

HSE Green Space Framework

A framework to create, enhance and manage green space to promote physical and mental wellbeing and biodiversity.

HSE Climate and Sustainability Programme

An Overview of the United Nations Sustainable Development Goals



Executive Summary

Climate change presents a fundamental threat to human health. It affects the physical environment as well as all aspects of both natural and human systems; including social and economic conditions and the functioning of health systems. As climatic conditions change, more frequent and intensifying weather and climate events are observed, including storms, extreme heat, floods, droughts and wildfires. These weather and climate hazards affect health both directly and indirectly, increasing the risk of deaths, non-communicable diseases, the emergence and spread of infectious diseases, and health emergencies.

The Health Service Executive (HSE) is committed to reforming and improving the delivery of care to help reduce greenhouse gas (GHG) emissions and is aligned with the Sláintecare Reform Programme, which prioritises digital healthcare, promotes social prescribing and facilitates service users care closer to home. The impact of COVID-19 has led to a large increase in the use of digital services, not just for provision of healthcare services, but also enabling people to work from home as far as is reasonably possible.

The HSE's Climate Action Strategy 2023-2050 sets out the HSE's commitment to achieve net-zero emissions no later than 2050, delivering healthcare that is environmentally and socially sustainable. To support the delivery of the strategy, seven framework documents are being published to reflect each of the areas of focus.

Within this document, the first section outlines the context, size, variety and complexity of HSE green spaces within our estate. Furthermore the second section identifies the therapeutic benefits of incorporating green space and biodiversity into healthcare environments and identifies examples of international and national best practices. In the third section, this document illustrates the current status of green space projects and presents a summary of the green space framework approach with recommend areas of focus. The fourth and fifth sections focus on methodology and implementation.

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1. Introduction

The climate crisis is a health crisis. The link between climate change and various health challenges, including respiratory illnesses, water-borne diseases, vector-borne diseases, malnutrition, non-communicable diseases, mental health, injury and mortality from climate hazards and extreme weather events will put significant additional pressure on healthcare facilities and have a lasting effect on our health systems. At the same time, current models of care and service delivery can make a significant contribution to damaging the environment.

The global healthcare sector is responsible approximately 4.4% of global emissions. If it was a country, the global health sector would be the fifth biggest emitter on earth and unless the carbon footprint of healthcare sector is cut, its emissions could triple between now and 2050, with the unintended consequence of a drastic impact on people's health.¹ The Irish health service is a high emitter of GHG when compared with similar health systems and it is estimated that it contributes between 5%-8% of Ireland's GHG emissions.

There has been an acceleration of global efforts to 'reverse the tide' on environmental damage, particularly since the signing of the Paris Agreement² in 2015. The EU Green Deal provides a package of policy initiatives launched by the Commission in 2019 to set the path to a green transition with the ultimate goal of reaching climate neutrality by 2050. At national level, the Government's Climate Action Plan provides a roadmap for halving Ireland's emissions by 2030 and reaching net zero by 2050, as committed to in the Climate Action and Low Carbon Development Act 2021³.

As a result, the HSE has drafted its Climate Action Strategy 2023 – 2050 which sets out the HSE's commitment to achieve net-zero emissions no later than 2050, delivering healthcare which is environmentally and socially sustainable. The strategy outlines how the HSE will contribute to putting Ireland on a more sustainable path by cutting emissions, creating a healthier, cleaner, and greener society. It comprises six priority areas, ten strategic objectives and two enabling functions, summarised in Table 1.

The purpose of **the Framework Documents,** which are being developed for each objective, is to translate the HSE's vision for a net-zero health service that is environmentally and socially sustainable. into a practical programme for delivery of the relevant strategic objective.

This document provides a strategic foundation for development of a HSE Green Space Framework and supporting implementation plan to optimise the use of green space for the promotion of the health and well-being of patients, staff and the local communities and to maintain and improve biodiversity.

¹ Health Policy Partnership, The nexus between climate change and healthcare, 2022.

² The Paris Agreement is the first legally binding international Treaty on climate change, adopted by 196 parties at the UN Climate Change Conference of the (COP21) in Paris in 2015. Its overarching goal is to hold "the increase in the global average temperature to well below 2oc above pre-industrial levels and to pursue efforts to limit temperature increase to 1.5oc above pre-industrial levels." The signing of the Paris Agreement was the trigger for governments around the globe to develop and enhance the strategies and policies needed to reduce global warming.

³ Chapter 10 of the Climate Action Plan and the related Climate Action Mandates and Public Sector Climate Action Strategy are focused on the responsibility of the public sector to lead by example by fast-tracking the changes that are needed.

Table 1 Overview of HSE Climate Action Priority Areas and Corresponding StrategicObjectives

		Strategic Objectives
Α.	Sustainable Buildings and the green environment	SO1 Achieve a 50% reduction in energy usage, and a 51% reduction in energy-related GHG emissions by 2030 and a net-zero emission target by 2050 (at latest) under the requirement set out for public sector bodies in the Climate Action Plan 2021.
		SO2 Develop a HSE Green Space Framework and supporting implementation plan to optimise the use of green space for the promotion of the health and wellbeing of service users, staff and the local communities.
В.	Transport and Mobility	 SO3 Develop a HSE Transport Framework and supporting implementation plan to eliminate, reduce and substitute transport emission sources associated with delivering and accessing healthcare. SO4 Develop a mobility framework and implementation plan to promote travel initiatives to avoid unnecessary service user and staff journeys. Where journeys are required, support and encourage active travel, low
C.	Sustainable Procurement	carbon or public transport alternatives. SO5 Develop procured goods and services waste reduction framework and supporting implementation plan to reduce waste and related emissions, strengthen supply chain resilience and support the transition towards a circular economy.
		SO6 Develop a baseline for all HSE supply chain emissions and work in consultation with key supply chain product partners to include sustainability criteria in all tender procurement processes and establish a credible decarbonisation trajectory (no later than 2025).
D.	Greener Models of Healthcare	SO7 Develop a framework for greener models of healthcare delivery and supporting implementation plan to reduce the environmental impact of the delivery of models of care, pharmaceutical products / services used while continuing to prioritise service user safety, prevention and population health.
E.	Water and Waste Management	SO8 Develop a HSE Waste Management Framework and supporting Implementation plan to minimise food waste generation, increase recycling and reduce the amount of clinical waste generated.
		SO9 Develop a data driven water consumption framework and implementation plan to report and manage water consumption and conservation measures to reduce wastage.
F.	Adaptation and Resilience	SO10 Ongoing implementation of the measures set out in the Department of Health Adaptation plan 2019 -24 and all subsequent plans.
	Enabling Function	Description
1	Measurement and Assurance	The Measurement and Assurance Work stream will coordinate the collection, collation and calculation of the relevant sustainability data across the ten work programmes, including climate (Scope 1, 2 and 3 emissions), water usage, waste disposal and relevant biodiversity data. Identification of metrics and key performance indicators, target setting and tracking implementation of the Strategy will be enabled. The methodologies used will be in line with international standards.
2	Collaboration, Communication, Awareness and Training	In recognition of the need to inspire and upskill the workforce to embrace sustainability and adapt dynamically, the HSE recognises the need to educate and upskill a large workforce to act as climate activists and to equip staff with the knowledge to promote an overall culture of sustainability awareness.

