ELEMENT SUSTAINABILITY

No.3 Circle Square, Manchester

Environmental Standards Statement Verification Report

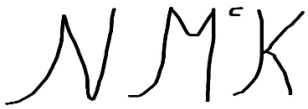
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ELEMENT SUSTAINABILITY – ISSUE NOTES

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Nathan McKinney Sustainability Consultant	Esme Bridge Senior Sustainability Consultant	Laurie Wills Director

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ELEMENT SUSTAINABILITY

phone: 01829 733 444

email: hello@elementsustainability.co.uk

www: www.elementsustanability.co.uk

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1. INTRODUCTION

Element Sustainability has been commissioned by Bruntwood Scitech to review this developments performance relative to the Environmental Standards Statement (report reference: 2021.305 – Circle Square 3, Manchester, Environmental Standards Statement Final (Jun 2022)) submitted to the local planning authority in support of the planning application for this scheme at Circle Square 3, Manchester.

This verification report is intended to assist with the discharge of the following planning condition applied within the Decision Notice for this site (ref. Decision Notice: 134288/FO/2022):

Planning Condition 12 –
'The development hereby approved shall be carried out in accordance with the targets set out within the CIRCLE SQUARE NO.3, MANCHESTER, ENVIRONMENTAL STANDARDS STATEMENT, JUNE 2022 REF: 2021.305 by Element Sustainability. A post construction statement shall be submitted within 12 months of occupation of the development.'

The purpose of this report is to summarise and verify the design attributes, specifications and characteristics of the scheme that have been implemented as per the commitments made within the Environmental Standards Statement.

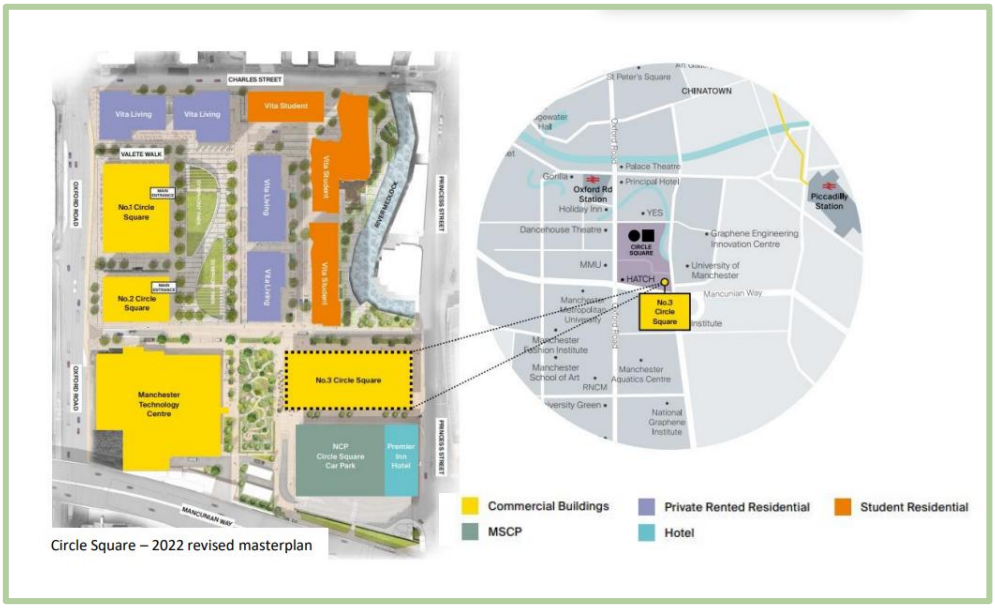
2. DEVELOPMENT SITE

2.1 Development Site Description

The site is located in the landmark mixed-use Circle Square development, within the Oxford Road Corridor Innovation District. The masterplan site is bound by Charles Street to the North, Princess Street to the East, Mancunian Way to the south and Oxford Road to the west, with the River Medlock occupying the northeastern corner of the site.

On the original Circle Square masterplan, the development site is identified as Plot 12/13 and is positioned along the eastern border. To the west of No. 3 Circle Square is the Manchester Technology Centre which is currently used as a commercial office building with retail units located on the ground floor. In between these two blocks is the new Symphony Garden, a significant new landscaped space, that extends the existing Symphony Gardens. North of the site sits the Vita Student blocks and the River Medlock. Beyond Princess Street, to the east of the site, lies the University of Manchester North Campus comprising several buildings used for education and research purposes. A multi-storey car park and Premier Inn Hotel occupy the southern boundary.

Figure 2.1- Circle Square Masterplan



Circle Square – 2022 revised masterplan

2.2 Development Proposals

The completed development comprises a fifteen-floor office building (planning use class E) with ground floor retail space.

The first to thirteenth floors will be occupied by conventional office space, whilst the fourteenth floor will include a range of amenity spaces, lounge areas, informal meeting spaces, an events area and two outdoor terraces. In addition to this, a new section of public realm will be created, to complement the site-wide landscaping strategy and provide external spill out space for the ground floor amenities.

The final construction issue general arrangement drawings and elevations are presented in Figures 2.2 to 2.11.

