

The limestone frieze shows weathered-out stylolitic seams with both particulate and biological soiling. The joints are also soiled but appear to have been finished flush. The rear elevation is rendered in Portland Cement lined and ruled to mimic ashlar work, and executed in a mix distinct from that seen at the neighbouring buildings (i.e. a different cement and a different sand were used). The binder has recessed due to differential weathering and the aggregate now stands proud of the surface and is composed of natural stone lithics including limestone, sandstone, chert and quartz, with crushed brick fragments and shell.



Fig.4.10.2: Machine-cut brick with subtle surface colour variations are characteristic of this brick.



Fig.4.10.3: The rear elevation has a Portland Cement render which has weathered differently to its neighbor, indicating that the cement binders are slightly different in composition.



Fig.4.10.3: Detail of the aggregate standing proud of the surface of the render at the rear of No.6 Moore Street consisting of rounded natural aggregate and shell.



Fig.4.10.4: Shell forms a significant proportion of the aggregate, indicating the use of a beach sand.

**4.11 7 Moore Street:** The three-storey two-bay brick-fronted terraced building rising to a granite frieze and cornice, similar to the c.1917 limestone terrace of Nos.3-6 Moore Street built immediately to south, but lacking the brick ‘soldier’ quins and brick specials used as a string course between the first and second floors. Despite being a different construction project to the adjacent terrace, the brick in both developments match (compare Figs.4.2.10 & 4.11.2) and reflect the brick in common usage at the time.

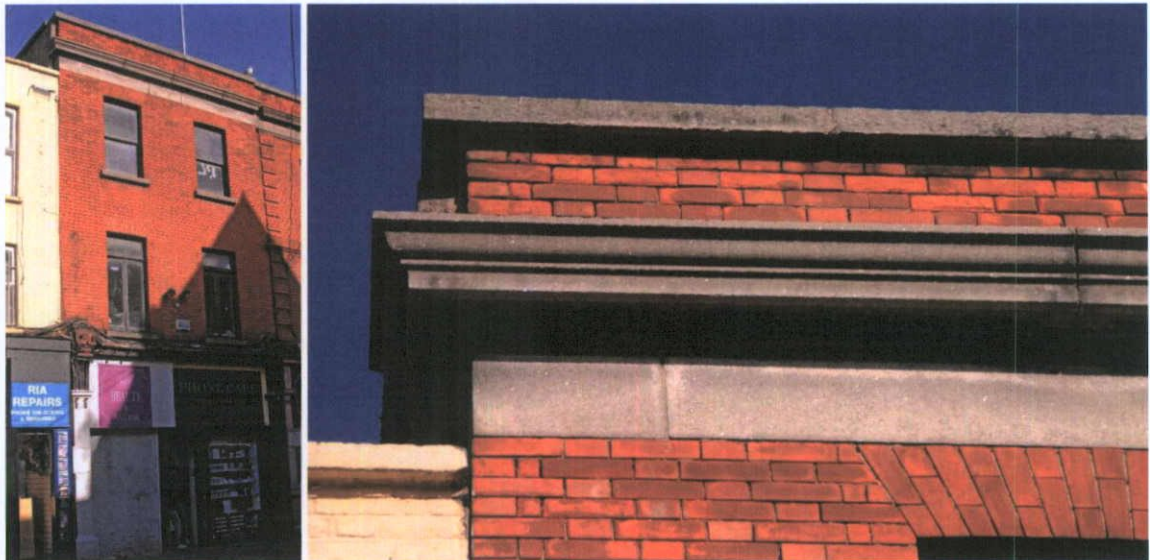


Fig. 4.11.1: No.7 Moore Street has granite coping stones, frieze and cornice.

