4. DESIGN

| 4.26 MATERIALS |

4.26.7 The use of living walls is for acoustic screening, to increase biodiversity and for visual impact and screening of the plant.

4.26.8 Dr. Emma Coulthard and other Manchester Metropolitan University colleagues have been working with I Want Plants to improve and develop their Living Green Walls (LGWs). Their research has covered a range of aspects including biodiversity, air and water quality, as well as thermal and sound abatement.

Her findings are as follows.

"Biodiversity

We are currently trying to get specific data via eDNA as to the species of invertebrates that are found throughout the year on the specific LGWs, and our data collection is due to complete in April. Current estimates are that these walls can support at least 155 invertebrate species, as well as a range of useful bacterial and fungal species – something we are currently analysing data on. I Want Plants have developed a new type of LGW which utilises plants from local grassland habitats, which in comparisons could support 598 invertebrate species. These walls contain only native species, and a high number of flowering species, which thereby provide essential nectar resources for pollinators.

The Hyvert system includes approximately 68 kg of substrate and planting per square metre, and further plant biomass. By default, this provides a significant provision of habitat for invertebrates and other taxa.

We have worked with I Want Plants to ensure that the species selected are best for local biodiversity. We strongly encourage developers to include at least a proportion of local, native flowering species such as those in the vertical grassland walls, to increase the habitat available for local invertebrate species, something which is invaluable within urban areas such as Manchester.

Inclusion of roost or nest boxes into LGWs can provide additional roosting sites for bird and bat species which may utilise the site. This is particularly valuable at this site given its local adjacent to water bodies and near to other important habitats. It is likely that if the site is developed to significantly improve the biodiversity gains, a wealth of species may be impacted.

Air Quality

LGWs are excellent at reducing local air pollution. Our research has shown that the plants used in these LGWs are effective at significantly reducing both PM2.5 and PM10. Both of these categories of Particulate Matter have been linked to reduced human health, and increased mortality in urban settings.

Thermal and Sound Abatement

We have also assisted the company in both thermal and sound abatement testing. The experimental set ups of the system showed that these Hyvert LGWs can dampen sound by 9.3db and significantly contribute to reduction in local temperatures.

Carbon Capture

Carbon sequestration calculations suggest that the Hyvert LGWs will capture between nine and 18kg of carbon per year (dependant on plant species utilised) for a 10m2 area. The highest values are possible with the grassland LGWs."

