is higher than in-migration.

In Aberdeen City, the net migration rate decreased from 3.5 people per 1,000 population in 2018-19 to 2.2 in 2019-20. In comparison, the rate in Scotland overall decreased from 5.5 to 3.1 people per 1,000 population.

In 2019-20, Aberdeen City was the council area with the 17th highest net migration rate, out of all 32 council areas in Scotland. Between 2018-19 and 2019-20, 24 councils saw a decrease in net migration rates per 1,000 population and 8 councils saw an increase.

In the period 2019-20, net migration in Aberdeen City was higher for females (322) than for males (180). The age group with the highest level of total net migration was 15 to 19 (1,034). In contrast, the age group with the lowest level of net migration was 30 to 34 (-310).

4.1.5 Ageing Population

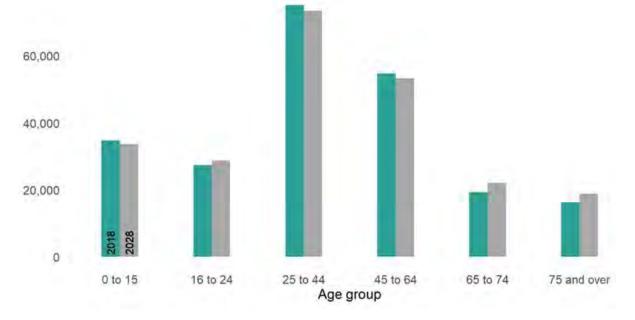
In terms of overall size, the 25 to 44 age group was the largest in 2020, with a population of 75,582. In contrast, the 75 and over age group was the smallest, with a population of 16,241. In 2020, more females than males lived in Aberdeen City in 4 out of 6 age groups.

Between 1998 and 2020, the 16 to 24 age group saw the largest percentage decrease (-16.5%). The 45 to 64 age group saw the largest percentage increase (+16.4%).

Between 2018 and 2028, the 0 to 15 age group is projected to see the largest percentage decrease (- 3.2%) and the 75 and over age group is projected to see the largest percentage increase (+16.1%). In

³ <u>https://www.nrscotland.gov.uk/files/statistics/council-area-data-sheets/aberdeen-city-council-profile.html#migration</u> (Accessed 15/05/2022)

terms of size, however, 25 to 44 is projected to remain the largest age group (Figure 4-3 and Table 4-3).⁴





Age group	2018	2028	% change	Scotland % change
All people	227,560	230,170	1.1	1.8
0 to 15	34,833	33,702	-3.2	-6.0
16 to 24	27,357	28,713	5.0	-0.9
25 to 44	75,101	73,500	-2.1	3.1
45 to 64	54,737	53,329	-2.6	-5.5
65 to 74	19,297	22,077	14.4	14.4
75 and over	16,235	18,849	16.1	25.4

In Aberdeen City, life expectancy at birth was higher for females (81.3 years) than for males (76.9 years) in 2018-20.⁵

In Aberdeen City, life expectancy at birth is higher than at Scotland level for both females and males.

Over the period between 2001-03 and 2018-20, female life expectancy at birth in Aberdeen City has risen by 1.6%. This is the 2nd lowest percentage change out of all 32 council areas in Scotland and this is lower than the percentage change for Scotland overall (+2.7%).

Over the period between 2001-03 and 2018-20, male life expectancy at birth in Aberdeen City has risen by 3.8%. This is the joint 20th highest percentage change out of all 32 council areas in Scotland and this is lower than the percentage change for Scotland overall (+4.5%).

In Aberdeen City, life expectancy at age 65-69 was higher for females (20.0 years) than for males (17.3 years) in 2018-20. Male life expectancy at age 65-69 has increased more rapidly than female life expectancy at age 65-69 between 2001-03 and 2018-20.

⁴ <u>https://www.nrscotland.gov.uk/files/statistics/council-area-data-sheets/aberdeen-city-council-profile.html#table_pop_proj_age</u> (Accessed 15/05/2022)

⁵ <u>https://www.nrscotland.gov.uk/files/statistics/council-area-data-sheets/aberdeen-city-council-profile.html#life_expectancy</u> (Accessed 15/05/2022)

In Aberdeen City, female life expectancy at age 65-69 is higher than at Scotland level and male life expectancy at age 65-69 is lower than at Scotland level.

Over the period between 2001-03 and 2018-20, female life expectancy at age 65-69 in Aberdeen City has risen by 6.6%. This is the 29th highest percentage change out of all 32 council areas in Scotland and this is lower than the percentage change for Scotland overall (+9.2%).

Over the period between 2001-03 and 2018-20, male life expectancy at age 65-69 in Aberdeen City has risen by 11.3%. This is the 2nd lowest percentage change out of all 32 council areas in Scotland and this is lower than the percentage change for Scotland overall (+16.3%).

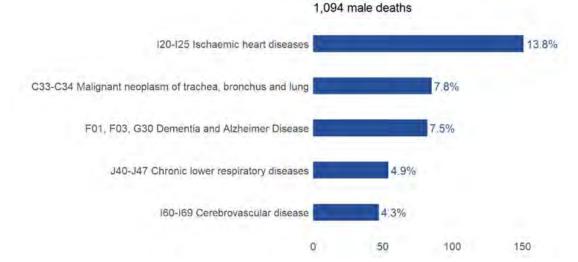
4.1.6 Health

In Aberdeen City, the standardised death rate increased from 10.8 per 1,000 population in 2019 to 11.0 in 2020. In comparison, the rate in Scotland overall increased from 10.6 to 12.0.

In 2020, Aberdeen City was the council area with the 27th highest standardised death rate. Between 2019 and 2020, 2 councils saw a decrease in standardised death rate and 30 councils saw an increase.

In Aberdeen City, the leading cause of death for males in 2020 was ischaemic heart diseases (13.8% of all male deaths), followed by lung cancer (7.8%). In Scotland overall, the leading cause of death for males was also ischaemic heart diseases (14.1%), followed by dementia and Alzheimer's disease (7.7%) (Figure 4-4).⁶

Figure 4-4: Aberdeen City: Male Leading Causes of Death. 2020



In Aberdeen City, the leading cause of death for females in 2020 was dementia and Alzheimer's disease (15.0% of all female deaths), followed by ischaemic heart diseases (8.4%). In Scotland overall, the leading cause of death for females was also dementia and Alzheimer's disease (14.2%), followed by ischaemic heart diseases (8.6%) (Figure 4-5).

⁶ <u>https://www.nrscotland.gov.uk/files/statistics/council-area-data-sheets/aberdeen-city-council-profile.html#deaths</u> (Accessed15/05/2022)

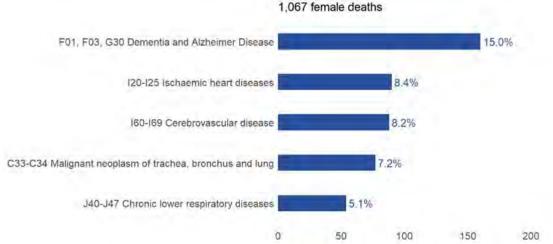


Figure 4-5: Aberdeen City: Female Leading Causes of Death. 2020

Scotland has seen increasing levels of obesity over the past ten years and currently one in four adults (25%) in Aberdeen City are obese.⁷ Clinical obesity increases the risk of ill-health and premature death, and is, therefore, an important driver of life expectancy.

In Aberdeen, there are over 55 sites where the Council monitors air quality. These include simple measuring devices and 6 highly sophisticated automatic monitoring sites that work 24 hours a day, 7 days a week. The automatic monitors measure Nitrogen Dioxide (NO2) and Fine particles (PM10 and PM2.5) and are located at Union Street, Market Street, Anderson Drive, Errol Place, King Street and Wellington Road.

Air quality in most parts of Aberdeen is good and unlikely to cause any major health problems. However, there are hot spots of raised nitrogen dioxide, PM10 and PM2.5 levels around busy roads and particularly in the city centre. The raised pollution level is caused by traffic congestion and the number and type of vehicles on our roads.

If an air quality objective is exceeded, or predicted to be exceeded, then the authority must declare the affected area an Air Quality Management Area (AQMA). The Council has declared the following AQMA's due to Nitrogen Dioxide (NO2) and Particulate Matter (PM10) exceedances:

- City Centre
- Anderson Drive/Haudagain/Auchmill Road corridor
- Wellington Road (Queen Elizabeth II Bridge to Balnagask Road)

If health is good, the level of air pollution usually experienced is unlikely to have any serious short-term effects, but on rare occasions when pollution levels are high, some people may feel eye irritation, and others may start to cough or have difficulty breathing. Those likely to be more sensitive include people who suffer from heart and lung disease, including asthma and bronchitis, especially young children and the elderly.

Refer to Section 10 for more details on Air Quality.

4.1.7 Transport

The area has good access to bus, walking and cycling routes and will provide an excellent opportunity for the provision of new infrastructure. The enhancements will benefit the wider area. Viewed in the

⁷ Source: Scottish Health Survey, local authority results 2014-17 inclusive, published 2017

https://www.gov.scot/publications/scottish-health-survey-results-local-areas-2014-2015-2016-2017/ (Accessed 15/05/2022)

context of conventional appraisal techniques and when compared to many other UK cities, Aberdeen Beachfront is not physically distant from the city centre or the key transport corridors that serve it. Contemporary journey planning software shows the Beach Ballroom, a prominent feature of the Beachfront area, to be 1.7km from the junction of Union Street and Union Terrace Gardens – a location that may be judged to represent Aberdeen city centre. At typical walking speed, a distance of 1.7km equates to a journey time of 24 minutes, matching the journey time on foot from Aberdeen railway and bus stations at Union Square. A wider accessibility appraisal shows that the Beachfront is located within 700m of the King Street corridor, equating to a journey time on foot of approximately 15 minutes.

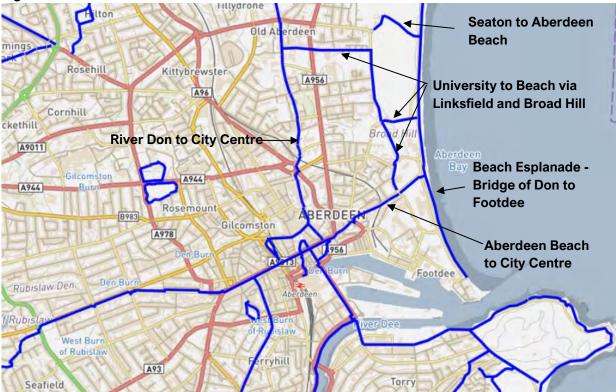
4.1.8 Core Paths

There is a general right of access on foot in Scotland to most areas of land.

The following core paths are in the area.

- Seaton to Aberdeen Beach
- University to Beach via Linksfield and Broad Hill
- Beach Esplanade Bridge of Don to Footdee
- Aberdeen Beach to City Centre
- River Don to City Centre

Figure 4-6: Core Path Network



4.1.9 Potential Environmental Effects

The development framework proposals will provide potential long-term health and economic benefits for the area that will arise through the provision of high-quality amenities, and the promotion of active travel and tourism. The development principle is to develop a world-class sport, leisure and tourism destination which would revitalise the Beachfront area and reconnect it to the city centre. Other benefits

include the provision of employment and community facilities, integrated transport links, environmental improvements and contributions to the regeneration of related areas. This will ensure the key elements of a sustainable community are looked at holistically.

The development framework incorporates open space, formal recreation and community facilities which offer potential benefits for the population.

The use of core paths will not be restricted as a result of the proposed Beachfront Development Framework.

5 **BIODIVERSITY**

5.1.1 Description of Local Environment

To inform the scoping report a desk study was completed. This involved a search for any statutory and non-statutory designated sites, notable habitats and species within a 5km radius of the site using the following sources:

- NatureScot SiteLink (for information on statutory designated sites);
- National Biodiversity Network's Gateway (NBN Gateway) (for records of protected or notable flora and fauna);
- Scotland's Environment (for information on statutory designated and non-statutory sites);
- Aberdeen City Council Local Development Plan (for non-statutory designated sites); and
- UK Biodiversity Action Plan (BAP) and the North East Scotland Local Biodiversity Action Plan NESLBAP (for priority habitats and species).

The findings of the desk study are presented below.

<u>Desk Study</u>

Special Protection Areas

Adjacent to the Beachfront Development Framework area is the Ythan Estuary, Sands of Forvie and Meikle Loch Special Protection Area (SPA). The Ythan Estuary, Sands of Forvie and Meikle Loch SPA covers a complex area in the north east of Scotland that contains the long, narrow estuary of the River Ythan, the Sands of Forvie on the east bank of the estuary; and the eutrophic Meikle Loch.

Ythan Estuary, Sands of Forvie and Meikle Loch SPA qualifies under Article 4.1 by regularly supporting populations of European importance of the following Annex 1 species:

- Sandwich *tern Sterna sandvicensis* (1989 to 1991, up to 1125 pairs, up to 7% of the GB population);
- Common tern *Sterna hirundo* (1989 to 1993, up to 265 pairs, up to 2% of the GB population); and
- Little tern *Sterna albifrons* (1989 to 1993, up to 41 pairs, up to 2% of the GB population).

The marine component, immediately offshore of the terrestrial area forms the foraging zone for both Sandwich terns and little terns

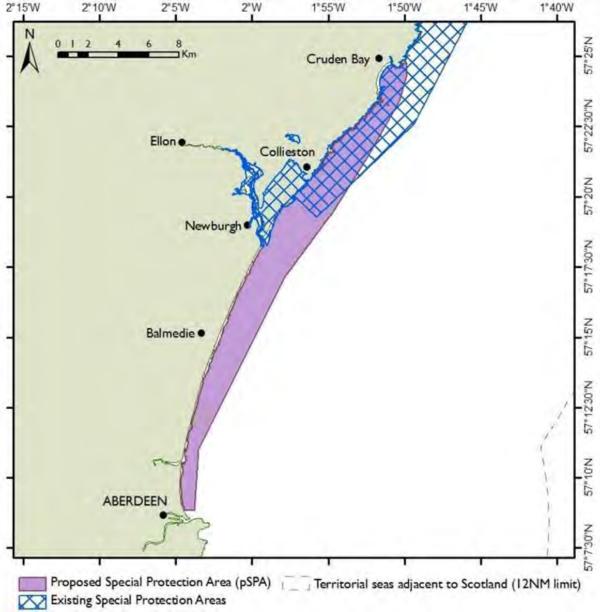
Ythan Estuary, Sands of Forvie and Meikle Loch SPA further qualifies under Article 4.2 by regularly supporting populations of European importance of the migratory species: pinkfooted goose *Anser brachyrhynchus* (1988/89 to 1992/93 winter peak mean of 17,213 individuals, 9% of the Eastern Greenland/Iceland/UK biogeographic population).

Ythan Estuary, Sands of Forvie and Meikle Loch SPA also qualifies under Article 4.2 by regularly supporting in excess of 20,000 individual waterfowl. During 1988/89 to 1992/93 the site supported a winter peak mean of 26,400 individual waterfowl, comprising 8,000 waders and 18,400 wildfowl including nationally important populations of the following species: pink-footed goose (17,213 individuals, 9% of the GB population) and eider *Somateria mollissima* (winter peak mean of 1,860 individuals, 2% of the GB population).

In the five-year period, 1991/92 to 1995/96, a winter peak mean of 51,265 individual waterfowl was recorded with the assemblage additionally including nationally important populations of redshank *Tringa totanus* (1,149 individuals, 1% of the GB population) and lapwing *Vanellus vanellus* (2,542 individuals, 0.2% of the GB population).

The Beachfront at Aberdeen is adjacent to the extension to this SPA which encompasses the foraging areas potentially used by these terns breeding at this colony (Figure 5-1).





Special Area of Conservation

To the south of the Beachfront Development Framework area is the River Dee Special Area of Conservation (Figure 5-2).



Figure 5-2: River Dee Special Area of Conservation

Source: Scotland's Environment[®]

Annex II species that are a primary reason for the selection of this site are:

- Freshwater pearl mussel (Margaritifera margaritifera);
- Atlantic salmon (Salmo salar); and
- Otter (*Lutra lutra*).

Freshwater pearl mussel

The River Dee is a major east-coast Scottish river, which flows uninterrupted for some 130 km from its upland reaches in the high Cairngorms to the North Sea. It supports a functional population of freshwater pearl mussel, which is common in the Dee, recorded from a location approximately 30 km from the river source to approximately 6-7 km upstream from its mouth. Juveniles make up approximately 30% of the recorded population, among the highest proportions recorded in Scotland. This indicates that the population is recruiting strongly and is one of the most important in the UK.

Atlantic salmon

The River Dee supports a high-quality Atlantic salmon population in a river draining a large catchment on the east coast of Scotland. There is a weak nutrient gradient along its length, but it is essentially a nutrient-poor river. The high proportion of the river accessible to salmon has resulted in it supporting the full range of life-history types found in Scotland, with sub-populations of spring, summer salmon and grilse all being present. The headwaters which drain the southern Cairngorm and northern Grampian mountains are particularly important for multi sea-winter spring salmon, but there has been a significant decline in their abundance in recent years. The extensive areas accessible to salmon mean the River

⁸ <u>https://map.environment.gov.scot/sewebmap</u> (Accessed 27/04/2022)

Dee supports a significant proportion of the Scottish salmon resource. In recent years it has contributed about 4 or 5% of all salmon caught in Scotland.

Otter

The Dee is a major east-coast Scottish river, which flows uninterrupted for some 130 km from its upland reaches in the high Cairngorms to the North Sea. Surveys have indicated that the otter is found throughout the Dee catchment, from its mouth at Aberdeen to many of the high-altitude lochs. The river system contains extensive areas of suitable habitat for otter feeding, resting and breeding, including watercourses with high fish biomass and islands and marshy areas for resting. This is a strong, high-quality population, representative of north-east Scotland.

Other European sites

Due to the projection of the boardwalk and slipway into the marine environment there may be effects on mobile species and other more distant sites which may require to be assessed once design information becomes available, including:

- Moray Firth SAC;
- Fowlsheugh SPA;
- Montrose Basin SPA;
- Isle of May SAC; and
- Berwickshire and North Northumberland Coast SAC.

Sites of Special Scientific Interest (SSSI)

A review of Scotland's Environment Interactive Map indicates that there are no SSSIs in proximity to the Aberdeen Beachfront. Development Framework area.

Local Nature Reserves

A review of Scotland's Environment Interactive Map indicates that there are no Local Nature Reserves in proximity to the area covered by the Aberdeen Beachfront. Development Framework.

The Donmouth Local Nature Reserve 2km north of the site supports waterfowl and seal populations. It is connected to the site via the parkland and green residential garden habitats to the north of the site and the North Sea to the east.

Ancient Woodland

No areas of ancient woodland are present within the site or in close proximity (Refer to Appendix B Tree Survey). The nearest ancient woodland to the site is the long-established (of plantation origin) woodland at Seaton Park 2km northwest of the site. It is ecologically connected to the site by the parkland and green residential garden habitats present to the north and west of the site.

Field Study: Preliminary Ecological Appraisal (PEA)

A Preliminary Ecological Appraisal (PEA) was carried out by EnviroCentre Limited in April 2022 which included a desk study, UK Habitat Classification and Protected and Notable Species Survey. The PEA will be used to inform the SEA Environmental Report and Guide the Beachfront Development Framework.

UK Habitat Classification (UKHAB) Survey

The UKHab is a flexible hierarchical system for rapidly recording and classifying habitats and was used to identify ecologically sensitive features/habitats, to inform relevant species surveys and, aid in the recommendation of mitigation and enhancement measures in connection with a proposed development.

Habitats consisted of grassland (modified and other neutral), young plantation woodland, hardstanding ground, buildings, open water (North Sea), scrub and beach.

The information is used to identify ecologically sensitive features/habitats, inform relevant species surveys and, aid in the recommendation of mitigation and enhancement measures in connection with a proposed development.

The UKHab Survey indicates the site comprises the following habitats:

g3c –	Other neutral grassland;
g4 –	Modified grassland;
h3 -	dense scrub;
u1b –	Developed land; Sealed surface;
u1b5 –	Buildings;
u1e -	Built linear features;
s3a –	coastal sand dunes;
t2 –	littoral sediment; and
w1g6 -	Line of trees

No groundwater Dependent Terrestrial Ecosystems (GWDTEs) were identified during the survey.

Habitats

The North Sea and associated sand and pebble beach are present to the east of the site. The bank between the intertidal sediment (sand) and the built linear feature (Esplanade walkway), has been supported and reinforced with a stone sea wall (as shown in Photograph 10 of the PEA).

Groynes (stone-built structures) are present in the water, perpendicular to the shoreline, implemented as a method for shore protection to reduce longshore drift and trap sediments (as shown in Photograph 11 of Appendix A (Preliminary Ecological Appraisal Appendix I, Photographs)).

A small area of the shore has vegetated sand, which has been previously shaped by the wind and is a remnant of an existing dune feature (<25m²). The species present comprise dominant marram grass (*Ammophila arenaria*) and sand couch grass (*Sporobolus virginicus*), with occasional dandelion, common chickweed, ragwort, cleavers and common haircap moss (*Polytrichum commune*) (Photograph 12). Sand dunes are SBL priority habitats, however the sand dune habitat within the site would not be classed as viable due to it being a small remnant sand dune, with species untypical of that habitat type.

Sand and gravel dominated habitats fall within the Marine and Coastal NESBiP priority habitat. Therefore, beaches are of Regional importance.

Six primary habitats are present within the site, comprising grassland, woodland, trees, buildings, built linear features and beach habitats. A small remnant sand dune is also present within the beach habitat but is not considered a viable size for inclusion as a Scottish Biodiversity List (SBL) priority habitat.

Buddleja, a non-native invasive species, was identified within and adjacent to the site during the survey at many locations. A management plan should be devised for Buddleja.

Faunal Interest

Faunal species are transient and can move between favoured habitats regularly throughout and between years. Surveys were undertaken which provide a snapshot of field signs present in the survey area in April 2022.

The following was identified during the survey.

Buildings within and adjacent to the site and the footbridge over Commerce Street and Railway bridge under Beach Boulevard Road have Potential Roost Features (PRFs) and are considered to offer **low-moderate** suitability for roosting bats. Some of the mature broadleaf trees on site displayed PRFs and are considered to offer **low** suitability for roosting bats.

A badger sett and diagnostic evidence of badger (digging, snuffling, guard hairs on breach point etc.) were identified.

During the desk study records were returned for bottle-nosed dolphin (*Tursiops truncatus*), Harbour porpoise (*Phocoena phocoena*), Common dolphin (*Delpinus delphis*), Risso's dolphin (*Grampus griseus*), White-beaked dolphin (*Lagenorhynchus albirostris*), Humpback whale (*Megaptera novaeangliae*), Long-finned pilot whale (*Globicephala melas*), Minke whale (*Balaenoptera acutorostrata*), grey seal (*Halichoerus grypus*), harbour seal (*Phoca vitulina*), Atlantic white-sided dolphin (*Lagenorhynchus acutus*), Killer whales (*Orcinus orca*), Sperm whale (*Physeter microcephalus*) and Fin whale (*Balaenoptera physalus*). No direct sightings of any marine mammals were observed during the survey undertaken in April 2022.

Bird nests were identified in trees and on buildings during the survey and the site provides suitable habitat for a range of bird species.

Rabbit warrens are present in grassland areas throughout the site and rabbit activity within the site was high. A potential fox den was identified in the north-west of the site.

No evidence of otter, red squirrel or hedgehog was recorded within the survey area, however suitable habitat exists for these species within and adjacent to the site.

Carefully designed planting should be considered for both badgers and bats to create natural screens and buffer zones to minimise disturbance, whilst providing a green network corridor.

5.1.2 Potential Environmental Effects

The development framework area is of intrinsic low ecological and nature conservation value. The development framework proposals will have a cumulative positive impact by providing new green networks, particularly SUDs which will benefit biodiversity.

Faunal interest is limited to the presence of a badger set on site (the location of which is confidential) and bat roost potential. The potential impact on these species will be reported in the Environmental Report and mitigation measures included as required. The development framework includes landscaping proposals for woodland planting to provide screening and ecological enhancement. These measures will have beneficial positive impacts and will assist in increasing biodiversity interest of the area in the long term.

5.1.3 Relevant Guidance

Ecological Impact Assessment (EcIA) to be carried out in accordance with CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine;

EcIA should also consider the following:

- The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended);
- The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended);
- The Wildlife and Countryside Act 1981 (as amended) (WCA);
- The Nature Conservation (Scotland) Act 2004;
- The Wildlife and Natural Environment (Scotland) Act 2011 (WANE);
- The Protection of Badgers Act 1992;
- The British Standard for Biodiversity;
- The Scottish Biodiversity Strategy;
- Scottish Planning Policy (2014);
- The Marine (Scotland) Act 2010;
- The European Commission Habitats Directive (1991);
- The Aberdeen City Local Development Plan⁹;
- Aberdeen City Council Aberdeen Beachfront Project Development Framework; and
- North East Scotland Biodiversity Partnership¹⁰.

⁹ <u>https://www.aberdeencity.gov.uk/services/planning-and-building/local-development-plan/aberdeen-local-development-plan</u> (Accessed April 2022)

¹⁰ <u>https://www.nesbiodiversity.org.uk/</u> (Accessed April 2022)

6 GEOLOGY AND SOIL

6.1.1 Description of Local Environment

Bedrock Geology

The Preliminary Drainage Strategy Plan prepared by Goodson Associates (January 2022) on Behalf of Aberdeen City Council indicates the bedrock geology comprises 'Brig O' Balgownie Formation' - Conglomerate and [subequal/subordinate] sandstone, interbedded. Sedimentary bedrock was formed approximately 393 to 419 million years ago in the Devonian Period. The local environment was previously dominated by rivers and alluvial fans. These sedimentary rocks are fluvial in origin. They are detrital, generally coarse-grained and form beds and fans of deposits where rivers flow from upland valleys onto lowland plains.

Superficial Geology

The eastern section of the site comprises Blown Sand - Sand. Superficial Deposits formed up to 3 million years ago in the Quaternary Period. Local environment previously dominated by wind-blown deposits. These sedimentary deposits are aeolian in origin. They are detrital, comprising medium- to fine- grained materials, forming lenses, beds (and locally) dunes.

The geology to the west of the site comprises Raised Tidal Flat Deposits - Clay, Silt And Sand superficial deposits formed up to 3 million years ago in the Quaternary Period. Local environment previously dominated by shorelines. These sedimentary deposits are shallow-marine in origin. They are detrital, generally coarse-grained forming beaches and bars in a coastal setting.

Soil

The National soil map of Scotland indicates that local soils consist primarily of immature soils with 'Links' Soil Association) (Table 6-1).¹¹

Generalised Soil Type	Immature soils
Major Soil Group	Regosols
Major Soil Subgroup	Regosols
Parent Material	Windblown sands
Soil Association	Links
Component Soils	Regosols
Land Form	Beaches and dunes with gentle and strong slopes

Table 6-1: Soil Classification

Links soils are represented by a broad class of shallow or weakly developed soils including alluvial soils, soils developed on coastal dunes and in relatively flat areas of blown sand, called links or machair ion Scotland and shallow soils resting almost directly onto rock or shattered rock. Such soils are distributed throughout almost the entire range of environmental conditions within Scotland and are generally classified according to their parent material; rather than by processes of soil formation¹².

Regosols are soils developed on unconsolidated material and can often have a weakly developed mineral 'A' horizon.

¹¹ <u>https://map.environment.gov.scot/Soil_maps/?layer=1</u> (Accessed (20/01/2022)

¹² https://www.hutton.ac.uk/learning/exploringscotland/soils/immaturesoils (Accessed 27/04/2022)

Scotland's Soils interactive map indicates the site topsoil organic carbon concentration is moderate between 1.5 - 3.0% (2.11%).

The majority of the development framework area is identified as having an average topsoil organic content concentration of 2.1% and is noted to range from extremely vulnerable to very vulnerable with respect to risk from subsoil compaction and a moderate risk of topsoil compaction.

The vulnerability of subsoils to compaction is shown in 4 classes: Not particularly vulnerable, Moderately vulnerable, Very vulnerable and Extremely vulnerable. Scotland's Soil map shows subsoil compaction risk is extremely vulnerable in the south of the Beachfront Development Framework area and very vulnerable in the north, east and west of Broad Hill.

The development framework area soil leaching potential is identified as Class H2 with respect to potential risk from leaching of contaminants impacting ground or surface water (deep, permeable, coarse-textured soils with little ability to retain potential pollutants). H1 has a greater leaching potential than H2 which in turn has a greater leaching potential than H3.

Scotland's Soil map shows the risk of the soil becoming saturated, causing water (or any liquid applied to the soil) to flow over land (runoff) and carry potential pollutants into water courses, or to collect (pond) on the surface. Within the Beachfront Development Framework area soil runoff is considered to be low i.e., soils can store large volumes of water or can allow water to quickly infiltrate and so surface runoff is limited

Scotland's Soil map 'risk of soil erosion' indicates the Beachfront Development area is classed as low erosion risk i.e., L3, coarse, medium and fine-textured soils with high to low water absorption capacity on almost level to moderate slopes. The combination of soil texture, the capacity to store rainfall and almost level to moderate slopes mean that the soils are at low risk of erosion.

With reference to Land Capability for Agriculture mapping, the majority of the development framework area is identified as having an agricultural capability of 4.1 (*Land capable of producing a narrow range of crops, primarily grassland with short arable breaks of forage crops and cereal*) with an area of 5.2 (*Land capable of use as improved grassland. Few problems with pasture establishment but may be difficult to maintain*) at Broad Hill. There is also an area with an agricultural capability of 6.2 (*Land capable of use as rough grazings with moderate quality plants*) in the north-east of the Development Framework area. The remainder is classified as Urban.

The whole of the development area is not identified as having significant capability with respect to forestry.

Site Topography

The Preliminary Drainage Strategy Plan prepared by Goodson Associates (January 2022) on Behalf of Aberdeen City Council indicates that the developable area occupies a gently sloping, slightly dished, plateau adjacent to the shoreline at approximately 5m Above Ordnance Datum (AOD).

A narrow, linear, steep-sided sand hill, known locally as Broad Hill, alters the falls along the western boundary. Rising to approximately 28m AOD, the feature separates the site from the residential and commercial areas associated with Park Street.

A steep-sided berm, rising to approximately 11m, runs along the edge of the backshore and elevates the Esplanade road corridor above the site and the shoreline level.

The road corridor associated with Beach Boulevard tends to fall from west to east, towards the shoreline.

Contamination

With reference to the draft Engineering Site Appraisal prepared by Goodson Associates, the site was previously used as a rifle range and rocket battery. In addition, there is made ground and ashy waste, and a gravel pit.

The site is located on the edge of an area which has former industrial uses including chemical, gas, iron, rope and granite works. All of these have the potential to leach contaminants into the surrounding areas. Without knowing how contaminated material, if any, was dealt with when the site was first developed, it is not possible to discount the possibility that contaminated material will be encountered on site.

Existing features such as car parking areas could contain localised contamination and therefore any made ground encountered should be tested for chemical contaminants and dealt with accordingly.

There is some potential for significant negative effects to arise, mainly through increases/ decreases in soil sealing, soil loss and erosion (e.g., building new car parks to accommodate increased visitor numbers), soil compaction (e.g., increased visitor numbers at sensitive areas. Secondary effects of increased uptake of sustainable transport options may result in less requirement for new car parking facilities at key attractions.

6.1.2 Potential Environmental Effects

The site is located on the edge of an area which has former industrial uses including chemical, gas, iron, rope and granite works. All of these have the potential to leach contaminants into the surrounding areas. Without knowing how contaminated material, if any, was dealt with when the site was first developed, it is not possible to discount the possibility that contaminated material will be encountered on site.

Potential development may reduce vegetation cover and increase the risk of soil erosion. Factors that lead to soil erosion include construction activities. Erosion rates are very sensitive to climate, land use, soil texture, slope, land cover, and rainfall.

Soil erosion by water is caused by rapidly moving water across bare soil. The beating action of rain on wet soil destroys surface aggregates which reduces water infiltration. Once water from rainfall exceeds water infiltration into the soil, run-off occurs. The severity of raindrops, the rate of precipitation and long and/or steep slopes affect the extent of soil erosion.

Over gentle undulating land, where the soil surface has been dried out, "blowing" can occur at wind speeds of about 18-25 miles per hour. A loose surface of fine tilth is most likely to erode whereas a coarse cloddy surface is least likely. The fine sand fraction is most likely to be moved by wind.

During construction excavation of existing fill, subsoil and bedrock may be required for site levelling, for the installation of foundations for the leisure facilities, ice arena and stadium, carpark, and service trenching. This will result in a permanent relocation of soil and subsoil at most excavation locations. The excavated materials are expected to include existing fill material, topsoil/subsoil, and some bedrock.

Similar to all construction sites, plant and machinery will require refuelling and so fuel and oil may be stored on-site. Managed incorrectly, there is the risk of spills and leaks associated with these operations impacting land and soils.

No impacts on soils and geology are anticipated during the operational phase. The operational stage of the development will not involve further disturbance to the topsoil, subsoils and geology of the area.

7 WATER

7.1.1 Drainage

Groundwater and Hydrogeology

An assessment of the prevailing ground conditions has been made by Goodson Associates using the data published by the British Geological Survey.

The Geological Survey of Scotland map series indicate conglomerate and sandstone bedrock, of the Brig O'Balgownie Formation, overlain by predominantly raised tidal flat deposits of clay, silt and sand. Some blown sand fronting marine beach deposits, which are consistent with the coastal location of the site, are also present.

From the relevant borehole and trial pit logs the following typical sequence of strata has been identified:

- 1. Topsoil Ranging in thickness from 0.15m to 0.40m.
- 2. Made ground –Typically silty sand, ash and gravel, with fragments of burnt shale. Where encountered depths vary from 1.5m to 4.1m.
- 3. Sand and Gravel Dense, becoming very dense, fine to coarse sand and fine to coarse angular to subrounded gravel.
- 4. Bedrock conglomerate and sandstone bedrock.

The Hydrogeological Map of Scotland shows that the quaternary sands and gravels that underlie the site are locally important aquifers. As the flow through such deposits is intergranular yields are significant and can range from 10l/s to 15l/s in exceptional circumstances. The site is denoted as an area where the chloride ion concentration within the groundwater exceeds 100 mg/l.

Given the coastal nature of the site, groundwater will likely be shallow and affected by the tidal system.

Natural Drainage Features

There are no natural surface water features within the proposed development boundary, the nearest watercourse being the River Don – which lies approximately 2km to the north of the site. The site forms part of the Aberdeen Beach Front and is only separated from the North Sea by the Esplanade. Consequently, it forms part of the catchment of the River Don/North Sea Confluence (See Figure. 7-1).

Given the topography of the site and the prevailing ground conditions, it is likely that run-off from the undeveloped parts of the development framework site drain to the natural water environment through groundwater percolation towards the North Sea.



Figure 7-1: Natural Drainage Features

Drainage Infrastructure (Foul and Surface Water)

Scottish Water's record plan shows that a 1170mm diameter combined sewer, of brick construction, is present within the development site boundary. The sewer traverses the site, running from north-west to south-east as it makes its way towards the York Place Pumping Station, which lies approximately 1km to the south of the site. It is believed that the discharge from the pumping station is transferred to the St Fitticks Wastewater Treatment Works a further 2km to the south (See Figure 7-2)

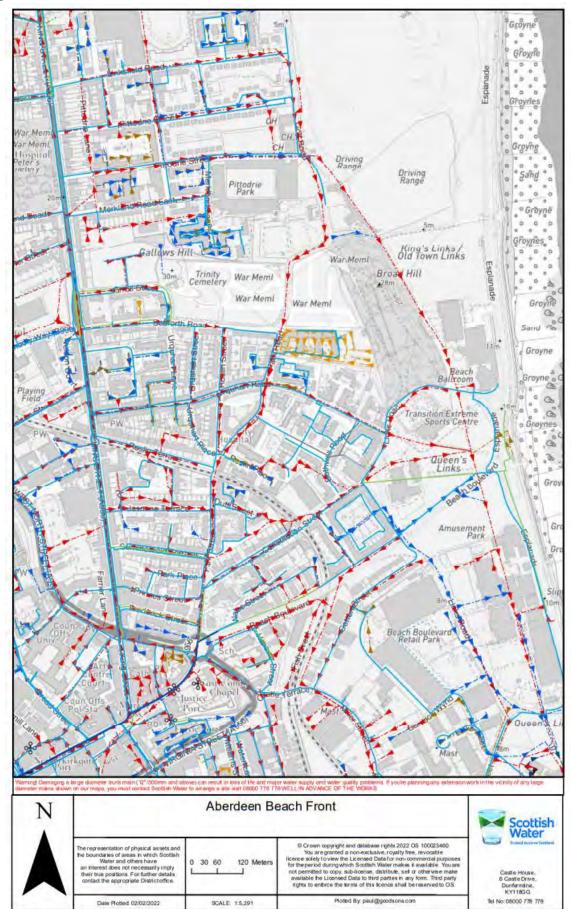


Figure 7-2: Scottish Water Records

The developments adjacent to the western and southern boundaries are generally served by a combined sewerage system that feeds into the trunk sewer that flows through the site – although, some of the more modern developments have separate systems with their site boundaries.

A combined sewer overflow, discharging to the River Dee adjacent to the Abercromby Jetty, provides relief to the pumping station during periods of intense rainfall.

Potential Effects

Sensitive Receptors

The following receptors have been identified:

- Ground water;
- River Don;
- North Sea; and
- Existing drainage infrastructure.

Key Potential Impacts

The potential effects of the proposed development framework could arise through either the construction or operational phases. These include:

Construction Phase

- 1. Earthworks and other general construction activities, such as tracking of plant, may pollute nearby watercourses or drainage systems with sedimentary material or construction materials (concrete, tarmac, lubricants, timber treatments, paint);
- 2. Increased loadings of suspended solids can smother the natural substrate of watercourses and adversely affect spawning ground and invertebrate communities;
- 3. Earthworks and drainage/ utilities/ foundation installation may mobilise pollutants in made ground/ soil and allow them to contaminate the water environment through surface water runoff and percolation to groundwater;
- 4. Earthworks, new drainage systems, temporary bunding or material stockpiles may alter runoff, hydrology or morphology of water features resulting in changes to flood risk or habitats;
- 5. Pollution from accidental spillage or leaks of fuels, hydraulic fluids and lubricants;
- 6. Pollution due to vandalism of stores or plant;
- 7. Foul drainage from washroom facilities, wheel washing, etc. polluting receiving waters;
- 8. Water abstraction or dewatering may change groundwater levels, altering the hydrological regime; and
- 9. Disturbance or damage to existing Scottish Water assets.

Operational Phase

- 1. Changes in volume and rate of surface runoff from impermeable surfaces such as roofs, car parking areas and access roads may effect flow characteristics or cause soil erosion;
- 2. Pollution of groundwater and receiving watercourses from accumulated contaminants in runoff from the new surfaces and landscaped areas, e.g., fuel, dust, surfactants, pesticides and herbicides, salt, and debris from plant litter;
- 3. Changes to the permeability of surface cover may impact the underlying hydraulic regime and groundwater recharge;
- 4. Surface drainage schemes may alter the flow characteristics of nearby watercourses and flooding characteristics;
- 5. Safety issues associated with the creation of new open water bodies (during times of flood for SuDS basins) including potential attraction of birds within the airport safeguarding area;

- 6. Enhancement of amenity/ ecology; and
- 7. Reduction in fly-tipping.

7.1.2 Terrestrial Flood Risk

From a review of SEPA's flood map, which provides an understanding of how the site may be affected by flooding, the following existing impacts have been determined:

Fluvial Flooding (River)

The Flood Map indicates that the site doesn't experience fluvial flooding during the 1:10 year (10%) or 1:200 year (0.5%) return periods. A small area, associated with the low point of Links Road is shown to be at risk of flooding from the Den Burn during the 1:1000 year (0.1%) return period event.

The river Don is shown to be prone to flooding during all return period events, but within the vicinity of the site, the extent of flood water is limited.

Pluvial Flooding (Surface Water)

No flooding is indicated during the 1:10 year (10%) return period event.

Pockets of surface water flooding, associated with existing hard-standings serving the existing buildings and the low point of beach boulevard are indicated for the 1:200 year (0.5%) and 1:1000 year (0.1%) return period events.

Potential Effects

Sensitive Receptors

The following receptors have been identified:

- Neighbouring properties and roads;
- Existing drainage infrastructure; and
- Proposed development.

Future assessments will refer to the 2Di model recently developed by Scottish Water in partnership with Aberdeen City Council.

Key Potential Impacts

The potential effects of the proposed development could arise through either the construction or operational phases. These include:

Construction Phase

- 1. Earthworks, temporary bunding or material stockpiles may alter runoff, hydrology or morphology of water features resulting in changes to flood risk or habitats; and
- 2. New drainage systems, temporary or permanent, may alter runoff, hydrology or morphology of water features resulting in changes to flood risk or habitats.

Operational Phase

 Changes in volume and rate of surface runoff from impermeable surfaces such as roofs, car parking areas and access roads may effect flow characteristics resulting in changes to flood risk;

- 2. Changes to the permeability of surface cover may impact the underlying hydraulic regime and groundwater recharge; and
- 3. Surface drainage schemes may alter the flow characteristics of nearby watercourses and flooding characteristics.

7.1.3 Coastal Flood Risk

Geology

Review of the British Geological Survey (BGS) 1:50,000 scale bedrock geology mapping¹³ highlights that the Aberdeen Beachfront area is underlain by Conglomerate and Sandstone from the Brig O'Balgownie Formation, sedimentary bedrock formed in the Devonian Period. Superficial cover is shown to vary from Marine Beach Deposits on the present-day beach to Blown Sand around the Esplanade, with Raised Tidal Flat Deposits (Clay, Silt and Sand) further landward.

Topography and Bathymetry

Ordnance Survey map data indicates that ground levels along the Esplanade and within the Aberdeen Beachfront area are around 10 to 11 metres above Ordnance Datum (mAOD). The Mean High Water Springs (MHWS) level of 2.05 mAOD is shown at the base of the esplanade seawall, whilst the Mean Low Water Springs (MLWS) level of -1.65 mAOD is approximately 125 m east (seawards) from the seawall.

Tidal Water Levels

Tidal water levels from Admiralty Table Tides¹⁴ have been used in this assessment. Tidal water levels at Aberdeen are presented in metres (m) relative to Chart Datum (mCD) and Ordnance Datum (mOD) in Table 7-1. Chart Datum correction for Ordnance Datum is -2.25 relative to OD at Aberdeen.

Tidal Condition	Chart Datum (cmD)	Ordnance Datum (mOD)
Highest Astronomical Tide (HAT)	4.8	2.55
Mean high water springs (MHWS)	4.3	2.05
Mean high water neaps (MHWN)	3.4	1.15
Mean Sea Level (MSL)	2.6	0.35
Mean Low Water Neaps (MLWN)	1.6	-0.65
Mean Low Water Springs (MLWS)	0.6	-1.65
Lowest Astronomical Tide (LAT)	0.0	-2.25

Table 7-1: Tidal Water Levels at Aberdeen

Coastal Defences

Extensive coastal defences are present along Aberdeen beach to the south of the River Don, these include the following:

- A 3km long sloping revetment seawall, completed in 1969, is present to the back of Aberdeen Beach and extends from the harbour in the south toward Donmouth in the north;
- Thirty shore-perpendicular timber groynes at approximately 110m spacing, each extending 90m in length;

¹³ British Geological Survey: Geology of Britain Web Viewer

⁽https://mapapps.bgs.ac.uk/geologyofbritain/home.html)

¹⁴ Admiralty Tide Tables. UKHO, 2022.

- Five nearshore rock structures (3 V-shaped and 2 L-Shaped) extending from the seaward ends of five timber groynes. These structures are associated with recent (2006) beach replenishment activities; and
- A short section of gabion baskets extends between the northern end of the seawall and the River Don.

Coastal Flood Risk

A review of the SEPA Flood Maps¹⁵ shows that areas of coastal flood risk are located east of the Esplanade seawall, with no coastal flood risk shown for the proposed beachfront development area.

Extreme sea levels have been predicted around the whole UK coastline and published by the Environment Agency¹⁶. These extreme levels include the effects of both tides and storm surges and the effect of amplification within estuaries or sea lochs. Extreme sea levels predicted at a point offshore from Aberdeen Beach (chainage _3224) are summarised in Table 7-2. The 1 in 200 year return period event level is 3.22m Above Ordnance Datum (AOD), whilst the 1 in 1,000 year return period event level is 3.36mAOD.

Return Period (Years)	Water Level (mCD)	Water Level (mAOD)
1	4.94	2.69
2	5.02	2.77
10	5.18	2.93
25	5.27	3.02
100	5.40	3.15
200	5.47	3.22
1000	5.61	3.36

Table 7-2: Extreme Sea Levels at Aberdeen Beach

The extreme sea levels do not account for wave action or the potential for wave overtopping of the Esplanade seawall. Assessment of the risk of wave overtopping requires site-specific calculations, taking into consideration the wave climate, joint probability sea level occurrence, and the nature of the coastal edge or defence structure.

As outlined in SEPA climate change guidance¹⁷, future climate change may cause a sea level rise of 0.87 m in the North-East river basin region by 2100, based on UKCP18 outputs. Future climate extreme sea levels are presented in Table 7-3 below.

Table 7-5. Future Chinate (2100) Extreme Sea Levels at Aber deen beach				
Return Period (Years)	Water Level (mCD)	Water Level (mAOD)		
200	6.34	4.09		
1000	6.48	4.23		

Table 7-3: Future Climate (2100) Extreme Sea Levels at Aberdeen Beach

Potential Effects

The key potential environmental impacts on coastal flood risk during construction and operation have been identified and are outlined below:

• Potential changes in coastal flood risk; and

¹⁵ SEPA Flood Maps <u>https://map.sepa.org.uk/floodmap/map.htm</u>

¹⁶ Coastal Flood Boundary Extreme Sea Levels. Environment Agency, 2018.

¹⁷ Climate change allowances for flood risk assessment in land use planning Version 2. SEPA, 2022.

• Potential interactions between coastal flood impacts and associated ecology and environmental designations.

For the construction phase, the following potential effects will need to be assessed:

• Coastal flood risk during construction.

Potentially significant effects arising from the operational phase (i.e., once the works are complete) are likely to arise from the same potential impacts as highlighted above.

Where any significant effects on the water environment or coastal flooding are identified as part of the project EIA process associated with future planning applications, recommendations for design alteration or mitigation which could avoid, reduce or remedy the adverse effects will be identified.

Water Quality

The Don Estuary to Souter Head (Aberdeen) is a coastal water body (ID: 200105), in the Scotland river basin district. It is 50.2 square kilometres in area. The water body has been designated as a heavily modified water body on account of physical alterations that cannot be addressed without a significant impact on navigation and from an increased risk of subsidence or flooding.

With reference to the SEPA Water Classification Hub, the coastal waters from the Don Estuary to Souter Head have been classified under the Water Framework Directive (WFD) scheme as having good ecological potential, and good water quality (Table 7-4).¹⁸

Parameter	2020	2019	2018	2017	2016
Overall status	Good	Good	Good	Good	Good
	ecological	ecological	ecological	ecological	ecological
	potential	potential	potential	potential	potential
Pre-HMWB status	Poor	Poor	Poor	Poor	Poor
Overall ecology	Poor	Poor	Poor	Poor	Poor
Biological elements	Good	Good	Good	Good	Good
Invertebrate animals	Good	Good	Good	Good	Good
Imposex assessment	Good	Good	Good	Good	Good
Benthic invertebrates	High	High	High	High	High
Phytoplankton	High	High	High	High	High
Hydromorphology	Poor	Poor	Poor	Poor	Poor
Morphology	Poor	Poor	Poor	Poor	Poor
Water quality	Good	Good	Good	Good	Good

Table 7-4: Water Classification

Groundwater

The Beachfront Development Framework is within "Aberdeen groundwater" (ID: 150491) which covers approximately 37.8 square kilometres in area and is classified as being Good.¹⁹

¹⁸ <u>https://www.sepa.org.uk/data-visualisation/water-classification-hub/</u> (Accessed 12/05/2022)

¹⁹ https://www.sepa.org.uk/data-visualisation/water-classification-hub/ (Accessed 16/05/2022)

Bathing Water

SEPA has assessed the bathing waters in Scotland. This assessment compares the water quality against the standards in the European Bathing Water Directive. The bathing water assessments relevant to Aberdeen City were either sufficient to Good (Table 7-5).²⁰

Table 7-5: Aberdeen Bathing Waters

ID	Name	2018	2017	2016	2015
PAUKS761601	Aberdeen	Good	Sufficient	Good	Good

The relocation of the stadium may have a significant effect on the water environment and this will require assessment before the submission of a planning application.

7.1.4 Relevant Guidance

National Planning Framework 3

The purpose of the National Planning Framework 3²¹ is to outline plans for spatial growth in Scotland. The document focuses on sustainable growth with an emphasis on place-making. The document focuses on sustainable growth with an emphasis on place-making. Resilience is a key concern of the document and it is made clear that flood risk should be treated as a s fundamental issue in determining appropriate future land-use.

Sustainability is a key element of the National Planning Framework, therefore, the use of Sustainable Urban Drainage Systems is supported.

Scottish Planning Policy

The purpose of the Scottish Planning Policy²² is to set out national planning policies that reflect Scottish Ministers' priorities for the operation of the planning system and the development and use of land.

Scottish Government planning policy on managing flood risk and drainage is provided by Scottish Planning Policy (SPP) paragraphs 254–268 (Scottish Government, 2014). This policy is based on the following principles:

- Developers and planning authorities must consider the possibility of flooding from all sources;
- New development should be free from significant flood risk from any sources;
- In areas characterised as "medium to high" flood risk for watercourses and coastal flooding new development should be focused on built-up areas and all development must be safeguarded from the risk of flooding;
- The storage capacity of functional floodplains should be safeguarded from further development. The functional floodplains comprise areas generally subject to an annual probability of flooding greater than 0.5%;
- Drainage is a material consideration and the means of draining a development should be assessed. Any drainage measures proposed should have a neutral or better effect on the risk of flooding both on and off the site.

SPP proposes a Risk Framework approach which identifies flood risk in three main categories:

²⁰ https://www.sepa.org.uk/data-visualisation/water-classification-hub/ (Accessed 15/05/2022)

²¹ The Scottish Government (June 2014), *National Planning Framework: A Plan for Scotland: Ambition, Opportunity, Place.*

²² The Scottish Government (June 2014), *Scottish Planning Policy*.

- Little or no risk area (annual probability of flooding less than 0.1%). No constraints to development due to flood risk.
- Low to medium risk area (annual probability of flooding between 0.1% and 0.5%). Suitable for most developments, except civil infrastructure (unless existing civil infrastructure within a low to medium-risk area is being extended, or else civil infrastructure must be placed within this risk area for operational reasons).
- Medium to high-risk area (annual probability of flooding greater than 0.5%). Suitable for residential, institutional, commercial and industrial development within built-up areas (provided adequate flood protection is planned or already exists). Generally, not suitable for civil infrastructure or most vulnerable uses (such as schools and care homes) or for general development in undeveloped or sparsely developed areas (unless essential for operational reasons and alternative locations at lower flood risk are not viable).

Aberdeen City Council Local Development Plan (2017)

Aberdeen City Council's adopted Local Development Plan23 details the intentions of the local authority with regards to development over the designated period.

