

# Renovation and extension of No. 9 George's Place, Kelly's Avenue, Dún Laoghaire

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## DEMOLITION JUSTIFICATION STATEMENT



February 2025



## Document Verification

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<b>Client:</b>	Dún Laoghaire Rathdown County Council
<b>Project Name:</b>	Renovation and extension of No. 9 George's Place and of the former Wash House, Kelly's Avenue, Dún Laoghaire.
<b>Project Ref:</b>	24139
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## 1. INTRODUCTION

### 1.1. General

STEM Consulting Engineers have been appointed to prepare the following Demolition Justification Report for the proposed works; the renovation and extension works at No. 9 George's Place and the former Wash House, Kelly's Avenue, Dún Laoghaire.

The proposed project involves the renovation and extension of two vacant protected structures on a corner site at George's Place and Kelly's Avenue, Dún Laoghaire to provide a creative hub. The renovation will consist of upgrading and extending the buildings to improve energy efficiency, provide universal access and to bring the buildings back into use. No. 9 George's Place is a two-storey over basement, four-bay building built in 1831 as a hotel building (484 sqm). There is a two-storey lean-to extension to the north-west of no. 9 George's Place which is in very poor condition. It is this extension which is planned to be demolished.

The detached, two-storey, red-brick washhouse was built in 1915 on a tripartite plan with central staircase (161 sqm). The existing two-storey lean-to extension to the north-west of no. 9 George's Place will be demolished and replaced with a new four-storey extension to accommodate the new use and to provide universal access. Upgrading will be required to the former Wash House building to accommodate the new use and provide universal access. The external courtyard between the two buildings will be retained as a courtyard space to facilitate access and circulation between the two buildings. The future use of the building is currently to be determined through public consultation. It will be non-residential educational /creative use with community benefit.



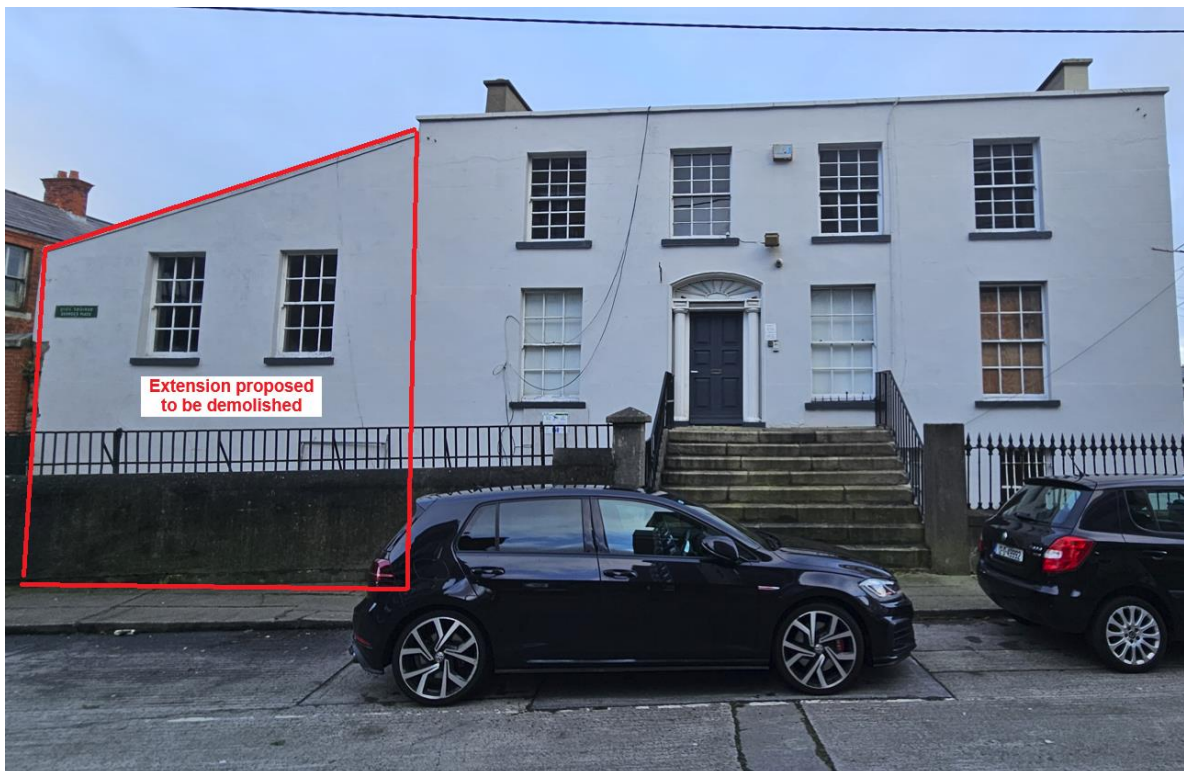
Figure 1: Site Location- (Ref: Google Maps)