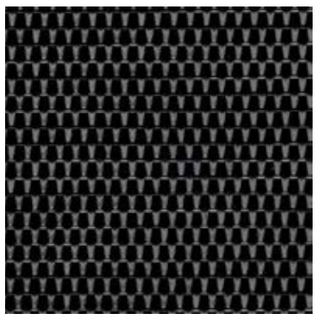
Dr. Emma Coulthard



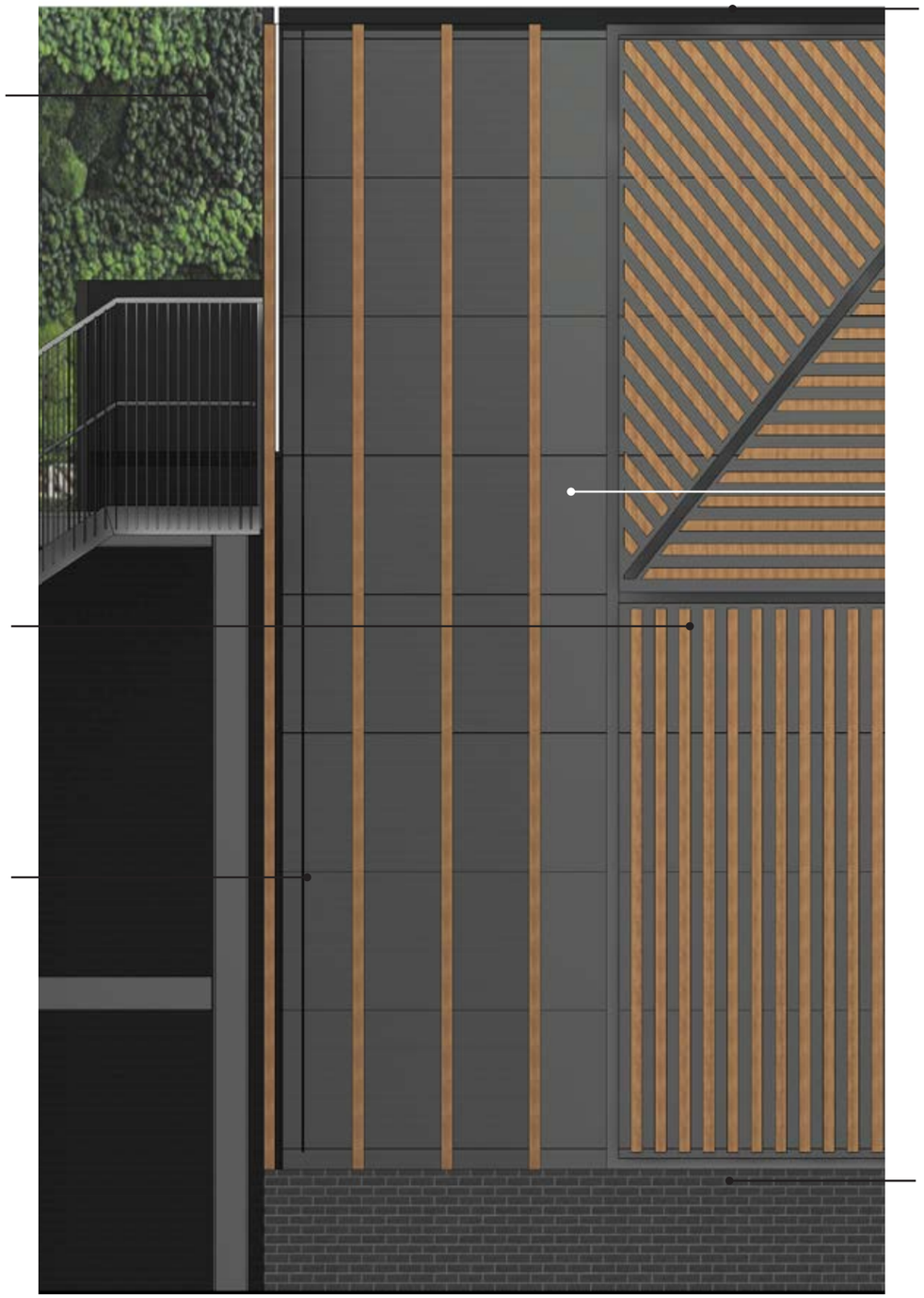
|LIVING WALL|



|TIMBER EFFECT METAL PANEL FINS|



|METAL MESH|





|BLACK ALUMINIUM COPING|



|BLACK ALUMINIUM INSULATED PANEL|



|WIRECUT BLACK SMOOTH BRICK|

4. DESIGN

| 4.16 MATERIALS - 3D VIEW FRONT OF HOUSE|

4.16.6 The front of house brick facade is punctured with large glazed elements to allow daylight to office spaces, and create an active frontage to Bower Street.

4.16.7 The feature contrasting brick will denote the entrance with the Latos Brandmark above.

4.16.8 The style and material pallet for the front of house is consistent on all Latos Neural Edge data facilities for brand consistency.

BRIES SOLEIL



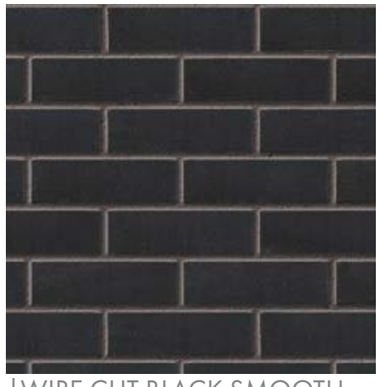
|METAL ARCHITECTURAL FIN|

FENESTRATION STYLE



|SLIM BLACK ALUMINIUM FRAMES|

FACING BRICK



|WIRE CUT BLACK SMOOTH BRICK|

ENTRANCE BRICK



|WHITE GLAZED BRICK|



4. DESIGN

| 4.17 LANDSCAPE|

4.17.1 CW Studio

In response to the nature of the proposed development, the landscape strategy focuses on delivering a robust native planting scheme that enhances biodiversity, strengthens ecological value, and helps filter views of the site from surrounding receptors.

