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4.1 Masterplan Purpose

Section 12 of the Grangegorman Development Agency Act 2005 requires the preparation of a Strategic Plan (comprising of a written statement and a “plan”). This section describes the “plan” element of the Strategic Plan (hereinafter referred to as ‘the Masterplan’).

GDA determined that in order to articulate the Vision for the Project and to test the project viability a comprehensive spatial masterplan of the highest standard needed to be developed. A spatial masterplan is a sophisticated model which:

- Shows how streets, squares and open spaces of a neighbourhood are to be connected
- Defines the height, bulk and massing of buildings
- Sets out suggested relationships between buildings and public spaces
- Identifies the movement patterns for people on foot, or by bicycle, car or public transport, as well as looking at the needs of service and refuse vehicles
- Sets out the basis for the provision of utilities and other infrastructural elements
- Relates the physical form of the site to social, economic and cultural contexts and takes account of the needs of people living and working in the area
- Shows ways in which new neighbourhoods can be integrated into existing communities, and into built and natural environments

During the design stage, the masterplanning team developed the spatial masterplan through a process of thorough analysis, consultations, testing and refinement. At the end of this stage, there was a three-dimensional plan, which presented proposals or aspirations for the development of buildings, street blocks, public spaces, streets and landscape, but which did not go as far as designing buildings. It was expressed in diagrams, land use plans, models and explanatory images as well as in words. It was supported by the data gathered in the preparation stage and demonstrates how it relates to the implementation strategy.

Masterplans should not be seen as rigid blueprints. Rather they set the context within which individual projects come forward. Success will ultimately depend on the delivery of great design at a more detailed level. Therefore there will be much to do beyond the masterplanning stage.

Following an international design competition the international firm of Moore Ruble Yudell (MRY) and their Irish Partners DMOD

were appointed by the GDA to prepare a spatial masterplan for Grangegorman. Over many months this team guided by the GDA and its specialist advisers, the WK Nowlan Consortium, interacted with all key stakeholders in producing the Grangegorman Masterplan.

The Masterplan as described in the following paragraphs of this section should be read as a strategic proposition and not as a definitive design proposal. The Masterplan sets out the principles of the physical framework for Grangegorman through which the overall objectives of the Strategic Plan will be implemented on the ground. It is intended to provide high level guidance to the evolving overall urban design scheme for Grangegorman, and to set out guiding architectural principles to ensure that the objectives of the Strategic Plan are implemented in a cohesive and coherent manner. The Masterplan is an articulation of the Project Vision and will be a living strategic design proposition which will direct the GDA in moving the Project forward through the detailed design and planning approval stages of the Project. The Masterplan has considered the issue of design feasibility and this is described in Section 4.6.

The ability to accommodate design flexibility is a key feature of any successful masterplan. It allows various architectural teams to bring to the table their own ideas, innovations and qualities and, thereby, to bring to life a masterplan. Strong guiding masterplan principles must be respected by individual architects but that is allied with detailed user requirements and a design aesthetic that responds to the very particular uses and location of the building. Therefore, in order to capitalise on the richness and variety that different teams will bring to the table, to allow them their design freedom, and to respond in an effective manner to the changing contexts and developing stakeholder priorities, the prescribed objectives and principles must embrace flexibility. This issue is dealt with more substantially in section 4.6., with a working example detailed in section 4.6.8.

It is a key goal of the Agency in delivering the Masterplan to ensure that a rich and coherent urban quarter is delivered in the longer term. The Masterplan design team will be available to advise the GDA on the conformance of the various project designs and also their ability to add value to the Masterplan.

It is intended that the Masterplan may lead to a Planning Scheme, as part of a Strategic Development Zone (‘SDZ’ - see Section 5.2), most likely with a mix of traditional planning applications required to progress matters at the start. The Masterplan is therefore an indicative template against which all future detailed plans will be tested.

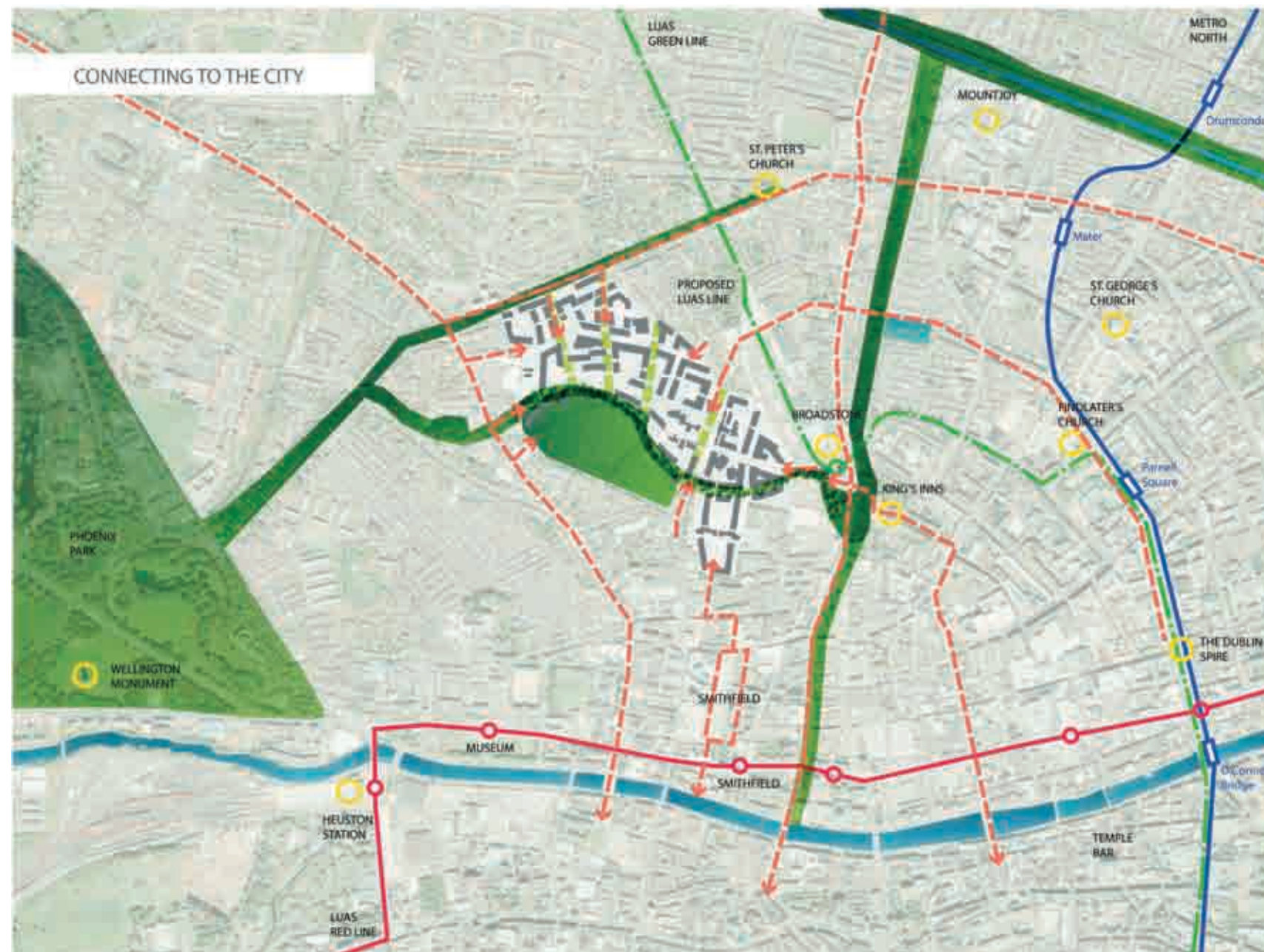
In addition to the land defined as the Grangegorman Site in the 2005 Act, the Masterplan addresses further lands in the ownership

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of the HSE located to the north east of the site, adjacent to the North Circular Road. These lands border the Grangegorman Site on two sides at its north eastern boundaries. An integrated approach between GDA and HSE would allow for most efficient development of the area at this boundary and would support the possibility of greater pedestrian access to the Grangegorman site from the North Circular Road. It would also allow the HSE to integrate its development areas both inside and adjacent to the GDA site. The HSE, not the GDA, would be the developer of these bordering lands.



Additional HSE lands forming part of masterplan vision



4.2 Introduction to Masterplan

4.2.1 Preface

The information that follows comprises the Masterplan for the Grangegorman Site. It is the culmination of the Design Team's work with consultation from user groups, governmental agencies and members of the community as well as review and approval from the Grangegorman Development Agency. It was produced and reviewed during the design process from January 2008 until September 2008.

The Grangegorman Masterplan addresses the adjacent Broadstone site and neighbourhoods and in the process establishes a new city quarter framing a mix of public and institutional uses with a lively repertoire of urban places. The core property itself offers a flexible matrix of buildings and landscape, while preserving and enhancing the unique open spaces and historic resources of the site to benefit the Dublin Institute of Technology, the Health Services Executive, and the greater City community.

A memorable network of pedestrian paths weaves the new Quarter together with the City around it, creating a vital nexus of community within a "walkable" district. This weaving occurs in social and academic realms, in space and time, in historic and contemporary forms, and in the balance between buildings and landscape. A universally accessible quarter is a key aim of the Masterplan.

The Quarter as a whole enjoys a remarkable quality of geographic position and orientation within Dublin City. This Masterplan for the Grangegorman site enhances this larger sense of place, taking advantage of the topographic character of the site to frame southerly views to the City skyline and to the Dublin Mountains. DIT's principal academic and support services activities and HSE's main areas of service enjoy identity of place as well as beneficial adjacencies within the district Plan. New buildings are free to express the diversity of uses within a harmonious urban fabric.

The Primary School is located at a site boundary point that provides easy access to the residential street network. The Community Library is co-located with the DIT Library to produce a synergistic link between community library services and a specialist third level library, while promoting access and participation to higher education.

Student residences and social life are gathered along a major east west urban procession, linking academic centres, recreation/sports facilities, and the public realm, and making the entire Quarter a place of vibrant activity. Buildings support a clear definition of the street-quad-court structure of the Quarter, producing a legible pattern that enriches formal and informal sequences of movement. Buildings enclose a variety of internal gardens and sky-lit atria, giving the district a collection of distinct, discoverable places.



Flower Courthouse Square, Portland Oregon, Willard R. Martin, photo: Jan Gehl



University of Colorado Student Life Center, Moser Public Yutell Architects and Planners



University of Maryland Center for the Performing Arts, Moser Public Yutell Architects and Planners

Two major activity centres, Upper Terrace at the Library and the Arts Centre / Student Hub, anchor a broad spectrum of social gathering places. Opportunities for social interaction occur at multiple scales: from grand places of arrival and movement, to streets and gardens, to cafés and amenities, to shared lounges and outdoor spaces within residential communities.

The urban transformation of the Grangegorman site extends into and through adjacent neighbourhoods, creating potential Gateway entrances at the North Circular Road, Prussia Street, Grangegorman Upper and Lower, and across the new Broadstone Development to Constitution Hill and Phibsborough Road. Stations for Dublin bus services and the future LUAS Broombridge Line are incorporated, connecting the Quarter to Dublin's metropolitan transit systems.

4.2.2 Reopening Grangegorman: a New Urban Quarter

The transformation of Grangegorman's closed compound into an integral part of the life of the City is one of Grangegorman Development Agency's highest goals. The proposed Masterplan envisions this new district, including any future Broadstone Development, as a primarily pedestrian precinct that is carefully served by public transit, surrounding streets, and an internal vehicular service network. Key features of the plan are access and options: many ways in and many ways through.

Mixed use also provides continuity, as activities that serve both student life and the public are layered through the academic core of the district. To the east, alongside Broadstone, the cultural offerings of the Arts Centre draw public participation. At the centre and west side of the campus, and closer to HSE's public services, recreational facilities and open space encourage community as well as student use. At major gateways, such as The North Circular Gate and Broadstone Gate, commercial and academic uses are overlaid.

4.2.3 Reaching Out: Linking the Urban Context

The project is a major opportunity to enhance Dublin's north inner city urban quality. The Masterplan connects existing urban landscape and introduces new resources north of the Liffey.

The Masterplan proposes an urban plaza and park at the Broadstone entry to the Quarter, extending the green space adjacent to Kings' Inns to form a symbolic and civic marker. The site, being raised up, acts as a natural viewing area of Dublin's urban fabric. The experience of driving or walking along Constitution Hill, from or to the City Centre, is now marked by a prominent open space that echoes Dubliners' experience of the Phoenix Park and of the green squares which dot the City.

To the north, this new urban park reinforces the existing greenbelt pathway along Royal Canal Bank, past Blessington Street Basin, to connect with the Royal Canal at Mountjoy. To the east, across

Constitution Hill, the plaza is aligned with the pedestrian entry to the King's Inns to reinforce the urban connection to Henrietta Street and to the Liffey beyond. To the west, this link continues from the urban park through the site to connect with the North Circular Road via a potential access point at Prussia Street, and extends through to the Phoenix Park. To the south, the Lower Grangegorman Gate opens pedestrian access to and from Smithfield extending the existing City Arts' activities northward.

The entry plaza at the Broadstone Development's proposed LUAS station is configured to reinforce the pedestrian sequence into the urban spaces of the district.

4.2.4 Connecting the District: the Pedestrian Experience

To enhance the pedestrian realm, the Masterplan reasserts the continuity of the Grangegorman district. The east/west division of the site by the Grangegorman Upper and Lower Road is mediated by carrying a principal pedestrian sequence, St. Brendan's Way, across the existing roadway. This broad crossing also serves to closely unite existing buildings on the Record of Protected Structures into a central village of academic and student life. Access to limited areas of car parking is provided below the new terrace from Upper Grangegorman Road and from North Circular Road and Constitution Hill.

St. Brendan's Way crosses the entire Quarter, giving public and student access to a series of academic and cultural centres, and is continuously activated by student residence halls, amenities and social spaces. As a pedestrian street, St. Brendan's Way features a rich sequence of distinct spaces, opening and closing, with paved and landscaped surfaces, activated day/night uses, and a variety of building edges and profiles.

The urban quality of St. Brendan's Way is complemented by a second lateral procession, Serpentine Walk, a meandering walk that traverses the site in two grand arcs, giving a south-facing green edge to student residence halls. This "green procession" continues a linear landscape sequence that begins to the east with Royal Canal Bank and culminates in the district's main sports and recreation park, The Fields.

These main east-west passages are crossed and extended by frequent fingers of north-south oriented green streets and sequences of courts, forming a loose, continuous grid of communication in the Quarter. Smaller meandering paths move at mid-block/mid-court intervals to trace intimate connections between outdoor rooms and gardens.

4.2.5 Gateway and Identity

Main gateway entrances offer front doors to the Quarter from surrounding streets. The North Circular Gate lies adjacent to a bus stop and provides an address for DIT and HSE. West Gate, a potential access point from Prussia Street, is coupled with a

proposed commercial court and visually linked to the Church of The Holy Family. Broadstone Gate to the east offers entry from Phibsborough Road, Broadstone, the future Broadstone Station of the LUAS Line, and the proposed open park of Broadstone Green, across from the King's Inns. In addition, Upper and Lower Grangegorman Gates, which bookend Grangegorman Upper and Lower Road, provide gateways close to the centre. The design of these pedestrian and vehicular thresholds makes use of the existing stone walls, historic iron gates and contemporary markers where appropriate.

4.2.6 The Academic/Health Heart: Upper Terrace

At the academic core of the DIT Campus, Upper Terrace poses a dramatic belvedere looking south across The Fields. The Library's information/study/ resource centre incorporates the historic Top House in a careful three-part composition of atria, courtyards, and new spaces, poised above the open green. The Upper Terrace provides a natural viewing platform for games and daily student life with the grand backdrop of the Dublin skyline and Mountains.

From the Upper Terrace down to The Fields, a tiered stairway/ amphitheatre offers a venue for a variety of large-scale events, as well as a social 'suncatcher' in fair weather.

Symbolically, the Upper Terrace and The Fields juxtapose the values of Knowledge and Action, the mutual benefits of scholarship, fellowship, and competitive achievement, which shine through DIT's brief as central aspirations for this new Campus. Important campus buildings and uses are assembled in and around Upper Terrace, including the main library, lecture halls, college club, student centres, and administrative offices. This academic centre for DIT in turn has a strong connection via a major green pedestrian path to the health plaza immediately to the north at Library Square, the two linked centres thereby creating an overall "Academic/Health Heart" for the entire Grangegorman Quarter.

4.2.7 The Arts Centre: Inviting Campus and Community

At the eastern edge of the Quarter, Broadstone Gate leads quickly from Broadstone Place to a second focal point for the Quarter, the "Social/ Cultural Heart", where district and community life come together: the vibrant Arts Centre. Here a small piazza is framed by a pair of semi-enclosed wintergarden spaces, a café and restaurant with sheltered, indoor/outdoor dining to the north and a grand, weather-protected court of performance and exhibition halls to the south. The Arts Centre combines these popular venues with spaces for the Applied Arts and the Built Environment, allowing a broad range of public and pedagogical uses.

4.2.8 New Centres for Interactive Learning and Research

This Masterplan seeks to create modern, innovative facilities for both DIT and HSE, with a flexible, sustainable fabric of modular

buildings. In a contemporary interpretation of traditional collegiate "quads," the configuration of the buildings on the site frames a pattern of enclosed courtyards, open spaces and plazas, creating distinct forms with strong individual identities.

From a common address along the North Circular Road, clear zones are distinguished for DIT and HSE. For HSE, three "Quads" gather related facilities: a northwest grouping is devoted to administrative functions and mental health facilities; a central quad for primary community health services; and a cluster to the northeast of supported housing apartments and a nursing home gathered around the old Laundry, re-cast as a dining/activity pavilion and community day space. This arrangement reflects our team's recommendation to distribute HSE's various programmes in order to enhance beneficial adjacencies for staff, residents, users and clients, rather than aggregating all functions in a single complex.

For DIT, the urban structure of the masterplan provides for its academic and research needs while maintaining and promoting identities through physical identity and landscaped courts and squares. These academic facilities are arranged across the site in a continuous array, Business, Tourism and Food, Science, Engineering, Built Environment and Applied Arts, and are complemented by the "Academic Heart" and "Social Hub" along with training centres, research centres, incubation space and science park activities.

The creation of a single campus with a major Academic Hub, central lecture spaces, a Social Hub, Student Hub and shared laboratories and catering facilities all promote and encourage interaction amongs staff and students of DIT.

The format of buildings, and the layout of district spaces they frame, emphasizes a modular flexibility of uses. Buildings have varying heights and stories, their massing determined by the goals of optimising views, daylight exposure, and relationship to the surrounding urban fabric and community. The most public/shared educational spaces, lecture halls, classrooms, workshops and studios, at the lower floors, and college suites, seminar and conference facilities, and departmental administration on upper floors. Throughout the plan, covered walks, courts, and glass-roofed galleries enhance internal communication and interaction. Multi-floor atriums present attractive public areas for social interaction and promote inter-floor communication. Relatively narrow building sections enhance daylight and views for all activities, in a format that can accommodate both laboratory and classroom patterns.

The GDA's requirement for 30% expansion space for DIT is proposed to be distributed throughout the plan. This would enhance the opportunities for all departments to grow and evolve, while also allowing hybrid/interdisciplinary uses to grow up alongside existing ones.



Image of California San Diego Central and Westside Mallroom building. Shows Public Space Adjacent and Perimeter



Image of a modern building with a curved facade, showing a public space and a building entrance.



4.2.9 Residence and Recreation: Student Life Along the Serpentine Walk

Two of the great benefits of DIT's relocation to Grangegorman, housing on campus and high quality recreation and athletics, are exuberantly celebrated in the Masterplan. Student residences form two great arcs, called Serpentine Walk, which begin at Broadstone Gate to the east and sweep across the campus to the potential Prussia Street West Gate to the west as a continuous ribbon of 24-hour habitation convenient to every department and academic centre.

Having a varied, dynamic movement in heights, the student residence halls offer a range of housing formats from 6-bed and 3-bed apartments to private studio/family units. Ground level spaces for dining, social and study lounges, and related shops serve to activate the Serpentine Walk on the south side, and St. Brendan's Way on the north side. A moving skyline and frequent vertical openings and breaks allow views and sunlight to penetrate.

Recreational spaces, indoor ball courts, swimming pool, fitness rooms and Gymnasiums, are laid out alongside the north edge of The Fields, one level below the Serpentine Walk. These exercise and sports rooms relate visually to external spaces and are south-lit by the Ha-Ha, a sectional dip at the upper edge of The Fields. The Fields provide for a range of playing fields and pitches for various sporting activities. Together with social and retail amenities located immediately above, this continuous spine of activity invites daily use by residents, commuting students and the public.

4.2.10 Enhancing Community Infrastructure and Facilities

The Masterplan strives to strengthen connections to the surrounding community. To this end, the Grangegorman Urban Quarter provides a rich, comprehensive range of community-related amenities while optimising community access to DIT and HSE facilities. HSE services will be convenient and accessible, while residents will have shared access to the sports facilities on the DIT campus.

In addition to the new Dublin City Council Branch Library and Primary School, the Quarter proposes an array of lively social gathering places at multiple scales for the community, from smaller gardens and play spaces to landscaped walks and large public plazas at the two "hearts" of the district.

4.2.11 Adaptive Re-use: Celebrating Cultural and Historical Resources

The plan proposes the creation of important places adjacent to and around the buildings listed on the Record of Protected Structures. The Top House retains its prominent presence as a focus of the Library at Upper Terrace. Near the southeast entry the "Cultural Garden," an axial space that looks toward the Clock Tower, flanks a central village that includes the Female House, the Male and Female Infirmarys, the Catholic Church, and the Former

Penitentiary, all adapted to social activities such as the Student Union, College Common, College Club and Bookstore. The Laundry Building is re-used as the new Day Service Facility for HSE. The unused Church of Ireland Chapel, re-used as a Recreational Club, presides over its own significant open space with an existing grove of trees. In the southeastern portion of the site, the Former Richmond Asylum building becomes an organising element for two DIT quads bordering two generous landscaped open spaces north and south of the building.

4.2.12 Urban Partnerships

For Broadstone, the Masterplan addresses the long-term possibility of an urban texture of mixed-use buildings along a grand north-south boulevard, the route of the future LUAS Broombridge Line. The historic railway station and sheds are maintained as a central market hall and place of community, directly adjacent to the proposed LUAS station. To the south of Broadstone Place, an office complex edges Broadstone Green, possibly accommodating technology-oriented businesses in an extension of the mixed-use component of the Grangegorman Quarter.

To the south of the Arts and Built Environment Quads, a secondary entry gate links through to H.A.R.P./Smithfield and the north bank of the Liffey. The northward extension of Smithfield's urban arts district is thus carried through to the new Arts Centre, enhancing Dublin's inner city cultural resources. To the east, a series of potential, hypothetical links to Prussia Street are proposed, each creating an opportunity for new development, with pedestrian and/or vehicular breaks in Grangegorman's historic wall.

4.2.13 Environmental Sustainability: Flexible Fabric and Visible Systems

Sustainability for HSE and DIT involves three levels of interest: planning, design and construction; operations and life-style; and educational outreach. The planning process development itself can begin to serve educationally by inviting discussion with users and community. The best of contemporary green building practice would be seen as a base-line for development of the Quarter. The Masterplan design can also serve to educate and encourage sustainable living by, for example, making infrastructure and natural systems visible and including experimental studies of systems within the Built Environment programme at DIT.

Beyond energy efficiency and climate responsiveness, buildings serve sustainability goals by offering lasting use, they age well. We imagine a contemporary fabric of modular, durable structures, with great attention to the quality of exterior and interior systems. The Masterplan encourages a diversity of architecture and guidelines will call for inventive use of a set of related systems and materials, giving the Quarter both visual harmony and long-term serviceability.

4.2.14 Grangegorman Landscape: Urban Choreography and Natural Systems

The natural heart of the Grangegorman landscape is The Fields, comprising a generous portion of the entire site. This gathering of parkland sports pitches with park-like groves of new and existing trees is framed by the Serpentine of student residence halls, and the protected wall to the south. Running and cycling paths entwine around the edges, linking the complementary qualities of sports fields, sheltering groves of trees and distant views.

The district network of green boulevards and courtyard gardens forms a continuation of the main landscape elements of its greater North Dublin neighbourhood, such as Blessington Street park, linking the new Quarter development with its context. The primary sequences of St.Brendan's Way and Serpentine Walk feature discrete places, terraces and gardens, each with its own individual character. These are connected to smaller "landscape fingers" characterised by sequences of dense groups of trees, which appear to be situated randomly.

Site drainage is made visible as a living ecological system, using controlled watercourses and ponds. Quads and courtyards are also seen as discrete compositions: the courtyard of Applied Arts, for example, is fed by the hydrology system, and is thus a set of pavilions in a water garden. Landscape materials are based on retaining existing significant plantings where possible, augmented by the use of native species.

4.2.15 Transportation and Access

The Masterplan's transportation strategy emphasizes sustainable modes of transport such as walking, cycling and public transport. The Quarter can be easily traversed in a 15-minute walk. Green Boulevards dominate the internal Quarter circulation and are designed to allow articulated paths for both pedestrians and cyclists, which will provide quality and universally accessible circulation environments in all seasons.

The Masterplan capitalises on the location of Grangegorman as a brownfield site close to the city centre with excellent public transport links at present. Pedestrian access to North Circular Road, Prussia Street and Smithfield via Grangegorman Road/North Brunswick Street is at the heart of the Masterplan. Bus and Luas services will be easily accessed.

Contingency is built into the plan allowing for the quantum of development to increase in accordance with the provision of infrastructure commitments in Transport 21 such as Luas Broombridge and Metro North.

Car access will be limited to encourage the use of sustainable transport modes, with car parking being provided at two main locations, accessed via North Circular Road and Constitution Hill/Grangegorman Road/Morning Star Avenue. The majority of car

parking will be underground, but small numbers of surface car parking at key locations may be provided throughout.

Vehicular circulation within the site will be enabled in a manner that does not conflict with the general priority given to pedestrians and cyclists. A system of traffic cells is being designed with the flexibility of allowing through-routes at key locations that can be in place out-of-hours. Service vehicle circulation will generally be shared with pedestrians and cyclists, albeit subject to restrictions.

4.2.16 Six themes for the city of Dublin

Dublin City Council has identified six themes which are considered important to the sustainable growth and development of the city. The Masterplan sets out a new vision for the Grangegorman site based on these six themes.

Economic Vision

The Masterplan develops Grangegorman as a vital economic resource and engine with a network of thriving spatial and sectoral clusters, a focus for educational talent and creative assets. Facilities for the Dublin Institute of Technology will be supplemented by a strong component of retail spaces, training centres, research centres, incubation spaces and science park facilities that will directly benefit the economic development of the community and greater Dublin region. This development will underpin Ireland as a knowledge economy. A strong relationship with shared facilities is envisioned between the DIT and the Health Service Executive, which will further provide and reinforce convenient and needed educational, healthcare services and related enterprise development spaces for the Grangegorman Urban Quarter and the surrounding community. Furthermore, the full development and implementation of the Masterplan will produce a thriving impact for the community, providing tremendous long term economic opportunities in regards to employment and management of the construction and operations of the future facilities in the Urban Quarter.

Social Vision

The Masterplan design reaches out to link the site with the immediate community, as well as Dublin's greater urban context, to create an Urban Quarter that is inviting and connected to the local and larger community. The overall "Green Fingers Landscape Concept" represents an open "hand" that reaches out to draw the community into the development. The Masterplan develops Grangegorman as a compact district with a network of sustainable "quadrangles" for the Dublin Institute of Technology and the Health Services Executive, providing a range of facilities that promote social inclusion. Student residences and social life are gathered along a major east-west urban procession linking academic centres, recreation/sports facilities, and the public realm, making the entire Quarter a place of vibrant activity. The natural



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heart of the Grangegorman landscape is The Fields, comprising a generous portion of the entire site and providing a welcome, diverse range of sports pitches and other recreational activities. A Dublin City Council Branch Library and Primary School are included in the Masterplan in locations that easily serve the surrounding residential areas.