Figure 2: Photo of existing building (No. 9 Georges Place)



**Figure 3:** Side extension, highlighted, which is proposed to be demolished



**Figure 4:** Side extension, highlighted, which is proposed to be demolished (South-West elevation)



**Figure 5:** Side extension, highlighted, which is proposed to be demolished (North-West elevation)

## 1.2. Proposed Site

The proposed development comprises the complete demolition of the existing two-storey lean-to extension to the north-west of No. 9 George's Place and replaced with a new four-storey extension to accommodate the new use and to provide universal access

The new structure will be built to current building standards with efficient thermal qualities that will increase the overall BER and operating efficiency of the development. This will lead to a reduction in energy consumption and carbon emissions.

A new surface water drainage system has been designed for the development which will, in normal circumstances, prevent any surface water generated from the site entering the existing combined public foul sewer, thus reducing the risk of this sewer surcharging during times of heavy precipitation. This will reduce the flows to the wastewater treatment plant and therefore also reduce ongoing energy required to pump and treat the water.

With the addition of new green roofs and bio-retention planters around the proposed property, the visual amenity of the site will be improved.

## 2. DEVELOPMENT & SITE ASSESSMENT

### 2.1. Reference to DLR County Development Plan

The Dun Laoghaire-Rathdown County Council Development Plan references promoting development while taking into consideration the embodied carbon of existing structures on site and reuse and refurbishment of same. Relevant extracts are provided below and considered in this Demolition Justification Statement.

#### **Clause 3.4.1.2– Retrofit and Reuse of Buildings**

*It is a Policy Objective to require the retrofitting and reuse of existing buildings rather than their demolition and reconstruction where possible recognising the embodied energy in existing buildings and thereby reducing the overall embodied energy in construction as set out in the Urban Design Manual (Department of Environment Heritage and Local Government, 2009). (Consistent with RPO 7.40 and 7.41 of the RSES).*

### 2.2. Diagrammatic Assessment of Site Potential

The proposed development satisfies the requirement of the objective above. In respect of the section “Climate Action” and “Existing Buildings/Structures” the necessity to demolish the existing portion of no. 9 to comply with the above objectives arises out of;

1. The section of No. 9 Georges Place which is to be demolished is in poor condition with serious roof leaks and water damage, wet rot, collapsed floors and rising damp. Trying to maintain this section of the building will involve considerable expense and interventions.
2. The inability to properly develop the site and provide universal access without demolition of the existing side extension of No. 9 Georges Place.
3. The part demolition of No. 9 Georges Place represents the removal of a minority of buildings on the site, it represents 25% of the existing buildings footprint. See diagram 1.
4. The new building to be constructed on the demolished section will be a new landmark constructed to modern A-rated standards.

The location of the retained and removed portions of the buildings are shown in Figure 6 below.





**Figure 6:** Building footprints removed and retained identified

### 3. EMBODIED CARBON/ REFURBISHMENT VERSUS NEW BUILD

When the option of rebuild/retrofit is analysed under the environmental performance criteria, there are areas of major work required in order to upgrade the existing structure. The energy efficiency of the existing building is poor, mainly due to the façade, ground floor and roof elements being in aged condition, using outdated products as well as being built during a time where there was little concern for energy awareness and usage. As a result, there is considerable heat loss occurring through these fabric elements, as well as the glazing system, glazing frames and surrounds, thermal bridging routes, as well as general building fabric deterioration.

The existing building will require complete heating and thermal insulation re-design in order to provide a compliant, efficient residential solution in order to meet the recommended building regulations standards for energy efficiency: TGD Part L 2022 (Dwellings & Buildings Other Than Dwellings) Conservation of Fuel and Energy – Section 2 (Existing Buildings).