The first strategic objective of the HSE Capital and Estates strategy is to achieve an estate that is net zero by 2030. The main function of HSE Capital and Estates is to provide the healthcare infrastructural capacity required to meet the needs of the HSE National Service Plan. The selection and enhancement of green space needs to be carefully and practically delivered within this context. Green space enhancement has to fully consider the current and future spatial, clinical infrastructural requirement as will be outlined in campus Development Control Plans (DCP's) and must not inadvertently hinder future healthcare infrastructural development requirements and opportunities.

It is important to have a clear and logical approach to green space enhancement irrespective of the size, variety and complexity across various HSE locations. The framework looks to encourage a patient/service user and staff centric approach to green space utilisation. The framework seeks to identify an approach to how best we can enhance green spaces within the existing healthcare estate and to consider optimum green space design for the future healthcare estate.

1.1 Context

Green spaces benefit the physical and mental wellbeing of service users, staff, patients, and the wider community. Green spaces have a leading role to play in climate action and sustainability, as preserving and reinvigorating green spaces promotes biodiversity, acts as a carbon sink, and supports climate resilience and adaptation efforts.

The HSE is also committed to supporting the 17 UN Sustainable Development Goals (SDGs) to promote prosperity while protecting the planet. Although the HSE contributes to most SDGs in one form or another, as they directly relate to health or contribute to health indirectly, health has a central place in SDG Goal 3:"Ensure healthy lives and promoting wellbeing for all ages". The relevant UN SDGs to this framework are:



Figure 1. An Overview of Sustainable Development Goals Related to Green Spaces

The quality of both the internal and external built environment has a significant impact on all stakeholders (patients, service users, staff and visitors). Good design contributes to the improvement of the daily lives and wellbeing of all of these stakeholders. A holistic approach is required to the design of the public spaces in healthcare locations from the point at which people enter the area, to the landscaped internal spaces, and to the back of house (service support) spaces that allow the facilities to function effectively.

Green therapy is an umbrella term for nature based approaches to healing. This includes physical health, mental health and wellbeing. Green therapy can involve spending time passively or exercising in these spaces and, or, working to develop and maintain these spaces. The health and wellbeing benefits of spending time in nature are well documented, as we will explore throughout this framework. The potential benefits to patients/service users include;

- improved health outcomes,
- shorter Hospital stays,
- reduced requirement for medication,
- increased mobility,
- faster recovery,
- enhanced positivity,
- opportunity for exercise and rehabilitate.

Potential benefits for staff are all linked to the positive impact of being able to relax, exercise and enjoy being outdoors even for short times, during their working day.

The spatial design process should be sensitive to the needs of the building users and provide social environments which enhance people's experience, as outlined above. Appealing and welcoming environments that are comfortable and convenient, also encourage use and social interaction. Designs should be sustainable, enhance their environments, and most importantly support delivery of a high quality care service. The HSE is committed to ensuring that international and national design principles, along with best practice in healthcare design, are applied to all capital developments across the HSE estate.

1.1.1 HSE Climate Action Strategy 2023 – 2050 and HSE Green Environment framework

With the publication of the HSE Climate Action Strategy in 2023, a commitment was made to preserve and reinvigorate green spaces to promote biodiversity. Across the HSE estate there are several ongoing green space initiatives – both top-down and grassroots – taking place at local, community and hospital levels in HSE-owned and HSE funded green spaces and many in collaboration with local stakeholders. Therefore, an important step to preserve and reinvigorate greenspaces is a framework to understand how best to create an enabling environment to support action on the ground to better utilise our green spaces.

2. Best Practice

Extensive research has been carried out previously on the therapeutic benefits of incorporating greenspaces and biodiversity into healthcare environments. A few examples of international and national guidance and best practice case studies are outlined below:

2.1 International and National Guidance

Table 2. Best Practice Measures Undertaken Across Other Healthcare Services		
National Guidance and I	Best Practice	
Eco therapy - The	• Eco therapy is a broad term that refers to natural, free, accessible treatment that boosts mental wellbeing. Whether it horticultural development programme supervised by a therapis simple walk in the park, being outdoors and being active is proto benefit our mental health. Access to green spaces redustress and improves mood, it provides a restorative environm for people to relax, unwind and recharge their batteries. hospital stay for patients with tree views was significantly sho and nursing staff reported fewer negative evaluation comment medical records.	
Mental Health	 Many hospitals have healing gardens designed to alleviate stress for patients' staff and visitors, in a survey conducted in a children's hospital in California, 54 percent stated that the users felt refreshed and less stressed after visiting the garden. Nearly half the visitors spent less than 5 minutes in the garden, so even the short visits were beneficial. Visitors wanted to escape the stresses of the hospital and enjoy the relaxing restorative elements of nature. The key principles of why people enjoy green exercise activities include natural and social connections. Sensory stimulation 	
	activity and escape.	
Great Outdoors: How Our Natural Health Service Uses Green Space to Improve Wellbeing - An Action Report by	 The action paper outlines the benefits green spaces can have on the general population and evidence linking green spaces with decreased health inequalities, reduced crime, and increased workplace productivity. Green spaces can help to reduce health inequalities. A recent large-scale study in the UK of 336,348 patient records showed significantly less health inequality between rich and poor groups in areas with higher levels of green space than between similar groups in areas with less green space. 	
The Faculty of Public Health and Natural England	 Green spaces are not just effective at preventing ill health, they can also aid in recovery and rehabilitation. Studies where patients had views of nature through hospital windows found more rapid post- operative recovery and lower need for pain relief, while patients with anxiety disorders exhibited lower levels of fear and anger. 	

National Guidance and E	Best Practice
	• Southmead Hospital has 19 acres of outdoor space and the biodiversity management plan published in 2019 has several measures in place to encourage the use of this site in response to minimising negative impacts to the environment.
	 Insect hotels and bird boxes have been introduced to the site, timber was donated by local businesses and workmanship assistance secured from carpentry students.
North Bristol NHS Trust Biodiversity Management Plan	• Drought tolerant planting and attenuation ponds are other major features in the hospital. There are about 4900sqm of SUDs system in place which stores run off water and a controlled release into the local water course. These also provide habitat for a range of wildlife.
	• Herb gardens on the roof provide the staff a respite during their break time and they are also a Haven for pollinator species.
	 Interpretation panels and annual events involving the local community increase engagement and awareness towards biodiversity.
	The structure of the report includes:
	» The principles of outdoor healing – theoretical background on how outdoor environments assist the healing process.
	» How spaces can be transformed into healing spaces
	» Design principles to form the basis of looking at a space to be enhanced.
	 Regulatory and functional aspects – options that can be explored to secure funding for initiatives.
NHS Forest – Greenspace Design for	» Healthcare environments to foster a connection to nature and beauty, as per the "Plane Tree model"
Health and Wellbeing Practice Guide	 Access to outdoor spaces enhance healing and patients were also found to recover faster and return home sooner. Well-designed green spaces in the work environment are an important factor in staff retention.
	 One case study explores the way outdoor space and woodland settings in a hospital campus in Scotland brought long term residents outside in the fresh air, improving their mobility and giving them a sense of purpose in a communal setting. This was an example where neglected woods next to a hospital campus were made into a public park with accessible paths and pause points all contributing to increasing interactions with nature for the residents.