Cultural vision

A rich and diverse provision for cultural facilities is offered in the Grangegorman Urban Quarter, including performing art centres, exhibition spaces and theatres, to encourage activities throughout the day and evening, and promote awareness of our cultural heritage. At the eastern edge of the Quarter, the Broadstone Gate leads quickly from Broadstone Place to the Arts Centre, where district and community life come together. This is one of two “hearts” envisioned for the Urban Quarter and will accommodate arts and culture/performance spaces for the larger public community to promote lively, evening uses. The northward extension of Smithfield’s urban arts district is thus carried through to the Grangegorman Quarter, enhancing Dublin’s inner city cultural resources. The Performing Arts Centre includes a Concert Hall, museum and art galleries.

Urban Form and Spatial Vision

The Masterplan creates a connected and legible urban quarter based on vibrant public spaces and active streets that provide a strong sense of identity and place. An urban plaza and park is envisioned at the Broadstone entry to the Quarter, extending the green space adjacent to Kings’ Inns to form a symbolic and civic marker for the entire city. To the west, this link continues through the site via the new pedestrian path, St. Brendan’s Way, potentially extending through to the Phoenix Park and connecting with the North Circular Road. To the south, the Lower Grangegorman Gate opens pedestrian access to and from the Smithfield area, extending the existing City Arts’ activities northward.

Movement Vision

The Masterplan takes full advantage of its proximity to Dublin City Centre, where transport networks already provide high levels of service. Rather than focusing on new transport links to serve the new population on site, the main aim of the Masterplan is to enable the seamless connection to the existing and future transportation networks. The emphasis is therefore put into the design of quality linkages from the site to the established city grid. The Masterplan also contributes directly to the increase of the quality and capacity of the bus network by providing a bus access area within its boundary.

Sustainable Vision

The Masterplan for the Grangegorman Urban Quarter seeks to create an environmentally sustainable Community within its neighbourhood and Dublin, as well as a sustainable demonstration project for the world. Sustainable strategies focus on three components that underpin the success of the regeneration of Grangegorman: social well being, economic viability, and environmental benefit. Building massing and form have been

developed to respond appropriately to wind and solar paths, in order to ensure maximum sunlight exposure, reduce energy consumption, and incorporate generous green spaces to provide healthy views. The project includes provision to facilitate wind sheltering/protection and solar gain, as well as passive and active measures to harvest wind and cool breezes. Sustainable drainage systems are proposed to reduce water consumption and flooding. The development strengthens the site’s existing ecology and biodiversity, and incorporates sustainable urban drainage throughout the District. Rainwater will be collected as a source of grey water. The Masterplan maximises the use of recycled water while minimising the use of potable water by proposing appropriate landscape materials, and utilising sustainable urban drainage to increase ground water absorption.

The existing protected structures on the Grangegorman site will be re-used according to viable, adaptive re-use strategies that carefully consider each building’s structural condition, plan configuration, and architectural character. Regarding transport systems, the Masterplan promotes travel plans and a transport policy that encourage the use of public transport and promote walking and cycling. A rich sequence of pedestrian and bicycle paths is woven into the landscaped areas, providing access to all the spaces and buildings in the District. The whole Masterplan for the Grangegorman Urban Quarter has been designed for change and flexibility so that it may be easily adapted to meeting changing needs and requirements in the future.

4.3 Masterplan Design

Design Aim 1: To realise the physical dynamic of the Grangegorman Project Vision

Design Aim 2: To achieve a continuity in urban design whilst permitting architectural diversity

Design Aim 3: To relate the design of the Quarter to the existing neighbourhood character and to the strategic objectives of Dublin City Council for local area development.

Design Aim 4: To provide the HSE with excellence in healthcare design, ensure accessibility of health services accommodation to the local area, appropriate levels and combinations of privacy, security, openness and legibility within a generally low density – high amenity environment.

Design Aim 5: To effect a fully integrated campus for DIT with optimal college inter-relationship and future-proof flexibility (and expansion capacity), appropriate levels and combinations of privacy, security, openness and legibility within a generally mid-density – high amenity environment

Design Aim 6: To organise the Quarter to provide cohesiveness, collegiality and connectivity and to establish nodes of activity with strong, legible and animated routes connecting them.

4.3.1 Key Structuring Principles

The Masterplan has been developed on the basis not only of the Project objectives and the stakeholder requirements but also of the on-site and local built and natural environments; adjacent uses; topography and aspects/prospects; existing and prospective neighbourhood routes and city links; transportation current and proposed and infrastructure (current and proposed) etc. The plan also integrates the six themes of Dublin City (see paragraph 4.2.16 above) into its design proposition.

Two Hearts

The Masterplan provides two “hearts” for the Grangegorman Urban Quarter. These two major activity centres, Upper Terrace at the Library, and the Arts Centre to the east, anchor a broad spectrum of social gathering places. The Upper Terrace is designated as the “Academic/Health Heart,” while the Arts Centre is envisioned as the “Social/Cultural Heart.”

Quadrangles and Green Fingers

In a contemporary interpretation of traditional collegiate “quads,” the configuration of the buildings on the site frames a pattern of enclosed courtyards, open spaces and plazas, creating distinct forms with strong individual identities. Main east-west pedestrian connective passages are crossed and extended by frequent fingers of north-south oriented green streets and sequences of other courts, forming a loose, continuous grid of communication in the Quarter. Smaller meandering paths move at mid-block/ mid-court intervals to trace intimate connections between outdoor rooms and gardens.

St. Brendan’s Way and the Serpentine Link

The east/west division of the site by the Grangegorman Upper and Lower Road is mediated by carrying a principal pedestrian sequence, St. Brendan’s Way, across the existing roadway. This broad crossing also serves to closely unite existing listed buildings into a central village of academic and student life. The urban quality of St. Brendan’s Way is complemented by a second lateral procession, Serpentine Walk, a meandering link that traverses the site in two grand arcs, giving a southfacing green edge to student residence halls.

Broadstone Gate / Link to King’s Inns & Henrietta Street

The Masterplan creates a grand urban plaza and park at the Broadstone entry to the Quarter, extending the green space adjacent to the King’s Inns to form a symbolic and civic marker.

Connecting to Smithfield and North Circular Road

To the west, the pedestrian link continues from the urban park through the site to connect with the North Circular Road, and extends through to the Phoenix Park to the southwest. To the south, the Lower Grangegorman Gate opens pedestrian access to and from the Smithfield area, extending the existing City Arts’ activities northward.

Ha-Ha Concept, Sports and Recreation and Utility Corridor
The natural heart of the Grangegorman landscape is The Fields, comprising a generous portion of the entire site. This gathering of parkland sports pitches with park-like groves of new and existing trees is framed by the Serpentine of student residence halls, and

the historic wall to the south. The Ha-Ha sectional dip concept provides additional, internal sports facilities with direct visual connection to the external pitches. Running and cycling paths entwine around the edges, linking the complementary qualities of sports fields, sheltering groves of trees and distant views.



1. Two Hearts



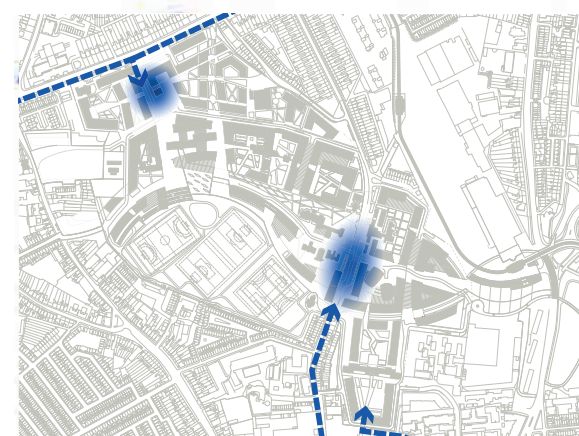
2. Quadrangles and Green Finger Parks



3. St. Brendan’s Way and Serpentine Walk Connection



4. Broadstone Gate / Connection to King’s Inns & Henrietta Street



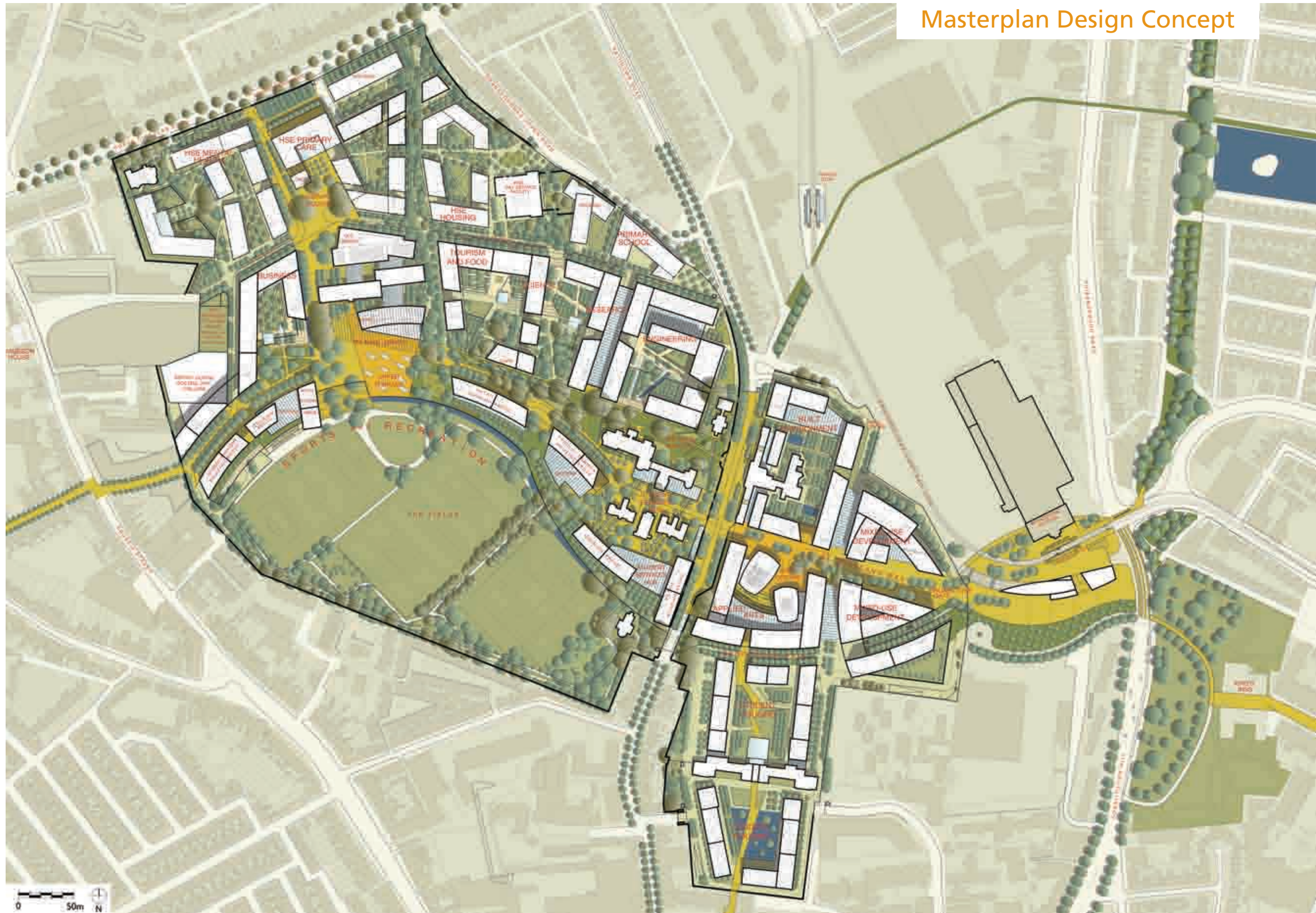
5. Connecting to Smithfield / Connecting to North Circular Road



6. Ha-Ha, Sports & Recreation



Masterplan Design Concept





Podium Level Plan

Spaces at the Podium Level are located one-half of a level above the ground elevation to allow natural daylight to enter all habitable spaces.



Below Grade Level Plan

The two-level Sports Centre has been located in a high profile and unique location between the outdoor playfields and the academic heart of the quarter and will be daylit by using glass walls adjacent to a landscaped "ha-ha" (an angled sloping change in ground elevation).



View from the DIT library

The Institute's Library anchors one of the central hearts of the quarter. Its location creates an intellectual hub of activity at the intersections of several primary circulation routes and provides iconic views from the Upper Terrace and the Fields out to the city of Dublin and the mountains beyond.





View from the Serpentine walk and the fields

The Serpentine Walk creates a curved landscaped pedestrian spine traversing the entire site providing a green alternative to the more urban character of St. Brendan's Way. This spine organises the student housing buildings and provides views of the Fields and city beyond.





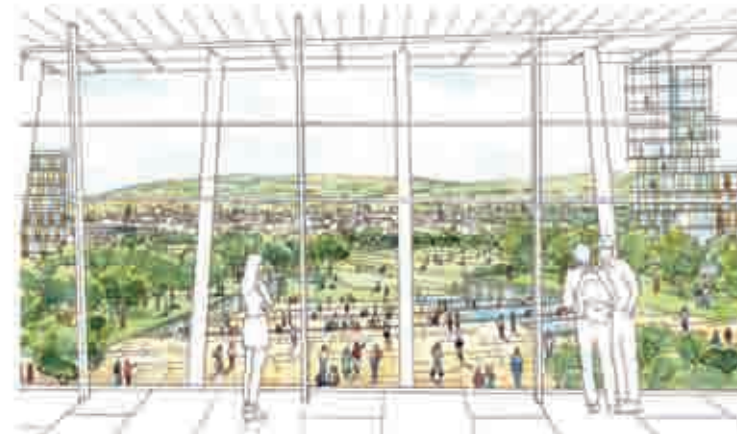
social gathering spaces



green finger landscape concept



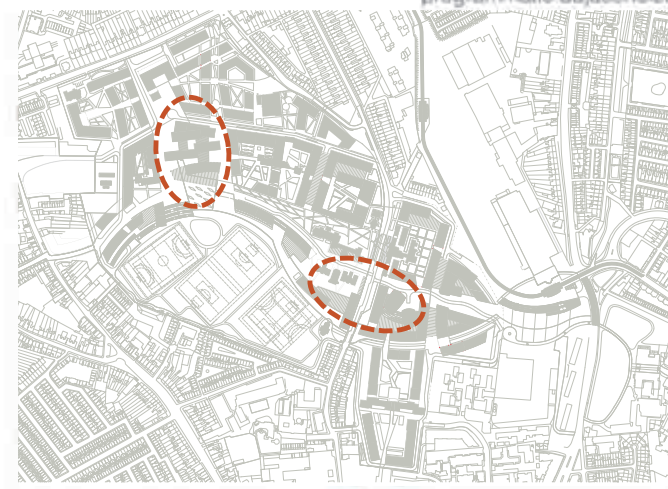
view from campanile



view from DIT library



programmatic adjacencies



grangegorman hearts

4.3.2 Design Principles

The Masterplan provides for a framework incorporating key principles, strategies and objectives to drive a vision of a sustainable, thriving quarter for the DIT, the HSE and the city. The urban structure of the Masterplan establishes a series of six academic centres for DIT and several distinct courtyards for HSE, each with individual physical identities of buildings and landscaped courts. These academic centres are arranged across the site in a continuous array: Business, Tourism & Food, Science, Engineering, Built Environment, and Applied Arts. In addition, the DCC Library and Primary School will provide key benefits for the community.

The format of the buildings, and the layout of the district spaces they frame, emphasise a modular flexibility of uses. Buildings vary in height and number of stories, with the most public/shared educational spaces, lecture halls, classrooms, workshops and studios, at the lower floors, and college suites, seminar and conference facilities, and departmental administration on upper floors.

There are three primary design principles that govern the organisation and character of the open spaces and buildings for the Grangegorman Urban Quarter: Connectivity, Collegiality and Cohesiveness. These three principles serve to establish consistency throughout the development of the Grangegorman site, and ultimately contribute to a unique identity for the district.

Connectivity

Both physical and visual connections are encouraged on the site to facilitate movement across the Quarter as well as to foster a sense of district unity. A contiguous network of interconnecting open spaces, including plazas, quadrangles, gardens and interconnecting passageways, serves to physically link buildings throughout the Quarter. This predominantly pedestrian landscape serves as an alternative to pavement circulation along vehicular streets and offers visual relief to the consistency of the surrounding street pattern. Connectivity is also achieved by establishing a matrix of sightlines that visually link district landmarks and focal points throughout the Quarter.

Collegiality

The Masterplan supports a hierarchy of communal spaces that encourage collective interaction among users. These spaces are organised around specific program clusters, orienting individuals in classrooms, laboratories, residences, offices and other facilities to larger communities within the respective Quarter neighborhoods. These communal spaces, in turn, are visually and physically connected to larger, more collective district spaces. These communal spaces also serve to reflect a favorable sign of Grangegorman academic, health services and research-oriented life to the surrounding area and community.

Cohesiveness

Cohesiveness is aimed at promoting visual consistency among architecture and landscapes within the masterplanner's control over the course of development of the Grangegorman Urban Quarter.

Collectively, adjacent buildings maintain similarity by abiding to a prescribed massing and basic vertical organisation. All buildings conform to a range of specified materials and colours as well as a particular method of surface articulation. The district landscape also maintains cohesiveness through the consistent use of specific planting types, paving materials and lighting. Cohesiveness among buildings and open spaces enhances the legibility and identity of the entire Urban Quarter.

4.3.3 Building Alignments

A network of established building lines (ie building edges and sight lines) determines the physical siting of buildings on the Grangegorman Urban Quarter. These building lines ensure that open spaces on the site are maintained during the course of development, and that the predetermined grid of view corridors and streets is preserved. The alignment of building edges contributes to the creation of a cohesive environment throughout the District.

Organising Axes

The fundamental organising ideas for the proposed Grangegorman Urban Quarter are depicted in this diagram. Development is organised around clear open spaces, pedestrian and service circulation systems. The primary organising axes, St. Brendan's Way and the Serpentine Walk running east to west, and the north-south landscape fingers, establish the basic ordering system and provide a clear framework onto which each increment of development can be attached. These prominent axes will establish the identity of the Grangegorman Quarter, defined over time by each increment of development that fronts onto each spine.

Strong Quad Edges

The Masterplan advocates that buildings along Quad perimeters observe the building lines in order to create definitive edges along Quarter paths and open spaces, and ensure that adjacent buildings align throughout development. Furthermore, these lines contribute to the formation of significant open spaces such as Upper Terrace, Broadstone Gate and the Arts Centre.

Flexible Quad Interiors

Whereas building mass should generally adhere to perimeter Quad lines, building edges that fall within the Quad interior maintain some flexibility to accommodate unanticipated programmatic needs. These zones of dimensional flexibility can occur along the edges of interior Quad courtyards and connective passageways.

The standards suggested by the Masterplan for building footprints and massing are based upon the basic functional requirements for each building type. The suggested size and location of academic and HSE buildings, for example, meets the basic height and width requirements for multiple-story classroom and healthcare buildings. These standards are subject to some variation, and change may be accommodated within specific zones in each Quad.





4.3.4 Quadrangles

The open space network in the Grangegorman Urban Quarter is shaped by the places that buildings make and the pathways that connect those places. The inherent variety of places within the proposed District is designed to accommodate a wide variety of specific functional, aesthetic and recreational needs. The proposed network of open spaces also seeks to provide a common ground that links these specific needs and brings a broad range of academic, healthcare and community components together.

The “Critical Alignments” structure that establishes the development increments at Grangegorman, and accommodates the future quad buildouts, also sets in place the open space network and hierarchy throughout the District. Within each prototypical District build out “parcel,” a landscaped quadrangle is provided. The particular needs of specific colleges and users will allow for great variety in the expression and character of each open space.

Several quadrangles can form clusters of quads, and a shared open space once again marks the character and nature of this specific grouping. The expression of this larger space, for example, the Cultural Garden and the Library Square, addresses a broader cross section of the Grangegorman Quarter and creates the common ground for the individual quads that make up each cluster.

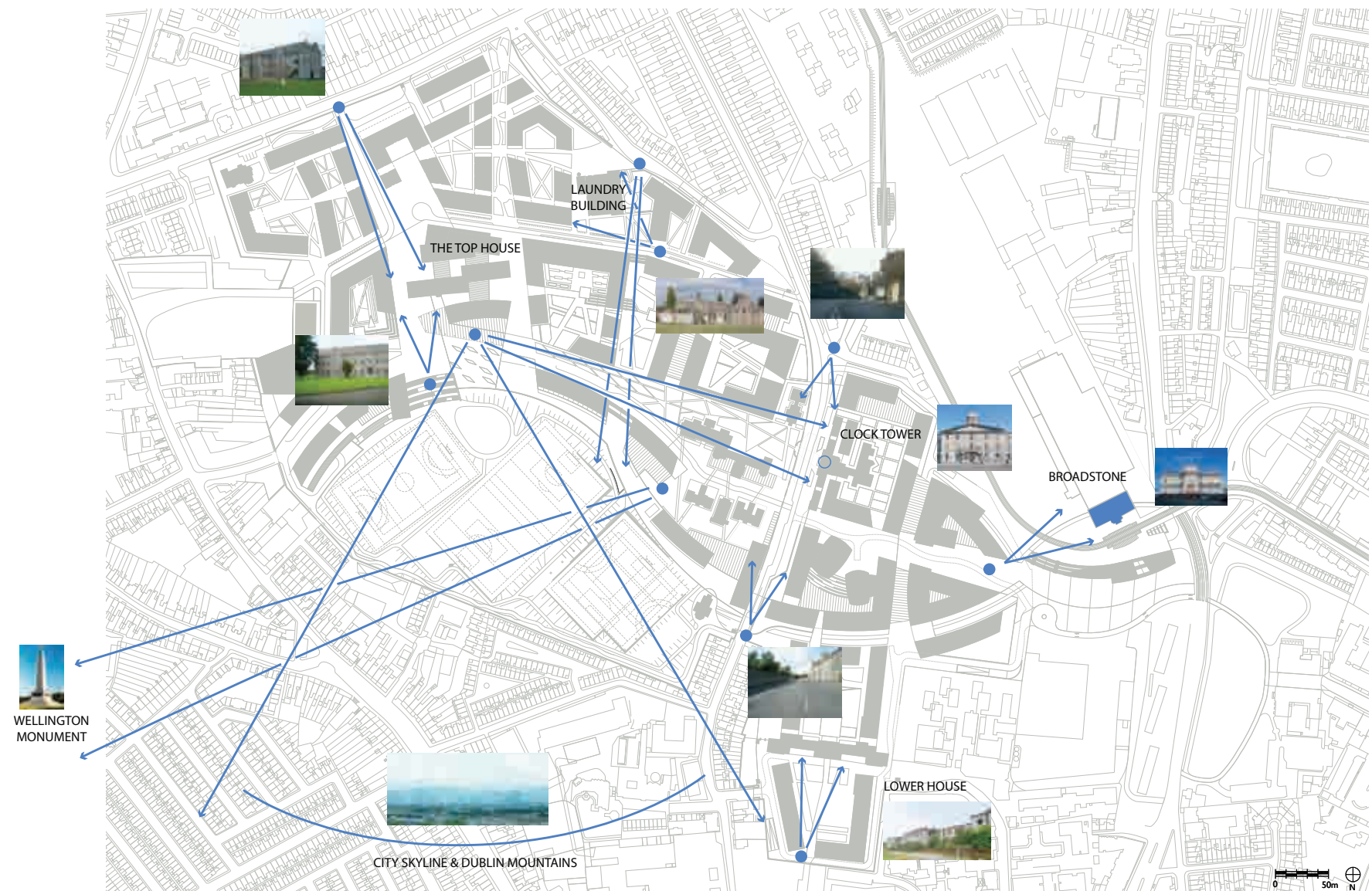
At the overall scale, the quads are linked by the primary north-south and east-west axes that move through the site, St. Brendan’s Way, the Serpentine Walk, the north-south landscape fingers, as well as the grand plazas at Broadstone Gate, Arts Centre and Upper Terrace. These major axes and open spaces, primarily given over to pedestrian and light service circulation, are the ones that establish the most common ground for the entire District and could accommodate the strongest expression of Grangegorman’s character and identity.

4.3.5 View Corridors

The pattern of view corridors through the site, both east-west and north-south, serves to connect the site to the surrounding natural and urban environment. In addition to providing strong guidelines and orientation for pedestrians by focusing views on prominent surrounding landmarks and natural features such as the Dublin Mountains, the King's Inns, the Wellington Monument, and the Fields, the corridors also help to break down the scale of the overall development to integrate the site into the existing urban fabric.

In counterpoint to the major east-west connections along St. Brendan's Way and the Serpentine Walk, an array of north-south landscaped view corridors emerges, visually linking the Grangegorman Quarter from North Circular Road to the city and Dublin Mountains toward the south.

Where these view corridors cross major internal circulation spines or adjacent public streets, the intersection is celebrated and marked with a change in the hardscape and landscape design, or through the massing of adjacent buildings.





4.3.6 Urban Pedestrian Zone and Pathways

The Grangegorman Urban Quarter proposes a clear, strong urban pedestrian zone in order to achieve the following key urban design objectives:

- Strengthen a sense of character, identity and continuity for the District
- Optimise the quality, adaptability and diversity of the public realm within the site
- Create major connections to significant features in the surrounding urban fabric, including North Circular Road to the northwest, Broadstone Gate and King's Inns to the east, and a possible link to Prussia Street to the west
- Modulate the height and density of buildings along the pedestrian zone to relate to the scale of the buildings on the Record of Protected Structures as well as the existing buildings in the surrounding urban context
- Reinforce a lively sequence of public spaces that are defined and enclosed by means of building mass, landscaping and planting to create a well-used, day-and-night District.

4.3.7 Building Heights

The massing strategy for the building heights is shaped by the needs of DIT and HSE, the response to sunlight and wind conditions, and by the relationship with the neighbouring buildings on the edges of the site. The massing steps up to be the densest and highest toward the major public open space at Broadstone Gate, and steps down to be lower around the site boundaries in order to relate to the surrounding community.

While the buildings are generally between 2 and 8 floors bar the Broadstone area, the Masterplan proposes one high element located along the student accommodation curve at the edge of the Upper Terrace and the Fields. This landmark element serves as a “campanile,” similar to various precedents around the world, a viewing tower for the public, at the top of student accommodation, to come and view the Grangegorman Urban Quarter and surrounding city, and establishing a “marker” to set the Grangegorman area in its urban context.

This strategy contributes to the cohesive appearance of the Grangegorman Urban Quarter, providing a measure of consistency and District identity that is simultaneously harmonious and distinct from the surrounding context.

The massing of buildings is defined by the expression of simple volumes that promote a basic level of conformity among adjacent buildings while accommodating a range of possible architectural solutions and building types. This approach also offers flexibility to accommodate unanticipated modifications in individual building programs and functions. Moreover, the clearly delineated edges of building volumes contribute to the formation of streets and positively shaped open spaces within the Grangegorman Urban Quarter.

Build-to lines and setback requirements will govern key alignments of all buildings on the Grangegorman Urban Quarter. These lines have been determined as defining major pedestrian paths and crucial view corridors for the entire development, in order to create a cohesive series of open spaces on the site.





