Renovation and extension of No. 9 George's Place and the former Wash House, Kelly's Avenue, Dún Laoghaire

10th February 2025

STEM CONSULTING ENGINEERS

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EXECUTIVE SUMMARY

The inspection of No. 9 Georges Place and the former Wash House building reveals two structures of historical significance requiring extensive but achievable conservation work to ensure their long-term stability and usability. While the walls and roof are in reasonable condition given the building's age and neglect, repairs are necessary to address structural vulnerabilities and prevent further deterioration of the building fabric.

The recommendations outlined in this report provide a clear path for rehabilitating the building while respecting its protected status and ensuring compliance with conservation best practices.

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1. INTRODUCTION

1.1. Purpose of this report

At the request of the client, Arthur Shirran, C.Eng., M.I.Struct.E., undertook an inspection of both No. 9 Georges Place and the former Wash House building on the 6th and 16th of January 2025. The purpose of the inspection was to assess the structural condition of the buildings, provide recommendations for necessary repairs, and outline the conservation work required to stabilise the structure while respecting its historical integrity.

1.2. Historical context

Please refer to the report prepared by Dún Laoghaire Rathdown County Council which details the history of the buildings in detail.

1.3. Background and scope of works

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.

2. NO. 9 GEORGES PLACE BUILDING

2.1.1. Walls

A. General comment

Considering the dilapidation and age of the property the external walls are in reasonable condition with some obvious cracking present and no serious evidence of subsoil movements of the walls at foundation level.

B. Vegetative growth

Observation: There is a limited and relatively minor amount of vegetation growing from and on the walls and surrounds, this is particularly evident on the side extension which is planned to be demolished. It is also present on the boundary walls, entrance steps and the pavement surrounding the building.

Recommendation: It is recommended that at the start of the works, or sooner if possible, that the vegetation is carefully cut back in a two stage process and roots treated using 'eco plugs', as they die off the roots should be carefully removed to avoid damaging the wall, and localised repairs repointing in lime mortar. See images 1 to 4.

C. Wall mortar joints and render

Observation: All the external wall elevations of No. 9 are covered with cement render. The cement render is cracked and debonded in places. This render is trapping moisture in the wet masonry wall behind and preventing the masonry from naturally drying.

Recommendations: The more modern interventions of cement render should be removed. Where it is impossible to remove certain areas of modern cement patches without causing further damage to the existing fabric, these can remain in place provided they are small areas. Finally, the building should be re-rendered with lime render system. This can be with either a full lime render coat system or a 'hold coat' of lime render skim where the outline of the stonework edges remains visible behind. A decision can be made on which system to use once the masonry wall is exposed and can be inspected.

D. Wall top

Observation: Full access was not possible to inspect the copings. Water is entering the building at present and while the majority of water seems to be via roof defects, these could be hiding other avenues of entry i.e. the copings.

Recommendation: The wall copings need to be inspected to ensure that they are secure, joints sound, and the flashing confirmed to be present and working correctly. See image 10.

E. Wall cracking

Observation: There are vertical and horizontal cracks visible to the external walls. It is not immediately evident whether these cracks are limited to the render or continue through the walls behind.

Recommendation: Once the existing cement render is removed it will be possible to identify any structural cracking to the walls. The wall cracking identified should be repaired by remedial crack stitching using stainless steel 'helifix helibar'. See extracts of this system below.

F. Timber lintels and built in timbers

Observation: As a result of numerous roof leaks, the external and internal walls are damp and in certain areas; saturated with water. Wet rot and woodworm were noted in exposed timbers.

Recommendation: There will be a significant number of in-built timbers present in this type of building e.g. lintels, wall plates, bond timbers. These will all be susceptible to wet and dry rot. The timbers will need to be exposed by removing the internal and external render/ plaster to inspect them and replace as necessary.

Window arch brickwork

Observation: There is cracking above some of the external window flat arches.