Policy NE6 states:

Development will not be permitted if:

- 1. It would increase the risk of flooding:
 - a) by reducing the ability of the functional flood plain to store and convey water;
 - b) through the discharge of additional surface water; or
 - c) by harming flood defences.
- *2.* It would be at risk itself from flooding;
- 3. Adequate provision is not made for access to waterbodies for maintenance; or
- 4. It would require the construction of new or strengthened flood defences that would have a significantly damaging effect on the natural heritage interests within or adjacent to a watercourse.

Development on the functional floodplain will only be permitted where its location is essential for operational reasons, and it must be designed and constructed to remain operational during floods and not to impede water flow.

Applicants will be required to provide a Flood Risk Assessment where a development is likely to result in a material increase in the number of buildings at risk of flooding, or where it has been indicated in the opportunity sites schedule that one will be prepared. Windfall sites may also require a Flood Risk Assessment.

Drainage Impact Assessment (DIA) will be required for new development proposals comprising 5 or more homes or 250 square metres non-residential floorspace. DIA will also be required for developments of any size that affect sensitive areas. DIA should detail how surface water and waste water will be managed. Surface water drainage associated with development must:

1. Be the most appropriate available in terms of SuDS; and

2. Avoid flooding and pollution both during and after construction.

There is a presumption against excessive engineering and culverting of waterbodies. Natural treatments of floodplains and other water storage features will be preferred wherever possible.

²³ Aberdeen City Council (2017), *Aberdeen Local Development Plan Document*.

There will be a requirement to restore existing culverted or canalised water bodies to a naturalised state where this is possible.

Where the Council agrees that culverts are unavoidable for technical reasons, they should be designed to maintain existing flow conditions and aquatic life. Any proposals for new culverts should have a demonstrably neutral impact on flood risk and be linked to long term maintenance arrangements to ensure they are not the cause of flooding in the future.

Connection to the public sewer will be a prerequisite of all development where this is not already provided. Private wastewater treatment systems in sewered areas will not be permitted. In areas not served by the public sewer, a private sewer treatment system for individual properties will be permitted provided that the developer demonstrates that there will be no adverse effects on the environment, amenity and public health.

The supplementary guidance document, Flooding, Drainage and Water Quality supports the above policy by providing guidance on how developments will be expected to assess and demonstrate their compliance with the above policy, with regard to Flooding, Drainage and Water Quality. Accordingly, SG Flooding Drainage and Water Quality include advice on Statutory Roles and Responsibilities, Arrangements for Flood Risk Management Planning in Scotland, Flood Risk Assessment, Drainage Impact Assessment, Sustainable Drainage Systems (SuDS), Regional SuDS and Waste and Foul Drainage.

Policy NE7 states:

Development will only be permitted in undeveloped coastal areas if it can be demonstrated that:

- 1. A coastal location is necessary given the purpose and operation of the development;
- 2. There is no other suitable site, including the re-use of brownfield land; and
- *3. It respects the character and value of the natural and historic environment, as well as the recreational value in the surrounding area; or*
- 4. There is an overriding environmental benefit.

In all cases:

- 1. Development will not be permitted in areas at risk from coastal erosion and flooding. New developments which require new defences against coastal erosion or flooding will not be supported except where there is clear justification to avoid development in areas at risk.
- 2. A Flood Risk Assessment will be required to accompany applications for development in coastal areas.
- 3. Public access to and along the coast will be protected and promoted wherever possible.
- 4. Development proposals will be required to demonstrate through appropriate marine noise modelling that adverse impacts on bottlenose dolphins and Atlantic salmon are avoided.

Aberdeen City Council Supplementary Planning Guidance

Aberdeen City Council's supplementary planning guidance documents, "*Supplementary Guidance: Flooding, Drainage & Water Quality*" and "*Drainage Impact Assessment, Guidance for Developers*", sets out the local authority's requirements for the design of drainage systems serving new developments and the requirements for the consideration of flood risk.

The currently prescribed technical requirements for the design of SUD systems are:

- 1. The discharge rate from the developed site should not exceed the pre-development discharge rate.
- 2. Sufficient storage must be provided, which may include temporary above-ground storage where appropriate, to ensure that there are no detrimental effects on the neighbouring properties or public highways during a 1 in 10 year return period event.

Where the discharge is to be made to coastal water a SUD system may be omitted, refer to section 10.3.6.

Where a development is likely to result in a material increase in the number of buildings at risk of flooding a Flood Risk Assessment will be required. The document suggests that Developers should give early thought to flood risk when considering a site, as it can have important implications for siting, design and in some cases the overall principle of development in a given location.

North East Local Plan District – Local Flood Risk Management Plan 2016-2022

The Local Flood Risk Management Plan for the North East Local Plan District describes the actions that will contribute to managing the risk of flooding and recovery from any future flood events. The task for local authorities, Scottish Water, the Scottish Environment Protection Agency (SEPA), the Scottish Government and all other responsible authorities and public bodies is to deliver this plan.

PAN 61/2001 Planning and Sustainable Urban Drainage Systems

Advice on the role of the planning system in helping to limit the adverse effects of development upon the water environment is provided in Planning Advice Note (PAN) 61/2001 – Planning and Sustainable Urban Drainage Systems²⁴. The document promotes a multi-disciplinary approach to the design of new surface water drainage systems, with the planning process playing a central co-ordinating role.

The principles of good SUDS design are presented within the context of the aim of such systems - to reduce diffuse pollution, improve the environmental quality of the development and benefit the local community. It further sets the goal of developing an integrated drainage system that deals with the issues of water quantity, water quality and amenity using the following principles:

- 1. Managing surface water run-off on-site as near to the source as possible.
- 2. Slowing down run-off.
- 3. Treating run-off naturally.
- 4. Releasing good quality surface water to watercourses or ground water.

SEPA – Controlled Activities Regulations

As an environmental protection agency, SEPA's role in the drainage approval process relates mainly to issues of water quality and the protection of the natural water environment. However, the regulatory agency uses its position within the planning process to contribute to sustainable flood risk management. This is delivered through:

- Water Environment and Water Services (Scotland) Act 2003;
- Flood Risk Management (Scotland) Act 2009; and
- Climate Change (Scotland) Act 2009.

Since April 2006 SEPA has fulfilled this duty through the Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) – more commonly known as the Controlled Activities

²⁴ The Scottish Government (2001), *PAN 61/2001 Planning and Sustainable Urban Drainage Systems*.

Regulations or CAR. Under these regulations, which were introduced in response to the Water Environment and Water Services (Scotland) Act 2003, there are three levels of authorisation.

The three levels allow for a proportionate and risk-based approach to control and are, in ascending order of rigorousness:

- 1. General Binding Rules.
- 2. Registrations.
- 3. Licences.

From a review of SEPA's guidance document, Water Environment (Controlled Activities)(Scotland) Regulations 2011 – A Practical Guide, it can be seen that the development falls within the scope of the pollution control regime.

The level of authorisation for point source discharges from commercial developments is based on the number of car parking spaces, with 1000 being the threshold above which a simple license is required.

It is therefore anticipated that the drainage systems will only require to be designed in accordance with General Binding Rules (GBR) 10B, 11 and 21 (See Table 10-1). This should be reviewed during the detailed design and the relevant licensing application progressed with SEPA if necessary.

Table 7-6: General Binding Rules

GBR 10B - The discharge of water run-off from a surface water drainage system to the water environment from buildings, roads, yards, or any other built development constructed on or after 1 April 2007.

a) All reasonable steps must be taken to ensure that the discharge does not result in pollution of the water environment,

b) the discharge must not— i) contain any trade effluent or domestic sewage, ii) result in visible discolouration, iridescence, foaming or sewage fungus in the water environment, or iii) contain any water run-off from a construction site,

c) the discharge must not result in the destabilisation of the banks or bed of the receiving surface water,

d) the development must be drained by a SUD system equipped to avoid pollution of the water environment, unless—

i) the run-off is from a development that is a single dwelling and its curtilage, or

ii) the discharge is to coastal water,

e) the discharge must not contain any water run-off from— i) any fuel delivery areas constructed on or after 1 April 2007, or any areas where vehicles, plant and equipment are refuelled constructed on or after 1 April 2007, ii) vehicle loading or unloading bays constructed on or after 1 April 2007 where potentially polluting matter is handled, or iii) oil and chemical storage handling and delivery areas constructed on or after 1 April 2007,

f) all facilities with which the surface water drainage system is equipped to avoid pollution, including oil interceptors, silt traps and SUD system attenuation, settlement and treatment facilities, must be maintained in good order and repair,

g) all reasonable steps must be taken to ensure that any matter liable to block, obstruct, or otherwise impair the ability of the surface water drainage system to avoid pollution of the water environment is prevented from entering the drainage system.

GBR 11 - Discharge into a surface water drainage system

a) Oil, paint thinners, pesticides, detergents, disinfectants or other pollutants must not be disposed of into a surface water drainage system or onto any surface that drains into a surface water drainage system;

b) any matter liable to block, obstruct or otherwise impair the ability of the surface water drainage system to avoid pollution of the water environment must not be disposed of into a surface water drainage system or onto a surface that drains into a surface water drainage system;

c) domestic sewage or trade effluent must not be discharged into any surface water drainage system; and

d) on construction sites, any area of exposed soil from which the discharge of water run-off to the water environment is authorised under activity 10D, and the period of time during which such soil is exposed, must be the minimum required to facilitate the construction works being undertaken at that site.

GBR 21 - The discharge of water run-off via a surface water drainage system to the water environment as a result of rural land activities

a) Water must be discharged in a way that minimises the risk of pollution of any river, burn, ditch, wetland, loch, transitional water or coastal water; and

b) no discharge from drainage may result in the destabilisation of the banks or bed of the receiving river, burn, ditch, wetland, loch, transitional water or coastal water.

Clause D of GBR 10B, which permits the use of a SUD system to be omitted if surface water is discharged to coastal water, is of particular significance to the proposed development site given the proximity to the shoreline. However, it should be noted that, in Regulatory Method (WAT-RM-08), SEPA state that, "while SUDS are not compulsory for discharges to coastal waters, they may be required in certain circumstances", as the GBR's still require pollution to be prevented.

Using the recommendations of SEPA's latest guidance document, "Climate change allowances for flood risk assessment in land use planning", it is appropriate to include a 35% uplift in peak rainfall intensities to make allowance for climate change.

Scottish Water (Sewers for Scotland, 4th Edition)

As the local water authority, Scottish Water publishes design guidance that relates to publicly adoptable drainage schemes and connections to the publicly owned sewerage system. Although not strictly applicable to the design of the privately maintained parts of the drainage system, Sewers for Scotland is considered to provide guidance on best practice for sewerage design in Scotland.

From a review of this document, the following major implications for the drainage system have been identified:

1. Separate foul and surface water systems should be provided.

- 2. Self-cleansing should be ensured. Either by designing for a minimum velocity taken to be 1m/s at pipe full flow in surface water sewers and 0.75m/s at one-third design flow in foul sewers or adopting the pipe size and gradients specified in Sewers for Scotland.
- 3. The 1 in 30-year return period should be considered and an allowance of 30% made to account for climate change. A further allowance of 10% should be made to account for urban creep unless this would result in a contributing area greater than the total site area.
- 4. Any discharge to the publicly owned combined sewerage system would have to be restricted to a rate agreed with Scottish Water. In the case of combined sewers this would typically be the 1 in 2 year greenfield run-off rate.

It should be noted that Scottish Water's current policy is to permit surface water connections to the combined system as a last resort, to minimise the pressure on the Wastewater Treatment Works. The preferred hierarchy for disposal of surface water run-off is:

- 1. Re-use, such as rainwater harvesting.
- 2. Discharge to ground.
- 3. Discharge to the natural water environment (watercourse, coastal waters).
- 4. Discharge to surface water sewerage system.
- 5. Discharge to combined water sewerage system.

In addition to the requirements of the statutory consultees given above, the concepts of best practice should also be incorporated into the design of the drainage systems.

The SUDS Manual (CIRIA C753)

The SUDS Manual (CIRIA C753) provides best practice guidance on the planning, design, construction and maintenance of Sustainable Drainage Systems (SuDS) to assist with their effective implementation within both new and existing developments.

The guidance provides the framework for designing SuDS to maximise amenity and biodiversity benefits, manage flood risk and water quality, while creating high-quality places for future generations.

There is also supporting information covering topics such as materials, landscape design, maintenance, community engagement and costs and benefits.

British Standards

BS EN 752:2008 sets out the objectives for drain and sewer systems outside buildings. It specifies the

functional requirements for achieving these objectives and the principles for strategic and policy activities relating to planning, design, installation, operation, maintenance and rehabilitation.

SEPA Guidance

SEPA issued guidance in relation to preparing flood risk assessments (FRAs) ("Technical Flood Risk Guidance for Stakeholders", v12, (SEPA, 2019)). Technical requirements for FRAs depend on the complexity of the site with more complex or high-risk sites requiring detailed assessments. In summary, FRAs must include the following:

- Background site data, including suitable plans and/or photographs;
- Historic flood information;
- Description of methodologies used;
- Identification of relevant flood sources;
- In case of river flooding: assessment of river flows, flood levels, depths, extents, displaced flood storage volumes, etc.;
- Assessment of culverts, sewers or other structures affecting flood risk;
- Consideration of climate change impacts;

- Details of required flood mitigation measures; and
- Conclusions on flood risk related to relevant national and local policies.

8 ARCHAEOLOGY AND CULTURAL HERITAGE

8.1.1 Description of Local Environment

An initial review of the study area consulted readily available historic environment resources to gauge the nature of the known assets that may be impacted and to consider the quality of the existing information base. From this review, we recognise that there is a fundamental division in the historic landscape covered by the Proposal that breaks roughly along Links Road.

To the southwest of Links Road, the issues to consider are the development of the burgh from the postmedieval to the 20th century, with the potential to reach back into the medieval period on Justice Street (in particular the site of Mauchlin Tower and the Justice Port). While much of this element of the study area is road infrastructure, these have been enlarged during the 20th century (particularly Beach Boulevard which broadly follows the former Albion Street) and as such their footprint overlies many aspects of the historic townscape. There have been a number of archaeological interventions, often associated with utility work, in this area that may inform the archaeological potential. As Beach Boulevard approaches Links Road, the historic urban character becomes increasingly of late 18th to 19th century industry with a Candle manufactory and mill ponds from the Banner Mill. Changing transport infrastructure is also relevant both at the regional level (railway and canal routes) and at the local (tramways).

Crossing over Links Road, the ground moves into the open amenity spaces covering the northern portions of the Queen's Links and the southern portion of the Old Town or King's Links as well as the shorefront esplanade. In common with many links adjacent to coastal burghs, they were within the control of the burgh and have been used for a broad range of purposes that have left differing traces. Older utilitarian uses should not be forgotten (grazing of animals, town dumps and storage of dangerous materials – gunpowder stores) although the two dominant themes are leisure use and military use.

Leisure use for Aberdeen encompasses golf courses (17th century onwards), a racecourse (18th century onwards), bowling greens, tennis courts, sea bathing facilities, the dance hall and promenading. These developed over time and are not all contemporary uses of this ground. During the latter part of the 20th century, leisure came to dominate the burgh's use of this ground.

In contrast, military use from at least the 19th century includes coastal defence (both shoreline defence and naval batteries), anti-aircraft defence (from WWI onwards), parades and training (inc. rifle ranges). The military use reflects real threats, with records showing air-dropped ordnance recorded from late 1940 to early 1941 across Aberdeen, extending into Queen's Links and Broad Hill. Most of the hardened defences have been actively removed during the latter part of the 20th century.

The maritime aspect is also always present given the prosperous harbour in Aberdeen, with both an array of maritime losses from the adjacent inshore waters and associated structures, such as lifeboat houses. While most maritime losses were salvaged in shallow inshore waters elements of some, such as the boiler from the steamship Cairnie beached after being bombed in 1941, remain. There are also a series of engineered shore defences with the coastal edge having changed from dunes – with the risk of tidal overflow - to a hardened shoreline (with the esplanade) before having groynes added to retain beach deposits (most recently in 2006).

The recovery of at least one Neolithic carved stone ball from the King's Links should act as a reminder that this landscape was utilised by humans before the establishment of either Old or New Aberdeen. The links appear to have had little modern archaeological investigation, although monitoring of some

small-scale utility work has occurred. In summary, the development area has a complex pattern of overlapping use that reflects the establishment, development and growth of the adjacent burghs.

Designated Sites within Area

Based on the initial review of the relevant historic environment designations there is one Listed Building within the area (the Beach Ballroom LB20314 a Category B listed building) and a small section of the City Centre Conservation Area.

Given the boundary of the proposed development area uses a series of urban street edges, there are expected to be a number of Listed Buildings immediately adjacent to the area.

No other designated assets have been identified at this time nor sites where protection would flow from their inherent characteristics (e.g., characteristics affording protection through the Protection of Military Remains Act 1986).

World Heritage Sites

A review of Pastmaps²⁵ and Scotland's Environment²⁶ identified there were no World Heritage Sites within the proximity of the area covered by the Aberdeen Beachfront Development Framework.

Scheduled Monuments

A review of Pastmaps and Scotland's Environment identified there were no Scheduled monuments within the proximity of the area covered by the Aberdeen Beachfront Development Framework.

Conservation Areas

There are eleven Conservation Areas in Aberdeen. Three are in proximity to the area covered by the Aberdeen Beachfront Development Framework including, Old Aberdeen/Balgownie Conservation, City Centre Conservation Area and Footdee Conservation Area.

All are located outwith the boundary of the area covered by the Aberdeen Beachfront Development Framework.

Garden & Designed Landscapes

There are no 'Garden & Designated Landscapes' within the proximity of the area covered by the Aberdeen Beachfront Development Framework.

<u>Battlefields</u>

There are no battlefields within the proximity of the area covered by the Aberdeen Beachfront Development Framework.

Historic Marine Protected Areas

There are no 'Historic Marine Protected Areas' within the proximity of the area covered by the Aberdeen Beachfront Development Framework.

²⁵ <u>https://pastmap.org.uk</u> (Accessed 21/01/2022)

²⁶ https://map.environment.gov.scot/sewebmap (Accessed 21/01/2022)

Protected Military Remains, Wrecks

There are no 'Protected Military Remains, Wrecks' within the proximity of the area covered by the Aberdeen Beachfront Development Framework

<u>Listed Buildings</u>

The Beach Ballroom is a Category B listed building located within the area covered by the Beachfront Development Framework.

The Beach Ballroom is an Art Deco large, single storey and raised basement, octagonal ballroom with set-back pantiled (vernacular) pyramidal roof crowned by arcaded lantern, and 3 projecting flat-roofed single-storey wings with a main south entrance, bowed bay at the south-east and Northern Lights Suite below later Star Ballroom to the east. Prominently sited on the Esplanade overlooking Aberdeen Bay. Brick and stone construction with buff faience cladding; harled with raised margins to lesser elevations. Deep contrasting granite base course, mutuled eaves cornice and stepped blocking course raised into block pediment over lonic columned door pieces; stylised lonic capitalled dividing pilasters and architraved keystoned windows.

The Aberdeen Ballroom will be sympathetically renovated, as highlighted in the Beachfront Development Framework.

Adjacent to the Beach Boulevard/A956 roundabout (and outwith the boundary of the Beachfront Development Area) are 19 and nine-storey modern Brutalist multi-storey 'slab' blocks of flats designed by Aberdeen City Architects Department, under the supervision of George McIntosh Keith (Chief Architect) (completed 1966) for the Aberdeen Housing Committee. The building contractor was the Aberdeen firm, W J Anderson. The buildings are oriented on north-south and east-west axes and connected by a pair of enclosed glazed linking footbridges. They are in a built-up inner urban area next to a ring road. Virginia Court contains 48 maisonette flats laid out on a crossover section: the flats are entered on the ground floor at either the bedroom or living area and cross up and over to the bedroom or living area providing a dual aspect on two levels. Marischal Court has 108 maisonette flats.

These are Category A listed Buildings.

Other Points of Interest

The following items have also been identified as points of interest on the Aberdeen City Council HER map and Canmore:

- Boundary stones and battery gun remains on Broad Hill;
- Large proportion of Queens Links used as late 19th to early 20th century bottle dump and tip;
- Lighthouse / rocket house;
- Remains of a tramway;
- Site of gunpowder magazine;
- Site of Aberdeen rope works;
- Queen's Links, Bathing Station; and
- WW2 heavy anti-aircraft gun battery.

8.1.2 Potential Environmental Effects

The subject lands are not proximate to any protected structures or archaeological/cultural heritage assets. The Aberdeen Beachfront Development Framework is expected to have minimal impact on archaeology or cultural heritage.

The Aberdeen Ballroom (Category B Listed Building) will be sympathetically renovated, as highlighted in the draft development framework.

The potential effects on the historic environment associated with the Beachfront Development Framework proposal are:

Physical disturbance of known or undiscovered historic environment sites or features, including unforeseen buried or submerged remains of archaeological interest.

All elements of the construction process have the potential for permanent adverse physical impact on historic environment sites that would be irreversible. There is also potential for currently unidentified sites to be present.

Effects on the setting of significant historic environment sites

The creation of new structures or landforms has the potential to have an adverse impact on the setting of significant historic environment sites within the masterplan area and in the immediate surrounding townscape.

8.1.3 Relevant Guidance

During the project phase, an assessment of the effects on the historic environment should be carried out in line with relevant heritage protection legislation and the following standards and guidance:

- Historic Environment Scotland (2009+) Managing Change in the Historic Environment Setting;
- The Scottish Government (2010) Scottish Planning Policy;
- The Scottish Government (2015) Scotland's National Marine Plan;
- The Scottish Government (2011) PAN 2/2011 Planning and Archaeology;
- The Chartered Institute for Archaeologists (2009) Standard and Guidance for Archaeological Desk-Based Assessment; and
- The Chartered Institute for Archaeologists (2010) Code of Conduct.

9 LANDSCAPE AND VISUAL

This is an unusual project in that its location between the coast and the urban parts of the city introduces seascape/coastal and townscape receptors to the assessment of effects on landscape resources. All are equally important however, these factors relating to the Site's context will be encompassed within the 'landscape' descriptor for ease of understanding.

Landscape and visual effects are independent but related issues. Landscape effects are changes in the landscape as a resource, including its constituent elements, the aesthetic and perceptual aspects of the landscape, and its distinctive character; visual effects relate to the effects of change upon the views available to people and their visual amenity.

A Landscape and Visual Impact Assessment ("LVIA") will be carried out by Chartered Landscape Architects at Optimised Environments (OPEN).

9.1.1 Description of Local Environment

The Site is located to the north-east of the city centre with which it is connected by the primary route of Beach Boulevard, Justice Street and Castlegate. The Site is largely rectangular and orientated along the coastline, with a small northern extension along the beach and Esplanade. Kings Links Golf Course abuts the northern boundary of the Site; the North Sea bounds the Site to the east; Codona's amusement park and a mixture of commercial, hospitality and retail uses abut the southern boundary of the Site. Further south the small settlement of Footdee is a tight cluster of low, terraced cottages set out on a peninsula that sits between the harbour, River Dee and the sea. The settlement is a conservation area.

Abutting the western boundary of the Site are existing hotel and leisure units, with a mix of residential typologies beyond including some high-rise housing.

The Site comprises Aberdeen Beach, areas of greenspace, including Broad Hill, and a series of existing vehicular routes including Beach Boulevard, Esplanade and Links Road. Existing entertainment and leisure facilities currently occupy the Site: Aberdeen Beach Ballroom, Linx Ice Arena, the Beach Leisure Centre; and public space including Queens Links, Queens Links Play Park and Crescent Cricket Club's Cricket Pitch. The Site encompasses but does not include two sites owned by Aberdeen City Council within the south-west corner. These are on long-term leases to a hotel operator (Hotels Locally) and extreme sports venue (Transition Extreme Sports). A series of small-scale structures and pavilions situated across the Site includes the Esplanade and the Beach Ballroom (category B listed). The Site is approximately 30 hectares in area.

The Site is largely flat and level with only Broad Hill providing sloping ground that rises to a high point of approximately 28m Above Ordnance Datum. The Esplanade does however sit at a higher level and runs near the coast between the main part of the Site and the beach itself. Beyond these features, the land around the Site is relatively flat.

The Site is largely identified as Urban, with only its very northern extents and beach being within the Beach, Dunes & Links Landscape Character Type (LCT), as described by NatureScot (2019) at a regional level. The Aberdeen Landscape Character Assessment (Aberdeen City Council, 2021) provides a local-level assessment of the landscape and describes the northern extents and beach as lying within LCA 21: King's Links. To the north LCT 21 abuts the River Don and LCA 7: Murcar & Balgownie Links and the southern boundary of LCT 21 abuts the mouth of the River Dee, with LCA 22: Girdle Ness beyond. The majority of the Site is not classified as being part of the landscape due to its urban

character, however the Historic Landuse Assessment mapping shows the majority of the Site as a Recreation Area.

The Aberdeen Coastal Character Assessment (Aberdeen City Council, 2021) provides a local-level assessment of the seascape and describes the beach within the Site as lying within Coastal Character Area (CCA) 2: Aberdeen Beach. Aberdeen City Council (ACC) has also prepared a third report looking at peri-urban areas of the city. This is entitled The Aberdeen Landscape Study – Peri-urban study (Aberdeen City Council, 2021) identifies the same area as LCA 21 as being Unit F and considers this in some detail. These documents will be used collectively to inform the descriptions of the landscape character that provide the context for the Site.

The Site is not covered by any national landscape planning designations associated with its scenic or historic character. Nor does the Site contain a Garden and Designed Landscape ("GDL") or locally designated Special Landscape Area ("SLA"). The Beach Ballroom (category B listed) is the sole listed structure within the Site.

Key issues may arise in relation to the following and will be assessed:

- Effects on the landscape character of LCA 21: King's Links, LCA 7: Murcar & Balgownie Links and LCA 22: Girdle Ness.
- Effects on CCA 2 Aberdeen Beach.
- Effects on views from the coastline and the wider area.
- Effects on views from local residential areas such as Footdee, Donmouth Road along Golf Road and from flatted developments to the west of the Site.
- Cumulative effects of the proposed development in the context of other consented, application stage and allocated development.

9.1.2 Potential Environmental Effects

Construction Phase

Short-term, temporary effects on landscape features (grassland, trees and hedgerows), landscape character and visual amenity.

Operational Phase

Long-term, permanent effects on landscape features (grassland, trees and hedgerows), landscape character and visual amenity.

9.1.3 Relevant Guidance

Future LVIA should be undertaken broadly in accordance with the approach set out in the 'Guidelines for Landscape and Visual Impact Assessment Third Edition' (2013) – produced by the Landscape Institute ("LI") and the Institute of Environmental Management and Assessment ("IEMA"). This guidance ("GLVIA 3") is considered to be the most thorough and current in relation to the assessment of landscape character and visual effects. In addition, the most recently published technical guidance relating to LVIAs will also be used:

- Scottish Natural Heritage and The Countryside Agency (2002). Landscape Character Assessment Guidance for England and Scotland.
- Assessing Landscape Value Outside National Designations Technical Guidance Note 02/21, Landscape Institute, May 2021.

• Visual Representation of Development Proposals – Technical Guidance Note 06/19, Landscape Institute, September 2019.

10 AIR

10.1.1 Description of Local Environment

To inform the Environmental Report, the 2021 Air Quality Annual Progress Report (APR) for Aberdeen City Council (the most up-to-date report available) was reviewed.

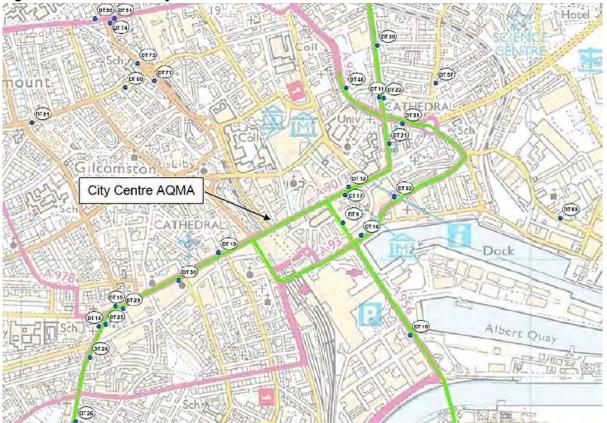
The main pollutants of concern associated with road traffic emissions are NO_2 and PM_{10} .

Aberdeen City Council has declared three Air Quality Management Areas (AQMA) (Table 10-1).

AQUA	Description	Pollutants
Aberdeen City Centre AQMA	Market St, Union St, King St between Castle St and Roslin Terrace, Virginia St, Commerce St, Guild St, Bridge St, Holburn St between Great Southern Road and Union St, Victoria Rd, Torry between Queen Elizabeth II Bridge and Crombie Rd and West North Street King St to 100m north of the junction with Littlejohn St.	Nitrogen dioxide NO ₂ , Particulate Matter PM ₁₀
Anderson Drive AQMA	All of Anderson Drive from the Bridge of Dee including Haudigan roundabout, part of Gt Northern Road from 815 GNR to Auchmill Road, part of Auchmill Rd from GNR to the junction with Howes Road.	Nitrogen dioxide NO ₂ , Particulate Matter PM ₁₀
Wellington Road AQMA	From the Queen Elizabeth II Bridge to Balnagask Road.	Nitrogen dioxide NO ₂ , Particulate Matter PM ₁₀

Table 10-1: Aberdeen City Council AQMA

The closest AQMA to the boundary of the Aberdeen Beachfront Development Framework is the Aberdeen City Centre AQMA (Figure 3-5). The location of diffusion tubes are identified in Figure 10-1.





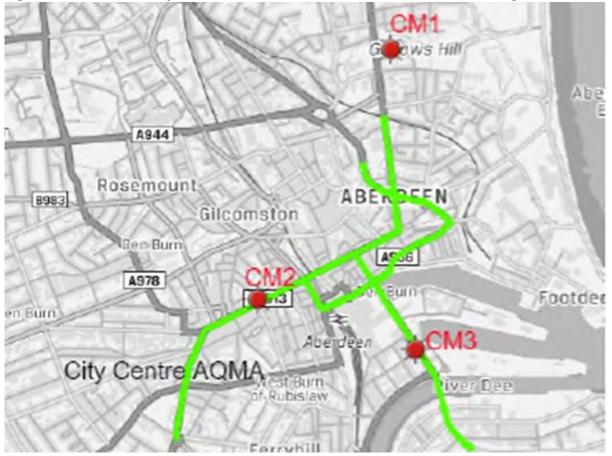
Continuous Monitoring Sites

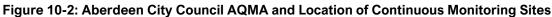
There are three automatic monitoring sites in proximity to the Beachfront area at Errol Place (CM1), Union Street (CM2) and Market Street (CM3) Figure 10-2).

The Errol Place, Union Street and Wellington Road sites are part of the UK's Automatic Urban Network. All sites are part of the Scottish Government data reporting process and subject to independent audit

Errol Place is representative of typical residential properties close to the city centre but not adjacent to a major road and provides urban background data. Union Street and Wellington Road continuous monitoring sites are on busy city centre roads and are representative of population exposure for NO₂, PM₁₀ and PM_{2.5}. Union Street is the city's main shopping street with shops on the ground level and commercial premises and flats on the 1st, 2nd and 3rd floors. Almost all the city's bus routes pass along at least part of Union Street and the inside lane of both sides of the road are designated bus lanes.

Market Street is adjacent to Aberdeen Harbour and has a high proportion of HGVs travelling between the north-east of Scotland, the Harbour and locations to the south of Aberdeen. The street is used by pedestrians travelling to the city centre from residential properties to the south of the river Dee, visiting the Union Square retail park and people working around the Harbour area. There are a small number of 1st, 2nd and 3rd floor flats. Emissions from Aberdeen Harbour also contribute to the pollution on Market Street.





Nitrogen Dioxide (NO₂)

The NO₂ automatic monitoring data collected at all sites in 2020 was significantly lower than in 2019. The majority of diffusion tube monitoring locations also showed significantly lower NO₂ concentrations compared to previous years. The main cause of this is likely to have been due to reduced road traffic as "lockdown" travel restrictions were imposed at a national and regional level throughout the year, to protect public health and minimise the spread of infection during the COVID-19 coronovirus pandemic.

Tube monitoring locations (DT11, DT20, DT21, DT22, DT33 and DT46) in the area of the King Street/North Street junction in the city centre AQMA suggest an average reduction of NO2 levels by 25% compared to 2019. The annual average of all these tubes were below the objective, except for DT9 located at 39 Market Street, with an annual average of $42 \mu g/m^3$.

There were no exceedances of the NO_2 one-hour mean objective at any of the automatic sites. CM1 recorded levels above or very close to the objective level since 2016. It appears the reduction in road traffic in 2020 had a significant impact of reducing measured NO_2 levels, at this location, in the region of 30%.

Diffusion tube data also recorded no sites with an annual mean >60ugm-3 suggesting exceedances of the 1 hour objective were unlikely across the city.

No exceedances of the annual mean were recorded at any of the continuous monitoring sites. No exceedances of the objective have been recorded at any site since 2016.

Particulate Matter (PM₁₀)

The annual mean and 24 hour PM_{10} objectives were met at all monitoring locations and the concentrations at measurement locations across the city are comparable to annual monitoring data since 2016.

No exceedances of the annual mean were recorded at any of the continuous monitoring sites. No exceedances of the objectives have been recorded at any site since 2016.

Aberdeen Low Emission Zone (LEZ)

Following approval from Scottish Ministers, Aberdeen City Council is introducing a Low Emission Zone (LEZ) in Aberdeen City Centre (Figure 10-3).

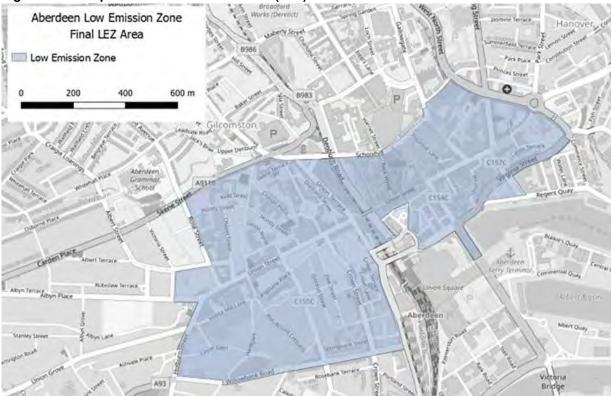


Figure 10-3: Map of the Low Emission Zone (LEZ)

The LEZ is an area of Aberdeen City Centre where the driving of vehicles which do not meet the specified emissions standards is prohibited. The aim of the LEZ is to improve air quality within the City Centre Air Quality Management Area (AQMA) to ensure compliance with the Scottish Government's air quality objectives, particularly for the pollutant nitrogen dioxide (NO₂).

The LEZ came into effect on 30th May 2022 and will operate for 365 days a year, 24 hours a day. A 2year grace period (during which enforcement of the LEZ will not take place) for both residents and nonresidents of the LEZ area and all non-exempt vehicle types will commence from this date, meaning that enforcement will take place from 1st June 2024.

The LEZ has been introduced in response to longstanding issues of poor air quality in the Aberdeen City Centre AQMA. Air pollution is believed to be a contributing factor in a number of serious health problems suffered by individuals, and the number of health concerns linked to poor air quality is growing every

day.²⁷ This has a disproportionate impact on the most vulnerable members of society, particularly the young, elderly and those with chronic heart, lung and respiratory conditions. Air pollution is therefore a significant Public Health concern and a LEZ is an effective means of responding to this. This accords with the precautionary public health approach to air pollution advocated in the Scottish Government's Air Quality Strategy, *Cleaner Air for Scotland 2* (CAFS2).²⁸

The Aberdeen City Council document 'Low Emission Zone (LEZ) Scheme' states that Air Quality modelling has shown that, even with the delivery of ambitious transport improvements in the City Centre, such as those identified in the Aberdeen City Centre Masterplan, emissions exceedance will remain unless tailpipe emissions are also addressed, While the COVID-19 pandemic and resulting travel restrictions led to air quality improvements in 2020 and 2021, the medium to long term impacts of the pandemic on transport and travel remains uncertain, therefore the pandemic is not a reason for delaying action.¹⁸

The LEZ applies to all vehicle types specified in the table below, unless subject to an exemption (Table 10-2).

Vehicle	Vehicle	Description	
	Category		
Light passenger vehicles	M1	Vehicles designed and constructed for the carriage of passengers and comprising no more than eight seats in addition to the driver's seat.	
Minibus	M2	Vehicles designed and constructed for the carriage of passengers, comprising more than eight seats in addition to the driver's seat, and having a maximum mass not exceeding 5 tonnes.	
Bus and coach	M3	Vehicles designed and constructed for the carriage of passengers, comprising more than eight seats in addition to the driver's seat, and having a maximum mass exceeding 5 tonnes.	
Light Goods Vehicles (LGVs)	N1	Vehicles designed and constructed for the carriage of goods and having a maximum mass not exceeding 3.5 tonnes.	
Heavy Goods Vehicles (HGVs)	N2	Vehicles designed and constructed for the carriage of goods and having a maximum mass exceeding 3.5 tonnes but not exceeding 12 tonnes	
	N3	Vehicles designed and constructed for the carriage of goods and having a maximum mass exceeding 12 tonnes.	

Table 10-2: Vehicle types within scope of the LEZ

A number of vehicle types are exempt from LEZs in Scotland, meaning that any restrictions do not apply to them (Table 10-3).

Aberdeen City Council can also grant and renew time-limited exemptions to any vehicle type that is not covered by a national exemption, meaning the registered keeper of the vehicle would be exempt from LEZ enforcement for the period of time that the exemption applies.

The legislation allows for the LEZ to be suspended for the duration of events of local or national significance. The LEZ can also be suspended in emergencies, such as an incident on the wider road network that requires all vehicles to be temporarily diverted through the LEZ area (but only where vehicles follow prescribed diversionary routes).

²⁷ www.aberdeencity.gov.uk/sites/default/files/2022-05/LEZ%20Summary.pdf

²⁸ www.gov.scot/publications/cleaner-air-scotland-2-towards-better-place-everyone/

Vehicle type or	pe or Description		
classification			
Emergency vehicles	 The vehicle is being driven by any person who is: undertaking their duty as a constable; providing a response to an emergency at the request of the Scottish Ambulance Service Board; exercising the functions of the Scottish Ambulance Service Board, the Scottish Fire and Rescue Service, Her Majesty's Coastguard or the National Crime Agency. 		
Historic vehicles	 The vehicle was manufactured or registered under the Vehicle Excise and Registration Act 1994 for the first time at least 30 years ago; The vehicle is no longer in production; and The vehicle has been historically preserved or maintained in its original state and has not undergone substantial changes in the technical characteristics of its main components 		
Vehicles for disabled persons	 The vehicle is being driven by any person who is in receipt of a badge (a blue badge) that has been issued under Section 21(2) of the Chronically Sick and Disabled Persons Act 1970, a passenger in the vehicle has been issued with a badge under that Section of that Act; or a badge for the vehicle has been issued under Section 21(4) of that Act; or a reduction in annual rate of vehicle excise duty applies because the vehicle is being used by a disabled person in receipt of personal independence payment at the standard rate; or Vehicles registered with a 'disabled' or 'disabled passenger vehicles' tax class e.g., the vehicle is exempt from payment of vehicle excise and Registration Act 1994 (exemption s from excise duty for vehicles used by disabled persons). 		
Showman vehicles	 Vehicles described as either "showman's goods vehicle" or "showman's vehicle" according to Section 62(1) of the Vehicle Excise and Registration Act 1994. Note: these are highly specialised vehicles used for the purposes of travelling showmen, where the vehicle is used during the performance, used for the purpose of providing the performance or used for carrying performance equipment. 		

Table 10-3: National Exemptions

10.1.2 Potential Environmental Effects

The potential exists for an increase in traffic in the vicinity of the surrounding road network and in turn increases in the pollutants NO_2 , PM_{10} and $PM_{2.5}$ which are most commonly associated with traffic emissions.

Future activities have the potential to impact the adjacent City Centre AQMA, however, the Beachfront Development Framework aims to encourage infrastructure, including traffic management that reduces the impact of the existing road network to promote alternative forms of travel, including walking and cycling, whilst improving the public realm. The promotion of active travel and public transport may positively benefit the City Centre AQMA.

10.1.3 Relevant Guidance

Future air quality assessment should be undertaken with reference to the following.

Air quality in the UK is protected by national and regional legislation. In the UK, Part IV of the Environment Act 1995 places a statutory duty on local authorities to periodically review and assess the air quality within their area. This involves consideration of present and likely future air quality against air quality standards and objectives. Guidelines for the "Review and Assessment" process of local air quality were published in the 1997 National Air Quality Strategy (NAQS) and associated guidance and technical guidance. In 2000, the Government reviewed the 1997 Strategy and produced a revised Air Quality Strategy for England, Scotland, Wales and Northern Ireland, which resulted in the production of air quality standards and objectives. The most current revision of the Strategy available is dated March 2011 (DEFRA, 2011).

The objectives adopted in Scotland are contained within the Air Quality (Scotland) Regulations 2000 and Air Quality (Scotland) Amendment Regulations 2002 for Local Air Quality Management and consolidate the provisions of the previous Air Quality Regulations. The Air Quality Standards (Scotland) Regulations 2010 introduce objectives for Particles (PM₁₀, PM_{2.5}), Polycyclic Aromatic Hydrocarbons and lead with the Air Quality (Scotland) Amendment Regulations 2016 amending the Air Quality (Scotland) Regulations 2000 to bring into statute an objective for PM_{2.5}.

Guidance on the assessment of dust from demolition and construction (IAQM, 2014 (amended 2016)

The Institute of Air Quality Management 'Guidance on the assessment of dust from demolition and construction sets out an approved method for undertaking construction impact assessment and will be used as the basis of the dust assessment.

LAQM.TG16 and LAQM.PG16

Technical Guidance (LAQM.TG(09)) was issued on behalf of the Department of Environment, Food and Rural Affairs (DEFRA) in February 2009 (DEFRA, 2009a). A Policy Guidance (LAQM.PG09) was also issued at the same time (DEFRA, 2009b). This guidance is designed to guide local authorities through the Review and Assessment process and will also be adhered to for the air quality assessment.

DEFRA and The Scottish Government have recently updated LAQM Technical Guidance (LAQM.TG16) (The Scottish Government, 2018). The main change is in the approach with a greater emphasis on action planning to bring forward improvements in air quality and to include local measures as part of EU reporting requirements. The reporting requirements for Local Authorities also changed with the adoption of an Annual Progress Report. Local Authorities continue to appraise pollutant concentrations of Nitrogen Dioxide (NO₂), Particulate Matter (PM₁₀) and Sulphur Dioxide (SO₂). Local Authorities are also required to work towards reducing levels of PM_{2.5}.

Land-use Planning & Development Control: Planning for Air Quality

The document "Land-Use Planning & Development Control: Planning for Air Quality" produced by Environmental Protection UK and the Institute of Air Quality Management (EPUK & IAQM, 2017) provides guidance on dealing with air quality issues within the development control process. This guidance provides an assessment approach to defining whether the impact on air quality associated with the proposed development should be of material concern.

11 NOISE

11.1.1 Description of Local Environment

Existing noise sources surrounding the site include road traffic, Linx Ice Arena, fitness gym and Beach Leisure Centre. There is also a range of cafes, restaurants, a family fun fair, a cinema and a retail park to the south of the development area.

There are no Candidate Noise Management Areas (closest being, 8- Littlejohn Street, Mealmarket Street, King Street) (Figure 11-1) or Candidate Quiet Areas (closest being 4 - Seaton Playing Field), 8 (Figure 11-2) within the proposed development boundary.

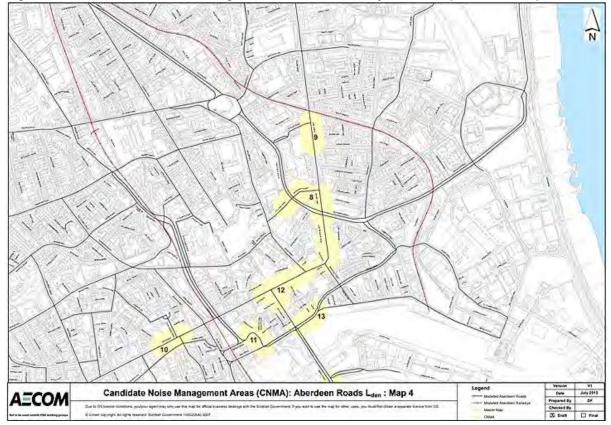
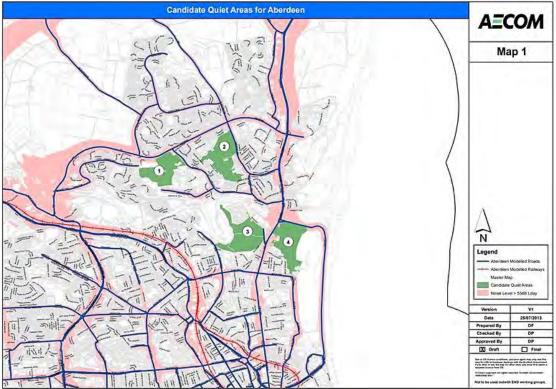


Figure 11-1: Candidate Noise Management Area in Proximity to the Proposed Development





Aberdeen Beachfront is characterised by an urban noise environment. Figure 11-3 provides a strategic overview of the annual average noise levels at 4m above ground level on a 10m calculation grid associated with road, rail, industrial and aircraft within Scottish agglomerations such as Aberdeen City.²⁹



Figure 11-3: Consolidated Day, Evening and Night (Lden)

²⁹ https://noise.environment.gov.scot/noisemap/ (Accessed 12/05/2022)

On review of the noise map above (Figure 11-3), it is noted that noise levels vary in the surrounding area, with the variations largely associated with road transport links. The Beachfront is shown to have relatively low noise levels when compared with the surrounding area with the road network itself being slightly higher.

11.1.2 Potential Environmental Effects

The development framework proposals have the potential to change the noise levels compared to the existing situation due to potential changes in traffic flow on existing roads. Detailed noise assessments of the effects of the development framework proposals will be undertaken during the detailed design. Mitigation measures to minimise the effects of possible increases in noise will be provided, for example, environmental barriers, such as earth mounding or acoustic fencing.

Development-specific noise impacts resulting from the development framework proposals will be reported further in the supporting Environmental Impact Assessment.

Noise Sensitive Receptors

The site is extensive in area and the development design is not yet finalised. As such the most exposed noise-sensitive receptors used for assessment purposes shall be confirmed at a later stage. It is anticipated that residential properties on Merkland Lane, Park Road, Urquhart Road, Links Road and Beach Boulevard will be utilised in the assessment.

Key Potential Impacts

The key potential noise impacts at each area in the development can be summarised as follows:

- Potential road traffic noise generated by the development has the potential to impact existing noise-sensitive receptors; and
- Potential for commercial and entertainment noise from proposed attractions to impact existing sensitive receptors.

11.1.3 Relevant Guidance

Future noise assessment should be undertaken with reference to the following

Aberdeen City Council Local Development Plan (2017)

Aberdeen City Council's adopted Local Development Plan³⁰ details the intentions of the local authority with regards to development over the designated period.

Aberdeen City Council Supplementary Guidance – Noise

Aberdeen City Council's Supplementary Guidance: Noise³¹ was produced to support the policy on noise outlined in Aberdeen City Council's Local Development Plan³².

³⁰ Aberdeen City Council (2017), *Aberdeen Local Development Plan Document*.

³¹ Aberdeen City Council (2017), *Supplementary Guidance: Noise*.

³² Aberdeen City Council (2017), *Aberdeen Local Development Plan*.

PAN 1/2011 Planning and Noise

Advice on the role of the planning system in helping to prevent and limit the adverse effects of noise is provided in Planning Advice Note (PAN) 1/2011 – Planning and Noise³³. PAN 1/2011 promotes the principles of good acoustic design and a sensitive approach to the location of both noise-sensitive and noise-generating developments.

Technical Advice Note (TAN) – Assessment of Noise

The Technical Advice Note (TAN) – Assessment and Noise³⁴ provide guidance to accompany PAN 1/2011 on the appropriate methodology to assess the impact of noise.

BS 4142:2014+A1:2019, Methods for rating and assessing industrial and commercial sound

BS 4142:2014+A1:2019³⁵ provides methods for rating and assessing sound of an industrial and/or commercial nature.

World Health Organization Guidelines for Community Noise

In *Guidelines for Community Noise*³⁶, 55 dB $L_{Aeq,16h}$ is indicated as a criterion threshold below which few people are seriously annoyed for an outdoor living area, during daytime and evening hours. A lower guideline value of 50 dB $L_{Aeq,16h}$ is provided as a criterion below which few people are annoyed. In addition, the guidance identifies that negative sleep impacts are avoided at 30 dB $L_{Aeq,8h}$ for continuous noise sources.

BS 8233: 2014 Guidance on Sound Insulation and Noise Reduction for Buildings

BS 8233:2014³⁷ provides guidance on the control of noise from outside buildings, noise from plant and services within buildings and room acoustics for non-critical situations. It provides suggested internal noise levels which should not give rise to sleep disturbance during nighttime periods or living room disturbance during daytime periods.

ProPG: Planning & Noise

ProPG³⁸, while not formally adopted in Scotland, represents the current best practice for the adoption and implementation of the recommendations of BS 8233:2014 in relation to new residential developments. Fundamental to the proposed method to consider noise is to carry out a noise risk assessment, quantifying the extent to which noise will need to be considered and influence the design of the site. The document also details best practice relating to good acoustic design.

Calculation of Road Traffic Noise

CRTN³⁹ is the standard UK procedure which defines measurement and calculation methods for assessing road traffic noise.

³³ The Scottish Government (2011), PAN 1/2011 Planning and Noise.

³⁴ The Scottish Government (2011), *TAN 1/2011 Technical Advice Note*.

³⁵ British Standards Institution (2019), *BS 4142:2014+A1:2019 – Methods for Rating and Assessing Industrial and Commercial Sound*.

³⁶ World Health Organization (1999), *Guidelines for Community Noise*.

³⁷ British Standards Institution (2014), *BS 8233:2014 – Guidance on Sound Insulation and Noise Reduction for Buildings*.

³⁸ The Association of Noise Consultants, Institute of Acoustics, Chartered Institute of Environmental Health (2017),

ProPG: Planning & Noise – Professional Practice Guidance of Planning & Noise – New Residential Development. ³⁹ The Department for Transport (1988), *The Calculation of Road Traffic Noise*.

12 CLIMATE CHANGE

Emission reductions set under the Climate Change (Scotland) Act 2009 were updated under the Climate Change Emissions Reduction Targets) (Scotland) Act 2019 to net zero by 2045.

 CO_2 emissions data for Aberdeen is set out in Figure 12-1, with the change in CO_2 emissions from 2005 to 2019 indicated by sector in Table 12-1.