National Guidance and Best Practice		
	• The group brought forward a position paper which outlined the benefits and requirements of green spaces in urban environments.	
	• It highlights the requirement of a green space, not just as an aesthetic improvement but also as a crucial component towards public health. Spaces should be accessible and be available to all sections of society especially the disadvantaged segments. Green spaces should be considered vital tools for future climate needs; trees for shade; carbon sequestration and flood mitigation.	
Paper on Greening of Urban Environments- HSE Public Medicine Environment and Health Group	 The Healthy Ireland Framework unites Ireland's main health promoting policies until 2025 and learning from international examples this paper has highlighted the benefits of increasing the quality and quantum of urban green spaces. Green spaces are found to have profound impacts on health - including studies by Public Health England reporting that green spaces are "assets to health" as access to green spaces is linked to more favourable birth weights, higher likelihood of healthy adult weight and the maintenance of a healthy immune system. 	
	 In terms of mental health evidence noted in the Public Health England review found that green spaces were associated with positive emotions, higher life satisfaction, and reduced stress. 	
	 Carbon Sequestration goals have also been linked with increasing the volume of trees in urban spaces and this would play a part in efforts to prevent full effects of climate change. The WHO supports use of green spaces to sequester carbon. 	
St Fintan's Hospital, Portlaoise Landscape and Biodiversity Action Plan	 This is a shared plan of action for the management and development of St Fintan's Hospital to increase opportunities for nature-based interventions and therapy, and to increase biodiversity on the campus. This can include HSE staff and local managers, and residents' groups involved in works on the ground. This plan considers St Fintan's Hospital in the context of the wider urban landscape and ecological linkages to surrounding areas of biodiversity value. It is a strong starting point for a suitable methodology to be applied for reviewing the site for its quality and existing potential. 	
	• The study identified certain invasive plants that might have found their way into the campus and recommend best practice to mitigate risk. It is an important background resource for design professionals in relation to future green space enhancement works. Actions recommended have short term and long-term effects.	
	• The community involvement initiatives as elaborated in the Fingal Green strategy are a useful reference in relation to local community collaboration.	
Keeping it green: An Open Space Strategy for Fingal	 The dedication bench and tree planting initiative is a useful project that can be included as a strategy. Other useful community involvement programs could also consider allotments, which could also involve visitors and long-term residents contributing to its functioning. Fingal County's "Adopt a patch" scheme has residents getting involved in maintaining small residential areas and keeping it tidy. A designated allocation of space to SUDS initiatives in open spaces is also something Fingal has brought into practice for spaces under the council ownership. 	

National Guidance and Best Practice	
All Ireland Pollinator Plan 2021-2025	 The All Ireland Pollinator Plan has a monitored implementation process co-ordinated by the National Biodiversity Data Centre. This addresses the reality of pollinator decline and outlines best practice. After their successful implementation of phase 1 in 2020 the guidance developed include contributions from grass roots level up, which makes it easier for local Communities to comprehend and implement. There is best practice guidance available for creation of small pollinator friendly patches in sites like schools and residential green spaces.
	 The National Biodiversity Data Centre have published a guide specific to Healthcare which features Peamount Healthcare in Co. Dublin, and Dalriada Hospital, Ballycastle, Co. Antrim.

2.2 Best Practice Examples

Table 3. Best Practice Examples Where Green Spaces Have Been Integrated intoHealthcare Buildings at Planning Stages.

Best Practice Location	Action
	• The building is wrapped around themed courtyards, distinctively designed to provide stimulating outdoor spaces and assist orientation.
Queen's Centre for Oncology and Haematology, Hull, UK	• The design also features extensive protection of the existing aquifer, provision of a swale for attenuation of surface water drainage and improvement to the local ecology.
	• Wards are located on lower floors to maximise access to courtyards connections with nature and distant views to the surrounding countryside.
	• The building is designed to maximise views into open spaces with dedicated courtyards for children - these minimise the impact of being indoors and provide options for structured play which can be perceived as part of their normal healthy routine.
Children's Health Ireland, NCH, Dublin,	• Open spaces at all levels cater to staff and patients. Designated break out zones provide relief from the continued exposure to the unsettling hospital settings.
Ireland	• Maintenance aspects have been considered and significant portions of landscaped areas are wild flowers and similar less intensive landscapes.
	• Europe's largest roof garden on level 4 is predominantly a meadow, which also gives the hospital an instantly recognisable and friendly identity.

Best Practice Location	Action
	• An extension project to develop the masterplan for the hospital campus includes features like:
University Hospital,	» Thematic gardens linked to each research facility adjacent and between buildings create a diverse atmosphere.
Brussels, Belgium	» Enhancements to the main entrance and landscaped forecourt provide a welcoming first impression.
	 Tree placement and positioning links different hospital buildings and makes for a cohesive masterplan.
	• A raised garden located over a parking lot linked to a mental health institution segregates everyone from the congestion and intensity at the ground floor.
Magnatan Sansany	• The garden is organic in composition. The natural form is soothing and emphasized by a meandering paths.
Garden, Frederiksberg, Denmark	• Three main components flower, bonfire and vegetable garden are designed to stimulate different senses. The green house in the vegetable garden also enhances opportunities for one-on-one planting sessions and similar group activities.
	• The flower garden is a shielded zone which offers an assortment of colours and smells. The bonfire zone together with the greenhouse become active in winter.

3. Current State Assessment

The HSE has responsibility for one of the largest property portfolios in the state. Therefore, there is opportunity to contribute to green space enhancement on our estate which comprises of approximately 4,500 buildings across 2,500 sites.

HSE Capital and Estates manage the healthcare estate and is committed to creating a high quality physical environment that will enhance wellness for patients and service users. The HSE Capital and Estates mission statement is:

"To manage the Healthcare Estate in order to create and sustain a physical environment that enhances wellness in patients and clients and which enables and empowers staff"

Currently, a data base exists for HSE Buildings but this does not include a data base, or register, of green spaces. In addition, no studies have previously been progressed to establish the current quantum or state of green spaces at existing healthcare facilities across the HSE estate.