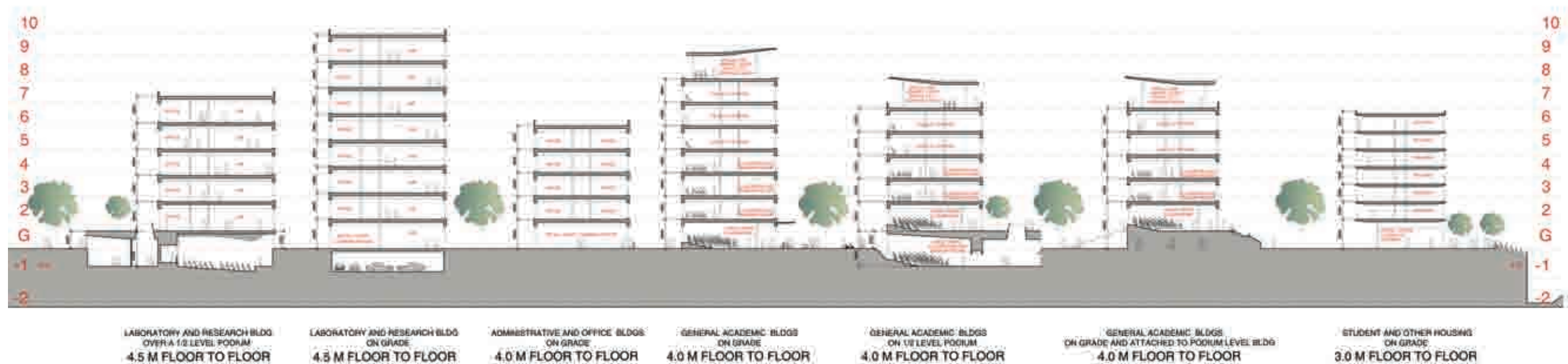
The Masterplan enlarged plans show the number of stories allocated per building volume. The heights of these volumes will vary depending on the building type because building types generally require different floor-to-floor heights for various reasons. For example, housing units may have lower floor-to-floor heights than academic or institutional buildings for economic reasons. Laboratory and research buildings may need greater floor-to-floor heights to accommodate larger floor areas and raised floor or ceiling systems used for ventilation, gasses and other piping and lighting needs.

Building types such as Performance Venues, Sports Courts, Museums, Libraries, etc... generally do not conform to specific floor-to-floor requirements because of their specialised nature but guidance can be given for some of the building types planned for the site.

- Laboratory and Research Buildings 4.5 meters floor-to-floor max.
- Administrative and Office Buildings 4.0 meters floor-to-floor max.
- General and Academic Buildings 4.0 meters floor-to-floor-max.
- Housing 3.0 meters floor-to-floor max.

Several buildings planned for the site are located over a podium level that is situated half way above and below grade. The podium level is typically 3 meters above the adjacent grade and is sometimes pulled away from the building to allow natural daylight to enter habitable spaces.

Some buildings may have a higher (5 meter) floor-to-floor height at the top floor to accommodate special uses such as conference spaces. Setbacks are encouraged at the ground and top levels for rain protection and view balconies as well as to add rhythm and modulation to the building facades. All buildings on the site have a ground floor-to-floor height of 5 meters to accommodate large area public uses, retail and restaurant spaces and to introduce a level of aesthetic consistency and horizontal datum.



In general, the building heights in the Grangegorman Urban Quarter have been set between 4 and 6 storeys to respond appropriately to the education and health uses which they will provide and to relate to the surrounding Dublin city context. At the edges of the district, these building heights step down to be lower, particularly along the North Circular Road and Grangegorman Upper Road.

An important strategy in the Masterplan provides three special places with increased heights to create a strong identity for the Grangegorman Urban Quarter. These three higher elements have been positioned in central locations to give the district a distinctive presence when viewed from around the site and the city. Their locations have been selected to ensure that they would not have a direct impact on the existing residential neighbourhoods.

The Campanile

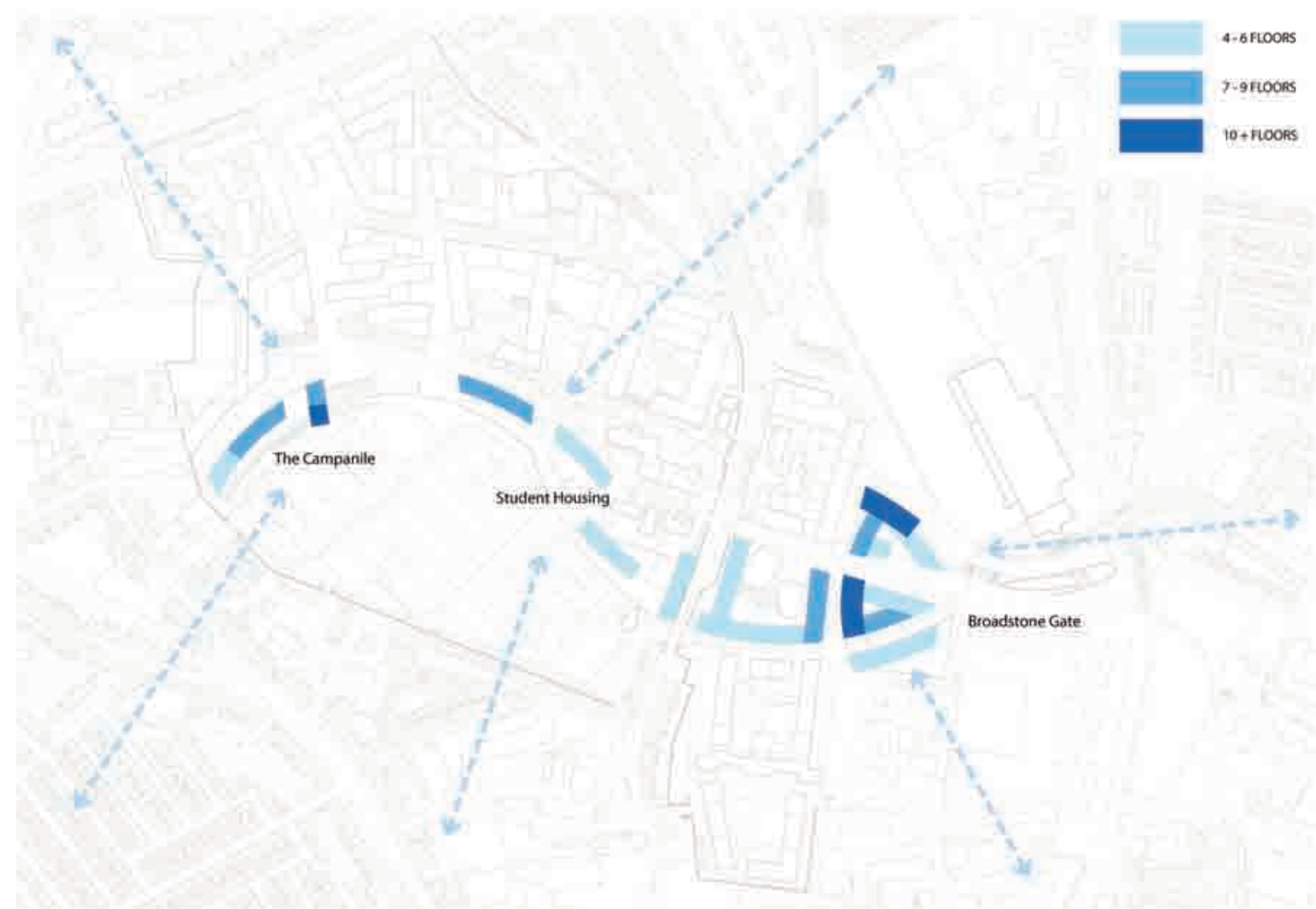
The most prominent element, the “Campanile,” is located along the student accommodation curve on the north edge of the Fields, at the Upper Terrace, to give expression to this significant public space and establishing a “marker” to set the Grangegorman area in its urban context. Inspired by the numerous slender towers and spires in Dublin, this 15-storey landmark provides an elevated viewpoint for the public, while also helping to orientate users and pedestrians within the Quarter itself. This “campanile” typology can be found in various other urban and campus settings around the world.

Student Accommodation

The student accommodation buildings are set in a series of curves along St. Brendan’s Way and Serpentine Walk to define the northern edge of the Fields. They step up and down between 4 and 8 storeys to offer a compelling image when viewed from the city, providing a dynamic sense of movement much like the natural landscape. These buildings reinforce the curved geometry to shape a vibrant street realm along the spine of St. Brendan’s Way and Serpentine Walk for pedestrians and users, ensuring that these spaces will be socially activated.

Broadstone Gate

The massing of buildings on the Grangegorman Urban Quarter steps up toward Broadstone. The buildings in this location strengthen the identity of the public-oriented spaces accommodated in this area, including the area of mixed-use development. Ranging between 5 and 12 storeys, with the highest elements at 10 and 12 storeys, the buildings create an appropriate, significant urban marker that relates effectively to the greater city in this historically prominent location.





4



Landscape design



overview



the fields



green finger parks and the serpentine walk



the cultural garden



st. brendan's way



quadrangles

4.3.8 Landscape design overview: Open space typologies

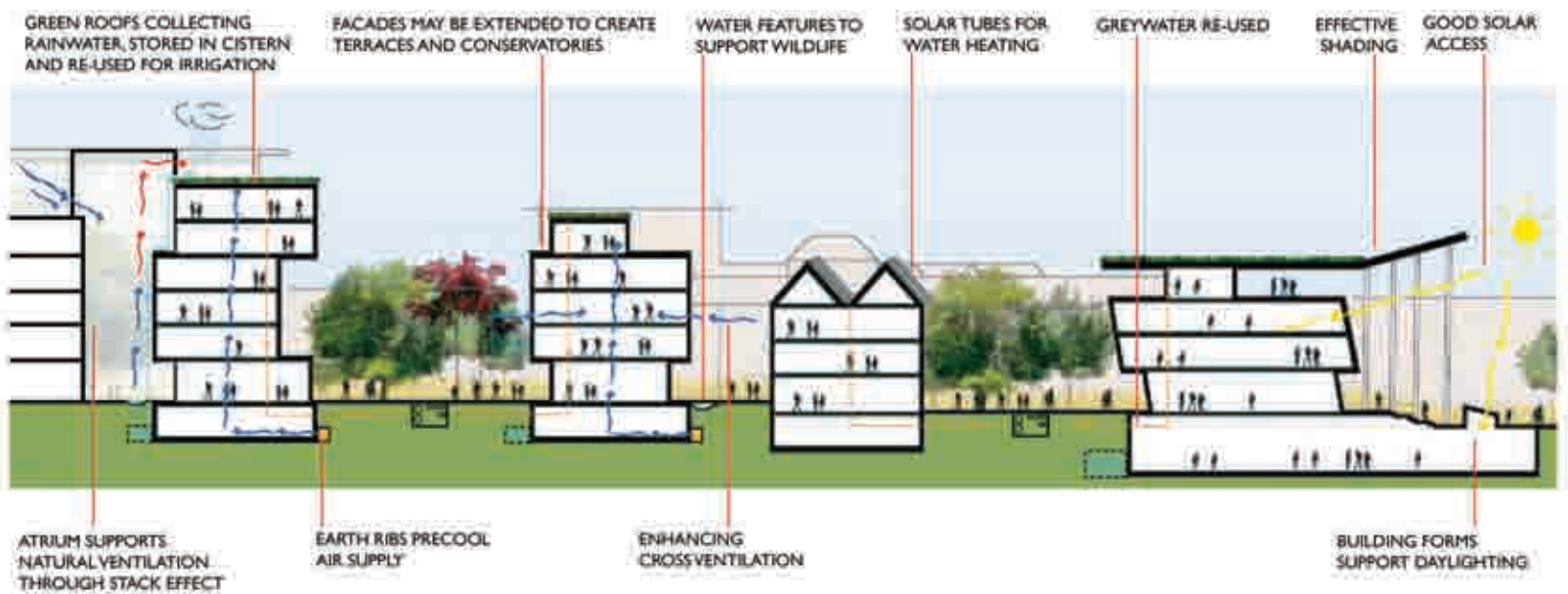
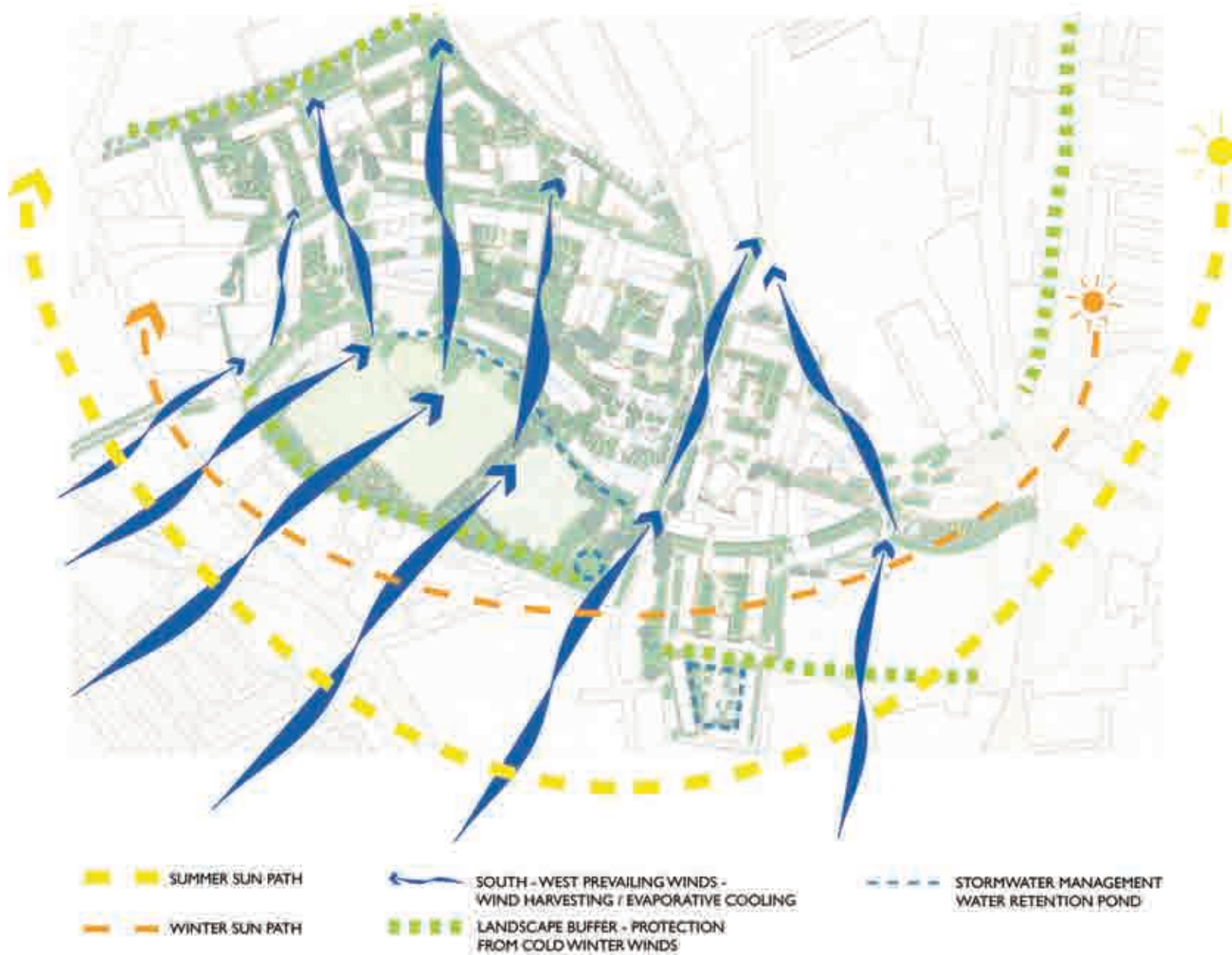
Because of the private and singular use as a hospital over a long period of time, the Grangegorman site stands out with its extensive and mature landscape and green spaces. The site remains one of the last large-scale landscaped areas within the urban fabric of Dublin.

The Masterplan maintains as much of the existing landscape characteristics as possible by leaving the existing fields to the south relatively untouched and by altering the building footprints where possible to save existing healthy and mature trees and landscaping. As with the existing protected structures that will remain on the site, the existing landscaping makes the site unique and creates a bridge to the past.

The new landscape concepts for the site can be organised into the broad categories noted in the diagrams to the left. (These concepts are explained in greater detail within the Masterplan Details section of this document.) In addition to creating new and unique spaces within the Masterplan, the landscape concepts help connect the historic site into the urban fabric of the city as well as connect the landscape path from the Royal Canal and Mountjoy area in the north with Phoenix park to the west, creating a linked park-like pathway through the urban density of the city.



Existing landscaping on the Grangegorman site.



4.3.9 Environmental sustainability overview:
Flexible fabric and visible systems

The development of the Grangegorman Masterplan is based on the international best practices of environmental sustainability. Early, sustainable masterplanning decisions will be augmented by the requisite governmental requirements and best practices and decisions of the designers of the individual buildings.

At the masterplanning level, buildings have been located and oriented to take advantage of natural daylight, reducing the need for artificial light. Building widths vary but narrow widths have been chosen wherever possible to further insure the penetration of natural light into the interior spaces. Courtyards generally open to the south to prevent the overshadowing of exterior landscaped space by buildings. The buildings have been located densely on the northern portion of the site, allowing the existing open space to the south to remain a naturally landscaped space. The open playfields have been linked to a more regional chain of open spaces allowing people and wildlife to find a natural system of pathways through the urban density of the city.

One of the major goals of the sustainable energy strategy is to minimise energy demand and carbon emissions by creating an energy plan that allows the Grangegorman development to become a zero carbon development in the future. Therefore the energy plan for the Grangegorman development prepares for an eventual 100% renewable energy supply.

The basis of the initial energy plan is subdivided into two components: a site wide energy plant as well as an individual renewable energy plant for each building block. All heating, and a portion of the electricity, will be generated from a centralised combined heat and power (CHP) plant using a renewable source, such as biofuels and distributed to individual buildings. In addition, each of the individual buildings will provide hot water from hot water solar collectors located on the roofs of each building.

Further details on the energy plan is set out in section 6.4. Additional energy producing and energy saving principles, standards and requirements have been introduced through this narrative. But while technology dependent concepts such as power generation from biofuel use and high visibility strategies such as wind turbines and photovoltaics have been considered, there are also other important energy and water saving principles that are based in sensible and sensitive early planning in the Masterplan.

There are also environmental sustainability principles that relate to the quality of life the building inhabitants and neighbors should enjoy, such as indoor air quality, view corridors, noise reduction, pollution reduction, traffic reduction, and conservation of natural and cultural heritage resources. Some of these issues have been addressed in detail throughout the Grangegorman Masterplan and the remainder have been detailed within this section. In addition to the energy supply goal, several key environmental sustainability principles have been developed for the project at the masterplanning stage.

■ Sensible urban density and linking natural pathways

The 73 acres site has been walled off from the city since the nineteenth century and is one of the largest undisturbed pieces of land in Dublin. It was important to maintain the existing healthy landscape elements, especially the large open fields to the south of the site by planning most of the new construction to the north of the site and creating an urban but sensibly dense design.

The River Liffey, Phoenix Park and the Canal are all important natural resources for the city. Linking these currently unconnected landscape pathways with the new Grangegorman Quarter strengthens the entire infrastructure, providing landscaped pathways for pedestrians and wildlife through the dense urban fabric of Dublin.

■ Natural daylight, ventilation and wind protection

The design of the building footprints, heights and layouts have been developed to allow maximum daylight to enter buildings, minimise overshadowing of each other and of landscaped areas and to minimise excessive wind.

■ Preservation of existing natural and cultural heritage

There are currently twelve buildings on the site that have been listed on the Dublin Record of Protected Structures. The re-use and re-purposing of all but one of these existing buildings not only conserves the embodied energy used in their initial construction and saves the energy that would be used to replace them, but helps create a connection to the past history of the site. Wildlife habitats and existing mature healthy landscaping have been studied and steps undertaken for conservation.

■ Transportation strategies

The Masterplan design encourages pedestrian movement over vehicular use. The concept prevents the general public from traversing the site in automobiles and allowing other vehicles to enter the quarter only via "shared surface" pavement where vehicles are subservient to pedestrians. The design has been oriented to promote strong connections to public transportation such as existing bus routes and the proposed LUAS line at the Broadstone Gate.

■ Water management

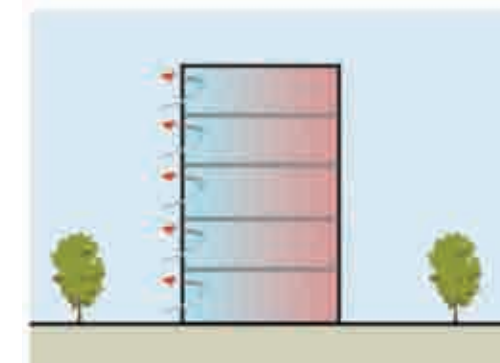
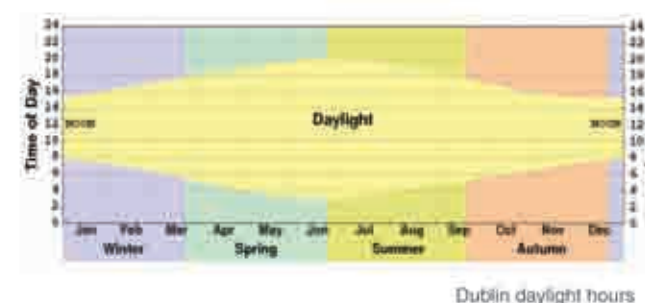
Water retention strategies such as swales and holding ponds have been designed to reduce runoff into the city system. This runoff has been incorporated into landscape features such as the water rill located in front of the Sports Centre. In addition, permeable surfaces have been incorporated in the outdoor public areas to allow water to return naturally to the aquifer below.

■ Renewable, long-lasting and environmentally safe building materials

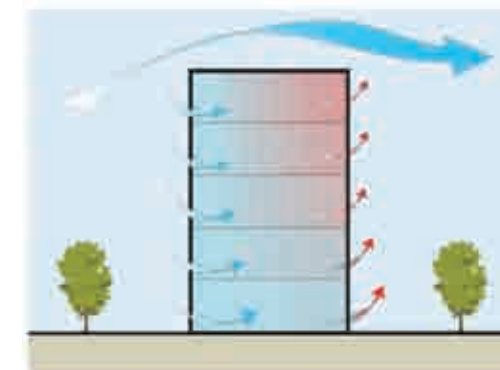
The Masterplan encourages the use of recycled and renewable building materials through the various energy efficiency and environmental sustainability standards that it is under the authority of. Using renewable construction materials prevents pollution and waste generation, creates new recycling industries and reduces landfill disposal and expansion. Using low VOC paints, formaldehyde free adhesives, and other safe building materials creates high indoor air quality and promotes greater health and efficiency for the occupants.

■ Energy efficiency and sustainability standards

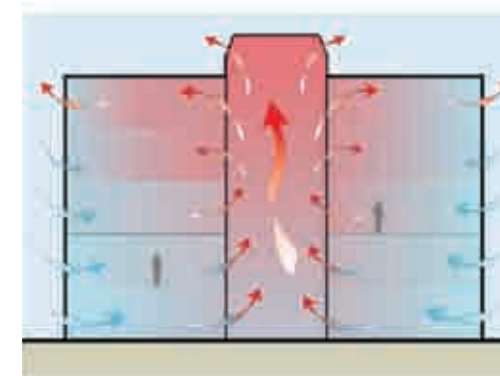
Each individual building shall aim to achieve a Building Energy Rating (BER) of A3 or better, based on 2008 asset rating system, which corresponds to an Energy Performance Coefficient (EPC) of not greater than 0.50 compared to 2008 Building Regulations. This BER shall be calculated using a permitted Irish National calculation methodology for Commercial buildings, being NEAP/IBEM, or approved Building Simulation software.



single sided ventilation



cross ventilation



stack driven ventilation



4.3.10 Public Art

It is important for the future Grangegorman Urban Quarter to include high quality public art elements that can help to reinforce a connection with the soul, spirit and culture of the place.

Public art can also help to provide wayfinding and landmarks for users, as well as create an identity for courtyards, gateways and other significant spaces and buildings within the overall District. The range of public art can include the following:

- Individual art pieces and sculptures
- Sculpture garden
- Art walk
- Temporary installations
- Art work involving lighting
- Digital arts and film
- Live art.

Guidelines:

- Promote contemporary and experimental art
- Be international
- Be culturally diverse
- Reflect the history of the site, DIT and the surrounding community
- Promote inclusiveness and participation
- Reflect a balance of disciplines and art forms.

4.3.11 Site Lighting

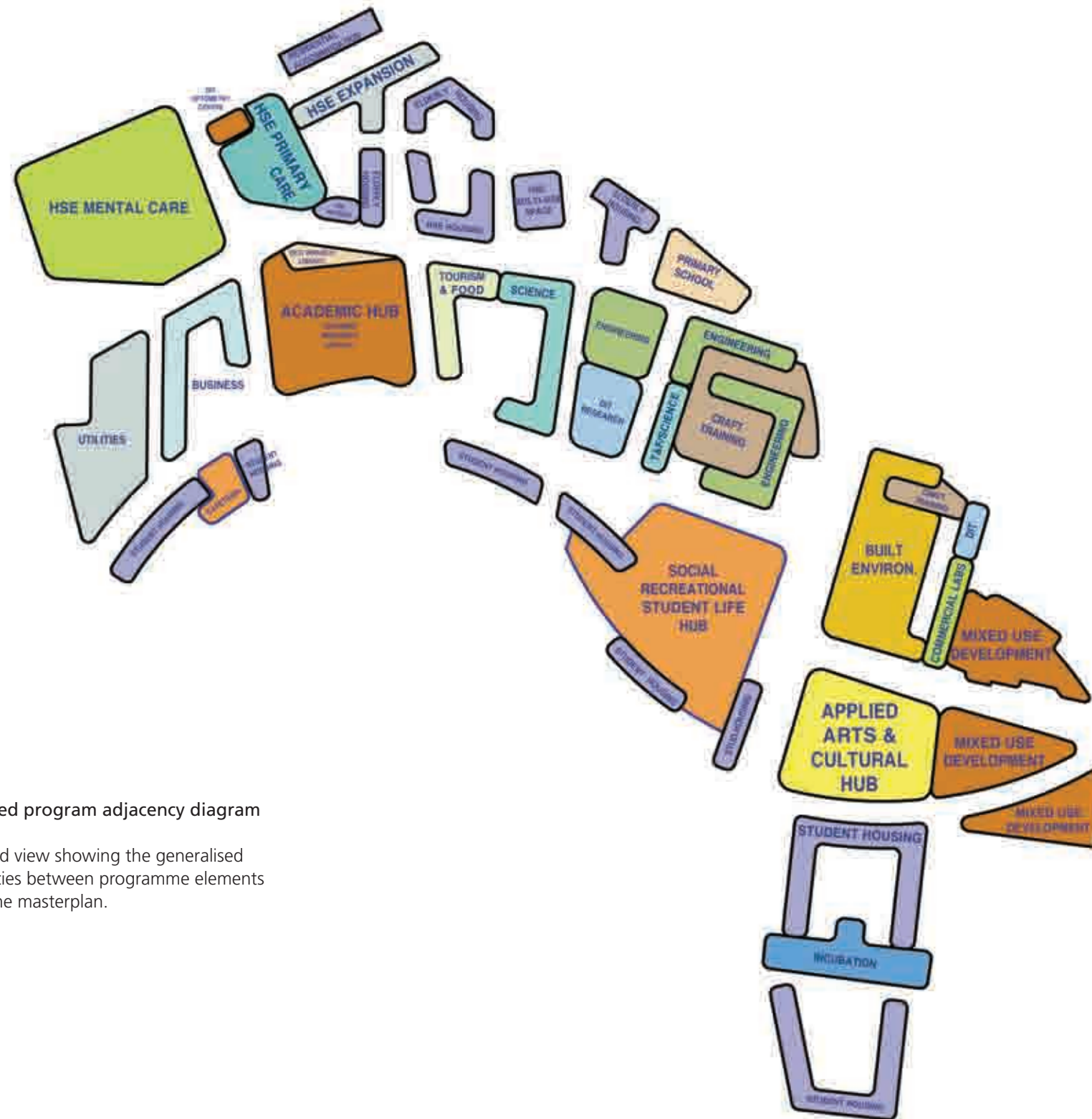
The quality and intensity of light, as well as the rhythm and pattern created by the placement of fixtures, will contribute to the overall aesthetic character and sense of unity and identity for the Grangegorman Urban Quarter. In daylight, the appearance of the fixtures themselves will have an aesthetic impact as part of the overall public realm. Therefore, lighting levels and fixtures must be carefully designed and selected. Lighting will be used to ensure personal safety within the Quarter. The overall lighting strategy will be defined by the following hierarchy of four lighting types:

- Major Pedestrian Path
As the major pedestrian route, St. Brendan's Way will have strong, glowing lighting as a continuous feature. Elements of featured lighting and flood lighting can be used along its entire length
- Plaza
The two "hearts" of the project, Upper Terrace and Arts Centre / Student Hub, will be distinguished by the brightest and most intense lighting, as appropriate for these large open public plazas. These major spaces can also be enhanced by featured lighting and flood lighting
- Courtyard
Each of the various courtyards and other open spaces will require focused lighting. This can be achieved in a more flexible, specific and articulated manner, in order to create a special ambience for each space
- Secondary Pedestrian Path
Secondary pedestrian routes such as the "Green Fingers" and other connecting paths will require adequate lighting for safety, but no strong pattern of lights is desired
- Sports
Focused lighting to support sports facilities.