#### 3.1. Existing Building

To comply the Part L of the Building Regulations (Conservation of fuel and energy) the building if fully retained would require 'Major renovation' as defined in the Regulations necessitating full retrofit while still giving a lower energy rating than a new build.

The existing building structure consists of load bearing masonry walls with a mixture of external cement render. The internal floors are comprised of timber floor joists sitting on steel beams. The roof structure is timber also. There is a section external concrete floor slab which forms the plantroom. Both the steel and timber elements were not adequately protected against corrosion and are showing serious signs of degradation. We would recommend that this section of the property be demolished and rebuilt for health and safety reasons if no project was planned.

Granting permission to demolish this existing section of the building will enable the construction of a new house with minimum energy requirements (A rated), more efficient use of building materials and better energy saving efficiencies with materials used.

#### 3.2. Existing wall construction

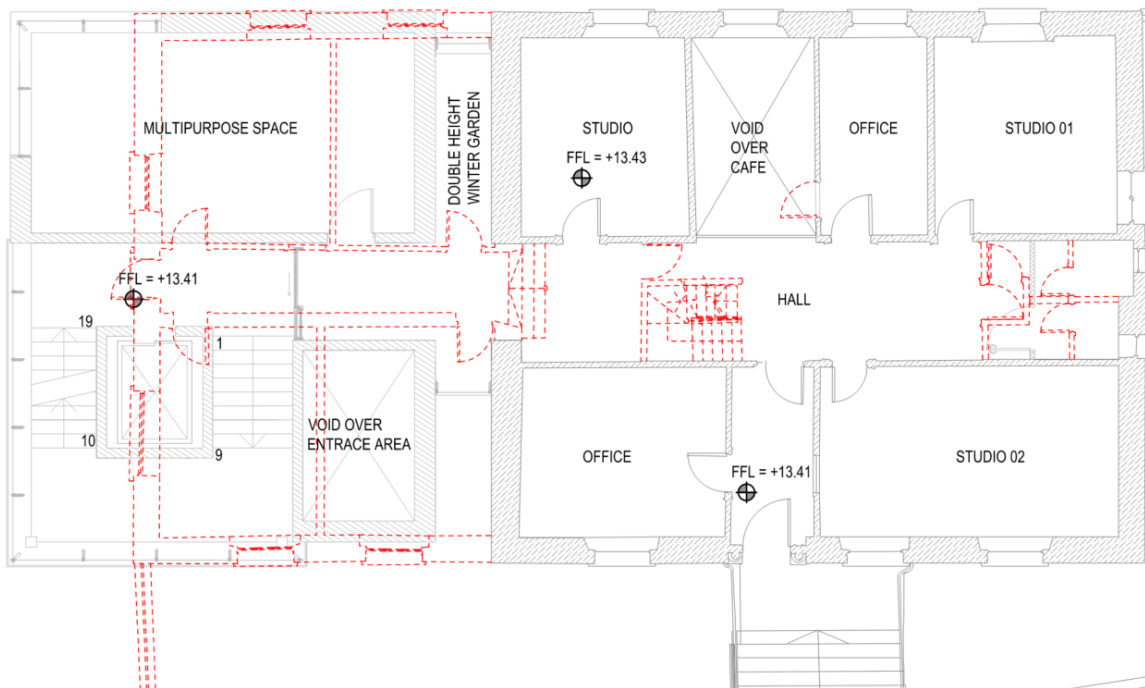
The existing building was constructed prior to the introduction of Building Regulations. We would expect that the building has no insulation present based on its age. When Building Regulations were introduced in 1991 the max allowable U Value for walls was 0.45 W / m<sup>2</sup>K. The current maximum U Value permitted under the Building Regulations for external walls is 0.18W/m<sup>2</sup>K. It would be very difficult to achieve these modern levels in this building based on its construction, mixture of façade types and split-level construction.

### 3.3. Existing floor Construction

Based on the age of the property, which predates the building regulations and modern insulation techniques, we would assume that there is no existing ground floor insulation. The maximum elemental U Value for floors is now 0.18W/m<sup>2</sup>K. On this basis the existing floor slab would need to be removed to allow for the thermal upgrade.