Figure 2.2 – Ground Floor Plan

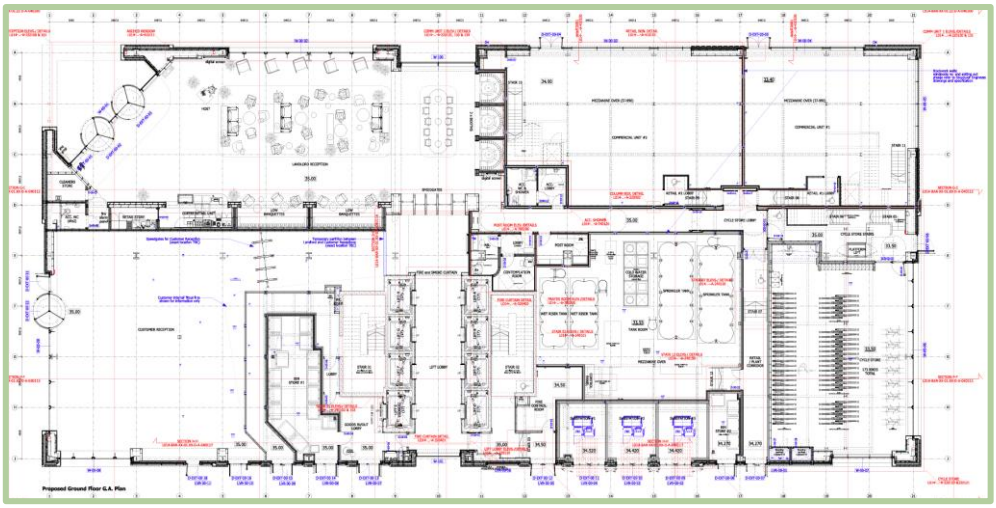


Figure 2.3 – Mezzanine Floor Plan

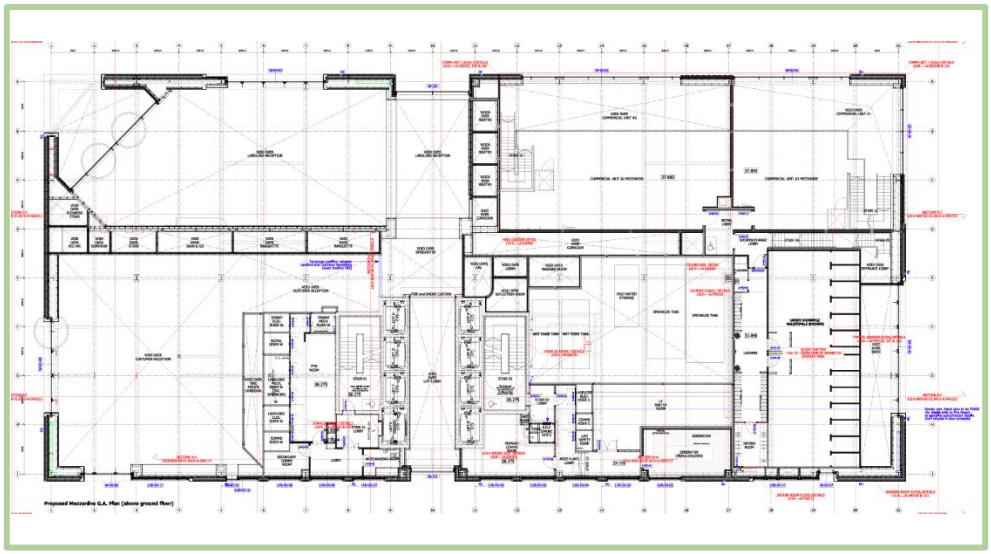


Figure 2.4 – Levels 01, 03, 05, & 07 Floor Plans

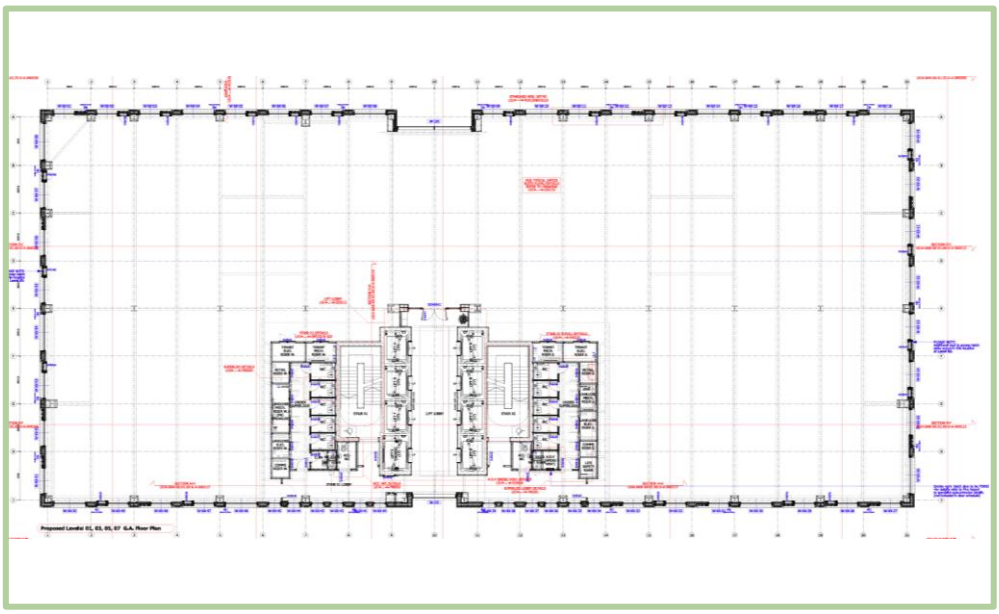


Figure 2.5 – Levels 02, 04, 06, & 08 Floor Plans

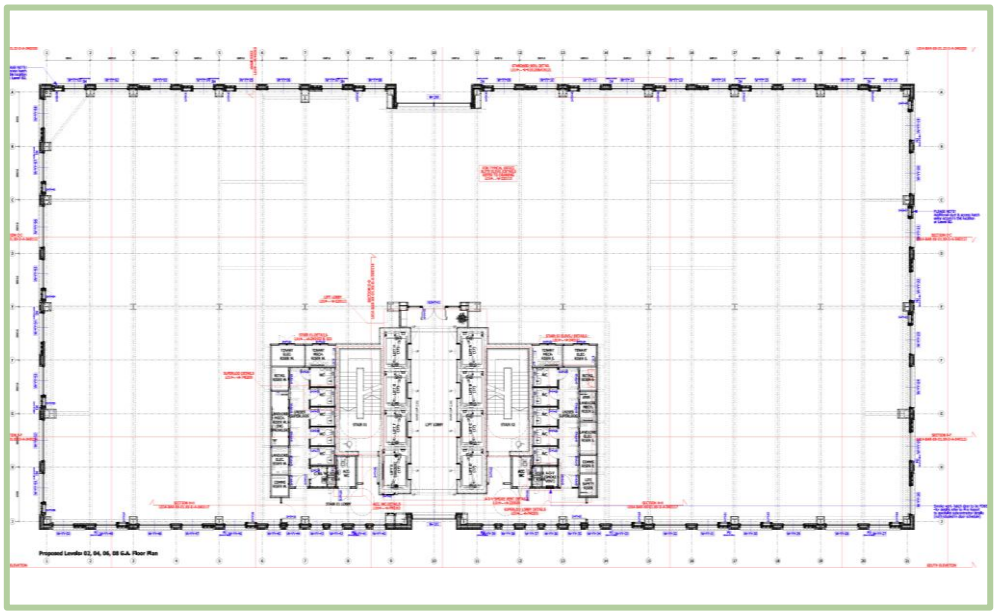


Figure 2.6 –Typical Upper Floor Plan (Levels 9-13)