A key consideration is the need to consider and incorporate any proposed works or green space initiatives into national Capital Development Plans and campus DCP for each healthcare location. It is critical that the development and enhancement of green spaces on health campuses does not hinder the ordered development of healthcare infrastructure. The primary obligation of health estates is to provide and develop the healthcare infrastructure required to provide for health needs based on the HSE service plan, Sláintecare and the Strategic Health Infrastructure Framework. The progression of improved green spaces must be in tandem with and complimentary to this objective.

3.1 Approach

This framework proposes to outline an approach to progress a "How to Guide" for management teams at existing facilities to improve and enhance green spaces at their facilities.

The assessment and measurement of health and wellness benefits will be a key criteria for the identification and selection of any proposed green space projects. It is proposed that a green space health benefit assessment methodology should be included in the development of a 'How to guide" for existing and new campuses and facilities. Having this measure will ensure that the most beneficial projects will proceed in the appropriate order of priority. This will provide clarity and greatly assist an open and transparent green space project selection in a situation where many future projects will be competing for limited funding.

To ensure that proposed Green space enhancements do not inadvertently obstruct future capital developments on campuses, all proposals must be signed off by local Estate Managers to ensure that they are consistent with planned works and campus DCP. Care must also be taken to ensure that measures are not proposed or progressed to entice endangered species onto healthcare campuses which might possibly hinder or prevent future development.

3.1.1 Summary of Green Space Framework Recommended Areas of Focus

Below is a table of key actions associated with areas of focus for green space development.

Table 4. Areas of Focus

Action	Description
1	Complete the 15 pilot site assessments and reports.
2	Develop a green space benefits and appraisal methodology to assist stakeholders in prioritising therapeutic and health benefits for service users and staff.
3	Identify and agree the selected elements of works to be progressed at the 15 pilot sites.
4	Progress a ''How to guide' 'to enhance green spaces in existing facilities using learnings from works progressed at the pilot sites.
5	Engage with regional green committees to develop a co-ordinated and standardised approach to the progression of green space enhancement projects.
6	Develop an approach to incorporating best practice guidance and innovative approaches to incorporating ''health landscape design" in all future Capital Developments.

4. Methodology and Implementation

4.1 Methodology

The approach and methodology includes the progression of green space assessments, enhanced design and upgrade works at a number of healthcare sites as part of a pilot project. To further strengthen the approach outlined in this section, the working group for this framework (membership outlined in Appendix 1.) engaged with a number of stakeholders to inform the process, see Appendix 2.

The intention is that practical lessons and observations will be learned from the pilot sites which will inform a "How to guide" for future green space enhancement on existing Sites and for future builds.

The initial output from the pilot sites will be the development of option appraisal reports at each healthcare location, see Appendix 3. The development of the appraisal reports for each of the pilot sites is a key stage in the process as it outlines the main green space enhancement opportunities at each location. The option analysis and benefit assessment once progressed, will outline a structured approach to allow local stakeholders make informed decisions to select the best option to improve the green spaces at their facilities.

The subsequent "How to guide" will set out clear steps for stakeholders at a local level to develop green space enhancement plans. The "How to guide" will also contain a set of health benefit assessment criteria and scoring templates which will assist local managers and stakeholders to develop site specific green space proposals based on each sites particular patient and service user needs and local site specific knowledge.

It would not be practical, nor economically feasible, to initially carry out an ecological survey of the whole healthcare estate portfolio. It is recommended that all green space enhancement proposals that will impact a large area of the estate should consider an ecological survey as part of their option appraisal process. Such a survey would also set down a biodiversity baseline at a given time for that location. This information will be collected as part of a broader measurement plan for the HSE Climate Action Strategy.

4.2 Methodologies used for Pilot Sites

The system used for appraising the 15 pilot sites looked at two models to assist and inform the pilot site work and ultimately the development of 'How to Guides'. Please see references for both methodologies in Appendix 6.

4.2.1 Methodology 1

Firstly, five key principles for each site were considered in terms of existing successful projects delivered on site, planned projects and potential missed opportunities. The five key principles and explanatory theories are as follows:

a. Wellbeing Theory



Consideration should be given to various aspects of well-being and health that outdoor usable space can help stimulate patients, service users, staff, and visitors:

- **Mind** engagement, calmness, awareness, respite.
- **Body** physical fitness, agility, flexibility, strength, recovery.
- **Spirit** emotional well-being, happiness, peace, contentment.



b. Rehabilitation Theory

The journey of rehabilitation is a dynamic process that happens in stages, be it during a day or over a long period of time.

Opportunities for outdoor spaces to help in the process of rehabilitation whilst also providing a place for distraction and rest for patients and service users should be considered.

c. Ecological Gains



The sites should provide options for short and long term biodiversity goals which would have a sustained impact on the ecology of the region.

D. Universal Design Theory



The open spaces of services should be inclusive for patients and service users of all ages and abilities. This is also true for other users of these spaces such as parents, siblings, friends, visitors and staff.

E. Therapeutic Landscape Theory



Therapeutic landscapes should be considered such as:

- Active spaces for play, outdoor physiotherapy, exercise and interaction.
- Educational spaces for learning and social engagement.
- Calm and contemplative spaces for resting.
- Passive landscapes that are enchanting, characterful, distracting, and encourage users to explore.



4.2.2 Methodology 2

The second model uses various principles to understand how a site's green space is utilised. Any green space enhancement plan must compliment and align with the campus DCP.

Welcoming

What is Welcoming?

The welcoming aspect of campus' outdoor spaces is centred on creating an inviting and comforting atmosphere for individuals upon their arrival.

Recognizing that the first impression plays a pivotal role in shaping one's experience, these spaces aim to convey a sense of warmth, ease, and reassurance.

Welcoming outdoor areas contribute to a positive initial encounter, easing the stress often associated with service visits and fostering a sense of comfort and connection.

How welcoming informs improvements:

To enhance the welcoming quality of campuses, there is a focus on the arrival spaces, such as site boundaries, main access points, approach to main entrance of building and spaces. Staff, patients and service users should have their feelings of confidence and faith in the standard of care reinforced by the visual appearance of the services.

Improvements to external areas could include soft landscaping, signage, lighting or art to achieve a welcoming atmosphere. The integration of sensory elements, such as soothing sounds or fragrant gardens, can further enhance the overall welcoming ambiance.

Additionally, incorporating cultural, heritage or regional aesthetics into the design can create a more personalized and inclusive atmosphere for a diverse range of visitors.

Scoring System Explained:

The scoring system for evaluating the welcoming quality of arrival spaces employs a 1 to 5 scale, with 1 representing an unwelcoming and uninspiring environment, while 5 indicates an exceptionally inviting and comforting space. Criteria for assessment include the design aesthetics, landscaping, signage, and the overall ambiance of the arrival area. Elements such as clear wayfinding, well- maintained greenery, comfortable seating, and the integration of public art are considered. Higher scores reflect spaces that successfully create a positive and welcoming environment, promoting a sense of calm and reassurance for individuals entering the facility.