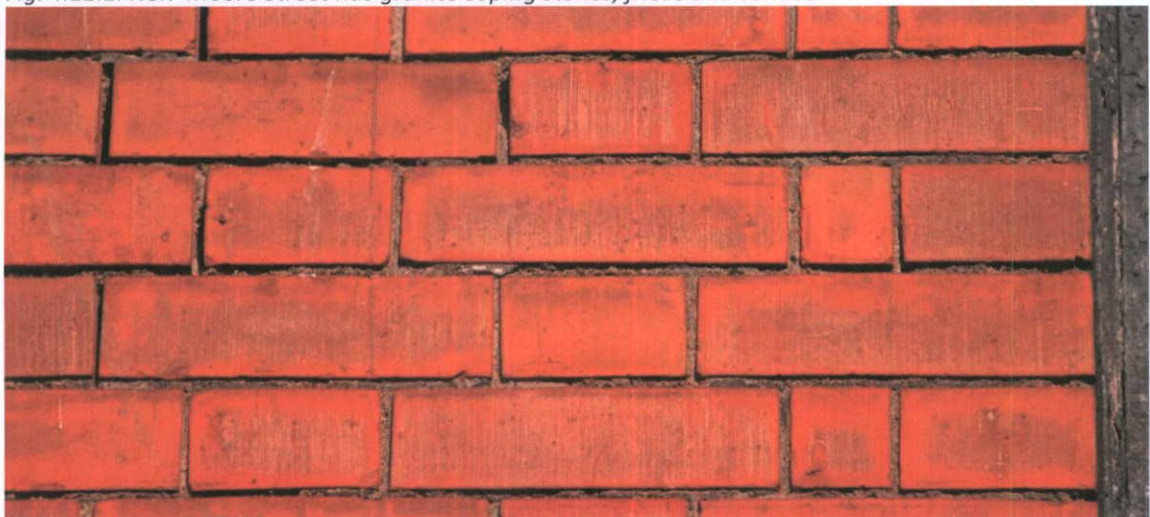


Fig.4.11.2: Detail of the brickwork on the façade of No.7 Moore Street.

The rear elevation is dissimilar to Nos. 1-6 and extends further east, showing a Portland Cement render over yellow stock brick masonry. The brick is similar to that seen at the rear of Nos.37-39 Henry Street. This building was constructed to emulate the appearance of Nos.3-6 Moore Street immediately south, but granite was used instead of limestone for the frieze, through the brick type is the same.



*Fig.4.11.3: General view of the rear of No.7 Moore Street, which extends further than the terrace immediately to the south, and was constructed using a yellow stock brick (normally concealed beneath a Portland Cement render).*

**4.12 8-9 Moore Street:** This building comprises two eighteenth century buildings combined into one premises; now appearing as a painted three-storey four-bay brick-fronted building, and connected to Nos.11-13 Henry Place at the rear. The façade brickwork is painted yellow, while the north gable has been painted black. Two buildings are marked in this location on John Rocque's 1760 map, and when the internal brick lining was broken open (see Fig.4.12.7), the brick contains distinctive angular limestone aggregate also seen at No.42 O'Connell Street and other Georgian buildings in the area, and may be brick made at the 'Old Brick Field' noted on Moore Street on Rocque's map.

The north wall of 8-9 Moore Street was opened up internally at first floor level and found to have been built of red and yellow stock brick bedded in a lime-based mortar. The brick is irregular and appears to be clamp-fired hand-made brick. This is very similar to the eighteenth century brick seen at No.42 O'Connell Street, on Parnell Street and elsewhere in the area. The poorly-sorted bedding mortar contains lime lumps and crushed brick pozzolan, which again is a feature of Georgian mortars used to bond brick mortars and Calp limestone walling in the area. Early brick was also found on the internal face of the west façade. This indicates that the internal faces of the west and north walls of the building contain eighteenth century fabric.

The ceiling plasterwork is pink gypsum applied on timber lath. However, the lathwork has the ribs of a lime-based keying surviving between the laths (Fig.4.12.6) which appear to be remnants of earlier lime-based plasterwork: this is at least of nineteenth century date, but may be earlier. The internal wall plaster contains burnt fuel fragments, abundant brick pozzolan and crushed brick aggregate.