The design approach prioritises the retention of as many mature existing trees as possible, with the majority located along the site boundaries where they provide established structure and screening. To reinforce this framework, new native hedgerows are proposed around the site perimeter, together with approximately 120 new native trees to supplement and strengthen the existing tree cover. These elements will be set within approximately 2,200m^2 of species-rich wildflower meadow, designed to increase habitat diversity, support pollinators and provide a low maintenance ground layer across the site.

To further enhance biodiversity across the site, a range of ecological interventions are proposed. These include the reuse of felled timber to create hibernacula and habitat piles, as well as the installation of bird and bat boxes along the canal corridor to support local species and encourage habitat connectivity.

| 4.18 ECOLOGY|

4.18.1 e3p

The development will deliver at least 10% Biodiversity Net Gain (BNG) overall.

Ecological surveys found that the site has the potential to support wildlife including nesting birds, foraging and commuting bats, badgers, hedgehogs and common amphibians. The most valuable habitats on the site are the existing trees, the majority of which will be retained.

The nearby Rochdale Canal, which is designated as a Site of Biological Importance, will be protected with a 5-metre vegetated buffer and enhanced with additional tree and shrub planting to support wildlife movement along the corridor.

New habitats will also be created within the site, including native tree planting, scrub, wildflower grassland and hedgerows, alongside features such as bird boxes, bat boxes and amphibian hibernacula to support local species.

Where the development results in unavoidable biodiversity loss, this will be offset through the purchase of biodiversity units from a habitat bank. We have explored options within Manchester through the Greater Manchester Ecology Unit but understand there are currently no local habitat banks available. At the time of purchase, the closest available habitat bank will be used.



|PROPOSED LANDSCAPE PLAN - CW STUDIO|

4. DESIGN

| 4.19 FLOODING & DRAINAGE |

4.19.1 RWO

A preliminary contamination risk assessment has been undertaken as part of the preparation of the planning application. This risk assessment considers any potential contamination sources, pathways and receptors associated with the development. The potential receptors included the canal, as well as neighbouring buildings, vegetation, workers on site, and residents and workers in the neighbouring area.

This assessment concluded that the overall risk to groundwater is thought to be Low to Very Low due to the limited potential contamination sources and absence of plausible pathways.