Scale

What is Scale?

The scale of a campus' outdoor spaces refers to the ability of these areas to accommodate diverse activities and provide a sense of spaciousness.

Recognizing that the outdoor environment should cater to a variety of needs and preferences, the scale dimension emphasizes the importance of size, layout, and overall accessibility to ensure that individuals feel a sense of openness and comfort within the space.

How scale informs improvements:

The scale of outdoor spaces considers the size and shape but also other aspects such as orientation, and adjacent space. It requires a holistic approach that considers the spaces on the site as a whole and evolving needs of how to provide the best improvements that will give real value for users.

Additionally, incorporating flexible design elements such as movable furniture, modular layouts, and adaptable spaces can enhance the versatility of the outdoor environment.

By prioritizing user feedback and implementing adaptable design strategies, campuses can continuously enhance the scale of their outdoor spaces to meet the evolving needs of the community.

Scoring System Explained:

The scoring system for evaluating the scale of outdoor spaces employs a scale of 1 to 5, where 1 signifies cramped or inadequate space, and 5 represents a well- designed, spacious environment. Criteria for assessment include the overall size of the outdoor area, the distribution of functional zones, and the ease of movement within the space. The presence of seating areas, pathways, and green spaces all contribute to the score. Higher scores reflect outdoor spaces that successfully balance elements of scale to provide an environment that feels expansive, accommodating, and well-suited for various activities.



Movement

What is Movement?

The movement aspect of a campus' outdoor spaces should focus on facilitating smooth and accessible transitions within the environment. Recognizing that ease of movement contributes to a positive experience, this dimension emphasizes pathways, flow, and connectivity to ensure individuals can navigate the space comfortably. Movement-friendly spaces are crucial for patients, service users, visitors, and staff, supporting a sense of efficiency and connectivity within the campus.

How movement informs improvements:

Improvement in movement within outdoor spaces requires a strategic approach that considers user feedback and evolving accessibility standards. Assessments through user surveys or mobility studies can help to identify and understand specific challenges and areas for improvement. This analysis will lead to the implementation of universally designed pathways, ramps, and entrances that cater to diverse mobility needs while providing clear easy to navigate spaces.

Incorporating wayfinding elements and interactive maps can enhance navigation, providing a seamless experience for all users. By prioritizing user feedback and implementing thoughtful design strategies, hospital campuses can continuously enhance the movement dynamics of their outdoor spaces, fostering an environment that supports effortless and inclusive mobility.

Scoring System Explained:

The scoring system for evaluating movement within outdoor spaces employs a scale of 1 to 5, where 1 indicates challenging and constrained movement, and 5 represents a well-designed and easily navigable environment. Criteria for assessment encompass the layout of pathways, the presence of clear signage, accessibility features, and the overall connectivity of the outdoor space. Well-defined walkways, appropriate lighting, and thoughtful placement of amenities contribute to a higher score. The goal is to ensure that individuals can move effortlessly within the space, promoting a sense of comfort and accessibility.



Complexity

What is Complexity?

The complexity dimension in the context of campus outdoor spaces delves into the diverse and multifaceted features tailored to accommodate various functions within a healthcare setting. Recognizing that different areas of the campus serve distinct purposes, this aspect evaluates the richness and variety of elements that cater to the diverse needs of patients, service users, visitors, and healthcare staff.

How complexity informs improvements:

Improvement in the complexity of outdoor spaces tailored to various functions necessitates ongoing collaboration with healthcare professionals, staff, and design experts.

For example, areas near patient wings may benefit from serene and therapeutic landscaping, while spaces near staff entrances may incorporate amenities conducive to relaxation and rejuvenation. Integrating technology, such as outdoor workspaces for staff or interactive educational displays for patients, can add dynamic layers to the outdoor environment.

By customizing features to support varied campus functions, the outdoor spaces can become integral to the overall healthcare experience, promoting well-being and functionality across the spectrum of users.

Scoring System Explained:

The scoring system for evaluating the complexity of outdoor spaces employs a scale of 1 to 5, where 1 suggests a limited and singular functionality, and 5 indicates a well-designed, multifunctional environment. Criteria for assessment include the integration of features such as therapeutic gardens, contemplative spaces, active recreation areas, and designated zones for staff breaks. Higher scores reflect outdoor spaces that successfully incorporate a diverse range of elements, ensuring that different functions within the hospital campus are supported and enhanced.



Ecology

What is Ecology?

Ecology encompasses the study of the interactions between living organisms and their environment, including the intricate relationships between plants, animals, and the physical surroundings. Ecological considerations are vital for promoting biodiversity, enhancing air and water quality, and fostering a healing environment. A robust ecological approach seeks to strike a balance between human activity and the preservation of natural habitats, contributing to the overall well-being of patients, service users, staff and visitors.

How ecology informs improvements:

To enhance the effectiveness of how green spaces can provide benefits to the campus while achieving the goal of improving local biodiversity and ecological value.

Improvements can include:

- Advice to maintenance staff such as avoiding the use of pesticide/herbicide or reducing the frequency of lawn mowing.
- · Introducing ecological assessments to track the
- Existing health of habitats.
- The creation of habitat areas for specific species.
- Enhancing wider flora & fauna habitat zones taking into account the local flora and fauna.
- Incorporating real-time data collection methods, such as sensor technologies or community engagement initiatives to provide a more dynamic and accurate representation of the outdoor space's ecological health.

Scoring System Explained:

The scoring system for evaluating the ecology of sites employs a 1 to 5 scale, with a score of 1 may indicate minimal biodiversity, lack of greenery, and limited integration of sustainable practices. A score of 5, on the other hand, signifies a thriving ecosystem, rich biodiversity, and well-implemented sustainable initiatives. Various criteria contribute to the scoring, including the diversity of plant species, the presence of wildlife habitats, water management practices, and the use of environmentally friendly landscaping techniques. Each element is carefully weighed to provide a holistic evaluation of the ecological health of the outdoor space.



Social

What is Social?

Social aspects of a campus' outdoor spaces are crucial for fostering a supportive and inclusive community environment. Recognizing the role these spaces play in promoting human interaction, relaxation, and overall well-being is central to the social dimension. Beyond being aesthetically pleasing, a socially vibrant outdoor space should provide opportunities for patients, service users, visitors, and staff to connect, engage in activities, and find solace amidst nature, contributing positively to their mental and emotional states.

How social informs improvements:

To enhance the social quality of a campus, collaboration with healthcare professionals and community members is essential. This can inform the development of spaces to enable a range of social events for the different users of the sites and the different types of social events. This might include quiet private spaces for small groups up to large outdoor events for community engagement.

The inclusion of elements that cater to diverse age groups, cultural preferences, and recreational interests will further contribute to the overall social well-being of the hospital campus outdoor environment.