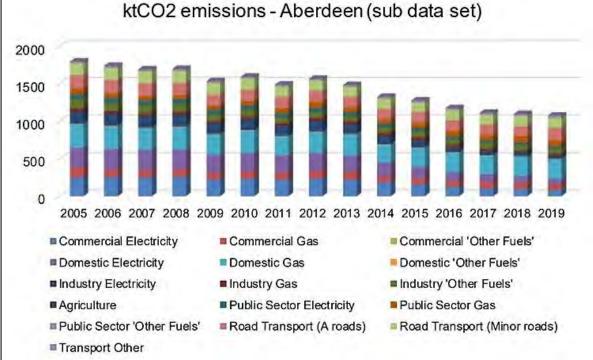


Figure 12-1: UK Government, Local Authority CO2 emissions 2005-2019 national statistics

Sector	Breakdown	2005 Baseline	2019 Measure	%Change
	Electricity	154.15	42.84	-72%
	Gas	52.19	24.14	-54%
Industrial	Other Fuels	125.2	81.75	-35%
	Agriculture	3.32	3.23	-3%
	Total	334.87	151.96	-54.6
	Electricity	252.59	84.34	-67%
Commoraid	Gas	124.13	70.58	-43%
Commercial	Other Fuels	0.81	0.62	-23
	Total	377.54	155.54	-58.8%

12.1.1 Potential Environmental Effects

Opportunities for renewable energy provision and low/zero carbon technologies will be explored during the implementation of the development framework. This may include small-scale renewables/microgeneration and the identification of sites for local energy generation.

Further opportunities will be explored and overall, where possible, the development will be futureproofed to meet the requirements of Net Zero Aberdeen Routemap (2022) which outlines the city-wide approach to net zero.

It should be noted that key buildings in the wider area are connected to District Heating networks. The Aberdeen Heat & Power website⁴⁰ indicates that the use of thermal storage within the network also allowed this increase in capacity, enabling the connection of buildings (among others) including:

- Aberdeen Beach Leisure Centre;
- Linx Ice Arena;
- Aberdeen Health Village;
- Beach Ballroom;
- Hanover School;
- Hanover Community Centre; and
- Constitution Court sheltered housing complex.

It is considered that the proposed Development Framework area would not result in a significant effect on climate. Any increase in emissions created during either construction or operation is likely to be negligible, and pollution and emissions control during construction could be managed within a detailed Construction Environmental Management Plan (CEMP).

Discussion of the vulnerability of the project to climate change is primarily concerned with the water environment, including flood risk. Flooding will be assessed as part of the Flood Risk Assessment, with rises in sea level being a key climate consideration.

During demolition and refurbishment, there will be a carbon impact from existing buildings. Demolishing a building and replacing it with a new building can result in greater carbon emissions.

With regard to restoration, retrofit measures must be sympathetically and responsibly implemented. Inappropriate restoration measures can lead to unintended consequences and damage buildings. Design is the most important factor in determining GHG emissions over a building's lifetime. By the time the construction process begins, the majority of decisions affecting the project's GHG emissions are locked in. The ability to influence a building's lifetime emissions is highest very early in a project and before construction has started.

Fundamental design decisions—such as new construction versus upgrading, building size and shape, level of insulation, and floor-space flexibility—can have a significant impact on emissions for decades to come.⁴¹

The project provides a platform to create new & innovative technologies and systems, to provide a net zero carbon, electricity, heating, and cooling solution to serve the load demands of the development.

The Beachfront Development Framework aims to achieve Net Zero Carbon in Operation status. The design team are also seeking to reduce carbon associated with construction, but it is understood the project will not seek formal Net Zero on Construction certification.

The energy solution will meet the requirements of Aberdeen City Council *Climate Change Plan 2021-25: Towards a Net Zero and Climate Resilient Council.* The Plan sets out the approach, pathway, and actions towards net zero and climate-resilient Council assets and operations, by 2045. As such, energy-efficient designs will be incorporated alongside renewable and low-carbon energy sources, with

⁴⁰ <u>https://www.aberdeenheatandpower.co.uk/</u>

⁴¹ <u>https://www.mckinsey.com/industries/engineering-construction-and-building-materials/our-insights/call-for-</u>

action-seizing-the-decarbonization-opportunity-in-construction

consideration provided on how further decarbonisation could be achieved in the future. Following the Net Zero Carbon workshop, we understand the aspiration is for one energy centre to serve the entire site.

Look to reduce private car use by providing people with a choice on how they travel. Ensure there is adequate transport infrastructure in place, including provision for walking and cycling.

The development option provides a platform to create a 'wow' factor by incorporating new & innovative technologies and systems, to provide a net zero carbon, electricity, heating, and cooling solution to serve the load demands of the Beachfront Development Framework Area. Additionally, there is scope for a solution which aligns with Aberdeen City Council's hydrogen strategy, to generate demand and interest in hydrogen as a power source to achieve their climate goals and to capitalise on the unique skills base of the region.

At this early stage in the design development options are ongoing with an appraisal to determine the best Energy Strategy for the proposed development. Collaboration will be possible with both Aberdeen Heat & Power and the Council's Green Hydrogen Joint Venture partner to fully explore and understand the feasibility of options.

This appraisal would include all load profiling, sizing, location considerations, technical specifications, capital costs and running costs considerations. In conjunction with the Council's wider net zero targets the appraisal will also explore the potential for future proofing benefits through green energy for other nearby assets.

13 MATERIAL ASSETS

13.1.1 Description of Local Environment

The land on which the site is situated is a material asset. It has been zoned for development through the appropriate Development Plan process and as such the use of this material asset in a manner compatible with the zoning designation and the development framework, is entirely appropriate.

Other material assets in terms of water services, electricity, and other utilities are local and the proposed developments within the development framework can readily connect to same.

The construction and operation of the proposed development elements will utilise material assets (access road and construction materials) but given the scale of the development this will be considered at the project level.

Significant progress has been made in recent years with regard to waste management in Aberdeen. The Zero Waste Plan and the European Council Landfill Directive establish a framework for reforming the waste management system in Scotland and set targets for improving the sustainability of waste management up until the year 2025. In 2013 Aberdeen recycled 37% of waste. By 2020 this figure had risen to 45.6%

In addition, the Aberdeen City Council area also generates 192,155 tonnes of business waste.⁴² This is selected businesses waste in Scotland, including factories, utility and transport companies, shops, offices, hotels, restaurants, schools and hospitals. As there is no statutory duty for businesses to report to SEPA on the waste they generate, SEPA derives the information from statutory waste data received from operators of licensed and permitted waste management sites, and from operators of activities exempt from full waste management licensing.

13.1.2 Potential Environmental Effects

A mix of new developments and protection of existing assets wherever possible.

At the project stage, the proposals should provide an opportunity for sustainable construction methods and materials to minimise waste. The development framework will aim to enhance recreational and open space provision.

Aberdeen City Waste Strategy (ACWS) 2014-2025 states Site Waste Management Plans are required for all development work across Aberdeen. They stipulate how a construction company intends to reuse and minimise on-site waste.⁴³

⁴² https://www.sepa.org.uk/environment/waste/waste-data/waste-data-reporting/business-waste-data/

⁴³ https://www.aberdeencity.gov.uk/sites/default/files/2021-02/2014-2025-Waste-Strategy.pdf

14 ASPECTS OF ENVIRONMENT POTENTIALLY AFFECTED AND POTENTIAL MITIGATION MEASURES DURING DESIGN AND CONSTRUCTION PHASES

The table below provides commentary on each of the environmental topics considered with information on:

- Local setting and any key known features;
- Potential effects of development; and
- Any mitigation, avoidance or enhancement measures that could be implemented.

Торіс	Potential Effects	Context and Observations	Mitigation Measures During Design and Construction Phases
Biodiversity, Flora and Fauna	Habitat loss or fragmentation of habitat which may alter the integrity of designated areas	The Ythan Estuary, Sands of Forvie and Meikle Loch SPA is located approximately 100m to the east of the development framework area and it will be unlikely to suffer the loss of / fragmentation of existing habitat as a result of the proposals within the development framework. The River Dee Special Area of Conservation is located 1.5km south of the development framework area and it will be unlikely to suffer the loss of / fragmentation of existing habitat as a result of the proposals within the development framework.	Subsequent applications flowing from the Frameworks will require ecological surveys to be undertaken, and site-specific mitigation developed based upon the findings of the assessment. SUDs, green/blue infrastructure and compensatory planting will be a consideration during the design process to improve biodiversity.
Biodiversity, Flora and Fauna	Introduction of invasive species.	Minimising the spread of Non-Native Species.	Subsequent applications flowing from the Frameworks will require works will be undertaken in line with the Scottish Government's "Non-native species: code of practice ⁴⁴ (2012)"
Biodiversity, Flora and Fauna	Damage to the Biodiversity, flora and fauna	Degradation/pollution of water quality during construction and operation through small accidental release of fuel and/or sediment- associated impacts on flora and fauna.	 Subsequent applications flowing from the Frameworks will adhere to: GPP 1: Understanding your environmental responsibilities - good environmental practices GPP 2: Above ground oil storage tanks PPG 3: Use and design of oil separators in surface water drainage systems GPP 5: Works and maintenance in or near water PPG 6: Working at construction and demolition sites PPG 7: Safe storage - The safe operation of refuelling facilities GPP 8: Safe storage and disposal of used oils GPP 21: Pollution incident response planning

Table 14-1: Aspects of Environment Potentially Affected and Potential Mitigation Measures During Design and Construction Phases

⁴⁴ <u>https://www.gov.scot/publications/non-native-species-code-practice/ (accessed 29/0/2022)</u>

Торіс	Potential Effects	Context and Observations	Mitigation Measures During Design and Construction Phases
			GPP 22: Dealing with spills
Landscape	Impact on the visual amenity of the site and surrounding area.	There will be an alteration to the landscape as a result of the proposed development framework site due to the erection of new buildings and infrastructure.	Subsequent applications flowing from the Frameworks will require design mitigation to be employed and ensure that the proposals associated with the development framework integrate with the landscape/ townscape setting.
Archaeology and Cultural Heritage	Potential damage/ loss of Archaeology and Cultural Heritage artefacts/assets	There are unlikely to be significant archaeological and cultural heritage assets within the boundary of the site, but this will be confirmed during assessment.	Archaeological artefacts can be found at any time and as such, therefore, subsequent applications flowing from the Frameworks will require watching brief at the project development stage should be proposed.
Air Quality	Construction emissions	During the construction stage, there is potential for dust and greenhouse gases emitted from vehicles to impact the local air quality. Once constructed there will be emissions to air through typical activities associated with the proposals within the development framework e.g., vehicle emissions, energy etc.	Subsequent applications flowing from the Frameworks will require a CEMP which will contain standard construction site dust suppression techniques. Design mitigation will be employed to ensure the proposals minimise emissions.
Noise and Vibration	Construction Noise and Vibration	Construction works may generate noise and vibration. Best construction practices will be employed in line with British Standard 5228: Code of Practice from noise and vibration on construction and open sites. In addition, during construction potential nuisance will be managed through a Construction Environmental Management Plan (CEMP).	 Subsequent applications flowing from the Frameworks will adhere to the various Planning Advice Notes, standards and guidance documents including: PAN 1/2011 Planning and Noise British Standards Institution. British Standard 5228: Code of practice for noise and vibration control on construction and open sites. BS 5228-1:2009+A1:2014: Noise. BS 5228-2:2009+A1:2014: Vibration A CEMP will be prepared to manage construction noise and vibration.
Water	Protect and enhance the state of the water environment.	Potential degradation of water quality during construction and operation.	A Drainage Strategy aims to ensure the site drains sustainably. Potential degradation of the water environment during construction would be managed by the CEMP.
Water	Flooding	Potential flooding as a result of surface water and coastal flooding.	Subsequent applications flowing from the Frameworks will require a flood risk assessment to determine likely flooding effects and to

Торіс	Potential Effects	Context and Observations	Mitigation Measures During Design and Construction Phases
			support planning applications associated with development framework proposals.
Population and Human Health	Protect and improve human health and wellbeing through	Degradation of air quality on local communities, through dust and emissions during construction.	Subsequent applications flowing from the Frameworks will require a CEMP containing standard construction site dust suppression techniques. Design mitigation will be employed to ensure the proposals minimise emissions.
Material Assets	Promote the sustainable use and management of material assets.	Construction of the proposed elements of the development framework will utilise material assets (access road etc) but given the scale of the development, this is not considered to be significant.	Subsequent applications flowing from the Frameworks will require the use of natural resources such as aggregate material for roads and buildings. This is likely to be on a scale which is typical for such a development scheme. Surface water run-off would be attenuated within an onsite SUDS/ green infrastructure strategy. There may be the possibility to reuse material such as soil on site.
			Trees, hedgerows, and mature vegetation will be retained where possible throughout the site. Although some will be removed to facilitate the residential layout, roads etc.
	Zero Waste	Adhere to the waste hierarchy wherever possible	Subsequent applications flowing from the Frameworks will require construction waste produced to be controlled, stored, and disposed of sustainably as per relevant environmental guidance. A final Construction Environmental Management Plan (CEMP) which includes 'Site Waste Management' will be agreed upon with Aberdeen City Council before the commencement of development. Operational waste for individual development phases will be controlled by each "developer".
Geology and Soil	Maintain or improve soil quality and prevent degradation of soils.	Disturbance to and loss of soils	Subsequent applications flowing from the Frameworks will require contractors to adhere to a CEMP.

Торіс	Potential Effects	Context and Observations	Mitigation Measures During Design and Construction Phases
Climatic Factors	Minimise greenhouse gas emissions.	Construction activities leading to increased greenhouse gas emissions, adding to existing carbon footprint.	Discussion of the vulnerability to climate change is primarily concerned with the water environment, including flood risk. Subsequent applications flowing from the Frameworks will require a flood risk. Mitigation can be achieved by reducing the sources of emissions — e.g., by using renewable energies wherever practicable.
Cumulative Effects	Minimise cumulative effects	Construction of the proposed development has the potential to give rise to cumulative environmental effects.	Subsequent applications flowing from the Frameworks will require cumulative effects to be taken into consideration during the assessment(s) associated with development framework proposals.

15 CONCLUSIONS

It is our initial opinion following the desk-based review of publicly available information, that potentially significant impacts on the environment as a result of the development framework proposals can be either avoided or mitigated.

A summary of the baseline review findings are below.

Biodiversity

A Preliminary Ecological Appraisal Report indicates no major ecological constraints have so far been identified. A badger sett was identified (the location of which is confidential), however this is in an area which is not earmarked for development other than potential planting and habitat creation.

Geology and Soils

The majority of the development framework area is identified as having an average topsoil organic content concentration of 2.1% and is noted to range from extremely vulnerable to very vulnerable with respect to risk from subsoil compaction and a moderate risk of topsoil compaction.

The development framework area is identified as Class H2 with respect to the potential risk from leaching of contaminants impacting ground or surface water (deep, permeable, coarse-textured soils with little ability to retain potential pollutants).

The extent of exposed soils should be minimised, particularly during winter months to prevent soil erosion.

Water

SEPA flood maps indicate that the site is at risk of surface water and coastal flooding. SEPA flood maps indicate there is no fluvial flood risk at the site. Nevertheless, a flood risk assessment and drainage assessment incorporating SUDs and blue/green infrastructure will be undertaken in support of the planning applications. In addition, potential coastal geomorphology and morphological erosion pressures will be assessed once there is sufficient boardwalk and slipway design information.

Landscape and Visual

In landscape and visual terms, there are receptors with a line of sight of the proposed development due to the character of the site and its surroundings. The landscape will be altered given the nature of the development framework proposals and design mitigation will be required.

Archaeology and Cultural Heritage

There are Archaeology and cultural heritage assets including the Beach Ballroom within the site boundary. However, the Beachfront Development Framework aims to minimise significant effects of future development, nevertheless, the precautionary approach is being taken by the Council which means that before any work is carried out on site, discussions will take place with the Archaeology service to determine what archaeological investigation will be required, where and when. The archaeology service are also consulted as part of the Planning Application process.

Air Quality

There are three Air Quality Management Areas (AQMA) in Aberdeen. The closest to the development framework area is the City Centre AQMA. Air quality is unlikely to be significantly altered, and potentially improved given the emphasis placed on active travel.

Air Quality Assessment will be undertaken and design mitigation can be applied to minimise/mitigate emissions associated with energy use.

Dust can be controlled during construction via a Construction Environmental Management Plan/ Dust Management Plan

Noise

Noise impact Assessment will be undertaken at the planning stage which promotes noise management and mitigation measures will be incorporated at the design stage. During construction, noise can be managed by a noise management plan.

Population and Human Health

Given the nature of the development proposals, it is unlikely there will be significant negative issues associated with population and human health. Active travel proposals can provide an opportunity to be physically active, which can contribute to improved health and wellbeing. In addition, the Beachfront Development Framework is likely to provide socio-economic benefits and employment opportunities.

Material Assets

The construction and operation of the proposed development will utilise material assets (land, access road(s), construction materials) but this is not considered to be significant given the scale of the proposals within the development framework.

Waste

A Site Waste Management Plan can ensure adequate measures for waste management are in place before and during construction. Operational waste management will aim to provide a robust strategy for storing, handling, collecting and transporting the wastes generated.

Climate Change

The Beachfront Development Framework aims to achieve Net Zero Carbon in Operation status. The design team are also seeking to reduce carbon associated with construction, but it is understood the project will not seek formal Net Zero on Construction certification.

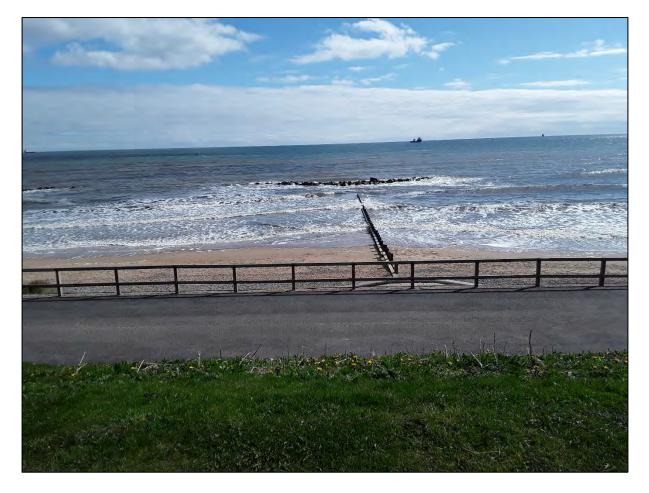
Cumulative Effects

The proposed development is within an edge of town area with no other zoned sites coming forward for development at this time in the immediate vicinity.

A PRELIMINARY ECOLOGICAL APPRAISAL (PEA)



Beachfront Development Preliminary Ecological Appraisal



July 2022

Beachfront Development Preliminary Ecological Appraisal

Client: Robertson Construction Group Ltd

Document number: 10013 Project number: 375971 Status: Final

Author:Jennifer PatersonReviewers:Mhairi Mackintosh and Gemma Nixon

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EXECUTIVE SUMMARY

Envirocentre Limited were commissioned by Robertson Construction Group Ltd to undertake a Preliminary Ecological Appraisal for the proposed beachfront development in Aberdeen. The aim of the survey was to provide baseline information on the ecology present on site.

The Aberdeen - Inverness - Kittybrewster Railway Line, a Local Nature Conservation Site, crosses under the beach boulevard in the west of the site.

Seven primary habitats are present within the site, comprising of grassland, woodland, trees, buildings, built linear features and beach habitats. A small remnant sand dune is also present within the beach habitat, but is not considered a viable size for inclusion as a Scottish Biodiversity List priority habitat.

Buddleja, a non-native invasive species, was identified within and adjacent to the site during the survey at many locations. A management plan should be devised for Buddleja to avoid the spread of the species as a result of construction activities.

Buildings within and adjacent to the site and the footbridge over Commerce Street and Railway bridge under Beach Boulevard Road have Potential Roost Features (PRFs)and are considered to offer **lowmoderate** suitability for roosting bats. Some of the mature broadleaf trees on site displayed PRFs and are considered to offer **low** suitability for roosting bats. Further survey of buildings, bridges and trees may be required to determine suitability and identify presence/absence of roosting bats if works are required on or in proximity to facilitate the development.

Marine mammals are known to inhabit the North Sea, therefore, if any in- water works which have the potential to impact marine mammals, a Marine Mammal Risk Assessment will need to be produced.

Bird nests were identified in trees and on buildings during the survey and the site provides suitable habitat for a range of bird species. Any vegetation removal/ building demolition works should be undertaken outside the nesting bird season (March-August).

Rabbit warrens are present in grassland areas throughout the site and rabbit activity within the site was high. A potential fox den was identified in the north west of the site. Any removal works should be undertaken out with any sensitive time period, under the audit of the project ecologist.

No evidence of otter, red squirrel or hedgehog was recorded within the survey area, however suitable habitat exists for these species within and adjacent to the site. Ecological data is considered valid for a period of 12 months.

Potential impacts (negative and positive) of the development have been considered in Section 4.1, good practice mitigation is recommended in Section 4.4 and opportunities for biodiversity gain are recommended in Section 4.5.

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1 INTRODUCTION

1.1 Terms of Reference

Envirocentre Limited were commissioned by Robertson Construction Group Ltd to undertake a Preliminary Ecological Appraisal for the proposed beachfront development in Aberdeen.

The 'site' is demarcated by the red line boundary as shown in Appendix A.

1.2 Scope of Report

The aim of the survey was to provide baseline information on the ecology present on site. The objectives were as follows:

- A desk study to identifying any ecological sensitivities associated within and in proximity to the site;
- Identify and map broad habitat types on site and aim to identify any Invasive Non-Native Species (INNS) or Groundwater Dependent Terrestrial Ecosystems (GWDTEs) on or within influence of the site;
- Search for field evidence for a range of protected or notable species which may frequent the survey area;
- Identify suitable habitat for protected or notable faunal species in the survey area;
- Evaluate the site based on the habitats and species found;
- Make recommendations for any further survey and/or species licensing requirements; and
- Provide recommendations for methods to mitigate impacts on notable habitats or protected species and identify opportunities for biodiversity gain.

1.3 Site description

The site is situated in the east of Aberdeen City, centred at NJ 95233 07047 and at an elevation of 8m above sea level. The site sits on a reclaimed sand dune system and consists of amenity grassland, built roads and pathways, buildings containing sport facilities with associated parking and ornamental planting. The Aberdeen beach front, with associated sea wall and groynes is also included.

King's links golf course is present to the north of the site, Codona's amusement park to the south and residential housing, cemetery and sports facilities to the west. The wider landscape is dominated by Aberdeen city to the west and the North Sea to the east.

1.4 **Project description**

The Aberdeen Beachfront Development Project includes proposals for the construction of a c16,000 seater stadium and 12,000m² and Leisure/ ice arena facility, Boardwalk structure, Slipway, c200m² surf pavilion, energy centre and associated infrastructure/public realm etc. as detailed in the Draft Development Framework¹.

¹ Draft Development Framework 'ACB-KEP-XX-XX-RP-A-852007_DRAFT_Development Framework' document provided by the client on 14/04/2022.

1.5 Legislation Policy and Guidance

Legislation, planning policies, conservation initiatives and general guidance relevant to this study include:

- The Conservation (Natural Habitats, &c.) Regulations 1994 (as amended);
- The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended);
- The Wildlife and Countryside Act 1981 (as amended) (WCA);
- The Nature Conservation (Scotland) Act 2004;
- The Wildlife and Natural Environment (Scotland) Act 2011 (WANE);
- The Protection of Badgers Act 1992;
- The British Standard for Biodiversity;
- The Scottish Biodiversity Strategy;
- Scottish Planning Policy (2014);
- The Marine (Scotland) Act 2010;
- The European Union Habitats Directive (1991);
- The Aberdeen City Local Development Plan²;
- Aberdeen City Council Aberdeen Beachfront Project Development Framework; and
- North East Scotland Biodiversity Partnership³.

A summary of protected species legislation is provided in Appendix B.

1.6 Report Usage

The information and recommendations contained within this report have been prepared in the specific context stated above and should not be utilised in any other context without prior written permission from EnviroCentre Limited.

If this report is to be submitted for regulatory approval more than 12 months following the report date, it is recommended that it is referred to EnviroCentre Limited for review to ensure that any relevant changes in data, best practice, guidance or legislation in the intervening period are integrated into an updated version of the report.

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EnviroCentre Limited accepts no liability for use of the report for purposes other than those for which it was originally provided, or where EnviroCentre Limited has confirmed it is appropriate for the new context.

² <u>https://www.aberdeencity.gov.uk/services/planning-and-building/local-development-plan/aberdeen-local-development-plan</u> (Accessed April 2022)

³ <u>https://www.nesbiodiversity.org.uk/</u> (Accessed April 2022)

2 METHODS

2.1 Desk Study

In order to anticipate the potential ecological sensitivities of the site, a desk study was conducted in advance of the field survey, in January 2022. The following sources were checked:

- NatureScot Sitelink for information on relevant statutory designated sites within 5km of the site⁴;
- Aberdeen City Council Local Development Plan 2017 for non-statutory designated sites within 2km of the site⁵;
- Scotland's Environment Map website to locate and identify ancient woodland within or adjacent to the site⁶;
- Saving Scotland's Red Squirrels (SSRS)⁷ and NBN Atlas Search for records of grey squirrel (*Sciurus carolinensis*) within 1km of the site⁸;
- NESBReC data request for ecological records within a 1km radius of the site; and
- The UK Biodiversity Action Plan⁹ and Scottish Biodiversity List¹⁰ for Priority Habitats and Species and the NESBIP for Local Priority Habitats and Species potentially relevant to the site.

2.2 Field survey

All field survey work was undertaken by EnviroCentre ecologist Jennifer Paterson who is an Associate member of the Chartered Institute of Ecology and Environmental Management (ACIEEM). The surveys were designed using the guidelines endorsed by NatureScot, CIEEM¹¹ and UK Habitat Classification¹². The survey focussed on plants and habitats on the site and those faunal species that are most likely to be found in the habitats which make up the landscape in and around the site. The survey was undertaken on 26th April 2022 when conditions were dry, breezy and 30% cloud cover. The average air temperature during the surveys was 12°C.

Table 2-1 provides an overview of the area surveyed for specific habitats, species, and species groups. Detailed methods regarding habitat and species surveys are provided.

⁴ NatureScot. (No Date). *Site Link* [Online] Available at: <u>https://sitelink.nature.scot/map</u> (Accessed April 2022)

⁵ Aberdeen City Council (2017). Aberdeeen city council local development plan [online] Available at:

https://www.aberdeencity.gov.uk/services/planning-and-building/local-development-plan/aberdeen-local-development-plan (Accessed April 2022)

⁶ Scotland's Environment. (No Date). *Scotland's Environment Map*. [online] Available at:

https://map.environment.gov.scot/sewebmap/ (Accessed April 2022)

⁷ Saving Scotland's Red Squirrels Sightings Map, available at: <u>https://scottishsquirrels.org.uk/squirrel-sightings/</u> (Accessed April 2022)

⁸ NBN Atlas occurrence download at <u>NBN Atlas</u> accessed on Tue Apr 19 13:06:46 UTC 2022.

⁹ Joint Nature Conservation Committee (JNCC). (No Date). *UK Biodiversity Action Plan (UKBAP) Priority Habitats & Species* [Online] Available at: <u>UK BAP List of UK Priority Species | JNCC Resource Hubhttps://jncc.gov.uk/our-work/uk-bap-priority-habitats/</u> (Accessed April 2022)

¹⁰ NatureScot. (2020) Scottish Biodiversity List [Online] Available at: <u>https://www.nature.scot/scottish-biodiversity-list</u> (Accessed April 2022)

¹¹ CIEEM PEA Guidance available at: <u>https://cieem.net/wp-content/uploads/2019/02/Guidelines-for-Preliminary-Ecological-Appraisal-Jan2018-1.pdf</u> (Accessed April 2022)

¹² Butcher, B., Carey, P., Edmonds, R., Norton, L. and Treweek, J. (2020). *The UK Habitat Classification User Manual Version 1.1* at <u>https://www.ukhab.org/ (Accessed April 2022)</u>

Habitat/Species/Species Group	Survey Area
UKHAB	Site
GWDTE	Site plus 250m buffer
Invasive Non-Native Species	Site plus 10m buffer
Bats (<i>Chiroptera spp.</i>)	Site plus 50m buffer
Otter (Lutra lutra)	Site plus 250m upstream and downstream
	of any waterbodies
Red Squirrel (Sciurus vulgaris)	Site plus 50m buffer
Badger (<i>Meles meles</i>)	Site plus 100m buffer
West European hedgehog (Erinaceus europaeus)	Site plus 50m buffer
Birds	Site plus 10m buffer
Marine Mammals	Site

Table 2-1: Survey Areas

2.3 UKHAB Survey

A UK Habitat Classification (UKHab) Survey was carried out in accordance with the user manual¹. UKHab is a hierarchical system for rapidly recording and classifying habitat via satellite imagery and field survey. The system comprises 5 levels of Primary Habitats which include ecosystems, broad habitats, priority habitats and Annex I habitats, along with non-hierarchical secondary codes which provide information on the environment, management and origin of Primary Habitats. The secondary codes are also used to map habitat mosaics and identify notable species features. The information collected is used to identify ecologically sensitive features and recommend mitigation and enhancement measures in connection with a proposed development.

The surveyor utilised the UKHab Professional edition with a Minimum Mapping Unit (MMU) of 25m² and aimed to categorise habitats to level 4. Where the level 4 habitat could not be determined due to a lack of indicative species, habitats were categorised to the broader level 3 habitat.

The information is used to identify ecologically sensitive features/habitats, inform relevant species surveys and, aid in the recommendation of mitigation and enhancement measures in connection with a proposed development.

2.4 Groundwater Dependent Terrestrial Ecosystems

The Functional Wetland Typology¹³ (FWT) was used to aid the identification of wetland habitats that derive their water from groundwater and surface water. This information is useful in identifying if and where further surveys are required to identify the presence and potential sensitivity of Groundwater Dependent Terrestrial Ecosystems (GWDTEs). To help assess ground water dependency, observations of local topography, underlying geology, and features such as springs, diffuse ground water emergence and floristic indicators of base enrichment were made.

2.5 Invasive Non-Native Species

The survey included a check for the presence of any invasive non-native species (INNS) including but not limited to the following:

- Japanese knotweed (*Reynoutria japonica*);
- Giant hogweed (*Heracleum mantegazzianum*); and

¹³ SNIFFER (2009). WFD95: A Functional Wetland Typology for Scotland; Project Report. Edinburgh: SNIFFER. (Accessed April 2022)

• Himalayan balsam (*Impatiens glandulifera*).

2.5.1 Bats

An assessment was undertaken in accordance with the criteria set out by the Bat Conservation Trust (BCT)¹⁴. No internal building inspections were undertaken during the survey. The suitability of roosting, commuting and foraging habitats was classified according to the criteria in Table 2-2 below.

Suitability	Roosting Features	Foraging and Commuting Habitats
High	A structure or tree with one or more potential roost sites that are obviously suitable for use by larger numbers of bats on a more regular basis and potentially for longer periods of time due to their size, shelter, protection, conditions and surrounding habitat.	Continuous high-quality habitat that is well connected to the wider landscape that is likely to be used regularly by commuting bats such as river valleys, streams, hedgerows, lines of trees and woodland edges. High-quality habitat that is well connected to the wider landscape that is likely to be used regularly by foraging bats such as broadleaved woodland, tree-lined watercourses and grazed parkland. The site is close to and connected to known roosts.
Moderate	A structure or tree with one or more potential roost sites that could be used by bats due their size, shelter, protection, conditions and/or surrounding habitat but unlikely to support a roost of high conservation status.	Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens. Habitat that is connected to the wider landscape that could be used by bats for foraging such as trees, scrub, grassland or water.
Low	A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis; or A tree of sufficient size and age to contain potential roost features but with none seen from the ground; or features seen with only very limited roosting potential.	Habitat that could be used by small numbers of commuting bats such as a gappy hedgerow or unvegetated stream, but isolated. Suitable but isolated habitat that could be used by small numbers of foraging bats such as a lone tree or a patch of scrub.
Negligible	A structure or a tree with negligible features likely to be used by roosting bats.	Negligible habitat features likely to be used by foraging or commuting bats.

Table 2-2: Suitability Classification of Roosting, Commuting and Foraging Habitats for Bats

¹⁴ Collins, J. (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines. (London The Bat Conservation Trust, Ed.) (3rd ed.). (Accessed April 2022)

Potential Roosting Features (PRFs) in structures are listed in Table 2-3 below.

PRFs in trees frequently used as bat roosts	Access points in structures frequently used as bat roosts	Frequently used roosting locations in structures
Hollows and cavities from woodpecker, rot and knot holes	Gaps in windowsills and windowpanes	Top of chimney breasts, gable ends and dividing walls
Hazard beams and other vertical or horizontal cracks and splits in stems or branches	Underneath peeling paintwork or lifted rendering	All beams and roof beams (ridge, hip etc.)
Partially detached plated bark	Behind hanging tiles, weatherboarding, eaves, soffit boxes, fascias and lead flashing	Junction of timber joints, mortise and tenon joints
Cankers, included bark and compression forks with potential cavities	Under tiles and slates	Behind purlins
Partially detached ivy with stem diameters in excess of 50mm	Gaps in brickwork and stonework	Between tiles/slates and the roof lining
Bat or bird boxes	Gaps in rendering behind gutters	Under flat roof materials

2.5.2 Otter

The otter survey followed best practice guidelines¹⁵, and aimed to identify suitable otter habitat and field signs, including:

- Spraints (otter faeces/droppings used as territorial signposts. Often located in prominent positions and can be placed on deliberate piles of soil or sand). Three categories are used for describing otter spraint: Dried fragmented (Df); Dried intact (Di); and Not fully dry (Nd);
- Footprints;
- Feeding remains (can often be a useful indication of otter presence);
- Paths/slides (otter can often leave a distinctive path from and into the watercourse);
- Holts (underground shelter) are generally found:
 - Within trees roots at the edge of the bank of a river;
 - Within hollowed out trees;
 - o In naturally formed holes in the river banks that can be easily extended;
 - Or preferably in ready-made holes created by other large mammals such as badger setts, rabbit burrows or outlet pipes; and
- Couches/lay-ups (couches or lay-ups are places for lying up above ground are usually located near a watercourse, between rocks or boulders, under dense vegetation).

In order to assess their importance, the status of otter resting sites was assigned from Low to High according to Table 2-4 below¹⁶.

¹⁵ Chanin, P. (2003). *Monitoring the Otter Lutra Lutra. Conserving Natura 2000 Rivers, Monitoring Series (No. 10).* Peterborough: EN, CCW, EA, SEPA, SNH & SNIFFER. (Accessed April 2022)

¹⁶ Bassett, S., & Wynn, J. (2010). *Otters in Scotland: How Vulnerable Are They to Disturbance?* CIEEM In Practice, (70), 19–22. (Accessed April 2022)

Resting Site Status	Definition
Low	Feature with limited evidence of otter activity – low number of spraints, not all age classes present. Insufficient seclusion to be a breeding site or key resting site, unlikely to have links to the key otter requirements. Most likely to provide a temporary 'stop off' for otters when moving through their territory. Loss/disturbance of such a feature is unlikely to be significant in terms of the individual or population.
Moderate	Feature containing sprainting with a range of age classes, but not in significant quantities. Availability may be limited by season, tides or flow. Unlikely to be suitable as a breeding/natal site but will be a key resting site and may be linked to other important features within the territory. The impact arising from a loss or disturbance of such a feature will be determined by the availability of more suitable or well used sites within the otter's territory.
High	Feature has a high level of otter activity, including an abundance of sprainting of all age classes, large spraint mounds, well used grooming hollows, paths and slides. Affords a high degree of cover and is linked to key features such as fresh water and abundance of prey. May be suitable as a breeding area (spraints may be absent from natal holts). The site is usually available at all times of year and at high and low tide/flow. The loss/ disturbance of such as feature will often be considered significant in terms of the individual or population.

Table 2-4: Status of Otter Resting Sites

2.5.3 Red Squirrel

A survey was undertaken based on best practice guidance¹⁷ which involves a search of suitable habitat (primarily coniferous woodland) for two distinct signs of squirrel activity. It should be noted that neither of these methods accurately distinguishes between red or grey squirrels (*Sciurus carolinensis*).

- Drey count dreys are the nests made by both species of squirrel in trees. Dreys are distinguishable from birds' nests as they are normally 50cm in diameter and 30cm deep, comprise a ball shape and are usually densely constructed. The dreys are normally located close to the main stem of the tree at a height of 3m or more; *and*
- Feeding evidence where cone producing trees (conifers) are evident evidence of squirrel feeding is searched for. Although the two species of squirrel cannot be distinguished from feeding remains, the way squirrels break open seeds and nuts, which are then left on the forest floor, is diagnostic.

2.5.4 Badger

A badger survey was undertaken in suitable and accessible habitat, with reference to the methodology described by Scottish Badgers¹⁸ and NatureScot^{19,20}, which aimed to identify the following field evidence:

• Setts (any structure or place, which displays signs indicating current use by badger/located within an active badger territory, as defined by NatureScot guidance²¹);

¹⁷ Gurnell, J., Lurz, P., McDonald, R. & Pepper, H. (2009) *Practical Techniques for surveying and monitoring squirrels. Forestry Commission Practice Note 11.* (Accessed, April 2022)

¹⁸ Scottish Badgers (2007) Level 1 Badger Awareness Manual, NatureScot Scotland's Wildlife Badgers and Development. (Accessed April 2022)

¹⁹ NatureScot: Licensing Guidance. Available from: <u>https://www.nature.scot/sites/default/files/2018-10/Guidance%20-</u>

^{%20}Licensing%20-%20Badgers%20-%20What%20is%20a%20Badger%20sett .pdf (accessed January 2021) (Accessed April 2022)

²⁰ NatureScot: Protected Species Advice for Developers – Badger. Available from: <u>https://www.nature.scot/species-planning-advice-badger</u> (Accessed April 2022)

²¹ NatureScot definition of current use: "*There is no case law to clarify what signs of current use means. For the purpose of this guidance, and in the absence of such case law, we consider that the presence of field signs such as bedding, fresh spoil heaps,*

- Day beds (above ground area where badgers sleep, characterised by flattened vegetation or bundles of grass);
- Dung pits (single faeces deposit placed in a small excavation);
- Latrines (collection of faecal deposits often used by badger clans to mark home range boundaries);
- Foraging signs such as diggings or snuffle holes (badgers use their snout to turn over vegetation or soft soil to forage for bulbs and invertebrates);
- Paths (network of paths generally linking setts to foraging habitat);
- Breach points (gaps in fences or crossing points over roads);
- Scratching posts (marks on tree trunks/ fallen trees where badgers have left claw marks);
- Guard hair; and
- Footprints.

Setts were categorised as follows as per Scottish Badgers guidance²²:

- **Main sett**: numerous entrances, large spoil heaps, active and with well-used paths. One per social group;
- Annexe setts: numerous entrances, generally located within 150m of the main sett, with wellused paths connecting to the main sett. Not continuously active;
- **Subsidiary setts**: variable number of entrances not connected to other setts by obvious paths. Usually located <50m from main sett. Not continuously active; and
- **Outlier setts**: one or two entrances, often with little or no spoil heap. No defined paths connecting to other setts and used sporadically. May be occupied by fox or rabbit when not in use by badgers. Badger use can be recognised by a characteristic D-shaped tunnel (not actual entrance hole) which is at least 25cm in diameter.

To help determine if a sett is in current use, the entrances were classified according to their degree of usage as per Scottish Badger guidance:

- Well Used (WU): clear of debris and vegetation, sides worn smooth but not necessarily excavated recently.
- **Partially Used (PU):** not in regular use and has debris (i.e. twigs and leaves in entrance). Can be used but after only a minimum amount of clearance.
- **Disused (D):** not in use for some time. Can be partially blocked and could not be used without considerable effort. If disused for some time there is only an overgrown spoil heap and a depression in the ground where the hole used to be. Rabbits and foxes may take over part of a sett and keep disused entrances open.

Badger foraging habitat was classified on a primary and secondary basis as per best practice guidance²³. An assessment of the distribution of primary and secondary habitat (defined below) within the survey area was undertaken:

• Primary foraging habitat: short grazed or mown grassland, improved or unimproved, golf course habitat and broadleaved woodland (> 80% broadleaves); and

signs of recent digging, hair, latrines, or footprints in or around the potential sett or evidence of badgers entering or exiting the structure or place in question would indicate current use of the structure / place by a badger."

²² Scottish Badgers: Surveying for Badgers – Good Practice Guidelines. Version 1: 2018. Available from:

https://www.scottishbadgers.org.uk/userfiles/file/planning_guidelines/Surveying-for-Badgers-Good-Practice-Guidelines_V1.pdf (Accessed April 2022)

²³ The Highland Council. Best Practice Guidance – Model badger Protection Plan (BPP)– Badger foraging habitats (2006). Available from:

https://www.highland.gov.uk/downloads/file/2635/badger_best_practice_guidance_badger_protection_plans_september_2006 (Accessed April 2022)

• Secondary foraging habitat: arable, rough grassland (not grazed by domestic stock or mown), scrub and mixed woodland.

2.5.5 West European Hedgehog

The suitability of the habitats for hedgehog was assessed according to guidance²⁴. Suitable habitats include:

- Grazed pastureland separated into small fields by hedgerows;
- Deciduous woodland copses (oak, beech);
- Overgrown verges or margins; and
- Suburban gardens, woodpiles or parklands.

2.5.6 Birds

Habitats within the survey area were assessed for their suitability to support breeding and over wintering birds. Observations of birds were noted during the survey.

2.5.7 Marine Mammals

A general review of habitat suitability was made of the North Sea and its suitability to host marine mammals and a 10 minute scan of the open water was undertaken by eye and with the aid of close focus binoculars based on the 'Shorewatch' protocol adopted by Whale and Dolphin Conservation (WDC)²⁵. Any observations of marine mammals during the survey were noted.

2.6 Constraints

2.6.1 Desk Study

Desk studies are limited by the reliability of third-party information and the geographical availability of biological and/or ecological records and data. This emphasises the need to collate up-to-date, site-specific data based on field surveys by experienced surveyors. The absence of a species from biological records cannot be taken to represent actual absence. Species distribution patterns should be interpreted with caution as they may reflect survey/reporting effort rather than actual distribution.

2.6.2 Field Survey

Direct access to the railway tunnel which goes under the Beach Boulevard Road was not possible due to security fencing in place. The feature was assessed from a distance using binoculars and therefore, it is unlikely not gaining direct access has affected the survey outcomes at this stage.

Access to the driving range was not possible during the survey, however, the habitat type was easily discernible from a distance and therefore unlikely to have been affected.

²⁵ Whale and Dolphin Conservation Shorewatch protocol available at:

²⁴ The Mammal Society (2012). UK BAP Mammals: Interim Guidance for Survey Methodologies, Impact Assessment and Mitigation. (W. J. Cresswell, J. D. S. Birks, M. Dean, M. Pacheco, J. W. Trewhella, D. Wells, & S. Wray, Eds.). Southampton: The Mammal Society. (Accessed April 2022)

https://www.wdcs.org/national_regions/scotland/shorewatch/protocol.php (Accessed April 2022)

A small area in the northwest of the site could not be accessed due to the presence of heras fencing and works going on beyond this point. The area of modified grassland was assessed from outside the heras fencing, as such some floral species may have been missed but it is considered the habitat would not be characterised differently.

3.1 Desk Study

Desk study information can be found in Appendix E.

3.1.1 Statutory Designated Sites

No statutory designated sites are located within the site.

The Ythan Estuary, Sands of Forvie and Meikle Loch Special Protection Area boundary is located 100m to the east of the site. It supports bird populations including Sandwich tern (*Sterna sandvicensis*), common tern (*Sterna hirundo*), little tern (*Sterna albifrons*), pink-footed geese (*Anser brachyrhynchus*), eider (*Somateria mollissima*), lapwing (*Vanellus vanellus*) and provides a foraging zone for these species. It is ecologically connected to the site via the North Sea and coastline.

The River Dee Special Area of Conservation is located 1.5km south of the site. It contains populations of otter (*Lutra lutra*), Freshwater pearl mussels (*Margaritifera margaritifera*) and Atlantic Salmon (*Salmo salar*). It is ecologically connected to the site via the North Sea to the east and the green residential garden habitats to the south and west of the site.

3.1.2 Non-Statutory Designated Sites

The Aberdeen - Inverness - Kittybrewster Railway Line, a Local Nature Conservation Site, crosses under Beach Boulevard Road in the west of the site. It provides a green corridor through the city as it contains grassland, tall ruderal vegetation, scrub and woodland.

The Donmouth Local Nature Reserve 2km north of the site supports waterfowl and seal populations. It is connected to the site via the parkland and green residential garden habitats to the north of the site and the North Sea to the east.

3.1.3 Ancient Woodland

No areas of ancient woodland are present within the site or within proximity. The nearest ancient woodland to the site is the long-established (of plantation origin) woodland at Seaton Park 2km northwest of the site. It is ecologically connected to the site by the parkland and green residential garden habitats present to the north and west of the site.

3.2 Field Survey

3.2.1 UKHAB Survey

The results from the UKHab survey are shown in Appendix F and the photographic record in Appendix G.

Seven primary habitats, with secondary codes, are present within the site, as summarised in Table 4-3 and detailed further overleaf.

Habitat Type	Habitat	Primary Codes	Secondary Code
Grassland	Other neutral	g3c	10 – Scrub
	grassland		11 - Scattered trees
			16 - Tall Herb
			56 – Young trees – planted
			77 – Neglected
			117 – Dry
			300 – Natural and semi-natural open
			space
	Modified grassland	g4	10 - Scrub
			11 - Scattered Trees
			66 – Frequently mown
			117 – Dry
			500 – Recreation ground
	Modified grassland	g4	10 - Scrub
			11 - Scattered Trees
			351 – Vacant/derelict land
Woodland	Other woodland;	w1h6	36 – Plantation
	mixed; mainly		76 - Recent management
	conifer		189 - Scattered grass
			343 - Woodland; conifers
	Line of trees	w1g6	1171 - Mature tree
			1172 – Young tree
	Buildings	u1b5	90 – Commercial building
			109 – Residential
			630 – Adventure playground
	Built Linear Feature	u1e	10 – Scrub
			11 - Scattered Trees
Urban			68 – Mortared wall
			89 – Car park
			111 - Road
			420 - Green access route
			421 - Walking/cycling route
			431 – Road island/verge
	Beach	t2h	113 – Sea wall
Marine Inlets and			380 – Coastal
Transitional Waters			381 – Beaches and sand dunes
			382 – Foreshore/rocks
			384 – Open saline water

3.2.2 Other Neutral Grassland (g3c)

Definition: Neutral grassland that does not meet the definition of either g3a or g3b. Perennial Rye-grass Lolium perenne is likely to be present at <30% with between 9 and 15 further species (m²) also present. Many of the more species rich swards that were previously described as "semi-improved neutral grassland" will fall here, together with rank unmanaged swards on neutral soils.

There are three main areas where this habitat is present: Broadhill in the north west of the site, the area of grassland in the north of the site, east of the driving range and verges along the south and east of the outside of the driving range and grassland along the seafront. These areas are predominantly unmanaged, with longer swards and are dry.

There are an average of 10 species per m² and 75% cover of grass species. The species composition in these areas are very similar and comprise of dominant annual meadow grass (*Poa annua*), Yorkshire fog (*Holcus lanatus*), Cocksfoot (*Dactylis glomerata*) and common bent (*Agrostis capillaris*). White

clover (*Trifolium repens*), dandelion (*Taraxacum officinale*), yarrow (*Achillea millefolium*), broadleaved dock (*Rumex obtusifolius*), common chickweed (*Stellaria media*) and springy turf moss (*Rhytidiadelphus squarrosus*) are abundant. Ribwort plantain (*Plantago lanceolata*), creeping thistle (*Cirsium arvense*), spear thistle (*Cirsium vulgare*) and ragwort (*Jacobaea vulgaris*) are regular and cow parsley (*Anthriscus sylvestris*), common mouse ear (*Cerastium fontanum*), nettle (*Urtica diocia*), cleavers (*Gallium aparine*) are occasional (Photograph 1).

A stand of rosebay willowherb (*Chamaenerion angustifolium*) is present in both Broadhill grassland and grassland to the east of the driving range (16). Scattered gorse (*Ulex europaeus*) (10), young-semi mature sycamore (*Acer pseudoplatanus*) (11) and a rare bracken (*Pteridium*) are also present in Broadhill grassland.

A small area in the northwest of the site, directly adjacent to the Broadhill grassland, has been used as an area where rubbish has been dumped and is overgrown with Buddleja (*Buddleia davidii*), young sycamore and nettle (Photograph 2).

Fresh planting of coniferous saplings has occurred in the north of Broadhill grassland (56).

Neutral, amenity and roadside verges fall into the Grasslands priority NESBiP habitat and golf courses also fall into the Built Environment NESBiP priority habitat. Therefore, other neutral grassland in the site is of Regional importance.

3.2.3 Modified Grassland (g4)

Definition: Vegetation dominated by a few fast-growing grasses on fertile, neutral soils. It is frequently characterised by an abundance of Rye-grass Lolium spp. and White clover Trifolium repens.

Frequently mown modified grassland, managed for recreational use is present throughout the site. Secondary codes that define the grassland habitats include grassland with scattered scrub, scattered trees and vacant/derelict ground.

3.2.3.1 Modified Grassland (g4 10 11 66 117 500)

The main species composition for this habitat type comprises cocksfoot and Yorkshire fog (comprising >75% cover) and annual meadow grass, with white clover, dandelion, yarrow, broadleaved dock being regularly observed. Common chickweed and springy turf moss are frequently observed.

Scattered trees are present in the modified grassland areas in the north, south and western regions of the site and consist of a range of young to mature species, including: whitebeam (*Sorbus aria*), Norway maple (*Acer platanoides*), bird cherry (*Prunus padus*), elm (*Ulmus procera*), sycamore, rowan (*Sorbus aucuparia*), willow (*Salix sp.*), ash (*Fraxnius excelsior*), Scot's pine (*Pinus sylvestris*), hawthorn (*Crataegus monogyna*), common lime (*Tilia x europaea*), oak (*Quercus robur*) and crack willow (*Salix fragilis*) (Photograph 3).

Areas of ornamental planting predominantly for screening reasons, between roads and recreational playing areas comprise planted elm, privet (*Ligustrum ep.*), hawthorn, *escallonia sp.*, blackthorn (*Prunus spinosa*), *cotoneaster sp.*, dog rose (*Rosa canina*), red flowering currant (*Ribes sanguineum*), brachyglottis (*Senecio sp.*), dogwood (*Cornus sanguinea*) and *Virburnum sp*. The ground around most of these areas of ornamental planting is bare, with occasional regenerating privet and elm, common mouse ear, cleavers and nettle.

A children's play area containing swings, roundabouts, slides etc. on natural soft sand and grassland surface is present in the central region of the site, east of Transition Extreme building (Photograph 4).

3.2.3.2 Modified Grassland (g4 10 11)

A small area of modified grassland is present in the west region of the site, near the roundabout This area has been disturbed, likely as the result of the buildings being developed adjacent in the north. Species present include regenerating grass species, cleavers, common chickweed, dandelion, spear thistle, and creeping buttercup (*Ranunculus repens*). Privet and Norway maple trees are present along the south boundary within this area.

Improved grasslands, roadside verges and amenity grasslands fall into the Grasslands NESBiP priority habitat. Therefore, modified grassland in the site is of Regional importance.

3.2.4 Other woodland; mixed; mainly conifer (w1h6)

Definition: A mixture of broadleaved and coniferous trees in which coniferous species make up between 50 and 80% of the tree cover.

Two blocks of mixed young plantation woodland (36), which have been obviously planted, are present on Broadhill with species composition comprising densely packed Scots pine and lodgepole pine (*Pinus contorta*), with sycamore, rowan and hawthorn at the southern extent. A stand of dense raspberry (*Rubus idaeus*) is present along the east edge of the eastern woodland block (Photograph 5).