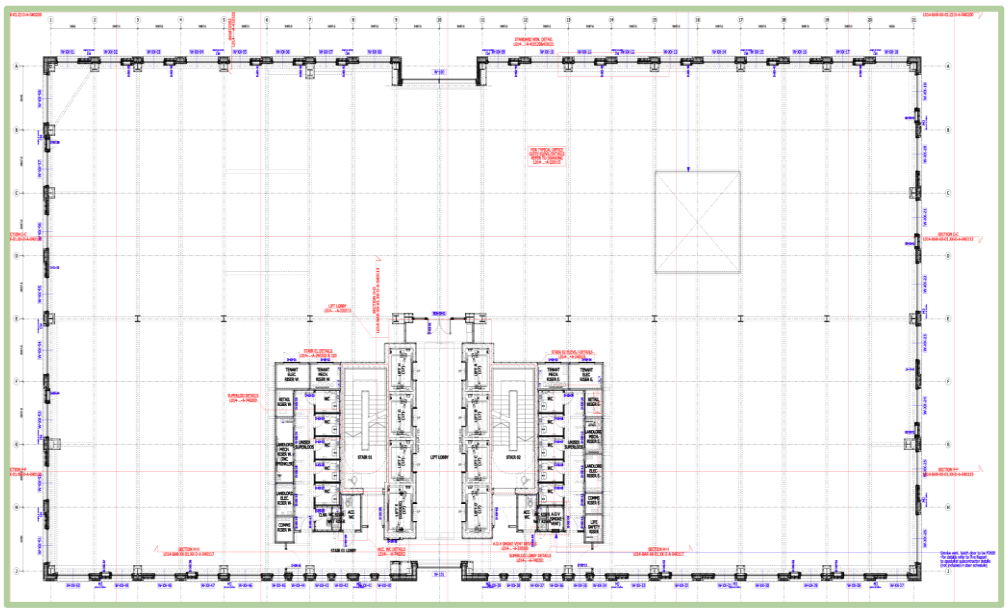


Figure 2.7– Level 14 Floor Plan



Figure 2.8– Roof Plan

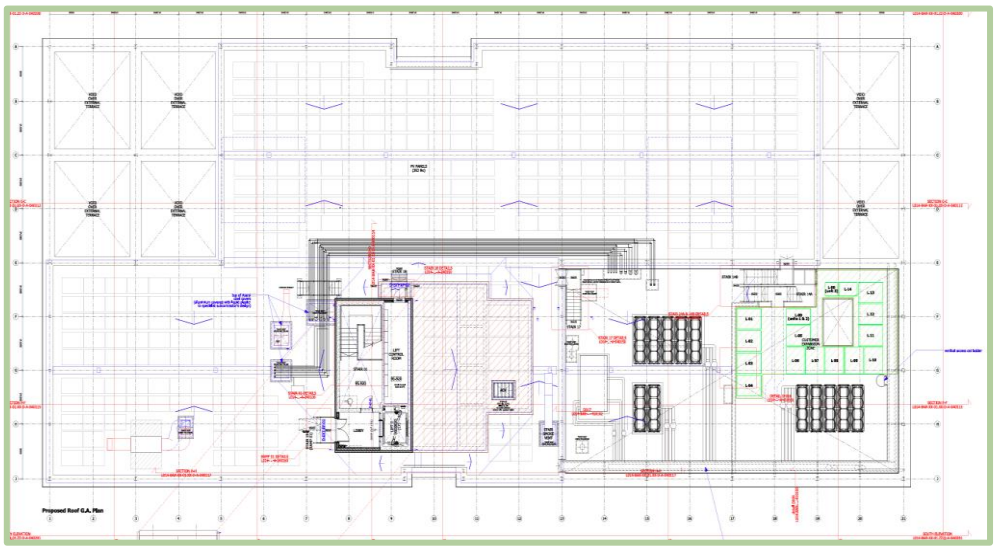


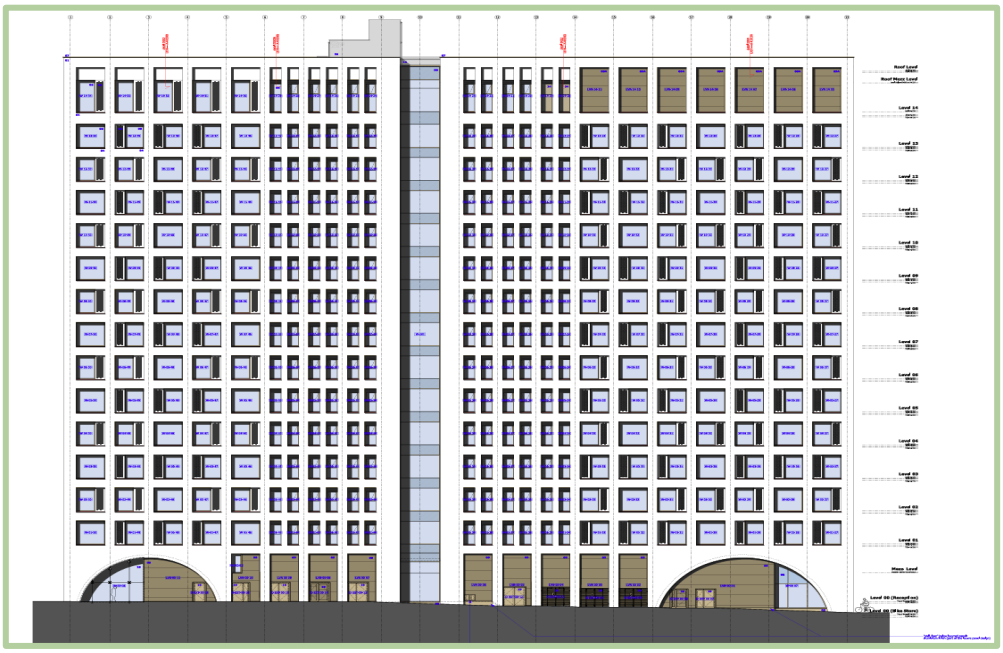
Figure 2.9– East and West Elevation Plan



Figure 2.10– North Elevation Plan



Figure 2.11– South Elevation Plan



3. SUSTAINABILITY PERFORMANCE VERIFICATION

This report section provides an appraisal of the Environmental Standards Statement (ESS) commitments and details the specific approach, design features and specifications within this development that have contributed to reducing the environmental impact of this scheme, in line with Manchester City Councils adopted planning policies.

The approach used to compile the data in this report involved communications and correspondence with various stakeholders. In order to proceed with the Verification Report, we liaised with the contractor (GMI Construction) to arrange a post-construction review site visit that took place on the 23rd of April 2025. Photographic evidence acquired during the site visit confirms those specifications outlined in the Environmental Standards Statement (ESS) have been integrated within the build. This also supported the documentary evidence that was supplied to Element Sustainability by the wider design and construction team.

Evidence was received directly from project team in the form of:

- Written confirmation;
- Third party reports and documentation;
- Design and specification details;
- As-built drawings, and,
- Test certificates.

The evidence and data gathered in this appraisal responds to the Council's aforementioned planning condition. Summary Table 3.1 confirms the design attributes and build specifications which ensure this scheme contributes to sustainable development.