In addition, this assessment assessed that the site is not at risk from flooding

| 4.20 ACOUSTICS |

4.20.1 SOL Acoustics

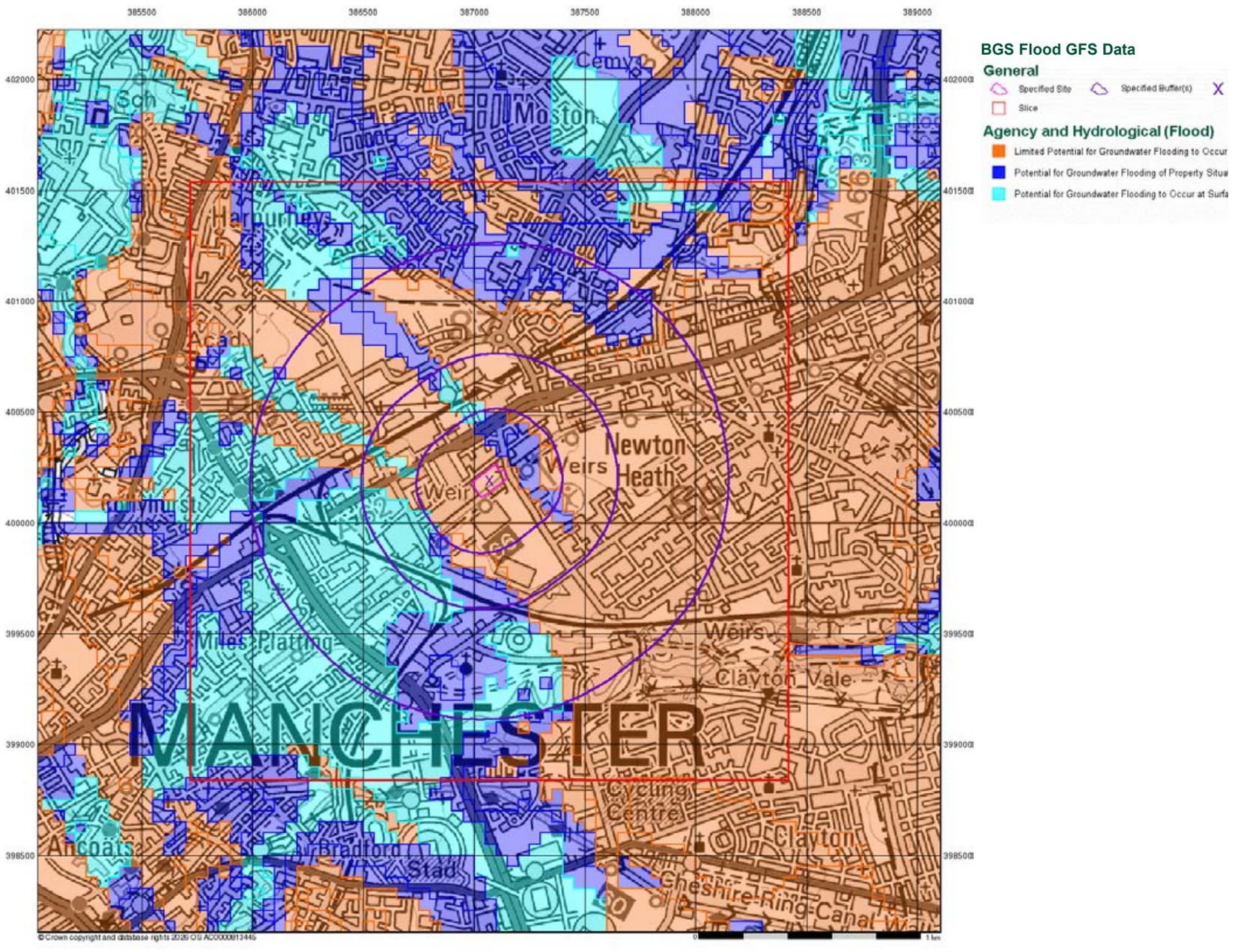
A detailed baseline noise survey has been carried out to understand existing background sound levels in the area. Once operational, specialist acoustic enclosures and screening will be installed around plant equipment, such as cooling and ventilation systems. These measures will ensure that noise from the facility remains below existing background noise levels at the nearest noise-sensitive locations during both the day and night. As a result, operational noise from the data centre is expected to be very low and should not cause disturbance to nearby residents. This is in line with Manchester City Council requirements .

| 4.21 AIR QUALITY |

4.21.1 Merebrook

Temporary dust may be generated during construction, as with any building project. This would be carefully managed through a Dust Management Plan, regular site inspections to monitor compliance with the plan, and other standard control measures to minimise impacts on nearby residents.

Once operational, the facility would generate minimal traffic, reuse heat from its operations to provide hot water and heating, and only operate backup generators during limited testing periods or in the event of a power outage. As a result, the data centre is expected to have very limited impacts on local air quality.



|BGS FLOOD GFS DATA - RWO (SOURCE ENVIROCHECK)|

4. DESIGN

| 4.22 DAYLIGHT & SUNLIGHT|

4.22.1 GIA

Daylight and sunlight assessments have been carried out to understand the effect of the proposed development upon the surrounding area.