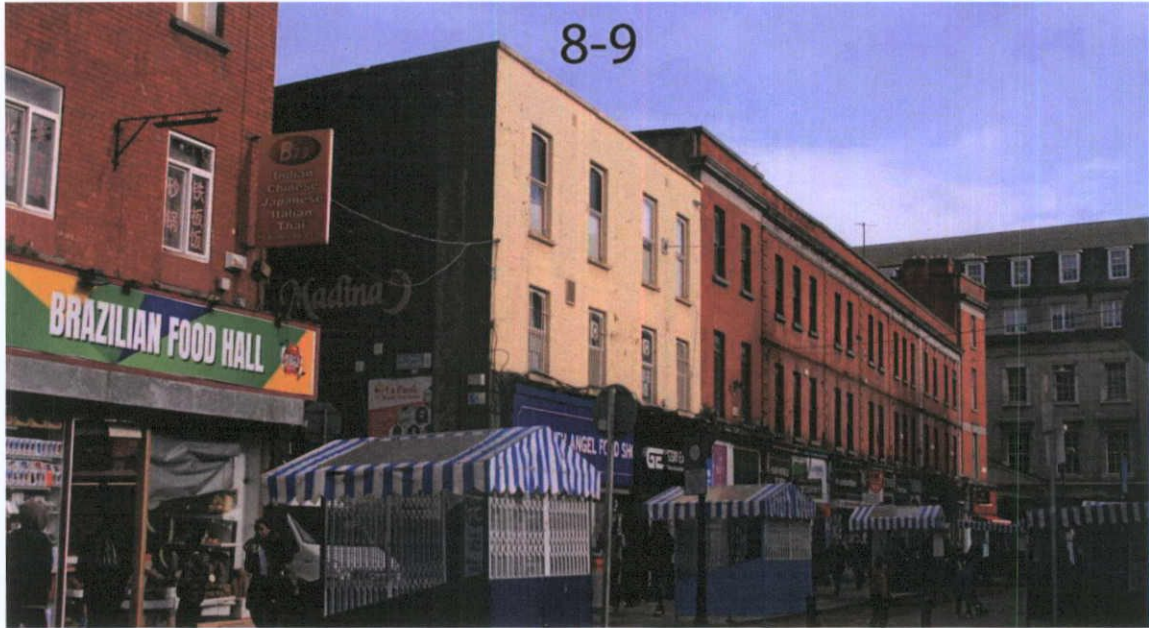


Fig.4.12.1: Nos.8-9 Moore Street forming the corner with Henry Place.