The understory comprises Yorkshire fog (189), bracken, bluebell (*Hyacinthoides sp.*), cleavers, daffodil (*Narcissus pseudonarcissus*) and springy turf moss.

Planted coniferous woodlands fall into the Woodland NESBiP priority habitat and therefore planted mixed, mainly conifer woodland is of Regional importance.

3.2.5 Line of Trees (w1g6)

Definition: A line of trees at least 20 meters in length with open habitat on each side.

There are five treelines in the central region of the site, with species ranging from young to mature and creating avenue treelines.

One treeline surrounds the Hilton hotel grounds and comprises whitebeam, Norway maple, elm, cherry, sycamore, rowan, ash, Scot's pine and sea buckthorn (*Hippophae rhamnoides*), with a shrub lower storey comprising dog rose, willow and *brachyglottis sp* (Photograph 6).

The second treeline is present in the grassland area south of the Hilton Hotel, beyond the Beach Boulevard Road and comprises elm and sycamore, with modified grassland understory.

The third treeline is present to the west of the Beach Ballroom building and comprises black pine (*Pinus nigra*), whitebeam, elm, sycamore, with an understory of escallonia, blackthorn, cotoneaster, dog rose, red flowering currant and New Zealand holly (*Olearia macrodonta*).

The fourth treeline is present to the west of the Beach Ballroom building and comprises black pine, with a shrub lower story comprising of red flowering currant, *brachyglottis sp.*, bay laurel (*Laurus nobilis*) escallonia *and Virburnum sp.*

The fifth treeline is present to the east of the driving range in the area of other neutral grassland, where a line of semi mature rowan trees have been planted.

Lines of trees are not a priority habitat but provide important biodiversity value and area therefore are of Site importance.

3.2.6 Buildings (u1b5)

Definition: A relatively permanent closed construction over a plot of land, having a roof and usually windows and often more than one level used for any wide variety of activities, as living, entertaining, or manufacturing.

The site contains nine buildings. The buildings are present for a number of uses, including recreational and fitness activities (ice rink, swimming pool, gym, Transition Extreme), events (Beach ballroom, Hilton hotel function building) (90), public facilities (public toilets) and residing (Hilton hotel) (109) (Photograph 7).

The buildings on site comprise a mixture of stone, brick, steel, metal, wood panelling, panelling, cladding and rendered surround with roofing materials including, slate, corrugated metal, sheet metal and tiles.

In association with Transition extreme building, the aerial assault course and off-roading area are present to the north of the main building and are within fully enclosed, secure ground (Photograph 8) (630).

Buildings of a variety of purposes, from residential to business are present to full expanse of the south boundary of the site, along the north of the section of the site which extends westwards along Beach Boulevard Road and to the west and north west of the site.

Buildings are included in the Built Environment NESBiP priority habitat and buildings are therefore of Regional importance.

3.2.7 Built linear features (u1e)

Definition: Roads, railways, walls, fences, surfaced paths.

The site contains asphalt pavements (421), roads (111), walls (68) and car parking (89) units throughout the site.

Within this habitat, there are multiple road verges (431) with managed modified grassland habitat and associated scattered trees with species including common lime, sycamore and Norway maple (11).

An area of planted scrub and managed modified grassland is present on the roundabout in the west of the site and comprises *Cotoneaster horizontalis*, lodgepole pine, daffodil, barberry (*Berberis sp.*), yew (*Taxus baccata*), juniper (*Juniperus sp.*), downy birch (*Betula pubescens*) and pampas grass (*Cortaderia selloana*) (10).

An area east of the car park associated with the Leisure Centre has planted elm, privet (*Ligustrum ep.*) and hawthorn shrubs, with a bare understory (Photograph 9).

Associated green infrastructure with built linear features provides opportunities for foraging, commuting and resting/nesting wildlife. Therefore, built linear features are of Site importance.

3.2.8 Beach (t2h)

Definition: Sand or pebble intertidal sediment.

The North Sea (384) and associated sand and pebble beach (382) is present to the east of the site. The bank between the intertidal sediment (sand) and the built linear feature (Esplanade walkway), has been supported and reinforced with a stone sea wall (Photograph 10) (113).

Sand fencing barriers are present at regular intervals along the sand likely used to control erosion (Photograph 11).

Groynes (stone-built structures) are present in the water, perpendicular to the shoreline, implemented as a method for shore protection to reduce longshore drift and trap sediments (Photograph 11).

A small area of the shore has vegetated sand, which has been previously shaped by the wind and is a remnant of an existing dune feature (<25m²) (381). The species present comprise dominant marram grass (*Ammophila arenaria*) and sand couch grass (*Sporobolus virginicus*), with occasional dandelion, common chickweed, ragwort, cleavers and common haircap moss (*Polytrichum commune*) (Photograph 12). Sand dunes are SBL priority habitats, however the sand dune habitat within the site would not be classed as viable due to it being a small remnant sand dune, with species untypical of that habitat type.

Sand and gravel dominated habitats fall within the Marine and Coastal NESBiP priority habitat. Therefore, beaches are of Regional importance.

3.3 GWDTE

No groundwater dependent terrestrial ecosystems were identified during the desk study.

3.4 INNS Survey

Records of Japanese Knotweed and Giant hogweed were identified 750m and 1km to the southwest of the site in residential gardens and a car park in 2012 and 2013 respectfully.

Buddleja, a non-native invasive species, was identified within and adjacent to the site during the survey at many locations (Photograph 2).

Further, non-native ornamental species, some of which grow rapidly were identified within the roundabout and scrub habitats and include:

- Cotoneaster;
- Barberry;
- Escallonia sp.
- New Zealand holly
- Brachyglottis sp.
- Virburnum sp.
- Pampas grass

3.5 Faunal Survey Results

3.5.1 Disclaimer

Faunal species are transient and can move between favoured habitats regularly throughout and between years. This survey provides a snapshot of field signs present in the survey area in April 2022.

Faunal survey results are presented in Appendix H and Photographs in Appendix I.

3.5.2 Bats

The NESBReC data search identified no records of bats within 1km of the site in the last ten years. However, between 2000 and 2003 two unidentified pipistrelle and an unidentified bat were recorded southwest of the site along the harbour.

Buildings

There are nine buildings on site comprising a range of materials and structural designs. Three buildings on site did not comprise any PRFs or are composed of materials not suitable for roosting bats and therefore were assessed as **negligible**, in reference to Table 2-2: Negligible – '*A structure or a tree with negligible features likely to be used by roosting bats*'. However, six buildings in the site had PRFs and are considered to offer **low-moderate** suitability for roosting bats due to the presence of gaps in mortar, gaps under loose or cracked tiles, gaps under dormer windows, gaps under lead flashings, gaps around windows, gaps behind guttering, gaps in soffit boxes and damage to stonework, in reference to Table 2-2: Low – '*A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis*' or Moderate – '*A structure or tree with one or more potential roost sites that could be used by bats due their size, shelter, protection, conditions and/or surrounding habitat but unlikely to support a roost of high conservation status*' (Photograph 13).

Some traditional buildings outside of the site offer **low-moderate** suitability for roosting bats due to the presence of PRFs via gaps behind soffit boxes, under lead flashings, gaps under tiles, gaps behind fascia boards and gaps in stonework from loose mortar. However, the majority of buildings outside the site are assessed as **negligible** due to being constructed of unsuitable materials for roosting bats, including metal sheet and Perspex or being in good condition with no PRFs.

Structures

Two bridges are present within the site. The railway bridge is fairly intact but has PRFs via small gaps in stonework from loose mortar. The foot bridge which extends over Commerce Street has some PRFs which bats could utilise including gaps in loose mortar on wall below bridge and presence of ivy (*Hedera helix*) (Photograph 14). Both bridge structures are assessed as **low** suitability to host roosting bats, in reference to Table 2-2: Low – '*A structure with one or more potential roost sites that could be used by individual bats opportunistically. However, these potential roost sites do not provide enough space, shelter, protection, appropriate conditions and/or suitable surrounding habitat to be used on a regular basis*'

<u>Trees</u>

There are a range of trees within the site, comprising a range of ages and species. Some of the mature broadleaf species (elm and aspen) displayed PRFs such as wounds, cracks in bark and lifted plated bark which could provide suitable roosting potential for bats (Photograph 15). These trees are

considered to offer **low** suitability for roosting bats, in reference to Table 2-2: Low - '*A tree of sufficient* size and age to contain potential roost features but with none seen from the ground; or features seen'.

Habitats

The treelines, young woodland, scattered trees and scrub habitats within the site, offer foraging and commuting resources for bats, by support a variety of invertebrate species, however these features are relatively fragmented from one another. The grassland within the site also provides some foraging and commuting resources for bat. These habitats are also connected to habitats within the locale via grassland, scattered trees and residential gardens. The railway line which spans under the Beach Boulevard Road and has vegetated banks provides a green corridor northward to suitable habitat, including parkland and the River Don with associated riparian habitat 3.4km north of the site. In general, the majority of the site is very exposed and open to the elements from the east coast, with the west of the site likely being more sheltered for bats due to the presence of buildings. Overall, the site provides **moderate** suitability for commuting and foraging bats, in reference to Table 2-2: '*Continuous habitat connected to the wider landscape that could be used by bats for commuting such as lines of trees and scrub or linked back gardens.*'

Bats are European Protected Species (EPS) of International Importance.

3.5.3 Otter

The NESBReC data search identified no records of otter within the search radius. EnviroCentre are aware of otter sightings at the Donmouth Local Nature Reserve (LNR), 1.5km north and the River Dee 1.5km south.

No evidence of otter activity or otter holts were identified during the course of the survey.

The North Sea likely provides opportunities for foraging and commuting otter, especially around the mouths of the River Don and River Dee to the north and south of the site, respectively. However, this area lacks opportunities for rest site creation, due to the tidal nature of the sea, presence of sea walls, the areas being highly frequented by people and dogs and a lack of sheltered commuting opportunities. There are likely more suitable sites for resting otter north of the site (i.e. Donmouth and River Dee).

Otter are a European Protected Species and are therefore of International importance.

3.5.4 Red Squirrel

The NESBReC data search identified two records of red squirrel within the search radius in 2015. They were located 850m and 1km to the northwest of the site in a residential garden and along King's Street by the woodland in St Peter's cemetery. 11 records of Grey Squirrel (*Sciurus carolinesis*) were identified within 1km of site between 2020-2021 during the NBN Atlas search²⁶, identified in residential gardens to the west of the site. Grey squirrels tend to outcompete red squirrels when occupying the same areas.

The scattered trees and young mixed plantation woodland provide some limited connecting green corridors which squirrel may use for commuting and foraging purposes. However, overall, the site lacks the suitable areas of woodland for foraging, commuting and shelter for drey creation that red squirrel requires to sustain a population.

²⁶ Scottish Wildlife Trust (2021). The Scottish Squirrel Database. Occurrence dataset <u>https://doi.org/10.15468/fqg0h3</u> accessed via GBIF.org (Accessed April 2022)

Parkland and woodland habitats are present to the north and west of the site, loosely connected via back gardens, scattered trees and railway line.

Red squirrels are SBL priority species and protected under Schedules 5 of the Wildlife and Countryside Act and are therefore considered to be of national (UK) importance.

3.5.5 Badger

Field evidence of badger was identified during the survey and is detailed in confidential Annex 1.

Badgers are protected (for welfare reasons) under the Protection of Badgers Act 1992 as amended by the Wildlife and Natural Environment (Scotland) Act 2011, and so are of national (UK) importance.

3.5.6 West European hedgehog

The NESBReC data search identified no records of West European hedgehog within the search radius between 2011-2021. One hedgehog was recorded in 1997 in the grassland habitat in Mounthooly roundabout.

Hedgehogs have the potential of being present on site by the means of foraging, nesting, commuting or for hibernation purposes. The habitat on site could sustain a hedgehog, due to the presence of modified grassland and the site being located in an urban area which would provide plentiful supply of food; earthworms, beetles, snails and slugs. Shrubs present on site could provide suitable nesting habitat for hedgehog. Hedgehogs roam on average 2km on a single night, therefore the adjacent mixed woodland may be the perfect wildlife corridor for hedgehog travel.

The west European hedgehog is a SBL species and is therefore of national (UK) importance.

3.5.7 Birds

The NESBReC data search identified a number of protected bird records within the search radius between 2011-2021, including:

Species	Designation ²⁷
Goshawk (Accipiter gentilis)	BOCC – Green List
Skylark (<i>Alauda arvensis</i>)	BOCC – Red List
Swift (<i>Apus apus</i>)	BOCC – Red List
Goldeneye (Bucephala clangula)	BOCC – Red List
Dunlin (<i>Calidris alpina</i>)	BOCC – Red List
Purple Sandpiper (Calidris maritima)	BOCC – Red List
Black-headed Gull (<i>Chroicocephalus ridibundus</i>)	BOCC – Amber List
Peregrine (Falco peregrinus)	BOCC – Green List
Great Northern Diver (Gavia immer)	BOCC – Amber List
Red-Throated Diver (Red-throated Diver)	BOCC – Green List
Red Backed Shrike (Lanius collurio)	BOCC – Red List
Herring Gull (Larus argentatus)	BOCC – Red List

Table 3-2: Bird species within 2km of the site NESBReC

²⁷ Birds of Conservation Concern information available at: https://www.bto.org/sites/default/files/publications/bocc-5-a5-4pp-single-pages.pdf

Common Scoter (Melanitta nigra)	BOCC – Red List
Curlew (Numenius arquata)	BOCC – Red List
House Sparrow (Passer domesticus)	BOCC – Red List
Dunnock (<i>Prunella modularis</i>)	BOCC – Amber List
Eider (Somateria mollissima)	BOCC – Amber List
Common tern (Sterna hirundo)	BOCC – Amber List
Arctic tern (Sterna paradisaea)	BOCC – Amber List
Sandwich Tern (Sterna sandvicensis)	BOCC – Amber List
Starling (Sturnus vulgaris)	BOCC – Red List
Redshank (Tringa totanus)	BOCC – Amber List
Redwing (Turdus iliacus)	BOCC – Amber List
Barn Owl (<i>Tyto alba</i>)	BOCC – Green List

Birds identified during the survey included:

Species	Designation
Blackbird (Turdus merula)	BOCC – Green List
Pied Wagtail (<i>Motacilla alba</i>)	BOCC – Green List
Woodpigeon (<i>Columba palumbus</i>)	BOCC – Green List
House Sparrow (Passer domesticus)	BOCC – Red List
Herring Gull (Larus argentatus)	BOCC – Red List
Rook (<i>Corvus frugilegus</i>)	BOCC – Amber List
Carrion Crow (Corvus corone)	BOCC – Green List
Starling	BOCC – Red List
Cormorant (<i>Phalacrocorax carbo</i>)	BOCC – Green List
Magpie (<i>Pica pica</i>)	BOCC – Green List
Goldfinch (<i>Carduelis carduelis</i>)	BOCC – Green List
Bullfinch (<i>Pyrrhula pyrrhula</i>)	BOCC – Amber List

In addition, multiple nests in trees and on buildings were identified, currently in use by Woodpigeon, Magpie, Gulls and other passerines (Photograph 16). A bird pellet, likely regurgitated by a corvid was identified on the railway bridge at NJ 94908 06647 (Photograph 22) and a Woodpigeon egg remains were present below a nest in the grassland west of the Hilton Hotel at NJ 95018 06881 (Photograph 17).

Birds on the BOCC red list are of national importance, those on the amber list are of regional importance and green list birds are of local importance.

All wild bird species are protected under the Wildlife and Countryside Act 1981.

3.5.8 Marine Mammals

Three records of bottle-nosed dolphin (*Tursiops truncatus*) between 2011 and 2015 were returned from the desk study. Harbour porpoise (*Phocoena phocoena*), Common dolphin (*Delpinus delphis*), Risso's dolphin (*Grampus griseus*), White-beaked dolphin (*Lagenorhynchus albirostris*), Humpback whale (*Megaptera novaeangliae*), Long-finned pilot whale (*Globicephala melas*), Minke whale (*Balaenoptera acutorostrata*), grey seal (*Halichoerus grypus*), harbour seal (*Phoca vitulina*), Atlantic white-sided dolphin (*Lagenorhynchus acutus*), Killer whales (*Orcinus orca*), Sperm whale (*Physeter*)

microcephalus) and Fin whale (*Balaenoptera physalus*) have also been previously identified in the locale and considered during the Aberdeen Harbour Expansion project in 2015²⁸. No direct sightings of any marine mammals were observed during the survey.

The North Sea provides suitable habitat for marine mammals to inhabit. The North Sea is known to support an array of marine mammal species, including multiple species of dolphins, whales, porpoise and seals, with many frequenting the coastal waters of Aberdeen Beach²⁹.

All cetacean species are protected under European Legislation and so are of international importance.

3.5.9 Other observations

Rabbit were frequently observed within the site, with regular digging, direct sightings and droppings identified. There are several locations where burrows are present, with the most extensive area being the east aspect of Broadhill (NJ 95176 07178; Photograph 18).

A potential fox den is present within the small area used as a rubbish dump which is dominated by Buddleja (NJ 95014 07177; Photograph 19).

²⁸ Aberdeen Harbour Expansion Project (2015) Volume 2: Environmental Statement Chapter 15: Marine Mammals, available at: <u>https://www.portofaberdeen.co.uk/images/uploads/Volume 2 Environmental Statement Ch 15.pdf</u> (Accessed April 2022)

²⁹ 2010 Sea Watch Foundation report entitled 'Cetaceans of the East Grampian Region', available at:

https://www.seawatchfoundation.org.uk/wp-content/uploads/2012/08/East-gramp-cet-rev.pdf

4 FURTHER SURVEYS, LICENCING AND MITIGATIONS

4.1 Potential Impacts

This project includes proposals to construct a sports stadium/ leisure centre, landscaping of the beachfront, construction of a pier structure and a slipway, as such potential impacts associated with the site have been listed:

- Loss of Regional important habitats if any other neutral grassland, modified grassland, planted mixed; mainly conifer woodland, buildings or beach/intertidal habitat are to be removed or altered to facilitate development.
- Loss of Site important habitats if any lines of trees or built linear features are to be removed or altered to facilitate development.
- Further spread of Buddleja (INNS) within and adjacent to the site if any works require removal or alteration to facilitate development in areas with INNS.
- Removal or fragmentation of potential roosting resource as a result of the removal or alteration of PRF trees, bridges and buildings.
- Removal or fragmentation of important commuting and foraging corridors for bats as result of the removal or alteration of scrub, scattered trees, woodland and grassland habitats.
- Disturbance to roosting bats during and post works, if demolition/felling of buildings/structures/trees with PRFs or arboricultural works to trees and if works are in proximity features with PRFs.
- Disturbance to commuting or foraging otter is works occur in or next to North Sea.
- Removal of commuting and foraging habitat for red squirrel as a result of alterations or removal of scattered trees and woodland habitat.
- Removal of suitable resting and foraging opportunities for hedgehog as a result of the removal or alteration of scrub, trees and grassland.
- Removal of suitable nesting, loafing and foraging habitat for a range of bird species as a result of the removal of scattered trees, grassland, scrub and woodland habitats.
- Polluting North Sea from runoff or spills associated with the development, which provides habitat for a range of marine mammals, birds and other important species.
- Disturbance to marine mammals during creation of a pier due to underwater noise and vibration.
- Injury or death of fox if removal of potential den is required to facilitate development.
- Injury or death of rabbits if removal of warrens/burrows are required to facilitate development.
- Injury or death of wildlife as a result of increased traffic, increased human presence and if works are not appropriately timed.

Potential positive impacts include:

- Development design could be designed to retain and enhance/ increase ecological features highlighted during the survey (badger setts and trees with PRFs).
- Sensitive habitat retention and restoration may increase foraging provision for bats, badgers, hedgehogs, red squirrel and birds post development.
- Planting of native trees in the site to would increase biodiversity as well as increase foraging, resting, sheltering and nesting opportunities for a range of species.
- The future development of the site may include, in its design and construction, purpose-built and installed bird and bat roost provision such as externally fitted bird boxes, bat boxes and bat bricks on any buildings or trees.

4.2 Further survey

4.2.1 Habitats

No further survey is required of the habitats on site.

4.2.2 INNS

Buddleja is a widely planted garden plant across the UK an is a favoured nectar source for many pollinator species, known as the 'Butterfly Bush'. However, Buddleja is a vigorously growing plant which can form dense stands that can eliminate other plants and can also damage structural integrity of buildings. Buddleja is not listed among the wild invasive non-native plants listed on Schedule 9 of the Wildlife and Countryside Act, however for any INNS, controlling and stopping the spread is the advised strategy to implement. Therefore, a management plan for the control of Buddleja should be devised.

Although no further surveys are required for the non-native ornamental species identified on site, it would be advisable to avoid further planting of non-native species as native species benefit the native wildlife more and are complementary with the natural surroundings.

4.2.3 Protected Species

<u>Bats</u>

If any buildings or structures (bridges) with PRFs are to be removed or require any works to facilitate the Beachfront development, further surveys in relation to bats may be required, via detailed preliminary roost assessments, inclusive of internal access and summer activity surveys (May-September) to identify presence/absence of roosting bats.

As tree conditions can change over time, if any trees including those with PRFs are to be removed or require arboricultural works to facilitate the development, an update walkover and assessment will be carried out where development requires tree removal to identify those which may require further inspections/ survey to confirm an absence/presence of roosting bats.

Badger

Further survey works for badger are detailed in confidential Annex 1.

Marine Mammal

Should any works have the potential to impact marine mammals a Marine Mammal Risk Assessment will need to be produced inclusive of a detailed desk study, to identify species presence/absence and to implement correct mitigation to facilitate the works.

Otter, Red Squirrel and Hedgehog

No evidence of otter, red squirrel or hedgehog was recorded within the survey area, however suitable habitat exists for these species within and adjacent to the site. Therefore, no further survey is recommended for otter, red squirrel or hedgehog other than pre-works checks.

Ecological data is considered valid for a period of 12 months. Providing that ground works commence before April 2023, no further survey work in relation to these species is considered necessary. If the site boundary was to change, further survey work for these protected species may be required.

4.3 Licensing

No species licences are required at this time.

4.4 Mitigation

The following good practice mitigation is recommended based on the current level of available site information:

- Retention and protection of woodland, grassland, scattered trees, scrub and beach habitats wherever possible to maintain existing ecological connectivity to the wider landscape and to retain important habitat features.
- Suitable tree root protection areas should be determined and fenced off prior to any works commencing.
- Compensatory planting should be provided where areas of woodland and scattered trees are removed to facilitate development.
- A pre-works check of the site for protected species should be completed prior to any site works, by a suitably qualified ecologist or ECoW.
- All contractors should be made aware of the presence of protected species on site and in the wider landscape via a tool box talk (i.e. bats, otter, badger, red squirrel, hedgehog, birds and marine mammals).
- Any vegetation clearance should be scheduled to occur outside of the nesting bird season where possible (March to August inclusive).
- Where vegetation removal cannot be completed outside of the nesting bird season, a nesting bird check will be required within 48 hours of the works by a suitably qualified ecologist or ECoW. If nesting birds are found then a suitable exclusion zone will be set up to avoid nest destruction and disturbance.
- A watching brief and /or fingertip search will need to be undertaken before any works commence, if scrub habitats require removal during hedgehog hibernation period (October-April).
- Maximum 15mph speed restriction to avoid RTAs with protected species which may be present in the area should be implemented during and post works.
- Measures should be in place to preserve water quality and prevent pollution of North Sea following SEPA Guidelines for Pollution Prevention (GPPs) ³⁰.
- Any works causing high levels of noise or vibration should be limited to daylight hours to reduce disturbance nocturnal or diurnal species.
- Works should be limited to daylight hours within 30m of the North Sea, woodland and trees/buildings with PRFs to reduce disturbance to nocturnal or diurnal species such as bats, otter and badger.
- Fox dens should be monitored to confirm that they are empty prior to removal under the audit of the project ecologist and should be undertaken out with any sensitive time period (i.e. during breeding season March-July inclusive) if required.
- Should rabbit warrens and burrows require removal, this should be undertaken under the audit of the project ecologist and should be undertaken out with any sensitive time period (i.e. during breeding season January-July inclusive) if required.
- Any excavations created during works should not be left open for mammals to become trapped. Appropriate covers should be fitted at the end of every working day. At the very least, a shallow sloping edge or some form of ramp should be placed in the excavations to allow any animals to climb out.

³⁰ https://www.sepa.org.uk/regulations/water/guidance/

- The inclusion of hedgehog fencing would provide connectivity to greenspace habitats which provide foraging and nesting opportunities: <u>https://www.jacksons-fencing.co.uk/the-edit/new-hedgehog-friendly-gravel-boards-winter-news-topical-treats-and-more</u>
- Temporary lighting required during works should not illuminate the adjacent habitats (woodland, scattered trees, standing water and running water), which can affect the foraging of nocturnal and diurnal species.
- Any permanent lighting should be designed to be 'animal friendly' and should not illuminate habitats including scattered trees, scrub, water bodies, woodland and marshy grassland. Screening techniques and dark buffer zones are advised to reduce the impact on these habitats. Low or high pressure sodium lamps instead of mercury and metal halide lamps are preferred for their UV filtering properties, reducing light spillage and pollution. 'Warm white' lighting also reduces impacts of lighting on bats as well as other species: https://www.theilp.org.uk/documents/guidance-note-8-bats-and-artificial-lighting/.

4.5 Opportunities for Biodiversity Gain

The following general enhancement measures have been recommended based on the current level of available site information:

- It is recommended that future landscaping of the site seeks to maintain and enhance existing green infrastructure and encourage long term habitat connectivity to the wider landscape to comply with Aberdeen City Policy NE1 Green Space Network and Policy NE8 Natural Heritage³¹. Additional planting of trees throughout the sites and along the boundaries would further enhance this commuting and foraging resource, for bats, badger, otter and squirrel within the locale. Sourcing trees (seeds and plants also) of local provenance is key to achieving the best biodiversity outcome.
- The creation of species rich grasslands or flower meadows is recommended to encourage pollinators, improve insect biodiversity on the site and enhance connectivity to comply with Aberdeen City Policy NE1 – Green Space Network, NE3 Urban Greenspace and Policy NE4 – Open Space Provision in New Development. Seed mixes should include native plants appropriate to the local area.
- The SBL has identified over 400 terrestrial invertebrate species in the UK as priorities for conservation action. Suitable enhancement measures include creating log piles and invertebrate mounds, to comply with Aberdeen City Policy NE8 Natural Heritage.
- The planting of berry producing shrubs and trees is recommended to provide a sheltered commuting and nesting opportunities within the sites and food source for birds and mammals utilising the surrounding habitats and to comply with Aberdeen City Policy NE5 – Trees and Woodlands³². Suggested species include:
 - Hawthorn (*Crategus monogyna*)
 - Blackthorn (*Prunus spinosa*)
 - Holly (*llex aquifolium*)
 - Hazel (Corylus avellana)
 - Elder (*Sambucus nigra*)
 - o Rowan (Sorbus aucuparia)
 - Scot's pine (Pinus sylvestris)

https://committees.aberdeencity.gov.uk/documents/s49714/Policy%20NE8.pdf

³² Aberdeen City Policy NE5 – Trees and Woodlands, available at:

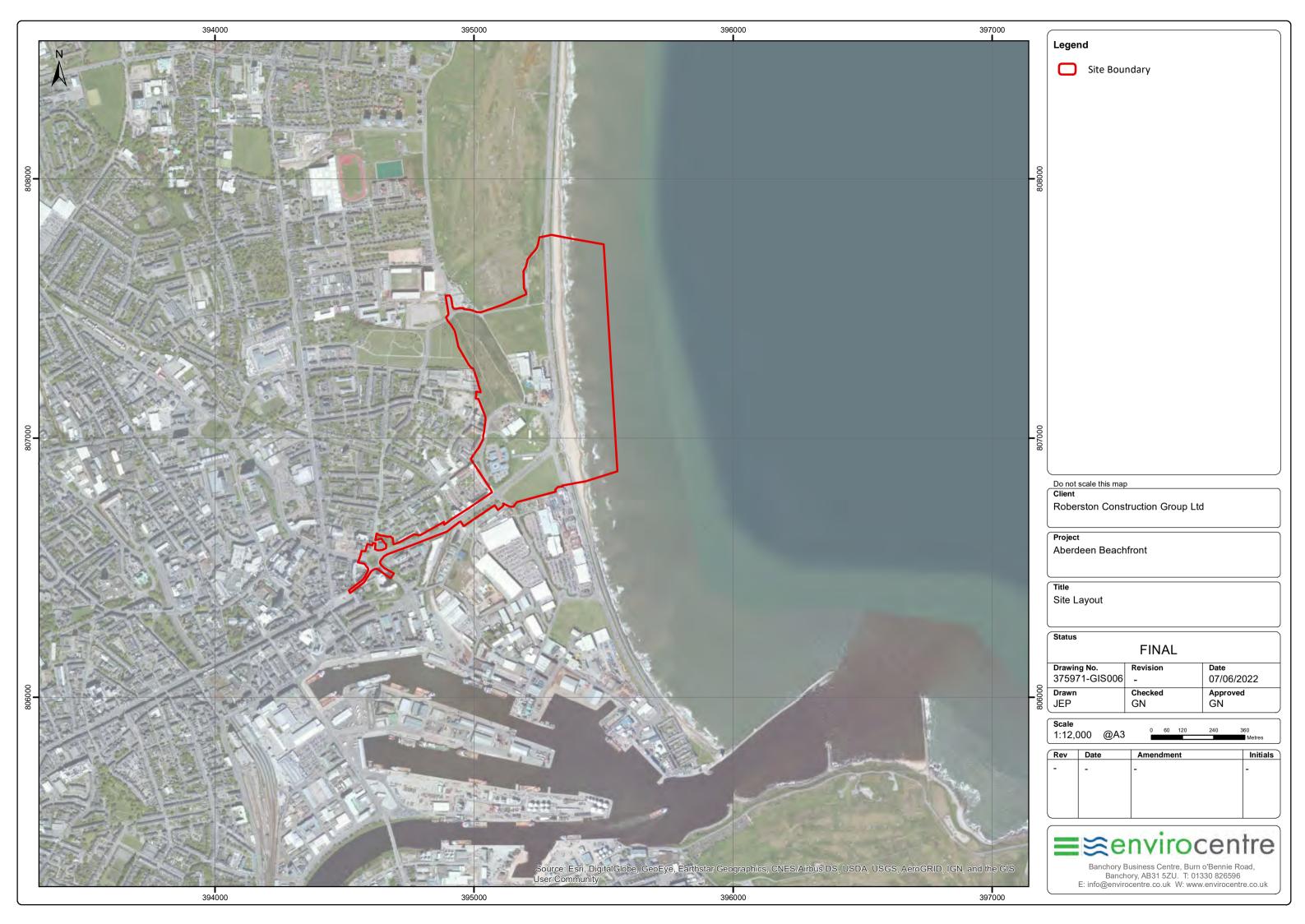
³¹ Aberdeen City Policy NE8 – Natural Environment, available at:

https://committees.aberdeencity.gov.uk/documents/s37423/NE5%20and%20NE6%20Policies%20-%20E17%20NDP%20Policies.pdf

- To offer increased roosting and nesting opportunities for bats and birds, a variety of bat and bird boxes are recommended to be installed on trees and existing buildings to comply with Aberdeen City Policy NE8 Natural Heritage.
- The inclusion of water permeable materials for parking surfaces would allow for water to absorb into the ground and reduce the risk of localised flooding during the winter months for any car parking areas to comply with Aberdeen City Policy NE6 Flooding, Drainage and Water Quality.
- Green roofs could be incorporated to improve storm water management and provide habitat for birds and bats on any buildings associated with the development. Further information can be found here: https://www.rspb.org.uk/birds-and-wildlife/advice/how-you-can-help-birds/roofs-for-wildlife/green-roofs/

APPENDICES

A SITE LAYOUT



B SUMMARY OF RELEVANT LEGISLATION

European Protected Species – bats and otter

European Protected Species (EPS) are protected under the Conservation (Natural Habitats &c.) Regulations 1994 (the "Habitat Regulations") as amended. Under this legislation it is an offence to deliberately or recklessly:

- capture, injure or kill such an animal;
- harass an animal or group of animals;
- disturb an animal while it is occupying a structure or place used for shelter or protection;
- disturb an animal while it is rearing or otherwise caring for its young;
- obstruct access to a breeding site or resting place, or otherwise deny an animal use of a breeding site or resting place;
- disturb an animal in a manner or in circumstances likely to significantly affect the local distribution or abundance of the species;
- disturb an animal in a manner or in circumstances likely to impair its ability to survive, breed or reproduce, or rear or otherwise care for its young;
- disturb an animal while it is migrating or hibernating;
- take or destroy its eggs; and
- possess, control, transport, sell or exchange specimens of any animal listed on Annex IV of the Habitats Directive. This applies to living or dead specimens and to their derivatives.

It is an offence of strict liability to damage or destroy a breeding site or resting place of such an animal. These sites and places are protected even when the animal isn't present. For example, great crested newt ponds are protected all of the time as long as it can be shown that the newts use the ponds some of the time.

A licence may be issued to permit the otherwise unlawful activities listed above if these three tests are satisfied:

- There must be a licensable purpose which includes 'preserving public health or public safety or other imperative reasons of overriding public interest including those of a social or economic nature and beneficial consequences of primary importance for the environment;'
- There is 'no satisfactory alternative'; and
- The derogation (i.e. any permission/licence granted) is 'not detrimental to the maintenance of the populations of the species concerned at a favourable conservation status in their natural range'.

Red Squirrel

Red squirrel are protected under Schedule 5 of the Wildlife and Countryside Act 1981 (as amended). Subject to certain exceptions, it is an offence to intentionally or recklessly:

- kill, injure or take (capture) an individual;
- damage, destroy or obstruct access to any structure or place which they use for shelter or protection;
- disturb an individual while it is occupying a structure or place which it uses for that purpose; or to

• possess or control, sell, offer for sale or possess or transport for the purpose of sale any live or dead animal or any derivative of such an animal.

Knowingly causing or permitting any of the above acts to be carried out is also an offence.

In some cases licences may be issued by NatureScot to enable certain otherwise illegal activities to take place for social, economic or environmental reasons (including development) as long as:

- the licensed activity will contribute to significant social, economic or environmental benefit;
- there is no satisfactory alternative; and
- there will be no significant negative impact on the conservation status of the species.

Badger

Badgers are protected under the Protection of Badgers Act (1992) (as amended). Offences under the Act include:

- wilfully taking, injuring or killing a badger;
- cruelty to a badger;
- intentional or reckless interference with a badger sett;
- sale or possession of a badger; and
- marking or ringing of a badger.

Interfering with a badger sett includes:

- damaging or destroying a sett or any part of it;
- obstructing access to a sett;
- disturbing a badger while it is in a sett; and
- causing or allowing a dog to enter a badger sett.

Where an offence is committed the individual (as well as the body corporate, Scottish partnership or, as the case may be, unincorporated association) is guilty of the offence and is liable to be proceeded against and punished accordingly.

Licences can only permit someone to 'interfere' with a badger sett for the purpose of development. A licence cannot permit the removal, translocation or killing of badgers for the purpose of development.

Interference primarily means anything that might:

- disturb any badger in a sett; and
- damage or block the tunnels that radiate from a sett's entrances.

Licences aren't generally issued during the breeding season (30 November to 1 July). Activities that necessarily involve disturbance should be scheduled to take place outside of this period.

Birds

All wild bird species in the UK are protected under the Wildlife and Countryside Act 1981 (as amended), with species listed on Schedules A1, 1 and 1A afforded additional protection.

For any wild bird species, it is an offence to intentionally or recklessly:

- kill, injure or take a bird;
- take, damage, destroy or interfere with a nest of any bird while it is in use or being built;
- obstruct or prevent any bird from using its nest;

- take or destroy an egg of any bird;
- possess or control a living or dead wild bird; and
- possess or control an egg of a wild bird (or any such derivatives).

For any wild bird species listed on Schedule 1, it's an offence to disturb:

- any bird while it is building a nest;
- any bird while it is in, on, or near a nest containing eggs or young;
- any bird while lekking; and
- the dependent young of any bird.

For any wild bird species listed on Schedule 1A, it's an offence to intentionally or recklessly harass any bird.

For any wild bird species listed on Schedule A1, it's an offence to intentionally or recklessly take, damage, destroy or interfere at any time with a nest habitually used by any bird.

Licences cannot be issued for the purpose of development in relation to any of the above offences.

Invasive Non-Native Species (Plants)

Under the Wildlife and Countryside Act 1981 (as amended) it is an offence to plant, or otherwise cause to grow, any plant in the wild at a location outside its native range.

'Native range' is defined in the 1981 Act as, "the locality to which the animal or plant of that type is indigenous, and does not refer to any locality to which that type of animal or plant has been imported (whether intentionally or otherwise) by any person."

The Scottish Governments Non-natives Code of Practice³³ defines 'in the wild'. Just about everywhere is wild except for:

- arable and horticultural land;
- improved pasture;
- settlements; and
- private and public gardens.

In exceptional circumstances it may be possible to obtain a licence from NatureScot to permit the above offence.

³³ <u>https://www.gov.scot/publications/non-native-species-code-practice/</u>

С **GEOGRAPHICAL LEVEL OF IMPORTANCE FOR ECOLOGIC AL FEATURES**

Level of Importance	Sites ³⁴	Habitats	Species
International	Designated, candidate or proposed Special Areas of Conservation, Special Protection Areas and Ramsar sites; UNESCO (Ecological) World Heritage Sites; UNESCO Biosphere Reserves; Biogenetic Reserves.	A viable area of habitat included in Annex I of the EC Habitats Directive ³⁵ ; a habitat area that is critical for a part of the life cycle of an internationally important species.	A European Protected Species; an IUCN Red Data Book species that is globally Vulnerable, Endangered or Critically Endangered; a Category A internationally important bryophyte assemblage ³⁶ .
National (UK)	Sites of Special Scientific Interest/Areas of Scientific Interest; National Nature Reserves; Nature Conservation Review Sites; Marine Conservation Zones (UK offshore).	A viable area of priority habitat listed in the UK Biodiversity Action Plan ³⁷ ; an area of habitat fulfilling the criteria for designation as an SSSI/ASSI ³⁸ or MCZ; a habitat area that is critical for a part of the life cycle of a nationally important species.	An IUCN Red Data Book species that is Vulnerable, Endangered or Critically Endangered in the UK; a species that is Rare in the UK (<15 10km grid squares); a priority species in the UKBAP ³⁹ ; a Schedule 5 (animal) or Schedule 8 (plant) species included in the Wildlife and Countryside Act 1981; any species protected under national (UK) legislation where there is the potential for a breach of the legislation; a Category A nationally important bryophyte assemblage ⁴⁰ .
National (Scotland)	National Parks (England, Scotland, Wales); Natural Heritage Areas (Ireland); Marine Conservation Zones (England and Wales inshore); Marine Protected Areas (Scotland offshore); Marine Consultation Areas (Scotland); Marine Nature Reserves (Wales, Northern Ireland); Sensitive Marine Areas (England); Heritage Coasts (England and Wales).	Habitats of principal importance for biodiversity in Scotland, including Priority Marine Features (PMFs).	Species of principal importance for biodiversity in the relevant countries, including PMFs.

³⁴ JNCC guidance to all sites can be found here: <u>http://jncc.defra.gov.uk/page-1527</u>

³⁵ JNCC general guidance here: <u>http://jncc.defra.gov.uk/page-1523</u> (click on EU code) and specific guidance here: http://jncc.defra.gov.uk/page-4064 (click on audit trail).

³⁶ Averis, A.B.G, Genney, D.R, Hodgetts, N.G, Rothero, G.P. & Bainbridge, I.P. 2012. Bryological assessment for hydroelectric schemes in the west highlands – 2nd edition. NatureScot Commissioned Report No. 449b ³⁷ UKBAP priority habitats here: <u>http://jncc.defra.gov.uk/page-5706</u>

³⁸ SSSI designation criteria available at <u>http://jncc.defra.gov.uk/page-2303</u>

 ³⁹ UKBAP priority species here: <u>http://jncc.defra.gov.uk/page-5717</u>
 ⁴⁰ Averis, A.B.G, Genney, D.R, Hodgetts, N.G, Rothero, G.P. & Bainbridge, I.P. 2012. Bryological assessment for hydroelectric schemes in the west highlands - 2nd edition. NatureScot Commissioned Report No. 449b

Level of Importance	Sites ³⁴	Habitats	Species
Regional	Regional Parks (Scotland).	Regional Local Biodiversity Action Plan habitats noted as requiring protection.	A species that is Nationally Scarce in the UK (present in 16-100 10km grid squares); a species that is included in the Regional LBAP; an assemblage of regionally scarce species.
County / Metropolitan	Local Nature Reserves; Wildlife Trust Reserves (England and Wales); Woodland Trust Sites; Royal Society for the Protection of Birds Sites; Local Wildlife Sites (Scotland).	County LBAP habitats noted as requiring protection; semi- natural, ancient woodland >0.25ha in extent.	A species that is included in the County LBAP; an assemblage of species that are scarce at the county level.
Local		Semi-natural, ancient woodland <0.25ha in extent; diverse or ecologically valuable hedgerow network; semi-natural habitats that are unique or important in the local area; flushes, springs and base rich rock that support bryophyte assemblages that are widespread but localised to these habitats.	Species as defined by Local Authority lists (if available).
Site		Common and widespread habitats not covered above.	Common and widespread species not covered above.
Negative			An Invasive Non-Native Species (INNS) as defined by the GB Non-Native Species Secretariat (NNSS) ⁴¹ and supported by the GB Invasive Non-native Species Strategy (2015) ⁴² ; legally controlled species under Schedule 9 of the Wildlife and Countryside Act 1981 (as amended by the relevant country legislation).

 ⁴¹ NNSS website here: <u>http://www.nonnativespecies.org/home/index.cfm</u>
 ⁴² GB INNS Strategy here: <u>http://www.nonnativespecies.org/index.cfm?sectionid=55</u>

D GEOGRAPHICAL LEVEL OF IMPORTANCE OF ORNITHOLOGICAL FEATURES

Level of	4	Assessment Criteria
Importance	Legal Protection	Conservation Status
International	Any species within Annex 1 of the EU Birds Directive ⁴³	Any species which is listed as Critically Endangered or Endangered on the IUCN Red List ⁴⁴
National (UK)	Any species within Schedule 1 of the Wildlife and Countryside Act ⁴⁵	Any species that is listed as a Priority Species in the UKBAP ⁴⁶ ;
		any species on the BoCC Red List
National (Scotland)		Any species on the Scottish Biodiversity List ⁴⁷
Regional		Any species on the BoCC Amber List
County		Any species that is listed as a Priority Species in the LBAP ⁴⁸
Local		BoCC Green List; or species with no conservation concern; common and widespread throughout the UK

⁴³ Birds Directive <u>http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32009L0147&from=EN</u>

⁴⁴ IUCN Red List http://www.iucnredlist.org/

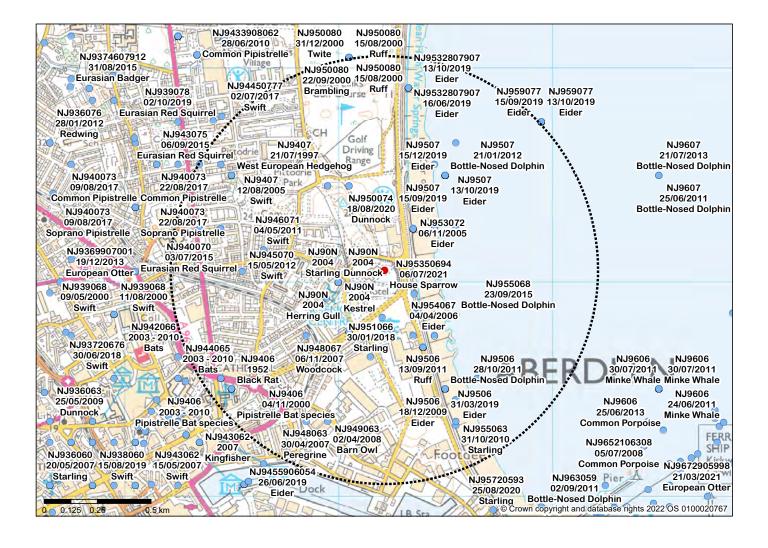
⁴⁵ WCA 1981 Schedule 1 http://www.legislation.gov.uk/ukpga/1981/69/pdfs/ukpga_19810069_en.pdf

⁴⁶ UKBAP <u>https://jncc.gov.uk/our-work/uk-bap-priority-species/</u>

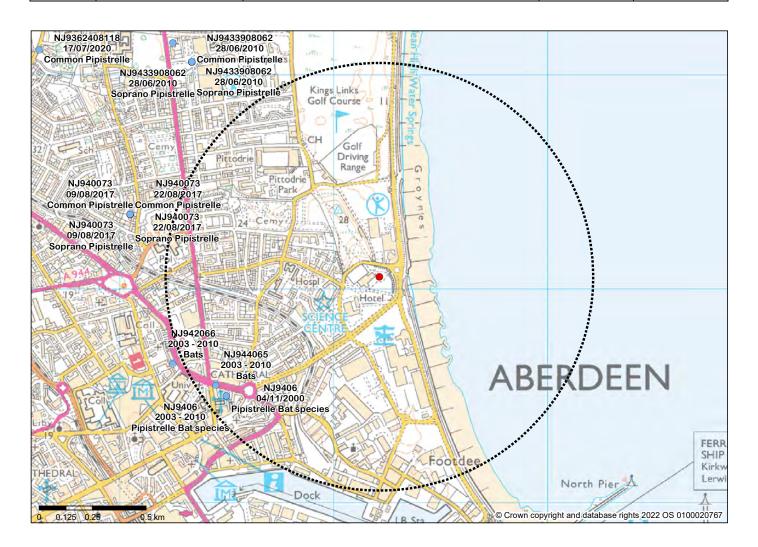
⁴⁷ Scottish Biodiversity List <u>https://www.nature.scot/scotlands-biodiversity/scottish-biodiversity-strategy/scottish-biodiversity-list</u>

⁴⁸ North East Scotland Biodiversity Partnership (NESBP) <u>https://www.nesbiodiversity.org.uk/biodiversity-information-for-developers/important-habitats-for-biodiversity-in-the-north-east-of-scotland/</u> and <u>https://www.nesbiodiversity.org.uk/biodiversity-information-for-developers/important-local-species/</u>

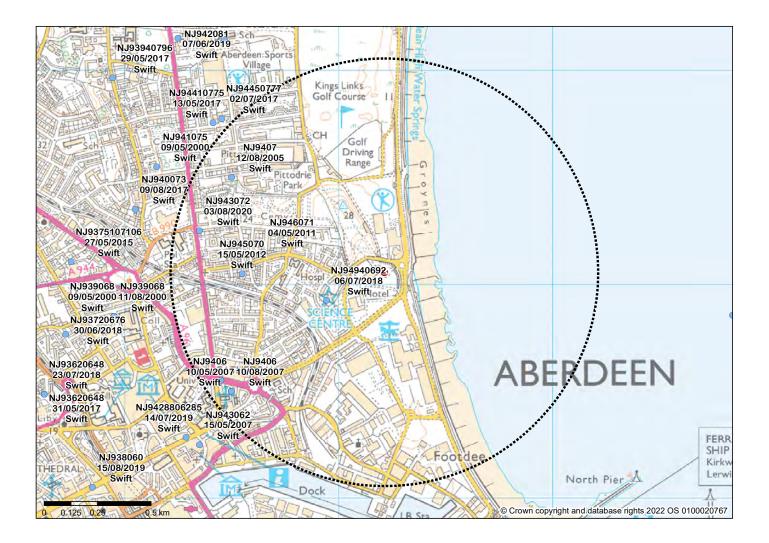
E DESK STUDY MAPS



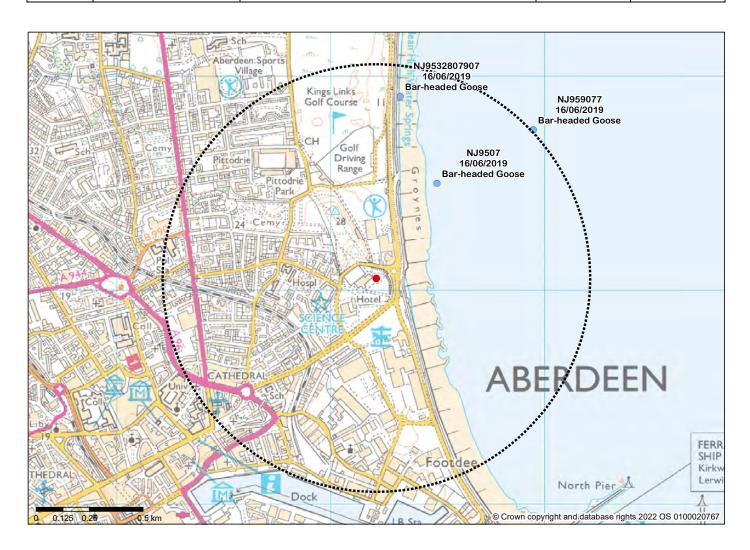
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		Pipistrelle Bat species (Pipistrellus)		



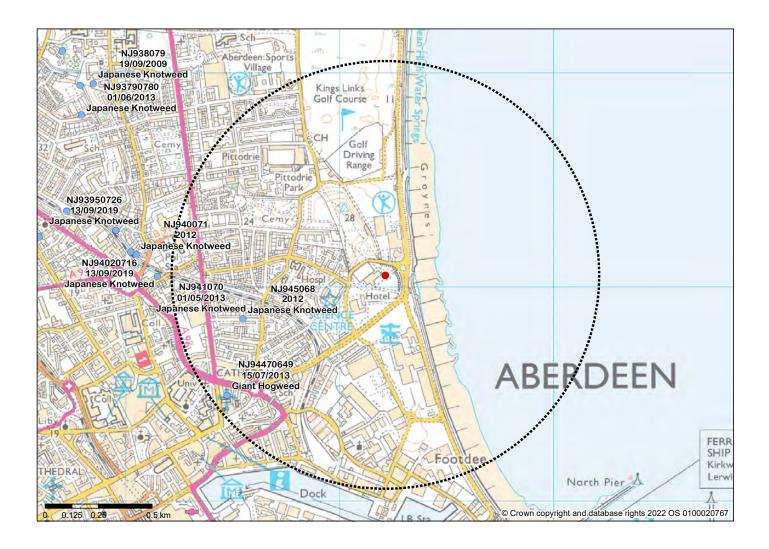
20220418	Common Swift records	Swift (Apus apus)	Aberdeen	NJ 95215 07055	
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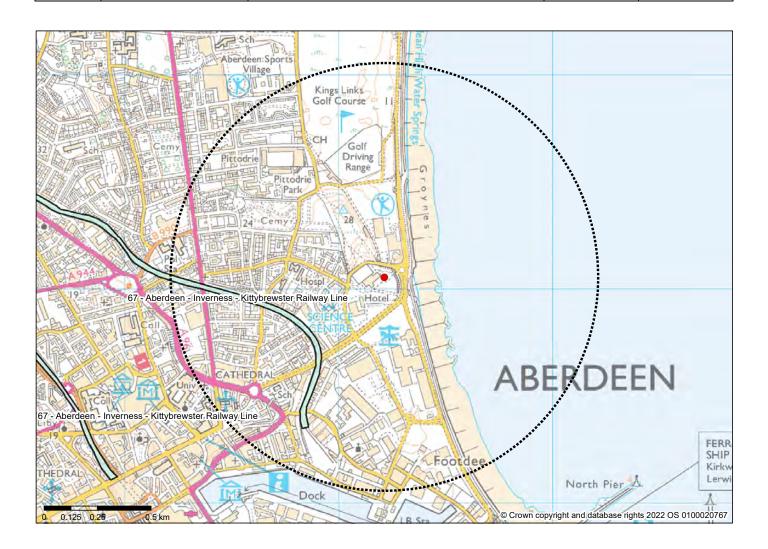
20220418	Geese	Bar-headed Goose (Anser indicus)	Aberdeen	NJ 95215 07055



20220418	Invasive Non-Native Plant Species	Japanese Knotweed (Fallopia japonica) Giant Hogweed (Heracleum mantegazzianum)	Aberdeen	NJ 95215 07055
	species	Grant Hogween (Heraeleuni mantegazzianum)		

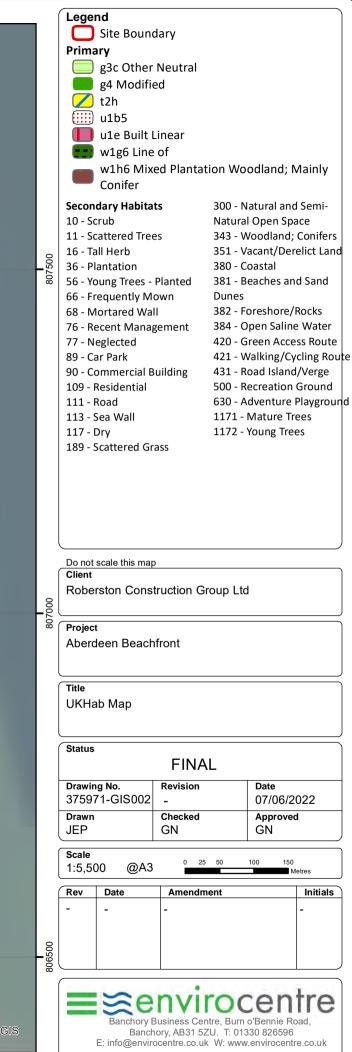


20220418	Aberdeen City Local	67 - Aberdeen - Inverness - Kittybrewster Railway Line -	Aberdeen	NJ 95215 07055
	Nature Conservation Sites	Mostly neutral grassland, tall ruderal, scrub and pockets		
		of woodland. Provides a green corridor through the city.		