Recommendation: The cracking requires repair by remedial crack stitching using stainless steel 'helifix helibar' ties above the arch in the horizontal joints. Vertical helifix ties will then be inspected from the underside of the arch to retain it. The arch brickwork and soffit will require repointing. Again the removal of the external render will allow a full inspection of the lintels and the remedial works required.

2.1.2. Chimneys

Observation: The four (two front and two rear) external chimney stacks all appear to be saturated.

Recommendation: The flashing to the chimneys needs to be repaired to prevent water entering the chimney stacks. The unused chimney stacks should have vented covers installed, to be agreed with the architect, along with a vent at fireplace level to allow through airflow. An internal chimney survey should be undertaken by a specialist to check for hidden defects and cracking as part of these works.

2.1.3. Roof

Observation: The roof of the main building is of slated twin apex construction with a centre valley and front parapet valley. There is a more modern lean-to roof on the left-hand side covering the later extension to the original building. There are several leaks occurring throughout the roofs. Severe leaks are occurring through the centre valley and the front parapet valley. The roof timber wall plate below the centre valley has decay from wet rot and active woodworm infestation in the accessible roof rafters. The roof cross ties are 38mm wide x 90mm deep at 300mm c/c and the roof rafters are 38mm wide x 100mm deep at 300mm c/c.

Recommendations: The lean-to roof will be removed as part of the demolition works.

For the main roof of the original building, the roof timbers will require a full inspection. Roof repairs and valley replacement will be required to prevent further and future water ingress. The existing timber rafters and ceiling ties should be inspected and retained in place where possible, but with new roof members adjacent, if necessary, where the original member is not suitable for use as a support member. Some timber will need to be replaced, and the remainder will need to be treated for rot and woodworm infestation. The purpose of this is to retain the original fabric where possible but not to compromise the new roof structure by using members of questionable strength as a result of the exposure they have suffered. Any new slate repairs should match the existing natural slates as per the original. Architect to advise also but reclaimed Blue Banger or Spanish slates are options.

2.1.4. Front entrance steps

Observation: Stone front entrance steps require waterproofing on the reverse side should the space be required for habitable space.

Recommendation: Confirm whether this space will be used and continue tanking up and under steps as necessary.

2.1.5. External features

Observation: There are numerous external features that can be retained and require repair and should be protected during the works.

Recommendation: The following items should have additional measures of protection during the building works to avoid further damage, along with repair works:

- The stone pillar on the corner of the boundary wall. The exposed built in iron plate has corroded, thus expanding in the process, pushing the granite stone apart. The iron plate should be removed and the stone elements removed and reset.
- Iron railings. The wrought iron railings surrounding the building and forming the edge protection on the entrance steps are damaged and require repair. They should be dismantled by a specialist metalwork contractor and taken to a workshop to be repaired using traditional forge techniques. Then returned to site and refitted in the new plinth sockets and fixed in place with molten lead.
- Cast iron rainwater goods. The cast iron sections of downpipe can be removed, cleaned, repaired by a specialist and reused where possible. Additional savaged sections will be required to replace missing sections.
- Obsolete wires fixed to building. There are many obsolete wires fixed to the building. These should be removed and any damage to the walls caused by the fixing repaired.
- Boundary wall and railing plinth. The boundary wall render is badly crack particular close to the base. The render should be removed to allow an inspection of the wall beneath to allow a rectification of the issue. The walls and plinths can then be rendered following the repairs.
- The courtyard weight bridge. It is intended to retain in place the weighbridge, with minimal works to expose details which are currently covered by grime.

2.2. Internal Structure

2.2.1. Lower ground floor

Observation: The lower ground floor slab is a relatively modern intervention. It is composed of 110mm deep concrete slab on a light gauge plastic sheet on subsoil. There is no insulation present. This was confirmed by opening up works.

Recommendation: We recommend that the existing concrete slab is removed and a modern breathable Limecrete floor is installed with underfloor heating, on compacted foam glass aggregate. Radon sumps with a capped outlet vent pipe to perimeter should be provided. Also, a new French drain will be provided to the perimeter wall. See example of floor construction below.