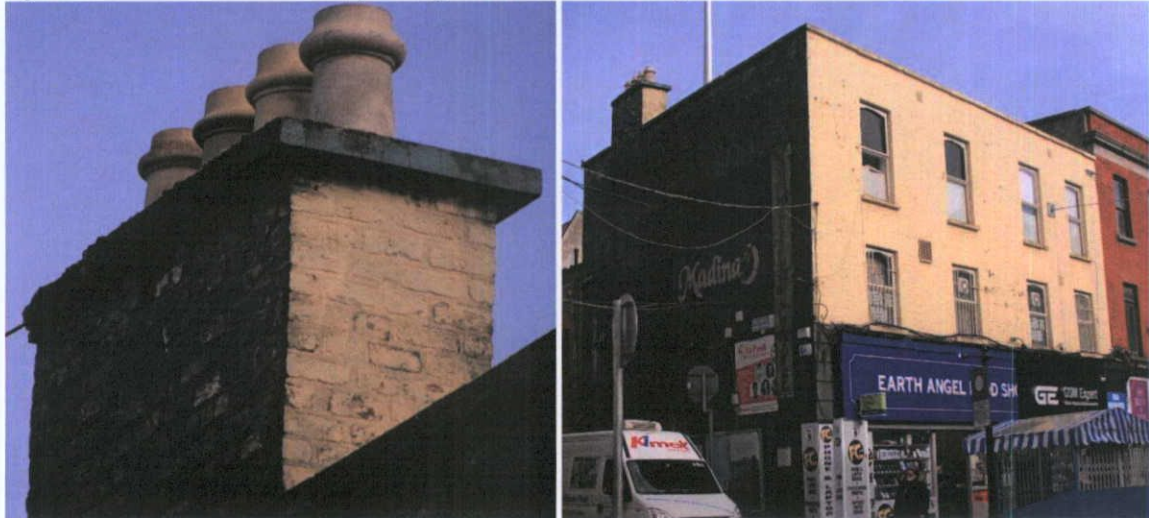


Fig.4.12.2: The brick on the front and side elevations are concealed by paint.



Fig.4.12.3: Yellow and red stock brick bedded in thick lime bedding mortars on the internal face of the north wall of No.9 Henry Street.



Fig.4.12.4: View of the painted north wall of No.9 Moore Street.



Fig.4.12.5: Red and yellow stock brick, internal wall lining, north wall, 9 Henry Place.



*Fig.4.12.6: Lime lath-and-plaster ceiling surviving at the first floor of Nos.8-9 Moore Street (concealed behind poorly-applied later ceiling plaster layers).*



*Fig.4.12.7: Hand-made clamp-fired brick with angular limestone aggregate similar to that seen at No.42 O'Connell Street and other Georgian buildings in the area. This type of brick may have been fired at the Moore Street brickfield.*

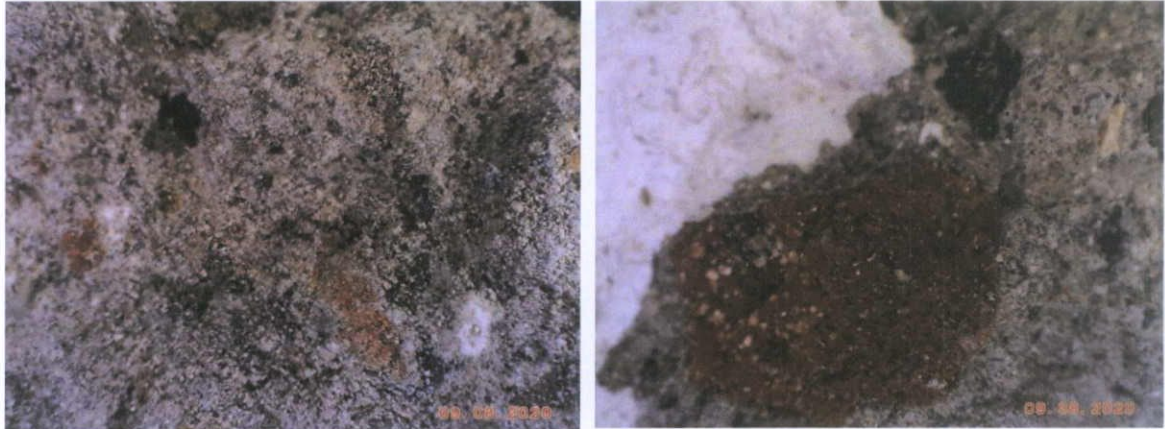


Fig.4.12.8: Brick pozzolan in the lime bedding mortars at first floor level.

**4.13 4 Henry Place:** The first floor is of a buff yellow stock brick with later Portland Cement repointing mortars, and probably original lined pointing surviving in the bays. The brick is heavily soiled and difficult to opine as to date without a closer inspection.



Fig.4.13.1: General view of No.4 Henry Place with a detail of soiled yellow stock brick at first floor level with crudely lined pointing.



Fig.4.13.2: The brick is pointed in lined Portland Cement-based mortar, and the buff-coloured brick has crazele (network of minor cracks also called crack networks, termed 'crazing' for terracotta).



Fig.4.13.3: Soiled buff-coloured brick in lined flush pointing.

