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1.0 Introduction

Edinburgh BioQuarter is a leading centre for biomedical life sciences located south of the City on the urban edge. Current development is focused around the north of the site, with the Royal Infirmary of Edinburgh, Royal Hospital for Sick Children (under construction) and University of Edinburgh facilities providing the key destinations. Some strategic development has occurred within the area to the south of Little France Drive to provide landscape infrastructure in the form of path networks, drainage canal and structure planting as well as the key facilities of the Scottish Centre for Regenerative Medicine (SCRM) and Building NINE.

Major development is envisaged over a timeframe of over 20 years with major facilities proposed for the NHS, the University of Edinburgh, Scottish Enterprise, City of Edinburgh Council and private developers through an approved Masterplan. Current investment is focused on the area between Little France Drive and Little France Road. The development as defined within this ‘Mini Masterplan’ area has established an important pedestrian connection between the hospital and wider site to the south of the strategic link. The Masterplan has also established a hierarchy of urban density development and pedestrian prioritised streets and spaces.

This Place Making Strategy has been prepared in response to this key development area and recognises the pivotal role that the Strategic Link has in uniting the site and informing the future public realm. Quality of place and its appeal are critical to the success of the BioQuarter as it progresses. Integration of future facilities and the connectivity between research, hospital and commercial functions is essential and will support both long-term investment and attractiveness as a leading destination for biomedical innovation.

This Strategy sets the Landscape and Public Realm Vision for the BioQuarter and should be used as a working document to inform all major landscape and public realm investment. It should also be used to ensure improved quality and consistency of projects developing over a phased basis. Key elements of this Strategy are:

- **The Vision & Design Objectives**: the project aspirations and design ambition
- **Key areas of targeted public realm investment**: areas of major significance to be implemented as a priority within the Mini Masterplan site area
- **An Action Plan**: of site wide landscape infrastructure projects to be implemented as funding becomes available
- **A Design Guide**: a design briefing tool for materials and elements to assist in the delivery of a more cohesive and maintainable public realm
1.1 The Ambition

The BioQuarter project partners recognise the importance of creating a quality landscape and public realm for place making and future viability and sustainability. This Placemaking Strategy must provide the vision and shared aspiration recognising that the site will be implemented over a long time frame. The landscape and public realm has the opportunity to create a distinctive and high quality setting for world leading facilities and therefore must match the functioning with the ambition. It should provide a place for:

- **Sociability**: for people to meet, engage, interact and collaborate
- **Accessibility**: for easy and accessible movement with clearly connected destinations, entrances and arrival points
- **Activity**: encouraging social activity and diversity of experience
- **Image & Place Appeal**: supporting quality of place, sense of destination and becoming an exemplar as a world leading facility

1.2 The Challenge

The existing site has a number of challenges in terms of topography and sense of connectivity. In particular, the hospital area has developed in a responsive manner over the last 10 years with a lack of clearly identifiable main entrances or a clear hierarchy of public realm or pedestrian routes.

The road network is currently dominant and, combined with the physical separation by the Burdie House Burn, there is a significant sense of disconnect between the hospital and the wider site. It is therefore vital to learn the lessons and ensure that there is an improved sense of connectivity between facilities to ensure the site is recognisable as a distinctive city quarter and an attractive place for future investment and innovation.
2.0 The Strategic Context

This strategy sits within the context of an approved Masterplan and a mini-masterplan ambition which has been endorsed by all project partners. The Landscape and Public Realm at the BioQuarter must meet and exceed national design standards for Place Making, Green Infrastructure and the creation of a successful, lively and sustainable place. It also must align with the relevant City of Edinburgh Council guidance, local plan policies and supplementary planning guidance.

The following briefly summarises the planning context and the key objectives to be addressed by this Strategy:

National Context

- **National Planning Framework for Scotland 3: 2014**

  Key development aims are: to support green infrastructure and biodiversity, create opportunities for green transport, amenity and outdoor recreation, consider cultural and visual impacts, and support sustainable, well designed places, low carbon emissions and natural, resilient, connected places.

- **Designing Streets**

  Innovative and leading in its design centred ethos, Designing Streets is the first policy statement in Scotland for street design. It shifts the balance from historical vehicle dominant movement to design which promotes a better quality of living for everyone. This approach significantly signals a shift in strategic thinking with an emphasis on place making and pedestrian movement.

- **Architecture & Design Scotland**

  Promoting the benefit of good design and its impact and role on improving peoples' daily lives, the Public Realm Strategy should be centred on this philosophy. Through good design and a connected vision, there is significant opportunity to improve the work and study environment for the campus users.

