Planning Report
Policy CC1 Response
North Crescent

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Disclaimer

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Overview

The proposed project consists of two office space developments: Minerva House and Telephone Exchange– with a total GIA of 8,217m^2. Each building spans across five floors and contains refurbishment area as well as new build elements which require demolition. As per local policy requirements the project is to be assessed under BREEAM New Construction 2018 with a target rating of "Excellent".

The development is located in the London Borough of Camden and this Policy CC1 Response is provided to demonstrate the design team's resource efficiency considerations in relation to the demolition and extension part of the design. As such it will address parts e) and f) from Policy CC1 also listed in the Policy Context of this report. The report summarises the benefits of the relevant design choices with regards to the long term future proofing and sustainability of the development.

It has been established that implementing a refurbishment only will not be beneficial to the overall sustainability objectives of the proposal over the long term. The design team has carefully considered and implemented a balanced approach throughout design development where 87% of existing structure is retained and 84% of existing primary façades are retained in order to restore the listed building to its original fabric as much as possible and provide future flexible floorplates. The proposed scope of refurbishment, demolition and expansion will collectively contribute to the improved view, energy performance and future maintenance over the course of the building's life cycle.

The scheme will adopt the following key features to reduce the environmental impact of the demolition and extension part of the project:

- The development will reduce energy consumption by targeting improved U-values, airtightness and low energy lighting specification.
- The development will minimise embodied carbon through efficient design, procurement of materials from a local source, with a high-recycled content and prioritise manufacturers that provide take back schemes.
- The developer will ensure all materials are responsibly sourced and of low environmental impact where feasible.
- The developer will implement a site waste management plan and stringent resource efficiency benchmarks including 80% volume and 90% tonnage of demolition waste diverted from landfill.

Key Sustainability Measures

In summary, the key measures incorporated to meet CC1 planning requirements in relation to resource efficiency address the following key areas of sustainable design and construction:

- Energy and CO_2
- Adaptation to climate change
- Waste
- Materials
- Health and wellbeing

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Sustainability Introduction

The design team has significant experience in delivering schemes that are considered highly sustainable, either through application of formal green building rating systems, such as BREEAM and Home Quality Mark, as well as applying benchmarks from standards such as Passivhaus Design and adopting precedents from industry exemplary sustainable developments.

The scheme will reflect the holistic nature of sustainable development in the London Borough of Camden. The development will provide much needed high-quality office space and will use local labour to boost employment. Health and wellbeing will be incorporated in the design by maximising daylighting, utilising healthy materials and contributing to the alleviation of fuel poverty in the region. The ecological value of the site will be maintained, protected and enhanced through incorporating measures such as an area of green wall in the lightwell of Telephone Exchange.

Description of Development

The proposed project consists of two office space developments: Minerva House and Telephone Exchange- with a total GIA of 8,217m^2. Each building spans across five floors.

Minerva House is an existing Grade II listed building and includes refurbishment and an additional floor extension to the north side of the building. Telephone Exchange includes existing areas to be refurbished as well as additional new construction elements, including a one storey extension, plant, minor demolition works associated with internal and external alterations to provide additional office accommodation and associated works.

The development is in the London Borough of Camden and the associated Policy CC1 Response will be provided as evidence to the same borough's council, to demonstrate that demolition of some elements has been carefully considered and preferred over refurbishment as the best option for the long term sustainability of the development. The statement includes reference to a number of credits targeted within the BREEAM New Construction 2018 scheme for the project as these have been used to guide the team through developing a future proofing strategy for the site. The targeted score includes 57% of available credits in the Materials section and 80% of available credits in the Waste section.

The aspiration for the scheme is to significantly improve the existing site and its immediate environment by providing an efficient and inclusive development, which meets the policy recommendations of the London Borough of Camden. An elaboration on this could be found in the Sustainability Statement produced by Eight Associates in July 2021.

Figure 1: Existing aerial view of North Crescent.