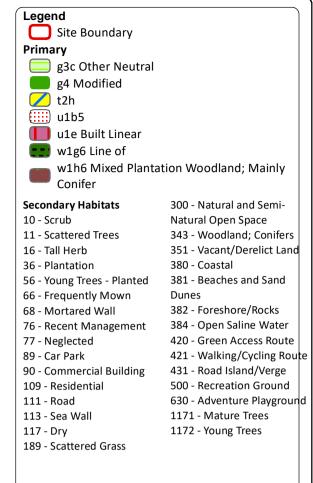


F UKHAB RESULTS









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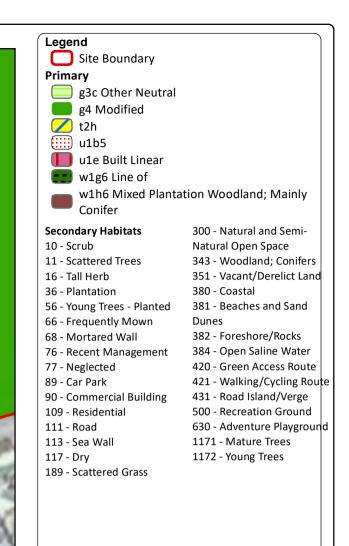
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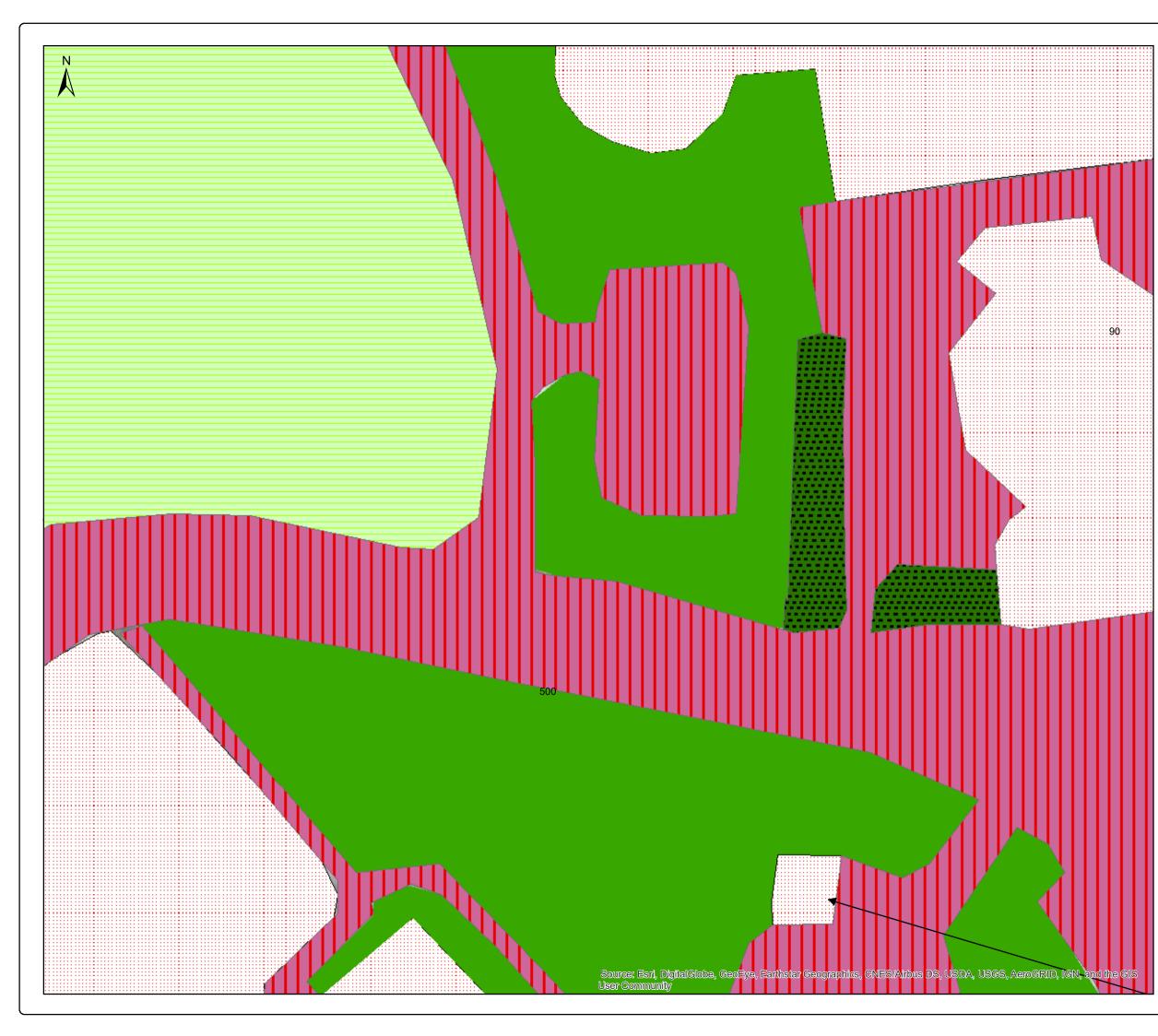
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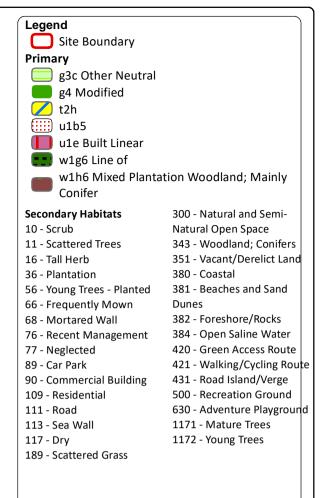
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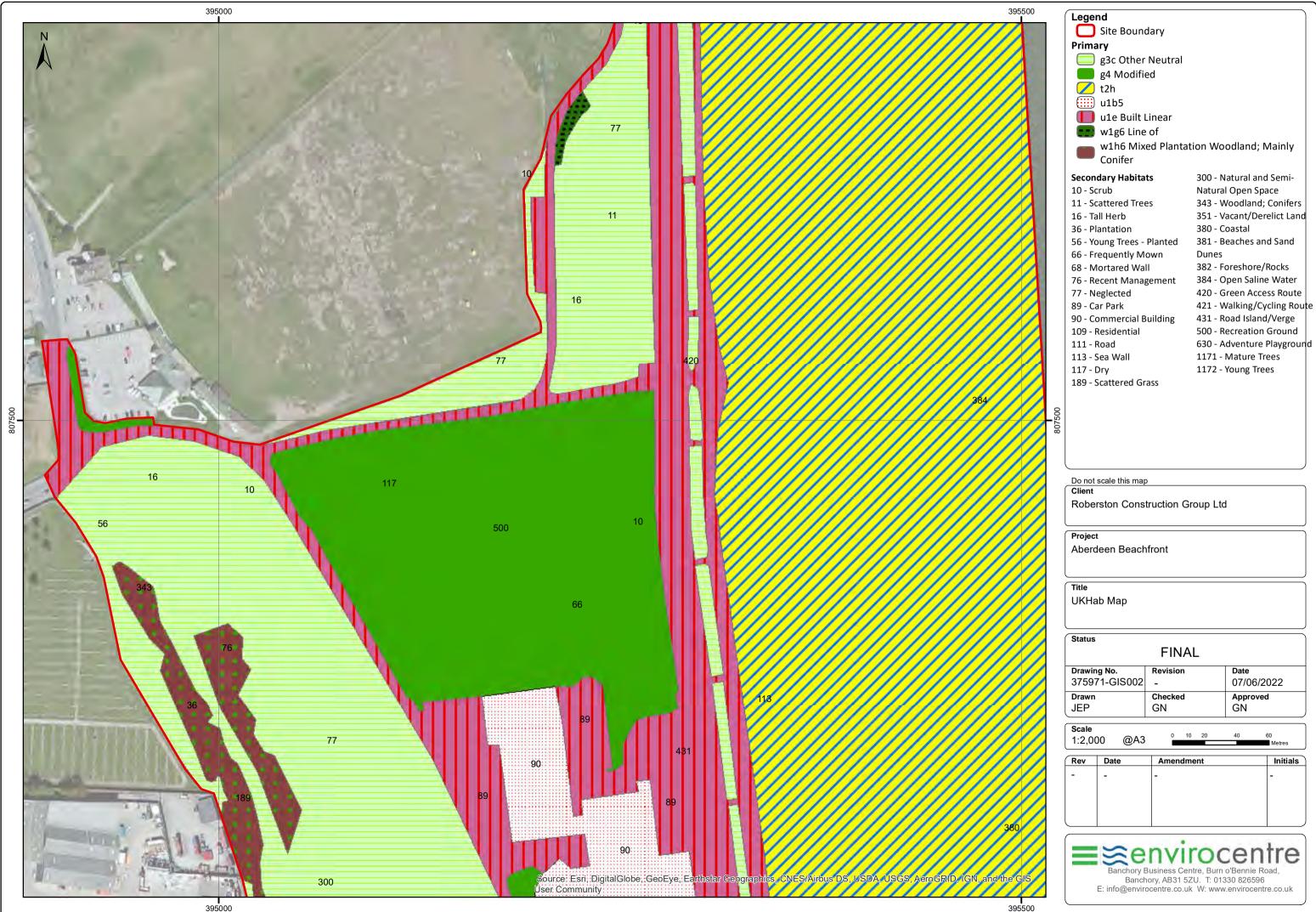
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Project Aberdeen Beachfront

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G PHOTOGRAPHS



Photograph 1: Other neutral grassland (Broadhill)



Photograph 3: Modified grassland in south of site with scattered trees



Photograph 5: Planted mixed; mainly conifer woodland in north west of site



Photograph 7: Aberdeen Leisure Centre and Ice Rink building within the site and associated car park



Photograph 2: Small area in the north west of the site where rubbish has been dumped and Buddleja is present



Photograph 4: Children's play park in modified grassland in east of site



Photograph 6: Line of trees surrounding Hilton Hotel



Photograph 8: Tansition extreme building and associated high ropes course and parking



Photograph 9: Ornamental planting associated with Leisure Centre parking area



Photograph 11: Groynes and wooden posts along beach for support and protection



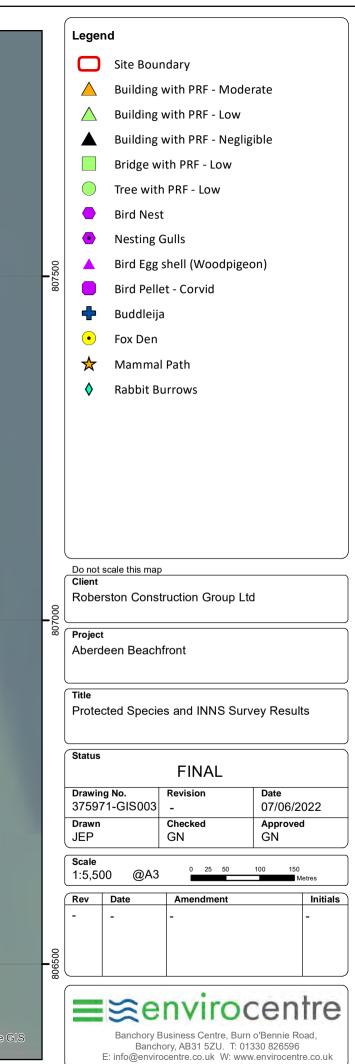
Photograph 10: Beach habitat and sea wall



Photograph 12: Remnent sand dune on beach habitat

H PROTECTED SPECIES RESULTS







	Site Boundary
\land	Building with PRF - Moderate
\land	Building with PRF - Low
	Building with PRF - Negligible
	Bridge with PRF - Low
\bigcirc	Tree with PRF - Low
	Bird Nest
•	Nesting Gulls
	Bird Egg shell (Woodpigeon)
	Bird Pellet - Corvid
•	Buddleija
•	Fox Den
☆	Mammal Path
♦	Rabbit Burrows

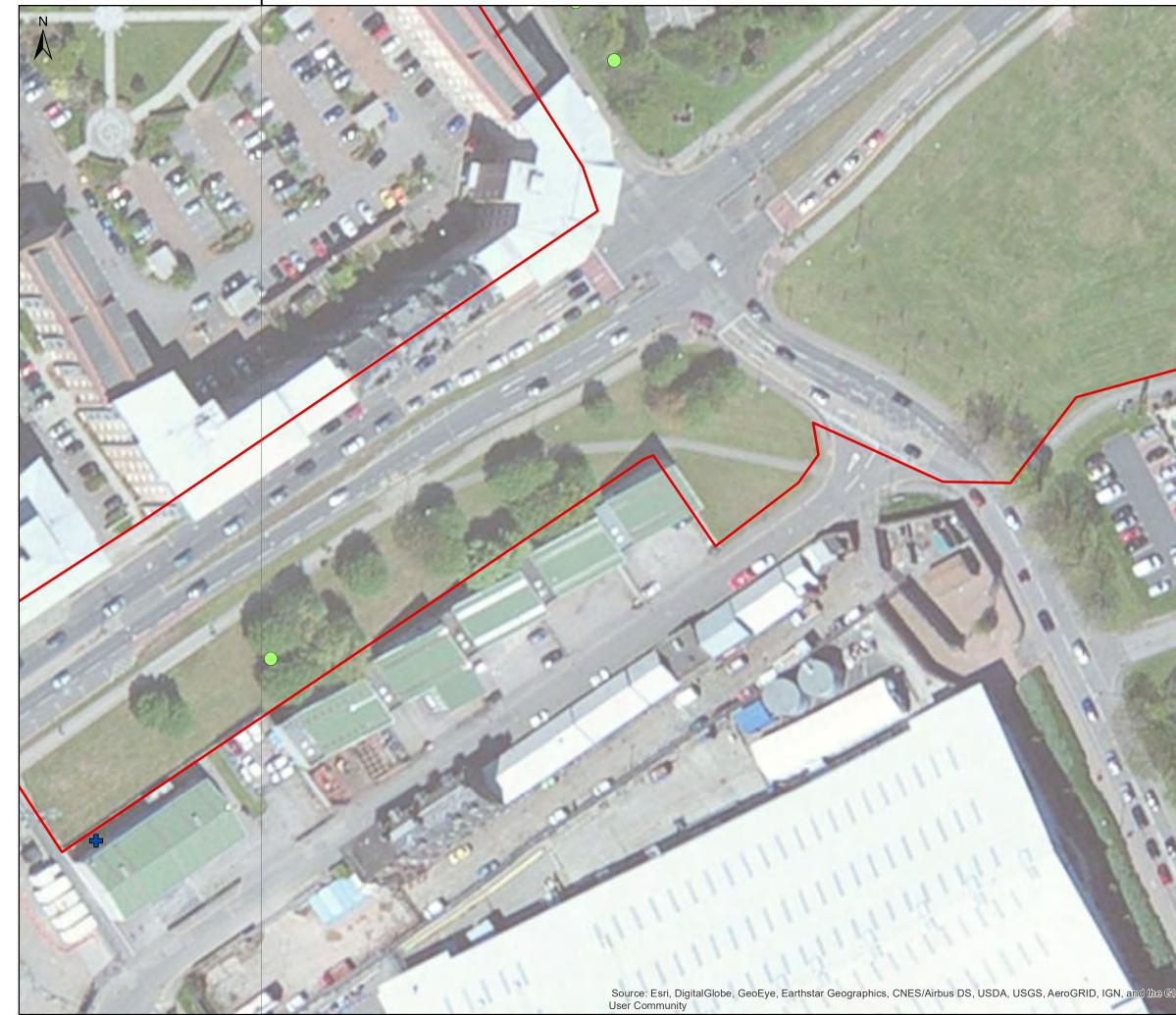
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Legend

	Site Boundary
\land	Building with PRF - Moderate
\land	Building with PRF - Low
	Building with PRF - Negligible
	Bridge with PRF - Low
\bigcirc	Tree with PRF - Low
	Bird Nest
•	Nesting Gulls
	Bird Egg shell (Woodpigeon)
	Bird Pellet - Corvid
♣	Buddleija
•	Fox Den
\bigstar	Mammal Path
♦	Rabbit Burrows

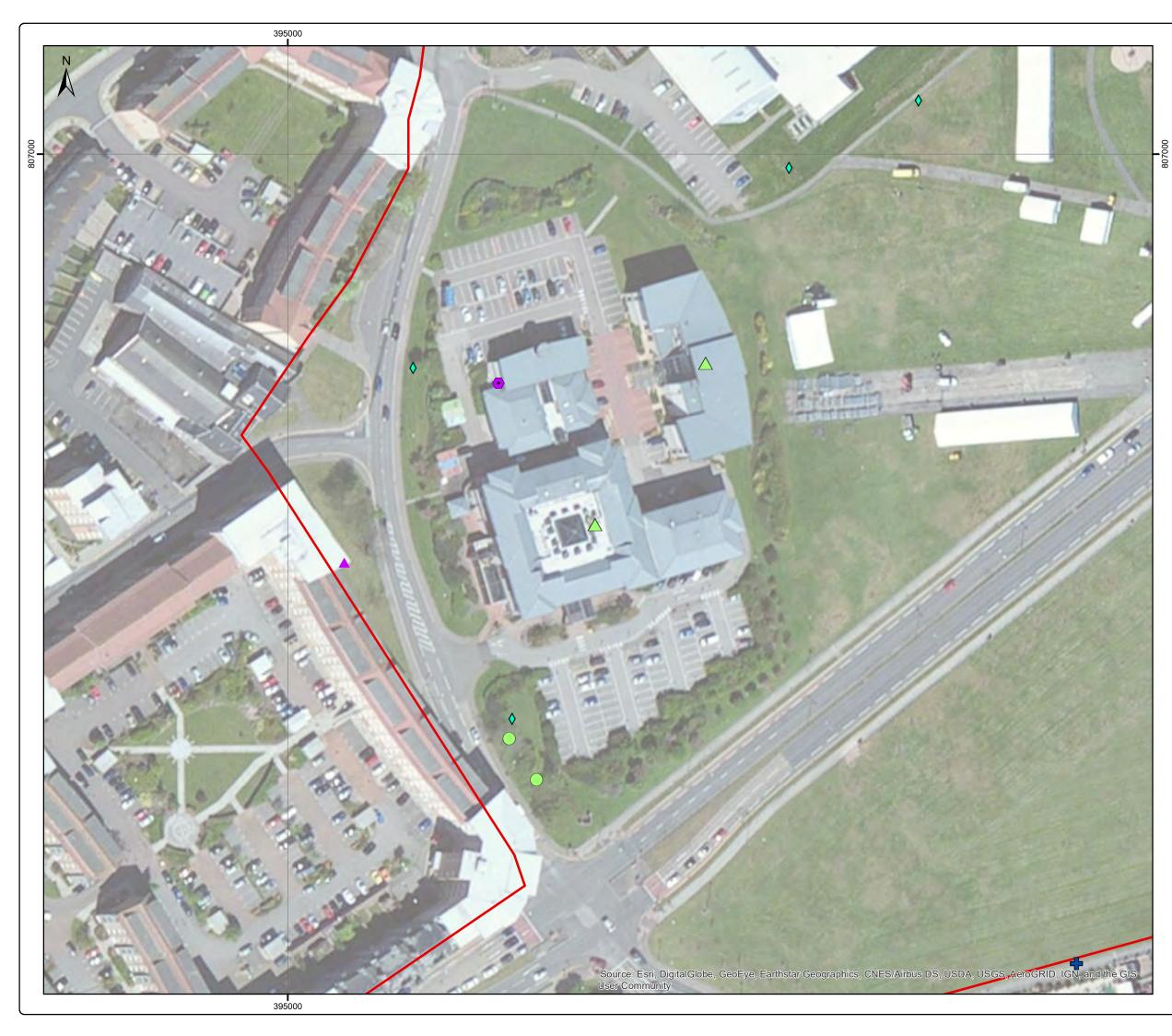
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Site Boundary
 Building with PRF - Moderate
 Building with PRF - Low

Building with PRF - Negligible

Bridge with PRF - Low

Tree with PRF - Low

Bird Nest

Nesting Gulls

Bird Egg shell (Woodpigeon)

Bird Pellet - Corvid

🖶 Buddleija

• Fox Den

🛧 🛛 Mammal Path

Rabbit Burrows

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	Site Boundary
	Building with PRF - Moderate
	Building with PRF - Low
	Building with PRF - Negligible
	Bridge with PRF - Low
	Tree with PRF - Low
	Bird Nest
•	Nesting Gulls
	Bird Egg shell (Woodpigeon)
	Bird Pellet - Corvid
•	Buddleija
•	Fox Den
☆	Mammal Path
♦	Rabbit Burrows

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Roberston Construction Group Ltd

Project Aberdeen Beachfront

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	Site Boundary
\land	Building with PRF - Moderate
\land	Building with PRF - Low
	Building with PRF - Negligible
	Bridge with PRF - Low

 \bigcirc Tree with PRF - Low

Bird Nest

 \bullet Nesting Gulls

Bird Egg shell (Woodpigeon)

Bird Pellet - Corvid

÷ Buddleija

 \bullet Fox Den

☆ Mammal Path

 \diamond Rabbit Burrows

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Roberston Construction Group Ltd

Project Aberdeen Beachfront

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Protected Species and INNS Survey Results

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I PHOTOGRAPHS



Photograph 13: Building with PRFs via gaps behind wooden soffit box adjacent to the site



Photograph 15: Tree with PRFs of lifted plated bark in the site



Photograph 14: Bridge structure with gaps providing PRFs in the site



Photograph 16: Bird nest in tree within site



Photograph 17: Regurgitated corvid pellet on bridge



Photograph 18: Egg remnants of Woodpigeon under tree with nest near Hilton Hotel



Photograph 19: Rabbit warren in site on Broadhill



Photograph 20: Potential fox den in north west of site

J CONFIDENTIAL ANNEX 1

B TREE SURVEY



Aberdeen Beachfront Tree Survey



August 2022



Aberdeen Beachfront Tree Survey

Client: Robertson Construction Group Ltd

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Author:Scott FraserReviewer:Douglas Blease

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EXECUTIVE SUMMARY

EnviroCentre Limited was commissioned by Robertson Construction Group Ltd to undertake a tree survey for the proposed beachfront development, Aberdeen. The focus of the tree survey was to determine the constraints placed on future development by the tree stock on site.

The site is situated in the east of Aberdeen City, centred at NJ 95233 07047 and at an elevation of 8m above sea level. The site sits on a reclaimed sand dune system and consists of amenity grassland, built roads and pathways, buildings containing sport facilities including associated parking, and the Aberdeen beach front and sea wall defences.

The survey was undertaken in reference to recommendations detailed in BS5837:2012 plus contemporary guidance. The study included desk based research as well as interpretation of fieldwork results. A total of 166 trees were individually surveyed as six tree groups were identified by area, quality and a description of their composition.

Generally trees were of moderate quality with some examples of dead or poor quality trees. Occasional high quality trees were noted along the Beach Boulevard however some of these may be susceptible to Dutch Elm Disease in the medium term.

At this stage of the project, it is not known which trees may be affected by design, demolition and construction. Broad tree constraints and suggested opportunities for trees to be included in landscape design have been included in this report.

Upon receipt of design proposals, the data gathered in this study can be used to quantify and qualify the positive and negative effects on features of arboricultural interest, design protective measures and inform bespoke method statements.

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1 INTRODUCTION

1.1 Terms of Reference

EnviroCentre Limited was commissioned by Robertson Construction Group Ltd to undertake a tree survey for the proposed beachfront development, Aberdeen. The focus of the tree survey was to determine the constraints placed on future development (see Appendix A) by the tree stock on site. This report details the findings of the desk study, field data interpretation, and presents the tree constraints.

1.2 Aims and Objectives

The aim of this study was to present the potential constraints in relation to trees and vegetation to in relation to the design for future development of the site. The objectives of the study were as follows:

- Undertake a desk study to ascertain and statutory/non-statutory designations pertaining to the site, including tree preservation orders (TPOs) in addition to any pertinent guidance from the Aberdeen City Local Development Plan.
- Utilise tree survey data in reference to BS5857:2012 *Trees in relation to design, demolition and construction –Recommendations* to depict the influence that tree constraints pose to the design
- Identify trees which would be removed as part of sound arboricultural management (i.e., dead/unviable trees)
- Provide management recommendations to encourage the persistence of any high-quality trees and tree groups on or adjacent to the site, or suggestions for trees within future landscaping to contribute to the site's overall arboricultural interest.

1.3 Site Description

The site is situated in the east of Aberdeen City, centred at NJ 95233 07047 and at an elevation of 8m above sea level.

The site sits on a reclaimed sand dune system and consists of amenity grassland, built roads and pathways, buildings containing sport facilities including associated parking, and the Aberdeen beach front and sea wall defences.

King's links golf course is present to the north of the site, Codona's amusement park to the south and residential housing and sports facilities to the west.

The wider landscape is dominated by Aberdeen city to the west and the North Sea to the east.

1.4 Author Qualifications

I, Douglas Blease, am a Principal Consultant with EnviroCentre Ltd. I have 20 years of silviculture, arboriculture and arbor-ecology experience where I have worked both practically and in a consulting role on a range of development and land-use change projects as well as habitat management planning in relation to ecosystem function.

I hold Full Membership of the Chartered Institute or Ecology and Environmental Management (CIEEM), an Honours Degree in Environmental Management, a Diploma in Countryside Management.

1.5 Report Usage

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2 METHODS

2.1 Guidance Documents

The survey was conducted applying the standards and methods outlined in:

- BS 5837:2012 Trees in relation to design, demolition and construction Recommendations¹
- BS 5837 Advanced: Tree Assessment for Planning²
- Guidance Note 7: Tree Surveys A Guide to Good Practice³

2.2 Desk Study

A desk study was undertaken prior to the initial field survey which included a review of:

- Existing surveyor knowledge of area.
- Available aerial Imagery⁴;
- Tree Preservation Orders (TPOs)⁵ statutory and non-statutory designated sites⁶;
- The Ancient Tree and Ancient Woodland Inventories⁷;
- Relevant species and habitats listed on the Scottish Biodiversity List, the North East Scotland Biodiversity Partnership (NESBiP); and
- Aberdeen City Council Local Development Plan and applicable Supplementary Guidance.
- Soil conditions on site⁸

2.3 Tree Survey

Trees and groups of vegetation were visually assessed from ground level. No invasive instruments were used in assessing the trees' condition. The following information was recorded:

- Unique identification number;
- Species;
- Height measured using a Haglofs digital clinometer;
- Diameter at 1.5m;
- Crown dimensions;
- Life stage (age profile);
- Condition;
- General observations including preliminary management recommendations; and
- Tree quality categorisation.

¹Available at: <u>https://shop.bsigroup.com/products/trees-in-relation-to-design-demolition-and-construction-recommendations/standard</u> (accessed 05/04/2022)

² Barrell, J. (2016) BS 5837 – Advanced: Tree Assessment for Planning (1st ed.). Arboricultural Association.

³Available at: <u>https://www.trees.org.uk/Book-Shop/Products/Guidance-Note-7-Tree-Surveys-%e2%80%93-A-Guide-to-Good-Practice</u> (accessed 05/04/2022)

⁴ Available from Google Maps at: <u>https://www.google.com/maps/@57.1566681,-2.0826934,2540m/data=!3m1!1e3</u> (Accessed April 2022).

⁵ http://publications.aberdeenshire.gov.uk/dataset/3e835b44-cade-416d-9903-4a833d544cda/resource/b0fc74c2-4694-4d99-b3dc-

f45796bba34c/download/public-register-of-tree-preservation-orders-.pdf (Accessed April 2022).

⁶ Available at: <u>https://sitelink.nature.scot/map</u> (Accessed April 2022).

⁷ Available at: <u>https://map.environment.gov.scot/sewebmap (Accessed April 2022)</u>.

⁸ Available at: https://map.environment.gov.scot/Soil_maps/?layer=1# (accessed 16/08/2022)

For multi-stemmed trees and those on sloping ground, variance to the measurement method was made according to BS5837: 2012. Where trees stems were inaccessible, e.g., obscured by vegetation, the DBH has been estimated.

2.3.1 Tree Numbering and Identification

Individually surveyed trees were tagged with unique ID numbers or, where present, exiting tree tag ID numbers were recorded. All tags were attached on the main stem, approximately 1.5m above ground level.

Tree groups have been assigned an identification code in the format: TG#.

2.3.2 Life Stage

Category	Description						
Young	A juvenile tree newly planted or recently established.						
Early	A tree that is becoming established increasing in height and						
mature	landscape significance.						
Semi-	An established tree but not showing any species-specific mature						
mature	characteristics such as ridged bark.						
	A tree which has reached maturity and contains features such as						
Mature	anticipated climax height, and species-specific mature						
	characteristics.						
Late mature	A tree which is exhibiting physiological and biomechanical changes						
	associated with aging and has the potential to become veteran or						
	ancient.						
	A tree usually in the mature stage of its life and has important wildlife						
Veteran	and habitat features including hollowing or associated decay fungi;						
	holes; wounds and large dead branches.						
	A tree with one or more of the following characteristics:						
	• Biological, aesthetic or cultural interest because of its great age						
Ancient	A growth stage that is described as ancient or post-mature						
	A chronological age that is old relative to others of the same						
	species.						
	Young Early mature Semi- mature Mature Late mature Veteran						

Table 2.1: Tree Age Classes

2.3.3 General Observations and Management Recommendations

General (non-invasive) observations were made of individual trees regarding their structural and physiological condition (e.g., the presence of decay or physical defects shown by external biomechanical signs). Trees were classified in terms of their general condition using the categories outlined in Table 2.2.

Abbreviation	Category	Description
G	Good	A tree not showing more mechanical defects than would be expected
		or that could be easily remedied.
F	Fair	A tree showing more defects than could be reasonably expected, or
		which could be remedied.
Р	Poor	A tree in a poor structural condition with defects which could not be
		easily remedied.
D	Dead	A tree afflicted with a pathogen or having suffered a trauma which
		has resulted in death.

Table 2.2: Tree Condition Classes

Tree groups were classified in terms of their general condition using the categories outlined in Table 2.3 below.

Abbreviation	Category	Description								
G	Good	Most trees did not show more mechanical defects and/or ill-health								
		than would be expected and/or signs of ill-health.								
F	Fair	Some of the trees show more defects and/or ill-health than could be								
		reasonably expected.								
Р	Poor	Most trees show signs of in poor structural condition or health								

Table 2.3: Tree Group Condition Classes

2.3.4 Tree Quality Categorisation

Individual and groups of trees were afforded a general quality categorisation from A/B/C for retention or 'U' for removal. The categorisation also reflects the future contribution that the tree may provide. Please refer to Appendix B: Tree Quality Assessment Criteria for further details of the categorisation.

2.3.5 Root Protection Areas (RPA)

The RPA was calculated as an area equivalent to a circle with a radius 12 times that of the stem DBH or the equivalent diameter for multi-stemmed trees.

For the tree groups where the dominant trees can be surveyed, these shall be presented on the tree plans as individual trees within a tree group. Edge trees within groups will also be prioritized for individual survey as they are expected to depict an accurate representation of the significant constraints to development. At a minimum, tree groups shall be afforded an RPA that extends to the dripline of the group. Where tree groups require additional RPA allowance beyond their dripline, a modified RPA will be added to the tree plans.

Where access was not possible for individual trees or tree groups, estimated dimensions will be identified with the suffix # (British Standard 5837:2012 section 4.4.2.6 - c) and aimed to be representative of the likely constraints plus allowance for future growth.

2.4 Tree Reference Plans

Individual trees and tree groups have been plotted on the Tree Constraints Plan following survey of the site using GPS field data collection equipment.

The Tree Constraints Plan shows the following information:

- The location of the surveyed trees and groups of trees on site
- The tree quality colour code of individual trees and tree groups
- The estimated extent of individual tree crowns and tree group canopies
- The calculated individual and representative tree group RPAs (where required)
- An overlay of the proposed development design
- Trees that are deemed physically incompatible with the current design or have RPA infringement because of development

2.5 Disclaimers

This survey does not specifically address or quantify the health and safety risks posed by tree groups, although where potential hazards have been recognised it is possible to recommend an appropriate strategy for management. Regular arboricultural assessment should be undertaken of trees, particularly those recognised as posing a risk to persons or property within the site.

The survey conclusions relate solely to the conditions recorded at the time of inspection. Trees can be affected by environmental changes such as weather events, topographical alterations, or changes in hydrological regime; therefore, such changes may necessitate further survey.

Individually surveyed trees within tree groups are representative of the dominant trees within the group and are not an exhaustive survey of all trees within the woodland.

The Tree Schedule presented in this document includes preliminary management recommendations but is not a schedule of works and is not designed to be submitted to a contractor. Task specific Arboricultural Method Statements can be provided upon request.

3 **RESULTS**

3.1 Desk Study

3.1.1 Statutory Designated Sites

No TPOs were identified within or adjacent to the site and its buffers9

No statutory designated sites are located within the site.

3.1.2 Non-Statutory Designated Sites

The Aberdeen - Inverness - Kittybrewster Railway Line, a Local nature Conservation Site, crosses under the beach boulevard in the west of the site. It helps provides a green corridor through the city as it contains grassland, tall ruderal, scrubs and woodland. It is ecologically connected to the site via the green residential garden habitats found to the west of the site.

3.1.3 Ancient Woodland

No areas of ancient woodland are present within the site or within close proximity. The nearest ancient woodland to the site is the long-established (of plantation origin) woodland at Seaton Park 2km northwest of the site. It is ecologically connected to the site by the parkland and green residential garden habitats present to the north and west of the site.

3.1.4 Soils

Table Xx below is an extract of soil descriptions which can be used to inform studies on tree health, structure, site suitability for planting and future species selection.

Generalised Soil Type	Immature soils
Major Soil Group	Regosols ¹⁰
Major Soil Subgroup	Regosols
Parent Material	Windblown sands
Soil Association	Links
Component Soils	Regosols
Land Form	Beaches and dunes with gentle and strong slopes
pH in water - Mean	6.32

Table 3.1: Soil Description

<u>Subsoil Compaction Risk:</u> Extremely vulnerable <u>Topsoil Compaction Risk:</u> Moderate risk of topsoil compaction

⁹ http://publications.aberdeenshire.gov.uk/dataset/3e835b44-cade-416d-9903-4a833d544cda/resource/b0fc74c2-4694-4d99-b3dcf45796bba34c/download/public-register-of-tree-preservation-orders-.pdf (Accessed April 2022)

¹⁰ unconsolidated mineral material of some depth, excluding coarse textured materials and materials with fluvic properties, and have no diagnostic horizons other than an ochric horizon.

<u>Erosion Risk:</u> Coarse, Medium and fine textured soils with high to low water absorption capacity on almost level to moderate slopes

3.2 Current Tree Stock

This section should be read in conjunction with:

- Appendix C Tree Schedule
- Appendix D Tree Constraints Plan

Species recorded during the survey are detailed in Table 3.2.

Common Name	Scientific Name
Elm	Ulmus sp.
Lime	Tilia sp.
Sycamore	Acer psuedoplatanus
Whitebeam	Sorbus aria
Bird cherry	Prunus padus
Crack willow	Salix fragilis
White poplar	Populus alba
Oak	Quercus sp.
Norway maple	Acer platanoides
Rowan	Sorbus aucuparia
Black pine	Pinus nigra
Hawthorn	Crataegus monogyna
Sea buckthorn	Hippophae sp.
Scots pine	Pinus sylvestris
Black pine	Pinus nigra
Ash	Fraxinus sp.
Wild cherry	Prunis avium

Table 3.2: Tree Species Recorded on Site

3.2.1 Individual Trees and Arboricultural Features

A total of 166 trees were individually surveyed during the site visits, the vast majority of which were recorded as moderate quality (Category B). Individual trees generally comprised roadside specimens and amenity group planting.

In general the site's trees appear to receive little or no management. Dutch Elm Disease is present in the area and storm damage to some trees has not been remediated. Some young, planted trees are displaying poor vitality, probably resulting from a combination of low soil organic matter, poor planting and maintenance, damage, or poor nursery stock.

Trees surrounding the former Hilton hotel are a distinct landscape feature, with some good specimens. However site abandonment is reducing the positive arboricultural interest the site's landscaping offers. The trees alongside the Beach Boulevard appear to have once formed a tree-lined avenue which has become fragmented. Some high quality, large Wheatley Elm are present, however it is thought that these will succumb to Dutch Elm Disease in the short to medium term future. Trees adjacent to the Beach Ballroom were perhaps planted as a dwarf-shrub effect around parking bays, but are now small but weathered examples of hawthorn and pine with limited arboricultural interest.

Tree Category	Number of Trees
А	6
В	116
С	32
U	12

Table 3.3: Individually Surveyed Trees by Category

3.2.2 Tree Groups

The survey identified six distinct groups of trees within the site. Although varying in composition, physical quality and landscape contribution, all groups have been assigned a **B** categorisation:

Trees present in numbers usually as groups or woodlands, such that they form distinct landscape features thereby attracting a higher collective rating than they might as individuals.

TG1, TG2 and TG3 comprise vegetative stands associated with landscaping around the former Hilton hotel complex, Transition Extreme, and the Beach Ballroom. Whilst they are all of a relatively uninteresting composition, their collective as groups situated in otherwise open grassland, promotes them as landscape features.

TG 4 and 5 comprise a young, planted, woodland divided by a footpath, atop Broad Hill, west of the Linx Ice Arena. Its composition is dominated by Scot's pine, black pine, with occasional larch and rowan.

TG6 is a homogenous group of whitebeam in the north of the site, separating Accommodation road from the grassland adjacent to the Esplanade. Despite its lack of species diversity, the cohesive character of the group as a collective provides some amenity interest.

3.3 Tree Constraints and Opportunities

The site presents a variety of trees, in a variety of planted contexts linked to open space and to a range of buildings. At this stage, it is unknown which trees could be retained in the context of redevelopment and probably major landscaping works associated with the beachfront project.

It is thought that the trees lining the Beach Boulevard would probably be retained, however this project offers the opportunity to remove poor specimens and replace/upgrade and re-model the Boulevard with distinct, formal arboricultural features.

The open greenspace in the south of the site currently hosts poor to fair condition, small trees which don't appear to be particularly well suited to their coastal environment. With a large, open, greenspaces within the site there is the opportunity to increase the number of high quality tree features in future design.

Trees surrounding existing buildings (used and disused), are a mixture of moderate quality trees and relatively poor vegetative groups. The retention or otherwise of these trees may not be critical within the project on the assumption that landscape enhancement and increase in arboricultural interest may result from the development regardless.

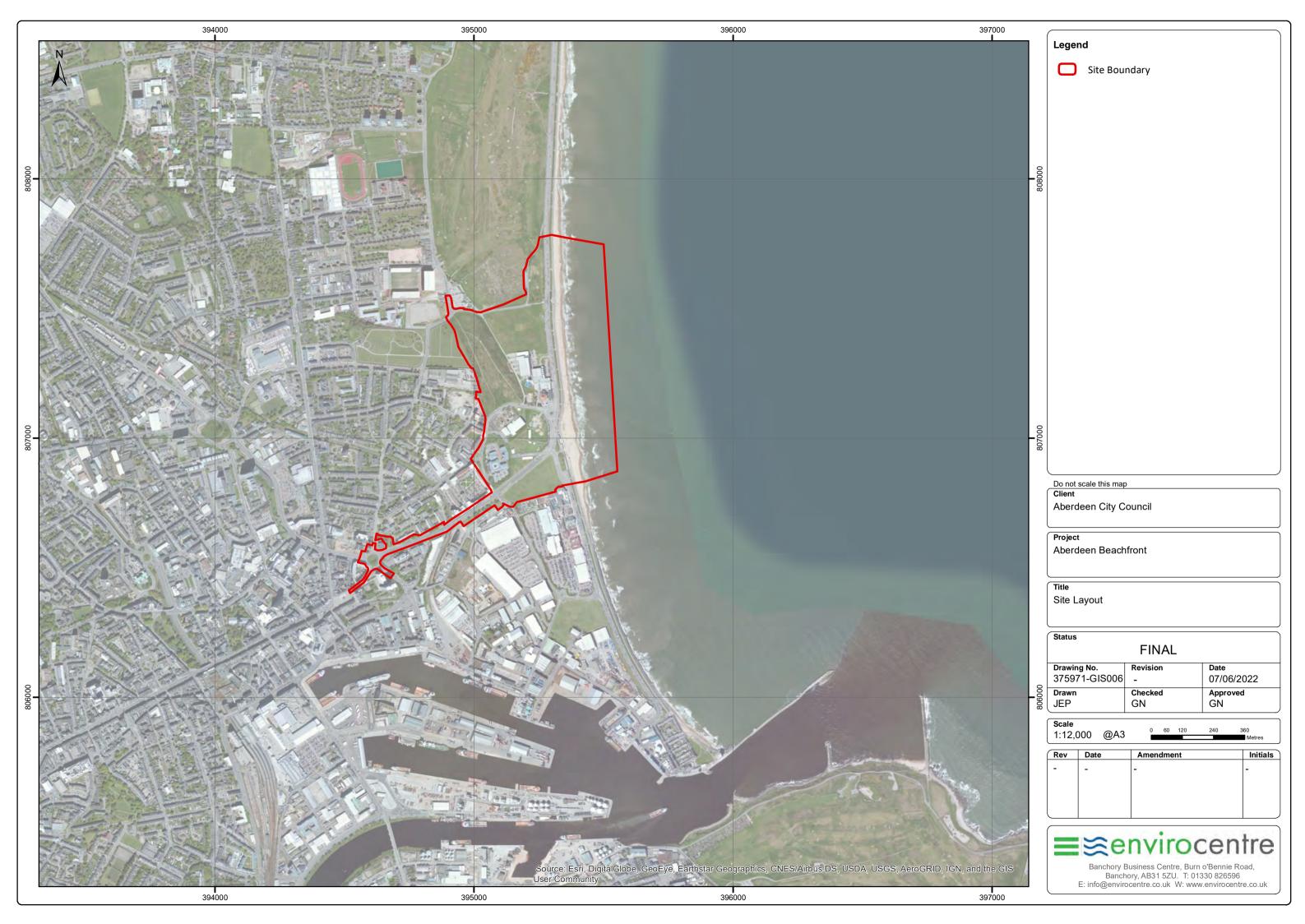
It is assumed that the plantations on Broad Hill and in the north of the site (TGs 4,5 and 6) may remain within design. However, should this not be the case it is suggested that coastal woodland habitat creation is included to compensate for their loss.

3.4 Further Actions

Upon receipt of design proposals, the data gathered in this study can be used to quantify and qualify the positive and negative effects on features of arboricultural interest, design protective measures and inform bespoke method statements.



A SITE BOUNDARY



B TREE QUALITY ASSESSMENT CRITERIA

Category and colour on TCP		Criteria		
U - Removal Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.	removal of other category U trees.Trees that are dead or are showing	iable structural defect such that early loss is expected g signs of significant, immediate, or irreversible over ignificance to the health and/or safety of other nearly er quality.	all decline.	
A - Retain Trees of high quality with an	Mainly arboricultural value	Mainly landscape value	Mainly cultural values including conservation	
estimated remaining life expectancy of at least 40 years.	1 Trees that are particularly good examples of their species, especially if rare or unusual. Essential components of groups or formal or semi-formal arboricultural features (i.e., dominant/principal trees in an avenue).	2 Trees, groups, or woodlands of particular visual importance as arboricultural and/or landscape features.	3 Trees, groups, or woodlands of significant conservation, historical, commemorative or other value (e.g., Veteran trees or wood-pasture).	
B - Retain Those of moderate quality with an estimated remaining life expectancy of at least 20 years.	1 Trees that might be included in the high category, but are downgraded because of impaired condition (e.g., remediable defects or poor past management/storm damage) such that they are unlikely to be suitable for retention beyond 40 years.	2 Trees present in numbers usually as groups or woodlands, such that they form distinct landscape features thereby attracting a higher collective rating than they might as individuals, or trees occurring as collectives but situated to make little visual contribution to the wider locality.	3 Trees with measurable conservation or cultural value.	
C - Retain Those of low quality with an estimated remaining life expectancy of at least 10 years, or young trees with a stem diameter below 150mm.	1 Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	2 Trees present in groups or woodlands, but without this conferring on them significantly greater collective landscape value and/or trees offering low or only temporary/transient landscape benefits.	3 Trees with very limited conservation or cultural value.	