Scoring System Explained:

The scoring system for evaluating the social quality of a hospital campus site utilizes a scale of 1 to 5, where 1 signifies minimal social engagement opportunities and 5 indicates an outstandingly inclusive and socially dynamic environment. Criteria for scoring encompass factors such as the availability of seating areas, recreational spaces, community events, and the overall design facilitating social interactions. Presence of amenities like picnic areas, art, and accessibility features for diverse groups are also considered. Higher scores reflect spaces that actively contribute to a sense of community and well- being, promoting social interactions among individuals.



4.3 Potential Interventions

For each of the 15 pilot sites, the potential for interventions was identified at a high level. These interventions are organised into five categories in the order of the lowest to the highest impact. Their impact was determined based on:

- Enhancement of Local Biodiversity
- Benefits to all users
- Cost and complexity (cost refers to capital investment for an intervention)

The interventions recommended for each site were devised from site visits and thorough engagement with site staff and management. Interventions were also considered with due regard to the future development of the sites.

Each site's DCP was reviewed and considered where available to ensure that the typologies selected achieve a balance of enhancing the site while not inhibiting any future development. See St Fintan's sample site report in Appendix 3.

Category 1 Minor Amenity

Impact: Low

Target Results: Social and Amenity Betterment Cost: Low

- Modular un-fixed seating arrangements.
- Covered seating pods.
- Picnic tables.
- Outdoor games such as table-tennis, chess
- Tables etc.

Category 2: Nature-based Solutions

Impact: Low - Medium

Target Results: Ecological and Biodiversity Enhancement

Cost: Low

- Establishment of new stands of native hedgerow.
- Planting native broad leaf trees in groups.
- Reduce petrol-intensive maintenance and general over-cutting of lawn.
- Establishment of native species-rich meadows.



Category 3: Amenity and Nature

Impact: Low - Medium

Target Results: Ecological, Social and Well-being Enhancement

Cost: Medium

- Raised planters with incorporated seats and native planting.
- Edible and sensory planting programmes.
- Enhancement of spaces where intensive works are limited or confined to meanwhile use.



Category 4: Social Amenity

Impact: Low - Medium Target Results: Social and Well-being Enhancement Cost: Medium to High

- Creation or upgrade of seating areas adjacent to key spaces
- such as entrances, waiting rooms or canteen.
- Incorporation of pergolas or covered spaces.
- Enhancement of spaces where intensive works are
- limited or confined to meanwhile use.



Category 5: Large Projects

Impact: High

Target Results: Ecological, Social and Well-being Enhancement

Cost: High

- New circular walks on campus.
- Enhancement of existing entrances to instil a welcoming experience.
- Creation or enhancement of existing courtyards.



4.4 Process towards Implementation

Below outlines an infographic of the phased approach from identification of Pilot sites to completion of works on the 15 sites. Also the key deliverable will be a 'How to Guide' for all HSE sites for enhancing the Green Environment and secondly an amended scope of services for design teams with emphasis on green space patient centric therapeutic design.





Implementation Plan in Detail



Step 1: Identify Pilot Project Sites

15 Pilot Sites has been finalised by the Green Space Working Group in collaboration with local Capital & Estates and Service Management.

Step 2: Desk top review - Data Collection Surveys / Reports

A desk top review has been carried out on each pilot site. Sites are at different stages of development, so assessments are tailored to suit the information available. This includes:

- Developing an understanding of each site and its existing context.
- Conducting a spatial analysis of the site and review appropriateness of proposals.
- Reviewing each Capital Development Plan for each site with regard to any possible future constraints.
- With future constraints determined,
- Identify opportunities
- Ensuring all potential works proposed do not interfere or cause potential obstacles to the future ordered development of sites in line with future healthcare needs.
- Carrying out a brief SCOT (Strengths, Challenges, Opportunities, and Threats) analysis of each site.
- Review and consider conclusions of reports prepared to date.
- Peer review any designs completed or in progress for the relevant sites.



04 Develop Benefits Assessment Methodology 05 Provide Assessment Report to each pilot site identifying areas of opportunity & constraint

Step Three: Conduct 15. Site Visits at the following locations

- 1. St. James's Hospital, Dublin
- 2. Dr Steven's Hospital, Dublin
- 3. St. Luke's Hospital, Kilkenny
- 4. St Fintan's Hospital, Portlaoise
- 5. Leopardstown Park Hospital, Dublin.
- 6. St. Joseph's Hospital, Longford
- 7. Clonakilty Community Hospital, Co. Cork
- 8. Sligo University Hospital, Sligo
- 9. Letterkenny University Hospital, Letterkenny
- Connolly Hospital, Dublin, brought to appraisal stage but large scale development taking place. Courtyard Project in Castlebar will replace as a pilot.
- 11. St. Brigid's Hospital Campus, Ardee, Co. Louth
- 12. St Mary's Hospital, Drogheda
- 13. Prosper Fingal, Dublin
- 14. St Canice's Hospital, Kilkenny
- 15. Nenagh Hospital, Co Tipperary

Once all sites are visited, findings to be collated in an accessible and succinct format that is consistent across all of the sites.

Step Four: Combine desk top review with Findings from Site Visits and develop benefit assessment tool

Combine and review all available Site Information. Engage with Regional Estates, Service Managers and other Stakeholders. Produce a summary of findings to date in terms of existing context and development. Develop a benefit assessment methodology.

Step Five: Provide Assessment Report for each Pilot site identifying areas of opportunity and constraint

The report will include a list of potential opportunities for each site. A benefits assessment tool (under development as part of this process) will rate the opportunities which gives a priority listing.

Following completion of Stage 5, a review will take place. HSE stakeholders will be in a position to more accurately define and agree the full scope of service involved in delivering steps six to fourteen below in more detail.



Step Six: Develop Greening Space Plan for each Pilot site with suggested phasing plan to possible works

Site specific measures with estimated costings for each potential action to be developed for each pilot site building on the opportunities identified during the site visits. Proposals will be made on how these can be implemented on a phased basis. Proposals to be presented to the appropriate Green Committee.

Step Seven: Stakeholder consultations for all key decisions in progress

Discussions and workshops will be held with all relevant stakeholders and key decisions in the process to be agreed. All proposed works must be formally signed off by the Regional/Local Estates Manager to ensure that they are consistent with planned Capital Works and Campus Development Plans.

Step Eight: Commission detailed Landscape Design Works at Pilot Sites

Detailed design for agreed elements of work will be progressed following appropriate procurement of required design and contractor services.

Step Nine: Following local stakeholder sign off commence landscape works on site by Contractor at pilot sites

The works on pilot sites will begin once local stakeholders have approved designs and construction plans.

Step Ten: 10: Finalise HSE Greening Guidance Document for existing sites

Use the learnings from the 15 pilot sites design and works to prepare a how to guide for existing Campuses and Sites. This will include a methodology and assessment criteria to assess and rate future Green Space Enhancement proposals based on therapeutic Health benefit. This should provide an easy to use self help guide for use by Management Teams and Stakeholders at all Health Facilities.