**4.14 5-8 Henry Place:** The building consists of the ground floor of a late nineteenth century, possibly 1870s, brick building with a twentieth century brick building built on top. The ground floor is coated with a green-painted Portland Cement-based render. Beneath this lies a well-fired perforated brick in a lime-based bedding mortar, with curved ‘specials’ used at the north-east corner (Fig.4.14.4). The brick is exposed at ground floor level in a number of places on both the north and east elevations, including a filled-in brick-arched opening adjacent to the 3-4 Henry Place. This brickwork is consistent with machine-made perforated brickwork, and consistent with the building shown on the 1893 Insurance Plan map as ‘O’Brien & Co. Mineral Water Factory’ which survives in plan form on the 1927 Insurance Plan map. The upper part of the structure is of a different type of brick with Portland Cement weatherstruck pointing and concrete lintels. This brick was not closely examined. However, the brick is remarkably free from atmospheric particulate soiling<sup>40</sup> and was therefore cleaned (or potentially built) not too long before the Air Pollution Act 1987.



Fig.4.14.1: General view of the building showing a rendered and painted ground floor level, with a brick first floor rising to a sawtooth roof.



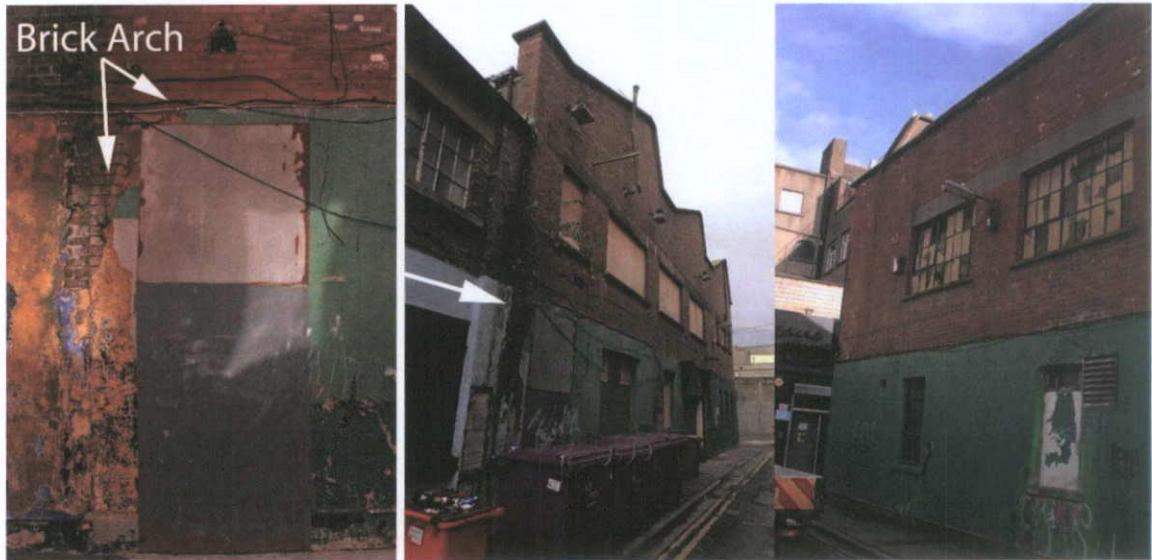


Fig.4.14.2: Brick-arched opening on the east elevation.



Fig.4.14.3: Render coating the nineteenth century brickwork at ground floor level, with twentieth century brickwork above (left), with extruded perforated brick with rounded edges at the corner (right).