C TREE SCHEDULE

		II. Sach 4		Br	anch Sp	oread # ((m)	Age Class	Physiologi	General Observations of	Category
Tree No.	Species	Height (m)	DBH (mm)	N	E	S	w	Y/EM/SM/M /LM/V	cal Condition G/F/P/D	Structure/Physiological Condition and/or Preliminary Management Recommendations (detailed in bold).	U/A/B/C
2036	Elm	7	210	3	3	3	3	SM	G		В
2037	Elm	6	180	3	2	3	3	SM	G		В
2038	Elm	6	3	2	3	3	3	SM	G		В
2039	Elm	7	220	3	3	4	4	SM	G		В
2040	Elm	7	160	3	2	3	1	SM	G		В
2041	Elm	7	220	3	3	4	2	SM	G		В
2042	Elm	7	180	3	2	3	3	SM	G		В
2043	Elm	5	140	2	2	2	2	SM	F	Multiple stem	С
2044	Elm	4	100	2	2	2	1	SM	F	Multiple stem	С
2045	Elm	5	140	2	2	3	3	SM	F	Multi stem	С
2046	Elm	7	210	3	4	4	4	SM	G		В
2047	Elm	6	170	4	3	3	3	SM	G		В
2048	Elm	7	180	3	2	2	2	SM	G		В
2049	Elm	7	180	3	3	2	2	SM	G		В

		lls in h4		Br	anch Sp	oread # ((m)	Age Class	Physiologi	General Observations of	Category
Tree No.	Species	Height (m)	DBH (mm)	N	E	S	w	Y/EM/SM/M /LM/V	cal Condition G/F/P/D	Structure/Physiological Condition and/or Preliminary Management Recommendations (detailed in bold).	U/A/B/C
2050	Lime	12	195	5	6	4	3	М	G		В
2051	Elm	9	400	4	5	4	6	М	G	Multi stem	В
2052	Sycamore	8	250	3	3	3	3	М	F		В
2053	Elm	10	480	4	2	2	5	М	G		В
2054	Whitebeam	8	310	3	3	3	2	SM	G		В
2055	Whitebeam	8	260	3	2	3	1	SM	F		В
2056	Whitebeam	8	320	4	1	3	1	SM	F		В
2057	Bird cherry	10	400	6	2	4	2	М	G	Multi stem	В
2058	White beam	9	368	4	2	4	1	SM	G		В
2059	Whitebeam	10	430	5	1	4	3	М	G		В
2060	Crack willow	10	540	6	1	4	5	М	F		В
2061	Whitebeam	5	260	3	3	3	2	SM	G		В
2062	Whitebeam	5	260	3	3	2	3	SM	G		В
2063	Whitebeam	5	360	3	3	3	3	SM	G		В
2064	Whitebeam	11	570	5	5	4	2	М	G		В
2065	Whitebeam	11	340	3	2	4	2	SM	G		В
2066	Sycamore	12	460	6	4	4	4	М	G		В

				Br	anch Sp	oread # ((m)	Age Class	Physiologi cal	General Observations of	Category
Tree No.	Species	Height (m)	DBH (mm)	N	E	S	W	Y/EM/SM/M /LM/V	Condition G/F/P/D	Structure/Physiological Condition and/or Preliminary Management Recommendations (detailed in bold).	U/A/B/C
2067	Whitebeam	10	600	6	1	5	5	М	G		В
2068	Whitebeam	8	380	4	4	3	3	SM	G		В
2069	Whitebeam	8	420	4	3	4	4	М	G		В
2070	Whitebeam	9	290	4	2	3	3	SM	F		С
2070	Whitebeam	9	250	1	3	2	3	SM	F		С
2072	Whitebeam	10	340	4	1	3	4	М	Р		С
2073	Whitebeam	11	470	4	3	3	3	М	F		В
2074	Sycamore	10	490	5	6	5	4	М	G		В
2075	Whitebeam	10	570	4	5	4	5	М	F		В
2076	Whitebeam	11	460	1	4	4	4	М	F		В
2077	Whitebeam	11	480	5	4	1	3	М	F		В
2078	Whitebeam	12	480	4	3	4	4	М	F		В
2079	White poplar	13	428	5	3	2	5	М	Р	Storm damage	U
2080	Whitebeam	11	440	4	2	4	2	М	F		В
2081	Whitebeam	11	540	5	2	4	4	М	G		В
2082	Whitebeam	11	510	5	4	4	4	М	F	Basal wound	В
2083	Whitebeam	9	390	4	4	2	4	М	G		В

				Br	anch Sp	oread # ((m)	Age Class	Physiologi	General Observations of	Category
Tree No.	Species	Height (m)	DBH (mm)	N	E	S	W	Y/EM/SM/M /LM/V	cal Condition G/F/P/D	Structure/Physiological Condition and/or Preliminary Management Recommendations (detailed in bold).	U/A/B/C
2084	Oak	10	230	3	3	2	2	SM	G		В
1	Lime	14	350	4	2	1	3	М	F		В
2	Lime	16	570	6	5	4	5	М	G		В
3	Sycamore	10	290	4	4	3	2	SM	F		В
4	Sycamore	12	300	4	3	3	3	SM	F		В
5	Maple	12	290	4	2	4	4	SM	G		В
2085	Norway maple	12	530	6	6	6	5	М	G		A
2086	Lime	11	320	3	2	3	3	М	G		В
2087	Lime	12	420	4	4	3	3	М	G		В
2088	Whitebeam	10	470	5	4	5	7	М	F		В
2089	Sycamore	16	680	7	5	6	7	М	G		A
2090	Norway maple	15	630	7	4	6	6	М	G		A
2091	Norway maple	13	450	6	6	6	5	М	G		A
2092	Norway maple	12	570	7	6	6	6	М	F	Basal wound	В
2093	Sycamore	16	610	5	4	5	5	М	G		A
2094	Whitebeam	10	440	3	3	4	4	М	F	Stem wounds	В
2095	Whitebeam	9	380	4	4	3	3	М	Р	Large stem wound	U

				Branch Spread # (m)				Age Class	Physiologi cal	General Observations of	Category
Tree No.	Species	Height (m)	DBH (mm)) N F S W (MMA) Condition	Structure/Physiological Condition and/or Preliminary Management Recommendations (detailed in bold).	U/A/B/C					
2096	Whitebeam	10	520	3	4	4	2	М	F		В
2097	Elm	24	680	5	6	6	6	М	F	Monitor for dutch elm disease	A
2098	Sycamore	7	250	5	2	4	3	SM	F		В
2099	Sycamore	8	250	3	3	2	1	SM	F		В
2100	Sycamore	9	150	2	3	1	3	SM	F		В
2101	Sycamore	13	510	2	4	5	4	М	G		В
2102	Sycamore	15	540	3	4	4	6	М	G		В
2103	Sycamore	10	300	1	4	2	5	М	G		В
2104	Sycamore	16	490	6	4	3	5	М	G		В
2105	Elm	16	450	6	5	1	5	М	G		В
2106	Sycamore	7	180	2	2	2	2	SM	G		В
2107	Sycamore	6	130	2	1	2	1	SM	F		С
2108	Sycamore	6	150	2	2	2	3	SM	G		С
6	Whitebeam	8	400	3	3	4	4	SM	G		В
7	Whitebeam	8	220	2	2	2	2	SM	F	Multi stem	В
8	Rowan	8	350	4	2	1	4	SM	F		В
9	Rowan	8	240	1	2	2	3	SM	G		В

				Br	anch Sp	oread # ((m)	Age Class	Physiologi	General Observations of	Category
Tree No.	Species	Height (m)	DBH (mm)	Ν	E	S	w	Y/EM/SM/M /LM/V	cal Condition G/F/P/D	Structure/Physiological Condition and/or Preliminary Management Recommendations (detailed in bold).	U/A/B/C
2109	Bird cherry	9	350	3	3	3	3	SM	F	3 stem tree, root damage	С
2110	Bird cherry	8	200	4	1	1	4	SM	F		С
2111	Bird cherry	9	200	3	3	1	1	SM	Р	Windblow	U
2112	Bird cherry	7	230	3	2	1	1	SM	Р	Stem wound	С
2113	Black pine	8	230	3	2	1	3	SM	G		В
2114	Elm	8	180	1	2	3	3	SM	F		В
2115	Elm	10	550	4	5	1	3	М	D	Dead	U
2116	Elm	10	350	1	3	4	4	SM	Р	Stem wounds	U
2117	Whitebeam	8	280	2	2	2	2	SM	F		В
2118	Black pine	12	200	2	3	1	1	SM	F		В
2119	Black pine	12	200	2	1	1	2	SM	F		В
2120	Black pine	12	230	1	1	1	4	SM	G		В
2121	Black pine	6	300	1	1	3	4	SM	G		В
2122	Black pine	8	200	3	2	3	1	SM	F		В
2123	Hawthorn	6	260	3	1	3	3	SM	G		В
2124	Hawthorn	6	200	4	1	3	2	SM	G	Multiple stem	В
2125	Hawthorn	6	230	4	2	3	2	SM	G		В

		Height DBH Age Class cal Structure/Physiological Condition		Category							
Tree No.	Species	(m)	DBH (mm)	N	E	S	w	Y/EM/SM/M /LM/V	Condition G/F/P/D	Structure/Physiological Condition and/or Preliminary Management Recommendations (detailed in bold).	U/A/B/C
2126	Hawthorn	6	240	4	2	3	2	SM	G		В
2127	Black pine	8	180	1	2	4	2	SM	G		В
2128	Sea buckthorn	5	200	3	3	4	3	SM	D	Storm damage	U
2129	Whitebeam	6	180	2	2	2	2	SM	G		С
2130	Whitebeam	6	180	2	2	2	2	SM	G		С
2131	Scots pine	7	220	3	3	1	3	SM	G		С
2132	Scots pine	7	220	2	3	3	1	SM	G		С
2134	Scots pie	4	220	1	4	2	1	SM	G		С
2133	Scots pine	4	220	1	2	2	4	SM	G		С
2135	Cherry	3	100	1	2	2	1	SM	G		С
2136	Ash	7	230	4	3	3	3	SM	G		В
2137	Ash	7	250	3	3	4	4	SM	G		В
2138	Cherry	7	230	3	2	4	4	SM	G		В
2139	Ash	7	220	3	3	3	3	SM	F		С
2140	Cherry	6	170	2	3	3	2	SM	F	Stem wound	С
2141	Sycamore	9	250	4	4	2	4	SM	G		В
2142	Norway maple	9	200	2	3	3	4	SM	F	Bark inclusion	С

	Species Height DBH V/EM/SM/M Condition Structure/Physio		General Observations of	Category							
Tree No.	Species	(m)	DBH (mm)	N	E	S	w	Y/EM/SM/M /LM/V	G/F/P/D	Structure/Physiological Condition and/or Preliminary Management Recommendations (detailed in bold).	U/A/B/C
2143	Ash	7	180	4	3	3	3	SM	G		В
2144	Cherry	5	180	3	3	3	3	SM	F	Multi stem	С
2145	Cherry	4	180	3	3	3	3	SM	F		С
2146	Whitebeam	6	230	3	3	3	3	SM	G		В
2147	Whitebeam	6	240	2	2	3	3	SM	G		В
2148	Sea buckthorn	4	200	1	1	4	3	SM	D	Windblown	U
2149	Whitebeam	4	180	2	2	2	2	SM	G		В
2150	Maple	7	200	4	3	4	2	SM	G		В
2151	Norway maple	7	200	4	2	4	4	SM	G		В
2152	Sycamore	7	190	3	3	2	2	SM	G		В
2153	Norway maple	8	210	4	2	2	5	SM	Р	Stem wound	С
2154	Cherry	5	150	2	3	2	2	SM	G		С
2155	Whitebeam	7	150	3	2	2	2	SM	G		В
2157	Cherry	6	170	2	2	3	3	SM	F		С
2156	Norway maple	7	150	2	3	3	3	SM	G		В
2158	Whitebeam	7	270	4	4	3	3	SM	G		В
2159	Norway maple	6	160	1	2	3	4	SM	G		В

				Br	anch Sp	oread # ((m)	Age Class	Physiologi	General Observations of	Category
Tree No.	Species	Height (m)	DBH (mm)	Ν	E	S	w	Y/EM/SM/M /LM/V	cal Condition G/F/P/D	ndition and/or Preliminary Management (F/P/D Recommendations (detailed in bold).	
2160	Norway maple	8	200	5	4	3	2	SM	G		С
2161	Whitebeam	8	290	4	2	3	4	SM	G		В
2162	Sycamore	8	280	55	3	3	3	SM	G		В
2163	Sycamore	8	230	5	2	4	4	SM	G		В
2164	Cherry	6	200	4	4	4	3	SM	G		В
2165	Rowan	6	280	3	3	3	3	SM	G		В
2166	Sycamore	16	500	6	3	4	6	М	G		В
2167	Sycamore	16	440	6	5	6	6	М	G		В
2168	Elm	14	300	4	3	2	1	М	D		U
2169	Elm	15	390	5	2	3	5	М	D		U
2170	Elm	12	300	3	5	4	4	М	D		U
2171	Elm	12	350	4	4	4	5	М	D		U
2172	Elm	12	300	5	4	2	4	М	D		U
2173	Willow	9	220	5	5	3	1	SM	F		В
2174	Whitebeam	6	160	3	3	2	3	SM	G		В
2175	Whitebeam	6	180	3	3	3	3	SM	G		В
2176	Sycamore	6	180	22	2	2	22	SM	G		В

		l la la ha		Bra	anch Sp	oread # ((m)	Age Class	Physiologi	General Observations of	Category
Tree No.	Species	Height (m)	DBH (mm)	Ν	E	S	W	Y/EM/SM/M /LM/V	cal Condition G/F/P/D	Structure/Physiological Condition and/or Preliminary Management Recommendations (detailed in bold).	U/A/B/C
2177	Sycamore	7	200	3	4	3	2	SM	G		В
2178	Sycamore	7	280	3	3	3	3	SM	G		В
2179	Sycamore	6	160	2	3	3	2	SM	G		В
2180	Elm	8	210	2	3	4	3	SM	F		С
2181	Rowan	6	150	2	2	3	3	SM	G		В
2182	Cherry	7	240	3	4	2	4	SM	G		В
2183	Sycamore	8	160	3	3	3	2	SM	F		С
2185	Cherry	6	400	6	5	5	5	М	G		В
2186	Chevy	5	220	4	3	3	4	SM	G		В
2187	Cherie	4	150	3	3	1	2	SM	G		С
2188	Elm	6	150	3	3	2	3	SM	G		С
2189	Whitebeam	7	310	3	3	3	3	М	G		В
2190	Whitebeam	6	170	2	2	3	3	SM	G		В
2191	Norway maple	6	190	3	2	2	3	SM	G		В
2192	Whitebeam	6	210	3	3	3	2	SM	F		С
2193	Whitebeam	7	210	3	2	2	3	SM	G		В

Tree Group ID	Species Composition	Maximum Height (m)	Maximum DBH (mm)	Age Profile Y/EM/SM/M/LM/V	General Condition G/F/P/D	Group Descriptors	Quality Category U/A/B/C
TG1	Cotoneaster, burbress, hawthorn, holly, crack willow, dogwood, rose.	7	250	SM-M	F	Dense shrub vegetation intermixed with planted trees surrounding the former Hilton Hotel carpark.	В
TG2	Holly, pine, cotoneaster, rose, elm, sycamore	7	250	SM	F	As above	В
TG3	Hawthorn, crack willow, bird cherry	4	250	М	F	A small vegetative group associated with the Beach Ballroom carpark landscaping	В
TG4	Scots pine, Black Pine, Rowan, Larch	5	200	SM	G	A planted woodland of native composition atop Broad Hill. Likely to provide some biodiversity interest.	В
TG5	As above but divided by a footpath	-	-	-	-		В
TG6	Whitebeam	5	250	М	F	A small, narrow band of whitebeam planted alongside Accommodation road, with a windswept character.	В

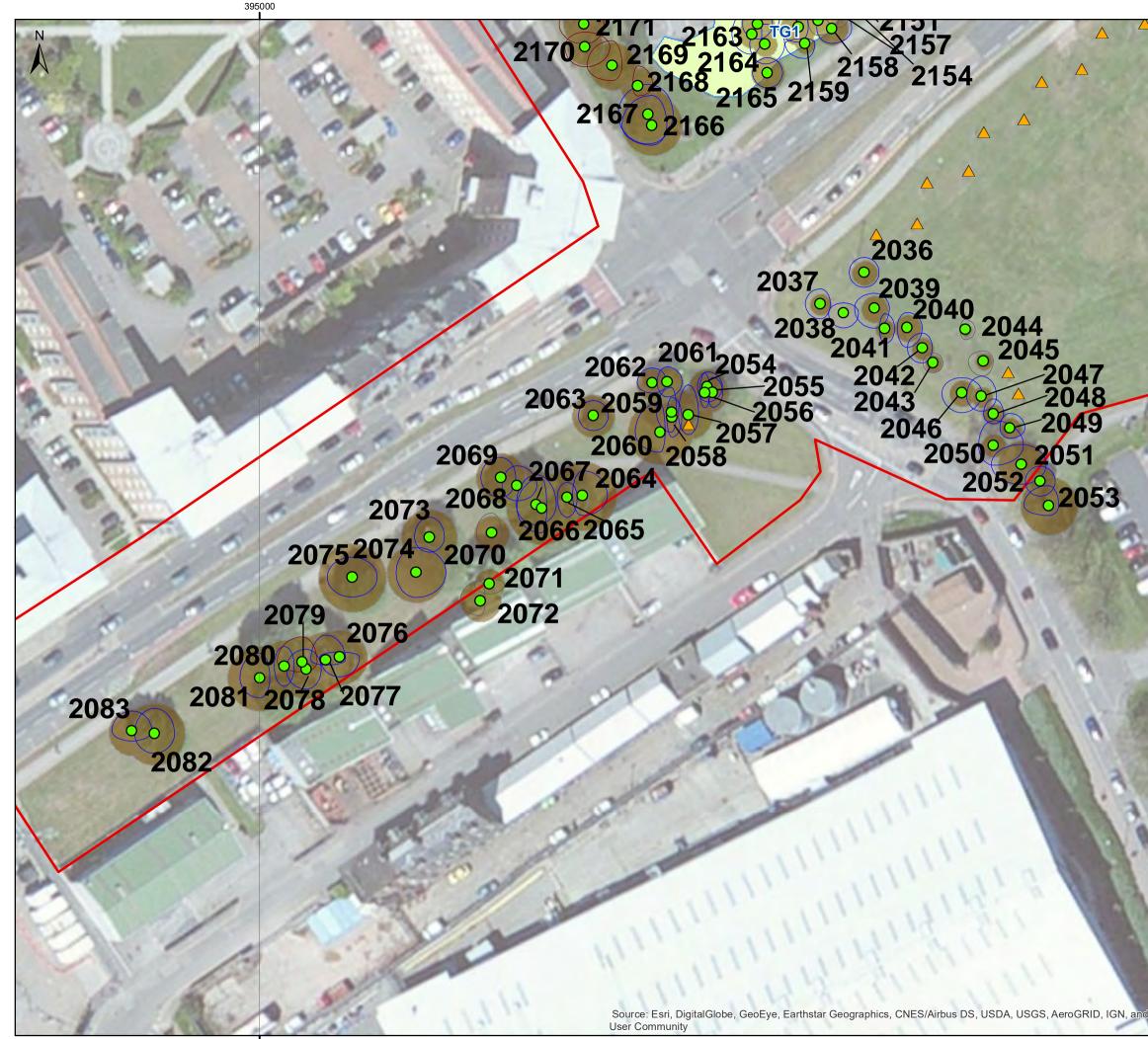
D TREE REFERENCE PLANS



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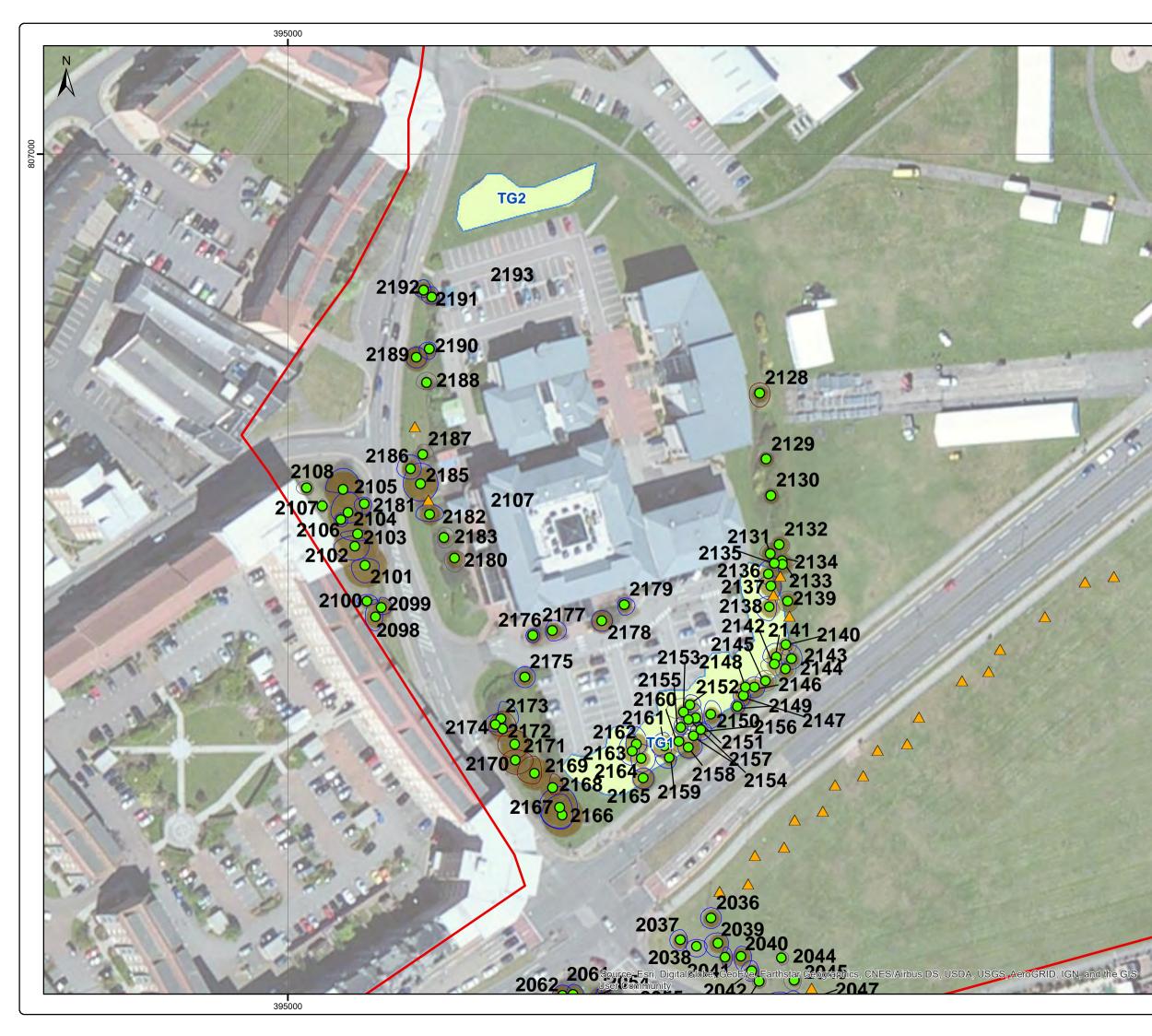


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D COMPATIBILITY ANALYSIS

Compatibility analysis of draft Beachfront Developm		with SEA objectives									SEA Objectives											Summary Comments
Potential conflict between plan and SEA objectives Plan objectives have no identified conflict or support for SEA	and community wellbeing, while promoting a range of	Encourage physical activity.	Creation of community facilities.	Promote active travel a sustainable transport.	and Reduce emissions of greenhouse s in line with Scottish Government targets.	h To reduce contributions to climate change	Promote renewable energy sources.	To increase adaptation and reduce vulnerability to the effects of climate change	air quality and reduce	Provide adequate drainage and sewerage	Prevent deterioration,	To avoid, reduce and manage flood risk		soil Reduce the amount of Ny Vacant and Derelict Land in the Aberdeen Beachfront boundary area.	Protect and enhance landscape character, local distinctiveness, visual amenity and promote access to the wider environment.	To improve the quality surroundings	nature conservation	Protect, conserve and enhance the historic environment. To conserve and, where appropriate, enhance the historic environment and cultural heritage	Promote sustainable waste management and the circular economy.	Promote quality urbai design.	n Promote the sustainable use of community assets, natural resources and material assets.	NOTE: Briefly highlight key conflicts/ uncertainties/ supporting asperting objectives with the SEA objective
Revitalise and renew the area to maximise the optential of this unique space and create an exceptional asset for the city of Aberdeen									0	?	?	?	?	?					?			While the SEA objectives and Beachfront Development Framework objective a compatible with the Rope Works masterplan option, the degree to which the of supportive/ conflicting is likely to depend on factors such as location and consi design principles and criteria, however, improved connectivity is a key element Beachfront Development Framework. In general, development is unlikely to increase the population directly affected Quality Management Area, which covers Aberdeen City Centre. Careful consideregards travel to the Beachfront facilities could potentially reduce traffic and as emissions through the use of sustainable transport alternatives. During construction excavation of existing fill, subsoil and bedrock may be requirevelling, for the installation of foundations for the leisure facilities, ice arena an carpark, and service trenching. This will result in a permanent relocation of soil most excavation locations. The excavated materials are expected to include expertential, topsoil/subsoil, and some bedrock. Further information on approach to development may identify potential support conflict for SEA objectives which are currently unknown.
mprove connectivity to the Beachfront area and he city with a focus on public transport, edestrians, and cyclists	✓	~	✓	✓	✓	✓	0	✓	✓	Ο	Ο	Ο	Ο	О	✓	✓	0	Ο	Ο	✓	✓	Generally supportive compatibility, Key areas of potential support with SEA ob sustainable transport, landscape e.g. sensitive improvements that take accour principles/ criteria are likely to be supportive of SEA objectives. Further information on approach to development may identify potential suppor conflict for SEA objectives which are currently unknown.
ympathetically restore the Beach Ballroom to its ormer glory when it was known as the People's allroom', while recognising the buildings heritage nd historic significance		0	✓	✓					✓	?	?	?	?	?				✓	?		✓	SEA objectives are generally compatible with the Beachfront Development Fra objective. Combined positive and negative effects on landscape character and distinctiveness in the short term i.e. during exterior restoration. The focus of th on improving and as such implies that existing resources will be maximised. For information on the approach to improvements to the built environment and ope identify further support or conflicts e.g. improvements should be sensitive to la issues.
reate quality and sustainable facilities for local cople and visitors;			✓	✓					▲	?	?	?	?	?				✓	?			Further information on approach to development may identify potential supp conflict for SEA objectives which are currently unknown. Key area of support for health and community wellbeing, while promoting a r and recreational attractions. SEA objectives are generally compatible with the Beachfront Development F objective. Landscape may be impacted by new leisure facilities, stadium, slip Boardwalk & Pier. With regards the slipway, boardwalk & pier, these propose developed in partnership/consultation with Aberdeen City Council Operation Flooding teams. Further information on approach to development may identify potential supp conflict for SEA objectives which are currently unknown.
prove the physical and built environment and widing high quality public realm	✓	✓	✓	✓	✓	✓	✓	✓	✓	?	?	?	?	?	✓	✓	✓	✓	?	✓	✓	The ropeworks s will invest the area with a well-considered and high-quality scheme which prioritises pedestrians and cyclists. The public realm approa public spaces to flow and reconnect the beach with the wider Beachfront at the design is accessible and inclusive. Further information on approach to development may identify potential sup conflict for SEA objectives which are currently unknown.
kimise and enhance the outstanding natural stal assets by attracting visitor attractions and ouraging leisure facilities	✓	✓	✓	✓	0	0	✓	0	О	?	?	?	?	?		✓	0	О	?	✓	✓	Several objectives have no identified conflict or support for SEA objectives. particularly sensitive to development due to natural and cultural heritage an Further information on approach may identify potential support/ conflict e.g. consideration of site location may increase vulnerability to climate change e increasing flooding and storms. Coastal flooding is a key issue on the coasta Further information on approach to development may identify potential support conflict for SEA objectives addressing coastal erosion, for example.
velop a clear role for the area within the wider erdeen City area, making the most of the areas nsport links.	✓	✓	✓	✓	✓		✓		✓	?	?	?	?	?		✓	0	0	?	✓		Generally supportive compatibility as the Beachfront Development Framework part, concerned with marketing the area as an attractive destination. There Beachfront Development Framework to encourage use of sustainable transp raising the profile of the area with respect to its historical past. Several objectives uncertain whether the plan objectives conflict with, or su objectives. Further information on approach to development may identify potential supp
Summarise for each SEA objective the key ertainties/ supporting aspects across ALL ctives. This informs the subsequent f effects, and the development of the Plan	opportunity for free activitie Of the three options Rope V accessible movement to an Rope works scored highest commercial feasibility, flex commercial uses and scale Of the three masterplan options All three masterplan options	Vorks scores highest for consideration of footfall ar ible adaptable spaces, and ap.	ideration for and provision of nd yield, affordability / opropriateness of proposed and for employment and of design. the Beachfront	Works scored highest for consideration and opportunity for green methods of travel and delivering equitable sustainable transport options to/within the Beachfront area.	e The rope works scored hig emerging technologies and	• • • • •	ies for incorporation of	may affect adaption to unavoidable effects of climate change. Focus assessment on identifying opportunities for increasing adaptation to climate change e.g. integrating development, spatially,	Beachfront Development Framework can contribute to improved air quality dependent on the approach taken to delivering objectives. Of the three masterplan options rope works scores highest for consideration and opportunity for green methods of travel and delivering equitable sustainable transport options to/within the Beachfront area.	masterplan options discussed blue/green design features that may reduce pressure on the aquatic environment e.g. SUDS. SEA assessment to focus on identifying key pressures on the aquatic environment, potential opportunities for the Beachfront Development Framework to reduce these and practical mitigation measures for reducing any unavoidabl	 technologies and design features that may reduce pressure on the aquatic environment e.g. SUDS. SEA assessment to focus on identifying key pressures on the aquatic environment, potential opportunities for the Beachfront Development Framework to reduce these and practical 	 vulnerability to flooding e.g. through inappropriate siting of development/ sealing of permeable soil resulting in increased surface run-off. SEA assessment to focus on identifying Beachfront Development Framework development that may be vulnerable or contribute to flooding and support the consideration of alternatives and/ or mitigation measures. 	ensuring that Beachfr Development Framew development has min environmental effects associated with soil sealing e.g. as a resul development.	assessment to focus on ensuring that Beachfron Development Framewor positively promotes the use of land	second for Integration of landmark design feature	s scale; intimate spaces a gathering spaces, sense of place and social ownership, consideration of local planning principl	 highest for integration with natural habitat and promotion of biodiversity Potential for Beachfront Development Framework development to affect biodiversity. The extent of any effects is likely to be dependent on scope of projects and selection of sites. SEA assessment to focus on the identification of potential effects of key projects, categories of project and groups of project. SEA to support 	 Rope works scores highest for promotion of Aberdeen as cultural destination, Integration of landmark design feature aspirational design quali and integration of heritage and promotion of legacy. SEA assessment to focu on ensuring that: Beachfront Development Framework development is sensitive to constraints posed by the historic environment and that opportunities are developed for enhancing 	Development Framework commits to sustainable waste management and the circular economy wherever practicable.	assessment to focus or ensuring that Beachfro Development Framewo	A Beachfront Development Framework objectives have some key areas of support in seeking to improve existing town centres through re-use/ re-development. SEA should steer the use of coastal and other key natural resources in the area down a sensitive/ sustainable route. SEA assessment to support by further highlighting the key natural/ human-made resources that can be developed as opposed to using/ importing new resources.	conflict for SEA objectives which are currently unknown.

Potential conflict between plan and SEA objectives Plan objectives have no identified conflict or support for SEA	Improve human health and community wellbeing, while promoting a range of outdoor and recreation attractions.	Encourage physical activity.	Creation of communi facilities.	ity Promote active travel an sustainable transport.	d Reduce emissions of greenhouse s in line with Scottish Government targets.	To reduce contribution to climate change	ns Promote renewable energy sources.	To increase adaptation and reduce vulnerability to the effects of climate change		Provide adequate drainage and sewerag	SEA Objectives Prevent deterioration, protect and enhance water quality and ecological status.	To avoid, reduce and manage flood risk		e soil Reduce the amount of any Vacant and Derelict of Land in the Aberdeen Beachfront boundary area.	landscape character,	To improve the quality surroundings		Protect, conserve and enhance the historic environment. To conserve and, where appropriate, enhance the historic environme and cultural heritage	waste management and the circular economy.	Promote quality urba design.	an Promote the sustainable use of community assets, natural resources and material assets.	Summary Comments NOTE: Briefly highlight key conflicts/ uncertainties/ supporting aspects of Plan objectives with the SEA objective
Revitalise and renew the area to maximise the potential of this unique space and create an exceptional asset for the city of Aberdeen									0	?	?	?	?	?					?			While the SEA objectives and Beachfront Development Framework objective are broad compatible with the tram line masterplan option, the degree to which the objective is supportive/ conflicting is likely to depend on factors such as location and consideration design principles and criteria, however, improved connectivity is a key element of the F In general, development does not increase the population directly affected by any Air O Management Area, which covers a very small area in Aberdeen. Careful consideration regards travel to the Beachfront facilities could potentially reduce traffic and associated emissions through the use of sustainable transport alternatives. During construction excavation of existing fill, subsoil and bedrock may be required for levelling, for the installation of foundations for the leisure facilities, ice arena and stadiu carpark, and service trenching. This will result in a permanent relocation of soil and sut most excavation locations. The excavated materials are expected to include existing fil material, topsoil/subsoil, and some bedrock. Further information on approach to development may identify potential support and/ or conflict for SEA objectives addressing noise and waste management and the circular economy.
Improve connectivity to the Beachfront area and the city with a focus on public transport, pedestrians, and cyclists Sympathetically restore the Beach Ballroom to its	✓		✓	✓	✓	✓	0		✓	0	0	0	0	0		✓	0	0	0	✓		Generally supportive compatibility, Key areas of potential support/ conflict with SEA objectives for landscape e.g. sensitive improvements that take account of design print criteria are likely to be supportive of SEA objectives. Further information on approach to development may identify potential support and/ conflict for SEA objectives addressing waste management and the circular economy. There are a number of objectives which score as being uncertain.as to whether plan
former glory when it was known as the People's Ballroom', while recognising the buildings heritage and historic significance	✓	О	✓		?	?	?	?	?	?	?	?	?	?	✓	✓		✓	?	✓	✓	objectives conflict with or support the SEA objectives. SEA objectives are generally compatable with the Beachfront Development Framewor objective. The focus of the objective is on improving the Beach Ballroom and as such that existing resources will be maximised. Further information on the approach to improvements to the ballroom refurbishment may identify further support or conflicts.
Create quality and sustainable facilities for local people and visitors;	✓	✓	✓	✓	✓	✓	✓	✓	✓	?	?	?	?	?	✓	✓	✓	✓	?	✓	✓	Key area of support for health and community wellbeing, while promoting a range of and recreational attractions. SEA objectives are generally the Beachfront Development Framework objective. La may be impacted by new leisure facilities, stadium, slipway and Boardwalk & Pier. W regards the slipway, boardwalk & pier, these proposals will be developed in partnership/consultation with Aberdeen City Council Operations, Coastal and Floodin teams.
Improve the physical and built environment and providing high quality public realm										?	?	?	?	?					?	✓		Further information on approach to development may identify potential support an conflict for SEA objectives addressing waste management and the circular econor. The Tram Lines will invest the area with a well-considered and high-quality public scheme which prioritises pedestrians and cyclists. The public realm approach will public spaces to flow and reconnect the beach with the wider Beachfront area ensuthe design is accessible and inclusive. There are a number of objectives which score as being uncertain.as to whether play objectives conflict with or support the SEA objectives.
Maximise and enhance the outstanding natural coastal assets by attracting visitor attractions and encouraging leisure facilities	✓			✓	О	О	✓	0	О	?	?	?	?	?	✓	✓	0	О	?	✓		Several objectives have no identified conflict or support for SEA objectives. Coast particularly sensitive to development due to natural and cultural heritage and floor Further information on approach may identify potential support/ conflict e.g. poor consideration of site location may increase vulnerability to climate change effects increasing flooding and storms. Coastal flooding is a key issue on the coastal sites Further information on approach to development may identify potential support ar conflict for SEA objectives addressing coastal erosion, for example.
evelop a clear role for the area within the wider berdeen City area, making the most of the areas ansport links.	✓	✓	✓	✓	✓	✓	✓	✓	✓	?	?	?	?	?	✓	✓	0	Ο	?	✓	✓	Generally supportive compatibility as the Beachfront Development Framework of part, concerned with marketing the area as an attractive destination. There is pos Beachfront Development Framework to encourage use of sustainable transport of raising the profile of the area with respect to its historical past. There is uncertainty as to whether the plan objectives conflict with, or support, the objectives.
of effects, and the development of the Plan actions etc.	 opportunity for free active Of the three masterplan opportunity Of the three options transaccessible movement to the three options transaccessible movement to the three masterplan option optimizes and the three masterplan option optimizes of propriates of propriot optimizes optimizes of propriot optimizes of propriot optites optimizes of	ities and open space options, tram lines scores a lines scores second for and within the framework for consideration of footfa st for technical viability ar osed commercial uses an ons support the developr c in delivering equitable h	II and yield, affordability / nd deliverability of design, and d scale.	d methods of travel and delivering equitable sustainable transport options to/within the Beachfront area.	emerging technologies and consumption and producti regards opportunities for in	ncorporation of emerging to and highest for the consider	n for renewable energy nd tram lines scored highest	adaptation to climate change e.g. integrating	dependent on the approach taken to delivering objectives Of the three masterplan options rope Works scores second for consideration and	features that may reduce pressure on the aquatic environment e.g. SUDS SEA assessment to focu- on identifying key	SEA assessment to focu on identifying key pressures on the aquatic environment, potential opportunities for the Beachfront Developmen Framework to reduce these and practical mitigation measures for reducing any unavoidat adverse effects.	SEA assessment to focus on identifying Beachfront Development Framework development that may be vulnerable or contribute t flooding and support the ot consideration of alternatives and/ or mitigation measures.		Generally uncertain compatibility.	tram line scores highest for Integration of landmark design feature	Tram lines scored highe for the consideration of design for safe spaces a consideration of local planning principles and city plan. Tram lines scored secon for flexibility of scale; intimate spaces and gathering spaces, promotion of a sense of place and social ownership and integration with immediate site constraints.	Potential for Beachfront Development Framework development to affect biodiversity. The extent of any effects is likely to be dependent on scope of projects and selection of sites. SEA assessment to focus on the identification of potential effects of key projects, categories of project and groups of project. SEA to support the development of measures to reduce any	 for integration of landmedesign features, of Tram lines scored second for promotion of Aberdes as cultural destination, aspirational design quation and integration of theritage and integration of theritage and promotion legacy. SEA assessment to focution on the ensuring that: Beachfront Development is sensitive to constrain posed by the historic environment and that 	 Bevelopment Framework commits to sustainable waste management and the circular economy wherever practicable. Indeen Int of of Int of<!--</td--><td>assessment to focus of ensuring that Beachfro Development Framew</td><td> A Beachfront Development Framework objectives have some key areas of support in seeking to improve existing town centres through re-use/ re-development. SEA should steer the use of coastal and other key natural resources in the area down a sensitive/ sustainable route. SEA assessment to support by further highlighting the key natural/ man-made resources that can be developed as opposed to using/ importing new resources. </td><td></td>	assessment to focus of ensuring that Beachfro Development Framew	 A Beachfront Development Framework objectives have some key areas of support in seeking to improve existing town centres through re-use/ re-development. SEA should steer the use of coastal and other key natural resources in the area down a sensitive/ sustainable route. SEA assessment to support by further highlighting the key natural/ man-made resources that can be developed as opposed to using/ importing new resources. 	

Plan objectives supportive of SEA objectives Potential conflict between plan and SEA objectives Plan objectives have no identified conflict or support for SEA objectives Uncertain whether plan objectives conflict with or support the SEA objectives	ment Framework objectives Improve human health and community wellbeing, while promoting a range of outdoor and recreational attractions.	Encourage physical activity.	Creation of communit facilities.	ity Promote active travel a sustainable transport.	and Reduce emissions of greenhouse s in line wit Scottish Government targets.	To reduce contributions the to climate change	s Promote renewable energy sources.		n Maintain and improve ity air quality and reduce emissions of key pollutants.	Provide adequate	SEA Objectives Prevent deterioration, protect and enhance water quality and ecological status.	To avoid, reduce and manage flood risk	Protect and enhance soi quality and prevent any further degradation of soils.	I Reduce the amount of Vacant and Derelict Land in the Aberdeen Beachfront boundary area.	Protect and enhance landscape character, local distinctiveness, visual amenity and promote access to the wider environment.	To improve the qualit surroundings	ty of Protect or conserve and, where possible, restore and enhance biodiversity and valued nature conservation habitats and species	Protect, conserve and enhance the historic environment. To conserve and, where appropriate, enhance the historic environmer and cultural heritage	Promote sustainable waste management a the circular economy	and design.	Promote the sustainable use of community assets, natural resources and material assets.	Summary Comments NOTE: Briefly highlight key conflicts/ uncertainties/ supporting aspects of Plan objectives with the SEA objective
Revitalise and renew the area to maximise the potential of this unique space and create an exceptional asset for the city of Aberdeen																						While the SEA objectives and Beachfront Development Framework objective are broad compatible with the tram line masterplan option, the degree to which the objective is supportive/ conflicting is likely to depend on factors such as location and consideration design principles and criteria, however, improved connectivity is a key element of the The Groynes option "availability of and opportunity for free activities and open space" highest of the three options.
									0	?	?	?	?	?				*	?	*		During construction excavation of existing fill, subsoil and bedrock may be required for levelling, for the installation of foundations for the leisure facilities, ice arena and stad carpark, and service trenching. This will result in a permanent relocation of soil and se most excavation locations. The excavated materials are expected to include existing material, topsoil/subsoil, and some bedrock.
Improve connectivity to the Beachfront area and the city with a focus on public transport, pedestrians, and cyclists																						No impacts on soils and geology are anticipated during the operational phase. The operational stage of the development will not involve further disturbance to the topsoil operation of the opera
	✓		✓			✓	Ο	✓		?	?	?	?	?	✓		О	0	?			All three options provide a consideration for and provision of accessible movement to within the beachfront area, however the situation is considered to be slightly better us rope works option. In general, the Groyne option aims to minimise the population directly affected by an Quality Management Area, which covers a very small area in Aberdeen.
Sympathetically restore the Beach Ballroom to its former glory when it was known as the People's Ballroom', while recognising the buildings heritage and historic significance	~	0						✓		?	?	?	?	?			•		?			SEA objectives are generally compatable with the Beachfront Development Framework objective. All three options promote Aberdeen as a cultural destination, with the Groy options scoring highest with the integration of landmark design features. Further information on approach to development may identify potential support and/ conflict for SEA objectives addressing waste management and the circular economy
Create quality and sustainable facilities for local people and visitors;	*									?	?	?	?	?					?			 refurbishment Key area of support for health and community wellbeing, while promoting a range and recreational attractions. SEA objectives are generally compatable with the Beachfront Development Frame objective. Landscape may be impacted by new leisure facilities, stadium, slipway a Boardwalk & Pier. With regards the slipway, boardwalk & pier, these proposals will developed in partnership/consultation with Aberdeen City Council Operations, Coarding teams. Further information on approach to development may identify potential support and sup
Improve the physical and built environment and providing high quality public realm	✓	✓	✓	✓	✓	✓	✓	✓	✓	?	?	?	?	?	✓	✓	✓	✓	?		✓	conflict for SEA objectives addressing waste management and the circular econe The ropeworks s will invest the area with a well-considered and high-quality publi scheme which prioritises pedestrians and cyclists. The public realm approach wi public spaces to flow and reconnect the beach with the wider Beachfront area er the design is accessible and inclusive.
Maximise and enhance the outstanding natural coastal assets by attracting visitor attractions and encouraging leisure facilities	~	✓	✓	✓	О	О	✓	О	О	?	?	?	?	?	✓	✓	О	О	?	✓	✓	Several objectives have no identified conflict or support for SEA objectives. Coas particularly sensitive to development due to natural and cultural heritage and floc Further information on approach may identify potential support/ conflict e.g. poor consideration of site location may increase vulnerability to climate change effects increasing flooding and storms. Coastal flooding is a key issue on the coastal site Further information on approach to development may identify potential support a conflict for SEA objectives addressing waste management and the circular econd
Develop a clear role for the area within the wider Aberdeen City area, making the most of the areas transport links.	~	✓	✓	✓	√	✓	✓	•	√	?	?	?	?	?	√	✓	Ο	Ο	?		√	Several objectives uncertain whether the plan objectives conflict with, or support, objectives. Generally supportive compatibility as the Beachfront Development Framework ob part, concerned with marketing the area as an attractive destination. There is pote Beachfront Development Framework to encourage use of sustainable transport of raising the profile of the area with respect to its historical past.
Summarise for each SEA objective the key uncertainties/ supporting aspects across ALL bjectives. This informs the subsequent nt of effects, and the development of the Plan s, actions etc.	opportunity for free activitie Of the three options. The G provision of accessible mov and opportunity for free act provision of accessible mov Of the three masterplan opt opportunity, consideration of Design for commercial opp / commercial feasibility, Co design and appropriateness The Groyne also scored low	es and open space royne scored joint second for rement to and within the fra- tivities and open space and rement. tions, The Groyne scored lo of footfall and yield, affordat ortunities of various scales, onsideration for technical via s of proposed commercial u vest for design for consideration or flexibility of scale; intimate se of place and social owne	for consideration for and amework area, availability consideration for and owest for employment and bility / commercial feasibility consideration for affordat ability and deliverability of uses and scale ation of design for safe spa te spaces and gathering ership, design for flexible	of for consideration and opportunity for green methods of travel and delivering equitable sustainable transport options to/within the Beachfront area.	ond opportunities for incorpor and energy and consider consumption and produc tram lines scored highest incorporation of emerging while the tram lines score	ration of emerging technologi ration for renewable energy ction. Both the rope works and	ies development of the Beachfront Development Framework in promoting or renewable energy sources where practicable within the Beachfront area.	 climate change pressure in the Beachfront area e flooding, storm surges, change in availability of transport etc. Consider how Beachfron Development Framewor may affect adaption to unavoidable effects of climate change. Focus assessment on identifyin opportunities for increas adaptation to climate change e.g. integrating development, spatially, with existing natural and 	es Beachfront Developmen e.g. Framework to contribute to improved air quality dependent on the approach taken to delivering objectives. Int rk SEA assessment to focu on opportunities where the Beachfront Development Framewor can contribute to improved air quality e.g encouraging use and development of	 supported by the Beachfront Development Framework has considerable potential to provide blue/green desig features that may reduce pressure on the aquatic environment e.g. SUDS. SEA assessment to focus on identifying key pressures on the aquatic environment, potential opportunities for the Beachfront Development Framework to reduce 	supported by the Beachfront Developmen Framework has considerable potential to improve water quality through provision of technologies and design features that may reduce pressure on the aquatic environment e.g. SUDS. SEA assessment to focu on identifying key pressures on the aquatic environment, potential opportunities for the Beachfront Developmen Framework to reduce	development works have the potential to affect flood risk and vulnerab to flooding e.g. through inappropriate siting of development/ sealing of permeable soils resulting in increased surface ru off. SEA assessment to foct on identifying Beachfron Development Framework development that may vulnerable or contribute flooding and support the consideration of alternatives and/ or mitigation measures.	 compatibility. SEA assessment to focus on ensuring that Beachfront Development Framework development has minimal environmental effects associated with soil sealing e.g. as a result of development. 	assessment to focus on ensuring that Beachfron Development Framewor positively promotes the use of land	the BeachfronttDevelopment Frameworkkto work towards this SEA	a landscape and townscape.	 Development Frameword development to affect biodiversity. The extent of any effects is likely to be dependent on scope of projects and selection of sites. SEA assessment to focution of the identification of potential effects of key projects, categories of project and groups of project. SEA to support the development of measures to reduce any negative effects, 	 k option scored lowest for promotion of Aberdeen a of cultural destination, promotion of and suppor for emerging cultures and integration of heritage ar promotion of legacy. s SEA assessment to focus on ensuring that: Beachfront Development Framework development is sensitive to constraints posed by the historic environment and that opportunities are developed for enhancing the benefits of cultural 	Development Framework s commits to sustainable waste management and the circular economy wherever practicable.	and within the design and design for employment	Framework objectivesityhave some key areas of	

E ASSESSMENT OF PREFERRED AND ALTERNATIVE OPTIONS

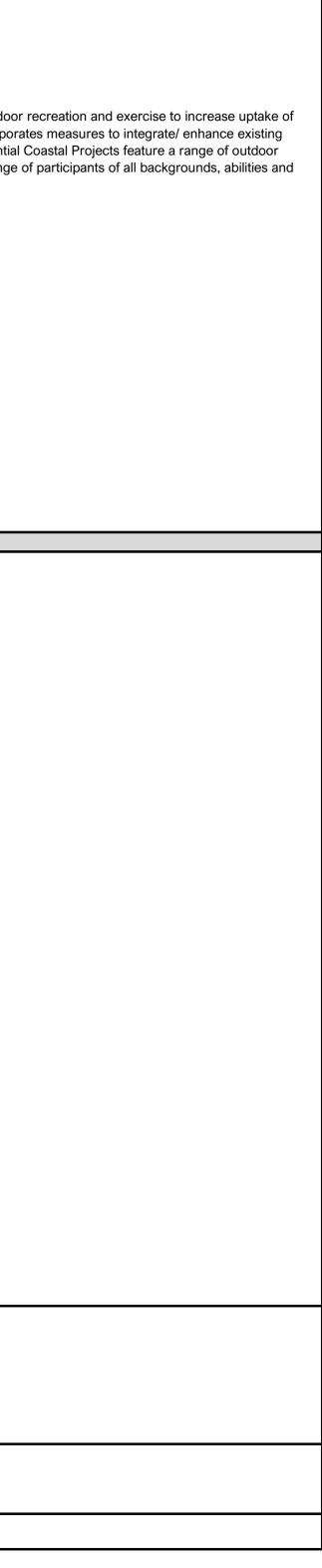
Key								
- / / -	Major positive effect							
 ✓ 	Positive effect							
0	Neutral effect							
×	Negative effect							
××	Major negative effect							
√√/x								
√/xx	Mixed effect							
etc.								
?	Uncertain effect							
S	Short term effect							
М	Medium term effect							
L	Long term effect							
Imp	Effect will depend on how the Beachfront Development Framework is implemented							

Preferred Option - New build leisure centre and ice arena, new build football stadium

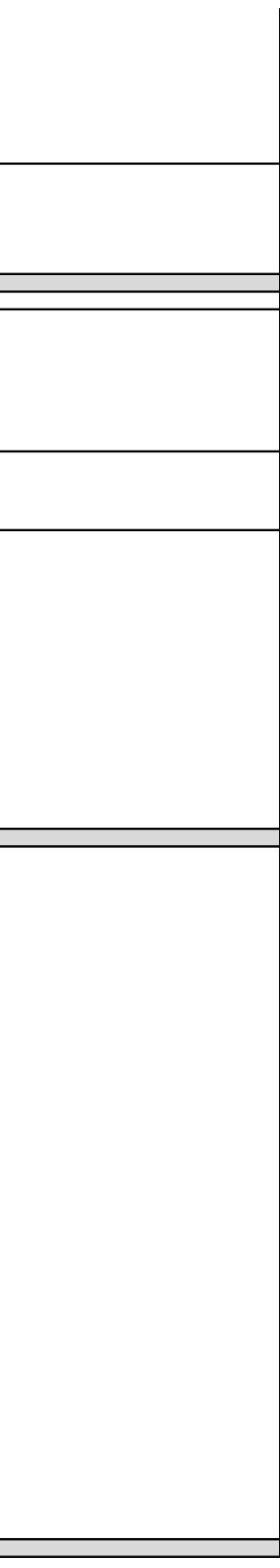
SEA Objective	Ire centre and ice arena, new build footb Questions	Score	Comments	Mitigation	Enhancement	
Biodiversity, flora and fauna					T	
	Does the site impact on designated sites?	0	A preliminary ecological survey undertaken in April 2022 indicates that there are no designated sites are located within the site boundary. The Ythan Estuary, Sands of Forvie and Meikle Loch Special Protection Area (SPA) is located 100m to the east of the site. The River Dee Special Area of Conservation is located 1.5km south of the site.			
	Does the site impact on priority habitats or species?	✓ S-M-L	Beachfront Development Framework activities have potential to result in disturbance impacts on biodiversity during both construction and operational phases. A preliminary ecological survey undertaken in April 2022 does not predict impacts to priority habitats. An outlier badger sett with two entrances was identified during the ecological survey (location is confidential). The Beachfront Development Framework aims to protect this area from future development.	The area with the badger set is not earmarked for development and will be retained.		
	To what extent will the site promote green network provision and habitat connectivity? (Question amended at request of NatureScot)	V V	The development framework seeks to retain habitat to the west at Broad Hill, and habitat creation will be encouraged where development is proposed to ensure connectivity. Broad Hill is one of the most biodiverse parts of the Development Framework area, however the aim will be to further look for ecological enhancements through additional tree planting especially along the leeward side of the hill, expanding the pine woodland, grassland management and providing a nature led stabilisation program for the steeper eroding east slopes. This enhancement of the ecological resource will offer a key biodiverse catalyst and generator for the rest of the Development Framework area and the creation of wider green networks.	 The following good practice mitigation is recommended based on the current level of available site information: Retention and protection of woodland, grassland, scattered trees, scrub and beach habitats wherever possible maintain existing ecological connectivity to the wider landscape and to retain important habitat features. Suitable tree root protection areas should be determined and fenced off prior to any works commencing. Compensatory planting should be provided where areas of woodland and scattered trees are removed to facilitat development. Buddleja is widely planted across the UK and is a favoured nectar source for many pollinator species, known as the 'Butterfly Bush'. However, Buddleja is a vigorously growing plant which can form dense stands that can eliminate other plants and can also damage structural integrity of buildings. Buddleja is not listed among the wild invasive nor native plants listed on Schedule 9 of the Wildlife and Countryside Act, however for any INNS, controlling and stopping the spread is the advised strategy to implement. Therefore, a management plan for the control of Buddleja should be devised. It would be advisable to avoid further planting of non-native species as native species benefit the native wildling 	 with Aberdeen City Policy NE1 – Green Space Additional planting of trees throughout the sites are this commuting and foraging resource, for bats, Sourcing trees (seeds and plants also) of local provide outcome. a The creation of species rich grasslands or fle pollinators, improve insect biodiversity on the sites 	
Protect or conserve and, where possible, restore and enhance biodiversity and valued nature conservation habitats and species	To what extent will the site impact wider biodiversity? (Question added at request of NatureScot)	√ S-M-L	The Beachfront Development Framework indicates that areas of woodland and various habitats will be retained and enhanced. The football stadium will be a relocation from the existing Pittodrie Stadium and will be constructed on the existing cricket ground which is of low ecological value. The area identified as being used by badgers is in an area which is not proposed for development.	 more and are complementary with the natural surroundings. A pre-works check of the site for protected species should be completed prior to any site works, by a suitable qualified ecologist or ECoW. All contractors should be made aware of the presence of protected species on site and in the wider landscape was tool box talk (i.e. bats, otter, badger, red squirrel, hedgehog, birds and marine mammals). Any vegetation clearance should be scheduled to occur outside of the nesting bird season where possible (Marco August inclusive). Where vegetation removal cannot be completed outside of the nesting bird season, a nesting bird check will a required within 48 hours of the works by a suitably qualified ecologist or ECoW. If nesting birds are found then a suitably qualified ecologist or ECoW. 	 Space Provision in New Development. Seed mixes Ilocal area. The SBL has identified over 400 terrestrial in conservation action. Suitable enhancement measure mounds, to comply with Aberdeen City Policy NE8 The planting of berry producing shrubs and commuting and nesting opportunities within the putilising the surrounding habitats and to comply 	
	To what extent will the site enhance biodiversity? (added - NatureScot response)	√ S-M-L	The Beachfront Development Framework aims to preserve natural habitat and promote biodiversity as a key aim. Habitats and species described in the baseline ecological survey undertaken in April 2022 are likely to be enhanced, with the creation of habitats associated with blue/green infrastructure, planting and improved connectivity . The new football stadium, leisure centre and ice arena is to be located on the cricket with the Beach Ballroom retained and refurbished. The proposed boardwalk structure follows the sinuous route of the Rope Works and extends out to the North Sea a short distance as will the slipway which provides access to the Beachfront below the Esplanade. Coastal natural heritage is likely to be subject to protection and enhancement measures through improvements to natural flood defence capacity and promotion of environmental education and "green tourism"/ recreational opportunities. Neither of the two structures are likely to encroach upon the Ythan Estuary, Sands of Forvie and Meikle Loch Special Protection Area (SPA) which is located 100m to the east of the site, or The River Dee Special Area of Conservation (SAC) located 1.5km south of the site.	 suitable exclusion zone will be set up to avoid nest destruction and disturbance. A watching brief and /or fingertip search will need to be undertaken before any works commence, if scrub habita require removal during hedgehog hibernation period (October-April). Maximum 15mph speed restriction to avoid RTAs with protected species which may be present in the area shoub implemented during and post works. Measures should be in place to preserve water quality and prevent pollution of North Sea following SEF Guidelines for Pollution Prevention (GPPs). Any works causing high levels of noise or vibration should be limited to daylight hours to reduce disturban nocturnal or diurnal species. Works should be limited to daylight hours within 30m of the North Sea, woodland and trees/buildings with PRFs reduce disturbance to nocturnal or diurnal species such as bats, otter and badger. Temporary lighting required during works should be limited to confirm that they are empty prior to removal under the audit of the proje ecologist and should be undertaken out with any sensitive time period (i.e. during breeding season – March-Jult inclusive) if required. Should rabbit warrens and burrows require removal, this should be undertaken under the audit of the proje ecologist and should be undertaken out with any sensitive time period (i.e. during breeding season – January-Jultinclusive) if required. Any excavations created during works should not be left open for mammals to become trapped. Appropriat covers should be fitted at the end of every working day. At the very least, a shallow sloping edge or some form or ramp should be fitted at the end of every working day. At the very least, a shallow sloping edge or some form or ramp should be fitted at the end of every working day. At the very least, a shallow sloping edge or some form or ramp should be fitted at the end of every working day. At the very least, a shallow sloping edge or some form or ramp should be fitt	 Blackthorn (<i>Prunus spinosa</i>) Holly (<i>Ilex aquifolium</i>) Hazel (<i>Corylus avellana</i>) Elder (<i>Sambucus nigra</i>) SEP Rowan (<i>Sorbus aucuparia</i>) Scot's pine (<i>Pinus sylvestris</i>) rbanc To offer increased roosting and nesting opportun boxes are recommended to be installed on trees a PRFs t City Policy NE8 – Natural Heritage. quired Green roofs could be incorporated to improve st birds and bats on any buildings associated with the here: https://www.rspb.org.uk/birds-and-vprojec wildlife/green-roofs/ h-July projec y-July worm of 	
Population and human health						
	To what extent will the site connect to the local path network? (Question amended at request of NatureScot)	√ S-M-L	There Development Framework promotes a hierarchical network of footpaths and desire routes, extending down from Beach Boulevard and opening up towards the heart of the Masterplan. The framework has the potential to improve human health and community wellbeing, while promoting a range of outdoor and recreational attractions and encourage physical activity. The promotion of sustainable alternative modes of transport also support the health goals of the city centre Low Emission Zone.	Promote outdoor recreation utilising new facilities and ensure that development increases opportunities are for people of all ages, backgrounds and abilities to participate. Promote active travel to reduce emissions which can affect the population with health problems. Develop promotional material for the facilities on site promoting the health and environmental benefits of using sustainable transport modes to access them e.g. walk, bike, bus, train		

ave been recommended based on the current level
of the site seeks to maintain and enhance existin abitat connectivity to the wider landscape to comply ce Network and Policy NE8 – Natural Heritage . s and along the boundaries would further enhance ats, badger, otter and squirrel within the locale. provenance is key to achieving the best biodiversity
r flower meadows is recommended to encourag e site and enhance connectivity to comply with ork, NE3 Urban Greenspace and Policy NE4 – Open xes should include native plants appropriate to the
al invertebrate species in the UK as priorities fo easures include creating log piles and invertebrate E8 – Natural Heritage. Ind trees is recommended to provide a sheltere he sites and food source for birds and mammals ply with Aberdeen City Policy NE5 – Trees and
rtunities for bats and birds, a variety of bat and bir es and existing buildings to comply with Aberdeen
ve storm water management and provide habitat fo the development. Further information can be found nd-wildlife/advice/how-you-can-help-birds/roofs-for-