Figure 1. Example of 'breathable' limecrete floor

2.2.2. Upper ground floor and first floor timbers

Observation: The suspended timber floors span from front to back, from the external walls onto the internal corridor walls. The floors joists have a maximum span of 4.1metres and are 38mm wide x 175mm deep at 300mm c/c. The proposed use of the building post-works will be as a gallery with studio spaces; therefore the design-imposed load will be between 3-5 kN/m^2, the floors will need to be strengthened to support these loads.

Recommendation: The floor joists at first and upper ground floor levels should be fully exposed for examination particularly along the front, rear and centre spine walls. All joists with excessive notches and/or rot will need to be repaired/ replaced. All retained roofing, flooring and stairs timbers should be treated by liberal spray method using a dual-purpose fungicide & insecticide

2.2.3. Roof plastered ceiling

Observation: Many areas of the ceilings are still present; however, sections of ceilings are in very poor condition with mildew staining and collapsed sections.

Recommendation: It will be difficult to retain the damaged portions of the existing plasterwork ceiling remaining. But as this is desired the following should be undertaken. All loose and failed sections of plaster should be removed. The remainder should be inspected and the reverse side checked to ensure that the timber laths are in good condition and that there enough plaster present around the laths to provide a sound key, and that it is uncracked. The plaster can then be pinned in place. Finally, if doubts remain as to the structural stability of the ceiling, a new ceiling can be installed below the existing. This will keep the original intact, while providing a modern ceiling below.

2.2.4. Wall bonding timbers/ timber embedded in walls

Observation: There are many instances where timber has been embedded in the walls for wall fixings or other reasons.

Recommendation: All damp or stained internal wall plaster should be removed to allow the masonry to dry out and to expose any hidden in-built bond timbers to allow an examination. Where the timber is sound, maintain in position. Where the timber is rotten or in poor condition remove and fill resulting hole. If the hole to be infilled is large use stone and lime mortar. If long and thin, use slate or thin mudstone and lime mortar. Ensure the masonry is treated by liberal spray method using a dual-purpose fungicide & insecticide.

2.2.5. Timber lintels over window and door openings

Observation: Based on the damp issues there are probably many instances where the timber lintels are in poor condition.

Recommendation: As above. All damp or stained internal wall plaster should be removed to allow the masonry to dry out and to expose any hidden timbers to allow an examination. Where the timber is sound, maintain in position. Where the timber is rotten remove and replace with either new timber lintels: oak or pitch pine timber lintels or if the budget does not allow, precast concrete beams. Ensure the masonry is treated by liberal spray method using a dual-purpose fungicide & insecticide.

2.2.10. Internal plaster

Observation: Sections of internal wall plaster are extremely damaged from water ingress. It will be difficult to retain all the plaster as much has debonded and is in poor condition.
Recommendation: All loose and failed sections of plaster should be removed. The remainder should be inspected once dry and an assessment made. Where it is deemed possible to savage, the plaster should be pinned back to wall behind and a lime plaster skim covering added by a specialist.

2.2.11. Algae growth to walls

Observation: There are areas of algae growth present on the interior walls and floors.
Recommendation: Carry our remedial works outlined in sections replated to plaster and ceiling above but first and wash the affected areas with a dilute bleach wash and allow to thoroughly dry.

2.2.12. Built in timber shelves, Coving, timber rails

Observation: Areas of built in timbers shelving, stairs and rails remain
Recommendation: These seem to non-original elements of the building, the architect and client should advise and decide whether to retain or remove.

2.3. Areas of particular attention for repair (unsafe)

2.3.1. First floor level of side extension, Northwest room

Observation: As a result of the serious water ingress over time the floor has failed, resulting in a hole in the floor. The remainder of the floor is also unsafe and could collapse.
Recommendation: This section of the building is scheduled for demolition but before this occurs the floor should be propped and the hole covered to prevent injuries from falls.