In demolishing the extension, recyclable materials will be separated and sent for recycling, timber (separated from plasterboard, copper, steel, glass etc). It is not proposed to crush concrete or blockwork due to the proximity of the site to neighbouring residences. If possible, items will be sent to salvage yards however these items will need to be assessed on a case by case basis as they are removed.

Due to the persistent damp issues and presence of wet rot the recycling of the timbers will be unlikely and not recommended.



**Figure 7:** Proposed scheme (at first floor level) with dashed red lines indicating Extents of Demolition (Structural walls denoted grey)

### 3.4. Predicted Waste Types

#### Non-Hazardous Waste:

- Concrete, masonry, stone
- Metals (segregated into iron, aluminium, high grade stainless steel, low grade stainless steel etc., where practical);
- Hard plastics;
- Plasterboard;
- Glass;
- Wood;
- Packaging (paper/cardboard, plastic, wooden, metallic, glass, textile, etc)
- General (non-recyclable) waste;
- Organic waste (shrubs, topsoil etc)

Wastes will be segregated into the above waste types where practical to ensure compliance with waste legislation and guidance while maximizing the recycling, reuse and recovery of waste with diversion from landfill wherever possible.

#### Hazardous Waste

The predicted hazardous wastes that will be generated as part of the demolition include the following:

- Numerous old car tires have been dumped in the ground floor room of the extension
- Lamps/lighting (fluorescent, mercury)
- Insulation materials (possible, but uncertain if present)
- Oil wastes and wastes of liquid fuels (possible, but uncertain if present)

### 3.5. Proposed Building

According to the GCCA 2050 Cement and Concrete Industry Roadmap for Net-Zero Concrete, 'Efficiency in Design and Construction' is the second largest area that will impact achieving net-zero carbon emissions by 2050.

As designers, STEM Consulting Engineers can lower the carbon impact by:

**Circular Economy:** Reuse of existing concrete by crushing into aggregate for reuse a hardcore under external paved areas.

**Reduce the use of Portland Cement:** Use of a minimum of 40% GGBS cement replacement in all concrete mixes.

**Use less:** Use of higher-grade concrete to reduce the size of concrete elements and thereby overall concrete volumes.

**Sustainable Materials:** Specifying the use of timber, OSB rather than plywood, Posi-Joist in lieu of solid timber.

## 4. CONCLUSION

A comprehensive site survey of the property was undertaken. This was in order to better understand the current condition of the property, as well as possible remedies/solutions.

There were several issues noted during this in-depth site survey, including:

- Defective cement render was incorrectly used to render solid external walls.
- Roof leaks which have serious damp issues within the building
- Moisture ingress/mould growth are present in various locations
- Wet rot is present in the roof, floor and embedded timbers
- Structural cracking noted to existing walls
- Structural steel beams have serious corrosion from the roof leaks and damp
- Rising damp present, probably cause by a lack of a damp proof course, DPC
- The fascia and soffits are degrading and require replacement.
- The gutters and downpipes are missing
- Air tightness rates are poor

The existing side extension of No. 9 Georges Place is poorly constructed, aged and does not lend itself to the level of change required for the proposed scheme. The removal of the side extension will allow the construction of a modern link extension which will enable the provision of a modern stairs and lift access, which the building currently lacks. This will allow the refurbished building to comply with current universal access requirements. As a result of the above points, as well as the detailed review carried out of the existing scenario, the proposed demolition of the existing building is the logical choice.

Given the outcome of the new build versus refurbishment we consider that in this case the demolition of the existing side extension to No. 9 Georges Place is justified and necessary for the successful completion of the proposed new scheme.

## APPENDIX A - PHOTOS



**Photo 1.** Front of existing property



**Photo 2.** Side of existing property



**Photo 3.** Rear view of No. 9, with extension to the RHS



**Photo 4.** External side view of extension with plywood removed



**Photo 5.** Internal floor of extension (First floor – front). Water damage has caused hole in floor



**Photo 6.** Internal floor of extension (First floor – front). Close up of hole in floor





**Photo 7.** Internal floor of extension (Ground floor)



**Photo 8.** Internal ceiling of extension (Ground floor) – Serious corrosion to steel beam evident