Step Eleven: Develop a proposed scope of services for Design and Construct Landscape Contractor's & Establish framework for local draw-off

Develop a scope of services for the establishment of a Framework of Designer/ Contractors that local Healthcare Facilities could draw down off. This would assist local Management Teams and Stakeholder Groups in the procurement of Landscape Design and Construction services in the future.

Step Twelve: Identify funding mechanisms and Strategies

Through the Regional Green Committees consider funding mechanisms and strategies to co-ordinate the progression of local green space enhancements projects.

Step Thirteen: Develop best practice guidance for future design teams Scope of Service

Amend the scope of work for Design Teams working on future Capital Projects to include additional requirement to ensure full consideration of green space opportunities to achieve the optimum therapeutic benefit from the green space for service user's visitors and staff.

Step Fourteen: Review and improvement of Green Space enhancement programme

In consultation with the HSE National Climate Action steering Group, the Green Space Working Group and the Regional Green Committees will review progress and feedback from green space enhancement Projects to continually improve the process and assist national implementation.

5 Implementation

Proposed Project stages for selection and completion of future green space enhancement projects at Regional Level

This process flow represents an approach to the key stages from inception to completion of a Green Space enhancement project. This can be discussed and amended following consideration by Regional Green Committees.

The initiation stage would be developed at local level in the form of an outline service user's needs brief proposal by local stakeholders. The 'How to guides' should assist with this planning. The outline service user's needs brief that is used for selection of Projects at Local level may suffice or be further developed to clarify requirements for Landscape Designers. The landscape designer would be required to complete an option appraisal stage. The stakeholder group in collaboration with the designer decide which option they wish to proceed to detailed design phase.



5.1 Support for Implementation and Next steps

The HSE Climate and Sustainability Programme, along with HSE Capital and Estates Sustainable Infrastructure Office, will continue to support and enable regional green committees, regional climate and sustainability leads and local green teams to ensure that together real tangible progress on this critical issue is made and the HSE continues on our path to sustainability as a whole. This will include guidelines, training, tools and templates to assist with implementation of the Climate Action Strategy.

Moreover, in the immediate term, each region should focus on the below implementation enablers to build and sustain momentum.

Implementation Enabler 1

Governance: Green Spaces

- As part of your regional green committee establish a mechanism for green spaces work inclusion. Regional Climate Action Implementation Structures guidance issued by the Climate and Sustainability Programme will assist.
- Section 5 provides Green Committees with a process for developing a green space enhancement plan.

Implementation Enabler 2

Measurement and Assurance

- The Climate and Sustainability Programme and Capital and Estates will:
 - » Guide methodology to plan and implement local healthcare green environment requirements.
 - » Develop a suite of healthcare green environment guidance, measures and supports for regional green committees.

Implementation Enabler 3

Communications and Training

- The Climate and Sustainability Programme will be supporting regions and services with:
 - » Ongoing communications materials to support action, enable shared learning and awareness in this space.
 - » Various training opportunities such as health sector specific training provided via HSELanD and other e-learning platforms, Senior Leadership Sustainability training and Green Team training.
 - » See below a tile developed as part of an internal staff campaign providing staff simple actions that they can take.

$H\tilde{z}$ We're taking climate action

Sustainable Buildings and the Green Environment

- Switch Off, Save Energy, Save Money.
- Lighting Make the best use of daylight and turn off lights in unused areas when safe and not needed.
- Equipment Turn off all non-essential equipment if not in use.
- Heating and Cooling Keep windows and doors closed. Dress appropriately for building temperature.
- Green your Space Plant or develop a green space at home or in the workplace.





Advocate for change -Talk to your colleagues and manager. Get involved with your local green teams.

#ClimateAction

Visit hse.ie/climateandhealth for more information

Appendix 1

Terms of Reference - Green Space Working Group

The Chief Strategy Officer, on behalf of the Executive Management Team (EMT), has initiated the implementation of the Climate Action Strategy for the HSE (the "Strategy"). The overarching objective of the Strategy is to support the delivery of key HSE strategic goals as they relate to Climate Action. The programme of work to implement the Strategy (the "Programme") will be a multi-year, sustained Programme 2023-2050 (with yearly reviews and updates) that requires appropriate investment in terms of time and resources.

This will involve setting up a number of Work Programmes, including the Green Environment Work Programme. The work of each Work Programme will be to drive implementation of the Strategy by setting a baseline, developing implementation plans, filling key data gaps, identify principles for implementation and resource requirements, map risks associated with delivery and provide mitigations, etc.

Implementation of the Strategy will be an ongoing process.

Scope

The scope of the Green Environments Working Group is to provide direction to the activities related to green environments that are required to develop and implement the Climate Action Strategy (2023-2050) for the Health Service Executive.

These include:

- Identify what best practice looks like for restoring natural habitats, increasing biodiversity value, and halting biodiversity loss [Key Action 1].
- Conduct a series of pilot works across selected sites with the aim of developing a set of guidance notes (the guidance notes will include a how to guide with a cost estimator and include lessons learned from the green spaces pilot sites to be communicated to all services [Key Action 2].
- Incorporate green spaces and biodiversity considerations into all new HSE build designs [Key Action 3].

Purpose

The purpose of the Green Environment Work Programme team is:

- To provide oversight and guidance on elements relating to the Green Environment required for the development and delivery of the HSE Climate Action Strategy (2023-2050).
- To ensure the requirements laid out by the Climate Action Steering Group are met.
- To remain within agreed scope and remit of work.
- To manage the resolution of risks and issues relating to green environment elements in the development of Climate Action Strategy to mitigate delays.
- To identify resources and training required to the deliver the green environment elements of the Climate Action Strategy.
- To liaise with other Work Programme teams and ensure findings are not in conflict.
- To ensure appropriate reporting with related governance structures are in place as needed.

- To ensure that appropriate stakeholder engagement (including external stakeholders) is incorporated.
- To ensure on-going alignment of projects and works with HSE and National Policy and Strategy.

Work Programme Team Members

The proposed membership of the Work Programme Team is as follows:

- Peter Smyth (Chair) HSE Assistant National Director, Capital and Estates
- Brian O Connell HSE Interim National Director of Capital Estates
- Sarah McCormack Health Ireland Representative
- Jane Stout Professor of Botany, Trinity College
- Dr. Lisa McNamee Irish Doctors for the Environment representative
- Helen Maher HSE Capital and Estates Representative
- Stephen Murphy HSE Capital and Estates Representative
- Terry Maher HSE Capital and Estates Maintenance Representative
- Regional Green Committee representative
- Sibéal Carolan HSE Workplace Health & Wellbeing Unit
- Dr. Ina Kelly HSE Consultant in public Health Medicine for environment & Health
- Thomas Roux HSE Specialist Registrar Public Health Medicine

Membership will be regularly reviewed and new members may be requested to join as required. Other individuals may be invited by the Chair to attend Work Programme meetings as needed.