Sony Center, Berlin, Peter Walker PWP Landscape Architecture

Masterplan site lighting concept.



Simplified program adjacency diagram

Simplified view showing the generalised adjacencies between programme elements within the masterplan.

4.4 Masterplan Design Details

4.4.1 The Health Service Executive - Overview

The Health Service Executive has recognised the tremendous opportunity to address the barriers of isolation, institutionalisation and stigma through the redevelopment of the Grangegorman site and facilities. The Masterplan fully capitalises on this opportunity to create a wonderful new treatment environment with secure, therapeutic, fit-for-purpose facilities that are an integral part of a vibrant mixed-use urban community. The design achieves a less institutionalised environment to create a more comfortable, familiar atmosphere for service users, allow for more interaction between the healthcare facilities and the surrounding community and contribute to the overall quality of life in the Grangegorman Urban Quarter. The Masterplan responds to the challenge of creating a mixed-use healthcare environment on the large scale of Grangegorman by using principles of innovative facility design and creative environmental planning.

Hierarchy of Open Spaces

The HSE component of the Grangegorman Urban Quarter has been designed in consideration of the most current and updated research on healthcare environments and user needs. Whilst it is important to recognise the requirement of providing a safe and therapeutic environment for those who need the security of an institutional environment, many mental healthcare facilities operate cohesively in ordinary neighbourhoods. Many of the facilities operated by the HSE are located within traditional community settings. Other successful mental healthcare environments, integrated with a mix of institutional, residential, commercial and community uses, are being planned and built across Europe and around the world.

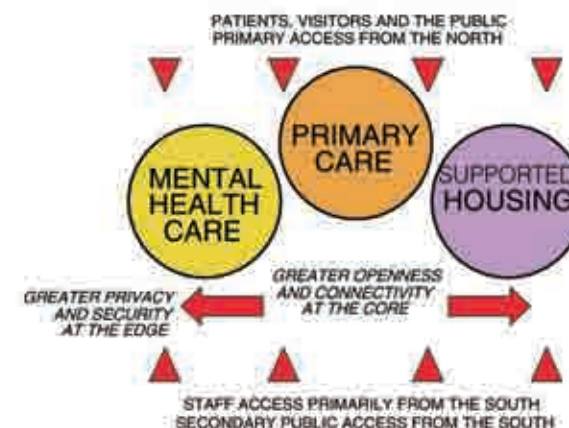
A clear hierarchy of open spaces has been established with the following objectives:

- Provide a series of secure, safe “healing gardens” with a range of active, passive and weather-protected recreation spaces, while allowing for a variety of open space sizes and varying degrees of security
- Promote a safe environment inside and outside, day and night
- Incorporate a mix of activities and uses that can be shared with the community
- Promote a well-defined public realm with windows and doors facing the street
- Avoid having “no-go” areas
- Provide well-lit streets, walkways and buildings
- Ensure that front doors face onto public streets to provide “eyes on the street”
- Ensure logical way-finding.



View of the HSE from north circular road

One of the Key Principles of the Masterplan is the need for a strong connection from the site to North Circular Road. The Primary Care facilities form a central backdrop to an urban plaza accessed from North Circular Road.





View of library square and primary care from the library

Library Square provides a public space that activates a central portion of the site bringing people together from the HSE buildings, DIT and the public library.



An Innovative and Cohesive Campus for the HSE

The Health Service Executive elements of the Grangegorman Masterplan are designed to achieve a number of key principles:

- Integration of the HSE accommodation with the surrounding local community that it primarily serves and with the new DIT community
- Provision of privacy and dignity for clients or building users of HSE
- Convenience and effectiveness of operation for HSE staff
- Achieving a legible and understandable public domain
- Providing a range of outdoor spaces from secure to completely open, appropriate to the needs of patients and clients
- Careful gradation of building heights from domestic scale up to medium rise.

The topology of the site, the permeability of the boundaries, the brief of the HSE, and the adjacency of local communities all contribute to logically locating the majority of HSE accommodation to the north of the site. In turn this locates HSE accommodation near to the new circulation spines of St. Brendan's Way and Serpentine Walk and within a short walk of the open parkland areas to the south.

The design diagram lays out a central north-south circulation spine giving direct access to the most public parts of the accommodation. Mirroring the key concepts of the Masterplan, there is both a landscaped and more urban, part-atrium route. These circulation spaces will be public domain. They connect the North Circular Road to Library Square with its café and library, and are near the more public Primary Care facilities.

Spreading outwards from this spine along a new wooded walkway, the other facilities are grouped around courts with progressively increasing levels of privacy and seclusion. These courts all have their own geometry and character offering clearly legible places.

The most westerly court is devoted to mental health with the Psychiatric Intensive Care unit located at the most secluded end, complete with its secure gardens.

The former laundry building which is on the Record of Protected Structures, will be completely refurbished and upgraded to modern standards. Its top lit open studio nature will allow for many various users.

Several HSE Housing developments are located to the west of the Primary Care facilities. Open courtyards and landscaped paths characterise the spaces around these buildings. The proximity of the Primary School to the east provides the opportunity for cross-generational interaction.

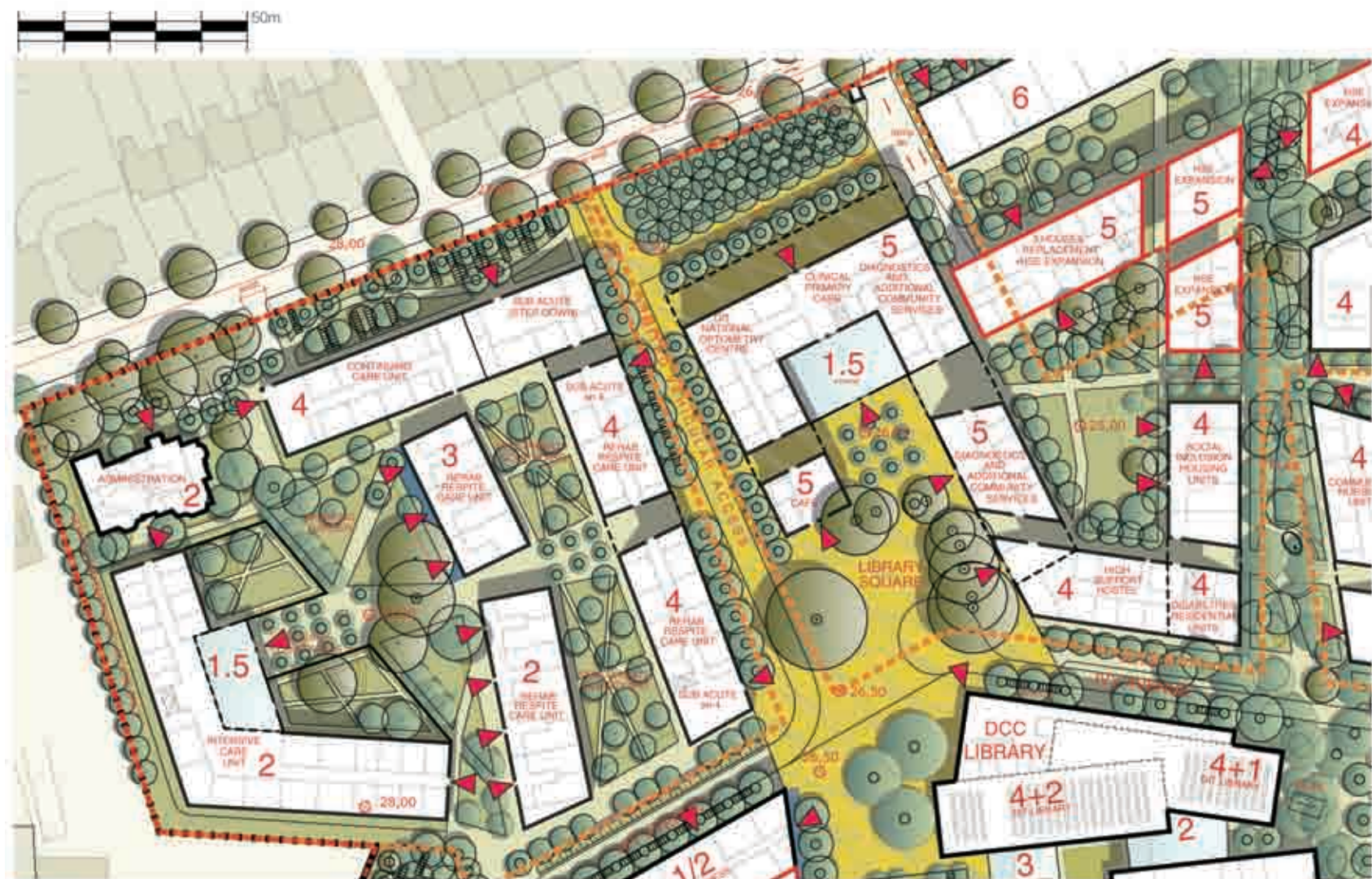
The healthcare accommodation is necessarily very flexible within the allocated quad spaces. This is due to the fact that the provision of healthcare in Ireland, as elsewhere, is rapidly and constantly changing. As standards improve and priorities change, the masterplan allows for a framework of buildings and courts that could switch, for example, from serving people with dementia to acting as a working or therapy spaces to help build up skill levels within the community. Buildings allocated on the masterplan for one particular service may become something else. However, the broad principle of locating Mental Health to the west, Primary Care centrally and Social Inclusion Housing to the east should act as an overall general guide. Please see section 4.6 on Design Flexibility.

4.4.2 HSE mental health, primary care and library square

The Health Services Executive is organised around a series of landscaped quadrangles in the same manner as the Masterplan as a whole. The Primary Care facilities are considered to be the most publicly accessed spaces and have been centrally located at the core of the HSE area. Radiating out westward and eastward, the program spaces are organised to provide incrementally greater degrees of privacy and security befitting their uses and the sensitivity of the clients or building users.

Most of the Mental Health program for the HSE is located to the west. The Intensive Care unit is considered to require the most privacy and is located near the existing Grangegorman wall with secure courtyards to the east bordering the main courtyard space for the Mental Health quadrangle. The Rehabilitation and Respite Care program has been situated in north-south oriented buildings, some of which could possibly be organised in townhome-type supported housing for residents with greater independence.

The Primary Care facilities are bordered to the north by an urban plaza facing North Circular Road and to the south is Library Square - a major urban plaza designed as an active and inviting space. The two plazas are linked by a major gateway into the Grangegorman Quarter that starts at North Circular Road and continues south to the Upper Terrace and The Fields.





4.4.3 HSE supported housing and day center facility

Several low-rise housing structures surround the Laundry building bordered by courtyards, gardens and pathways. The open plan of the former Laundry building will become a centre of activity when converted to its new use as offices and a day centre. The day centre is a place for residents of the health campus and of the surrounding community to come and share meals and participate in group activities. The existing openness of the interior spaces and existing overhead skylights will allow natural daylight to enter new open office type spaces. A drop-off area is located to the north and a small park borders the day centre on the south side. A small urban plaza is located to the south-east where tables and chairs will be situated to provide outdoor seating on sunny days.

The various housing buildings to the west of the Day Centre form a major formal courtyard. To the west of these buildings is one of the green finger parks that traverse the site from North Circular Road southward to The Fields. The juxtaposition of the semi-private courtyard space and the more public green finger park will give residents various levels of opportunity to interact with the community.



4.4.4 Primary School

The Primary School is designated to have 16 classrooms with ancillary special education rooms. The site within the Masterplan was chosen for its easy accessibility from Grangegorman and Rathdown Roads and its separation but adjacency to the DIT and HSE buildings. The school's location would benefit from the parks and playspaces designed throughout the new Quarter and pupils would have access to the playfields to the south. A drop off is located near the main school entrance for pupils, staff and community access. There is currently an excess of under-utilised road space at the intersection of these two streets and it is suggested that this unused space could be added to the site footprint for the Primary School. The school's General Purpose Room has a separate entrance from Ivy Avenue that could provide after hours access for school gatherings and functions.





4.4.5 Dublin Institute of Technology (DIT) – Overview

The following detailed schematics give an indication of the physical organisation of DIT, following on the basic principles outlined earlier. The details of the academic programme are indicative of primary uses, but will inevitably shift and change with time as disciplines grow, merge and disappear. Indeed since the initial formulation of the masterplan the 6 Faculties of DIT have been reorganised into 4 Colleges. It is indicative of the strength of the masterplan that this did not entail any substantive change.

4.4.6 DIT Business; Arts and Tourism; Engineering and Built Environment; Science; an integrated DIT/Public library and the upper terrace

The western-most core area of the Grangegorman Quarter has been termed the Academic and Health “heart” of the quarter. It is comprised of the DIT main library and a public library, Central Learning Classrooms, and the Upper Terrace to the south. The library could also house the St Brendan’s Hospital archives and artifacts.

The Upper Terrace poses a dramatic belvedere looking south across The Fields. The Library’s information/study/ resource centre incorporates the historic Top House in a careful three-part composition of atria, courtyards, and new spaces, poised above the open green. The Upper Terrace provides a natural viewing platform for games and daily student life with the grand backdrop of the Dublin skyline and Mountains. From the Upper Terrace down to The Fields, a tiered stairway/ amphitheatre offers a venue for a variety of large-scale events, as well as a social ‘sun-catcher’ in fair weather and offers access to the sports centre below.



4.4.7 Tourism and Food, Science, and Engineering

The Masterplan provides each of the DIT academic areas with a defined space with a distinctive identity while organising them to contribute to the overall cohesive image and vision for the Quarter. In addition, the design of the programmatic space adjacencies recognise the necessary crossdisciplinary interactions that take place.

These three academic areas form three separate, similar, but distinctive quadrangles that primarily open to the south providing access to St. Brendan's Way and the Cultural Garden. The south-facing courtyards allow a greater degree of direct sunlight to fall on the outdoor landscaped spaces and support St. Brendan's Way as a primary circulation route through the campus. A north-south oriented atrium space connects DIT Engineering to parts of the DIT Research Centre and Commercial Laboratories via a series of bridges.





4.4.8 Student services, Built environment, and the Cultural garden

The Student Support Services are grouped as a student “hub” and located in a high profile, easily accessible campus location as part of the cultural social “heart” of the Grangegorman Quarter. St. Brendan’s Way, the major circulation route through the site, passes between the grouping of protected buildings that, in addition to several new facilities, will comprise the majority of Student Support Services. This hub of student services is complemented by various retail shops, restaurants, cafes and DIT cafeterias along St. Brendan’s Way and is located between the Student Accommodation to the south and the academic quadrangles to the north, a literal and figurative bridge between the two aspects of student life.

The Built Environment has its own distinctive courtyard and also occupies the Richmond Penitentiary (Clock Tower building) that will be renovated and expanded. The Clock Tower is seen as a major iconic link from the history of the site to the future of DIT and has been given the space required to appreciate the landmark by the design of the Cultural Garden directly opposite it. The Cultural Garden is conceived as a place of reconciliation, celebration and commemoration of the new and protected buildings as well as the past and future uses, a means of marking a significant process of transformation.





1. view of cultural garden looking southeast

The Cultural Garden is an axial space that looks toward the Clock Tower providing an uninterrupted view of this protected structure, and flanks other protected buildings that will be adapted to student social activities.



2. view of cultural garden looking northeast

The Cultural Garden is conceived as a place of reconciliation, celebration and commemoration of the new and protected buildings as well as the past and future uses—a means of marking a significant process of transformation.





1. view of grangegorman road looking south

Grangegorman Road currently bisects the site. The character of the portion of road through the site will be altered using traffic calming and shared surface concepts to provide a pedestrian dominant space that knits together the two portions of the site.



2. view of grangegorman road looking north

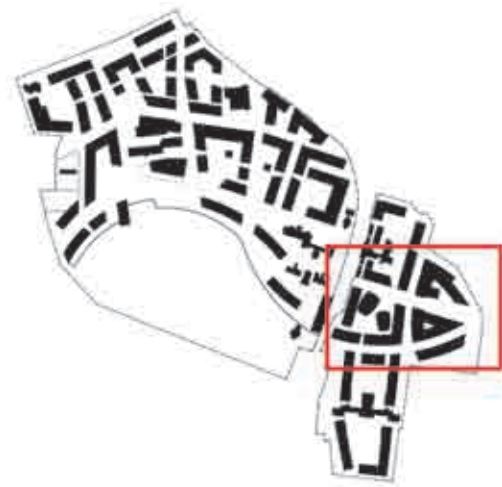
The portion of Grangegorman Road through the site will be treated with a different materiality than the rest of the road relating more to the character of St. Brendan's Way than a city street. The existing protected stone wall will be substantially retained but may be altered in some places to create more open and inviting spaces.



4.4.9 The DIT Arts and Arts Centre

DIT Arts, including the proposed Arts Centre, comprise the second half of the cultural-social “heart” of the Grangegorman quarter. The Arts Centre is envisioned to be a showplace for the artistic creations of the music, drama, art, design and media departments of the Institute and a destination venue for the community and the city of Dublin. The quadrangle dedicated to the Applied Arts is dominated by a recital hall, a future performance venue and an art gallery, all partially contained within a glazed atrium wintergarden space.

In addition to opening northward to the pedestrian traffic on St. Brendan's Way, the location for the arts centre was chosen due to its public access and prominence near the Broadstone Gate with its access to the proposed LUAS light rail line, taxis and bus routes. The Applied Arts quad is also accessed from Grangegorman Road. An Early Learning Centre will be provided as part of DIT Arts. This centre will have some crèche facilities available to DIT students and staff.

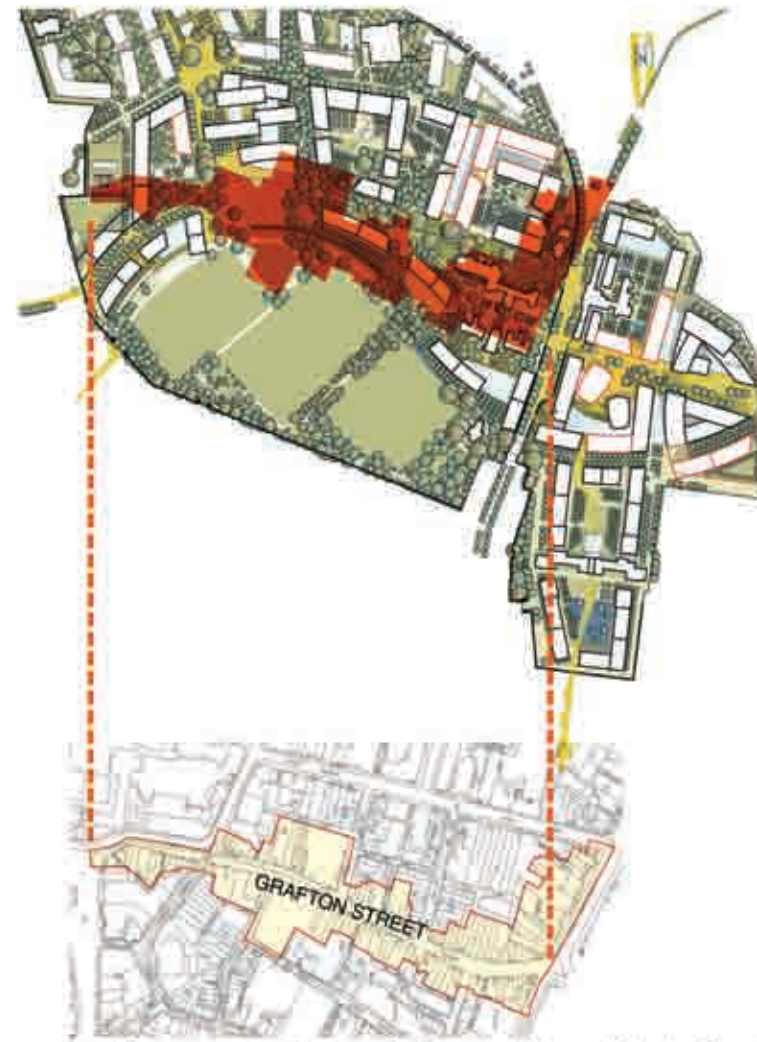


University of Maryland Center for the Performing Arts. Moore Public Urban Architecture and Planning



University of Cincinnati Student Living Center. Moore Public Urban Architecture and Planning





Size comparison between St. Brendan's Way and Grafton Street



Social gathering spaces along St. Brendan's Way and the Serpentine Walk



View of Grafton Street



The Serpentine Walk and the Green Finger Parks

4.4.10 St. Brendan's Way and the Serpentine Walk

St. Brendan's Way and the Serpentine Walk are key design principles considered to be required for the successful implementation of the Masterplan. Both are major organisational and circulation paths through the site but with differing character. The urban quality of St. Brendan's Way is complemented by the landscaped nature of the Serpentine Walk, a meandering link that traverses the site in two grand arcs, giving a southfacing green edge to student residence halls. The Serpentine Walk is to be a link in the landscape path from the Grand Canal and the Phibsborough/Mountjoy area to the north through the Grangegorman site and out to Phoenix Park to the west. In addition, the Serpentine Walk acts as a collector for several of the north-south oriented "green finger" landscape parks that bring people into the site from the edges of the quarter via a serene park-like setting.

The diagram to the left shows a size comparison between St. Brendan's Way and Dublin's popular and much travelled and understood pedestrian way, Grafton Street.



Precedent images for a portion of the Serpentine Walk

The design for St. Brendan's Way strives to provide a high quality of surface materials, street furniture, lightning, and a significant planting concept in order to establish a clear understanding of the importance and hierarchy of this very public open space. Paving materials include a warm natural stone in various colours to provide an engaging, almost painterly character. Spacious clusters of street furniture and sculpture along the pedestrian zone provide places for pedestrians to meet, sit down and observe the vibrant life in the District. Carefully selected lighting will give St. Brendan's Way effective and expressive illumination at night.

Overall, St. Brendan's Way has a harmonious character in scale, colours and materials. Existing trees have been integrated into the landscaping concept throughout. The Masterplan intends to keep the site vehicle free as much as possible. Due to the traffic and access requirements, there will be shared uses on circulation paths, but these will be clearly prioritised for pedestrians and cyclists. Vehicular use will be limited and controlled. No road markings or signs will be provided, in order to prioritise pedestrians and ensure slow vehicular traffic.





1. view of library square and the top house looking south toward the DIT library

Library Square will provide a public space that activates a central portion of the site bringing people together from the HSE buildings, DIT and the Public City Library. A view corridor from North Circular Road, past the protected portion of the DIT Library and out over the Fields will create an important link through the site.



2. view of St. Brendan's Way and the Wellington Monument looking southwest

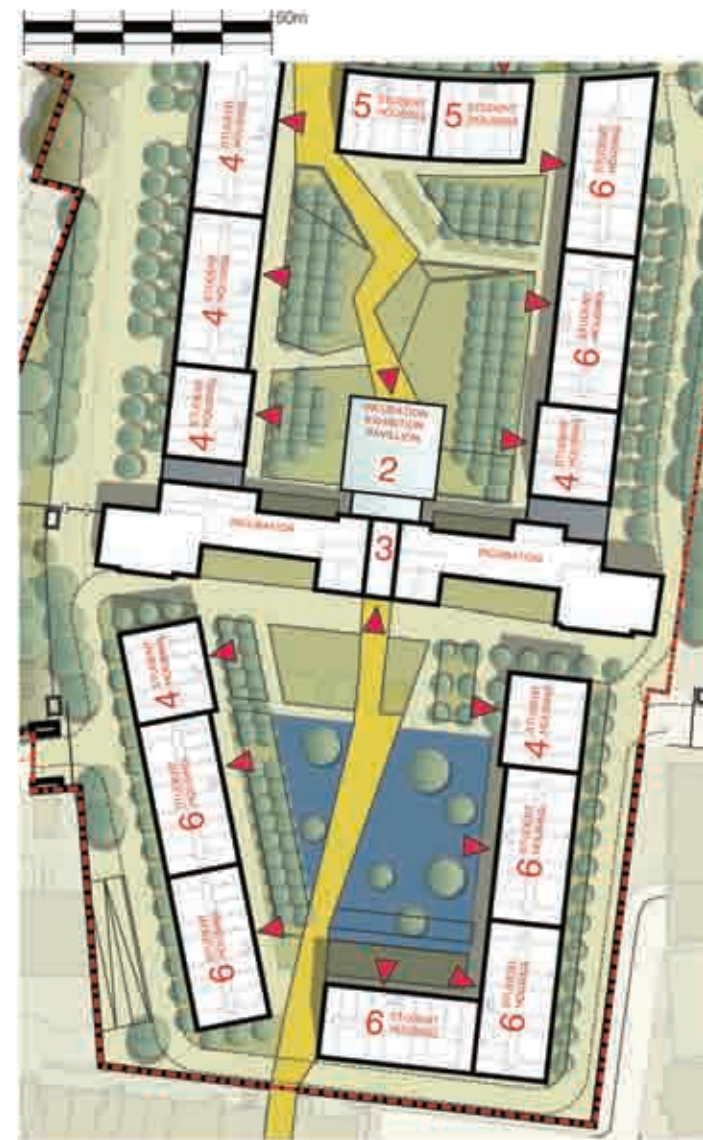
Breaks through the student housing buildings along the Serpentine Walk provide views out from the site and allow daylight to penetrate and cross St. Brendan's Way.



4.4.11 Student Accommodation

Providing student accommodations within the boundaries of the Institute will create a lively and energetic place for learning and living. By locating the student accommodation along the spine of the Serpentine Walk, the housing does not become segregated to the periphery of the Institute and in addition creates opportunities for interaction all through the site along St. Brendan's Way and the Serpentine Walk. The best views of the city and the mountains are from the housing where much of the indoor living and socialising of the students will happen.

The quality of construction and the overall architectural expression of the student accommodation will be important due to its prominent location within the masterplan and the its high-profile view from the surrounding city.



Tilgert Student Housing Denmark, Lundgaard & Trangen Architects





4.4.12 Mixed-Use Development

The mixed-use development planned at the Broadstone boundary of the site which will complement the educational and health facilities will primarily consist of high quality office accommodation. This will create a major hub of intellectual capital that will enable companies to locate close to a third level institute with a major business and technology base. Its location close to the CIE land bank at Broadstone will facilitate the Broadstone area developing into a significant economic engine for the north-west inner city. Supporting local retail and restaurants will expand the range of employment opportunities generated.

The Mixed-Use Development shares space at one of the most prominent locations of the site. The Broadstone Gate is a major linkage between the Grangegorman Quarter and the city and the design and construction of the buildings at this gateway will become one of the new identities for the Dublin Institute of Technology. In addition to the practicality of the location due to its proximity to the proposed LUAS light rail line, taxis and bus routes on Constitution Hill and the location of underground parking, the Mixed-Use Development is located to act as a figurative bridge between academic culture and the business of the city.