2.3.2. First floor level of side extension, corridor

Observation: The ceiling is unsafe and is liable to collapse. It is currently propped.
Recommendation: This section of the building is scheduled for demolition but before this occurs the ceiling props should be maintained in position to avoid injuries from falling debris.

4. THE FORMER WASH HOUSE BUILDING

4.1.0. Structural form

This is a 2-storey red brick building. The stairs and first floor levels are of concrete construction. The apex roof is a combination of corrugated steel, plywood covered with felt and glass panels. The ground floor has been very recently renovated with dry lining on the external walls and modern finishes throughout.

4.1.1 Walls

A. General comment

Considering the dilapidation and age of the property the walls are in reasonable condition with some obvious cracking present and no serious evidence of subsoil movements of the walls at foundation level.

B. Vegetative growth

Observation: There is vegetation growing from and on the walls and surrounds, this is particularly evident on the rear elevation. It is also present on the pavement surrounding the building.

Recommendation: It is recommended that at the start of the works, or sooner, if possible, that the vegetation is carefully cut back in a two-stage process and roots treated using 'eco plugs', as they die off the roots should be carefully removed to avoid damaging the wall, and localised repairs repointing in lime mortar. See images 4, 7 and 8.

C. Wall mortar joints and render

Observation: All the external wall elevations of the Wash House are exposed brickwork, with a small section of the front elevation rendered with cement render. In numerous areas of the external wall elevations the original lime in the mortar joints have been 'washed out' resulting in recessed mortar joints. In certain areas, past attempts were made to fill the resultant gaps with cement which is unfortunate.

Recommendations: The more modern interventions of cement render should be removed. Where it is impossible to remove certain areas of modern cement patches without causing further damage to the existing fabric, these can remain in places provided they are small areas. The remaining gaps in the mortar joints should be repaired/ filled with lime mortar. See image 25.

D. Wall parapet

Observation: Full access was not possible to inspect the copings.

Recommendation: The wall copings need to be inspected to ensure that they are secure, joints sound, and the flashing confirmed to be present and working correctly.

D. Wall cracking

Observation: There are vertical and horizontal cracks visible to the internal walls.

Recommendation: Once the existing plaster is removed it will be possible to identify and measure the extent of the structural cracking to the walls. The wall cracking identified should be repaired by remedial crack stitching using stainless steel 'helifix helibar'. See data sheets below.

E. External exposed concrete beams and cills

Observation: This salty sea air has caused corrosion of the internal steel reinforcement within the concrete cills and exposed concrete beams causing them to rust and expand. This expansion is causing the concrete cills to crack and spall.

Recommendation: The debonded and spalled concrete will need to be removed to expose the steel reinforcement behind. The steel reinforcement will need to be treated/ repaired, and the concrete reformed with specialist concrete repair mortar. See image 26.

F. Damp to walls

Observation: There are two areas of damp in the ground floor rear right-hand room. One seems to be the result of a leaking external downpipe and the other could be related to the washed-out mortar joints and vegetation growing on the wall allowing water to enter the building. See image 26 and 27.

Recommendation: The downpipe, mortar joints and vegetation require repair to alleviate the damp issues.

G. Timber lintels and built in timbers

Observation: There are exposed timbers in the external walls which are deteriorating from there exposed unprotected position. See image 29.

Recommendation: These timbers will need to be removed and replaced with brickwork. Ensure the masonry is treated by liberal spray method using a dual-purpose fungicide & insecticide.

H. High level holes in brick side wall

Observation: There are exposed holes in the north-east facing walls which previously seem to have supported a flat roof structure which has since been removed. These holes are an entry route for moisture into the building. See image 29.

Recommendation: The holes require infilling with brickwork. Ensure the masonry is treated by liberal spray method using a dual-purpose fungicide & insecticide

I. High external ground levels

Observation: The external ground level on the south-west side of the building is 300mm higher than the internal floor which will cause damp penetration issues.