Table 3.1 Legend:

- Amber = Limitations
- Green = Complete

Table 3.1 – Environmental Standards Verification

ESS Requirements	Evidence Provided	Comments
Energy		
Fabric led energy strategy - The proposed approach to emissions reduction for the new build apartments will be through a fabric led energy strategy, in accordance with the principles of the energy hierarchy.	• As-built BRUKL output document.	• The building fabric u-values are all under the Building Regulation Part L limiting values. • The air permeability test result for the building is 3.00m^3/hm^2 (@50Pa.), which demonstrates a very low air leakage rate from the building. • The performance of the building is in exceedance of Building Regulations Part L2A (2013) (the prevailing Building Regulations at the start of construction).
Building Emission Rate & Fabric Energy Efficiency – The building improves upon the minimum requirements of Building Regulations Approved Document L2A 2013 England.	• As-built BRUKL output document.	• As-built BRUKL demonstrates a performance in excess of the requirements of Building Regulations Part L2A (2013) (the prevailing Building Regulations at the start of construction). • The BRUKL shows the improvement percentage is greater than 52% as stipulated in the ESS document from 2022
Efficient Mechanical and Electrical Systems – The enhanced material specification will be supplemented with efficient mechanical and electrical systems – including a combined heat and power system to deliver low carbon hot water - and heat recovery systems.	• Post-construction site visit, • As-built BRUKL output document, and, • Low and Zero Carbon Feasibility Study.	• A feasibility study prepared post planning approval, at the detailed design stage, for the scheme confirms that combined heat and power systems are not feasible for the site. • Alternative renewable and low carbon energy sources have however been specified as part of the servicing strategy; the implemented technologies

ESS Requirements	Evidence Provided	Comments
		are Air Source Heat Pumps (ASHPs) and Photovoltaic Panels (PV). • PV (AIKO-A470 MAH54Dw) total capacity of 162.15kWp and ASHP (EAHV-M1800YC 32W00204) COP 3.52 and SEER 5.52 • The development utilises high efficiency LED lighting in conjunction with a Fan Coil System and Mechanical Ventilation with Heat Recovery (MVHR). • Site visit confirms the incorporation of ASHPs and PV panels (doc ref: Circle_Square_3_Sitevisit_19-06-2025).
Photovoltaic Panels – A number of photovoltaic (PV) arrays will be integrated upon the roofs of the towers, generating approximately 127,300kWh per year of zero carbon electricity.	• As-built BRUKL output document • PV certificate	• The BRUKL confirms energy production is higher than the targeted amount per kWh/m²/yr, with a total of 127,872.706 • PV certificate confirms kWp provided.
Space Heating Strategy - The proposed space heating strategy for the building will be provided by a high efficiency, full electric system to meet the limited energy loads generated by the apartments.	• Post-construction site visit, • As-built BRUKL output document, and, • M&E specification.	• Electric panel heaters are installed and provide space heating throughout the development. These are efficient at point of use. • Site visit confirms the installation of thermal zoning in the form of floor plates.

ESS Requirements	Evidence Provided	Comments
CIBSE TM54 – Predictive operational energy modelling undertaken in order to assess the operational energy performance of the building. This analysis has been compared with UKGBC Energy Intensity Performance benchmarks in order to assess the Net Zero Carbon aspirations of the building. The results demonstrate that the development has the potential to achieve the target of 55kWh/m^2 /yr (UKGBC 2035-2050 Paris Proof Target) to be met.	• As-built BRUKL output document, • NABERS Design for Performance Report	• Energy Use Intensity Target has been achieved through the calculation of the total energy output divided by the floor area equating to 48.4 kWh/m^2/yr, thus aligning with the building net zero strategy.
NABERS – Targeting a minimum of a 5-star rating through the environmental performance rating tool for commercial buildings, in line with the 'Design for Performance' guidelines.	• NABERS certification	• Achieved a 5-star rating, in line with the NABERS 'Design for Performance' guidelines, which targets a minimum of 4 stars for office building in the UK. Circle Square 3's NABERS certification can be seen on the NABERS website of compliant developments.
Life Cycle Assessment – An LCA was completed during RIBA Stage 2 in line with the BREEAM and RICS requirements and methodologies. Also, RICS methodology LCA completed? Pls check	• Life Cycle Assessment Reports, and, • Confirmation letter from Element Sustainability	• BREEAM LCA reports sent over for both RIBA Stage 2 (625.04kgCO_2/m^2) and Stage 4 (610.59kgCO_2/m^2) options appraisals. • RICS Stage 6 report confirms an upfront embodied carbon figure of 547kgCO_2eq/m^2. In line with Table EC-1 in the UK Net Zero Carbon Buildings Standard, the required embodied carbon limit for a whole building office development in 2025 is

ESS Requirements	Evidence Provided	Comments
		805kgCO_2eq/m^2, meaning this development is well below the required target. • Letter to confirm confidence that final carbon figure will fall below the scheme's carbon target of 667kgCO_2/m^2 of embodied carbon.
Water		
Water Efficiency Strategy - A water efficiency strategy will be determined for the development. 'A' rated appliances will be used for dishwashers and washing machines (where provided) for their water saving capabilities.	• Post-construction site visit, and, • Datasheets	• Post-construction site visit completed prior to handover. This visit confirmed no installation of dishwashers or washing machines. • However, low flow equipment has been installed throughout the development.
Efficient Water Fixtures - Specification of efficient water fixtures throughout the scheme (low flow taps and showers, dual flush WCs)	• Sanitaryware schedule, • BREEAM credit Wat 01 water calculations, and, • Manufacturers datasheets confirming flow rates.	• Low flow equipment chosen, as seen in the datasheets. • A water consumption calculation has been undertaken for the BREEAM assessment. The component level achieved is 22.52 L/person/day, which is 36.31% improvement over the BREEAM baseline performance for a building of this type.

ESS Requirements	Evidence Provided	Comments
Indoor Water Use – In order to reduce water demand, the sanitary fixtures will be specified to achieve a calculated consumption in line with a 50% improvement over the BRE baseline.	• BREEAM Wat 01 water calculations	• A water consumption calculation has been undertaken for the BREEAM assessment. The component level achieved is 22.52 L/person/day, which is 36.31% improvement over the BREEAM baseline performance for a building of this type. However, the development did still receive two credits for Wat 01.
Resource Management and Pollution		
Previously Developed Land – The proposals include for the redevelopment of a previously developed, brownfield site as promoted by national and local planning policy. The re-use of the piece of land in a highly accessible, city-centre location will provide a development that inherently supports a sustainable community while creating opportunities for employment and enjoyment.	• Land-use and Ecology report, and, • Post-construction site visit.	• At least 75% of the development was built on land that was previously developed and has been for over 100 years. This is an efficient use of land and resources. • Site visit report confirms the layout and orientation of the scheme / building at handover is as per the Le 01 Report • The landscaped areas are accessible to the public, ensuring a community benefit of access to green space is provided.
Global Warming Potential (GWP) of Insulants - To reduce emissions of gases with high global warming potential (GWP) and nitrogen oxide (NOx) into the atmosphere, the new build development will be specified with: • Insulating materials that have a GWP of < 5 throughout the development to reduce the	• Environmental Product Declarations (EPDs)	• Product EPD's confirm both insulation materials used in the development have a GWP of < 5.