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Local Context: Camden Local Plan 2017

The Camden Local Plan, published in July 2017, sets out the Council's planning policies. It responds to the Borough's unique characteristics and provides a comprehensive local policy framework to deliver Camden's future sustainable development. The Plan is supported by the supplementary planning documents 'Camden Planning Guidance' adopted in January 2021.

The Camden Local Plan states a key strategic objective as 'investing in our communities to ensure sustainable neighbourhoods'. This is complimented by further objectives embedded in the Local Plan that define the sustainability vision of the council.

Chapter 8 'Sustainability and climate change' within the Camden Local Plan lists key sustainability objectives for the Borough. The following strategic objectives are relevant to the proposed development and compliance with these will be demonstrated in this Policy CC1 Response:

8.3 – Policy CC1 Climate Change mitigation – Developments should reduce carbon dioxide emissions in line with the steps in the energy hierarchy. Developments should support this by ensuring the availability of sustainable transport options, optimising resource efficiency and encouraging sensitive energy use. All developments should:

a. promote zero carbon development and reduce carbon dioxide emissions through following the steps in the energy hierarchy;
b. demonstrate how London Plan targets for carbon dioxide emissions have been met;
c. ensure that the location of development and mix of land uses minimise the need to travel by car and help to support decentralised energy networks;
d. support and encourage sensitive energy efficiency improvements to existing buildings;
e. demonstrate that it is not possible to retain and improve the existing building; and
f. optimise resource efficiency.

For decentralised energy networks, decentralised energy should be promoted by:

a. working with local organisations and developers to implement decentralised energy networks in the parts of Camden most likely to support them;
b. protecting existing decentralised energy networks (e.g., at Gower Street, Bloomsbury, King's Cross, Gospel Oak and Somers Town) and safeguarding potential network routes; and
c. requiring all major developments to assess the feasibility of connecting to an existing decentralised energy network, or where this is not possible establishing a new network.

To ensure that the Council can monitor the effectiveness of renewable and low carbon technologies, major developments will be required to install appropriate monitoring equipment.

A number of Camden Planning Guidance (CPG) documents were adopted in January 2021 to support the policies in the Camden Local Plan and form supplementary planning documents (SPDs) for planning decisions. The Energy efficiency and adaptation CPG has been used by the team as guidance on how to address requirements e) and f) from Policy CC1. The following topics informed discussions carried out by the design team throughout Concept Design Stage of the project:

- Existing building uses
- Mechanical, Electrical and Plumbing Servicing
- Technical surveys
- Site capacity

Existing building uses
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Existing operational building function

The existing site comprises of two office buildings facing North Crescent, built in 1912 which include lower ground, ground floors and three levels, with an overall GIA of c.5,513sqm as existing. Minerva House (west) is a Grade II listed building designed by George Vernon. Whilst Telephone Exchange is not listed, both buildings are located in the Bloomsbury Conservation Area. The Eisenhower Centre, a deep level shelter build in 1942, is located directly south of the site. Furthermore, the Rangers Memorial which is Grade II listed is also located within the crescent.

Due to the architectural value of the site, the proposal's main priority has been to restore, refurbish and retrofit which is in line with Policy CC1 requirement f) as well as the Development options listed in the Energy efficiency and adaptation CPG. As part of the design development, key consideration has been given to the existing fabric and the following arguments put forward in favour of demolition of the fourth floor of Minerva House (North side) and the demolition of fourth floor at Telephone Exchange (South side) to enable a seamless vertical extension at the rear (North) part of the latter building from second to fourth floor:

Functional and visual improvements:

- Removal of retrofitted items and restoration of building closer to its original fabric;
- Removal of unsightly piecemeal plant at fourth floor level for Minerva House and third and fourth floor level for Telephone Exchange;
- Removal of piecemeal facade mounted external plant;
- Existing loadbearing masonry at Telephone Exchange is not compliant with current disproportionate collapse regulations whereas new façade elements will meet current standards;
- Removal of non-original mansard and replacement with high quality extension floor;
- Removal of underused / existing external refuse store within lightwell and replacement with efficient, high quality core;
- Removal of several external escape stairs and replacement with a consolidated escape route;
- Existing roofs do not appear to have sufficient structural capacity to act as an office floor and as a floor plate, due to the existing raised lantern to the lower roof and the raking mansard to the 3rd floor roof.