Recommendation: The high external areas should be reduced to 150mm below the internal floor areas where possible. If not a permeable surface and perimeter rains system should be installed to reduce damp issues.

J. Missing and damaged brickwork

Observation: There are missing and damaged bricks which require repair. See image 29.

Recommendation: The worst affected areas can have the bricks removed and replaced with matching salvaged brick. Minor areas of damage can have the bricks filled using repair mortar and brick dust added to provide a colour match.

4.1.2. Roof

Observation: The roof is leaking on the Southeast side of the building causing wet rot to the timber wall plate.

Recommendations: This section of roof will be replaced. The wall plate should be removed also and the walls treated by liberal spray method using a dual-purpose fungicide & insecticide.

4.2. Internal Structure

4.2.1. Ground floor

Observation: The ground floor seems to be composed of a concrete floor slab. As the ground floor had been refurbished recently opening up works in this area were avoided. It is expected that the floor is not insulated and as part of the proposed works the existing floor will be removed and replaced with an insulated limecrete floor including underfloor heating.

4.2.2. First floor

Observation: The first floor and walls seem to be reinforced concrete and are in reasonable condition except for the cracking to the first-floor walls, refer to 4.1.1 (d) above.

5. EXPLANATION OF ITEMS AND RECOMMENDATIONS REFERRED TO WITHIN THIS REPORT

5.1. Wet rot, *Coniophora cerebella*

This is one of the most common wood-destroying fungi. It is found in buildings, and occurs very much more frequently than dry rot, although the extent of each outbreak is usually much less. Coniophora as with all other wet rots, requires substantially wetter wood for attack to progress than does dry rot. It does not produce well developed conducting strands, and so will not penetrate brick walls in the dry rot manner. It is, therefore, a less serious menace than true dry rot, and, when the source of damp which is always associated with an outbreak is eliminated, the attack is unlikely to start again.

5.2. Lime mortar, lime render and limecrete floors

Throughout the report we refer to using lime mortar, render and limecrete floors as part of the repair and reinstatement works. This is due to the specific characteristics of lime which mean it should be used in old stone buildings that lack the modern cavity wall construction and the damp-proof membranes of modern buildings. Lime render and limecrete allows the building fabric to breath and release moisture. Modern cement on the other hand traps moisture. In the past NHL were used on there own, but these have been found to harden over time and prevent moisture passage. Therefore current best practice is to use a weaker NHL premade mortar/ render and mix with either quick lime or use a hot lime mixture.

5.3. Brick/ masonry arch repair, where broken bricks/ stones are present in brick/ masonry arches

Where a brick or stone is located in an arch and is partially missing. There are three options for the repair, these will be selected based on situation:

- Remove remainder of the brick/ stone and replace with a salvaged brick/stone. Thor Helifix stainless steel pins can be used to secure brick/stones into position if difficult
- The remaining brick/stone, provided it is sound, can be repaired by reconstituting the missing portion by building up in layers of lime mortar and brick dust (to match brick colour), again Thor Helifix stainless steel pins can be used to offer additional support
- Finally, a salvaged brick or stone can be cut to the required shape and fixed into position with a combination of lime mortar and stainless-steel pins

5.4. Helifix crack and arch strengthening

Thor Helifix stainless steel crack ties are used to stabilize and repair cracked masonry walls by securely tying the masonry across the crack, redistributing loads, and providing long-term reinforcement while being resistant to corrosion.