The proposed development is located to the north of the Rochdale Canal, and so there would not be any overshadowing effects to the Rochdale Canal.

Based on the height and massing of the scheme, and the separation distance in relation to surrounding buildings, no significant daylight sunlight or overshadowing effects are anticipated.

| 4.23 ARBORICULTURAL|

4.23.1 e3p

A total of 48 individual trees and 12 tree groups were recorded in the surveyed. No TPOs, Conservation area, veteran/ancient trees are present on site.

The proposed development will require the removal of 17 individual trees, 8 tree groups and part removal of 2 tree groups.

Careful consideration and design revisions have been undertaken to accommodate the retention of the Category A tree (T037). However, due to its proximity to the proposed development and the resulting unavoidable encroachment into the Root Protection Area, retention of tree (T037) is not feasible. To mitigate the loss of this high-quality specimen, the client has proposed comprehensive mitigation measures, including a well-considered landscape scheme and the incorporation of a vegetated green wall, aimed at enhancing visual amenity and contributing to long-term environmental value.

Mitigation for installation of boundary/security fencing and proposed plant screening within RPAs of the retained boundary trees will require ‘boundary treatment methodology’ for fence post and wall installation.



|EXISTING TREE SURVEY - EP3|

05 | ACCESS |

5. ACCESS

| 5.1 SITE ACCESS |

5.1.1 SK Transport

SK has been appointed by Latos Data Centres to prepare a TS that examines the impact of a Proposed Development on land off Bower Street in Manchester.

The scope of the TS has been agreed with MCC during pre-application discussions and is based on a standard appraisal method.

The TS shows that the Site is located sustainably with opportunities to access frequent bus and tram services. Pedestrian routes on Bower Street are 2m wide and the street is subject to a 20mph speed limit. Access can also be gained local cycle routes. The accessibility assessment confirms that the Site has a high GMAL and that the level of additional trips by public transport will be minimal. Measures are included in the Proposed Development to support sustainable trip making, including pedestrian infrastructure at the Proposed Development access, cycle parking for staff and visitors, and a Travel Plan.

The TS confirms that Bower Street does not have a road safety issue and that an appropriate vehicle access can be gained to the Proposed Development. Swept path analysis has been undertaken which shows that refuse collection and deliveries can be accommodated within the Site.

The Proposed Development will be staffed by six people. The assessment confirms that the Proposed Development will not generate a significant level of traffic and that the parking provided at the Proposed Development is sufficient to meet operational and staff requirements.

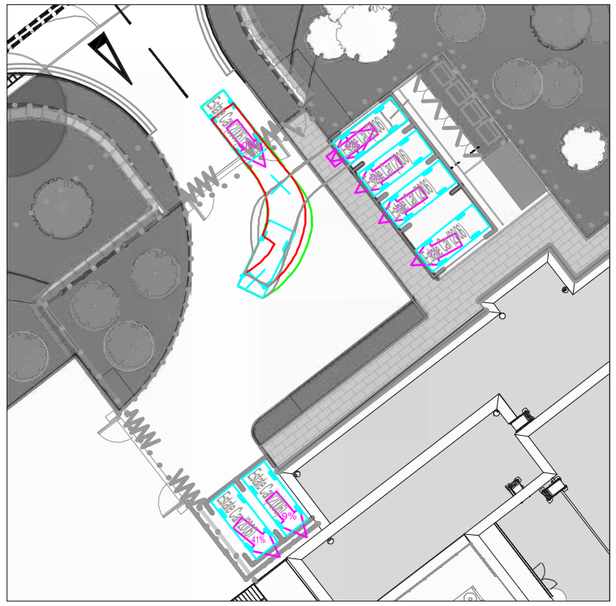


5. ACCESS

| 5.1 SITE ACCESS |

5.1.3 SK Transport have produced tracking drawings shown below for both a articulated lorry to serve both buildings and refuse truck manoeuvring.