In line with Policy CC1 requirement e) the above arguments demonstrate that refurbishment of the building in order to provide a long-term resilient structure is not possible without partial demolition:

Energy performance improvements:

- Removal of underperforming windows to assist with Part L compliance though improved energy performance, air tightness, reduced solar gain through higher performing glazing;
- Replacement of piecemeal facade brickwork at Telephone Exchange with consistent, high quality design and energy performance.

As demonstrated in the energy assessment carried out by Thornton Reynolds, the existing building envelope U-values for Minerva House will not match Building Regulations targets. This is an example of how the listed nature of a building can impose challenges on achieving current standards of energy efficiency and therefore why the refurbishment of Minerva House is excluded from the Part L assessment requirements as a listed building. Theoretically, upgrades through internal insulation can be achieved, however, air leakages through the façade will likely remain and optimisation of NIA will also be hindered. The case with Telephone Exchange is slightly different as the refurbishment part of the envelope allows for changes other than glazing and thus it has been designed to meet Part L U-value thresholds. Therefore, in the design team's attempt to match functional proposals with client needs as well as Building Regulations, by demolishing parts of the two buildings and adding new elements to them a mutually beneficial scenario is achieved where NIA is not compromised, and site wide energy performance metrics are met. The site wide compliance with London Plan carbon emissions reduction target of 35% over Building Regulations is demonstrated in the Energy Assessment report produced by Thornton Reynolds.

In line with Policy CC1 requirement e) the above arguments demonstrate that meeting current energy efficiency standards to provide a truly sustainable building and appropriate thermal environment for occupants is not possible without the need for partial demolition.

Resource efficiency optimisation:

The design team has carefully considered the implication of fabric demolition to the environment in terms of carbon emissions and production of waste. In line with Policy CC1 requirement f) as demonstrated on p. 5 as well as well as p.8 of this report, material efficiency analysis and waste management processes have informed numerous decisions and have had a key role in the development of the design.

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Whole Life Carbon emissions:

Quantification of the environmental impacts of the refurbishment and new build elements has been carried out by Eight Associates during RIBA Stage 2. This is particularly in line with the recommendations related to Policy CC1 requirement f) listed in the Energy efficiency and adaptation CPG.

As demonstrated in the report by Eight Associates life stages A1–A5 (Construction materials, Transport to site and Construction/ installation processes) are significantly below the GLA benchmarks because a balance is achieved between refurbishment and new build parts of the project. Conversely, figures have been found to exceed the benchmarks detailed by the Greater London Authority with 149 kgCO2e/m2 for B–C life stages (Use, Maintenance and repair, Material replacement and refurbishment, Energy use, Water use, Deconstruction and Reuse, recovery and recycling potential). This is due to retaining a large proportion of the envelope and façade. Various options to further reduce the overall GWP have been suggested and a Technical Design Stage review of the life cycle assessment will endeavour to confirm which of these have been implemented.

Benchmark Comparison for office buildings

- A1–A5: 900 – 1,000 kgCO2e/m2
- B–C (excluding B6–B7): 400 – 500 kgCO2e/m2

Life stage	GWP ($kgCO_2e/m^2$)
A1– A3. Construction materials	147
A4. Transport to site	12
A5. Construction/installation process	8
B1. Use	–1
B2–B3. Maintenance and repair	3
B4–B5. Material replacement and refurbishment	107
B6. Energy use	514
B7. Water use	9
C1– C4. Deconstruction	40
D. Reuse, recovery and recycling potential	–5