See data sheets below for both crack tying in solid walls and arch strengthening:

Leviat
A CRH COMPANY

HELIFIX

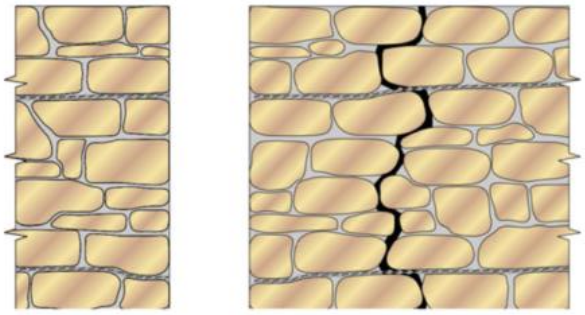
REPAIR DETAILS CS10

Repair of a Crack Near a Corner in a Stone Wall using HeliBars

METHOD STATEMENT

1. Using a twin-bladed, diamond-tipped wall chaser and vacuum attachment, cut slots into the horizontal mortar joints, to the specified depth and at the required vertical spacing. Ensure that NO mortar is left attached to the exposed stone surfaces in order to provide a good masonry/grout bond. This operation may require the use of hand tools to remove the mortar due to the random nature of the stone.
2. Remove ALL dust and mortar from the slots and thoroughly flush with water. Where the substrate is very porous or flushing with water is inappropriate, use HeliPrimer WB. Ensure the slot is damp or primed prior to commencing step 5.
3. Mix HeliBond cementitious grout using a power mixer and load into the Helifix Pointing Gun CS.
4. Fit appropriate mortar nozzle.
5. Inject a bead of HeliBond grout, approx. 15mm deep, into the back of the slot.
6. Push the 6mm HeliBar into the grout to obtain good coverage.
7. Inject a second bead of HeliBond grout over the exposed HeliBar and iron it into the slot using a finger trowel. Inject additional HeliBond grout as necessary, leaving 10-15mm for new pointing.
8. Point up the remaining slot with a suitable matching mortar and make good the crack using an appropriate Helifix bonding agent depending on the width of the crack.
9. Clean tools with clean, fresh water.

N.B. Pointing may be carried out as soon as is convenient after the HeliBond has started to gel.



RECOMMENDED TOOLING

- **For cutting slots up to 40mm deep**
  Twin-bladed cutter with vacuum attachment
- **For mixing HeliBond**
  3-jaw-chuck drill with mixing paddle
- **For injection of HeliBond into slots**
  Helifix Pointing Gun CS with mortar nozzle
- **For smoothing pointing**
  Standard finger trowel

Specification Notes

The following criteria are to be used unless specified otherwise:

A. Depth of slot into the masonry to be 35mm to 40mm.

B. Height of slot to be equal to full mortar joint height, with a minimum of 8mm. For thin mortar joint specifications refer to the Helifix Technical Dept.

Continued...

Figure A. Data sheet for remedial crack tying of stone wall cracking

Leviat
A CRH COMPANY

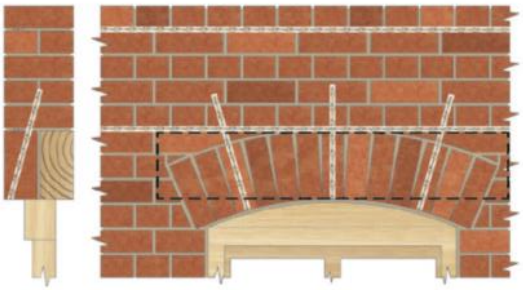
HELIFIX

REPAIR DETAILS LR13

Repair of Failed Brick Arch Lintels, with Inner Leaf Timber Lintel, using HeliBars and CemTies