Membership substitutions are only permitted in cases of short-term absences (for example annual leave or illness). In cases of longer-term absences, adjustment of steering group membership will be required, with the transfer of role(s) formally recorded.

At a minimum, Work Programme team members should:

- Understand the goals, objectives and desired outcomes of the programme of work.
- Raise matters of concern as they arise.
- Have a good working understanding of the legislation and statutory demands its implications for staff, service users and the public.
- Attend and participate in work stream meetings as required.
- Support open discussion and respectful debate at all Work Programme meetings.

Meetings

The Work Programme team will meet at an interval to facilitate efficient progress.

Decisions, Approvals and Escalations

A quorum of the Green Environment Work Programme is required for decision-making purposes and to ensure meetings are valid and decisions are binding. A meeting quorum will be 6 attendees. Decisions and approvals will require support from a majority of Work Programme team members who attend the meeting, provided there is a quorum. In cases where there is an even number of attendees, the Chair has the final decision-making authority.

Appendix 2

Engagement / Collaboration with External Bodies and Groups

This is a non-exhaustive list of some of the engagements that have taken place with stakeholders along with other planned engagements.

Body / Group
National Biodiversity Data Centre
Biodiversity Ireland
Biodiversity officers of Council Parks Departments
Trees on the Land
Trees for Ireland
Crann
Irish Green Building Council
Garden and Landscape Designers Association
Association of Social Therapeutic Facilitators of Ireland (ASTHFI)
An Taisce
Teagasc
The Heritage Council of Ireland
Natural Capital Ireland
National Parks & Wildlife Services
National Social Prescribing Network
Bloom
Birdwatch Ireland
Department of Agriculture
Environmental Protection Agency (EPA)
Sports Ireland
Third level Colleges, Higher Level Institutes / Agricultural Colleges

Appendix 3

Sample Site Report: St Fintan's Healthcare Campus, Portlaoise

Site Appraisal Diagram



Key Site value metrics



Legend

- Vehicular Routes
- Pedestrian Routes
- HSE Future development
- Parking Areas

Biodiversity Value Key

Building

Amenity value: High Biodiversity value: Low Maintenance Requirements: Low

Hardscape

Amenity value: High

Parkland

Amenity value: Medium Biodiversity value: Medium Maintenance Requirements: High

Mixed Woodland

Amenity value: Medium Biodiversity value: High Maintenance Requirements: Low Grassland

Amenity value: High Biodiversity value: Low

Maintenance Requirements: High

Flowerbed

Amenity value: High Biodiversity value: Medium Maintenance Requirements: High

Brownfield

Amenity value: Low Biodiversity value: Low Maintenance Requirements: Low

Site Opportunity Diagram



Legend

- Low impact Opportunity Minor Amenity Target Results - Social and Amenity Cost - Low
- Low impact Opportunity Nature based solutions Target Results - Ecology and Biodiversity Cost - Low
- Moderate Impact Opportunity Amenity+Nature Target Results - Social / Ecology / Well-being Cost - Medium
- Moderate Impact Opportunity Social Amenity Target Results - Welcoming / Movement Cost - Medium to high
 - Intense Impact Opportunity Large Projects Target Results - Welcoming / Movement / Social Cost - High

Potential Actions

Initial Works

- 1. Develop and enhance the existing orchard.
- 2. Develop the existing courtyards for more formal outdoor seating areas.
- 3. Consider less petro-intensive maintenance practices to lawn areas.
- 4. Future Works
- 5. Provide space for therapeutic planting and build on engagement with CAMs service.
- 6. Introduce a circular walking route with outdoor gym equipment (trim trail) for staff and service users.
- 7. Consider connections to potential future cycle- route in collaboration with the Local Authority.
- 8. Improve parking and road infrastructure.
- 9. Implement nature-based solutions to open grassland areas as per biodiversity report recommendations.





Front Entrance with topiary planting and natural stone paving



Open intensively managed grass-lands with mature trees



Entrance to the hand ball alley & urban farm.



Link to Portlaoise Acute Hospital.



Hospital lands leased to local farmers



Redundant building on site surrounded by mature trees



Existing orchards have an opportunity to be developed as community gardens



Views to the south west of site where bailing takes place on leased lands.

Appendix 4

Glossary of Terms and References

Terms	Definitions
Biodiversity	The variety of plant and animal life in a particular habitat, crucial for maintaining ecological balance. In the context of healthcare spaces, biodiversity can enhance ecological health and patient and service user well-being.
Carbon Sequestration	The process of capturing and storing atmospheric carbon dioxide. This is a key method used to mitigate climate change effects by reducing car- bon levels in the atmosphere.
Climate Action Strategy	A long-term plan by the Health Service Executive (HSE) to achieve net-zero emissions by 2050, aiming to create an environmentally sustainable healthcare system.
Complexity	In the context of healthcare campuses, this term refers to the diversity and multifunctional design of outdoor spaces to meet varied needs of patients, service users, staff, and visitors.
Ecology	The interactions between organisms and their environment, including efforts to protect and enhance ecosystems within healthcare settings for better air and water quality, and biodiversity.
Green Space	Nature-based therapeutic approaches that improve physical and mental health. Examples include spending time in green spaces for relaxation or exercise, shown to reduce stress and aid recovery.
Health Service Executive (HSE)	Ireland's national health service authority, responsible for healthcare services and implementing sustainable practices across healthcare estates.
Net-Zero Emissions	A state where greenhouse gas emissions are balanced by efforts to remove or offset them, typically through carbon sequestration and other environmental strategies.
Pollinator Plan	A guideline within Ireland to protect and increase habitats for pollinating species, essential for ecological health and biodiversity, particularly on healthcare campuses.
Scale	In landscape design, refers to the size and accessibility of outdoor spaces that support a variety of activities, fostering a sense of openness and usability.
Social Aspect	The role of healthcare green spaces in facilitating community interaction, recreation, and inclusivity for patients, service users, staff, and visitors.
Sustainable Urban Drainage System (SUDS)	A system that manages water runoff in urban areas by using methods like ponds and permeable surfaces to prevent flooding and improve water quality.
Therapeutic Garden	A garden designed to support the health and recovery of patients and service users by providing a calming, natural environment for relaxation and rehabilitation.
Wellbeing	The overall health and comfort of individuals, supported by access to green spaces, biodiversity, and community engagement within healthcare settings.

Methodologies references for Section 4.2 used for the 15 pilot sites:

- Published Theoretical papers related to Wellbeing (Martin Seligman) and rehabilitation which relate to Positive Psychology and the Rehabilitation Psychology (Handbook by American Psychological Association).
- Ecological gains is a term used to define what benefit each site might offer to ecology, and Universal Design refers to a principle developed originally by North Carolina State university (https://universaldesign.ie/about-universal-design/the-7-principles)
- Therapeutic Landscape first coined by Wilbert Gesler, in 1992 (https://research.tus.ie/en/ publications/from-therapeutic-landscapes-to-healthy-spaces-places-and-practice)