Figure 2: Life stages

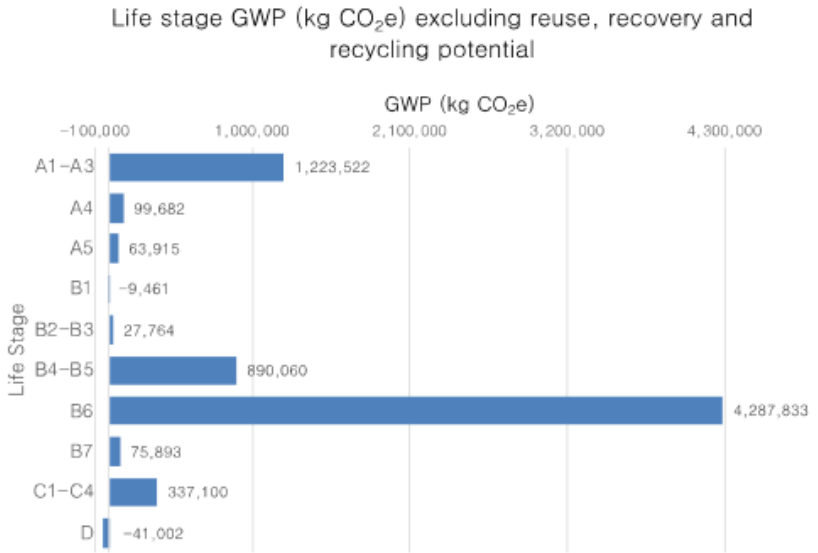

Figure 3: Life stage GWP breakdown over 60 years

Waste Resource Optimisation:

As per the targeted BREEAM Wst 01 credit for waste diversion from landfill, 80% by volume and 90% by tonnage of any demolition waste will be disposed in an environmentally responsible way through reuse on site, utilisation of take back schemes or disposal at a dedicated recycling centre. A pre–demolition audit will also be carried on site to determine whether refurbishment or reuse is feasible and to maximise the recovery of material for subsequent high grade applications.

The above has been deemed sufficient to demonstrate the commitment from the design team to ensure optimisation of resources use alongside responsible disposal of waste in line with Policy CC1 requirement f)

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Services specification

Table 1 includes the services specification for the proposed scheme.

FEATURE	Proposed Values Non-Domestic
Ventilation	Mechanical ventilation with remote zonal extract (see BRUKL report for details); Heat exchanger efficiency η= 72% (weighted combined TE and MH); SFP=1.6 W/l/s
Heating/ Cooling systems and DHW	SCOP=4.25 (heating); SEER=3.3 (cooling, based on partial loads calculations as illustrated in the NCM modelling guide 2013); SCOP=3.45 (hot water)
Controls	Central time control; Optimum start/stop; Local time control; Local temperature control; Weather compensator
Lighting	100 lm/W efficiency
LZC technologies	ASHP please refer to Heating; Monocrystalline PVs η=20% over 130 m^2

Table 1: HVAC specification

The combination of air source heat pumps and photovoltaic panels is among the most common and effective strategies to address the London Plan carbon emissions requirements. Based on the SBEM calculations carried out by Thornton Reynolds, total carbon emissions will be reduced by 56.84% and 64.29% over Building Regulations using draft SAP 10.0 carbon dioxide emission factors, for Telephone Exchange and Minerva House respectively, with the further inclusion of a proposed communal air source heat pump and photovoltaic panels. Therefore, the scheme meets and exceeds the target of overall 35% carbon reduction over Part L building Regulations as set out in the London Plan Policy SI2 as well as the Camden Local Plan Policy CC1.

As demonstrated earlier in this report and in line with CC1 requirement e), the energy efficiency calculations for the site have demonstrated that achieving an energy efficient building cannot be secured unless considerable upgrades are applied both through the means of refurbishment and demolition.