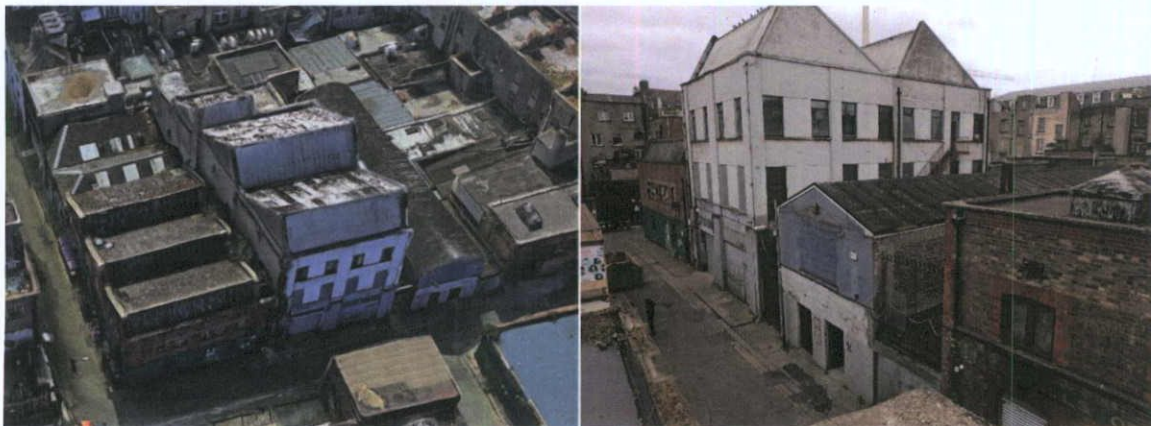


Fig.4.14.4: Detail of the curved brickwork at the north-east corner of the building.

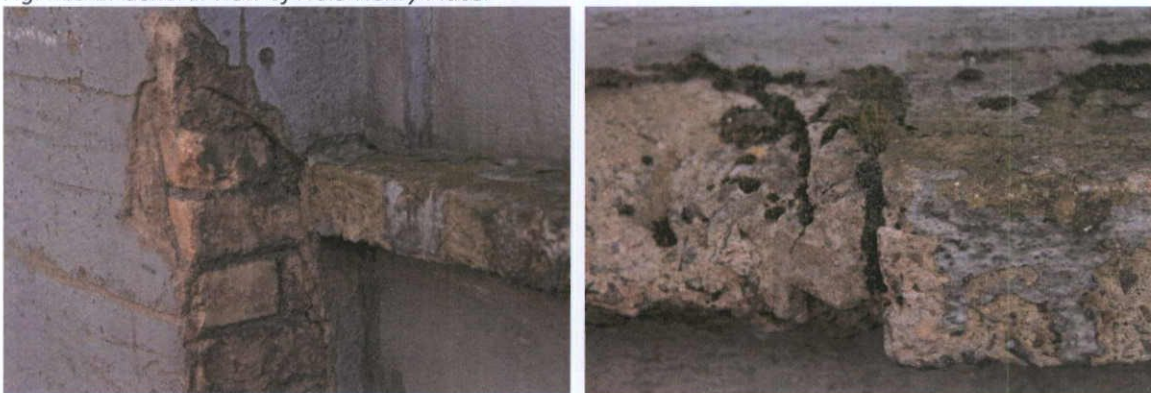


*Fig.4.14.5: The brick at first floor level is remarkably free from airborne particulate soiling (which is commonly found on building surfaces which have not been previously cleaned in Dublin City). Some soiling is found on the weatherstruck joints – suggesting that the brickwork was either cleaned (or possibly built) not too long before the Air Pollution Act 1987.*

**4.15 9 Henry Place:** Twentieth century three-storey concrete industrial building with a probably 19<sup>th</sup> century Calp limestone masonry wall at ground floor level on the east side. The ground floor level limestone masonry is coated with multiple layers of limewash on the internal east wall of the building. The masonry shows both water- and salt-related damage, and the vegetation growing at the junction of this building with No.8 Henry Place suggests long-term water penetration and consequent damage to the materials. The mortars were too damaged and altered by decay processes to allow accurate reliable analysis. However, in general the masonry appears consistent with a traditional two-lead-and-core wall bonded with a lime-based mortar. The wall is likely to be a remnant of the ‘stables’ depicted on the 1893 Insurance Plan map (not shown on John Rocques 1760 map or the 1847 Ordnance Survey map); and appears to have been left in situ when O’Brien Mineral Water Factory expanded to occupy the premises, as shown on the 1927 Insurance Plan map.