5.1.4 The tracking diagrams opposite highlight how the central two-way traffic road into the site can allow for a car to manoeuvre into the parking spaces and how a fire tender will manoeuvre on site.



|CAR TRACKING|



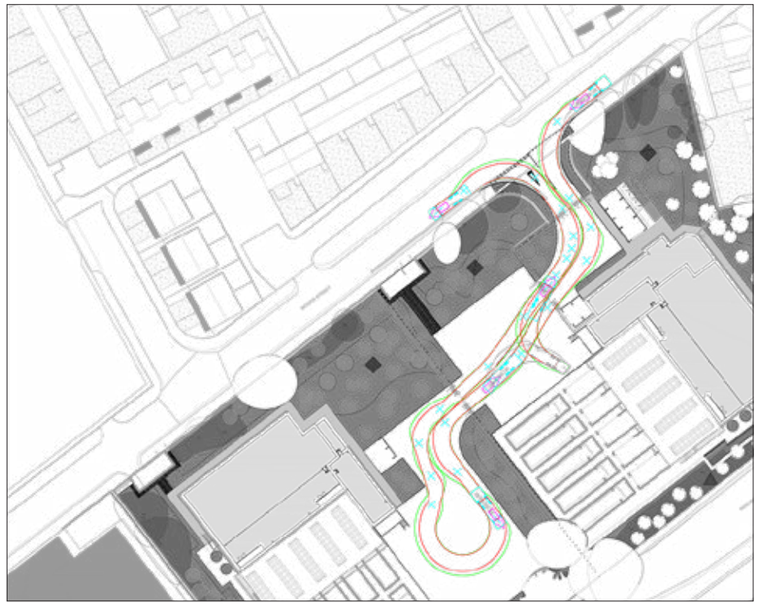
|FIRE TENDER VEHICLE TRACKING|



|MOBILE CRANE TRACKING|



|DELIVERY VAN TRACKING|



|REFUSE TRUCK TRACKING|

5. ACCESS

| 5.2 BUILDING ACCESS & SECURITY |

5.2.1 Pedestrian access to the site is controlled using the main Data Centre site access point, with a gated through route.

5.2.2 Cycle access is also provided using the main Data Centre site access point, with external cycle storage via secure Sheffield hoops located adjacent to the main building entrance.

5.2.3 To further encourage the use of cycling, walking or jogging to work the building includes shower facilities and lockers within the bathrooms.

5.2.4 Vehicle access is a single point of entry via Bower Street.



5. ACCESS

| 5.3 BUILDING ACCESS & SECURITY |



5. ACCESS

| 5.4 OPERATING SCHEDULE|

5.4.1 Site Hours

The site is guarded and operational 24/7, this is a highly secure site. Refer to the Crime Impact Statement prepared by Greater Manchester Police for further information.

5.4.2 Public Safety

The management shall implement staff awareness schemes and training to ensure compliance with health and safety and fire prevention legislation. The management will ensure fire extinguishers are regularly maintained and inspected. The management will ensure the development and implementation of evacuation procedures. All staff will be trained to safely handle emergencies.

5.4.2 Traffic, Deliveries & Waste collection

Refer to SK Transport Statement for detailed information.

The main entrance to the site has been designed to allow vehicles to be off the public highway until they are permitted onto the secure site. Staff numbers are low and adequate parking is provided on site. Deliveries will be within sociable hours. Waste collection will be via the main entrance to the site

5.4.3 Smoking

The site is an absolute no smoking site and staff and visitors will be encouraged to smoke away from the main entrance to the site.



|DELIVERY TRUCK TRACKING|

05 | ENVIRONMENTAL |

5. SUSTAINABILITY

| 5.1 SUSTAINABILITY|

BREEAM (Building Research Establishment Environmental Assessment Method) is a widely recognised sustainability assessment scheme for buildings, including data centres. Achieving BREEAM certification signifies that a data centre has been designed, constructed, and operated with environmental considerations at its core.