As part of the design development, key consideration has been given to the servicing strategy and the following rationale put forward in favour of the plant's full replacement in order to meet the relevant carbon emissions planning requirements:

- The existing envelope does not limit opportunities for meeting Part L and London Plan targets although there are listed elements of Minerva House that do not allow improvement in line with building regulation thermal properties. These still allow compliance with Approved Document L2B and exceeding energy statement GLA 35% improvement on carbon emissions;
- The plant upgrades required in order to achieve energy efficiencies and meet the desired ventilation and thermal comfort levels require existing roof plant spaces to be increased to match the new refurbished and extended increased massing building;
- Plant with optimum efficiencies matching the capacity required by the larger new building, will be used thus providing the benefit of allowance for flexibility in future change of use of the building;
- The roof plant CIBSE Life Expectancy factors for full replacement is 15–20 years, however good maintenance access and recommended regular attendance planned is required to achieve this anticipated longevity. Conversely, partial replacement and refurbishment of the plant will likely reduce this anticipated life expectancy and will not allow for flexibility in designing the plant so that it meets capacity requirements.

Material efficiency

The servicing strategy was raised in the future proofing session carried out by the BREEAM AP where resource efficiency and optimisation where discussed. The following considerations were noted for implementation in order to meet requirement f) from Policy CC1:

- Where possible central location of risers will be applied for universal design and minimisation of additional work on electrical and mechanical routes;
- Where applicable, layout and M&E will be designed for future tenant in mind to avoid the need for fixtures / fittings to be stripped out prior to their fit-out works;
- Bracing is to be moved to the perimeters to improve flexibility of the core.
- The M&E will implement various iterations to look at how services are routed in the most efficient way to reduce excess material use.

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Compliance with current legislation

Whole Life Carbon emissions

As per recommendations listed in the Energy efficiency and adaptation CPG relevant to Policy CC1, quantification of the environmental impacts of the refurbishment and new build elements has been carried out by Eight Associates during RIBA Stage 2. This included quantification of the structural mass loading. It has been demonstrated that life stages A1–A5 (Construction materials, Transport to site and Construction/ installation processes) are significantly below the GLA benchmarks because a balance is achieved between refurbishment and new build parts of the project (see figures on p.5). Therefore, it can be concluded that the new construction hasn't contributed hugely to the embodied carbon emissions of the project which is in line with both requirements e) and f) from Policy CC1.

Commentary on a number of reports produced for the scheme has been provided below in line with the recommendations listed in the Energy efficiency and adaptation CPG relevant to Policy CC1.

Energy performance of the façade

Based on the SBEM calculations carried out by Thornton Reynolds, the combined refurbished and new build elements of Telephone Exchange will reduce carbon emissions by 22.12% and the refurbished development Minerva House will reduce emissions by a further 27.40% from the fabric energy efficiency measures described in the 'Be Lean' section using SAP 10.0 carbon dioxide emission factors, respectively. Total carbon emissions will be reduced by 56.84% and 64.29% over Building Regulations using draft SAP 10.0 carbon dioxide emission factors, respectively, with the further inclusion of a proposed communal air source heat pump and photovoltaic panels. Therefore, the scheme meets and exceeds the target of overall 35% carbon reduction over Part L building Regulations as set out in the London Plan Policy SI2 as well as the Camden Local Plan Policy CC1.

Air Quality

An Air Quality Assessment report was produced by Air Quality Consultants in July 2021 which demonstrated that the proposed development will not, generate any significant emissions during its operation as it will not generate a significant number of additional vehicle movements, and heat and hot water will be provided by air source heat pumps. The scheme has been assessed for both the impacts of transport and building operation against the Air Quality Neutral guidance and they were found to meet the requirements for AQN.

Air Quality Construction Impacts

The unmitigated risk to local sensitive receptors from emissions of dust and pollution from construction is deemed to be low. With the mitigation measures in place, the residual effects arising from the construction phase of the proposed development would be deemed 'not significant'.