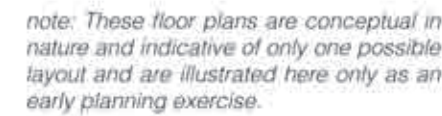


Duke University Science Center, Moore Ruble Yudoff Architects and Planners

Duke University Science Center, Moore Ruble Yudoff Architects and Planners

Duke University Science Center, Moore Ruble Yudoff Architects and Planners

The relocation of all Institute activity to a single campus affords the opportunity to create a central bank of quality learning space in the form of lecture rooms, break-out rooms, seminar rooms and study spaces that would be accessed by all colleges and facilitate the growth or contraction of college demands for space over time by complementing the other dedicated college spaces around the Institute. It is important that these facilities are centrally located near the main DIT library as well as the Executive Learning Centre and function as a conference centre when not in academic use.





note: These floor plans are conceptual in nature and indicative of only one possible layout and are illustrated here only as an early planning exercise.

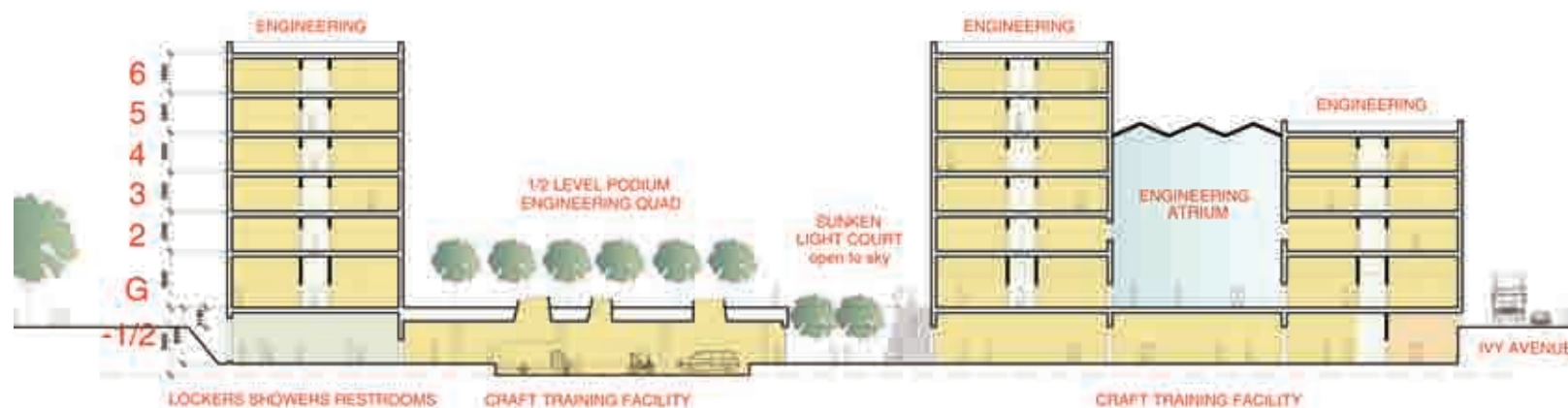
4.4.14 Main Apprenticeship Training Facilities

The Institute has a major involvement in and commitment to apprenticeship education and training and the relocation of the Institute provides the opportunity to locate much of these facilities closer to each other as well as near other DIT programs and students. A large portion of the facilities have been placed at the centrally located Engineering quad.

Due to large space requirements and heavy equipment, some of the Apprenticeship Training facilities have been located partially below grade similar to the Central Learning facilities, and employ similar means of acquiring daylight into all habitable spaces. Classrooms, seminar rooms and offices are located to the periphery to take advantage of the half-level podium above grade and the pulling away of the below grade space to allow additional light to enter the spaces. A key objective was to co-locate craft training facilities with undergraduate and graduate activities where possible. Areas with large floor areas such as workshops and maintenance bays are daylight by various skylight techniques and by incorporating daylight from the open-sided, south-facing glazed podium wall. In addition, daylight is supplied from a large sunken landscaped courtyard.



Pulling away the ground to allow light to enter lower levels.

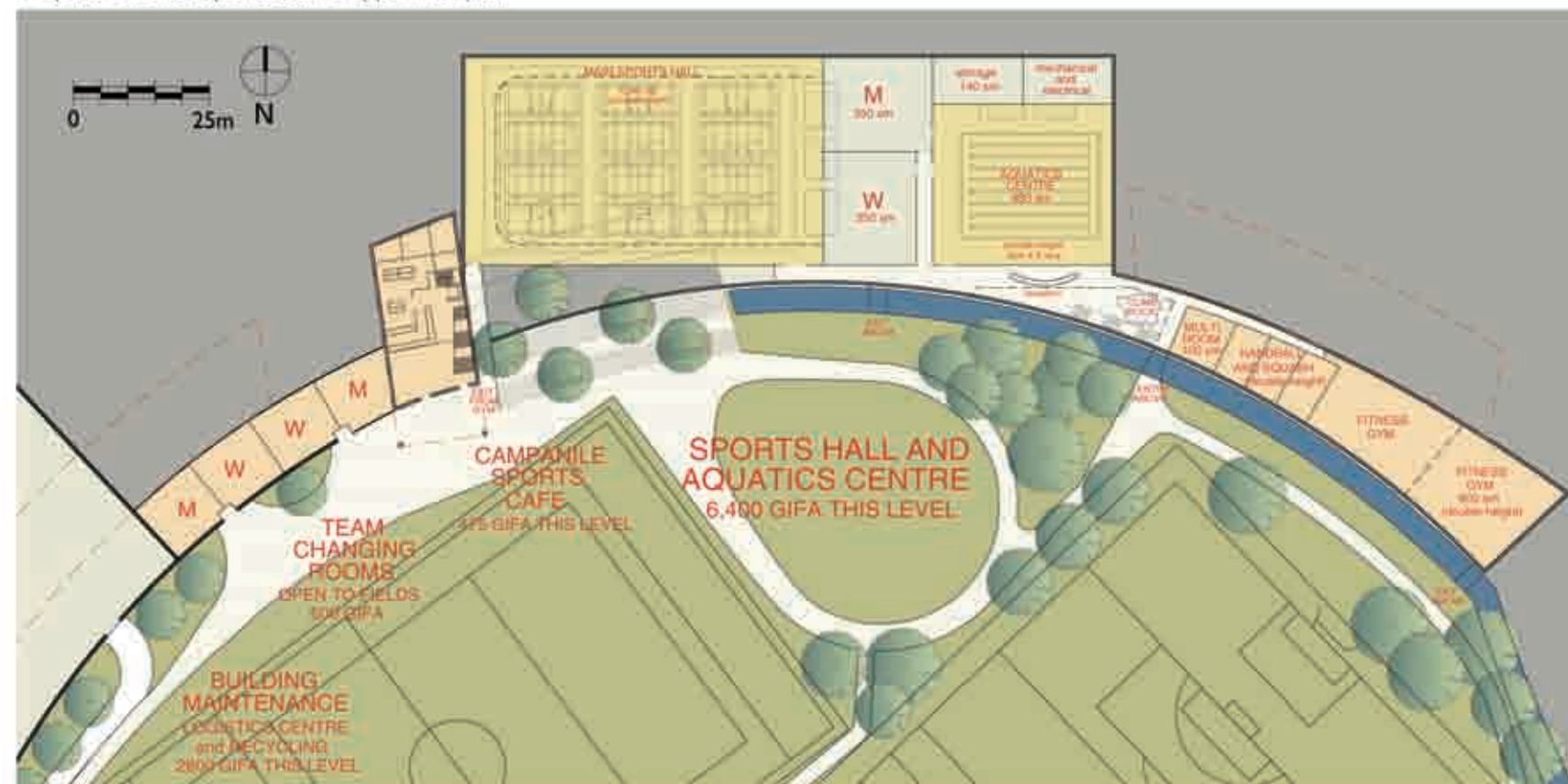
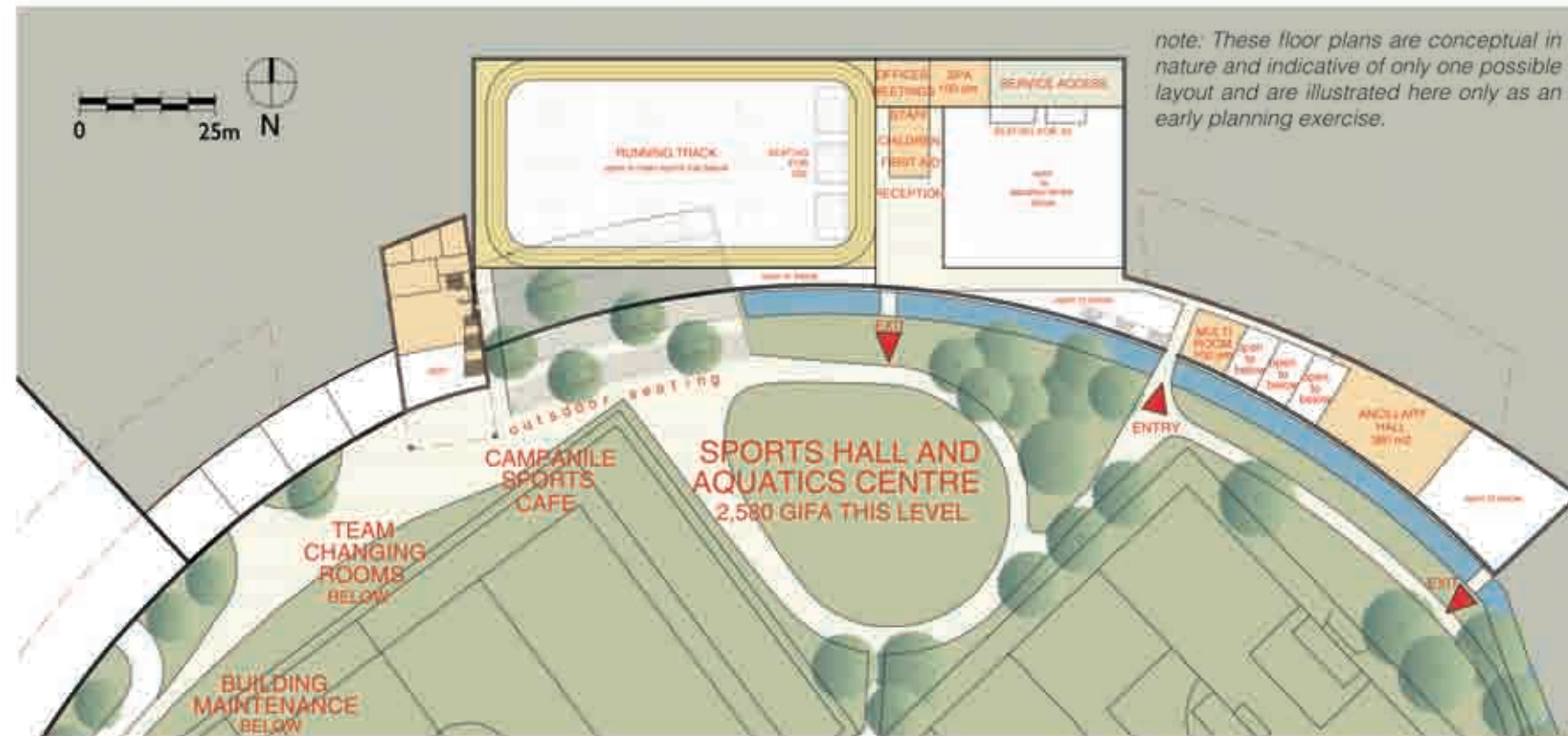
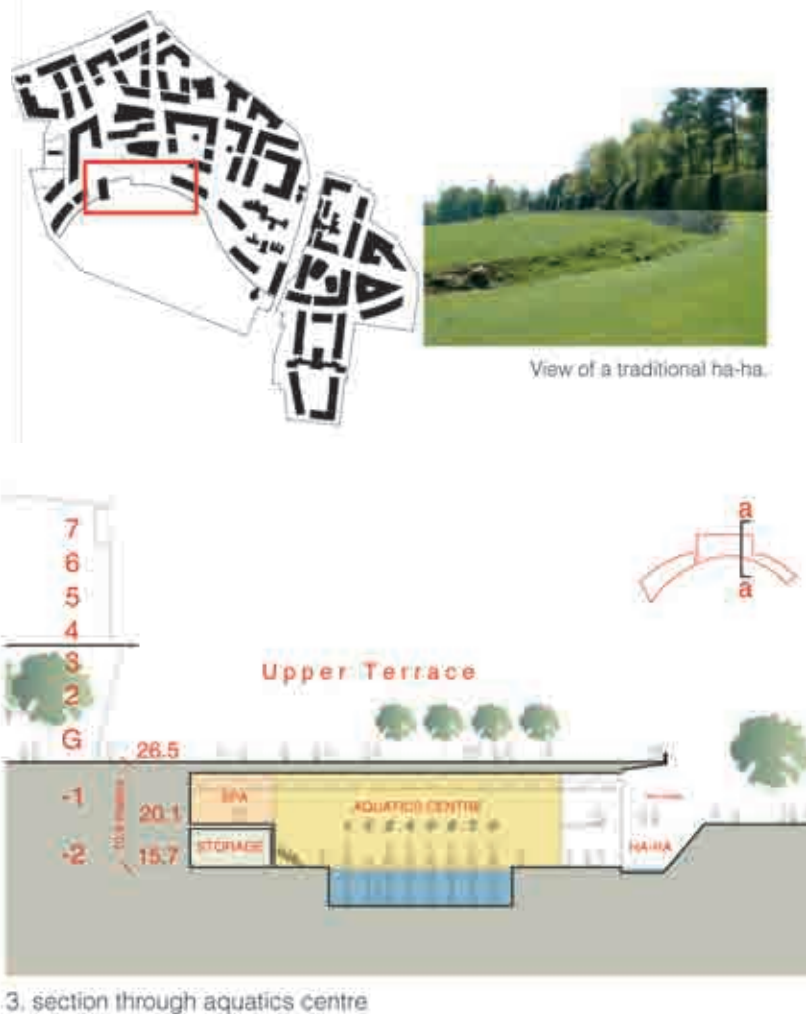


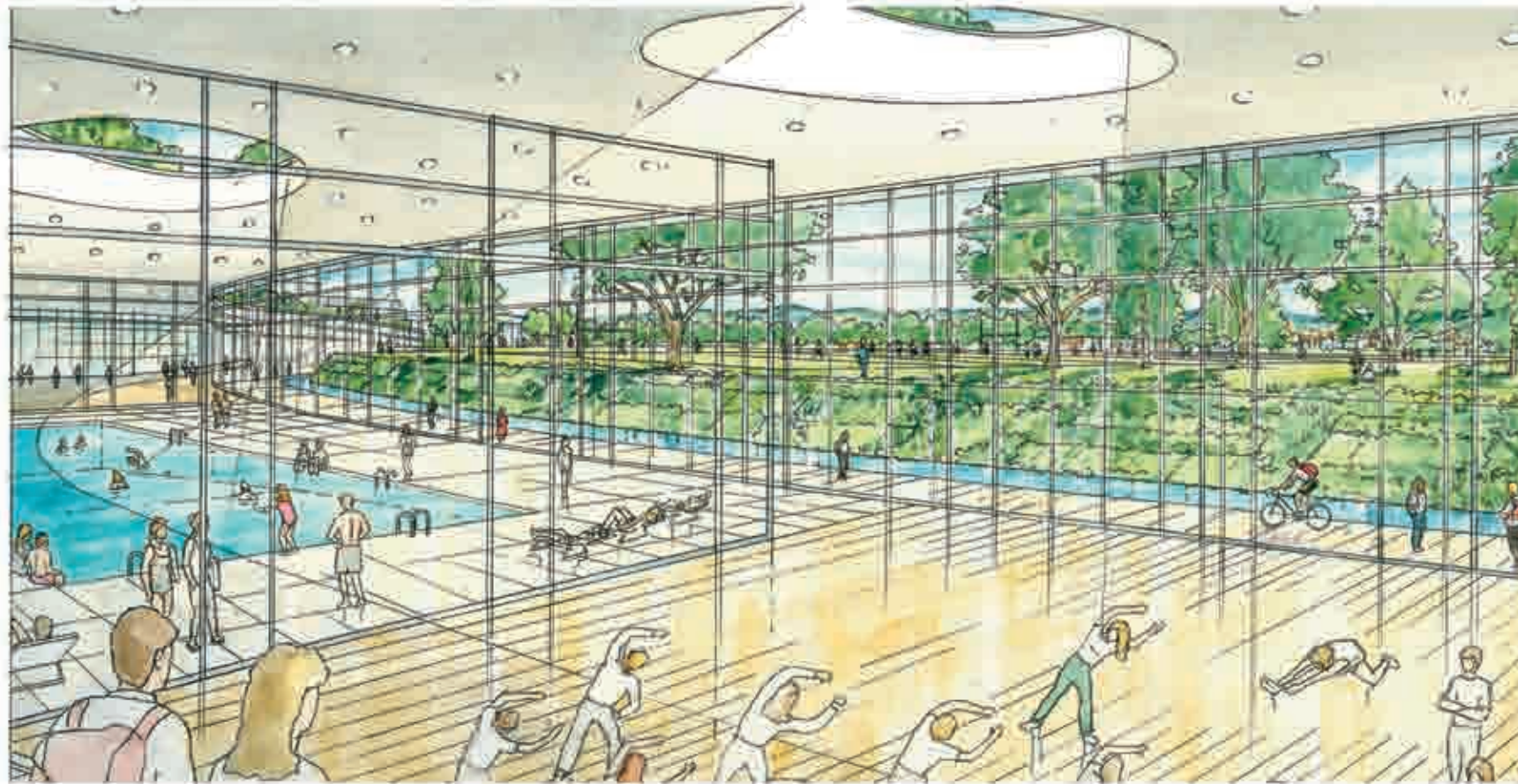
Daylight enters lower level from sunken courtyard and skylights.

4.4.15 Sports Hall and Aquatic Centre

As with other DIT programmes, the relocation of the sports program to the new site will enhance the student experience allowing students with varying educational focuses to mix with the greater college community, make friends and improve the social infrastructure of the Institute. The Sports Centre will also accommodate educational space for leisure related programmes of DIT. In addition, by being open to the public, the Sports Centre will provide a place of interaction with the other users of the Grangegorman Quarter such as the Health Services Executive and Primary School as well as the local community.

The two-level Sports Centre has been located in a high-profile and unique location between the outdoor playfields and the academic and health “heart” of the Quarter. Most pedestrian paths through the Quarter arrive at or pass by the Upper Terrace and the Sports Centre below. Most of the programmatic spaces face directly out to the Fields and are daylight by a south-facing glazed wall revealed by a “ha-ha” (an angled, sloped landscaped change in ground elevation). In addition to regular Sports Centre changing facilities located in the building, there are team changing facilities near the Sports Centre that are directly accessible from the playing fields.





1. view of daylit sports centre and ha-ha

The Sports Centre will be daylit by overhead skylights and by using glass walls adjacent to a landscaped "ha-ha" (an angled sloping change in ground elevation).



2. view of daylit craft training area with courtyard

The Craft Training Facilities will be located partially underground due to the large floor areas required and the weight of heavy machinery. These spaces will be daylit through a number of ways including overhead skylights and sunken landscaped courtyards.





View of the campanile, library and upper terrace

A grand staircase from the Upper Terrace provides south-facing places to sit, study, meet friends and watch the sporting events on the Fields. The Campanile creates an iconic marker for the University as well as allows public viewing spaces above and cafes and eateries accessible from the Fields below.



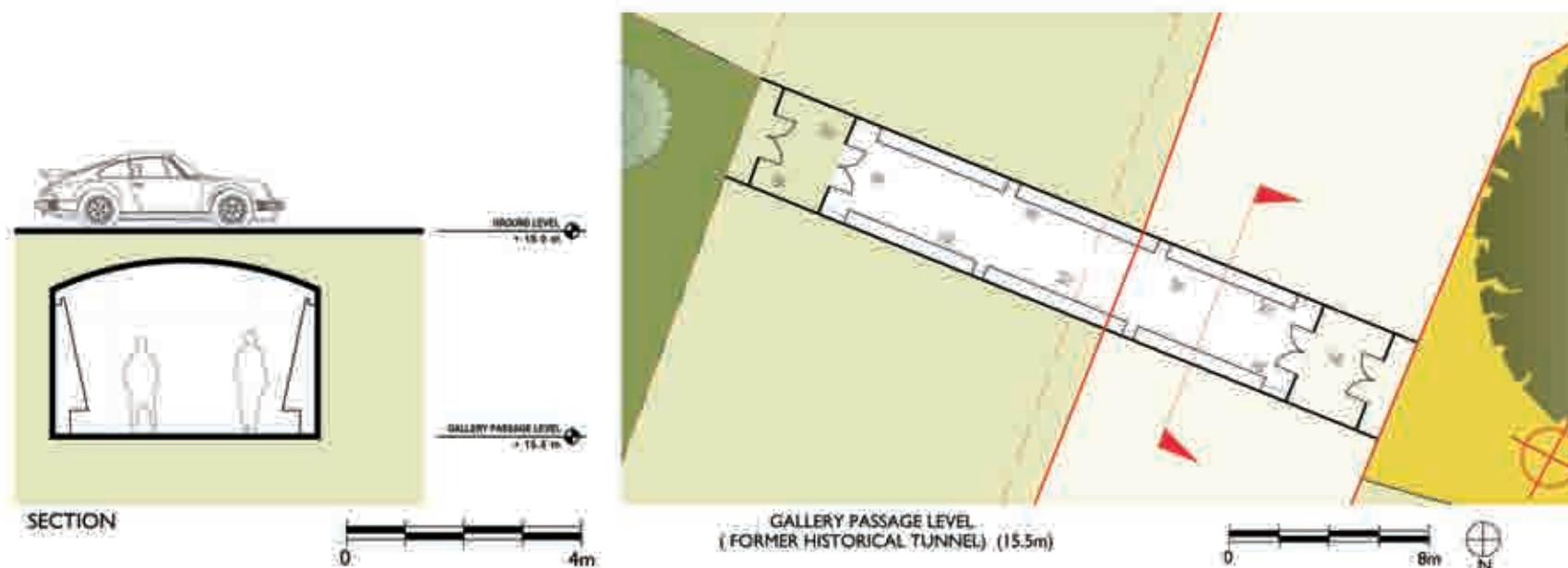
4.4.16 Gallery Passage

The existing tunnel under Lower Grangegorman Road has been part of the fabric of the Grangegorman site for many years. During this time, it has accommodated the movement of people, clients and users between the west and east parts of the site.

The Masterplan seeks to incorporate this tunnel as part of the new history of the Grangegorman Urban Quarter, by proposing its transformation into a future "Gallery Passage" hosting permanent and temporary exhibitions, subject to a detailed survey and analysis of the structure and capacity of the existing tunnel. Similar to the Cultural Garden, this well-lit space can provide an important connection to the culture, spirit and history of the place. The gallery would have certain hours of operation and would be attendant supervised.

The future exhibitions in this space can cover a wide range of topics related to the Grangegorman site, DIT, HSE, and the surrounding community, including the following:

- History of the Grangegorman site
- History of DIT
- History of HSE in Dublin
- More information on the mission, goals or various departments of HSE or DIT
- Artwork by DIT instructors, staff or students
- Artwork by HSE clients and users
- Artwork by members of the surrounding community.



4.4.17 Energy Centre and Site Services Area

The project's power and utility buildings are consolidated in an area along the west boundary of the site, to the north of St. Brendan's Way. These include the Energy Centre, the Composting Area, and an area for overall site services.

Strong architectural concept

These buildings can provide a welcome opportunity to create architecture out of a common, utilitarian building type, one that is not generally associated with high design standards. The Masterplan views these standard service amenities from a fresh perspective and encourages design that would allow them to have a positive impact on their surroundings.

Instead of disguising the utilitarian nature of these buildings, the Masterplan seeks to celebrate this aspect as part of the educational and design aesthetic of the Grangegorman Urban Quarter, by proposing a strong architectural approach, the "Vertical Landscape."

Vertical landscape

The building facades are characterised as a landscape feature, with vines and plantings on the walls. The landscaped spaces are integrated with large windows to allow views inside of the machinery and ductwork, thereby making these buildings become part of the learning process for DIT students and others in the District.

As an extension of the landscape theme, the large roof of the Energy Centre is proposed to be used as an additional area for growing organic vegetables for DIT Tourism & Food, utilising waste heat from the plant below. The Masterplan envisions the dynamic combination and integration of these landscape and architectural strategies and materials to allow the utility buildings to function as an effective "urban curtain" in their context within the Grangegorman Urban Quarter.



4 The Masterplan

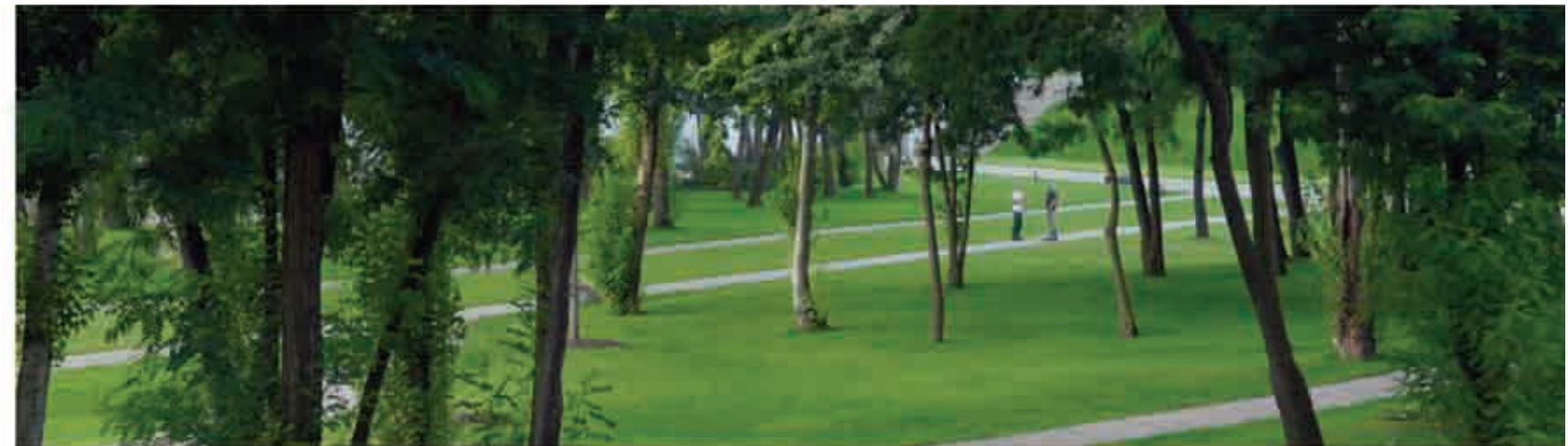


4.5 Landscape Design

4.5.1 Quadrangles

The quadrangles or courtyards will be physically and conceptually connected to each other with an expressive, harmonious design using plants, surface materials, street furniture and lighting that create a cohesive identity. In addition, the courts will maintain individual identities not just through the architectural organisation of the spaces but by the design and types of plantings used.

The surface materials of the quadrangles are predominantly permeable to allow rainwater runoff to percolate back into the aquifer below and not be introduced into the city's drainage system. A drainage system with retention spaces for rainwater runoff during flood conditions has also been introduced into the design. This system allows the water to circulate in a visible drainage network as a "living system." The water will be collected in swales and flows from the north-west portion of the site in visible swales, through the green finger parks to the Ha-Ha. After heavy rainfall, a water cascade can be seen descending down into the retention canal of the Ha-Ha. Another water feature, a water-garden, has been designed at the lowest elevational point on the site at the southern-most quadrangle.