Key objectives in the national policy context to be taken on board in this strategy:

- Supporting green infrastructure, biodiversity and sustainability;
- Providing public amenity, spaces for outdoor recreation and better quality living; and
- Supporting good street design with emphasis on pedestrian movement and green transport links.
Regional and Local Context

- City of Edinburgh Council; Supplementary Planning Guidance (SPG); Finalised Edinburgh BioQuarter and South East Wedge Parkland, December 2013:

The document points out the most significant issues to consider at planning design stage. These include sustainability, surface water management & flooding, access & connectivity, provision of parking & campus facilities, provision of a green infrastructure system including public parkland and considering building height in terms of landscape scale and views.

It sets out further principles for creating sustainable new open spaces, ecological habitats as well as dealing with the riparian corridor at Niddrie Burn.

- Edinburgh BioQuarter Masterplan, Allan Murray Architects:

The Initial Masterplan focuses on creating a coherent, flexible development which is connected to the nearby communities and includes parkland as part of a larger green infrastructure system. Key aims also include: creating a stronger, more urban edge to the development, creating a new frontage around development edges, especially onto Little France Drive, considering a possibility for a connection to the University of Edinburgh Campus, improving the overall access in the area and enhancing viewpoints.

- South East Scotland Strategic Development Plan, June 2013:

BioQuarter is identified as a strategically important employment centre.

- Edinburgh Local Development Plan (2nd), June 2014:

The plan marks BioQuarter as a Major new development and Employment Centre in a Special Economic Area with future potential for tram access. The area is surrounded by the green belt and Local Nature Conservation Sites.
2.2 Masterplan

The Masterplan, prepared by Allan Murray Architects covered the full Bioquarter site area (see Fig. 1). The Masterplan focuses on developing a strong Green Infrastructure system which reflected the adjacent suburban landscape and dealt with the surrounding Green Belt. It also identified clear views towards Edinburgh, routes connecting to the nearby neighbourhoods and a clear pedestrian prioritised layout.

Fig. 1: Extract from the City of Edinburgh Council Supplementary Guidance

Fine tuned Edinburgh BioQuarter and South East wedge parkland (December 2018)
Current Masterplan Extract

The detailed ‘Mini-Masterplan’ area is currently being progressed by the project partners based on the principles of the overall Masterplan (see Fig.2). The key objectives are:

- Pedestrian focused spaces and core areas of quality public realm
- Vehicle access provided by the existing road network (Little France Road, Little France Drive and rear service roads)
- Urban density of development and active/lively street environments
- Strong sense of connection to the Royal Infirmary of Edinburgh

The Place Making Strategy responds to this Masterplanning and aims to create a dynamic and vibrant public realm which will provide a safe, appealing and flexible outdoor working environment through the provision of:

- A central pedestrian route providing the key open space and link between campus facilities
- A quality integrated Sustainable Urban Drainage system
- A design which deals with the complex levels in a considered way
- A network of high quality plazas and public realm spaces to support enhanced place making

Fig. 2: The BioQuarter ‘Mini-Masterplan’ - 2015
Fig. 3: Visual representing the IRR building design by Stantec Architects

Image courtesy by Stantec
2.3 Place Making - Best Practice

2.3.1 Existing Hospital Site - Lessons Learned

The Royal infirmary of Edinburgh has had some limited public realm investment. A major new public realm space 'Medical Square' is proposed through the development of the new Royal Hospital for Sick Children.

Key aspects of the current public realm:

**Positive:**
- The street forms a linear pedestrian route through hospital
- Burn enhanced with planting and land form
- New areas of public realm are of higher quality

**Negative:**
- Uncontrolled material palette, with large areas of asphalt
- Poor pedestrian connectivity, lack of legible routes and confined spaces
- Poorly considered furniture use
- Limited use of high quality detailing
- Poor and uncontrolled use of planting throughout the scheme

Edinburgh BioQuarter - Place Making Strategy - December 2016
2. Lack of public realm and seating, no sense of place or branding.

   Pedestrian access is severed and unsafe.

   Poor planting structure.

   Dark grey gravel path & timber edging.

   Large amounts of contrasting / mismatched materials.

   Vehicles prioritised over pedestrians.


   Existing signage design.

   Location of seating poorly considered.

   No continuity in detailing.

   Poor use of planting and planters.

   High quality paving in mixed colour.

   Timber and concrete benches.
2.3.2 Place Making Case Studies

Civic Centre Plaza, San Francisco, USA, Cliff Garten Studio.

Bespoke ‘ribbon-like’ seating connects seamlessly to paving pattern to direct movement and create a sense of flow. Strong, bold geometry and sense of connection.

Found on: www.inhabitat.com
Dealing with complex levels through a series of irregular, stepped terraces. Wider spaces create opportunity for activity while the steps provide movement at various speeds and opportunity for seating.