Flood Risk

A Flood Risk Assessment and Sustainable Drainage Systems strategy have been developed by Heyne Tillett Steel in July 2021 where low risk of flooding from all sources has been confirmed. Surface water attenuation will be provided in the form of blue and blue green roofs. For the whole site, the proposed sustainable drainage measures will provide a 76% betterment on the existing surface water run–off rates. This results in a significant reduction in peak run–off rates compared

Acoustic Performance

Temple were commissioned by Thornton Reynolds Ltd in January 2021 to undertake a noise impact assessment to demonstrate compliance to Policy A4.

Camden Council has expressed their requirement that the external rating noise level LAeq emitted from this building services plant to be lower than the background sound level LA90,15mins by 10dBA (15dB if tonal components are present) at the most noise sensitive receptors at surrounding premises. Based on the manufacturer's data for the noise levels of the proposed roof level plant, it is predicted that noise emissions will be adequately controlled during both the daytime and night–time as they are at least 10dB below background sound level LA90,15mins.

Ecology survey

A preliminary ecological appraisal was carried out by Eight Associates in February 2021. The site was found to have low ecological value, providing limited habitat for roosting bats and nesting birds. It has been advised that one bat detector survey should be carried out between May and August 2021. The development is expected to have negligible impact on statutory sites near to the development.

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Material analysis

In addition to the Whole Life Carbon emissions assessment (see p.5), the design team has carried out material analysis of the façade composition to mitigate the high embodied carbon related to construction and the materials selected. •

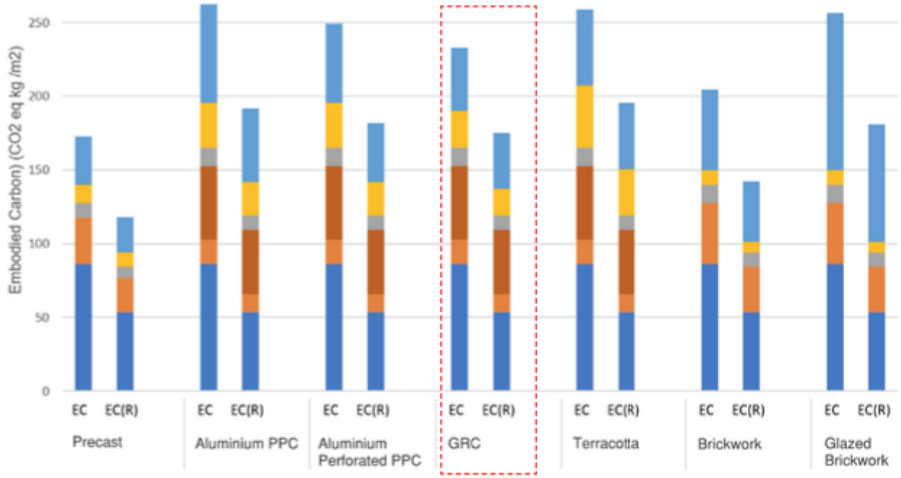

Figure 4: Embodied carbon analysis of seven key materials proposed for the façade composition

The design team has carefully considered the environmental implications of new fabric elements applied as part of the refurbishment and extension. As a result of the analysis, the design team decided to proceed with GRC for large portions of the extension façade, because of the related increase in precast embodied carbon from increase in structure and similarly for brickwork because of contextual narrative specification requirements that will likely contribute to increased embodied carbon. This demonstrates the team commitment to put material efficiency and carbon at the core of the design strategy which is in line with Policy CC1 requirement f).

Adaptation to climate change

The following considerations were made upon discussions of the proposed scheme's climate change adaptation strategy during the future proofing workshop carried out by the BREEAM AP.

- Application of new elements will provide an opportunity to employ anodised aluminium panels with very light green tone which can help decrease material degradation and assist with minimising internal heat gains respectively.
- Installation of openable windows and natural ventilation panels blue roof to help alleviate overheating and reduce heat gains to the building.
- Any cladding proposed for the development will include a protective finish to protect from fading and UV damage.
- There are no features of the external facade that could cause any problems in high winds.
- The structure has been designed to allow for extreme levels of snow loading for the extreme weather event in accordance with BS EN 1991.