METHOD STATEMENT

1. Using a twin-bladed, diamond-tipped wall chaser and vacuum attachment followed by a hand or power chisel, cut slots into the horizontal mortar joints, to the specified depth and at the required vertical spacing. Ensure that NO mortar is left attached to the exposed brick surfaces in order to provide a good masonry/grout bond.
2. Mark the positions for the CemTie holes on the underside of the soldier course.
3. Drill 14mm clearance holes (16mm if the CemTie is longer than 450mm) at the required angle and to the specified depth. The angle of drilling should be such that the hole will pass behind the lower HeliBars (where installed) and penetrate at least 50mm into the course of masonry above the reinforcing.
4. Remove ALL dust and mortar from the slots and holes and thoroughly flush with water. Where the substrate is very porous or flushing with water is inappropriate, use HeliPrimer WB. Ensure the slot and holes are damp or primed prior to commencing steps 7 and 15.
5. Mix HeliBond cementitious grout using a power mixer and load into the Helifix Pointing Gun HD.
6. Fit appropriate mortar nozzle.
7. Inject a bead of HeliBond grout, approx. 15mm deep, into the back of the slot.
8. Push the first 6mm HeliBar into the grout to obtain good coverage.
9. Inject a second bead of grout over the exposed HeliBar.
10. Push the second 6mm HeliBar into the grout to obtain good coverage.
11. Inject a third bead of HeliBond grout over the exposed HeliBar and iron it into the slot using a finger trowel. Inject additional HeliBond grout as necessary leaving 10-15mm for new pointing.
12. Repeat steps 7 to 11 for the lower slot.
13. Attach the required length of CemTie pinning nozzle to the gun and pump grout to fill the nozzle.



14. Wind the CemTie into the nozzle and ensure that it is fully covered in grout.
15. Insert the nozzle to the full depth of the drilled hole and pump the CemTie and grout.
16. Make good the CemTie holes and point up the remaining slots with a suitable matching mortar. Make good the cracks with an appropriate Helifix bonding agent depending on the width of the crack.
17. Clean tools with clean, fresh water.

N.B. Pointing may be carried out as soon as is convenient after the HeliBond has started to gel.

RECOMMENDED TOOLING

- **For cutting slots up to 40mm deep**
  Twin bladed cutter with vacuum attachment
- **To achieve final depth of slot beyond 40mm**
  Hand or power chisel
- **For drilling**
  SDS rotary hammer drill 650/700W
- **For mixing HeliBond**
  3-jaw-chuck drill with mixing paddle
- **For injection of HeliBond into slots**
  Helifix Pointing Gun HD with mortar nozzle
- **For insertion of the CemTies**
  Helifix Pointing Gun HD with pinning nozzle
- **For smoothing pointing**
  Standard finger trowel

Figure B. Data sheet for remedial crack tying of failed arch

6. CONCLUSION

The structural assessment of No. 9 Georges Place and the former Wash House building has revealed a historically significant structure that, despite its current state of disrepair, retains much of its original character and fabric. The primary challenges identified include water ingress, vegetative growth, and the use of incompatible modern materials such as cement render, which have contributed to the building's deterioration. However, with thoughtful and careful intervention, the building can be stabilised, repaired, and repurposed as a creative hub, ensuring its preservation for future generations.

The recommendations in this report emphasise the importance of preserving the building's historical integrity while addressing its structural issues. Key measures include replacing cement render with breathable lime-based materials, repairing cracked masonry lintels using stainless steel crack stitching, and replacing deteriorated, rotten and infected timber elements. The use of limecrete floors, lime mortar, and lime render will ensure the building remains breathable, mitigating future damp-related problems.

The roof structure, particularly the main roof of No. 9 Georges Place, requires significant attention, including the replacement of decayed timbers and the installation of new natural slate roofing in places. The chimneys, external walls, and decorative features such as iron railings and cast-iron rainwater goods also need careful restoration to ensure their long-term stability and insertion of savaged matching elements to replace missing sections. Internally, the floors, ceilings, and plasterwork will require extensive repair and/or replacement, with a focus on retaining as much of the original fabric as possible.

Safety concerns, particularly in areas of structural instability such as the cracked arches, unstable ceilings and damaged floors have been identified, and temporary propping measures are recommended until permanent repairs can be carried out. The proposed demolition of the lean-to extension and its replacement with a new four-storey extension will modernize the building while respecting its historical context.

In summary, the restoration and adaptation of No. 9 Georges Place and the former Wash House building will require a collaborative effort involving structural engineers, architects, conservation specialists, and contractors. By following the recommendations outlined in this report, the building can be transformed into a vibrant and functional space that meets the needs of its new educational and creative use. This project presents a unique opportunity to balance historical conservation with modern functionality, creating a space that benefits both the community and the architectural heritage of Dún Laoghaire.