Photo by IaraBectezi
Dealing with complex gradients in a soft and accessible way; a ‘naturalistic’ approach to path structure.

Photos by KOLA, found at: www.landestine.com
3.0 Place Appraisal

3.1 Location & Setting

The setting has been defined by the proximity of the Infirmary as well as extensive views to Arthur’s Seat and Craigmillar Castle. The area is strongly placed within Edinburgh and these connections and views rightly form the primary design move within the Masterplan.

As the design progresses it will also be important to embrace the existing water features (SUDS channel and Burdiehouse Burn), consider the microclimate and ensure that entrances off Old Dalkeith Road are clear and distinctive.
3.2 Existing Landscape

Issues:
- Detail & Quality
- Consistency in materials
- Maintenance
- Lighting
- Utilities

Assets:
- Extensive views
- Existing water features
- Burdiehouse Burn is a Local Nature Conservation Site
- Established tree avenues
- Defined path routes
Site Constraints

- Structural planting separates the BioQuarter and Infirmary along the Burniehouse Burn.
- Access between the BioQuarter and Infirmary is complicated, indirect and expresses no spatial or building hierarchy.
- Setback of buildings from pathways and lack of direct connections creates a perception of disconnection.
- Rigid hedge and alley planting compartmentalises the spaces.
- Heavily trafficked road and lack of crossings is a major severance through the site.
- No visual anchor looking south-east.
- Steep gradient and complex levels.

Site Opportunities

- Structural planting offers a boundary treatment along the edges of development.
- Conservation: Site along Burniehouse Burn offers opportunity for a tranquil public space set within a natural environment.
- Established avenues should be retained where appropriate and the view-orientated geometry should carry through the design.
- Opportunity for high quality & enhanced public realm around the existing SUDS channel.
- Opportunity for strong, branded gateways.
- Strong, open views towards local landmarks such as Arthur's Seat and Craigmiller Castle, as well as the Infirmary itself are major assets to the development and need to be considered in the design.
- Opportunity for a major, pedestrian connection through the campus to the Infirmary entrance.
- Existing high quality plazas.
3.3 Masterplan Implications

The ‘Mini-Masterplan’ significantly changes the current character of the BioQuarter to create a higher density ‘urban’ quarter. Existing planting will be removed to accommodate development and connectivity within the site area and to the wider BioQuarter will be critical.

Key considerations are aspect, shelter and accessibility to make the quarter comfortable on a human scale.

The pivotal intervention is a Strategic Link between the hospital and the wider site. This not only sets a benchmark for quality and defines the public realm character of the Masterplan site but also unlocks the opportunities for the development sites.

Fig. 4: Key elements of the landscape Masterplan
3.4 Access

The Masterplan extends the key vehicular routes to match what was originally proposed in planning. A new loop road will carry almost all the traffic and set a boundary to the development. The core of the site will be heavily pedestrian-friendly with a hierarchy of routes oriented with respect to proposed buildings and extensive views towards Edinburgh. The Connected Cord will be a key pedestrian boulevard which will run through the centre of the development and connect directly with the Royal Infirmary.

**Current Access**
- Key access point and routes established
- Little France Road ends with a dead end
- Main infrastructure set out according to original masterplan
- Pedestrian routes lack a clear hierarchy and, in some places, are disconnected

**Proposed Access - as established in the Masterplan**
- Little France Road connects to Little France Drive and creates a loop road around the development
- Clearer hierarchy of routes
- Pedestrian access restructured to address proposed buildings, vistas and connections

Fig. 5: Changes to long term campus access
4.0 Design Aspiration - Place-making

4.1 Design Objectives

Closely linked to the strategic objectives set by the masterplan and the ambition of the project partners, the key objectives for the landscape and public realm are focused on creating a quality destination and dynamic place. These are:

1. Sociability
   - Provision of a range of spaces for people to meet, engage, interact and collaborate
   - Consideration of spaces at a human scale to maximise comfort and usability
   - Ensure spaces are provided where use will be maximised. Consider shelter and orientation
   - Provide spaces for external dining to encourage healthy lifestyles and support work/life balance

2. Accessibility
   - Ensure key routes are fully accessible to the British Standards and encourage access for all
   - Provide clear direct routes linking destinations with desire paths for easy and accessible movement with clearly connected destinations, entrances and arrival points

3. Activity
   - Facilitate a wide range of activity through the provision of flexible spaces at a range of scales
   - Provide seating and outdoor furniture to encourage use
   - Provide lighting for safety as well as enhancement to give animation for winter and evening use
   - Provide a diversity of experience in the hardworks detailing and softworks specification to ensure maximum year round interest