 •Improve human health and community wellbeing, Hawhile promoting a range of outdoor and recreational attractions. •Encourage physical activity. •Creation of community facilities. 	How does the site relate to areas with high SIMD?	✓√ S-M-L	The Beachfront Development Framework area is located partly within Seaton (north) which is one of the most deprived 20% data zones in Aberdeen City. The southern area of the Development Framework is located in Hanover South. As such the Framework has the potential to meet all SEA objectives. The Development Framework proposals will provide potential long term significant economic benefits for the area that will arise through the provision of high-quality amenities and relocation of the Football stadium within 500m of the existing stadium retaining economic activity within the city centre./ local area. The development principle is to develop a world class sport, leisure and tourism destination which would revitalise the Beachfront area and reconnect it to the city centre. The health benefits associated with physical activity are actively supported by the Beachfront Development Framework. Other benefits as a result of the Preferred Option potentially include the provision of employment as a result of the new build leisure facility ice area and stadium alongside the refurbishment of the Beach Ballroom public realm elements, integrated transport links and environmental improvements. This will ensure the key elements of a sustainable community are looked at holistically. The proposed new stadium would provide a new home for Aberdeen Football Club. The stadium would seek to support the local, national, and international strategies that the Aberdeen FC Trust are involved with that address the importance of increasing physical activity, and tackling issues such as poverty, inequalities, and wellbeing. The Beachfront Development Framework also locates the 16,000 seater stadium close to its original Pittodrie home and maintains its heritage with the local community and also continues to benefit city centre businesses.		Raise awareness of the health benefits of outdoor re new activities. Ensure that development incorporate footpath and cycle network. Ensure that potential Cor recreation/ exercise opportunities to suit a range of ages.
	o what extent will the site impact access to open space? Question amended at request of NatureScot)	√ S-M-L	Development would lead to the loss of open space. Open space is a key consideration of the Beachfront Development Framework. The proposed reconfiguration of the Development Framework area will result in a reorganisation of the open space provision within the masterplan area. These spaces have been developed with the aim of creating different characters and opportunities for people to enjoy the site. Whether this be a walking along the promenade surrounded the proposed dune landforms, a visit play park or arriving at Beach Ballroom Plaza; the overall masterplan design aims to provide a variety of characters and spatial experiences. The new stadium will be build on the site of the existing cricket ground with the loss of open space.	Apply policy requiring all new developments provide open space	
Water	s the site at risk of flooding?	√ /x	The SEPA Flood Map indicates that site doesn't experience fluvial flooding during the 1:10 year (10%) or 1:200 year (0.5%) return periods. A small area, associated with the low point of Links Road is shown to be at risk of flooding from the Den Burn during the 1:1000 year (0.1%) return period event. The river Don is shown to be prone to flooding during all return period events, but within the vicinity of the Development Framework site the extent of flood water is limited. Pluvial Flooding (Surface Water) No flooding is indicated during the 1:10 year (10%) return period event. Pockets of surface water flooding, associated with existing hard-standings serving the existing buildings and the low point of beach boulevard are indicated for the 1:200 year (0.5%) and 1:1000 year (0.1%) return period events. Coastal Flooding	Undertake a flood risk assessment for the Aberdeen Beachfront area to identify key sources of flooding and	
be	Are there water courses within the site or which would be affected by increased levels of flooding resulting from levelopment of the site?		As above	mitigation measures e.g. development of new coastal flood defences, protection and enhancement of existing natural flood defences e.g. wetlands/ dunes. Ensure that new development complies or betters planning requirements for provision of drainage infrastructure/ SuDS/ blue-green infrastructure. Given the topography of the site and the prevailing ground conditions, it is likely that run-off from the undeveloped parts of the development site drain to the natural water environment through groundwater percolation towards the North Sea. Review drainage capacity and develop new infrastructure if required. Develop management plan, in conjunction with relevant statutory bodies, to minimise impacts on biodiversity. Ensure compliance or enhancement of existing planning requirements for water efficiency in all new developments. Where practicable, minimise hydromorphological changes to reduce impact on natural water processes. The design of the SUDs scheme and green infrastructure will be developed closely with the environmental engineers and landscape architects to ensure that, as well as creating an efficient and sustainable drainage system the landscape quality and opportunity for habitat enhancements in the area form an integral part of the Beachfront Framework. This will be assessed prior to project development stage Drainage Impact Assessments will be required to be submitted with planning application, with provision for SUDS made where appropriate	
be	Are there water courses within the site or which would be affected by increased levels of pollution, or other pressures, from development within the site?	0	site The site forms part of the Aberdeen Beachfront and is separated from the North Sea by	Given the topography of the site and the prevailing ground conditions, it is likely that run-off from the undevelope parts of the development site drain to the natural water environment through groundwater percolation towards th North Sea.	
			The Development Framework surface water management strategy will be based on the	The design of the SUDs scheme and green infrastructure will be developed closely with the environmental engineers and landscape architects to ensure that, as well as creating an efficient and sustainable drainage system	



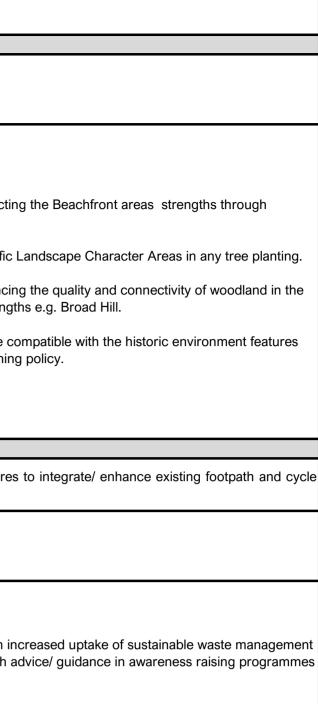
	Are flooding/water & foul drainage issues addressed including in relation to ACC & Scottish Water infrastructure? (Question added at request of SEPA)		phases, may have potential to cause an increase in diffuse source water pollution. Goodson Associates are currently assessing flooding/water & foul drainage issues. This is being assessed taking cognisance of ACC & Scottish Water infrastructure. A combined sewer runs north south through the centre of the site with a number of attributing sewers	Drainage Impact Assessments will be required to be submitted with planning application, with provision for SUDS made where appropriate. Once completed outputs from the Aberdeen Integrated Catchment Study should be considered prior to planning applications to take account of culverted water courses, take a comprehensive approach to flood risk management, surface water management etc.	
	To what extent will the site impact the ecological status of water bodies? (Question added at request of NatureScot)		It is unlikely that there will be impacts on the ecological status of water bodies. The provision of SUDs and blue/green infrastructure has been proposed which will provide opportunities for	Drainage Impact Assessments will be required to be submitted with planning application, with provision for SUDS made where appropriate. Once completed outputs from the Aberdeen Integrated Catchment Study should be considered prior to planning applications to take account of culverted water courses, take a comprehensive approach to flood risk management, surface water management etc.	
Soil	Does the site include areas of vacant or derelict land?	0	The site does not include areas of vacant or derelict land as identified by ACC.		
	Is the site prime agricultural land?	0	The Scotland's Soil Website indicates there is no prime agricultural land within the boundary of the Development Framework area. With respect to land capability considerations the majority of the Development Framework area is identified as having an agricultural capability of 4.1 (Land capable of producing a narrow range of crops, primarily grassland with short arable breaks of forage crops and cereal). Broad Hill comprises area of 5.2 (Land capable of use as improved grassland. Few problems with pasture establishment but may be difficult to maintain.) There is also an area in the north east having an agricultural capability of 6.2 (Land capable of use as rough grazings with moderate quality plants). The remainder is classified as urban.		
	Does the site include carbon rich soil?	0	The Scotland's Soil Website indicates that the majority of the Development Framework area incorporates immature soils with the dominant soil group being regosols formed of windblown sand. The western portion of the Development Framework area does not have an identified classification. The soil is identified as mineral soil with no peatland vegetation.		
 Protect and enhance soil quality and prevent any further degradation of soils Reduce the amount of Vacant and Derelict Land in the Aberdeen Beachfront boundary area. 	To what extent will the site impact soil quality? (Question added at request of NatureScot)	√ /x	was previously used as a rife range and rocket battery. In addition there is made ground and ashy waste.and a gravel pit. The site is located on the edge of an area which has former industrial uses including chemical, gas, iron, rope and granite works. All of these have the potential to leach contaminants into the surrounding areas. Without knowing how contaminated material, if any, was dealt with when the site was first developed, it is not possible to discount the possibility that contaminated material will be encountered on site. Existing features such as car parking areas could contain localised contamination and therefore any made ground encountered should be tested for chemical contaminants and dealt with accordingly. There is some potential for significant negative effects to arise, mainly through increases/ decreases in soil sealing, soil loss and erosion (e.g. building new car parks to accommodate increased visitor numbers), soil compaction (e.g. increased visitor numbers at sensitive areas. Secondary effects of increased uptake of sustainable transport options may result in less requirement for new car parking facilities at key attractions.	Some developments are likely to require remediation of contaminated land to secure development consent. The overall effect is likely to be a net reduction in contaminated areas in the Beachfront area. Additional vegetation cover in the area as a result of tree planting activities may reduce soil erosion. Ensure that development incorporates areas of both hard and soft end uses to minimise the effects of soil sealing. For example, include provision for significant areas of green space to avoid large areas of impermeable ground-cover. Minimise removal of vegetation during development. Additional vegetation cover in the area as a result of tree planting activities, for example, may reduce soil erosion. To reduce soil erosion risk all open spaces should not be left as bare soil through the winter. Use optimal mix of tree planting in any new woodland areas to protect soils. Measures should be in place to ensure that possible contamination from construction will be properly remediated and not affect the quality of the soil. Re-use of soil in local area where practicable.	
Air					
Maintain and improve air quality and reduce emissions of key pollutants.	Is the site easily accessible by the core path network, and provide access to settlements and services? Does the site lie within an area where levels of air pollution are close to current limit values?	✓ S-M-L S-M-L	 Existing pedestrian links in the vicinity of the Esplanade, including the lower promenade, form part of the local Core Path network and are of generous width. Aberdeen City Centre AQMA is located west of the main Development Framework site at the roundabout of Beach Boulevard. Following approval from Scottish Ministers, Aberdeen City Council is introducing a Low Emission Zone (LEZ) in Aberdeen City Centre. The LEZ is an area of Aberdeen City Centre where the driving of vehicles which do not meet the specified emissions standards is prohibited. The aim of the LEZ is to improve air quality within the City Centre Air Quality Management Area (AQMA) to ensure compliance with the Scottish Government's air quality objectives, particularly for the pollutant nitrogen dioxide (NO2). The LEZ came into effect from 30th May 2022 and will operate for 365 days a year, 24 hours a day. A 2-year grace period (during which enforcement of the LEZ will not take place) for both residents and non-residents of the LEZ area and for all non-exempt vehicle types will commence from this date, meaning that enforcement will take place from 1st June 2024. The promotion of sustainable alternatives to car travel within the Beachfront Development Framework, the promotion of energy efficient technology and the implementation of the LEZ demonstrates that the Council is considering an integrated approach to dealing with environmental issues such as climate change, transport, noise, health, and energy etc. 	New development should consider sustainable travel methods and sustainable construction methods in line with LDP transport and air quality policies. This will help mitigate against negative impacts on air quality. Limit provision of new car parking facility where practicable.	
	Would development on the site contribute to higher traffic flows along transport routes or at key junctions where levels of air pollution are close to current limit values	✓	the City Centre Masterplan and associated corridor studies will be applied which extends	Pedestrian and cycling infrastructure to promote active travel. Promote public transport use. Use signage to promote access routes to Beachfront facilities that will minimise city centre air quality issues. The proposed energy strategy can result in energy efficiency and aims to minimise emissions. Limit provision of new car parking facility where practicable.	
	Does the development reduce the need to travel? (Question added at request of SEPA)	√ S-M-L	The Development Framework has an aspiration to grow rates of active travel and to promote effective public transport. Promoting sustainable and active travel is likely to reduce greenhouse gases, thereby having a positive effect on climatic factors and air quality. It will also have a positive effect on health by promoting healthy lifestyles. The current AFC stadium at Pittodrie is around 400m away. Crucially therefore, a new stadium at the Beachfront and the transportation demands associated with stadium events will not be new to the area. For most supporters, their journey to a new stadium at the Beachfront would be relatively unchanged given how close the new stadium would be to Pittodrie. This has significant benefits with respect to disruption caused by infrequent stadium events. There will generally be no net detriment to the surrounding area.		



	Does the location of the development reduce the need to travel?	S-M-L	Increased jobs, recreational/leisure facilities, commercial, football stadium etc. has potential to result in increased GHG emissions (both through increased car use and energy use). However, the core principles of the Beachfront Development Framework are to improve access and connectivity between the Beachfront and City Centre; Transport studies are ongoing to ensure infrastructure, including traffic management reduces the impact of the existing road network and promotes alternative forms of travel, including walking and cycling, whilst improving the public realm which is a key consideration of the Development Framework.			
	Is the site at risk of increased flooding or instability as a result of climate change?	? M-L	rise of 0.87 m in the North-East river basin region by 2100, based on UKCP18 outputs. Proposals in the beach and esplanade area are therefore being developed in partnership /consultation with ACC Operations / Coastal / Flooding Teams.			
	Does the framework promote efficient use of energy?	√√ S-M-L	The Beachfront Development Framework assumes that the existing leisure centre and ice arena are demolished and could be replaced with a new facility that integrates leisure centre, ice arena, and football stadium uses as part of the development. Opportunities for renewable energy provision and low/zero carbon technologies are being explored during the development of the Beachfront Development Framework. This may include small scale renewables/ micro generation and the identification of sites for local energy generation.	Ensure that there are options to reduce the need to travel. A proposed energy strategy which results in energy efficiency and minimises GHG emission is to be at the heart of the design and decision making process. All new buildings must install low and zero carbon generating technologies to reduce the predicted carbon generating technologies to reduce the predicted carbon dioxide emissions. LDP Policy encourages waste minimisation and sustainable and active travel. Encourage facilities to develop a 'Travel Plan/ Sustainable Urban Mobility Plan' for their employees and visitors. Ensure that new and refurbished facilities are within walking distance of public transport options (bus, rail or both). Promote/ develop sustainable transport options for accessing new facilities. Limit provision of new car parking facilities where practicable. Flood Risk Assessments and Drainage Impact Assessments will be required, along with provision of SUDS where	The Energy Strategy has the potential to identify enhancement opportun	
	Does the framework promote efficient use of water?	?	At this stage it is too early to assess the water demand for the Beach Ballroom, leisure, ice arena and Stadium facilities. It is reasonable to assume that the service provided to the existing would meet most of the demand and a new connection is likely to be local, however a Predevelopment/ Water impact assessment would need to be carried out to determine if infrastructure upgrades are required and identify the likely connection point on to the existing Scottish Water Network.			
 Reduce emissions of greenhouses in line with Scottish Government targets. Promote active travel and sustainable transport. Reduce risks from climate change problems in the Aberdeen City Council area include increased flood risk of coastal and fluvial sources. Promote renewable energy sources. 	Does the framework increase resilience of people, material assets and natural environment	√√ S-M-L	Architectural interventions are proposed to adopt some Passivhaus style construction principles such as super insulated building envelopes, high performance glazing and mechanical ventilation with heat recovery. They will also potentially feature the use of smart controls, an off-site sourced 'green electricity' supply and some on-site renewable technologies including Photovoltaic Panels with associated battery storage. Distribution of heating & cooling is potentially via an Ambient Loop system with water-to-water heat pumps connected to terminal units throughout. For added resilience back up heating & power could be sourced from the existing Aberdeen Heat & Power District Heating System which it is anticipated will switch to a green bydrogen fuel source in the future.			
	Does the framework include mitigation and adaptation measures in light of a changing climate and local environment? (Question added at request of SEPA).		demands could be significant and critical to function. Consideration should therefore be given to added robustness and security of energy supplies so the energy centre solution should incorporate a degree of redundancy and back-up. This integrates smoothly with renewables-			
	Does the framework seek to protect, create or enhance natural resources for carbon capture? (Question added at request of SEPA)	∽ S-M-L	The Beachfront Development Framework indicates that tree/ woodland planting is proposed throughout the site. The Core Play Park, for example, will be enclosed to some degree by landform/tree planting to help create a suitable micro-climate and provide a comfortable year-round space. The planting regime for the Development Framework area has yet to be determined, however the Woodland trust suggest a young wood with mixed native species can lock up 400+ tonnes carbon per hectare.			
	To what extent will the site promote nature-based solution provision? (Question added at request of NatureScot)	√ S-M-L	As above			
	Does the framework increase the resilience of people, infrastructure and the natural environment to the impacts of climate change (including flood risk, extreme weather, heat and cold)? (Question added at request of SEPA)	, √ /×	Futureproofing is a key consideration of the Beachfront Development Framework. The energy centre solution will need to meet the requirements of Aberdeen City Council Climate Change Plan 2021-25: Towards a Net Zero and Climate Resilient Council. The Plan sets out the approach, pathway, and actions towards net zero and climate resilient Council assets and operations, by 2045. As such, energy-efficient designs will be incorporated alongside renewable and low carbon energy sources, with consideration provided on how further decarbonisation could be achieved in the future. There will be a carbon impact from renovation of existing buildings. Fundamental design decisions—such as new construction versus upgrading, building size and shape, level of insulation, and floor-space flexibility—can have a significant impact on emissions for decades to come. Note- there are existing connections to district heating for the beach leisure centre and ice rink			
Cultural Heritage						
Protect, conserve and enhance the historic environment.	Would development impact on the integrity of sites, monuments, buildings or areas designated for their cultural heritage value?		 development may result in negative effects on previously unknown archaeological features. Central to the Beachfront Development framework is the sympathetic restoration of the Beach Ballroom which has the potential to enhance heritage in the area. A cultural heritage assessment will be undertaken of the wider development framework area to identify cultural heritage assets. The design principles indicate that heritage will be protected, and people's understanding and enjoyment of it enhanced through the new developments. However, there will inevitably be 	Raise awareness of the areas heritage to encourage ownership/ sense of place. Ensure that improvements to surroundings are in-fitting with local Landscape Character Types, the areas natural and cultural heritage and in compliance with national and local planning policy. Develop design briefs, in conjunction with Aberdeen City Council and Historic Environment Scotland to provide developers with clear guidelines on approach to development, ensuring that site and setting of cultural heritage is protected. Prior to commencement of work, discussions will take place with Aberdeen City Council's Archaeological service to determine whether the ground breaking locations require any mitigation	Ensure that improvements to surroundings are compatible with the h and are compliant with national and local planning policy.	
	Would development impact on the setting of sites, monuments, buildings or areas designated for their cultural heritage value?		A review of publicly available information indicates there would be no impact on known assets. Cultural Heritage and Historic Environment could be considered within a supporting study to be submitted as part of the planning application.			

al to identify enhancement opportunities as it develops.
undings are compatible with the historic environment features ocal planning policy.

	Would development within the site impact on archaeological remains?	?	Potential impact on Cultural Heritage and Historic Environment could be considered within a supporting study to be submitted as part of the planning application.		
Landscape	archaeologicarremains?		supporting study to be submitted as part of the planning application.		
	To what extent will the site impact landscape designations? (Question amended at request of NatureScot)	O	The Site is not covered by any national landscape planning designations associated with its scenic or historic character. Nor does the Site contain a Garden and Designed Landscape ("GDL") or locally designated Special Landscape Area ("SLA"). The Beach Ballroom (category B listed) is the sole listed structure within the Site.		
Protect and enhance landscape character, local distinctiveness, visual amenity and promote access to the wider environment.	To what extent will the site impact settlement setting and identity? (Question amended at request of NatureScot)	√/x	There will be a permanent change to the landform in the area as a result of the Development Framework proposals. Coastal developments may cause significant visual impact. The longer- term landscape impacts will be determined by the nature, scale and extent of development submitted as part of future planning applications. There will, however, also be enhancement of existing habitats and creation of open spaces	- Mitigation seeks first to avoid adverse impacts and where impacts are unavoidable to reduce the significance of residual effects to an acceptable level. It also seeks enhancement and compensation where possible to provide the best practicable option. Potential landscape and visual mitigation measures include:	Identify opportunities for enhancing and protecting sensitive new and re-development.
	To what extent will the site impact on visual amenity and key views (Question amended at request of NatureScot)	√/×	There will be an overall impact on visual amenity which will range from disturbance of an already changing urban environment, enhancement of existing habitats and creation of open spaces within the development framework area.	• Promote sympathetic design principles and ensure siting of development fully recognises the sensitivity of the landscape. Use tree planting of mixed native species to mitigate potential negative landscape effects. Consider	Use mixed native species appropriate to specific La
	To what extent will the site impact on landscape character? (Question added at request of NatureScot)	√ /x	 Construction Phase Short term, temporary effects on landscape features (grassland, trees and hedgerows), landscape character and visual amenity. Operational Phase Long term, permanent effects on landscape features (grassland, trees and hedgerows), landscape character and visual amenity. 	 using urban park project to increase viability and connectivity of key existing habitats I Planting and open space provision within the proposed development (and wider Development Framework) will limit adverse effects arising from the introduction of additional built form within the Site. I Consideration of built development scale, form and orientation in order to reduce or remove effects. 	Identify opportunities for protecting and enhancing area, particularly where there are existing strengths Ensure that improvements to surroundings are com and are compliant with national and local planning p
			There will also be enhancement of existing habitats and creation of open spaces within the development framework area.		
Material Assets					•
	Is the site located close to existing transport, services, water and energy infrastructure?	✓ S-M-L	The site is reduced croce to existing transport, services, water and energy initiation details.	Promote active travel to reduce emissions which can affect the population with health problems. Develop promotional material for the facilities on site promoting the health and environmental benefits of using sustainable transport modes to access them e.g. walk, bike. bus, train	p Ensure that development incorporates measures to network.
 Promote the sustainable use of community assets, natural resources and material assets. Promote quality urban design. Promote sustainable waste management and the circular economy 	Is the site located to make best use of shelter, solar gain and reduce the need to travel?	Imp	The Beachfront Development Framework is subject to a coherent overarching strategy for the area which includes aims and proposals to reduce travel. Further work is required to determine the best use of shelter and solar gain which would be dependent upon development layout.	Determine the best use of shelter and solar gain which would be dependent upon development layout.	
	Does the site reduce waste generation and promote waste recovery, recycling and composting?	√ / ×	There will be a carbon impact from demolition of existing buildings. Waste from the development would be directed to the local Material Energy Recycling Facility.	Potential for significant positive effects through increased uptake of sustainable waste management practices developed through advice/ guidance in awareness raising programmes. Promote Site Waste Manageent Plans during construction New development will be required to provide sufficient space for the storage of general waste, recyclable materials and compostable wastes where appropriate.	Potential for significant positive effects through incre practices/ circular economy developed through adv
Summary score	•				
Overall, the proposals are likely to have a similar en uncertain and/ or neutral.	ffect on the environment as the Preferred Option, with gene	rally positive e	effects. There are areas of potentially positive effects in relation to population and human health	n, biodiversity, water, soil, air, cultural heritage climatic factors, material assets, and soil. There is potential for significa	ant negative effects, mainly related to water, soil, land



, landscape and material assets. Other effects are

Key	
√ √	Major positive effect
✓	Positive effect
0	Neutral effect
×	Negative effect
××	Major negative effect
√√/x √/×× etc.	Mixed effect
?	Uncertain effect
S	Short term effect
М	Medium term effect
L	Long term effect
Imp	Effect will depend on how the Beachfront Development Framework is implemented

A 14 a ative Option A Batain nd refurbich existing loisu (football stadie ntra ia

SEA Objective(s)	Questions	Score	Comments	Mitigation	Enhancement
odiversity, flora and fauna					
	Does the site impact on designated sites?	0	A preliminary ecological survey undertaken in April 2022 indicates that there are no designated sites are located within the site boundary. The Ythan Estuary, Sands of Forvie and Meikle Loch Special Protection Area (SPA) is located 100m to the east of the site. The River Dee Special Area of Conservation is located 1.5km south of the site.		
	Does the site impact on priority habitats or species?	√ S-M-L	Beachfront Development Framework activities have potential to result in disturbance impacts on biodiversity during both construction and operational phases. A preliminary ecological survey undertaken in April 2022 does not predict impacts to priority habitats. An outlier badger sett with two entrances was identified during the ecological survey (location is confidential). The Beachfront Development Framework aims to protect this area from future development.	The area with the badger set is not earmarked for development and will be retained.	 Opportunities for Biodiversity Gain The following general enhancement measures have b level of available site information: It is recommended that future landscaping of the sigreen infrastructure and encourage long term habita comply with Aberdeen City Policy NE1 – Green Sp Heritage . Additional planting of trees throughout th further enhance this commuting and foraging resou within the locale. Sourcing trees (seeds and plants also
	To what extent will the site promote green network provision and habitat connectivity? (Question amended	√ S-M-L	The development framework seeks to retains habitat to the west at Broad Hill, and habitat creation will be encouraged where development is proposed to ensure connectivity. Broad Hill is one of the most biodiverse parts of the Development Framework area, however the aim will be to further look for ecological enhancements through additional tree planting especially along the	 The following good practice mitigation is recommended based on the current level of available site information: Retention and protection of woodland, grassland, scattered trees, scrub and beach habitats wherever possible to maintain existing ecological connectivity to the wider landscape and to retain important habitat features. Suitable tree root protection areas should be determined and fenced off prior to any work 	the best biodiversity outcome. • The creation of species rich grasslands or flower pollinators, improve insect biodiversity on the site and Aberdeen City Policy NE1 – Green Space Network, N Open Space Provision in New Development. See
	at request of NatureScot)	3-M-L	leeward side of the hill, expanding the pine woodland, grassland management and providing a nature led stabilisation program for the steeper eroding east slopes. This enhancement of the ecological resource will offer a key biodiverse catalyst and generator for the rest of the Development Framework area and the creation of wider green networks.	 commencing. Compensatory planting should be provided where areas of woodland and scattered trees are remove to facilitate development. Buddleja is widely planted across the UK and is a favoured nectar source for many pollinator specie known as the 'Butterfly Bush'. However, Buddleja is a vigorously growing plant which can form dense stands that can eliminate other plants and can also damage structural integrity of buildings. Buddleja is 	 The SBL has identified over 400 terrestrial inverte conservation action. Suitable enhancement meass invertebrate mounds, to comply with Aberdeen City Po The planting of berry producing shrubs and trees commuting and pesting opportunities within the sites.
	To what extent will the site impact wider biodiversity? (Question added at request of NatureScot)	✓ S-M-L	The Beachfront Development Framework indicates that areas of woodland and various habitats will be retained and enhanced. The football stadium will be a relocation from the existing Pittodrie Stadium and will be constructed on the existing cricket ground. The existing leisure centre and ice arena will retained and refurbished. A preliminary ecological survey undertaken in April 2022 does not predict impacts to priority habitats.	 not listed among the wild invasive non-native plants listed on Schedule 9 of the Wildlife and Countryside Act, however for any INNS, controlling and stopping the spread is the advised strategy to implement. Therefore, a management plan for the control of Buddleja should be devised. It would be advisable to avoid further planting of non-native species as native species benefit the nativ wildlife more and are complementary with the natural surroundings. A pre-works check of the site for protected species should be completed prior to any site works, by suitably qualified ecologist or ECoW. 	 Woodlands . Suggested species include: Hawthorn (<i>Crategus monogyna</i>) Blackthorn (<i>Prunus spinosa</i>) Holly (<i>Ilex aquifolium</i>)
Protect or conserve and, where possible, restore and enhance biodiversity and valued nature conservation habitats and species	To what extent will the site enhance biodiversity? (added - NatureScot response)	¥ S-M-L	The Beachfront Development Framework aims to preserve natural habitat and promote biodiversity as a key aim. Habitats and species described in the baseline ecological survey undertaken in April 2022 are likely to be enhanced, with the creation of habitats associated with blue/green infrastructure, planting and improved connectivity. The new football stadium is to be located on the cricket pitch with which is of low ecological value. Existing leisure centre, ice arena and Beach Ballroom are to be retained and refurbished. The proposed boardwalk structure extends out to the North Sea a short distance as will the slipway which provides access to the Beachfront below the Esplanade. Coastal natural heritage is likely to be subject to protection and enhancement measures through improvements to natural flood defence capacity and promotion of environmental education and "green tourism"/ recreational opportunities. Neither of the two structures encroach upon the boundary of The Ythan Estuary, Sands of Forvie and Meikle Loch Special Protection Area (SPA) which is located 100m to the east of the site, or The River Dee Special Area of Conservation (SAC) located 1.5km south of the site.	 suitably qualified ecologist or ECoW. All contractors should be made aware of the presence of protected species on site and in the wide landscape via a tool box talk (i.e. bats, otter, badger, red squirrel, hedgehog, birds and marine mammals). Any vegetation clearance should be scheduled to occur outside of the nesting bird season when possible (March to August inclusive). Where vegetation removal cannot be completed outside of the nesting bird season, a nesting bird sare found then a suitable exclusion zone will be set up to avoid nest destruction and disturbance. A watching brief and /or fingertip search will need to be undertaken before any works commence, scrub habitats require removal during hedgehog hibernation period (October-April). Maximum 15mph speed restriction to avoid RTAs with protected species which may be present in thare ashould be implemented during and post works. Measures should be in place to preserve water quality and prevent pollution of North Sea followin SEPA Guidelines for Pollution Prevention (GPPs). Any works causing high levels of noise or vibration should be limited to daylight hours to reduce disturbance nocturnal or diurnal species. Works should be monitored to confirm that they are empty prior to removal under the audit of the project ecologist and should be undertaken out with any sensitive time period (i.e. during breeding season – March-July inclusive) if required. Should rabbit warrens and burrows require removal, this should be undertaken under the audit of the project ecologist and should be dusdraken out with any sensitive time period (i.e. during breeding season – March-July inclusive) if required. Any excavations created during works should not be left open for mammals to climb out. Any excavations created during works should not be left open for mammals to climb out. Any excavations created during works should not be left open for mammals to climb out.<!--</td--><td> Rowan (Sorbus aucuparia) Scot's pine (Pinus sylvestris) To offer increased roosting and nesting opportuniti bird boxes are recommended to be installed on tree Aberdeen City Policy NE8 – Natural Heritage. Green roofs could be incorporated to improve storr for birds and bats on any buildings associated with th be found here: https://www.rspb.org.uk/bird birds/roofs-for-wildlife/green-roofs/ </td>	 Rowan (Sorbus aucuparia) Scot's pine (Pinus sylvestris) To offer increased roosting and nesting opportuniti bird boxes are recommended to be installed on tree Aberdeen City Policy NE8 – Natural Heritage. Green roofs could be incorporated to improve storr for birds and bats on any buildings associated with th be found here: https://www.rspb.org.uk/bird birds/roofs-for-wildlife/green-roofs/

e been recommended based on the current

e site seeks to maintain and enhance existin pitat connectivity to the wider landscape to Space Network and Policy NE8 – Natural the sites and along the boundaries would source, for bats, badger, otter and squirrel also) of local provenance is key to achieving

ver meadows is recommended to encourag e and enhance connectivity to comply with k, NE3 Urban Greenspace and Policy NE4 – Seed mixes should include native plants

vertebrate species in the UK as priorities for neasures include creating log piles and y Policy NE8 – Natural Heritage.

rees is recommended to provide a sheltere sites and food source for birds and mammals with Aberdeen City Policy NE5 – Trees and

unities for bats and birds, a variety of bat ar trees and existing buildings to comply with

storm water management and provide habita h the development. Further information can /birds-and-wildlife/advice/how-you-can-help-

	To what extent will the site connect to the local path network? (Question amended at request of NatureScot)	✓	There Development Framework promotes a hierarchical network of foo extending down from Beach Boulevard and opening up towards the hea framework has the potential to improve human health and community w range of outdoor and recreational attractions and encourage physical a The promotion of sustainable alternative modes of transport also suppor centre Low Emission Zone.
 Improve human health and community wellbeing, while promoting a range of outdoor and recreational attractions. Encourage physical activity. Creation of community facilities. 	How does the site relate to areas with high SIMD?	√ S-M-L	The Development Framework area is located partly within Seaton (north deprived 20% data zones in Aberdeen City. The southern area of the D located in Hanover South. As such the Framework has the potential to a The Development Framework proposals will provide potential long term for the area that will arise through the provision of high-quality amenitie stadium within 500m of the existing stadium retaining economic activity area. The development principle is to develop a world class sport, leisure and would revitalise the Beachfront area and reconnect it to the city centre. The health benefits associated with physical activity are actively suppor Development Framework. The refurbishment of the ice arena is based on a light touch refresh foce replacement of seats, fixtures and fittings, and dealing with outstanding fabric and building services installations. This will not therefore be a new Preferred Option. The refurbishment of the existing leisure centre is based on work alread Aberdeen with the aim of improving the condition and utilisation of the for provide new revenue streams and to create a destination venue. This we facility as compared to Preferred Option. Benefits will potentially include the provision of employment and commutarnsport links and environmental improvements. This will ensure the key community are looked at holistically. The proposed new stadium would provide a new stand alone home for stadium would seek to support the local, national, and international stra Trust are involved with that address the importance of increasing physic such as poverty, inequalities, and wellbeing.
	To what extent will the site impact access to open space? (Question amended at request of NatureScot)	√ S-M-L	Development would lead to the loss of open space. Open space is a key consideration of Option 1 and will be retained whe reconfiguration of the Development Framework area will result in a reor provision within the masterplan area. These spaces have been develop different characters and opportunities for people to enjoy the site. Whet promenade surrounded the proposed dune landforms, a visit play park Ballroom Plaza; the overall masterplan design aims to provide a variety experiences. The new stand alone stadium will be build on the site of the existing cric open space., while the leisure, ice arena and Beach Ballroom will all be
Water			
	Is the site at risk of flooding?	√/x	Fluvial Flooding (River) The SEPA Flood Map indicates that site doesn't experience fluvial flood or 1:200 year (0.5%) return periods. A small area, associated with the lot to be at risk of flooding from the Den Burn during the 1:1000 year (0.19 The river Don is shown to be prone to flooding during all return period of the Development Framework site the extent of flood water is limited. Pluvial Flooding (Surface Water) No flooding is indicated during the 1:10 year (10%) return period event. Pockets of surface water flooding, associated with existing hard-standin buildings and the low point of beach boulevard are indicated for the 1:2 year (0.1%) return period events. Coastal Flooding Review of the SEPA Flood Maps shows that areas of coastal flood risk Esplanade seawall, with no coastal flood risk shown for the proposed be
	Are there water courses within the site or which would be affected by increased levels of flooding resulting from development of the site?		As above

	•	
Framework promotes a hierarchical network of footpaths and desire routes, Beach Boulevard and opening up towards the heart of the Masterplan. The otential to improve human health and community wellbeing, while promoting a recreational attractions and encourage physical activity. tainable alternative modes of transport also support the health goals of the city Zone.	Promote outdoor recreation utilising new facilities and ensure that development increases opportunities are for people of all ages, backgrounds and abilities to participate. Promote active travel to reduce emissions which can affect the population with health problems.	
amework area is located partly within Seaton (north) which is one of the most ones in Aberdeen City. The southern area of the Development Framework is outh. As such the Framework has the potential to meet all SEA objectives. amework proposals will provide potential long term significant economic benefits the provision of high-quality amenities and relocation of the Football of the existing stadium retaining economic activity within the city centre./ local heciple is to develop a world class sport, leisure and tourism destination which eachfront area and reconnect it to the city centre. ssociated with physical activity are actively supported by the Beachfront vork. the ice arena is based on a light touch refresh focusing on redecoration, fixtures and fittings, and dealing with outstanding maintenance to the building ervices installations. This will not therefore be a new facility as compared to the the existing leisure centre is based on work already undertaken by Sport m of improving the condition and utilisation of the facility, to increase participation, streams and to create a destination venue. This will not therefore be a new o Preferred Option. ly include the provision of employment and community facilities, integrated twironmental improvements. This will ensure the key elements of a sustainable d at holistically. adium would provide a new stand alone home for Aberdeen Football Club. The o support the local, national, and international strategies that the Aberdeen FC th that address the importance of increasing physical activity, and tackling issues jualities, and wellbeing. lopment Framework also locates the 16,000 seater stadium in the city, close to its aintains its heritage where it can also benefit city centre businesses.		Raise awareness of the health benefits of outdoor re new activities. Ensure that development incorporate footpath and cycle network. Ensure that potential C recreation/ exercise opportunities to suit a range of p ages.
ead to the loss of open space. consideration of Option 1 and will be retained where practicable. The proposed a Development Framework area will result in a reorganisation of the open space hasterplan area. These spaces have been developed with the aim of creating and opportunities for people to enjoy the site. Whether this be a walking along the ed the proposed dune landforms, a visit play park or arriving at the Beach verall masterplan design aims to provide a variety of characters and spatial stadium will be build on the site of the existing cricket ground with the loss of e leisure, ice arena and Beach Ballroom will all be refurbished.	Apply policy requiring all new development provide open space	
 rer) indicates that site doesn't experience fluvial flooding during the 1:10 year (10%) return periods. A small area, associated with the low point of Links Road is shown g from the Den Burn during the 1:1000 year (0.1%) return period event. within the vicinity of mework site the extent of flood water is limited. rface Water) ed during the 1:10 year (10%) return period event. ater flooding, associated with existing hard-standings serving the existing point of beach boulevard are indicated for the 1:200 year (0.5%) and 1:1000 rid events. Clood Maps shows that areas of coastal flood risk are located east of the ith no coastal flood risk shown for the proposed beachfront development area. 	Earthworks, temporary bunding or material stockpiles may alter runoff, hydrology or morphology of water features resulting in changes to flood risk or habitats; and New drainage systems, temporary or permanent, may alter runoff, hydrology or morphology of water features resulting in changes to flood risk or habitats. Changes in volume and rate of surface runoff from impermeable surfaces such as roots, car parking areas and access roads may effect flow characteristics resulting in changes to flood risk. Changes to the permeability of surface cover may impact on the underlying hydraulic regime and groundwater recharge Surface drainage schemes may alter the flow characteristics of nearby watercourses and flooding characteristics Review national planning policy on flooding and specific ACC Local Plan policy on flooding. Undertake a flood risk assessment for the Aberdeen Beachfront area to identify key sources of flooding and mitigation measures e.g. development of new coastal flood defences, protection and enhancement of existing natural flood defences e.g. wetlands' dunes. Ensure that new development complies or betters planning requirements for provision of drainage infrastructure/ SuDS/ blue-green infrastructure. Given the topography of the site and the prevailing ground conditions, it is likely that run-off from the undeveloped parts of the development site drain to the natural water environment through groundwater percolation towards the North Sea. Review drainage capacity and develop new infrastructure if required. Develop management plan, in conjunction with relevant statutory bodies, to minimise impacts on biodiversity. Ensure compliance or enhancement of existing planning requirements for water efficiency in all new developments. Where practicable, minimise hydromorphological changes to reduce impact on natural water processes. The design of the SUDs scheme and green infrastructure will be developed closely with the environmental engineers and landscape architects to ensure that, as well as creating an eff	

recreation and exercise to increase uptake of ates measures to integrate/ enhance existing I Coastal Projects feature a range of outdoor of participants of all backgrounds, abilities and

	Are there water courses within the site or which would be affected by increased levels of pollution, or other pressures, from development within the site?	0	There are no natural surface water features within the proposed development boundary, the nearest watercourse being the River Don – which lies approximately 2km to the north of the site The site forms part of the Aberdeen Beach Front and is separated from the North Sea by the Esplanade. Consequently, it forms part of the catchment of the River Don/North Sea Confluence.	Given the topography of the site and the prevailing ground conditions, it is likely that run-off from the undeveloped parts of the development site drain to the natural water environment through groundwater percolation towards the North Sea.	
	Are there opportunities to improve the status of water courses?	√ S-M-L	The Development Framework surface water management strategy will be based on the principles of Sustainable Urban Drainage Systems (SUDs) and blue/green infrastructure to incorporate best management practices for the treatment of surface water.	Review drainage capacity and develop new infrastructure if required. Develop management plan, in conjunction with relevant statutory bodies, to minimise impacts on biodiversity. Ensure compliance or enhancement of existing planning requirements for water efficiency in all new developments. Where practicable, minimise hydromorphological changes to reduce impact on natural water processes. The design of the SUDs scheme and green infrastructure will be developed closely with the environmental engineers and landscape architects to ensure that, as well as creating an efficient and sustainable drainage system, the landscape quality and opportunity for habitat enhancements in the area form an integral part of the Beachfront Development Framework.	
	Will the Beachfront Development Framework increase geomorphology and morphological erosion pressures.	?	It is unknown if the proposed boardwalk and slipway will increase geomorphology and morphological erosion pressures.	Potential impacts on geomorphology and morphology will be assessed once detailed information becomes available.	
	Are flooding/water & foul drainage issues addressed including in relation to ACC & Scottish Water infrastructure? (Question added at request of SEPA)		Beachfront Development Framework activities, during construction and operational phases, may have potential to cause an increase in diffuse source water pollution. Goodson Associates are currently assessing flooding/water & foul drainage issues. This is being assessed taking cognisance of ACC & Scottish Water infrastructure. A combined sewer runs north	Drainage Impact Assessments will be required to be submitted with planning application, with provision for SUDS made where appropriate. Once completed outputs from the Aberdeen Integrated Catchment Study should be considered prior to planning applications to take account of culverted water courses, take a comprehensive approach to flood risk management, surface water management etc.	
	To what extent will the site impact the ecological status of water bodies? (Question added at request of NatureScot)	√ S-M-L	It is unlikely that there will be impacts on the ecological status of water bodies. The provision of SUDs	Drainage Impact Assessments will be required to be submitted with planning application, with provision for SUDS made where appropriate. Once completed outputs from the Aberdeen Integrated Catchment Study should be considered prior to planning applications to take account of culverted water courses, take a comprehensive approach to flood risk management, surface water management etc.	
Soil	Deep the site include cross of vecent or derelist land?	0	The site dass not include areas of vecent or derelist land as identified by ACC		
 Protect and enhance soil quality and prevent any further degradation of soils. Reduce the amount of Vacant and Derelict Land in the Aberdeen Beachfront boundary area. 	Does the site include areas of vacant or derelict land? Is the site prime agricultural land?	0	The site does not include areas of vacant or derelict land as identified by ACC. There is no prime agricultural land within the boundary of the Development Framework area. With respect to land capability considerations the majority of the Development Framework area is identified as having an agricultural capability of 4.1 (Land capable of producing a narrow range of crops, primarily grassland with short arable breaks of forage crops and cereal). Broad Hill comprises area of 5.2 (Land capable of use as improved grassland. Few problems with pasture establishment but may be difficult to maintain.) There is also an area in the north east having an agricultural capability of 6.2 (Land capable of use as rough grazings with moderate quality plants). The remainder is classified as		
	Does the site include carbon rich soil?	0	urban.The Scotland's Soil Website indicates that the majority of the Development Framework areaincorporates immature soils with the dominant soil group being regosols formed of windblown sand.The western portion of the Development Framework area does not have an identified classification.The soil is identified as mineral soil with no peatland vegetation.		
	To what extent will the site impact soil quality? (Question added at request of NatureScot)	√/x	With reference to the Engineering Site Appraisal prepared by Goodson Associates, the site was previously used as a rifle range and rocket battery. In addition there is made ground and ashy waste and a gravel pit. The site is located on the edge of an area which has former industrial uses including chemical, gas, iron, rope and granite works. All of these have the potential to leach contaminants into the surrounding areas. Without knowing how contaminated material, if any, was dealt with when the site was first developed, it is not possible to discount the possibility that contaminated material will be encountered on site. Existing features such as car parking areas could contain localised contamination and therefore any made ground encountered should be tested for chemical contaminants and dealt with accordingly.	To reduce soil erosion risk all open spaces should not be left as bare soil through the winter.	
	Is the site easily accessible by the core path network,	v	Existing pedestrian links in the vicinity of the Esplanade, including the lower promenade, form part of		
	and provide access to settlements and services? Does the site lie within an area where levels of air pollution are close to current limit values?	S-M-L ✓ S-M-L	The promotion of sustainable alternatives to car travel within the Beachfront Development Framework, the promotion of energy efficient technology and the implementation of the LEZ demonstrates that the Council is considering an integrated approach to dealing with environmental issues such as climate change, transport, noise, health, and energy etc.	New development should consider sustainable travel methods and sustainable construction methods in line with LDP transport and air quality policies. This will help mitigate against negative impacts on air quality.	