ESS Requirements	Evidence Provided	Comments
construction phase impact of this scheme upon climate change.		
Pollution Prevention Guidance - Will be adhered to in respects of air (dust) and water (ground and surface) pollution during the demolition and construction phase	• Completed Pollution Prevention Guideline (PPG6) checklist, and, • Evidence related to PPG6 (site photos, SWMP, EMP, EIA record, waste carrier licence, noise report, drainage plans, and waste management operational standard).	• Pollution Prevention Guidance 6 (PPG6) checklist has been completed by the main contractor confirming the procedures implemented, including best practice and how air (dust) and water (ground and surface) pollution was managed throughout construction phase.
External Lighting Controls - External light fittings will be controlled through a time switch, or daylight sensor, to prevent operation during daylight hours to limit the impact of artificial lighting for the development's occupants and surrounding environment	• Electrical drawings and specification of external space and security lighting, • Post-construction site visit, and, • Confirmation letters.	• Formal confirmation from the mechanical and electrical consultants that all external lighting located within the construction zone is specified in accordance with BS5489-1:2013 and BS EN 12464-2. • External lighting will provide illuminance levels that enable users to perform outdoor visual tasks efficiently and accurately, especially during the night. • Drawing demonstrates that the roof lighting consists of emergency lighting only and can be excluded from the assessment on the basis that the lighting does not provide users with lighting to perform outdoor tasks in line with KBCN 0650.

ESS Requirements	Evidence Provided	Comments
		• External lighting controls includes presence detection, photocell, and time clock control to prevent operation during daylight hours.
Temporary Drainage and Pollution Prevention Measures - The development site is within the locality of the River Medlock. Where necessary, temporary drainage and pollution prevention measures will be in place on site, this may include, for example, bunded areas and spill kits to prevent harmful chemicals / materials from draining to natural watercourses; and silt traps to ensure that suspended solids are removed from the drainage water	• Environmental Site Waste Management Plan • Pollution Prevention Guideline (PPG6) checklist • Email Confirmation	• Pollution Prevention Guideline 6 checklist has been implemented by the main contractor, which includes best practice measures on how pollution has been managed throughout construction. • Confirmation in the PPG6, that as part of the construction management plan, general pollution prevention methods such as spill kits, drip trays, bunding. and wheel wash stations etc. have been used on-site to minimise and control site pollution. • The site waste management plan (SWMP) confirms the minimisation, monitoring and reporting of hazardous and non-hazardous waste, in line with BREEAM requirements.
Dust Suppression Measures - Dust suppression measures will also be put in place as part of the Main Contractor's Environmental Management Plan, such that any potential risks to watercourses or the neighbouring properties are minimised.	• Site Environment Maintenance Plan • Pollution Prevention Guideline (PPG6) checklist	• The Site Environmental Maintenance Plan confirms the inclusion of dust prevention controls have been discussed and implemented. • Pollution Prevention Guideline PPG6 checklist includes best practice and how air (dust) pollution has been managed throughout construction. This

ESS Requirements	Evidence Provided	Comments
		includes proper storage and damping down in dry weather.
Materials		
Environmental Impact of Materials - Materials with a low environmental impact throughout their lifecycle.	• Materials schedule, • Environmental Product Declaration (EPD) certificates, • RIBA Stage 2 & 4 Life Cycle Analysis (LCA) report, and, • Letter of confirmation	• All the EPD compliant construction materials have been sent across with EPD certification. • Under the BREEAM assessment methodology, Mat 02 (Environmental impacts from construction products) has been achieved with a total EPD points score of 27.5. • LCA reports sent over for both RIBA Stage 2 (625.04kgCO_2/m^2) and Stage 4 (610.59kgCO^2/m^2) options appraisals. • Letter to confirm confidence that final carbon figure will fall below the scheme's carbon target of 667kgCO_2/m^2 of embodied carbon.
Responsible Sourcing of Materials: • Materials responsibly sourced from suppliers operating an Environmental Management System or procuring timber from FSC and PEFC sources, for example will be prioritised.	• Materials schedule, • Sustainable Procurement Plan, • Responsible Sourcing Certificates, • Site Waste Management Plan (SWMP),	• All timber was legal and sustainably sourced. FSC and PEFC certification has been provided from all timber suppliers. • A number of material suppliers with environmental management systems certified to ISO 14001 have been utilised. In addition to ISO14001 accredited materials, products/materials specified with BES

ESS Requirements	Evidence Provided	Comments
• Local sourcing of construction materials where feasible and viable, which will minimise the impact of carbon dioxide emissions associated with the transportation of materials • Robust materials such as block paving and stone will be utilised for hard landscaping, therefore minimising the frequency of replacement and maximising materials optimisation and extending replacement intervals • Material selection will be carefully considered to avoid the use of toxic materials, such as Volatile Organic Compounds (VOCs) and contribute towards creating a healthy indoor environment • Excavated material (such as soil and substructural elements) from construction and demolition works will be used, where practical, for landscaping purposes and within the public realm.	• Post-construction site visit report, • Delivery notes, and, • Confirmation letters	6001 and Sustainable Constructional Steel System (CARES) responsible sourcing accreditations have also been used. Valid certificates have been provided demonstrating this. • Out of the 45 materials logged in the Mat 03 tool, only 6 did not have a certificate relating to EMS. • Under the BREEAM methodology, Mat 03 (Measuring Responsible Sourcing) the scheme achieved one out of three credits. This demonstrates that responsible sourcing of materials has been a priority, where possible. • The delivery notes have provided a list of suppliers which highlights the priority to use local manufacturers and suppliers. This list shows that high quantity items such as the timber and internal joinery was all supplied by manufactures and suppliers from the Manchester region. • Site visit report confirms robust materials have been utilised for hard landscaping around the exterior of the building. • The sustainable procurement plan discusses how material selection will be based off the environmental impact of the material, with a focus on non-polluting and non-toxic materials. • SWMP confirms thar soil/stones from excavation and substructural elements such as