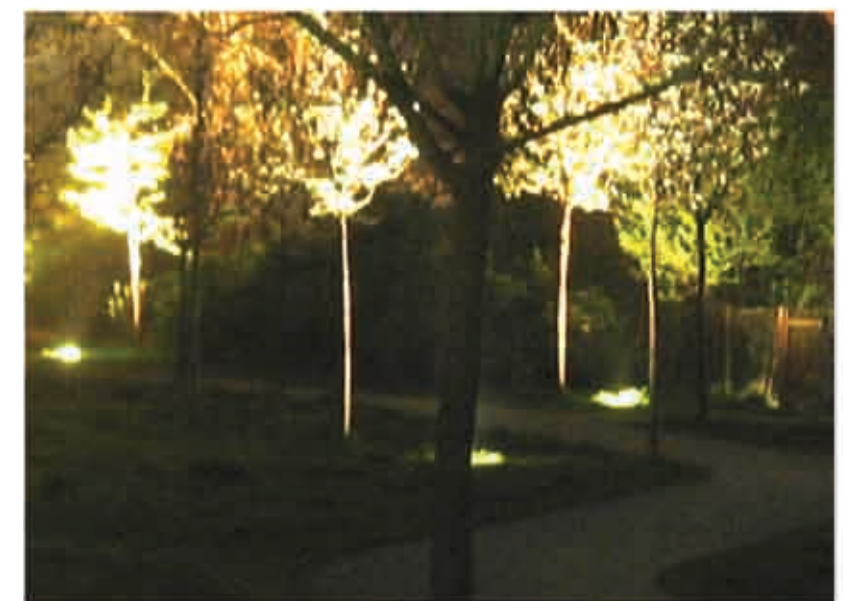
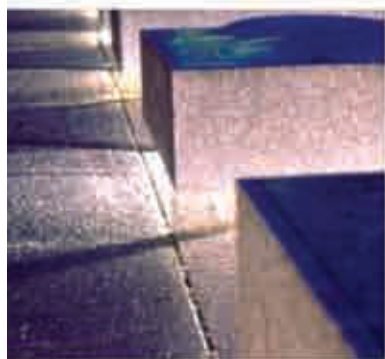




4.5.2 The Cultural Garden

The Cultural Garden is a green connection between the academic/health heart and the cultural heart of the Grangegorman site. Parts of the garden reflect the history of the site and features a range of spaces for contemplation, gathering and relaxing.

The design of the Cultural Garden provides a clearing to the east with the density of trees increasing toward the west. Lawn pitches which slope down to the middle of the garden is the dominating character. Because of the grades of the lawn, they are faced by little walls and stairs which invite pedestrians to sit down and rest. The Cultural Garden will have the character of a “hortus conclusus” (an enclosed Medieval garden) in the east part, with water features to provide a calming accent. Due to this character the planting concept is more formal. A sequence of hedges creates various “green chambers.” Toward the west, the Cultural Garden opens to St. Brendan’s Way and has a more urban character.



4.5.3 Green Finger Parks and Ivy Avenue

In addition to being main circulation routes through the Quarter, the “green finger” parks have a high ecological value. They provide a connection from a main city route – North Circular Road to Phoenix Park – into the site. The plants consist of native species (especially shrub berries and other feeding plants for song birds), and the existing large, healthy trees are integrated into the finger parks as well. Furthermore, the finger parks improve the microclimatic conditions on the site by increasing humidity, creating air cooling lanes, wind breaking, and improving air quality by reducing fine dust in the air.

The finger parks incorporate several main pedestrian access routes into the Quarter, with small play spaces and play stations arrayed throughout. Various kinds of seating areas to meet and to contemplate will also be arranged.





4.5.4 The Fields

Because the Grangegorman Hospital occupied the site for such a long period of time, the walled-in site remained one of the last undisturbed open spaces within the city of Dublin. One of the major concepts of the new development for the site was to maintain to the greatest extent possible the existing open space to the south of the site.

Dedicated for the most part to sports related activities but also serving as parkland and recreational space, The Fields occupy an advantageous location for views from the Serpentine Walk, Upper Terrace and student accommodation. The location allows prevailing winds from the south to travel through the site and provide natural ventilation (similar to some of the reasons the site was originally chosen as a hospital).



4.5.5 HSE Landscape

The HSE Health Gardens form a series of garden areas accessible to users, clients, caregivers and staff. Integrating principles of ecological design and medical research on human wellness, these “restorative gardens” are designed to meet the physical, psychological, and social needs of patients and their caregivers. The health benefits of these gardens, however, extend beyond the garden walls to include the wider institution, the surrounding communities, and the living landscape.

The Health Garden areas act as pathfinder elements within an enhanced healing environment incorporating innovative landscape design, sensitive lighting and exterior artwork throughout the HSE healthcare campus. The design of the courtyards, whilst providing facilities to users, clients, staff and visitors, also acknowledge the privacy and dignity issues associated with adjacent facilities. The courtyards and gardens provide significant social areas for people to meet and talk, with plenty of seating in these spaces as well as the paths and planting beds. They also provide pleasant views from within the gardens as well as from the surrounding developments. Special attention have been paid to making the gardens accessible to people with limited mobility. Seating areas have been designed to provide quiet areas where one can sit and reflect with some privacy.

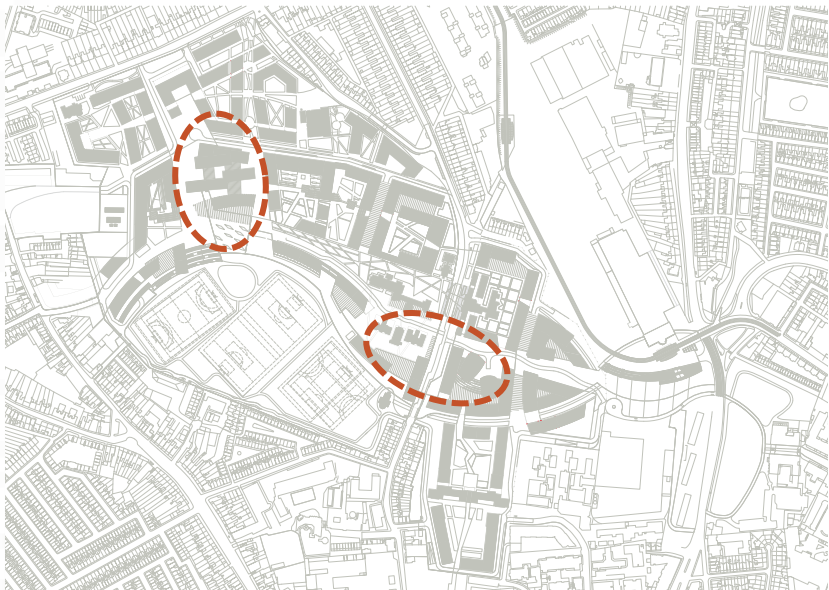
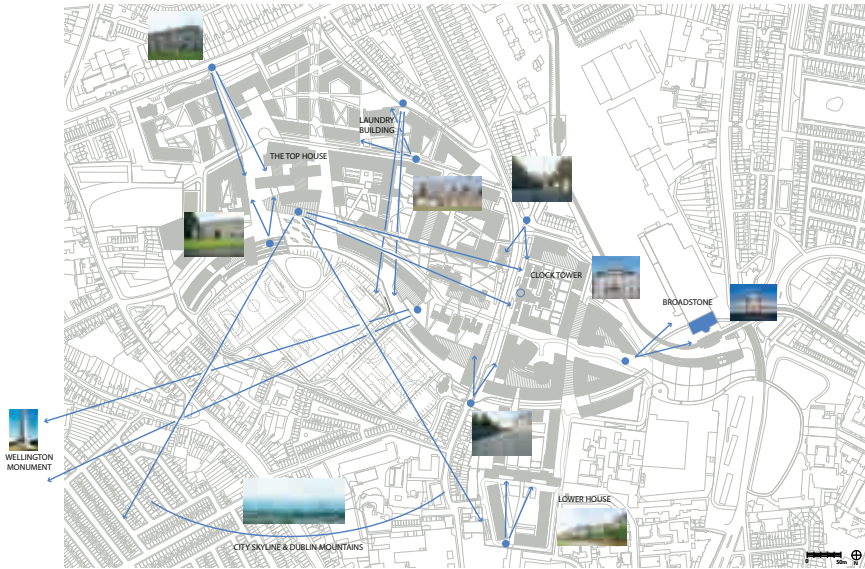




4.6 Design Flexibility

4.6.1 Introduction

Several ideas within the design are considered essential concepts for the successful implementation of the Masterplan. Many of these essential concepts are obvious and/or have been iterated throughout the Masterplan document, including the Six Key Principles, Critical Alignments, View Corridors, etc. Some concepts or principles may be less obvious or less important in hierarchy and may be open to change or re-interpretation. There is also a need in any Masterplan to allow for flexibility in the design to accommodate changes in program, scope, cost, jurisdictional authorities, and creativity. What follows is a guide showing several points of flexibility within the design.

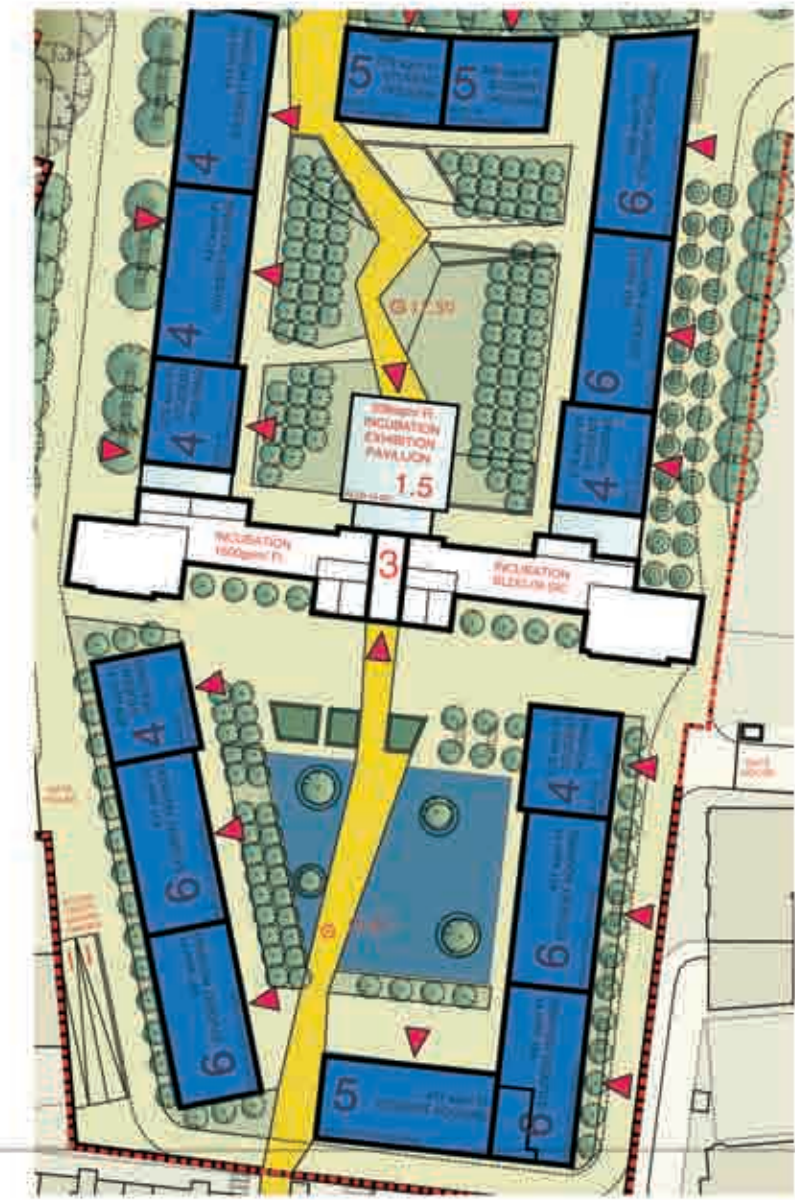
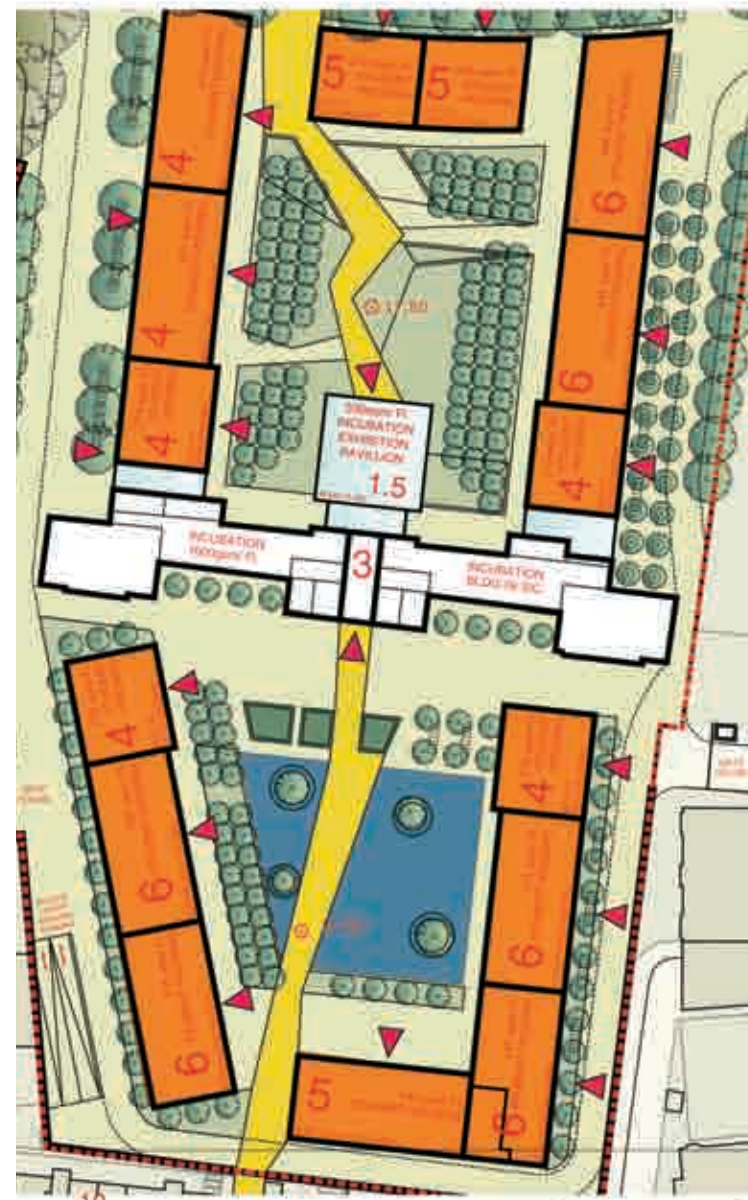


4.6.2 Student accommodation and the science and industry centre

The area surrounding the former Richmond Lunatic Asylum, (Lower House), is master-planned for student accommodation use. If required in the future due to the relocation or elimination of an amount of required student accommodation or an increased need in space for, or relocation of the Science and Industry Centre, the courts to the north and south of the Richmond Asylum could be programmed as space for the Science and Industry Centre which is located at the Broadstone Gate in the Masterplan.

Access from the south of the site and up through the Lower Court is one of the principal circulation routes designed into the Masterplan. This route leads from the heart of the Masterplan south through the Smithfield development and farther on to the river Liffey and the city centre. The pedestrians using this route will activate the area whether it is used for student accommodation or the Science and Industry Centre.

As with the Broadstone Gate location, the Lower Court provides the opportunity for the Science and Industry Centre to act as a literal and figurative gateway between the world of academia and the business of the city. In addition, the Lower Court may provide a stronger unique identity for the Science and Industry Centre than the multiple uses planned for the Broadstone gate area. A disadvantage of this option might be the loss in gross area due to different floor-to-floor heights of the two different building types. The building floor heights for the student accommodation are in conjunction with the targeted floor areas for the student accommodation program and the assumption of a 3.0 meter high floor to floor height. Research and laboratory spaces typically have larger floor plate requirements as well as needs for more equipment such as gasses and water lines to be located across ceilings or under floors, generally requiring floor to floor heights greater than that for housing. If the building volumes shown are to be maintained, and the use changes, then a loss of gross floor area may result.





4.6.3 Mixed use development at the broadstone gate

The Mixed Use Development has a prominent and key strategic placement at the Broadstone Gate area of the site. It offers many possible accommodation solutions, depending on the evolving needs of the area.

Due to easy access to the Broadstone Gate site from the east, supplemental access from the west, public transport and underground parking, this site is envisioned as a high density area that will be an active and energetic space. Therefore, various other uses besides high quality office accommodation could be located here, such as residential (market, student residential), science and industry and commercial research laboratories. Activities supporting public transport could also occur in this location, such as bus pick-up, servicing, parking and/or turning areas. The proportional split of each use would be determined at the appropriate time, to best achieve the optimum solution for the area.

The architectural detail and aesthetic identity of the buildings at the Broadstone Gate will be synonymous with the identity of the Quarter generally and the Institute in particular.



4.6.4 Additional primary care or HSE administration in lieu of HSE housing

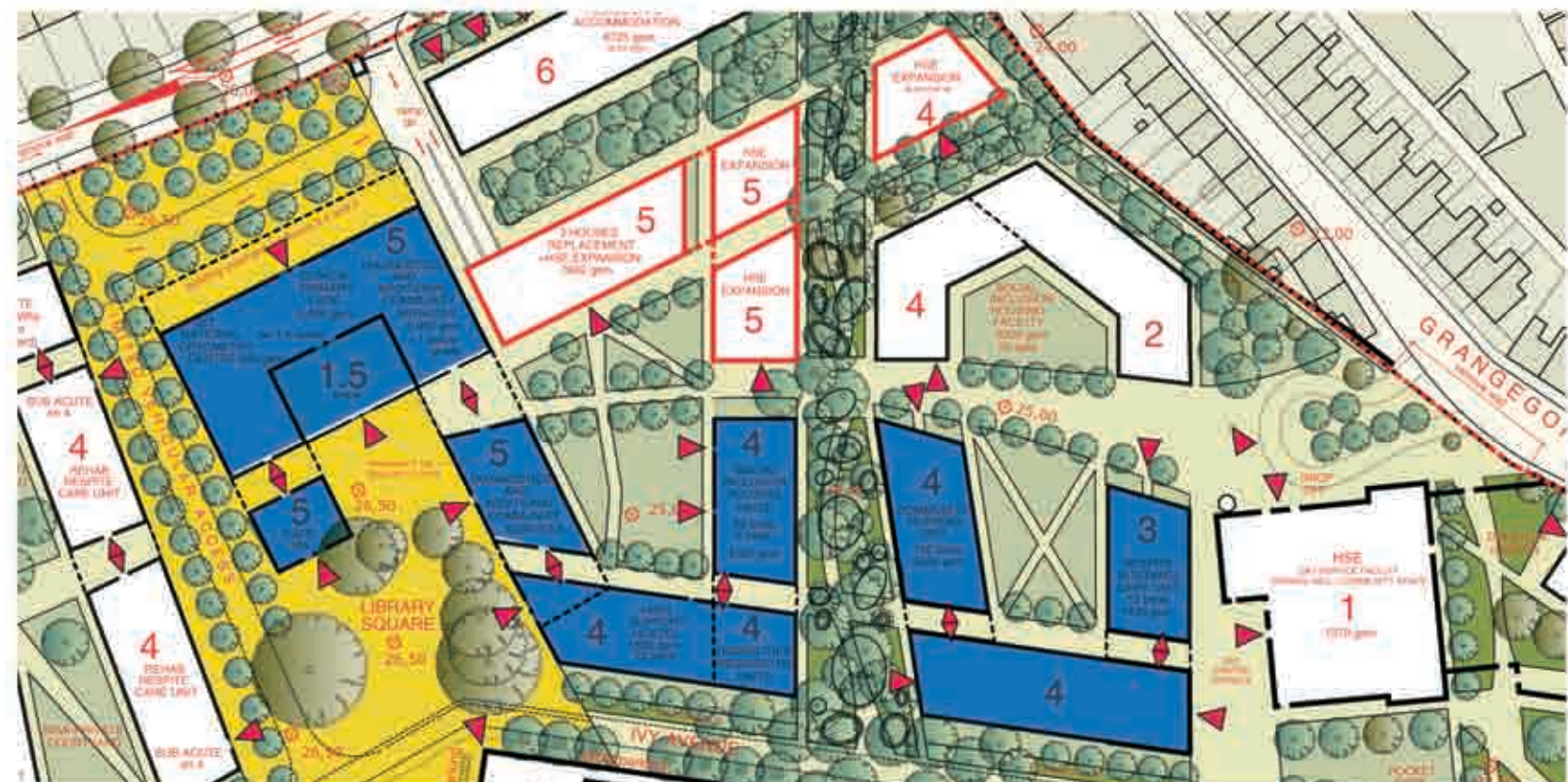
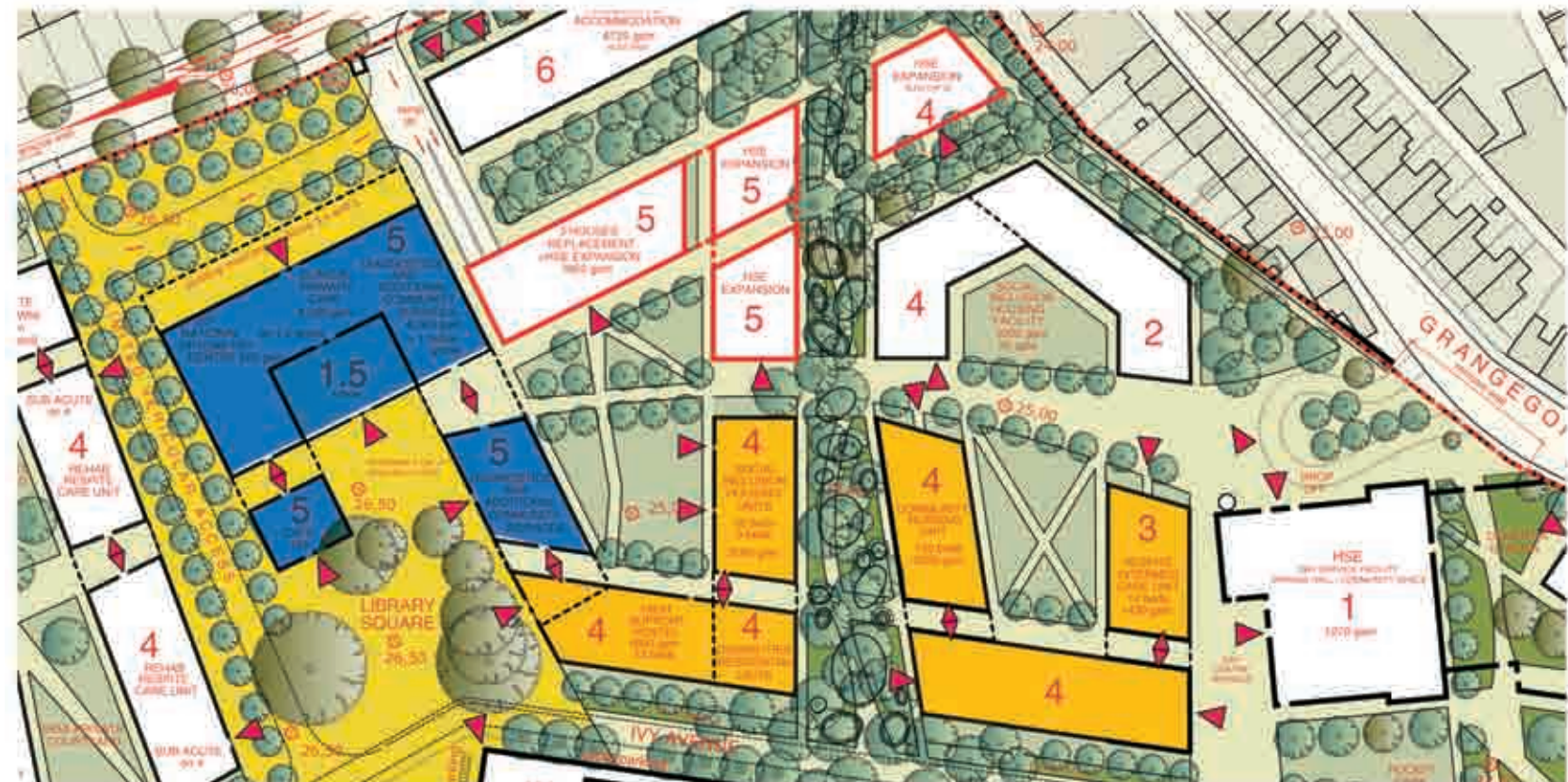
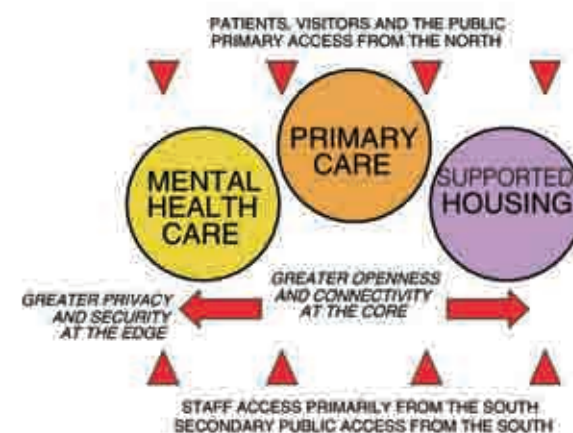
The Health Service Executive portion of the site is divided into several distinct quadrangles in a similar manner as the rest of the site. Housing for developmentally disabled and elderly persons has been located to the east of the centrally located Primary Care portion of the project. This location affords the residents a certain degree of privacy while not being segregated away from public spaces.