4. Image & Place Appeal
   - Use distinctive high quality detailing and design elements to support sense of arrival and quality place
   - Ensure detailing considers future maintenance implications and is designed for robustness and long term durability
4.2 Design Concept

Celebrating the world leading function in Biomedical Innovation, the placemaking concept uses a bold language of nuclei, synapses, and nerve cells to define the key public realm spaces, intersections/strategic decision points and connected routes. The Strategic Link has a pivotal role as the BioQuarter’s spinal cord within the overall site’s central nervous system and is used to inform the public realm throughout the wider area. The key concepts are:

- Promote the uniqueness of the BioQuarter as a centre for Biomedical Excellence
- Prioritise investment in the Strategic Link as the key pedestrian route and core area of public realm
- **The Cord**: Use high quality detailing as a key defining element linking through the quarter’s public realm
- **The Nuclei**: Identify a series of strategic nucleus spaces with a clearly defined shape and function
- **The Synapses**: Celebrate strategic decision points as areas for positive integration and an opportunity for uniqueness. Use vertical forms to create visual anchors using elements such as tree planting or public art
The Masterplan site creates the BioQuarter nervous system with the Strategic Link forming a clearly connected cord. Potential areas of disconnect such as road crossing, water crossings and intersections can be considered as exciting 'Synapses' forming strategic links between nerve cells and potential anchor points.

Fig. 6: Applying the Concept to the Masterplan
6.0 Key Elements - The Connected Cord Concept
6.1 Section 1: Royal Infirmary to Edinburgh

- Existing vehicle barriers removed
- 35 parking spaces (incl. 4 disabled spaces) relocated
- Major new pedestrian arrival space and public realm created
- Encourages multiple points of pedestrian access and circulation

Fig. 9: Royal Infirmary arrival space concept design

Edinburgh BioQuarter - Place Making Strategy - December 2016
6.2 Section 2: Little France Drive to the Institute of Regeneration and Repair Plaza

- **500mm granite 'Cord' paving detail in Charcoal Grey**
- **300mm granite 'Strand' paving detail in Pink**
- **Mixed length 200-300mm mixed-grey granite / granite aggregate paving**
- **Bold contrasting groundcover and lawn planting using container grown plants densely planted at approx. 9 per m²**
- **'Nucleus' hub space with planting and seating**
- **Terraced seating area and secondary routes**
- **'Synapse' intersections providing visual anchors with boxheaded *Carpinus betulus* planted as semi mature specimens**
- **Rain Garden with architectural wetland planting species**

Fig. 10: IRR Plaza concept design

- **Mixed granite paving** Images by Hardscape
- **Boxheaded trees at Synapse points** Image by pintrebies.com
- **Groundcover planting in bold *Carpet* e.g. *Pachysandra terminalis***, Image by Carl Lewis, Flickr
- **Rain Gardens planting to provide structure and help water retention**
- **Bold swatches of seasonal colour - *Crocosmia bulbs***, Image by www.rhs.org.uk
6.3 Section 3: Institute of Regeneration and Repair to Building NINE

Fig. 11: Canal Link & Building NINE Connection Concept Design
6.4 Section 4: Building NINE to Little France Road

- 500mm granite 'Cord' paving detail in Charcoal Grey
- 300mm granite 'Strand' paving detail in Pink
- Mixed length 200-300mm mixed-grey granite / granite aggregate paving
- 'Nucleus' hub space with planting and seating
- 'Synapse' intersections providing visual anchors with boxheaded Carpinus betulus planted as semi-mature specimens
7.0 Action Plan Projects

7.1 Canal Interventions

The Canal is an important water management element, acting as a key component of the SUDS system on the site. However, it also holds value in terms of visual amenity and local biodiversity.

The interventions as marked out in Fig.13 aim to exploit the benefits of this feature on all levels. This will be done by creating well structured planting which offers diversity and year round interest, as well as varied habitats to support local wetland species.

The Canal will require maintenance as planting spreads, and this can be further defined as detailed proposals progress.

Fig. 13: Canal interventions
7.2 Structure planting removal

Planting removal is proposed along the route of the Connected Cord. Other areas are also identified based on the future masterplan - this however may change and is subject to future masterplanning developments.

Majority of the structural planting at the site boundaries should be retained as it provides an edge / containment of the development. This planting also forms part of the valuable greenbelt.

Planting around the burn should also be retained where possible as that area is Local Nature Conservation Site and the existing planting forms an important part of the ecosystem.

Fig. 14: Structure planting removal
7.3 Further Studies

7.3.1 Public Art Opportunities

There is significant opportunity to provide public art within the BioQuarter’s public realm. This can range from bespoke furniture or paving solutions to gateway features, vertical elements or sculptures.

The Strategy should take into account the overall concept / theme of the ‘nervous system’ and mark key nucleus and synapse spaces. The ‘cord’/‘strand’ paving detail can also be incorporated into the strategy.