ESS Requirements	Evidence Provided	Comments
		concrete/bricks/tiles/ceramics were re-used during the development.
Surface Water Run-Off		
Flood Risk of the Development - Flood Maps demonstrate that the majority of the Site is located within Flood Zone 1, however part of the Site also falls within Flood Zone 2, as per the Environment Agency Flood Risk Map	• Flood Risk Assessment	• The Flood Risk Assessment confirms that the existing site lies within an area classified as Flood Zones 1 and 2, indicating the risk of flooding from rivers and seas ranges from low to medium across the site. • The main flooding risk to the proposed development site are fluvial flooding, reservoir flooding, surface water flooding to the site and surface water flooding from the site. As such, pages 5-19 of the FRA report provide design measures to mitigate the risk of flooding for the various sources of potential flooding.
Management of Surface Water - To minimise the risk and impact of localised flooding on and off-site, watercourse pollution and other environmental damage, a site-specific Flood Risk Assessment and Drainage Strategy Report has been prepared by Curtins Consulting Limited which confirms the following: • To achieve the restriction in peak rates of surface water runoff from the developed site, the existing drainage is likely to require localised diversion works and relocation of the	• Flood Risk Assessment and Drainage Strategy Report, • Drainage Verification Report, and, • Drawings.	• The document confirms that, for the assessed brownfield site, there will be a minimum 50% improvement for the developed site compared with the pre-developed site. This includes an allowance for climate change in accordance with current best practice planning guidelines. • The proposed Sustainable Urban Drainage Systems (SuDS) have been implemented. Drawings have been provided alongside a verification report which confirms the installation of Attenuation Tank, Flow Control Chambers, Smart Filter Chamber, Smart Gully Filter Adaptors, and Tree Pits/ Filter Strips

ESS Requirements	Evidence Provided	Comments
attenuation tank due to revised extents of the building footprint. • The drainage strategy will incorporate the use of Sustainable Drainage Systems (SuDS) where appropriate throughout the site. The proposed surface water drainage strategy for the site currently includes below ground cellular attenuation tanks. This will reduce the volume of runoff discharging into the public sewer system.		
Waste		
Construction Waste - Best practice techniques to prevent and minimise waste arising during the design and construction phases of the development will be adopted, as follows: • Prior to commencement of the above ground construction phase, a site waste management plan (SWMP) will be produced by the developer to limit the on and off-site environmental impacts of construction. The SWMP will detail: o Recycled and secondary materials; o Waste reduction; o Waste segregation; o Waste recovery; o Waste disposal.	• Site waste management plan (SWMP), and, • Waste data.	• The SWMP contains waste minimisation practices, best practice, and targets, as well as confirming monthly reports were conducted. • Final waste data from GMI Construction (main contractor), confirms that almost 100% of waste was recycled and the actual waste arisings were lower than the targeted amount. • A total of 100% was diverted from landfill.

ESS Requirements	Evidence Provided	Comments
• The development has set targets to generate no more than 7.5 m^3 / 6.5 tonnes of construction waste per 100 m2 Gross Internal Floor Area during construction. • This scheme will promote the minimisation of waste on site and seek to maximise the use of recycled materials in construction. • A site waste management plan will identify opportunities to minimise waste generation and divert construction waste from landfill.		
Operational waste - A Waste Management Strategy has been prepared by Curtins Consulting Limited in order to consider the potential refuse and recyclable waste volumes at No. 3 Circle Square, including organic waste and for all uses of this development. The operational waste strategy for the scheme focuses on the segregation of waste at source, in order to maximise the potential for individuals to recycle. All individuals will be informed on collection frequency, as well as guidance on recycling and health and safety practices related to the management and storage of waste. The proposed strategy has been developed in compliance with the policies of Manchester City	• Post-construction site visit, • Letter of commitment, • Design and Access Statement, and • As-built drawings,	• Communal bin store is sized appropriately to accommodate the relevant waste streams associated with this type of building • Drawings confirm both bin stores, providing access to the internal and external of the building for access to both the building users and waste contractors • Access strategy and collection for transfer routes have also been established in the design and access statement. • Site visit confirms the location and signage of bin store.

ESS Requirements	Evidence Provided	Comments
Council, stating that new developments and conversions must include a Waste Management Strategy that includes: • An estimated storage area for the waste produced by the development, including office and retail uses • Details of internal and external stores for both waste and recycling • Location of the proposed collection point and details of the route the collection will take.		
Health and Wellbeing		
Daylighting - Good levels of natural daylighting will be achieved. This will provide wellbeing benefits the occupants and reduce the need for energy to light the occupied areas	• As-built drawings and elevations, and, • Post-construction site visit	• No daylighting assessment or calculations have been undertaken and were not required for the Environment Standards Statement; however, the façade is made up of glass unitised curtain walling providing all spaces access to large windows and good levels of natural daylight. • Site visit confirms above
Communal Space - The combined office, retail and café elements of the scheme will enhance the character of the area and provide areas where people will want to spend their free time, supporting a vibrant, diverse and inclusive development	• As built drawings • Post-Construction site visit, and,	• Photographic evidence and drawings provided showing outdoor landscaped areas including seating and green space. • Some of the landscaped areas are accessible to the public ensuring a community benefit of access to green space is provided.

ESS Requirements	Evidence Provided	Comments
	• Non-technical Building User Guide.	• Building user guide and as-built drawings highlight the shared space on Floor 14 for both landlord and tenants.
Secure by Design (SBD) - The security needs of the development will be considered to achieve SBD accreditation and adopt crime prevention measures to assists in reducing the opportunity for, and fear of crime.	• Crime Impact Statement, and, • Secure By Design Certification.	• Secure By Design Certification confirming that the development has achieved the necessary criteria and accreditation. • Crime Impact Statement recommendations have been adopted.
Safe Environment - The landscaped area will also facilitate natural surveillance and create busy, overlooked routes at the site to reduce the opportunity for crime, creating a safer and more secure environment.	• As-built drawings, • Crime Impact Statement, and, • Secure By Design Certification.	• Secure By Design Certification confirming that the development has achieved the necessary criteria for surveillance for the wider site. • Crime Impact Statement recommendations have been adopted, including the landscaped areas, creating a safe environment. • As-built drawings and specifications have been provided showing the implementation of these measures.
Management		
Construction Site Impacts - Construction site impacts will be minimised, measures to protect water courses, as well as to prevent impacts	• Site Environmental Maintenance Plan	• The Site Environmental Maintenance Plan confirms the inclusion of all pollution prevention controls have been discussed and implemented.

ESS Requirements	Evidence Provided	Comments
upon the local area in terms of dust and noise pollution during construction works.	• Pollution Prevention Guideline (PPG6) checklist	• Pollution Prevention Guideline (PPG6) checklist includes best practice and how air (dust), water (ground and surface) and noise pollution has been managed throughout construction.
Biodiversity		
Ecological Recommendations: • Integration of the landscaping scheme into the wider site soft landscaping to increase permeability of the site to wildlife; • Use of native or wildlife-friendly tree, shrub and herbaceous species in any landscape planting, for example inclusion of species which provide nectar for invertebrates or berries to provide a food source for birds • Inclusion of bird boxes to accommodate typical urban bird species, away from street and security lighting • Inclusion of bat roost features on built structure where the design allows, to increase opportunities for roosting bats, coupled with a suitable lighting strategy	• Post-Construction site visit, • As-built drawings, and, • Change in ecological value calculator.	• A range of native and wildlife-friendly plants are included in the landscaping design, as seen in the post-construction site visit. • Drawings confirm bat boxes have been implemented and no visible light fittings that would disturb them. • Via the BREEAM LE 03/04 calculator tool, there has been a 568% improvement from the pre-development status, thus achieving an exemplary credit. This shows a significant biodiversity net gain. • Wider masterplan confirms the greenspaces provided across the site link to create wildlife corridors.