It is believed that the above features of the new build structure will contribute to the protection of the façade degradation and expand the lifetime of the building which would not be possible if the scope was to incorporate only refurbishment of the building. This is considered to be an additional justification for requirement e) from Policy CC1.

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Site use and capacity

The proposed five floor office space scheme will tie well into the surroundings which consist of mostly mixed-use developments that include ground floor retail units, commercial and public spaces as well as offices and residential mansions.

The vertical extension of the site enables the provision of a larger office space that also provides an interconnection between Minerva House and Telephone Exchange and thus more flexibility for the user fit-out arrangement. Due to load restrictions, the proposed extension is the optimum amount that could be applied to both buildings.

Functional adaptability of the space:

More flexible floorplates are created by locating 'long-life loose-fit' soft core within the existing lightwell, therefore minimising demolition to both buildings and enabling future reversal/alteration with minimal future demolition. In addition, the increased façade performance, plant replacement, centralised services and Shell & Core scope will collectively provide an internal environment that can facilitate easier change of use should this be required by a future tenant.

The following considerations have also formed part of the future proofing exercise carried out by the design team and led by the BREEAM AP:

- Demolishing the central core and lightwell walls of Telephone Exchange will provide a more flexible open-plan floor place with better future adaptability (Fig.5).
- Floors are open plan but can be divided for multiple tenants per floor. Risers would also allow for this.
- The frame would be designed within a uniform structure where possible to allow for ease of cladding / glazing replacement.
- Finishes would allow for re-routing and rework of infrastructure as beams have more holes than required in Telephone Exchange.
- The plant room would have additional capacity to accommodate additional equipment if changes in ventilation were required in the future.
- Opportunities for additional infrastructure installation (e.g., additional cooling load) are not limited by the current proposal.
- The heating / cooling units would be zoned with separate controls to allow for potential changes in building layout if required in the future.

Figure 5: Existing lightwell to be replaced by centralised core

- The core plant would be usable should there be need to implement change of use as offices generally have highest demand for heating, cooling and hot water.

The above arguments are considered beneficial to the long-term material efficiency and optimisation of space relative to requirement f) from Policy CC1.Based on the functional adaptability study outcomes and design team's discussion it is believed that the proposed scheme will only enhance the adaptability of the space and thus allow for greater future value and longer lifetime of the building.

The following Design Strategy and Construction sections of this report further elaborate on the ways in which resource efficiency is addressed by the design team.

Design Strategy
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Design Stage Environmental Management

Designing for efficient resource utilisation has been discussed by the design team on several occasions including at a Future proofing workshop led by the BREEAM AP Eight Associates at RIBA Stages 1 & 2. Environmental impacts of the design will be mitigated as far as possible. This includes the incorporation of the following:

Responsible sourcing:

- All site timber will be responsibly sourced in line with the UK Government's Timber Procurement Policy.
- All timber will be FSC/ PEFC certified, all concrete will be BES 6001 certified, and any other material will be ISO 14001 certified for both key processes and supply chain/ extraction processes where feasible to do so. This is also reflected in the credits targeted in Mat 03 Responsible Sourcing of construction products under the BREEAM New Construction 2018 assessment of the scheme.
- The design team will reference the Green Guide to Specification to help specify materials with a low environmental impact, where feasible. The design will incorporate at least 5 build-up elements that will be A-C rated on the Green Guide.
- Insulation specifications will eliminate hydrochlorofluorocarbons (HCFCs) and ozone depleting materials, wherever possible. All insulation specified will have a Global Warming Potential (GWP) of less than 5 and be responsibly sourced to have a low embodied impact.