7.3.2 Drainage, Utilities & Lighting Strategy

Currently being prepared by the infrastructure design team, a co-ordinated approach to drainage design, utilities and lighting is required. Additionally there is significant opportunity to link lighting with placemaking, art and the public realm. The detailed design for the strategic link will inform the best location and detailing of these elements as well as which SUDS elements will work best for the project.
8.0 Design Code

8.1 Purpose of Guidance

The purpose of the design code is to provide a working tool kit for the client teams and design teams as they implement projects over a phased basis. The ultimate aim is to achieve a high quality, connected public realm with more consistency in materials, elements and treatments.

Design Briefs are provided for the key public realm elements: the Nuclei, the Synapses & the Cord. This is supported by a palette of materials and elements for hardworks, softworks and street furniture.

However, it is recognised that the Code is a simplistic tool. It should be used as a first reference for considering materials. It should not be used in place of design thinking as it is acknowledged that some bespoke solutions in key areas may be appropriate. This should be determined at the project briefing stage between the design team and the client steering group.

<table>
<thead>
<tr>
<th></th>
<th>Nucleus</th>
<th>Synapse</th>
<th>Connected Cord</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Views</strong></td>
<td>People staying within = views out</td>
<td>People passing through = views in</td>
<td>People walking along = views towards Nuclei/Synapses</td>
</tr>
<tr>
<td><strong>Function</strong></td>
<td>Destination, Activity, Interaction</td>
<td>Connection, Passing through, Wayfinding</td>
<td>Connecting route between Nuclei/Synapses</td>
</tr>
<tr>
<td><strong>Lighting</strong></td>
<td>Feature/architectural columns, up-lighted trees</td>
<td>Feature/architectural columns, up-lighted trees</td>
<td>Street lighting columns</td>
</tr>
<tr>
<td><strong>Tree planting</strong></td>
<td>Formal, set in hardstanding or softscape, space-making</td>
<td>Bodied, formal set in hardstanding / feature tree grilles, space-bounding</td>
<td>Avenue trees, informal in sets of 3 in softscape or 2 in softscape and 1 in hardstanding</td>
</tr>
<tr>
<td><strong>Street Furniture</strong></td>
<td>Granite top bench, granite or timber top seats; straight or at set radii</td>
<td>Timber top bench, straight or at set radii / pod bench, on granite base</td>
<td>Timber top bench, straight or at set radii on galvanised steel or granite base</td>
</tr>
<tr>
<td><strong>Art / Interpretation</strong></td>
<td>Bespoke sculpture, bespoke light features, 3D ‘cord’ bench detailing, etched paving</td>
<td>Orientation signage Synapse Graphics</td>
<td>Connected Cord Graphics</td>
</tr>
<tr>
<td><strong>Softworks / Interpretation</strong></td>
<td><strong>Orange + Purple</strong></td>
<td><strong>Purple</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>1 Accent Colour</strong></td>
<td>In strong seasonal sways and planters e.g. Crocosmia x crocosmiiflora ‘Emily McKenzie’</td>
<td>Formal and structured e.g. Allium</td>
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8.2 Nucleus Spaces: Design Brief
- Nucleus is demarked with a **circle** in mid-grey granite planks with the pink 'strand' running through.
- Every nuclei should be unique to it's location and recognisable due to bespoke elements.
- Feature trees should have seasonal interest, can be located in hard or soft and act as space-making elements.
- Bespoke seating and public art / feature lighting elements are appropriate.

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<td>![Destination, Activity, Interaction]</td>
</tr>
<tr>
<td><strong>Lighting</strong></td>
<td>![Feature/ architectural columns, up-lighted trees]</td>
</tr>
<tr>
<td><strong>Tree planting</strong></td>
<td>![Granite top clad walls or similar distinctive features]</td>
</tr>
<tr>
<td><strong>Street Furniture</strong></td>
<td>![Bespoke sculpture, bespoke light features, 3D 'cord' bench detailing, etched paving]</td>
</tr>
<tr>
<td><strong>Art / Interpretation</strong></td>
<td>![Nucleus Graphics]</td>
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<tr>
<td><strong>Softworks / Interpretation 1 Accent Colour</strong></td>
<td>![Orange+ Purple]</td>
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![Fig. 15: Nucleus - typical detail](image)