BREEAM promotes excellent Data Centre design and sustainability while encouraging green energy usage:

Holistic Approach to Sustainability:

BREEAM goes beyond just energy efficiency, evaluating multiple sustainability factors across 10 categories:

- Management: Assessing environmental policies, stakeholder engagement, and risk management.
- Health and Well-being: Creating a healthy and comfortable environment for staff.
- Energy: Promoting energy efficiency and renewable energy use.
- Transport: Encouraging sustainable transportation options for staff and visitors.
- Water: Minimising water consumption and maximising wastewater treatment.
- Materials: Utilising responsibly sourced and recycled materials.
- Waste: Reducing waste generation and promoting recycling.
- Land Use and Ecology: Protecting biodiversity and minimising ecological impact.
- Pollution: Controlling air and water pollution emissions.
- Innovation: Recognising innovative design and construction practices.

Encouraging Green Energy Usage:

BREEAM heavily incentives the use of renewable energy sources for data centres. Points are awarded for:

- On-site renewable energy generation: Installing solar panels, wind turbines, or other renewable energy systems.
- Green electricity procurement: Sourcing electricity from renewable energy providers.
- Demand-side management: Optimizing energy consumption through smart technologies and operational practices.

Promoting Excellent Design:
- BREEAM recognizes data centres that incorporate sustainable design principles into their architecture and construction. This includes:
- Efficient building envelope: Utilizing high-performance insulation and cladding to minimize energy loss.
- Natural ventilation and lighting: Maximising natural light and ventilation to reduce reliance on artificial systems.
- Modular and flexible design: Enabling efficient use of space and future expansion with minimal environmental impact.

Continuous Improvement:
- BREEAM is not a one-time assessment. Data centres can achieve different levels of certification (Pass, Good, Very Good, Excellent, and Outstanding) and are encouraged to continuously improve their sustainability performance. BREEAM offers ongoing monitoring and re-assessment, helping data centres maintain a high level of environmental performance over their lifespan.

Benefits of BREEAM-Certified Data Centres:
- Reduced environmental impact: Lower energy consumption, water usage, and waste generation.
- Improved operational efficiency: Increased energy savings and reduced operating costs.
- Enhanced brand image: Demonstrating commitment to sustainability attracts eco-conscious clients and investors.
- Regulatory compliance: Meeting or exceeding environmental regulations and standards.
- Future-proofed design: Preparing for stricter environmental regulations and changing market demands.

Examples of BREEAM-Certified Data Centres:

Google Cloud data centre in Hamina, Finland: Achieved a BREEAM Excellent rating, featuring on-site solar panels, rainwater harvesting, and free cooling technology.
By employing BREEAM's comprehensive framework, data centres can achieve excellence in design, sustainability, and green energy usage, contributing to a more environmentally responsible future for the digital world.

Latos Data Centre as an applicant has an aspiration to achieve BREEAM Very Good and the design as proposed within this application takes this into account, with early appointment of the BREEAM assessor planning an integral role within the facility design.

The design of the facility in detail is continuing to be developed through to RIBA Stage 3, including looking at opportunities for natural ventilation, renewable technology and heat recovery, daylighting, Thermal Comfort, explore LZC technologies and quantify potential savings, in line with BRE methodology, Flood Risk Assessment and SUDS/drainage design, informing the general arrangement layouts and fenestration design.

It has been considered that the early adoption of many BREEAM principles ensures the opportunity to achieve these are not lost as the facility design progresses.

Latos Data Centre also has aspirations to achieve LEED Gold status. LEED is the American equivalent of BREEAM. This will attract more international customers.



| GOOGLE CLOUD DATA CENTRE IN HAMINA, FINLAND|

Interxion Paris Digital Park: Awarded a BREEAM Very Good certification, utilizing geothermal cooling and rainwater harvesting.



| INTERXION PARIS DIGITAL PARK|

Equinix data centre in Amsterdam: Secured a BREEAM Excellent rating, incorporating on-site solar panels, free cooling, and energy-efficient equipment.



| EQUINIX DATA CENTRE IN AMSTERDAM|

Create
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