7. CONDITIONS/ LIMITATIONS OF REPORT:

Inspections by Stem Consulting Engineers are carried out strictly to the following conditions unless expressly agreed in writing:

The Inspection is confined to an inspection of the structural elements of the property only. Inspections are non-intrusive, visual inspections only as no opening up works of any kind are carried out in the course of the inspection. This Report describes the visible defects observed during the inspection of the readily accessible areas of the property only. It is not possible to state that structural elements that are covered, unexposed or inaccessible are free from defects.

Recommendations, where given, are for the purpose of providing indicative advice only. They are not exhaustive and relate solely to the arresting of, or making good structural defects as identified in the Report and do not take the form of, or constitute a specification for works.

No verification of any information, drawings or documentation supplied by others has been carried out by us.

This Report may not be relied upon by a third party for any purpose without the written consent of this practice. Furthermore, this Report has been prepared and issued specifically for the benefit of the addressee and no responsibility will be extended to any third party for the whole or any parts of its contents.

Stem Consulting Engineers provide professional inspection and reporting services in accordance with the current Conditions of Engagement of Consulting Engineers, Agreement RA9101 ("Report and Advisory Work"), published by Engineers Ireland. Limitations on the liability of Stem as specified in Agreement RA9101 shall apply except as may otherwise be agreed in writing with the client.

APPENDIX A - PHOTOGRAPHS

Image 1. View of front facade of No. 9 (south-west facing)

Image 2. View of side wall of No. 9 building (south-east facing)

Image 3. View of gable wall of No. 9 Georges Place (north-west facing)

Image 4. View of side wall of No. 9 Georges Place (north-east facing). Note the missing down pipes, excessive redundant cables, various cracks to wall, algae staining to render

Image 5. View of front wall of the former Wash House building (south – east facing). Vegetation growing at high level is visible

Image 6. View of side wall of the former Wash House building (south – west facing)

Image 7. View of side wall of the former Wash House building (north – east facing)

Image 8. View of rear wall of the former Wash House building (north – west facing)

Image 9. Close up view of damaged railings requiring repair

Image 10. Close up view of boundary corner stone pillar. Metal insert has corroded causing expansion an cracking and raising of stone cap

Image 11. Vegetation growth in boundary wall

Image 12. Front elevation with vegetation growing from wall (yellow circle), cracking to wall (red circle), redundant cables hanging from building (green circle) and missing section of railing (blue circle)

Image 13. Close up view of external front boundary wall. Cracking to base requires investigation

Image 14. External view of front elevation. Remove loose redundant cables and associated metals supports.

Image 15. Internal view of lower ground floor corridor. Signs of mould, algae, wet and water staining from roof leak three levels above.

Image 16. Upper ground floor corridor ceiling has failed and is being support by temporary props and a timber deck.

Image 17. Upper ground floor, side extension, northwest room. Roof, floor and walls damage caused by water ingress

Image 18. First floor corridor spine wall, damage caused by roof leak

Image 19. First floor rear room masonry dividing wall. Damage caused by damp ingress and crack visible requiring repair

Image 20. First floor gable toilet room. Damage to plaster to internal wall

Image 21. First floor gable wall, evidence of damaged window lintel

Image 22. Typical condition of timber windows. Requires refurbishment.

Image 23. Wash House building. Example of washed-out mortar joints

Image 24. Wash House building. Example of cracking to internal walls requiring repair

Image 25. Wash House building. Example of washed-out mortar joints

Image 26. Wash House building. Example of cracked/ debonded concrete window cill

Image 27. Wash House building. Example of cracked/ debonded concrete window cill

Image 28. Wash House building. Missing section of down pipe and vegetation growth causing damp issues internally

Image 29. Wash House building. Exposed timber lintels and high level holes in external wall.

Image 30. Wash House building. Missing and damaged brick faces