**Architectural column lighting**

**Pyrus calleryana planted as a feature in soft or hard**

**Low granite clad walls or similar distinctive features**

**Stainless steel edged 'strands' detail**

**Bespoke granite / timber top seating pod**

**Granite planks - mid-grey**

**Softworks planting areas to rear of seating**

**Swoonies of underplanting**

**Light-grey / mid-grey granite flags**

**3x100mm cube granite mid-grey trim detail**

**Ornamental planters**

*In strong seasonal sways and planters e.g. Crocosmia x crocosmiflora 'Emily McKenzie'
8.3 The Synapses: Design Brief
- Synapse is demarked with an **oval** shape in mid-grey granite "planks", within a wider area of granite flags
- Timber top seating with stone base, set at a radii within the oval
- Trees are formal and boxheaded, they are within hardstanding in bespoke tree grilles and are used to frame the space
- Synapses are located where key routes cross therefore signage could be located here as defined in the BioQuarter Signage Strategy

| Synapse
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</tr>
<tr>
<td><strong>Softworks / Interpretation</strong></td>
</tr>
</tbody>
</table>
8.4 Cord Detailing: Design Brief
- Cord detail - 500mm dark grey granite using fixed large radii
- Cord special pieces set out using the centre points
- Cord radii are 20 or 25m and set out tangent point to tangent point
- Strands use a triple row of 90x90 pink granite cubes with aluminium edging at fixed radius of 5, 10 and 15m

Fig. 17: 'Cords' and 'Strands' - Sketch detail
8.5 Hardworks

SURFACING
Surface type varies depending on quality ranking

Nucleus Spaces, Synapses and other areas of highest quality.
Granite sets, mixed pattern in light-grey and silver-grey & Granite planks in silver-grey (G2010) and mid-grey (G2030), Aggregate Industries or equal

The Strategic Link and Areas of Moderate Quality Public Realm
Granite aggregate block in Silver Flick, Light Grey and White, typically, mixed pattern “Andover textured” by Aggregate Industries or equal

Secondary paths and routes.
Asphalt, black with light grey granite chippings and quality kerb edge
- Minimum 40% chips

Typical Details

Granite surfacing
Granite aggregate surfacing

Asphalt surfacing
Note: All construction make ups dependant on loading requirements
KERBING AND STEPS
Granite used for all high quality public realm areas and elsewhere if budget permits.

Nucleus Spaces, Synapses and other areas of highest quality.
- Granite kerbs (780 x 205mm) and steps (400 x 140mm) in light-grey G3010, flamed finish, Aggregate Industries or equal.

The Strategic Link and Areas of Moderate Quality Public Realm
- Granite kerbs (780 x 205mm) and steps (400 x 140mm) in light-grey G3010, flamed finish, Aggregate Industries or equal.

Secondary paths and routes.
- Granite kerbs in light-grey, flamed finish, Aggregate Industries or equal.
  - Type 1: Granite aggregate
  - Type 2: Granite aggregate “Countryside eckerb”
- Granite steps in light-grey, Aggregate Industries or equal to match kerbs
- Aluminium edge 8mm wide
Walls and Boundaries

Nucleus Spaces, Synapses and other areas of highest quality.
Granite clad retaining wall with granite coping.

Straight Sections:
- Granite clad walls with granite coping

Radius sections (highest quality areas):
- Cast concrete with coping

Medium-high quality areas e.g. The Strategic Link
Gabion basket retaining wall - with granite or hardwood timber cope - front face to be hand placed with angular granite in silver-grey

Minimum Standards for Gabion Basket Wall:
- Hand placed stone to visible sides
- Quality welded wire mesh
- 4mm Ø welded unit
- Typical supplier Maccaroni Construction Ltd

Medium quality areas
Gabion basket retaining wall - no cope - filled with hand placed angular granite stones
CORD DETAILING

"The Cord"
G2020 Aggregate Industries - Granite paving in Dark Grey, 500x300mm wide, special cut, flamed finish

"The Strands"
G2060 Aggregate Industries - Granite cubes in Pink, 90x90mm in rows of 3, flamed finish and aluminium edging

The Cord: Primary Connector North-South
- Cord detail - 500mm dark grey granite using fixed large radii
- Cord special pieces set out using the centre points
- Cord radii are 20 or 25m and set out tangent point to tangent point
- The Cord runs North-South along the Strategic Link and any subsequent key North-South connections

The Strands: Secondary connector - multi directional
- Strands use a triple row of 90x90 pink granite cubes with aluminium edging at fixed radii of 5, 10 and 15m
- The Strand weaves along the cord and stems off to connect to key areas of public realm
8.6 Softworks

**EMBANKMENT & TERRACES**

**Groundcover planting in bold 'carpets'**
- High density, container grown plants e.g. Pachysandra terminalis, Vinca minor 'Green ripple', Hedera helix
- **Minimum Requirements**
  - *min. 1.5L pot planted at min. 7 per m²