ESS Requirements	Evidence Provided	Comments
to avoid unnecessary lighting of any roost features.		
Transport		
Transport Links and Local Amenities – The site benefits from excellent sustainable access opportunities and is well connected by existing walking and cycling routes to key trip attractors. Bus and train can also be used to easily access the site. Residents are able to walk to local amenities and shops along Oxford Road, and the site benefits from very good links to local amenity space and recreational facilities.	• Greater Manchester Accessibility Levels (GMAL), • Post-construction site visit report, and, • Local amenities report.	• Due to the central location of the scheme to Manchester's city centre a GMAL score of 77, level 8 is achieved. This is highest level available and represents a highly sustainable site in terms of accessibility to public transport nodes and amenities. • It is a well-connected site with great access to a number of local amenities within the surrounding area. Shops, food outlets, outdoor space, and a cash point are all found within five hundred meters and are accessible via pedestrian friendly routes • The creation of new amenities has been formed as part of the scheme, confirmed in the drawings, providing residents with convenient and accessible benefits.
Car Parking Spaces - The proposal acknowledges the sustainable location of the site within Manchester which would be car-free and comprise no car parking spaces.	• Post-Construction site visit, and, • As-built drawing.	• Drawings and site visit confirm no car parking spaces

ESS Requirements	Evidence Provided	Comments
Cycle Spaces - A minimum of one-hundred and eighteen cycle spaces will be provided in secure accessible locations, with cyclist facilities in the form of lockers, showers and changing rooms also provided.	• As-built drawing, and, • Post-construction site visit report	• Drawings confirm 173 cycle storage units. This significantly exceeds the required amount of 122. • Confirmation of provision of cyclist facilities including 140 lockers, 8 showers, a drying room, and changing facilities.
Manchester City Councils Green and Blue Infrastructure Strategy		
Green and Blue Infrastructure - The River Medlock runs close to the development site providing an attractive setting for external areas and associated amenities. This will provide an opportunity to encourage access to part of the city centre's Blue Infrastructure. Investment into the public realm in the form of public green space within the wider Circle Square development will provide a further steppingstone to overall improve connectivity and accessibility to Green and Blue Infrastructure within the city. The formation of gardens, and parks throughout the wider Circle Square development will be a key component as it will draw people through the development and to help create successful neighbourhoods and support the city's growth,	• As-built drawings, • Ecology Report and Recommendations, • Change in ecological value calculator • Site Environmental Maintenance Plan • Environmental Site Waste Management Plan, and, • Pollution Prevention Guideline (PPG6) checklist.	• An ecology survey was completed during the early RIBA stages, this included a list of recommendations, in which some have been implemented, to enhance the green infrastructure. There has been a 568% improvement in ecological value compared to pre-development site, and therefore significant biodiversity net gain. • Native and wildlife-friendly plants have been provided, as well as bat boxes. • Wider masterplan confirms the greenspaces provided across the site link to create wildlife corridors. • The Site Environmental Maintenance Plan confirms the inclusion of all pollution prevention controls have been discussed and implemented.

ESS Requirements	Evidence Provided	Comments
as well as creating ecology corridors to enhance ecology both on-site and within the wider area. Pollution Prevention Guidance will be adhered to by the main contractor in respects to air (dust) and water (ground and surface) pollution during the demolition and construction phase to prevent any degradation of existing Green and Blue Infrastructure.		• PPG6 checklist includes best practice and how air (dust) and water (ground and surface) pollution has been managed throughout construction.

4. LIMITATIONS

There were a number of limitations in collating the appropriate information to verify the requirements of the Environmental Standards Statement (ESS).

As a result, there are several items of evidence that are yet to be resolved, as follows:

- As specified in the ESS, **Water Efficiency Strategy,** including 'A' rated appliances (washing machine & dishwasher), will be provided however, these were not installed entirely or had no rating available (WC, shower, WHB). However, the equipment installed is of a low flow specification.

- As specified in the ESS, **Indoor Water Use**, the sanitary fixtures are to achieve a calculated consumption in line with a 50% improvement over the BRE baseline. However, they have only achieved a 36.31% improvement. However, the development did still receive two credits for Wat 01.

- The ESS specifies within the **Ecological Recommendations** section that bird boxes are to be introduced. However, whilst this has not been implemented, there has still been a significant biodiversity gain on the development, including the installation of bat boxes.

5. CONCLUSION

This verification report is intended to assist with the discharge of the following planning condition applied within the Decision Notice for this site (ref. Decision Notice: 134288/FO/2022):

Planning Condition 12 –
'The development hereby approved shall be carried out in accordance with the targets set out within the CIRCLE SQUARE NO.3, MANCHESTER, ENVIRONMENTAL STANDARDS STATEMENT, JUNE 2022 REF: 2021.305 by Element Sustainability. A post construction statement shall be submitted within 12 months of occupation of the development.'

This independent Verification Report responds to the developer's commitments within the Environmental Standards Statement (ESS) for the No.3 Circle Square development for Bruntwood Scitech in Manchester. This report has reviewed the assurances made by the developer/ contractor at the pre-construction stage and confirms the key issues have been implemented.

The site visit and subsequent information received from the developer/ contractor demonstrates this scheme has been designed and built in accordance with all commitments (with the exception of those outlined in Section 4) specified in the Environmental Standards Statement. The specifications designed to ensure that sustainability standards have been achieved are as follows:

- Fabric led energy strategy - The proposed approach to emissions reduction for the new build apartments is through a fabric led energy strategy, in accordance with the principles of the energy hierarchy.

- Building Emission Rate & Fabric Energy Efficiency - The building improves upon the minimum requirements of Building Regulations Approved Document L 2013 England.

- Efficient Mechanical and Electrical Systems – Confirmation of the installation of Air Source Heat Pumps and PV panels. The development also utilises high efficiency LED lighting in conjunction with a Fan Coil System and Mechanical Ventilation with Heat Recovery (MVHR).

- Photovoltaic Panels - The BRUKL confirms energy production is higher than the targeted amount per kWh/m²/yr

- Space Heating Strategy - The proposed space heating strategy for the building is provided by a high efficiency, full electric system to meet the limited energy loads generated by the apartments.

- CIBSE TM54 - Target has been achieved through the calculation of the total energy output divided by the floor area equating to 48.4 kWh/m^2/yr.

- NABERS – Achieved the target of a 5-star rating from the NABERS scheme.

- Life Cycle Assessment – LCA's undertaken in line with BREEAM requirements and final carbon figure falls below the scheme's carbon target of 667kgCO2/m^2 of embodied carbon.