Resource efficiency considerations:

- Recycled aggregates would be included in the specification if considered feasible at technical design stage.
- Adhere to shell & core scope to enable full flexibility for future tenants.
- Common areas will be finished using standard size materials where feasible, e.g., ceiling tiles and carpet tiles and tiling would be utilised within the core areas to reduce potential cut-off waste.
- Service routing will be designed to reduce excess use of material.
- Specification of British Gypsum or similar approved suppliers for plasterboard that provide take-back scheme.
- The cladding will be a built up system, that allows for panels and insulation to be removed separately and recycled.
- The building will be designed with intention for ease of deconstruction, concrete can be crushed and re-used, roof and wall cladding systems can be cost effectively dismantled, and the steel within the system either re-used or more likely recycled, meaning that some of the initial 'unavoidable' embodied CO2 can be recovered during the recycling process.

Embodied Carbon Analysis:

The development will utilise a number of opportunities to cut embodied carbon, as follows:

- A materials efficiency strategy will be followed throughout the design, procurement and construction stages of the development, to ensure the scheme produces less waste on site. For example, adjustment of some sizes will be made to minimise offcuts of materials, and some bespoke materials will be developed off-site;
- Materials will be procured from the local area where possible, to reduce carbon through transportation;
- Materials and products with a higher recycled content will be preferentially procured where feasible, as these have a low embodied carbon;
- Consideration has been made to use timber as a low embodied carbon alternative to steel and concrete where possible.

The scheme will therefore meet and exceed the requirements set out in 8.18 of Chapter 8 'Sustainability and climate change' within the Camden Local Plan.

Construction Strategy
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Construction Stage Environmental Management

Environmental impacts of the construction works will be mitigated as far as possible. This will include the incorporation of the following:

Construction resource management:

- Contractor will follow environmental management system processes (under ISO14001), including the development of a construction environmental management plan (CEMP) specific to the sites;
- Management of waste on site to produce no more than 7.5m^3 of construction waste per 100m^2 or 6.5 tonnes per 100m^2 to meet BREEAM NC 2018 credit requirement Wst 01.

Construction carbon emissions management:

- Training and site induction of all site operatives;
- Monitoring of energy, water, and transport to and from site during construction;
- Minimising vehicle emissions through the use of catalytic converters and the regular maintenance of vehicle engines;
- Restricting vehicle speeds on haul roads and other unsurfaced areas of the site.

Material efficiency management and material protection:

- Ensuring all site timber is responsibly sourced in line with the UK Government's Timber Procurement Policy;
- Damping down of brick walls etc. during any building demolition;
- Regularly inspecting and wet suppressing materials/soil stockpiles where necessary (including wind shielding or completely enclosing, storing away from site boundaries, and restricted height of stockpiles);
- Appropriate orientating of material stockpiles;
- Providing wheel washing and wet suppressing during the loading of wagons vehicles;
- Covering vehicles carrying dry soil and other wastes;
- Shielding of dust-generating construction activities;
- Providing suitable site hoarding.

Considerate constructors:

The scheme will adopt the principles of the Considerate Constructors Scheme (CCS). The CCS scheme aims to recognise and encourage construction sites that are managed in an environmentally and socially considerate, responsible and accountable manner.

Conclusions
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Conclusions

This Policy CC1 Response has responded to the London Borough of Camden's local planning policy CC1 e) and f) requirements.

It has been established that implementing a refurbishment only will not be beneficial to the overall sustainability objectives of the proposal over the long term. The design team has carefully considered and implemented a balanced approach throughout design development where 87% of existing structure is retained and 84% of existing primary façades are retained in order to restore the listed building to its original fabric as much as possible and provide future flexible floorplates. The proposed scope of refurbishment, demolition and expansion will collectively contribute to the improved view, energy performance and future maintenance over the course of the building's life cycle.

In summary the scheme will adopt the following key features to reduce the environmental impact of the demolition and extension part of the project:

- The development will reduce energy consumption by targeting improved U-values, airtightness and low energy lighting specification.
- The development will minimise embodied carbon through efficient design, procurement of materials from a local source, with a high-recycled content and prioritise manufacturers that provide take back schemes.
- The developer will ensure all materials are responsibly sourced and of low environmental impact where feasible.
- The developer will implement a site waste management plan and stringent resource efficiency benchmarks including 80% volume and 90% tonnage of demolition waste diverted from landfill.