**Seasonal bulbs**
- Seasonal bulbs for a bold splash of colour (orange, white or purple) e.g. Crocosmia x Crocosmiflora 'Emily McKenzie', Allium hollandicum, Allium sphaerocephalon
- **Minimum Requirements**
  - *min. bulb size 5

**Amenity lawn**
- Standard, low maintenance mix
- **Minimum Requirements**
  - *turfed in high profile areas; seeded elsewhere at 35g per m²

**HEDGES & BOUNDARY PLANTING**

**Formal beech hedging**
- Formal beech (Fagus sylvatica) hedging to match existing
- **Minimum Requirements**
  - *min. 7 plants/m² planted in double staggered row

**Evergreen formal hedging Type 1**
- Formal hedge in yew (Taxus baccata)
- **Minimum Requirements**
  - *min. 7 plants/m² planted in double staggered row

**Evergreen formal hedging Type 2**
- Formal hedge in box (Buxus sempervirens)
- **Minimum Requirements**
  - *min. 7 plants/m² planted in double staggered row

**Typical Hedge Detail**
- 100-125cm high bare root beech plants not planted in double staggered rows with establishment cutting following planting
- **Plant Specification**
  - Fagus sylvatica, 1-2 bare root transplants, 100-125cm high
- Trench filled with multi purpose topsoil to BS 3882:2015

**Typical Groundcover planting detail**
- 300mm Typical depth for ground cover planting
- **Kerb level flush or with upstand determined necessary**
- Mulch level always set below top of kerb level
- Organic composted mulch
- Multi-purpose grade topsoil to BS 3882:2015
- 200mm gravel drainage layer if determined necessary

Edinburgh BioQuarter - Place Making Strategy - December 2016
**Synapse and Nucleus trees**
Boxhead hornbeam (Synapse) or Pyrus calleryana (Nucleus) in hard or soft landscape.
Minimum requirements: *d/b or c/g semi mature tree, 30-35 cm girth, underground guyed.

**Urban tree / Avenue tree**
Corylus columnar in hard or soft landscape.
Minimum requirements: *d/b or c/g semi mature tree, typically 30-35 cm girth, underground guyed, minimum size 25-30cm.

**Structural woodland mix**
Informal boundary trees, mix to match existing, incl. Betula, Fagus, and Sorbus.
Minimum requirements: *b/r transplant trees, minimum 30% feathers.

**Typical Details**
- Trees planted in hard surfacing must be underground guyed.
- Tree pit to be backfilled with well mixed materials comprising 80% Multipurpose grade topsoil to BS5992:2015.
- Root director
- Root space structure
- Root irrigation

- Granite set infill in cropped finish, set to radius and edge cut even paving pattern from fixed centre point.
- Infill paving to tree grille to match alignment.

**Avenue tree (Corylus columnar)** planted in grass or in hardstanding in feature tree grille with laser cut pattern - typically bespoke grille in Stainless steel by ASF with a simple, circular pattern to below.

**Sinew Graff 316 marine grade Stainless Steel Tree Grille, 1600x1600 by Marshalls or equal. To contain anti-slip coating.**
TREE PLANTING MINIMUM REQUIREMENTS

- Avenue planting to be a minimum size 20-25cm girth Corylus colurna with a 2m clear stem
- Synapse tree planting to be a minimum size 20-25cm girth box headed Carpinus betulas with a 2m clear stem
- Nucleus tree planting to be a minimum size 20-25cm girth and planted in single species groups, typically Pyrus calleryana ‘Chanticlear’ or others depending on desired visual effect
- All trees planted into hard surfacing to contain root directors, root space structure and minimum 15m³ soil volume per tree. Typical specialist supplier- Green Blue Urban
- Trees planted in soft to be timber staked - see typical detail
- Trees planted in hard to be underground guyed
- All tree pits to contain a minimum 150mm gravel drainage system if required to be determined in conjunction with the project Engineer
- All tree planting subject to a minimum 2 year establishment maintenance period with quarterly inspections, stake/guy adjustments and watering as determined necessary by the project Landscape Architect
- All tree pits to contain a minimum of 80% multi purpose grade topsoil to BS 3882:2015
**SUDS CANAL EDGE PLANTING**

**Amenity lawns / unprogrammed open areas**

Edinburgh Wildflower Seed Mix - Bespoke, native meadow with a high percentage of flowering plants such as Field Scabious, Selfheal, Purple Loosestrife, Corncockle etc.

\*Seeded at 3-5g per m²

**Formal Planted Edge:**

Evergreen carpeting shrub planting to match embankment areas and create year round structure.