- Efficient Water Fixtures - Specification of efficient water fixtures throughout the scheme (low flow taps and showers, dual flush WCs and low volume baths).

- Previously Developed Land – The proposals include for the redevelopment of a previously developed, brownfield site as promoted by national and local planning policy. The re-use of the piece of land in a highly accessible, city-centre location will provide a development that inherently supports a sustainable community while creating opportunities for employment and enjoyment.

- Global Warming Potential (GWP) of Insulants - Insulating materials used have a GWP of less than 5 throughout the development to reduce the construction phase impact of this scheme upon climate change.

- Pollution Prevention Guidance - Pollution Prevention Guidance were adhered to in respects of air (dust) and water (ground and surface) pollution during the demolition and construction phase.

- External Lighting Controls - External light fittings are be controlled through a time switch, presence detection and daylight sensors, to prevent operation during daylight hours to limit the impact of artificial lighting for the development's residents and surrounding environment.

- Temporary Drainage and Pollution Prevention Measures - The development site is within the locality of the River Medlock. Where necessary, temporary drainage and pollution prevention measures were in place on site, including bunded areas and spill kits to prevent harmful chemicals / materials from draining to natural watercourses; and silt traps to ensure that suspended solids are removed from the drainage water.

- Dust Suppression Measures - Dust suppression measures were put in place as part of the Main Contractor's Environmental Management Plan, such that any potential risks to watercourses or the neighbouring properties are minimised.

- Environmental Impact of Materials - Materials with a low environmental impact throughout their lifecycle have been selected.

- Responsible Sourcing of Materials - Materials responsibly sourced from suppliers operating an Environmental Management System or procuring timber from FSC and PEFC sources, for example, were prioritised. Local sourcing of construction materials where feasible and viable, occurred. Excavated material (such as soil and substructural elements) from construction and demolition works was reused, where practical, for landscaping purposes and within the public realm. Furthermore, robust materials have been utilised when constructing the hard landscaping and to use suppliers that promote materials that are non-toxic and non-polluting.

- Flood Risk of the Development – Flood Maps demonstrate that the majority of the Site is located within Flood Zone 1, however part of the Site also falls within Flood Zone 2, as per the Environment Agency Flood Risk Map. As such, pages 5-19 of the report provide design measures to mitigate the risk of flooding for the various sources of potential flooding.

- Management of Surface Water - The drainage strategy has incorporated the use of Sustainable Drainage Systems (SuDS) where appropriate throughout the site. The surface water drainage strategy for the site currently includes an attenuation tank, flow control chambers, smart filter chamber, smart gully filter adaptors, and tree pits/ filter strips. This will reduce the volume of runoff discharging into the public sewer system.

- Construction Waste - Best practice techniques to prevent and minimise waste arising during the design and construction phases of the development will be adopted, as follows:
    - Prior to commencement of the above ground construction phase, a site waste management plan (SWMP) was produced by the developer to limit the on and off-site environmental impacts of construction. The SWMP detailed the following:
        - Recycled and secondary materials;
        - Waste reduction;
        - Waste segregation;
        - Waste recovery;
        - Waste disposal.
    - The development achieved its targets to generate no more than 7.5 m^3 / 6.5 tonnes of construction waste per 100 m^2 Gross Internal Floor Area during construction.
    - This scheme promoted the minimisation of waste on site and seek to maximise the use of recycled materials in construction.
    - The site waste management plan identified opportunities to minimise waste generation and divert 100% of construction waste from landfill.

- Operational waste - A Waste Management Strategy has been prepared by Curtins Consulting Limited in order to consider the potential refuse and recyclable waste volumes at No. 3 Circle Square, including organic waste and for all uses of this development. The operational waste strategy for the scheme focuses on the segregation of waste at source, in order to maximise the potential for individuals to recycle. All individuals will be informed on collection frequency, as well as guidance on recycling and health and safety practices related to the management and storage of waste. The proposed strategy has been developed in compliance with the policies of Manchester City Council, stating that new developments and conversions must include a Waste Management Strategy that includes:
    - An estimated storage area for the waste produced by the development, including office and retail uses
    - Details of internal and external stores for both waste and recycling
    - Location of the proposed collection point and details of the route the collection will take.

- Daylighting - Good levels of natural daylighting were achieved, providing wellbeing benefits for the occupants and reduce the need for energy to light the building.

- Communal Space - The combined office, retail and café elements of the scheme enhance the character of the area and provide areas where people will want to spend their free time, supporting a vibrant, diverse and inclusive development

- Secure by Design - The security needs of the development achieved Secure by Design accreditation and adopted crime prevention measures to assists in reducing the opportunity for, and fear of crime.

- Safe Environment - The landscaped area facilitates natural surveillance and creates busy, overlooked routes at the site to reduce the opportunity for crime, creating a safer and more secure environment.

- Construction Site Impacts - Construction site impacts were minimised, with measures to protect water courses, as well as to prevent impacts upon the local area in terms of dust and noise pollution during construction works.

- Ecological Recommendations
  - Integration of the landscaping scheme into the wider site soft landscaping to increase permeability of the site to wildlife;
  - Use of native or wildlife-friendly tree, shrub and herbaceous species in any landscape planting, for example inclusion of species which provide nectar for invertebrates or berries to provide a food source for birds
  - Inclusion of bat roost features on built structure where the design allows, to increase opportunities for roosting bats, coupled with a suitable lighting strategy to avoid unnecessary lighting of any roost features.

- Transport Links and Local Amenities
  - The site benefits from excellent sustainable access opportunities and is well connected by existing walking and cycling routes to key trip attractors. Bus and train can also be used to easily access the site.
  - Residents are able to walk to local amenities and shops along Oxford Road; and the site benefits from very good links to local amenity space and recreational facilities.

- Green and Blue Infrastructure
  - The River Medlock runs close to the development site providing an attractive setting for external areas and associated amenities. This will provide an opportunity to encourage access to part of the city centre's Blue Infrastructure. Investment into the public realm in the form of public green space within the wider Circle Square development will provide a further steppingstone to overall improve connectivity and accessibility to Green and Blue Infrastructure within the city.
  - The formation of gardens, and parks throughout the wider Circle Square development will be a key component as it will draw people through the development and to help create successful neighbourhoods and support the city's growth, as well as creating ecology corridors to enhance ecology both on-site and within the wider area.
  - Pollution Prevention Guidance were adhered to by the main contractor in respects to air (dust) and water (ground and surface) pollution during the demolition and construction phase to prevent any degradation of existing Green and Blue Infrastructure.

In conclusion, the majority of the commitments reviewed within this ESS Verification Report for the scheme at Circle Square 3, Manchester have been met. Furthermore, the development has achieved the targeted BREEAM 'Excellent' rating (doc ref: BREEAM-0123-4368-1-1).

Bruntwood Scitech Limited have sought to deliver a development that responds positively to the commitments provided within the Environmental Standards Statement.