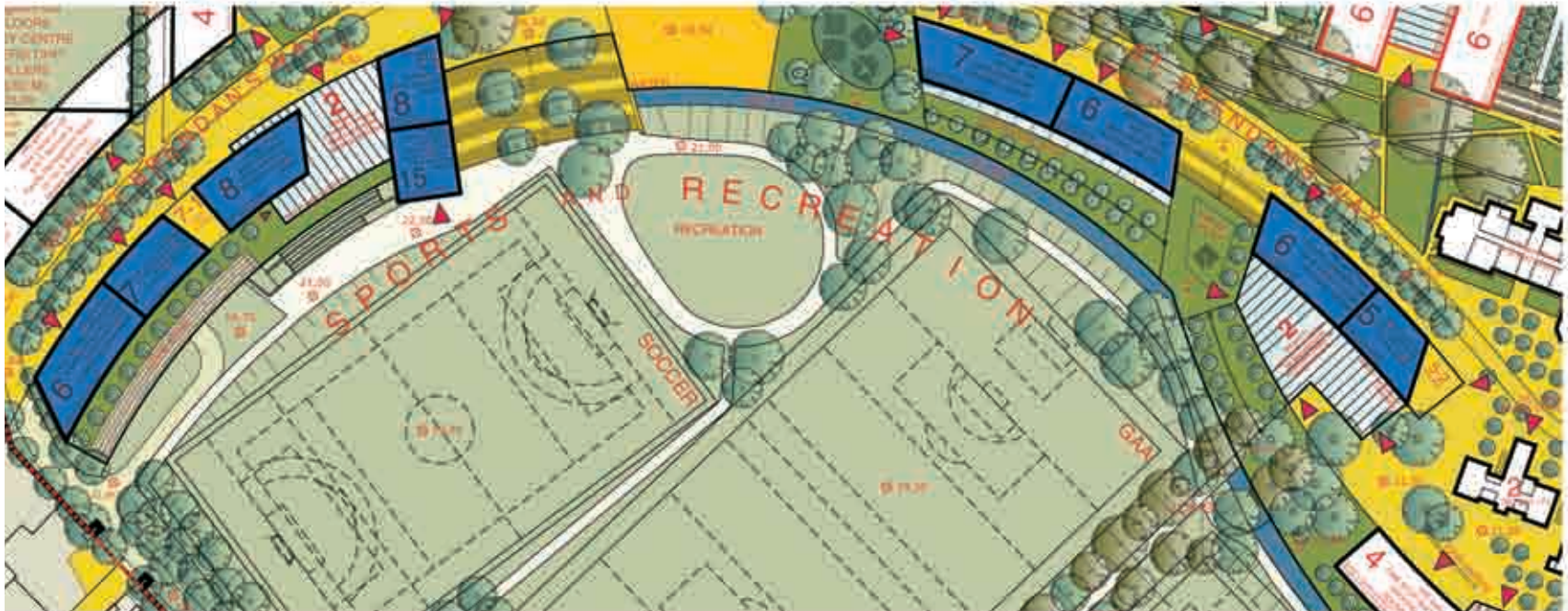
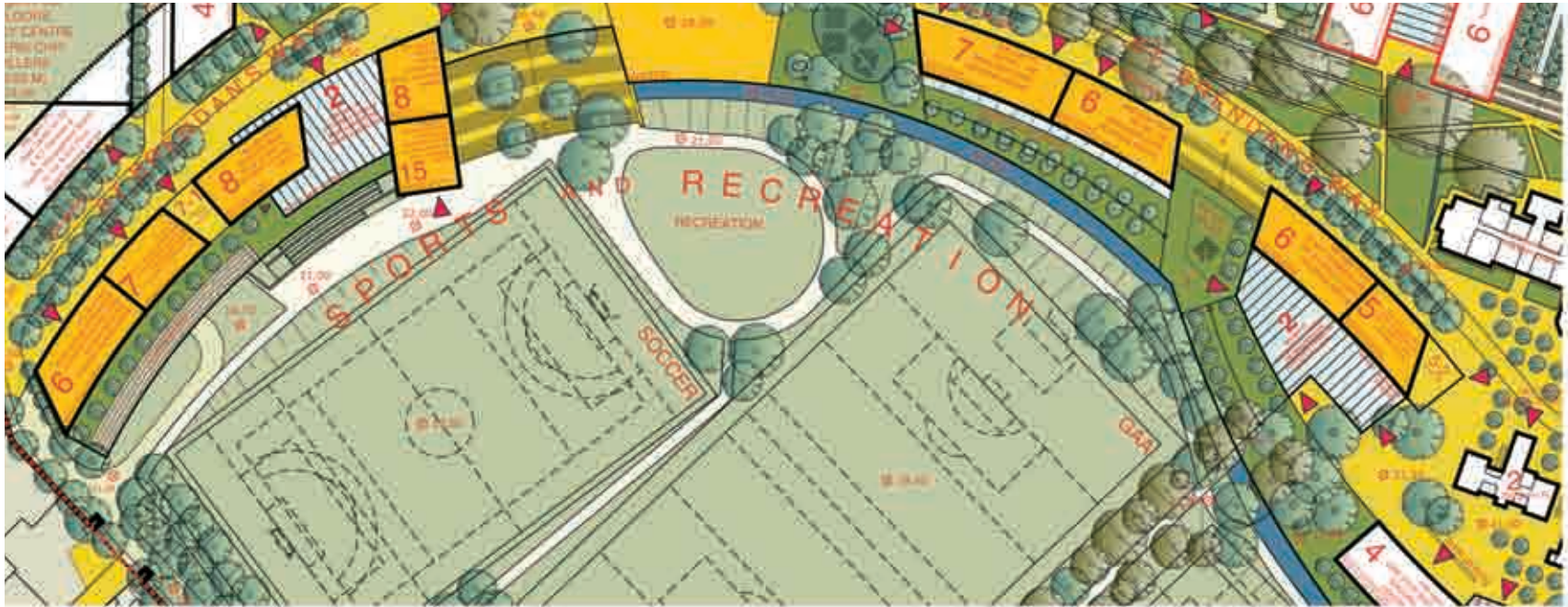
If there were a change in program for the HSE in the future and there was a greater demand for additional Primary Care facilities or administrative functions, spaces currently programmed as residential uses could be converted accordingly.

Easy access to the area can be gained from Ivy Avenue or the drop-off from Grangegorman Upper Road. Underground parking is adjacent and easily accessible, and the former Laundry building is a relatively large open and flexible space that is usable for many different functions.

While the lower floor-to-floor heights of the housing components may still allow the programming of administrative uses, Primary Care facilities may provide a challenge depending on the use. Also, due to the nature of the surrounding community, (low-scale residential), the building heights at this portion of the Masterplan would be difficult to increase.

Within the areas dedicated to overall uses such as mental care or supported housing, the more specific uses are easily interchangeable, also allowing some to expand and others to contract, depending on needs as they evolve.





4.6.5 Academic uses in lieu of student accommodation along the serpentine walk

The location of student accommodation all along the Serpentine Walk is considered a key concept for the success of the Masterplan. By weaving the housing through the site, students will activate many areas of the site at all times of the day and housing will not be relegated to the periphery of the site or be concentrated near one community area or another. The primary view from the site are programmed for the students where they reside. Nevertheless, there may be a need in the future to relocate, reduce or eliminate the student accommodation or expand the academic uses. The academic buildings share the same relative width dimensions as the student accommodation. The narrow widths of these building footprints are devised to allow for natural daylight to enter the interior spaces and cross-ventilation to occur. Due to these similar widths, the current location of student accommodation may be suitable to serve academic uses. The ground uses for both program elements could and should be relegated to public uses such as retail shops and restaurants to maintain the open and active identity of St. Brendan's Way.

While the building heights of the student accommodation along the Serpentine Way are relatively low, between four and eight stories, academic buildings are commonly not designed to this height. The student-to-student, student-to-professor and other planned and unplanned cross interaction is usually better accommodated in lower, more horizontally oriented buildings than in tall or vertically oriented buildings. Additionally, while college offices and administrative functions may benefit from views out from the site, classrooms are typically an inwardly focused use and will only marginally benefit from views out. Finally, there is the issue of lost programmable space due to the difference in standard floor-to-floor heights between housing and academic buildings.



4.6.6 Interchangeability of academic spaces

Each quadrangle and its surrounding buildings has been located and organised based on many criteria. The study of the requirements for physical adjacencies between academic spaces (such as the primary relationship between Science and Tourism and Food) or certain spaces to the “hearts” of campus (such as the DIT Business College and Executive Learning Centre to the Library and Common Classroom Bank) has been exhaustive. Also, studies of circulation requirements for access to the Arts Centre for example or building height maximums based on locations of existing neighbourhood houses versus the needs of gross area of specific college spaces are some of the other organizing criteria that have been taken into account. The locations of the DIT Colleges on the Masterplan currently form part of a complex, well studied, and interconnected series of organized space.

Nevertheless, over time it is inevitable that colleges will expand or contract for many reasons and the Masterplan intends to accommodate this. DIT Tourism and Food may shrink and DIT Science may expand into the extra space or additional research space may be needed for DIT Engineering and DIT Science may shrink. DIT Applied Arts may expand southward and the student accommodation there may be reduced. Most building widths for the academic volumes vary between 15 and 18 meters, (and several buildings over 20 meters in width have been designed to accommodate large volume laboratories). These widths typically accommodate a central hall along the long axis of the building flanked by equal sized rooms on either side, an off-centre hall flanked by small offices on one side and larger laboratories on the other, or alternately a circulation space along the long axis but located to one side allowing a single-loaded corridor situation flanked by a large volume room such as a laboratory or large capacity lecture hall. This concept can be used for a wide variety of academic uses. Since the original formulation of the Masterplan in 2008 the DIT has already undergone a reorganisation from 6 Faculties to 4 Colleges. Individual school reorganisation is on-going. The Masterplan is flexible enough to accommodate this on-going change.

Academic and research space are generally interchangeable which will allow DIT flexibility to respond to an evolving Higher Education sector. There is less flexibility with some types of specialized spaces such as artistic performance venues, the Library, sports courts or laboratory and research space. For example, research space sometimes requires greater floor to floor heights for raised floor systems, gasses and other piping and ventilation requirements. There may be a loss of gross area if changing an academic use with a 4 meter floor to floor height to a laboratory use that may require a 4.5 meter floor to floor height if the overall height of the space is not increased.



Illustration of possible different storey height configurations



4.6.7 Interchangeability of student services spaces

While the Masterplan design concentrates on large scale design solutions for the entire site, attempts have been made to “test-fit” certain aspects of the program to provide a realistic appraisal of the Masterplan’s viability. These more detailed appraisals of adjacencies and area calculations are not meant to hinder flexibility within the Masterplan.

The program areas for the Student Hub and Student Support Services have been planned out in the Masterplan between several existing protected structures and several new buildings that make up the “social-arts heart” of the site. While at this time, the locations of the individual elements comprising the Student Services seem to be the most advantageous, unforeseen circumstances such as changes in required area of a certain programmatic element or the need to add or remove program elements from the Student Services program or the more detailed input or appraisal of future designers, staff or students may require a reevaluation of the plan.

The Masterplan concept is that the Student Services form one of the hearts of the quarter. The Masterplan Brief envisioned the Student Services Centre/hub to be “a vibrant area, a social centre, a meeting point and a civic area that will be a heart of DIT... the centre will need to be located in a high profile part of the overall development and be easily accessible...” There are few reasons why this goal cannot be achieved with several different schemes of program placement of the Student Services within the general concept and location of the “social-arts heart” of the Grangegorman Quarter.

It should be stated however, that locating another use outside of the Student Services program such as an academic type classroom use in one of the existing structures would be a dilution of the Masterplan’s guiding principles and an erosion of the overall concept. For instance, the proposed location of the clubs and societies in the former Female House would be a much livelier use and would create a flow of people between this building and the Bar / Cafe block to the south. Whereas the more internally focused academic type use would not have the same positive impact in overall planning terms.



4.6.8 Working Example of Architectural Design Flexibility

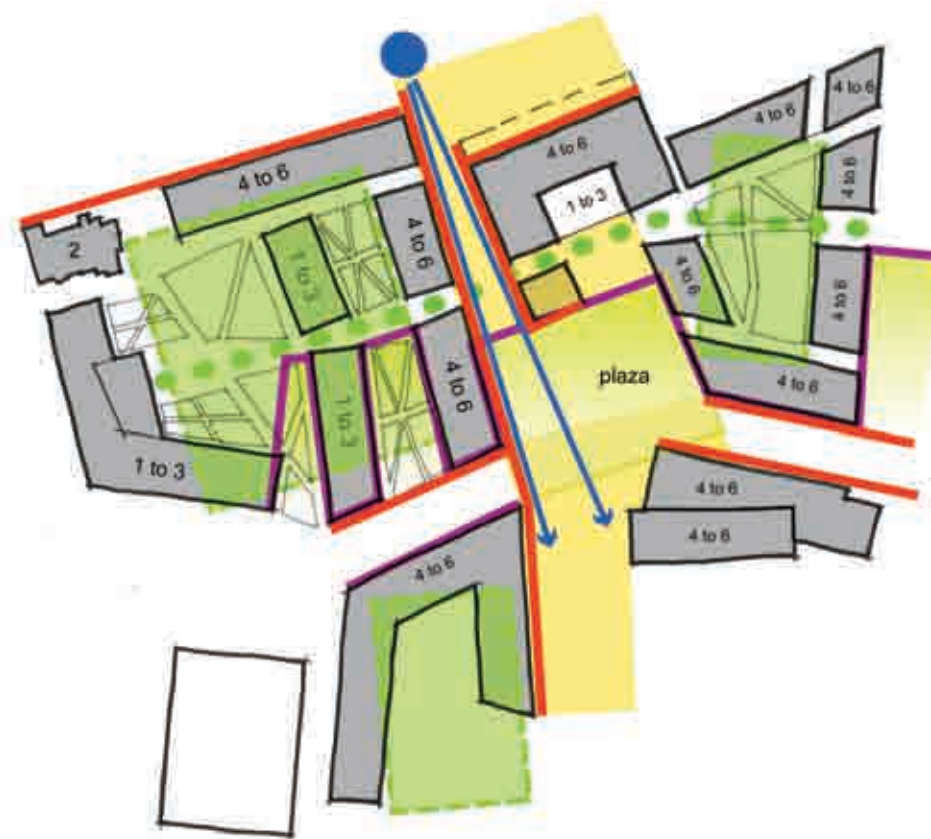
As an example of and interpretative guide to the architectural flexibility that the Masterplan contains, we have analysed the current design development of Mental Health Quadrangle in relation to the Masterplan itself. (This design has been developed early on behalf of the HSE so as not to delay the necessary re-accommodation of the existing patients on site to a more appropriate facility).

This Quad is located in the north western corner of the site at North Circular Road. It has its own particular design needs and is among the most complex developments on the site in terms of very specific and sensitive end user requirements. It will facilitate the existing cohort of patients on site. Therefore, the Masterplan needed to fully

exhibit its inherent flexibility here in order that the best possible built environment is provided for the patients and staff of the facility while fulfilling the Masterplan long term vision.

As allowed for in the finalised Masterplan design, the building brief was, in terms of detail, more advanced than that given during the preparation of the Masterplan. Evolving policy and service delivery requirements led these changes. However, the Masterplan key structuring and design principles gave room for these brief developments to occur and for an appropriate optimum architectural solution to be developed by the architectural team involved.

We have analysed the emerging building design solution and compared it with the Masterplan vision for the Quad, using the key structuring and design principles as the basis of the analysis. The analysis diagrams highlight that, even though the plan forms may appear different at first look, the principles have been adhered to, including critical alignments, urban pedestrian pathways, view corridors, building heights, etc. This illustrates how a design can evolve and respond to a very detailed user brief while retaining the integrity of the Masterplan.



Analysis diagram of Masterplan principles and Masterplan design for mental health quadrangles



Comparative analysis diagram of Masterplan principles and emerging building design for mental health quadrangles

Legend

- building alignments
- quadrangles
- view corridors
- plaza
- pedestrian pathway
- character of ivy avenue
- no. of storeys

4 The Masterplan



Design Objective 1: GDA will develop Architectural Design Guidelines to mandate the building design in the progressive development of the Quarter as per the Procurement Strategy.

Design Objective 2: GDA will position the Primary School and its private play ground close to existing housing, (and the proposed elderly housing) and in a location convenient for child and parent access.

Design Objective 3: GDA will establish a lighting strategy for the Quarter to ensure that the ambient light, sense of place and architectural impacts are optimised.

Design Objective 4: GDA will establish a signage and way-finding strategy to facilitate legibility, internal navigation and sense of place.

Design Objective 5: GDA will position the higher density mixed-use development at Broadstone Gate to reflect use and scale characteristics compatible to future possible development of Broadstone, market requirements, likely phasing of development and the ambition of a Science and Technology park.

Design Objective 6: GDA will orient buildings to optimise sustainability, utility, urban design continuity, public space and route quality and building aesthetics.

Design Objective 7: GDA will seek to ensure that a minimum sustainable building design standard of BRE A is achieved throughout the Quarter.

Design Objective 8: GDA will distribute student accommodation through the campus to encourage evening and weekend residential animation throughout, assist with passive supervision of the main arterial routes and the fields and to encourage vibrant use of public spaces.

Design Objective 9: GDA will landscape the Quarter to incorporate key environmental characteristics in support of sustainable design including wind harvesting/cooling and storm water retention.

Design Objective 10: GDA will seek to retain a substantial majority of the existing mature trees of quality and will implement a comprehensive planting programme of native species to effect a high quality sylvan public realm.

Design Objective 11: The GDA will carry out an assessment of the impact the proposed development may have on neighbouring properties utilising 'BRE Digest 209: Site Layout Planning for Daylight and Sunlight' as guidance and will address the findings of the assessment in the SDZ Draft Planning Scheme, including potentially reducing heights as appropriate, in order to minimise any serious adverse impact that may arise from the development. Further studies will be carried out at the more detailed building design stage to optimise sunlight and daylight penetration.

Design Objective 12: The GDA will comply with Dublin City Development Plan 2011- 2017 with regard to height and density of development.







Laundry building



Male Ward



Richmond Penitentiary



exterior of former lunatic asylum—north (rear) elevation



exterior of former lunatic asylum—south (front) elevation

4.7 Conservation

4.7.1 Introduction and Aims

Conservation Aim 1: To establish and articulate the historical social, urban and architectural values of Grangegorman and to ensure these are suitably incorporated within the overall development.

Conservation Aim 2: To integrate the historic structures of significance within the site in a manner which ensures that they contribute to the generation of spaces and places in terms of both physical layout and character and to protect and conserve these for future generations.

The heritage of 'St Brendan's Hospital' complex is significant in a variety of ways:

- For such a large tract of publicly-owned land to survive in the centre of the capital city with buildings reflecting a range of styles and vintage, is significant.
- The surviving buildings relate an architectural history of institutional approaches to mental health treatment and care from the late eighteenth century up to modern times.
- Many noted and leading architects of their time were involved in the collection of buildings that survive.
- Some fine trees survive, as individual specimens and as more formal groupings of designed landscape.
- The site is an important habitat for wildlife within the city.
- As a site of significant cultural memory.

The Masterplan has been developed with ongoing architectural and conservation input to the overall vision, layout and use strategy in addition to more focused and specific input on the significant protected buildings and structures. Thus, for example, St. Brendan's Way can be read as a new extension to the important early 18th-century spine of the City which ran from Dublin Castle on the south of the River, through Grattan Bridge (the eastern

most river crossing at this time) along Capel Street to Bolton Street/ Dorset Street and, leading off this into Henrietta Street, the street of mini-palaces home to the political and financial elite of the period, culminating at Gandon's King's Inns. This new extension will connect this historic spine with Broadstone and run east-west through the Grangegorman lands to a possible connection at Prussia Street, integrating many of the important protected buildings along its route.

At the outset of the Masterplan preparation and following site visits and review of previously prepared reports, a number of conservation principles were developed to provide the following Conservation Strategy for the Masterplan:

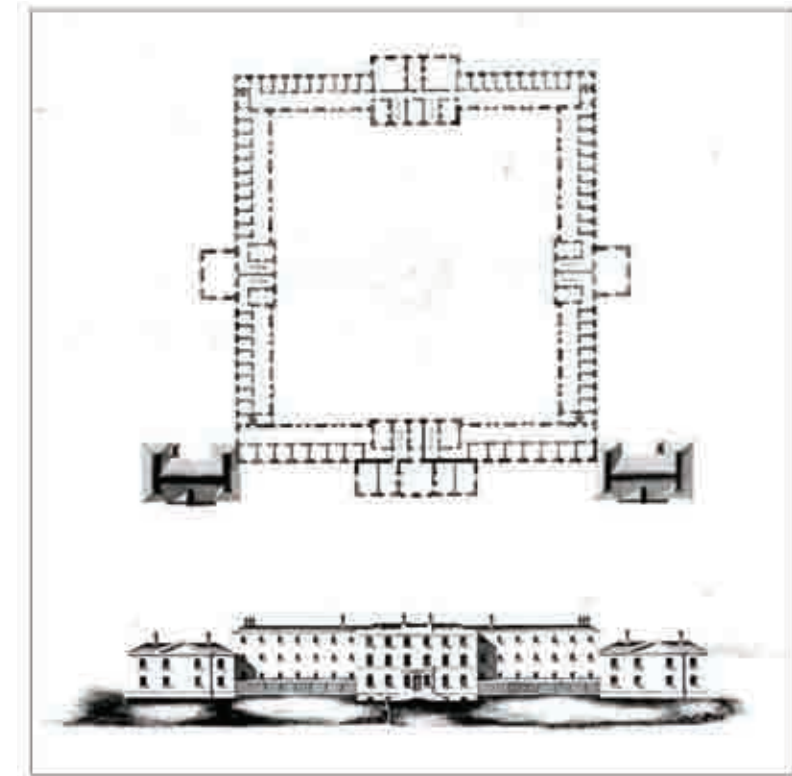
- To establish and articulate the protected, social, urban and architectural values of Grangegorman and to ensure these are suitably incorporated within the overall Masterplan. As such, it is important to understand the historic significance of the site from the earliest development of the city and its environs, through to its more known and recent history
- To integrate the protected structures of significance within the Masterplan in a manner which ensures that they contribute to the generation of spaces and places, both in terms of physical layout and character
- To identify uses for the historic buildings which are compatible with their spatial layout, which will ensure full and useful occupancy and which will allow this important heritage to make a dynamic contribution to the cultural and functional character of this evolving urban quarter
- To identify opportunities where history, in built and memory form, can influence the Masterplan in a way which enhances sense of place and, in so doing, enables distinctiveness of place and identity
- To establish strategies for repair, intervention, adaptation and extension to the protected structures. These will include general and specific strategies and will also include approaches and objectives for upgrading of historic structures for increased thermal efficiency and other initiatives to achieve the Masterplan Brief objectives for greater energy efficiency and sustainable development
- To ensure that the integration of historic and new built form and landscape achieves an overall coherence and integrity both at the level of the Masterplan and the individual buildings.

4.7.2 Protected Structures

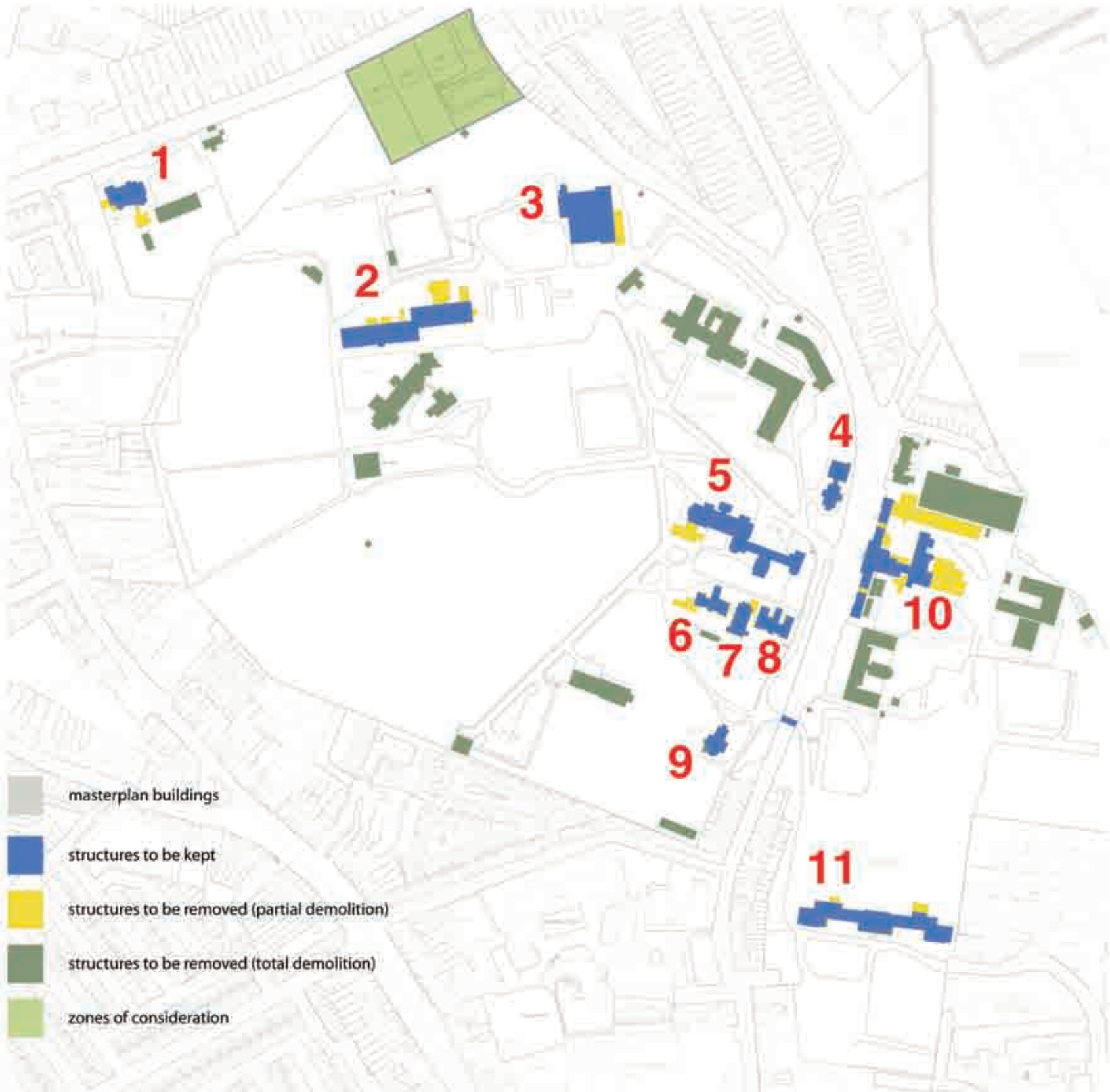
The site contains 11 structures which are listed in Dublin City Council's Record of Protected Structures (RPS) and so are statutorily protected as outlined in the Planning and Development Act 2000. The open lands to the south of the Richmond Lunatic Asylum are designated a Conservation Area in the Dublin City Development Plan 2005 – 2011, being the northern section of the Smithfield Conservation Area. There are a number of protected structures close to or bounding the site, including No. 29 Prussia Street, 232 North Circular Road and the Broadstone Terminus and Bus Depot buildings. Some of the bounding residential areas are zoned Z8 in the Dublin City Development Plan, which is aimed at protecting the existing architectural and civic design character of the area.