✓M-L .M-L .M-L .M-L	The Development Framework has an aspiration to grow rates public transport. Promoting sustainable and active travel is lik having a positive effect on climatic factors and air quality. It was promoting healthy lifestyles. The current AFC stadium at Pittodrie is around 400m away. Or Beachfront and the transportation demands associated with a For most supporters, their journey to a new stadium at the Be given how close the new stadium would be to Pittodrie. This disruption caused by infrequent stadium events. There will ge surrounding area. Increased jobs, recreational/leisure facilities, commercial, for increased GHG emissions (both through increased car use a principles of the Beachfront Development Framework are to the Beachfront and City Centre. Transport studies are ongoing to ensure infrastructure, inclue impact of the existing road network and promotes alternative cycling, whilst improving the public realm which is a key constant of the existing road network and promotes alternative cycling. Whilst improving the public realm which is a key constant of the SEPA climate change guidance, future climate 0.87 m in the North-East river basin region by 2100, based on beach and esplanade area are therefore being developed in Operations / Coastal / Flooding Teams. Alternative Option A includes restoration of the Beach Ballroo The refurbishment of the ice arena is based on a light touch is fabric and building services installations. The proposals do not and ice arena to share reception, management offices and for The refurbishment of the existing leisure centre is based on the Aberdeen with the aim of improving the condition and utilisat provide new revenue streams and to create a destination ver The restoration proposals could be less energy efficient than within the buildings. At this stage it is too early to assess the water demand for the facilities. It is reasonable to assume that the service provided demand and a new connection is likely to be local, however a seseesment would need to be carried out to de
✓ -M-L ? VI-L -M-L ? ? ·M-L ? , , , , , , , , , , , , , , , , , ,	increased GHG emissions (both through increased car use a principles of the Beachfront Development Framework are to the Beachfront and City Centre. Transport studies are ongoing to ensure infrastructure, inclu- impact of the existing road network and promotes alternative cycling, whilst improving the public realm which is a key con- As outlined in SEPA climate change guidance, future climate 0.87 m in the North-East river basin region by 2100, based o beach and esplanade area are therefore being developed in Operations / Coastal / Flooding Teams. Alternative Option A includes restoration of the Beach Ballro The refurbishment of the ice arena is based on a light touch replacement of seats, fixtures and fittings, and dealing with o fabric and building services installations. The proposals do n and ice arena to share reception, management offices and for The refurbishment of the existing leisure centre is based on y Aberdeen with the aim of improving the condition and utilisat provide new revenue streams and to create a destination ver The restoration proposals could be less energy efficient than within the buildings. At this stage it is too early to assess the water demand for th facilities. It is reasonable to assume that the service provided demand and a new connection is likely to be local, however a
✓ -M-L ? VI-L -M-L ? ? ·M-L ? , , , , , , , , , , , , , , , , , ,	increased GHG emissions (both through increased car use a principles of the Beachfront Development Framework are to the Beachfront and City Centre. Transport studies are ongoing to ensure infrastructure, inclu- impact of the existing road network and promotes alternative cycling, whilst improving the public realm which is a key con- As outlined in SEPA climate change guidance, future climate 0.87 m in the North-East river basin region by 2100, based o beach and esplanade area are therefore being developed in Operations / Coastal / Flooding Teams. Alternative Option A includes restoration of the Beach Ballro The refurbishment of the ice arena is based on a light touch replacement of seats, fixtures and fittings, and dealing with o fabric and building services installations. The proposals do n and ice arena to share reception, management offices and for The refurbishment of the existing leisure centre is based on y Aberdeen with the aim of improving the condition and utilisat provide new revenue streams and to create a destination ver The restoration proposals could be less energy efficient than within the buildings. At this stage it is too early to assess the water demand for th facilities. It is reasonable to assume that the service provided demand and a new connection is likely to be local, however a
? (VI-L b (/ / / / / / / / / / / / /	0.87 m in the North-East river basin region by 2100, based or beach and esplanade area are therefore being developed in Operations / Coastal / Flooding Teams. Alternative Option A includes restoration of the Beach Ballrow The refurbishment of the ice arena is based on a light touch replacement of seats, fixtures and fittings, and dealing with or fabric and building services installations. The proposals do not and ice arena to share reception, management offices and for The refurbishment of the existing leisure centre is based on a Aberdeen with the aim of improving the condition and utilisate provide new revenue streams and to create a destination ver The restoration proposals could be less energy efficient than within the buildings. At this stage it is too early to assess the water demand for the facilities. It is reasonable to assume that the service provided demand and a new connection is likely to be local, however a service of the service is based on the service of the service is based to be local.
✓ a -M-L 7 6 7 6 6 6 6 7 6 6 6 6 6 7 7 6 6 6 7 7 6 6 7 7 6 6 7 7 6 6 7 7 6 6 7 7 6 7 7 6 7 </td <td>The refurbishment of the ice arena is based on a light touch replacement of seats, fixtures and fittings, and dealing with o fabric and building services installations. The proposals do n and ice arena to share reception, management offices and fo The refurbishment of the existing leisure centre is based on Aberdeen with the aim of improving the condition and utilisat provide new revenue streams and to create a destination ver The restoration proposals could be less energy efficient than within the buildings. At this stage it is too early to assess the water demand for th facilities. It is reasonable to assume that the service provide demand and a new connection is likely to be local, however</td>	The refurbishment of the ice arena is based on a light touch replacement of seats, fixtures and fittings, and dealing with o fabric and building services installations. The proposals do n and ice arena to share reception, management offices and fo The refurbishment of the existing leisure centre is based on Aberdeen with the aim of improving the condition and utilisat provide new revenue streams and to create a destination ver The restoration proposals could be less energy efficient than within the buildings. At this stage it is too early to assess the water demand for th facilities. It is reasonable to assume that the service provide demand and a new connection is likely to be local, however
f ? c	facilities. It is reasonable to assume that the service provided demand and a new connection is likely to be local, however
	connection point on to the existing Scottish Water Network.
• -M-I	The refurbishment of the Beach Ballroom, leisure facilities ar stadium is unlikely to increase resilience of people, material a opportunities for improvement will likely be similar to the cur
✓ F -M-L r i	The refurbishment of the Beach Ballroom, leisure facilities ar stadium could include mitigation and adaptation measures in environment, however, the proposals mean opportunities for current situation. The refurbishment of the ice arena is based on a light touch replacement of seats, fixtures and fittings, and dealing with o fabric and building services installations. This will not therefor Preferred Option and will unlikely include the most effective of mitigating CO_2 emissions The refurbishment of the existing leisure centre is based on a dight touch replacement of seats of the existing leisure centre is based on a fabric and building services installations. This will not therefor Preferred Option and will unlikely include the most effective of mitigating CO_2 emissions The refurbishment of the existing leisure centre is based on a Aberdeen with the aim of improving the condition and utilisation provide new revenue streams and to create a destination verifacility as compared to the Preferred Option, and will unlikely efficient technology capable of mitigating CO2 emissions. There is scope to include effective energy efficient technologi into the design of the new stadium.
✓ I - M-L s	The Beachfront Development Framework indicates that tree/ throughout the site. The Core Play Park, for example, will be landform/tree planting to help create a suitable micro-climate space. The planting regime for the Development Framework the Woodland trust suggest a young wood with mixed native per hectare.
✓ -M-L	As above
	Futureproofing is a key consideration of the Beachfront Deve solution will need to meet the requirements of Aberdeen City Towards a Net Zero and Climate Resilient Council. The Plan actions towards net zero and climate resilient Council assets efficient designs will be incorporated alongside renewable ar consideration provided on how further decarbonisation could may not reach its full potential due to the renovation of the le new build, which potentially reduces "economies of scale" fo
- N	/ И-L / И-L

ortation principles which underpin the City applied which extends between Castlegate, enhance trip making opportunities for those ing the travel choices of those who choose to introduced in 2022. Only vehicles which EZ, helping to address air pollution in the sed within the LEZ, the eastern extent of ands LEZ objectives. These of active travel and to promote effective likely to reduce greenhouse gases, thereby it will also have a positive effect on health by the stadium events will not be new to the area Beachfront would be relatively unchanged is has significant benefits with respect to generally be no net detriment to the	Limit provision of new car parking facility where practicable.	
bootball stadium etc. has potential to result in and energy use). However, the core o improve access and connectivity between luding traffic management reduces the we forms of travel, including walking and unsideration of the Development Framework te change may cause a sea level rise of on UKCP18 outputs. Proposals in the n partnership /consultation with ACC room, the leisure centre and the ice arena. h refresh focusing on redecoration, outstanding maintenance to the building not seek to link the existing leisure centre food & beverage provision. n work already undertaken by Sport ation of the facility, to increase participation enue. an new build due to existing constraints the Beach Ballroom, Leisure, and Stadium ed to the existing would meet most of the r a Predevelopment/ Water impact astructure upgrades and identify the likely and ice arena and inclusion of the new l assets and natural environment as the urrent situation. and ice arena and inclusion of a new in light of a changing climate and local or improvement will likely be similar to the h refresh focusing on redecoration, outstanding maintenance to the building fore be a new facility as compared to the e energy efficient technology capable of n work already undertaken by Sport iation of the facility, to increase participation enue. This will not therefore be a new ely include the most effective energy ogy capable of mitigating CO2 emissions e/ woodland planting is proposed be enclosed to some degree by te and provide a comfortable year-round rk area has yet to be determined, however ve species can lock up 400+ tonnes carbon we have a traven and ice arena as opposed to for energy efficiency and climate options uilding size and shape, level of insulation, n emissions for decades to come.	Ensure that there are options to reduce the need to travel. A proposed energy strategy which results in energy efficiency and minimises GHG emission is to be at the heart of the design and decision making process. It must be noted that Alternative Option A includes the refurbishment of the leisure centre and ice arena, and this may reduce energy efficiency and carbon reduction options All new buildings must instal low and zero carbon generating technologies to reduce the predicted carbon generating technologies to reduce the predicted carbon dioxide emissions. LDP Policy encourages waste minimisation and sustainable and active travel. Encourage facilities to develop a 'Travel Plan/ Sustainable Urban Mobility Plan' for their employees and visitors. Ensure that new and refurbished facilities are within walking distance of public transport options (bus, rail or both). Promote/ develop sustainable transport options for accessing new facilities. Limit provision of new car parking facilities where practicable. Flood Risk Assessments and Drainage Impact Assessments will be required, along with provision of SUDS where appropriat. Apply policy to require all new buildings to install low and zero carbon generating technologies to reduce the predicted carbon dioxide emissions	The Energy Strategy has the potential to identify en



Protect, conserve and enhance the historic environment.	Would development impact on the integrity of sites, monuments, buildings or areas designated for their cultural heritage value?	✓	 Based on the initial review of the relevant historic environment designations there is one Listed Building within the area (the Beach Ballroom LB20314 a Category B listed building) and a small section of the City Centre Conservation Area. Given the boundary of the proposed development area uses a series of urban street edges, there are expected to be a number of Listed Buildings immediately adjacent to the area. No other designated assets have been identified at this time nor sites where protection would flow from their inherent characteristics (e.g. characteristics affording protection through the Protection of Military Remains Act 1986). Constructional/ operational impacts of potential development may result in negative effects on previously unknown archaeological features. Central to the Beachfront Development framework is the sympathetic restoration of the Beach Ballroom which has the potential to enhance heritage in the area. A cultural heritage assessment will be undertaken of the wider development framework area to identify cultural heritage assets. The design principles indicate that heritage will be protected, and people's understanding and enjoyment of it enhanced through the new development. Aberdeen Football club would like to position the proposed 16,000 seater stadium in the city, close to its original home and maintain its heritage and local community while benefiting the economy of the city centre. 			
	Would development impact on the setting of sites,		A review of publicly available information indicates there would be no impact on known assets. Cultural			
	monuments, buildings or areas designated for their cultural heritage value?	- O	Heritage and Historic Environment could be considered within a supporting study to be submitted as part of the planning application.			
	Would development within the site impact on archaeological remains?	?	Potential impact on Cultural Heritage and Historic Environment could be considered within a supporting study to be submitted as part of the planning application.			
Landscape						
	To what extent will the site impact landscape designations? (Question amended at request of NatureScot)		The Site is not covered by any national landscape planning designations associated with its scenic or historic character. Nor does the Site contain a Garden and Designed Landscape ("GDL") or locally designated Special Landscape Area ("SLA"). The Beach Ballroom (category B listed) is the sole listed structure within the Site.			
Protect and enhance landscape character, local distinctiveness, visual amenity and promote access to the wider environment.	To what extent will the site impact settlement setting and identity? (Question amended at request of NatureScot)	V / Y	There will be a permanent change to the landform in the area as a result of the Development Framework proposals. Coastal developments may cause significant visual impact. The longer-term landscape impacts will be determined by the nature, scale and extent of development submitted as part of future planning applications. There will, however, also be enhancement of existing habitats and creation of open spaces within the development framework area.	Mitigation seeks first to avoid adverse impacts and where impacts are unavoidable to reduce the significance of residual effects to an acceptable level. It also seeks enhancement and compensation where possible to provide the best practicable option. Potential landscape and visual mitigation measures include:		
	To what extent will the site impact on visual amenity and key views (Question amended at request of NatureScot)	f √/x	There will be an overall impact on visual amenity which will range from disturbance of an already changing urban environment, enhancement of existing habitats and creation of open spaces within the development framework area.	 Promote sympathetic design principles and ensure siting of development fully recognises the sensitivity of the landscape. Use tree planting of mixed native species to mitigate potential negative landscape effects. Consider using urban park project to increase viability and connectivity of key 		
	To what extent will the site impact on landscape character? (Question added at request of NatureScot)	v ∕×	 Construction Phase Short term, temporary effects on landscape features (grassland, trees and hedgerows), landscape character and visual amenity. Operational Phase Long term, permanent effects on landscape features (grassland, trees and hedgerows), landscape character and visual amenity. There will also be enhancement of existing habitats and creation of open spaces within the development framework area. 	existing habitatsPlanting and open space provision within the proposed development (and wider Development		
Material Assets						
	Is the site located close to existing transport, services, water and energy infrastructure?	, ✓ S-M-L	The site is located close to existing transport, services, water and energy infrastructure.	Promote active travel to reduce emissions which can affect the population with health problems Develop promotional material for the facilities on site promoting the health and environmental benefits of using sustainable transport modes to access them e.g. walk, bike, bus, train	Fushing that development incorporates measures to in	
•Promote the sustainable use of community assets, natural resources and material assets.	Is the site located to make best use of shelter, solar gain and reduce the need to travel?	Imp	The Beachfront Development Framework is subject to a coherent overarching strategy for the area which includes aims and proposals to reduce travel. Further work is required to determine the best use of shelter and solar gain which would be dependent upon development layout.	e Determine the best use of shelter and solar gain which would be dependent upon development layout.		
 Promote quality urban design. Promote sustainable waste management and the circular economy 	Does the site reduce waste generation and promote waste recovery, recycling and composting?	√ /x	Beachfront Development Framework development is likely to increase production of waste. There will be a carbon impact from refurbishment of existing buildings. Waste from the development would be directed to the local Material Energy Recycling Facility. Composting isn't specifically discussed as part of the Beachfront Development Framework.	Potential for significant positive effects through increased uptake of sustainable waste management practices developed through advice/ guidance in awareness raising programmes. Promote Stie Waste Management Plans during refurbishment and construction. Development will be required to provide sufficient space for the storage of general waste, recyclable materials and compostable wastes where appropriate.	Potential for significant positive effects through in management practices/ circular economy developed t raising programmes	
Summary score	Į	!				
Overall, the proposals are likely to have a genera	lly positive effect on the environment There are areas of p	potentially posi	tive effects in relation to population and human health, biodiversity, water, soil air, cultural heritage clima	atic factors, material assets, and soil. There is potential for significant negative effects, mainly related to w	ater, soil, landscape and material assets. Other effects ar	

e compatible with the historic environment planning policy.

the Beachfront areas strengths through

indscape Character Areas in any tree

the quality and connectivity of woodland in ngths e.g. Broad Hill.

npatible with the historic environment planning policy.

to integrate/ enhance existing footpath and

h increased uptake of sustainable waste ped through advice/ guidance in awareness

ts are uncertain and/ or neutral.

Кеу	
\checkmark	Major positive effect
✓	Positive effect
0	Neutral effect
×	Negative effect
××	Major negative effect
√√/x √/×× etc.	Mixed effect
?	Uncertain effect
S	Short term effect
М	Medium term effect
L	Long term effect
Imp	Effect will depend on how the Beachfront Development Framework is implemented

Alternative Option B- New leisure centre and ice arena, football stadium excluded SEA Objective(s) Score Comments Questions Biodiversity, flora and fauna A preliminary ecological survey undertaken in A designated sites are located within the site bour 0 The Ythan Estuary, Sands of Forvie and Meikle Does the site impact on designated sites? located 100m to the east of the site. The River Dee Special Area of Conservation is I Beachfront Development Framework activities h impacts on biodiversity during both construction \checkmark ecological survey undertaken in April 2022 does Does the site impact on priority habitats or species? S-M-L An outlier badger sett with two entrances was in (location is confidential). The Beachfront Develo from future development. The development framework seeks to retains h creation will be encouraged where developmen Broad Hill is one of the most biodiverse parts of To what extent will the site promote green network \checkmark however the aim will be to further look for ecolo provision and habitat connectivity? (Question amended S-M-L planting especially along the leeward side of the at request of NatureScot) grassland management and providing a nature eroding east slopes. This enhancement of the e biodiverse catalyst and generator for the rest of creation of wider green networks. The Beachfront Development Framework indica To what extent will the site impact wider biodiversity habitats will be retained and enhanced. The are Question added at request of NatureScot) S-M-L an area which is not proposed for development Protect or conserve and, where possible, restore and enhance biodiversity and valued nature conservation habitats and species The Beachfront Development Framework aims biodiversity as a key aim. Habitats and species described in the baseline are likely to be enhanced, with the creation of h infrastructure, planting and improved connectivi The Beach Ballroom, leisure centre and ice are The proposed boardwalk structure follows the s To what extent will the site enhance biodiversity? (added and extends out to the North Sea a short distar S-M-L - NatureScot response) to the Beachfront below the Esplanade. Coasta protection and enhancement measures through capacity and promotion of environmental educa opportunities. Neither of the two structures are Sands of Forvie and Meikle Loch Special Prote the east of the site, or The River Dee Special A south of the site. Population and human health The Beachfront Development Framework prom desire routes, extending down from Beach Bou To what extent will the site connect to the local path the Masterplan area. The framework has the po 1 network? (Question amended at request community wellbeing, while promoting a range S-M-L NatureScot) encourage physical activity There are core paths within and surrounding th

	Comments	Mitigation	Enhancement
	Comments	Witigation	Liniancement
	A preliminary ecological survey undertaken in April 2022 indicates that there are no designated sites are located within the site boundary. The Ythan Estuary, Sands of Forvie and Meikle Loch Special Protection Area (SPA) is located 100m to the east of the site. The River Dee Special Area of Conservation is located 1.5km south of the site.		Opportunities for Biodiversity Ga The following general enhancement information: •It is recommended that future lands encourage long term habitat connect Network and Policy NE8 – Natural b
	Beachfront Development Framework activities have potential to result in disturbance impacts on biodiversity during both construction and operational phases. A preliminary ecological survey undertaken in April 2022 does not predict impacts to priotity habitats. An outlier badger sett with two entrances was identified during the ecological survey (location is confidential). The Beachfront Development Framework aims to protect this area from future development.	The area with the badger set is not earmarked for development and will be retained.	Network and Policy NE8 – Natural H further enhance this commuting and (seeds and plants also) of local prov •IThe creation of species rich grassla biodiversity on the site and enhance Urban Greenspace and Policy NE4 appropriate to the local area. •IThe SBL has identified over 400 te enhancement measures include cre
	Broad Hill is one of the most biodiverse parts of the Development Framework area, however the aim will be to further look for ecological enhancements through additional tree planting especially along the leeward side of the hill, expanding the pine woodland, grassland management and providing a nature led stabilisation program for the steeper eroding east slopes. This enhancement of the ecological resource will offer a key biodiverse catalyst and generator for the rest of the Development Framework area and the	 Retention and protection of woodland, grassland, scattered trees, scrub and beach habitats wherever possible to maintai existing ecological connectivity to the wider landscape and to retain important habitat features. Buitable tree root protection areas should be determined and fenced off prior to any works commencing. Compensatory planting should be provided where areas of woodland and scattered trees are removed to facilitation. 	 opportunities within the sites and for Aberdeen City Policy NE5 – Trees a Hawthorn (Crategus monogyna) Blackthorn (Prunus spinosa) Holly (Ilex aquifolium) Hazel (Corylus avellana) Elder (Sambucus nigra) Rowan (Sorbus aucuparia) Scot's pine (Pinus sylvestris)
	habitats will be retained and enhanced. The area identified as being used by badgers is in	complementary with the natural surroundings. A pre-works check of the site for protected species should be completed prior to any site works, by a suitably qualified ecologist or ECoW. 	be installed on trees and existing bu • Green roofs could be incorporated buildings associated with the develo
	The Beachfront Development Framework aims to preserve natural habitat and promote biodiversity as a key aim. Habitats and species described in the baseline ecological survey undertaken in April 2022 are likely to be enhanced, with the creation of habitats associated with blue/green infrastructure, planting and improved connectivity . The Beach Ballroom, leisure centre and ice arena are to be retained and refurbished. The proposed boardwalk structure follows the sinuous route of the Rope Works and extends out to the North Sea a short distance as will the slipway which provides access to the Beachfront below the Esplanade. Coastal natural heritage is likely to be subject to protection and enhancement measures through improvements to natural flood defence capacity and promotion of environmental education and "green tourism"/ recreational opportunities. Neither of the two structures are likely to encroach upon the Ythan Estuary, Sands of Forvie and Meikle Loch Special Protection Area (SPA) which is located 100m to the east of the site, or The River Dee Special Area of Conservation (SAC) located 1.5km south of the site.	 All contractors should be made aware of the presence of protected species on site and in the wider landscape via a tool bo talk (i.e. bats, otter, badger, red squirrel, hedgehog, birds and marine mammals). Any vegetation clearance should be scheduled to occur outside of the nesting bird season where possible (March to Augus inclusive). Where vegetation removal cannot be completed outside of the nesting bird season, a nesting bird check will be require within 48 hours of the works by a suitably qualified ecologist or ECoW. If nesting birds are found then a suitable exclusion zone will be set up to avoid nest destruction and disturbance. A watching brief and /or fingertip search will need to be undertaken before any works commence, if scrub habitats requir removal during hedgehog hibernation period (October-April). Maximum 15mph speed restriction to avoid RTAs with protected species which may be present in the area should b implemented during and post works. Measures should be in place to preserve water quality and prevent pollution of North Sea following SEPA Guidelines for Pollution Prevention (GPPs) . Any works causing high levels of noise or vibration should be limited to daylight hours to reduce disturbance nocturnal of diurnal species. Works should be limited to daylight hours within 30m of the North Sea, woodland and trees/buildings with PRFs to reduc disturbance to nocturnal and diurnal species. Fox dens should be molerated hobitats (woodland, scattered trees, standing water and running water), which can affect the foraging of nocturnal and diurnal species. Fox dens should be monitored to confirm that they are empty prior to removal under the audit of the project ecologist an should be undertaken out with any sensitive time period (i.e. during breeding season – January-July inclusive) if required. Any were dens of the works should not be left open for mammals to become trapped. Appropriate covers should be u	whatmeradvice/now-you-can-neip-bir
	the Masterplan area. The framework has the potential to improve human health and community wellbeing, while promoting a range of outdoor and recreational attractions and encourage physical activity	Develop promotional material for the facilities on site promoting the health and environmental benefits of using sustainable transport modes to access them e.g. walk, bike, bus, train,. Promote outdoor recreation utilising new facilities and ensure that development increases opportunities are for people of all ages, backgrounds and abilities to participate. Promote active travel to reduce emissions which can affect the population with health problems.	
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ncement measures have been recommended based on the current level of available site

ure landscaping of the site seeks to maintain and enhance existing green infrastructure and at connectivity to the wider landscape to comply with Aberdeen City Policy NE1 – Green Space Natural Heritage . Additional planting of trees throughout the sites and along the boundaries would uting and foraging resource, for bats, badger, otter and squirrel within the locale. Sourcing trees ocal provenance is key to achieving the best biodiversity outcome. grasslands or flower meadows is recommended to encourage pollinators, improve insect enhance connectivity to comply with Aberdeen City Policy NE1 – Green Space Network, NE3 licy NE4 – Open Space Provision in New Development. Seed mixes should include native plants

r 400 terrestrial invertebrate species in the UK as priorities for conservation action. Suitable lude creating log piles and invertebrate mounds, to comply with Aberdeen City Policy NE8 –

ucing shrubs and trees is recommended to provide a sheltered commuting and nesting s and food source for birds and mammals utilising the surrounding habitats and to comply with - Trees and Woodlands . Suggested species include: onogyna) osa)

ia)

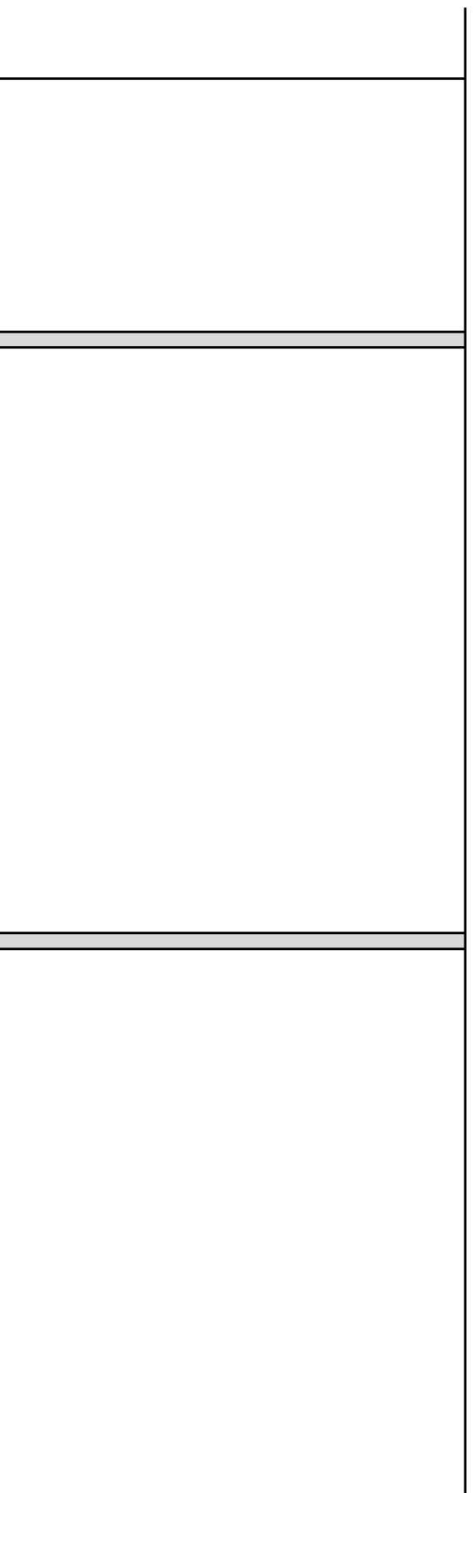
and nesting opportunities for bats and birds, a variety of bat and bird boxes are recommended to isting buildings to comply with Aberdeen City Policy NE8 – Natural Heritage. porated to improve storm water management and provide habitat for birds and bats on any e development. Further information can be found here: https://www.rspb.org.uk/birds-andhelp-birds/roofs-for-wildlife/green-roofs/

 Improve human health and community wellbeing, while promoting a range of outdoor and recreational attractions. Encourage physical activity. Treation of community facilities. 	How does the site relate to areas with high SIMD?	√⁄× S-M-L	 The Development Framework area is located partly within Seaton (north) which is one of the most deprived 20% data zones in Aberdeen City. The southern area of the Development Framework is located in Hanover South. As such the Framework has the potential to meet all SEA objectives. The Development Framework proposals will provide long term significant benefits for the area that will arise through the provision of high-quality amenities. The development principle is to develop a world class sport, leisure and tourism destination which would revitalise the Beachfront area and reconnect it to the city centre. Other benefits include the provision of employment and community facilities, integrated transport links, environmental improvements, and contributions to the regeneration of related areas. However, employment opportunities are potentially reduced due to the exclusion of the stadium. Alternative Option B removes the new football stadium and could see Aberdeen FC move to a new stadium elsewhere within Aberdeen. This could have detrimental socio/economic effect(s) on city centre businesses and the local community including employment opportunities. 		Raise awareness of the health b development incorporates meas Projects feature a range of outd abilities and ages.
	To what extent will the site impact access to open space? (Question amended at request of NatureScot)	√ S-M-L	Development would lead to the loss of open space. Open space is a key consideration of Alternative Option B and will be retained where practicable. The new stadium would be removed and relocated elsewhere in the city.	Apply policy requiring all new developments provide open space	
 ●Prevent deterioration, protect and enhance water quality and ecological status. ●Reduce risk of flooding. ●Provide adequate drainage and sewerage 	Is the site at risk of flooding?	√/x	 Fluvial Flooding (River) The SEPA Flood Map indicates that site doesn't experience fluvial flooding during the 1:10 year (10%) or 1:200 year (0.5%) return periods. A small area, associated with the low point of Links Road is shown to be at risk of flooding from the Den Burn during the 1:1000 year (0.1%) return period event. The river Don is shown to be prone to flooding during all return period events, but within the vicinity of the Development Framework site the extent of flood water is limited. Pluvial Flooding (Surface Water) No flooding is indicated during the 1:10 year (10%) return period event. Pockets of surface water flooding, associated with existing hard-standings serving the existing buildings and the low point of beach boulevard are indicated for the 1:200 year (0.5%) and 1:1000 year (0.1%) return period events. Coastal Flooding Review of the SEPA Flood Maps shows that areas of coastal flood risk are located east of the Esplanade seawall, with no coastal flood risk shown for the proposed beachfront development area. 	Earthworks, temporary bunding or material stockpiles may alter runoff, hydrology or morphology of water features resulting in changes to flood risk or habitats; and New drainage systems, temporary or permanent, may alter runoff, hydrology or morphology of water features resulting in changes to flood risk or habitats. Changes in volume and rate of surface runoff from impermeable surfaces such as roofs, car parking areas and access roads may effect flow characteristics resulting in changes to flood risk. Changes to the permeability of surface cover may impact on the underlying hydraulic regime and groundwater recharge Surface drainage schemes may alter the flow characteristics of nearby watercourses and flooding characteristics Review national planning policy on flooding and specific ACC Local Plan policy on flooding. Undertake a flood risk assessment for the Aberdeen Beachfront area to identify key sources of flooding and mitigation measures e.g. development of new coastal flood defences, protection and enhancement of existing natural flood defences e.g wetlands/ dunes. Ensure that new development complies or betters planning requirements for provision of drainage infrastructure/ SuDS/ blue- green infrastructure. Given the topography of the site and the prevailing ground conditions, it is likely that run-off from the undeveloped parts of the durable access the average the neutron water access the average the more the back.	
	Are there water courses within the site or which would be affected by increased levels of flooding resulting from development of the site?		As above	development site drain to the natural water environment through groundwater percolation towards the North Sea. Review drainage capacity and develop new infrastructure if required. Develop management plan, in conjunction with relevant statutory bodies, to minimise impacts on biodiversity. Ensure compliance or enhancement of existing planning requirements for water efficiency in all new developments. Where practicable, minimise hydromorphological changes to reduce impact on natural water processes. The design of the SUDs scheme and green infrastructure will be developed closely with the environmental engineers and landscape architects to ensure that, as well as creating an efficient and sustainable drainage system, the landscape quality and opportunity for habitat enhancements in the area form an integral part of the Beachfront Framework. This will be assessed prior to project development stage Drainage Impact Assessments will be required to be submitted with planning application, with provision for SUDS made where appropriate Ensure development which can potentially impact coastal erosion adheres to best practice and potential effects are modelled.	
	Are there water courses within the site or which would be affected by increased levels of pollution, or other pressures, from development within the site?		There are no natural surface water features within the proposed development boundary, the nearest watercourse being the River Don – which lies approximately 2km to the north of the site The site forms part of the Aberdeen Beachfront and is separated from the North Sea by the Esplanade. Consequently, it forms part of the catchment of the River Don/North Sea Confluence.	Given the topography of the site and the prevailing ground conditions, it is likely that run-off from the undeveloped parts of the development site drain to the natural water environment through groundwater percolation towards the North Sea.	e
	Are there opportunities to improve the status of water courses?	✓ S-M-L	The Development Framework surface water management strategy will be based on the principles of Sustainable Urban Drainage Systems (SUDs) and blue/green infrastructure to incorporate best management practices for the treatment of surface water.	The design of the SUDs scheme and green infrastructure will be developed closely with the environmental engineers and landscape architects to ensure that, as well as creating an efficient and sustainable drainage system, the landscape quality and opportunity for habitat enhancements in the area form an integral part of the Beachfront Development Framework.	
	Will the Beachfront Development Framework increase geomorphology and morphological erosion pressures.	?	It is unknown if the proposed boardwalk and slipway will increase geomorphology and morphological erosion pressures.	Potential impacts on geomorphology and morphology will be assessed once detailed information becomes available.	
	Are flooding/water & foul drainage issues addressed including in relation to ACC & Scottish Water infrastructure? (Question added at request of SEPA)	?	Beachfront Development Framework activities, during construction and operational phases, may have potential to cause an increase in diffuse source water pollution. Goodson Associates are currently assessing flooding/water & foul drainage issues. This is being assessed taking cognisance of ACC & Scottish Water infrastructure. A combined sewer runs north south through the centre of the site with a number of attributing sewers connecting into it. Points of connection and available capacity will need to be confirmed with Scottish Water.	Drainage Impact Assessments will be required to be submitted with planning application, with provision for SUDS made where appropriate. Once completed outputs from the Aberdeen Integrated Catchment Study should be considered prior to planning application to take account of culverted water courses, take a comprehensive approach to flood risk management, surface wate management etc.	s
Soil	To what extent will the site impact the ecological status of water bodies? (Question added at request of NatureScot)	√ S-M-L	It is unlikely that there will be impacts on the ecological status of water bodies. The provision of SUDs and blue/green infrastructure has been proposed which will provide opportunities for biodiversity gain.	Drainage Impact Assessments will be required to be submitted with planning application, with provision for SUDS made where appropriate. Once completed outputs from the Aberdeen Integrated Catchment Study should be considered prior to planning applications to take account of culverted water courses, take a comprehensive approach to flood risk management, surface water management etc.	
	Does the site include areas of vacant or derelict land?	0	The site does not include areas of vacant or derelict land as identified by ACC.		
	Is the site prime agricultural land?	0	The Scotland's Soil Website indicates there is no prime agricultural land within the boundary of the Development Framework area. With respect to land capability considerations the majority of the Development Framework area is identified as having an agricultural capability of 4.1 (Land capable of producing a narrow range of crops, primarily grassland with short arable breaks of forage crops and cereal). Broad Hill comprises area of 5.2 (Land capable of use as improved grassland. Few problems with pasture establishment but may be difficult to maintain.) There is also an area in the north east having an agricultural capability of 6.2 (Land capable of use as rough grazings with moderate quality plants). The remainder is classified as urban.		

alth benefits of outdoor recreation and exercise to increase uptake of new activities. Ensure that measures to integrate/ enhance existing footpath and cycle network. Ensure that potential Coastal f outdoor recreation/ exercise opportunities to suit a range of participants of all backgrounds,

	Does the site include carbon rich soil?	0	The Scotland's Soil Website indicates that the incorporates immature soils with the dominan windblown sand. The western portion of the D an identified classification. The soil is identifie
 Protect and enhance soil quality and prevent any further degradation of soils. Reduce the amount of Vacant and Derelict Land in the Aberdeen Beachfront boundary area. 	To what extent will the site impact soil quality? (Question added at request of NatureScot)	√ /×	With reference to the Engineering Site Apprai was previously used as a rifle range and rock and ashy waste and a gravel pit. The site is located on the edge of an area whi chemical, gas, iron, rope and granite works. A contaminants into the surrounding areas. With any, was dealt with when the site was first dev possibility that contaminated material will be en- Existing features such as car parking areas con therefore any made ground encountered show dealt with accordingly. There is some potential for significant positive increases/ decreases in soil sealing, soil loss a accommodate increased visitor numbers), so at sensitive areas. Secondary effects of increa- may result in less requirement for new car par-
Air	Is the site easily accessible by the core path network, and provide access to settlements and services?	✓ S-M-L	Existing pedestrian links in the vicinity of the E form part of the local Core Path network and
Maintain and improve air quality and reduce emissions of key pollutants.	Does the site lie within an area where levels of air pollution are close to current limit values?	√ S-M-L	Aberdeen City Centre AQMA is located west the roundabout of Beach Boulevard. Following approval from Scottish Ministers, A Emission Zone (LEZ) in Aberdeen City Centre The LEZ is an area of Aberdeen City Centre meet the specified emissions standards is pro quality within the City Centre Air Quality Mana with the Scottish Government's air quality obj dioxide (NO2). The LEZ came into effect from 30th May 2022 hours a day. A 2-year grace period (during wi place) for both residents and non-residents of types will commence from this date, meaning June 2024. The promotion of sustainable alternatives car Framework, the promotion of energy efficient LEZ demonstrates that the Council is conside environmental issues such as climate change
	Would development on the site contribute to higher traffic flows along transport routes or at key junctions where levels of air pollution are close to current limit values	l V	Through delivery of the Beachfront Masterpla underpin the City Centre Masterplan and asso extends between Castlegate, Beach Boulevar enhance trip making opportunities for those w strongly influencing the travel choices of thos A Low Emission Zone (LEZ), covering the city which comply with specified emissions standa pollution in the city centre. Active and sustain LEZ, the eastern extent of which is defined by enhancements to active travel connections be contribute towards LEZ objectives.
	Does the development reduce the need to travel? (Question added at request of SEPA)	√ S-M-L	The Development Framework has an aspiration promote effective public transport. Promoting reduce greenhouse gases, thereby having a p quality. It will also have a positive effect on he The removal of a new stadium option from the will being transferred to another area within the new stadium, within the city, would potentially
Climatic Factors			Increased jobs, recreational/leisure facilities, o
	Does the location of the development reduce the need to travel?	✓ S-M-L	to result in increased GHG emissions (both th However, the core principles of the Beachfron access and connectivity between the Beachfron Transport studies are ongoing to ensure infra reduces the impact of the existing road netwo including walking and cycling, whilst improvin consideration of the Development Framework The removal of the stadium and locating it els car travel elsewhere within the city, dependin alternatives
	Is the site at risk of increased flooding or instability as a result of climate change?	? M-L	The preference to site development on or in or increase vulnerability to climate changes inclu and sea level rise. As outlined in SEPA climat may cause a sea level rise of 0.87 m in the No UKCP18 outputs. Proposals in the beach and developed in partnership /consultation with A
	Does the framework promote efficient use of energy?	√ S-M-L	Beachfront Development Framework assume are demolished and could be replaced with a ice arena uses as part of the development. Th could potentially reduce energy efficiency op Opportunities for renewable energy provision explored during the implementation of the Be include small scale renewables/ micro genera- energy generation.
	Does the framework promote efficient use of water?	?	At this stage it is too early to assess the water ice arena facilities. It is reasonable to assume would meet most of the demand and a new co Predevelopment/ Water impact assessment w infrastructure upgrades are required and ider existing Scottish Water Network.
•Reduce emissions of greenhouses in line with Scottish Government targets.	Does the framework increase resilience of people, material assets and natural environment	✓ S-M-L	The refurbishment of the Beach Ballroom, ner of a new stadium could include mitigation and climate and local environment, however, the p will likely be lower than for the Preferred Opti

ne majority of the Development Framework area nt soil group being regosols formed of Development Framework area does not have ed as mineral soil with no peatland vegetation.		
aisal prepared by Goodson Associates, the site ket battery. In addition there is made ground	Some developments are likely to require remediation of contaminated land to secure development consent. The overall effect is likely to be a net reduction in contaminated areas in the Beachfront area. Additional vegetation cover in the area as a result of tree planting activities may reduce soil erosion.	
hich has former industrial uses including All of these have the potential to leach thout knowing how contaminated material, if eveloped, it is not possible to discount the encountered on site. could contain localised contamination and ould be tested for chemical contaminants and we and negative effects to arise, mainly through and erosion (e.g. building new car parks to oil compaction (e.g. increased visitor numbers eased uptake of sustainable transport options arking facilities at key attractions.	Ensure that development incorporates areas of both hard and soft end uses to minimise the effects of soil sealing. For example, include provision for significant areas of green space to avoid large areas of impermeable ground-cover. Minimise removal of vegetation during development. Additional vegetation cover in the area as a result of tree planting activities, for example, may reduce soil erosion. To reduce soil erosion risk all open spaces should not be left as bare soil through the winter. Use optimal mix of tree planting in any new woodland areas to protect soils. Measures should be in place to ensure that possible contamination from construction will be properly remediated and not affect the quality of the soil. Re-use of soil in local area where practicable.	
Esplanade, including the lower promenade, I are of generous width.		
t of the main Development Framework site at		
Aberdeen City Council is introducing a Low e.		
where the driving of vehicles which do not rohibited. The aim of the LEZ is to improve air nagement Area (AQMA) to ensure compliance ojectives, particularly for the pollutant nitrogen		
22 and will operate for 365 days a year, 24 which enforcement of the LEZ will not take of the LEZ area and for all non-exempt vehicle g that enforcement will take place from 1st		
r travel within the Beachfront Development at technology and the implementation of the ering an integrated approach to dealing with e, transport, noise, health, and energy etc.	New development should consider sustainable travel methods and sustainable construction methods in line with LDP transport and air quality policies. This will help mitigate against negative impacts on air quality. Pedestrian and cycling infrastructure to promote active travel. Promote public transport use. Use signage to promote access routes to Beachfront facilities that will minimise city centre air quality issues.	
an, key transportation principles which sociated corridor studies will be applied which ard and the Esplanade. These measures will who already make trips in the area while se who choose to visit the area in the future. ty centre was introduced in 2022. Only vehicles dards may enter the LEZ, helping to address air nable travel modes are prioritised within the by the A956 / East North Street. Proposed between the city centre and the Beachfront	The proposed energy strategy can result in energy efficiency and aims to minimise emissions. It must be noted that Alternative Option B excludes the stadium option, and this may reduce energy efficiency and carbon reduction options Limit provision of new car parking facility where practicable.	
ion to grow rates of active travel and to g sustainable and active travel is likely to positive effect on climatic factors and air ealth by promoting healthy lifestyles.		
he Beachfront and the transportation demands the city. For most supporters, their journey to a ly shift traffic elsewhere.		
commercial, football stadium etc. has potential hrough increased car use and energy use).		
ont Development Framework are to improve front and City Centre; astructure, including traffic management york and promotes alternative forms of travel, ng the public realm which is a key		
k. Isewhere within Aberdeen and may increase ng on the availability of sustainable transport		
close proximity to the coast has potential to luding flooding, accelerated coastal erosion ate change guidance , future climate change North-East river basin region by 2100, based on d esplanade area are therefore being ACC Operations / Coastal / Flooding Teams.		
es that the existing leisure centre and ice arena a new facility that integrates leisure centre and The removal of the stadium from this option oportunities. n and low/zero carbon technologies are being eachfront Development Framework. This may ration and the identification of sites for local		
er demand for the Beach Ballroom, leisure and e that the service provided to the existing connection is likely to be local, however a would need to be carried out to determine if entify the likely connection point on to the	A proposed energy strategy which results in energy efficiency and minimises GHG emission is to be at the heart of the design and decision making process. It must be noted that Alternative Option B excludes the stadium and this may reduce energy efficiency and carbon reduction options Ensure that there are options to reduce the need to travel.	
ew leisure facilities and ice arena and exclusion ad adaptation measures in light of a changing proposals mean opportunities for improvement tion.	All new buildings must install low and zero carbon generating technologies to reduce the predicted carbon generating technologies to reduce the predicted carbon generating technologies to reduce the predicted carbon dioxide emissions.	



 Promote active travel and sustainable transport. Reduce risks from climate change problems in the Aberdeen City Council area include increased flood risk of coastal and fluvial sources. Promote renewable energy sources. 	Does the framework include mitigation and adaptation measures in light of a changing climate and local environment? (Question added at request of SEPA).	V V	The Plan sets out the approach, pathway, and climate resilient Council assets and operation will be incorporated alongside renewable and consideration provided on how further decard Given the scale and importance of the facilitie demands could be significant and critical to fa given to added robustness and security of en- should incorporate a degree of redundancy a renewables-powered electrolysis or CHP (Co support hydrogen, either partially or as the so Nevertheless, Alternative Option B involves the leisure facilities and ice arena and exclusion of Option A the scale of the proposals mitigation be lower than for the Preferred Option.
	Does the framework seek to protect, create or enhance natural resources for carbon capture? (Question added at request of SEPA)	V V	The Beachfront Development Framework ind proposed throughout the site. The Core Play degree by landform/tree planting to help crea comfortable year-round space. The planting r has yet to be determined, however the Wood native species can lock up 400+ tonnes carbo
	To what extent will the site promote nature-based solution provision? (Question added at request of NatureScot)	√ S-M-L	As above
	Does the framework increase the resilience of people, infrastructure and the natural environment to the impacts of climate change (including flood risk, extreme weather, heat and cold)? (Question added at request of SEPA)	√/×	Futureproofing is a key consideration of the E energy centre solution will need to meet the r Climate Change Plan 2021-25: Towards a Ne sets out the approach, pathway, and actions t assets and operations, by 2045. As such, ener alongside renewable and low carbon energy further decarbonisation could be achieved in potential due to the removal of the stadium fre "economies of scale" for energy effiency and There will be a carbon impact from renovation decisions—such as new construction versus insulation, and floor-space flexibility—can hav decades to come. Note- there are existing connections to district rink
Cultural Heritage			
Protect, conserve and enhance the historic environment.	Would development impact on the integrity of sites, monuments, buildings or areas designated for their cultural heritage value?	S-M-L	Based on the initial review of the relevant hist Listed Building within the area (the Beach Ba and a small section of the City Centre Conser Given the boundary of the proposed develop there are expected to be a number of Listed 1 No other designated assets have been identif would flow from their inherent characteristics through the Protection of Military Remains Ac potential development may result in negative features. Central to the Beachfront Development frame Beach Ballroom which has the potential to en assessment will be undertaken of the wider d heritage assets. The design principles indicate that heritage w and enjoyment of it enhanced through the ne inevitably be some impact on their setting as Removal of the proposed stadium from the Be Aberdeen FC elsewhere within the city. Impo its heritage i.e., the close connection it has wi with the local community. Pittodrie Stadium w been the home of Aberdeen FC. It could also centre businesses and local employment opp
	Would development impact on the setting of sites, monuments, buildings or areas designated for their cultural heritage value?		A review of publicly avaialbel information indi- assets. Cultural Heritage and Historic Environ study to be submitted as part of the planning
	Would development within the site impact on archaeological remains?	?	Potential impact on Cultural Heritage and Hist a supprting study to be submitted as part of t
Landscape	To what extent will the site impact landscape		The Site is not covered by any national lands
	To what extent will the site impact landscape designations? (Question amended at request of NatureScot) To what extent will the site impact settlement setting and identity? (Question amended at request of NatureScot)	0	scenic or historic character. Nor does the Site ("GDL") or locally designated Special Landso (category B listed) is the sole listed structure There will be a permanent change to the land Development Framework proposals. Coastal impact. The longer-term landscape impacts we extent of development submitted as part of fu There will, however, also be enhancement of
Protect and enhance landscape character, local distinctiveness, visual amenity and promote access to the wider environment.	To what extent will the site impact on visual amenity and key views (Question amended at request of		within the development framework area. There will be an overall impact on visual ame already changing urban environment, enhance
Material Assets	NatureScot) To what extent will the site impact on landscape character? (Question added at request of NatureScot)		open spaces within the development framework Construction Phase Short term, temporary effects on landscape for landscape character and visual amenity. Operational Phase Long term, permanent effects on landscape for landscape character and visual amenity. There will also be enhancement of existing has development framework area.
	Is the site located close to existing transport, services,		The site is located close to evicting transmit
•Promote the sustainable use of community assets, natural resources and material assets.	water and energy infrastructure?	S-M-L	The site is located close to existing transport, The Beachfront Development Framework is s the area which includes aims and proposals t determine the best use of shelter and solar ga development layout.

bonisation could be achieved in the future. es planned within the development, the energy unction. Consideration should therefore be ergy supplies so the energy centre solution and back-up. This integrates smoothly with mbined Heat and Power) units adapted to ble fuel source. The refurbishment of the Beach Ballroom, new of a new stadium, and similar to Alternative and adaptation opportunities will potentially icates that tree/ woodland planting is Park, for example, will be enclosed to some the a suitable micro-climate and provide a	LDP Policy encourages waste minimisation and sustainable and active travel. Encourage facilities to develop a 'Travel Plan/ Sustainable Urban Mobility Plan' for their employees and visitors. Ensure that new facilities are within walking distance of public transport options (bus, rail or both). Limit provision of new car parking facilities where practicable. Flood Risk Assessments and Drainage Impact Assessments will be required, along with provision of SUDS where appropriate. Apply policy to require all new buildings to install low and zero carbon generating technologies to reduce the predicted carbon dioxide emissions.	
Aregime for the Development Framework area land trust suggest a young wood with mixed on per hectare. Beachfront Development Framework. The requirements of Aberdeen City Council t Zero and Climate Resilient Council. The Plan towards net zero and climate resilient Council ergy-efficient designs will be incorporated sources, with consideration provided on how the future. However, it may not reach its full om this option which potentially reduces climate options and measues. In of existing buildings. Fundamental design upgrading, building size and shape, level of <i>y</i> a significant impact on emissions for at heating for the beach leisure centre and ice		
oric environment designations there is one Ilroom LB20314 a Category B listed building) vation Area.		
ment area uses a series of urban street edges, Buildings immediately adjacent to the area.		
ied at this time nor sites where protection (e.g. characteristics affording protection t 1986). Constructional/ operational impacts of effects on previously unknown archaeological	Raise awareness of the areas heritage to encourage ownership/ sense of place.	
ework is the sympathetic restoration of the hance heritage in the area. A cultural heritage evelopment framework area to identify cultural	Develop design briefs, in conjunction with Aberdeen City Council and Historic Environment Scotland to provide developers	Ensure that improvement national and local planning
ill be protected, and people's understanding w developments. However, there will a result of large-scale new development.	with clear guidelines on approach to development, ensuring that site and setting of cultural heritage is protected. Prior to commencement of work, discussions will take place with Aberdeen City Council's Archaeological service to determine whether the ground breaking locations require any mitigation	
eachfront area could result in the relocation of rtantly the club could lose an important part of th the local area and break a longstanding tie vas first used in 1899 and, from 1903, has have a detrimental economic impact on city ortunities should the club move elsewhere		
cates there would be no impact on known ment could be considered within a supprting application. toric Environment could be considered within he planning application.		
cape planning designations associated with its e contain a Garden and Designed Landscape		
ape Area ("SLA"). The Beach Ballroom within the Site. Iform in the area as a result of the		
developments may cause significant visual vill be determined by the nature, scale and iture planning applications. existing habitats and creation of open spaces	Mitigation seeks first to avoid adverse impacts and where impacts are unavoidable to reduce the significance of residual effects to an acceptable level. It also seeks enhancement and compensation where possible to provide the best practicable option.	
nity which will range from disturbance of an ement of existing habitats and creation of ork area.	Potential landscape and visual mitigation measures include: • Promote sympathetic design principles and ensure siting of development fully recognises the sensitivity of the landscape. Use tree planting of mixed native species to mitigate potential negative landscape effects. Consider using urban park project and open space created by the exclusion of the stadium option to increase viability and connectivity of key existing habitats	
eatures (grassland, trees and hedgerows),	 Planting and open space provision within the proposed development (and wider Development Framework) will limit 	
eatures (grassland, trees and hedgerows),	 Planting and open space provision within the proposed development (and wider Development Plantework) within the adverse effects arising from the introduction of additional built form within the Site. Consideration of built development scale, form and orientation in order to reduce or remove effects. 	
abitats and creation of open spaces within the		
services, water and energy infrastructure.	Promote active travel to reduce emissions which can affect the population with health problems. Develop promotional material for the facilities on site promoting the health and environmental benefits of using sustainable transport modes to access them e.g. walk, bike, bus, train	
ubject to a coherent overarching strategy for o reduce travel. Further work is required to ain which would be dependent upon	Determine the best use of shelter and solar gain which would be dependent upon development layout.	
		<u> </u>

ents to surroundings are compatible with the historic environment features and are compliant with g policy. t incorporates measures to integrate/ enhance existing footpath and cycle network.

•Promote sustainable waste management and the circular economy	Does the site reduce waste generation and promote waste recovery, recycling and composting?	√/×	There will be a carbon impact from demolition of existing buildings. Waste from the development would be directed to the local Material Energy	New development will be required to provide sufficient space for the storage of general waste, recyclable materials an	Potential for significant pos
Summary score					
Overall, the proposals are likely to have a similar effect on uncertain and/ or neutral.	the environment as Prefered Option and Alternative Option	A, with gene	rally positive effects. There are areas of potentially positive effects in relation to population a	and human health, biodiversity, water, soil, air, cultural heritage climatic factors, material assets, and soil. There is potential fo	r significant negative effects, r

mainly related to water, soil, cultural heritage, landscape and material assets. Other effects are

positive effects through increased uptake of sustainable waste management practices/ circular gh advice/ guidance in awareness raising programmes

F BEACHFRONT DEVELOPMENT FRAMEWORK

Beachfront Development Framework June Draft