**Marginal planting:**

Phragmites australis, Deschampsia cespitosa 'Goldtau', Lobelia cardinalis, Typha angustifolia

\*min. 1.5L pot, planted at 7/m²

**WIDER/TEMPORARY LANDSCAPE**

**Structural wetland planting**

**Marginal Planting**

**Amenity Lawn**

**Formal Planted Edge**

**High Quality Spaces**

**Typical planting:**

Formal Planted Edge:

Pachysandra terminalis

Marginal planting:

Deschampsia cespitosa 'Goldtau', Lobelia cardinalis

Aquatic planting:

Phragmites australis, Typha angustifolia, Iris 'Black Gamecock'

\*min. 1.5L pot, planted at 7/m²
8.7 Furniture & Elements

SEATING

Nucleus Spaces
Bespoke seating and hardwood timber top benches appropriate to design vision

Bespoke granite/concrete bench to match black paving cord detail (Granite paving in Dark Grey). The bench should look as a 3-dimensional continuation of the cord. Timber top applicable where appropriate and other matching granite seats/pod seating acceptable.

Bespoke Performance Specification
- FSC approved tropical hardwood
- Timber slats in natural finish
- Timber slats to be 525mm x 150mm depth. Width varies 50mm or 100mm
- Timber slats to be recessed with
- Pencil round edges
- Timber slats to have 10mm minimum gap spacing
- All legs to have a curved edge radius of 100mm
- Benches to be surfaced fixed
- Alternative lengths can be used for bases
- Light grey Granite G603 with a fine picked finish
- Typical alternative bases are appropriate
The Strategic Link and Other Areas of Moderately High Quality Public Realm

**Timber bench with granite or galvanised steel bases**

Bench design by LOGIC.

LOGIC benches or similar & approved.

Granite or pre-cast: concrete base - use in higher quality areas.

**Typical Bench Type 1 Performance Specification**

- FSC approved tropical hardwood
- Timber slats in natural finish
- Timber slats to be 525mm x 150mm depth. Width varies 50mm or 100mm
- Timber slats to be recessed into granite legs
- Timber slats to have pencil round edges
- Timber slats to have 10mm minimum gap spacing
- All legs to have a curved edge radius of 100mm
- Benches to be surfaced fixed
- Light grey Granite G603 base with a fine picked finish
- Typical length 2m

**Timber bench with granite or galvanised steel bases**

Bench design by LOGIC.

LOGIC benches or similar & approved.

Galvanised steel base - use in moderate quality areas.

**Typical Bench Type 2 Performance Specification**

- FSC approved tropical hardwood
- Timber slats in natural finish
- Timber slats to be 525mm x 150mm depth. Width varies 50mm or 100mm
- Timber slats to be recessed into steel base
- Timber slats to have pencil round edges
- Timber slats to have 10mm minimum gap spacing.
- All legs to have a curved edge radius of 100mm
- Benches to be surfaced fixed
- Typical length 2m
- Mild grade steel frame
- Galvanised and powder coated base and frame RAL no. 7037 SLJ37G
- Concealed supports

Note: No Metal bases to benches within NHS areas.
Furniture

Bins
- Area Circular Litter bin by Furnitubes or equal.
  
  Requirements:
  - Side opening door with slam door locking mechanism
  - Curved, heavy duty steel lid
  - Secure plastic liner

  Post mounted 'Sirius' dog waste bin in dark green by Bioap or equal.
  
  Requirements:
  - 60L capacity
  - Zinc coated
  - Top opening lid with handle
  - Hook for dog lead & 4 fixing holes in rear

Cycle stands
Stainless steel, Sheffield style cycle stands with a taper rail. Furnitubes 'Fin' cycle hoops or similar & approved.

Requirements:
- 316 marine grade stainless steel
- Bolt down
- Satin finish

Timber bridge
Timber Bridge by LOGIC or similar & approved; using FSC sustainably sourced hardwood, 5m width, length dependant on location.

Bollards
Stainless steel bollard, (MILL 701R S) from Furnitubes or similar & approved.

Requirements:
- 316 marine grade stainless steel
- Satin finish
- 900mm height &120mm diameter
- Semi-dome top
- Powder coated contrast band in black
- Root fixed where possible

Note: For stainless steel elements marine grade 316 must be used. Finish must be satin.
**Lighting**

- Pedestrian column lighting: Typically "Eclatec Mamba" by Marshalls or similar & approved.
- Architectural column lighting: Typically DW Windsor Silka Max 4.5 or similar & approved.

Note: All lighting to be robust and high quality with IK rating of 8 (minimum) or 10 (preferable). LED to be utilized wherever possible.

No bollard lighting permitted.

- Ground mounted LED luminaire: Typically SIMES / Suit 2 window 5.6092N or similar & approved.
- Bespoke integrated LED handrail lighting: Typically DW Windsor Garda or similar & approved.

**Signage**

Note: All signage must follow the approved signage strategy by Ironside Farrar.

Signage strategy as designed by Ironside Farrar.