4.7.3 Curtilage and Existing Building Context:

Generally the existing buildings do not sit within specific, individually distinct sites. Several, notably the Lower House, Former Penitentiary and Upper House, are the remaining parts of once much larger structures or complexes that were subject to demolition and as such, create a particular difficulty in defining a current relevant curtilage. While it could be asserted that the immediate vicinity of each building provides its curtilage in each case it is clearer to consider the overall Grangegorman site area, as defined by the boundary walls, as the curtilage for all the structures within. In this context, the Grangegorman Act, which sets out the statutory objective to redevelop the lands at Grangegorman to accommodate a new campus for DIT, and which underpins the overall objectives of the Masterplan, predicates a significant alteration to the existing curtilage, or setting, of the protected structures. However, a review of the historic development of Grangegorman reveals that it has been a continually evolving landscape since the early 1800's, developing, without an overall Masterplan or architectural vision, to a vast complex of generally unrelated individual buildings of varying architectural merit. Within this overall landscape are a small number of architectural and landscape set-pieces, which comprise the allée of trees; the group of Murray and Denny buildings of 1850, male and female infirmaries and St. Laurence's Chapel, and the formal arrangements of the two Johnston buildings which no longer remain in their entirety. In addressing the issue of curtilage, the Masterplan seeks to retain the set-pieces noted above and to ensure the new setting will integrate the historic structures and the new buildings in a way which provides an overall architectural and urban coherence. This is achieved through the formal relationships between new buildings and existing and the proposed landscape and public realm treatment.



original plan and elevation drawings of the Richmond Lunatic Asylum

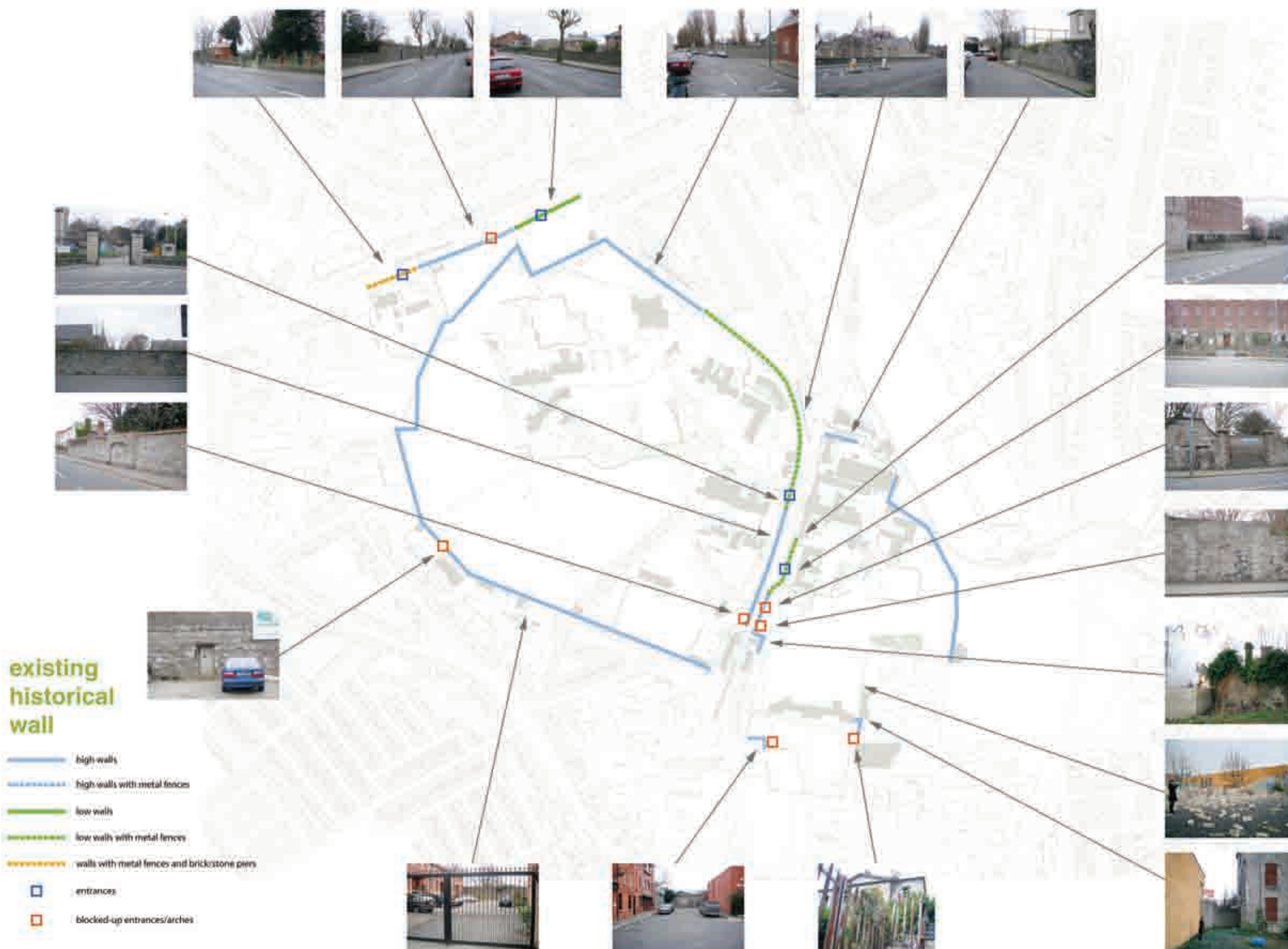


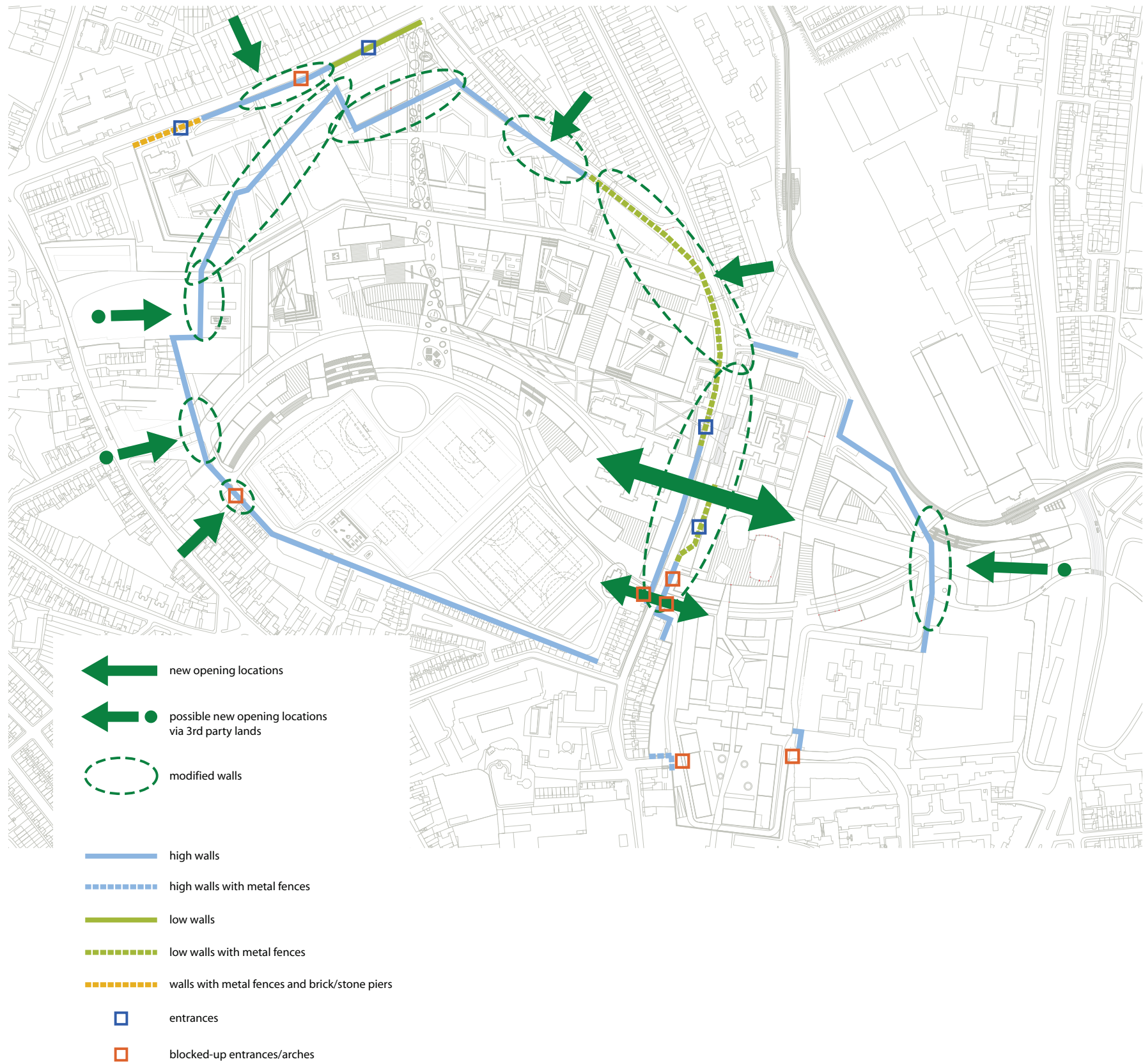
4.7.4 Retention of Existing Structures:

The Masterplan proposes to restore and re-use the following historic structures for a range of appropriate uses; some examples of which are set out below.

- 1 Connolly Norman House (St. Dymphna's)**
This two-story house was built in the late 1890's as the home of the Director of the hospital. Like all buildings to remain on the site it is listed on the Record of Protected Structures (RPS) of the Dublin City Council. The building can be converted to function as a small administrative space for the mental health program of the HSE.
- 2 Male ward (top house)**
This three-story structure was built in 1870 as the male wards of the Richmond Lunatic Asylum. It can be incorporated as a portion of the DIT Library.
- 3 Laundry building** Single story structure built in 1895. It can be converted into a Day Facility for the residents on the HSE site and members of the surrounding community.
- 4 Mortuary** Single-story building built in 1900. It can be converted into administrative offices for the GDA and may function as a Visitor Orientation Centre.
- 5 Female house** Built in 1870 to house the female population of the hospital. It can house portions of the Student Services for DIT and help form a hub of student services and activities.
- 6 Male infirmary** The Male Infirmary was built in 1850. The possible use is a multi-faith place of worship, and/or other associated student services.
- 7 Roman Catholic Church** The existing Roman Catholic Church will remain as a Catholic Church.
- 8 Female infirmary** built in 1850 can be converted into a DIT bookstore and cafe.
- 9 Church of Ireland chapel** This building was constructed in 1860. This single volume space can be used as a gallery or exhibition space.
- 10 Richmond penitentiary (clock tower building)** Built in 1814 and is one of the oldest buildings on the site. The building is scheduled to be used as academic space for the Built Environment Department of DIT.
- 11 Richmond lunatic asylum (lower house)** Three-story structure built in 1810. It will be restored and converted, possibly into a portion of the Science and Industry Centre for DIT.

In addition, the historic tunnel which connects to two parts of the site under Grangegoram Road Lower, will be retained.





Of the structures to be demolished, only the mews to St. Dymphna's (Connolly Norman House) has protected status as it lies within the curtilage of the protected structure. While most of the other structures intended for removal are of little architectural value, two have been identified in the previous architectural appraisals as being of architectural merit. These are the surviving fragment of the former Richmond District Lunatic Asylum (GDA offices) and the 1938 Nurses Home. Careful consideration has been given to the retention of these structures in the preparation of the Masterplan. However such retention has been assessed not to have merit in the context of the scheme. The Plan proposes removal of parts of the boundary wall, particularly on the North Circular Road frontage, to form points of entry to the otherwise enclosed site.

Generally boundary walls will be retained however in a number of strategic locations it is proposed to partially remove sections of the boundary walls. Of particular note will be a long section of wall bounding with the North Circular Road and sections along Grangegorman Road Lower. These openings/partial demolitions are required to achieve the Masterplan objective to address the North Circular Road as well as the objectives to connect the east and west parts of the site.

4.7.5 Archive

There is a significant collection of records and other documentation in addition to equipment and artifacts all relating to the institutional history of the Richmond/St. Brendan's Hospital complex. This has been assembled by the chaplain for St. Brendan's Hospital and is currently stored in the former Nurse's Home building. It is recommended that as part of the overall development a permanent archive for this important historic and social record is provided with the appropriate archival conditions for the nature of the material and objects contained within the collection. It is preferable that such an archive be housed within the Grangegorman site and the opportunity to present some of the material, either as part of a permanent or rotating exhibition, be put on public display within the Grangegorman complex. Access to the remainder of the archive would be made available for researchers, subject to necessary conservation standards being maintained.

4.7.6 Street Kerbs, Paving, etc

Historic granite kerbs and limestone cobbles survive in places within the site and adjacent public streets. These should be carefully retained and incorporated within the new landscaping. Where it is not possible to retain these elements in-situ, they should be salvaged for reuse elsewhere within the site or immediate area.

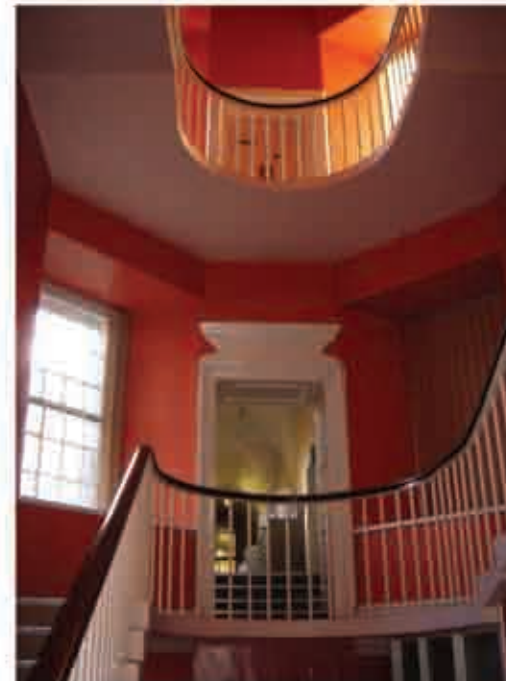
Conservation Objective 1: GDA will retain, restore and re-use all of the Protected Structures with the exception of Connolly Norman Mews

Conservation Objective 2: GDA will seek to minimise interventions to the boundary wall so far as is practicable and consistent with achieving the Vision of a new and open Quarter.

Conservation Objective 3: GDA will seek to identify uses for the retained historic buildings which are compatible with their spatial layout, which will ensure full and useful occupancy and which will allow this important heritage to make a dynamic contribution to the cultural and functional character of this evolving urban quarter.

Conservation Objective 4: GDA will establish strategies for repair, intervention, adaptation and extension to the historic structures. These will include general and specific strategies and will also include approaches and objectives for upgrading of historic structures for increased thermal efficiency and other initiatives to achieve the Plan Brief objectives for greater energy efficiency and sustainable development.

Conservation Objective 5: The physical relationship between new development and existing Protected Structures will be carefully considered so that the intrinsic qualities of the Protected Structures are respected in a new setting of quality urban design and public realm.



exterior of RC Church—view from south-east with female infirmary to right hand side



north elevation of female infirmary from roof of clock tower opposite—Catholic Church and male infirmary in background, together forming overall assembly of buildings



4.8 Movement and Transportation

4.8.1 Introduction and Aims

Movement Aim 1: To ensure the provision of the necessary infrastructure and services to facilitate the maximum usage of sustainable modes of transport, such as walking, cycling and public transport.

Movement Aim 2: To ensure that the development facilitates internal routes and external connectivities to the advantage of the users of the Quarter, the local area in particular and the city of Dublin in general.

The following section considers Transport and Movement in further detail, amplifying on the principles set out in the earlier section 4.2.

4.8.2 Existing Transportation Infrastructure

Roads

The site is located between Phibsboro and the Phoenix Park with the North Circular Road to the north, Prussia Street to the west and Grangegorman Road Upper passing through the site to the east as shown in the map. The site is also bound by the Broadstone site to the north east and east and Kirwan St to the south. The site is located just 1Km from the City Centre.

Existing Public Transport

The Grangegorman site is currently well connected by bus services as shown in the diagram to the left. A large part of Dublin falls within the catchment of the Dublin Bus routes that links to the site. Grangegorman is also within 30 minute walking distance of the City Centre where the majority of bus routes terminates, making the site accessible from anywhere in Dublin and beyond.

Existing LUAS Red Line

The existing Luas Red line running from Tallaght to Connolly Station has two stops (Smithfield and Four Courts) with walking distance from the Grangegorman site. The total journey time for the red line from Tallaght to Connolly Station is estimated at 46 minutes.

4.8.3 Proposed Public Transport Infrastructure

Transport 21

There are various different transport proposals planned in Transport 21 that will improve access to the site as shown in the accompanying diagramme to the left. Within the local vicinity of the site, Metro North and the Luas Line D will directly improve rail services providing high capacity public links to the site. Following is a brief outline of the Transport 21 Strategy infrastructure proposals.

Metro

Metro North will connect the town of Swords to Dublin City Centre (St. Stephen's Green) via Dublin Airport as shown in the map on page 4.076. Metro North will operate underground, surface and elevated tracks with 15 stops available between City Centre and the Airport, including two (Parnell Square and Mater) that are located within reasonable walking distance (approximately 1.4km and 2km, respectively) from the site. Assuming pedestrian connectivity from Constitution Hill and an access on North Circular Road, it is predicted that the site can be reached on foot in 14 minutes from Parnell Square station and 19 minutes from the Mater station.

Luas

Line BX

This line extension provides connection between the two existing Luas lines, thereby enhancing the connectivity to the City Centre for citywide commuters.

Line D

This extension of line BX towards Liffey Junction via Broadstone is still in design stage. This Line will directly serve Grangegorman.

A Railway Order submission for line BX and line D (now known as Luas Broombridge) was submitted in June 2010.

Other Rail Improvements

Rail Interconnector

The Interconnector is a planned link connecting the existing Northern Line to the lines running out from Heuston Station. It is envisaged that this public transport system would eliminate the existing city centre capacity.

4.8.4 Movement Design

Pedestrian and bicycling networks

The Masterplan is designed with a dense and attractive pedestrian and cycle network. This is considered to be one of the most important principles, as it will enable the necessary conditions to encourage high levels of pedestrian and cycle journeys to and from the site and the desired quality of the public realm that will ensure its attractiveness and therefore, will contribute towards longer dwell times, hence minimising the impact of peak travel.

Permeability

In order to achieve the maximum integration with the existing urban grid surrounding the site, as well as the best possible access to the public transport networks, the site will be designed to provide the best possible permeability across its boundaries. The pedestrian network plan to the left depicts the proposed internal pedestrian network and its linkages with the wider urban grid. The walk distances are significantly optimised, resulting in a walking catchment diagram which is closer to an “as-the-crow-flies” catchment.

Bicycle parking

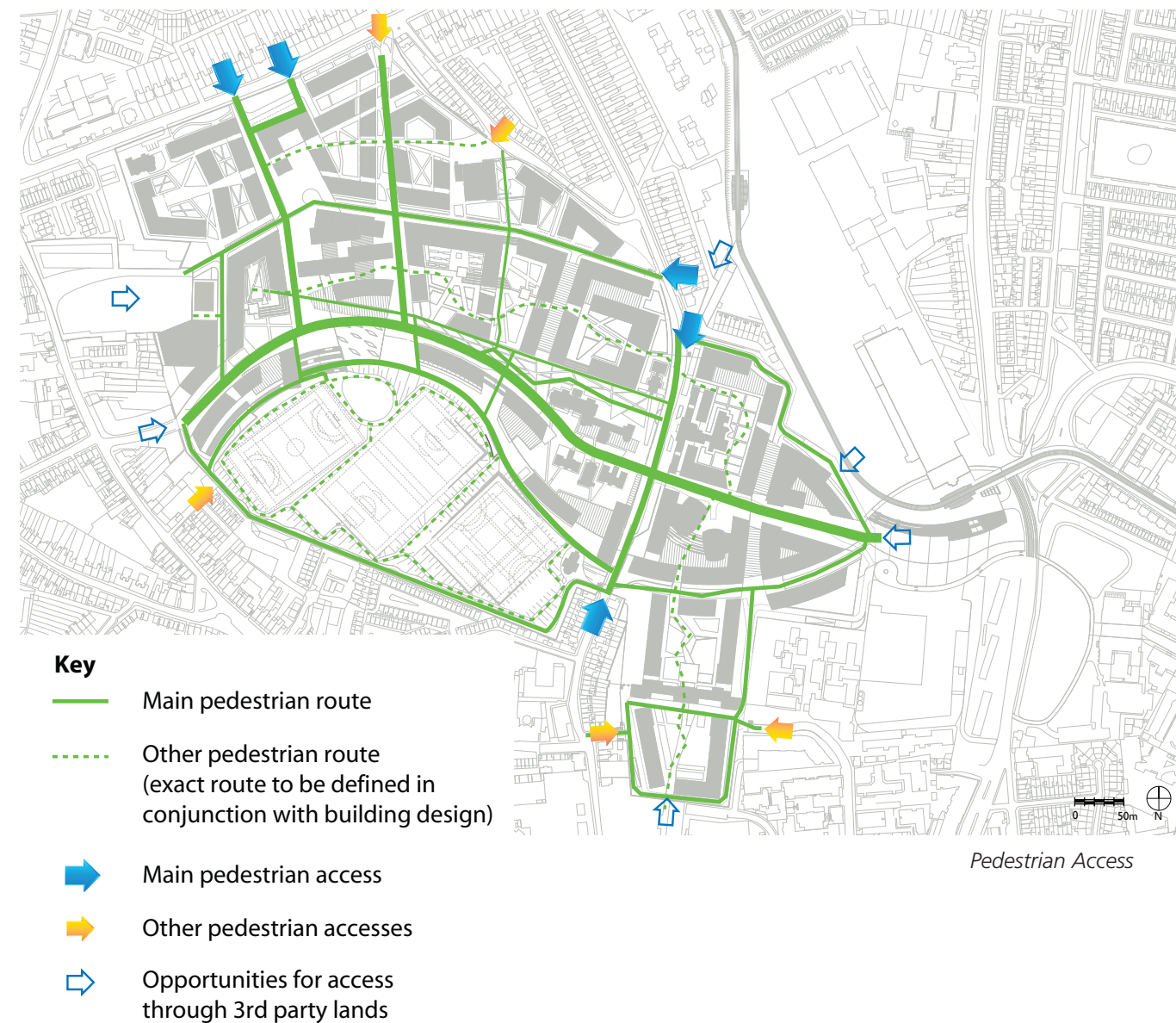
Generous provision of cycle parking will be provided in the Masterplan. Secure parking associated with underground car parking to be used by users that require longer periods of parking is provided. This element of cycle parking will be associated with facilities such as showers and lockers, as appropriate. On-street “banks” of cycle parking, possibly covered, located in visible locations near the highest attractors of trips (Library, Colleges, and Sports), and dispersed clusters (4 to 20 spaces) of on-street cycle parking, to maximise access to all buildings and facilities planned for. These are located in the vicinity of the main building entrances and visible from the main pedestrian thoroughfares.

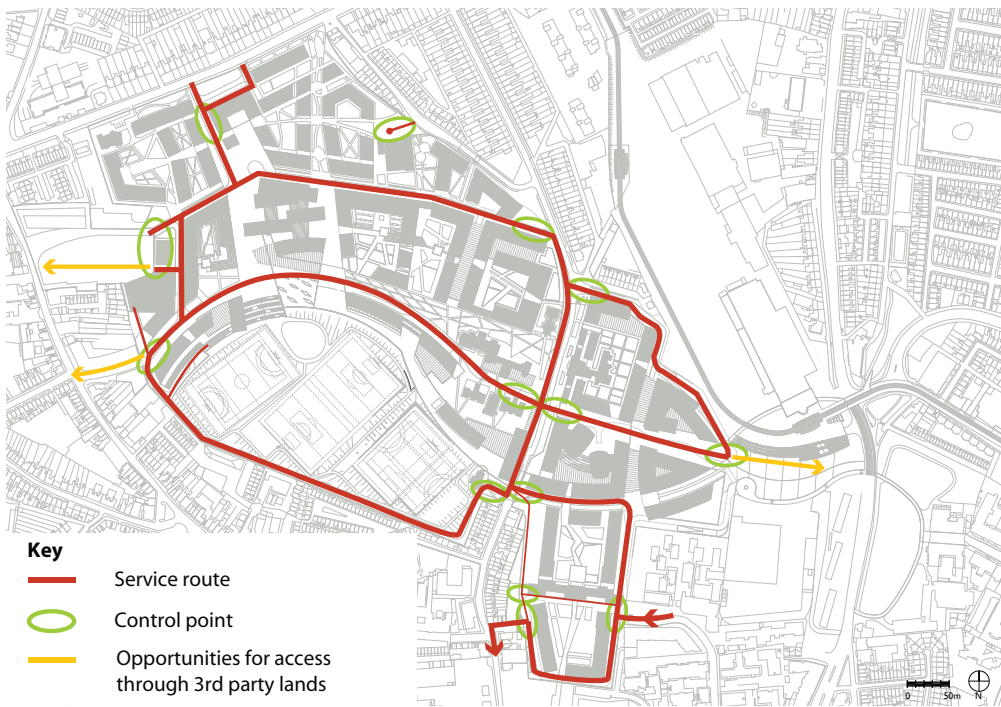
Road hierarchy

The development will have an internal network of links serving different functions, with different character and typology. Certain sections of the network will have limited access for vehicles but there will not be links within the internal network that will be primarily vehicular.

The Primary Road Link is the existing Grangegorman Road, which bisects the site. Grangegorman Road will be the only available through-route for external traffic and it will be traffic-calmed by means of a shared surface section opposite the clock tower building and the intersection with St. Brendan's Way.

Secondary Links through the site include Ivy Avenue, the access to the carpark and set-down areas from Constitution Hill at Broadstone Gate, as well as servicing and maintenance roads along the periphery of the site and along the Ha-Ha. These Secondary Links are for limited traffic mainly related to servicing, maintenance, disabled access, and possibly taxi and ‘out-of-hours’ access. Limited on-street car parking can be accommodated on in selected appropriate locations. The character of the Secondary Links is predominantly





Service Access



Emergency Access

pedestrian space shared with occasional vehicular traffic. Generally the shared surfaces would be flush, but with clear delineation of carriageway space. Occasional variations to the horizontal alignment will be included to add to the traffic calming effect.

Tertiary Links through the site (in terms of vehicles) include St. Brendan's Way and adjacent 'driveable' surfaces. These links are for limited traffic mainly related to servicing, maintenance, disabled access, and possibly taxi. Vehicular access to these links are to be limited to 'out-of-hours'. Their character is predominantly pedestrian space shared with very limited vehicular traffic and flush shared surfaces, with minimal delineation of carriageway space.

Emergency access is provided in accordance with the appropriate regulations. The majority of the linear spaces, both streets and landscaped areas, are designed to accommodate occasional emergency movements, enabling the highest level of vehicular penetration.

Vehicular traffic calming

The movement network for the site is designed in a manner which prioritises pedestrians over motorised traffic. However, accessibility for cars, service vehicles, etc, will mean that, at a number of points within the site and times of the day, these will be in conflict with pedestrians. The inevitable conflict between pedestrians and vehicular traffic will be mitigated at key locations by traffic calming measures and control points that may range from junction treatment to the overall design of the link. Traffic calming forms part of the masterplanning design, rather than being retro-fitted after construction.

Links throughout the development are designed in a way that will not preclude usage by all types of vehicles. However, a system of traffic cells has been designed to avoid the site being used by general city traffic. Traffic Cells prevent vehicles from travelling through and across an area to "shortcut" another route. The only exception will be Grangegorman Road, which is presently a through route for general traffic. This is the most effective measure to discourage unnecessary vehicular traffic through the site, whilst enabling suitable access to all locations.

Shared surfaces are effective elements of traffic calming, as they enable the re-balance of priority towards pedestrians along roads or across sections of roads. There are different levels of integration between pedestrian and vehicular movement within shared surfaces. These range from areas with no distinction between car and pedestrian spaces, to streets where cars are kept separate from pedestrian-only spaces by means of physical barriers. A solution in between both of the above is the visual delineation of car-only space by means of different materials and/or colours, often using the drainage channels as a subtle physical delineation. The concept of a shared surface is that drivers will recognise that they are circulating through a pedestrian area with clear indication of the limits of their circulation space, and therefore will adopt lower speeds. The whole of St. Brendan's Way is considered a shared surface, including the section where it crosses Grangegorman Road. The level of integration

applied varies along its length, with the development's two "hearts" being the most suitable to have the least segregation between the modes, perhaps with no clear demarcations at all. The remaining sections should include some type of visual delineation of the vehicular space, but built-to-purpose physical obstacles such as bollards should be avoided, so as to reinforce the "nonroad" character of the space.

Full consideration in the design of shared surfaces will be given to sight and mobility impaired people to help achieve a universally accessible built environment.

Vehicular parking

The amount of car parking spaces takes into consideration the impact of car trips on the adjacent road network. Also, specific issues to be taken into account with regards to the quantum of parking are related to the variety of uses and times when the car parking may be required. For example, provision needs to be made for usage of the site outside the normal working days, such as evenings and weekends, when the availability of public transport is lower. In addition, there is a need to avoid car parking overspill onto neighbouring residential areas, by not keeping car parking numbers within the site to an unsustainable minimum. Approximately 1,430 car parking spaces can physically be provided underground within the site. The actual number to be provided will be determined at later planning stages.

The vast majority of car parking is accommodated underground, with direct access from the external road network and not via the campus itself. In addition, a number of on-street car parking spaces are provided at locations throughout the site. These will be additional to the residential car parking already provided along Grangegorman Road and Rathdown Road, and is intended to provide a convenience dimension to the car access strategy, and will be able to include part of the disabled car parking requirements.

Sustainable travel enabled by location and design

The site occupies one of the largest undeveloped sites within Dublin City Centre. Its location close to the city centre provides the passive conditions for the maximisation of sustainable travel patterns. The benefits are twofold: It provides density of uses, especially residential, within walking and cycling distance from Grangegorman. And it provides proximity to the most of the public transport network, which are concentrated in the city centre. This will enable the maximisation of the bus, LUAS and rail mode shares.

The Masterplan has been designed with a strong focus on pedestrian movements, which guarantees the conditions for walking trips to be encouraged. The design entails a number of restrictions to traffic movements, such as a system of traffic cells, which will contribute to the creation of excellent quality pedestrian and cycling environments throughout the Campus.

A limited quantum of car parking is to be provided within the Campus, as a further measure to guarantee the minimum impact of traffic on the internal public realm, as well as on the adjacent road network. A provision of around 1,150 car parking spaces is seen as appropriate for a variety of uses ranging from primary health care to higher education, and including offices, retail and a primary school.

The internal roads where traffic is allowed for convenience purposes are designed to a standard that will discourage speeding and through movements. Limited traffic and on-street car parking are considered as elements that, if correctly managed, will enhance the quality of some of the spaces throughout the Campus by adding to the activity mix at street level.

Provided with a dense network of pedestrian links, the district can be easily traversed in a 10 to 15 minute walk. Green boulevards dominate the internal circulation and are designed to allow articulated paths for both pedestrians and cyclists, which will provide quality circulation environments in all seasons.

The location of attractors and generators of walking journeys, as well as landmarks within the Campus has been considered so as to provide a coherent, legible and permeable movement pattern that will enable the desired maximum activity and quality of the public realm.

The Masterplan's emphasis is therefore on the design of quality linkages from the site to the established city grid, in addition to the high quality public realm within the site.