*Fig.4.15.1: General view of No.9 Henry Place.*



*Fig.4.15.2: The piers on the façade are of yellow stock brick, while the cill is concrete.*



Fig.4.15.3: Exposed wall end at the junction of 5-8 and 9 Henry Place shows a mix of bricks in Portland Cement bedding mortars; internally, the limewash east wall at ground floor level is Calp limestone masonry, and consistent with 19<sup>th</sup> century work.

**4.16 10 Henry Place:** This two-storey gable-fronted building has a rendered north façade, exposed yellow stock brick on the west and south walls at first floor level, while the east wall has been rendered with a Portland Cement render. The building retains some nineteenth-century brickwork at ground floor level at the south end of the east wall and at parts of the south and the west walls. However, the majority of the building is composed of c.1920s or rebuilt materials. The brickwork forming much of the superstructure is of c.1920 yellow stock brick laid in a cementitious mortar, with the masonry piers seen internally bedded with a lime-cement mortar. In some areas, nineteenth century brickwork and Calp limestone masonry was re-used and bedded in a lime-cement bedding mortar. The building was also modified over time, with a new doorway added to the east elevation in 1959. The new building appears to have been built on the footprint of the site, but with most of the east, north and west walls replaced. The 1893 Goad Insurance Plan maps show three tenement buildings on the site – the pre-1920s material is confined to the southern tenement.



Fig.4.16.1: View of the north façade of 10 Henry Place, and the rendered first floor of the west elevation (this render was not accessible).



Fig.4.16.2: General view of No.10 Henry Place, with areas of masonry opened up at first floor level on the south and west elevations indicated.



Fig.4.16.3: Nineteenth century yellow stock brick, first floor level, west elevation.



Fig.4.16.4: 'Pennystruck' lime pointing mortars, first floor level, south elevation.



Fig.4.16.5: The first floor window head on the south elevation has a mix of 19<sup>th</sup> and c.1920s yellow stock brick (suggesting repair) bedded in a lime-cement mortar with shell included in the aggregate.

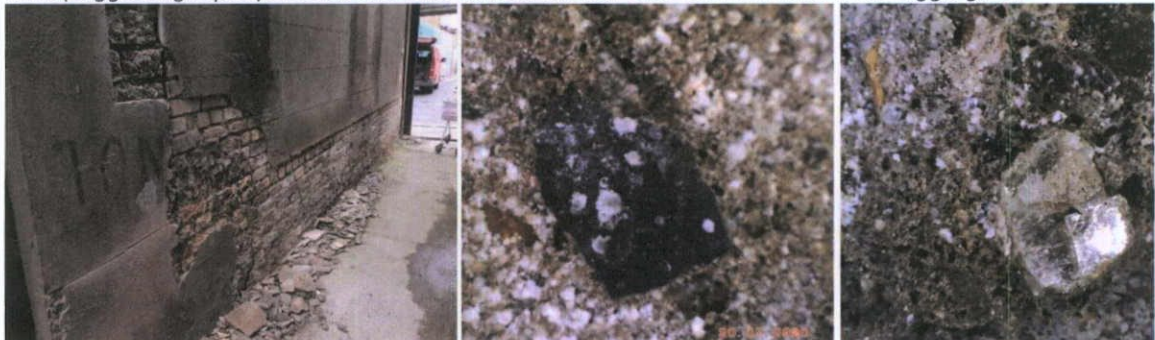


Fig.4.16.6: The north end of the east wall is coated with a Portland Cement render above a c.1920s yellow stock brick masonry substrate.



Fig.4.16.7: The north-east corner of the building formed of c.1920s yellow stock brick in a cementitious bedding mortar. There was no trace of any earlier brickwork in this part of the building.

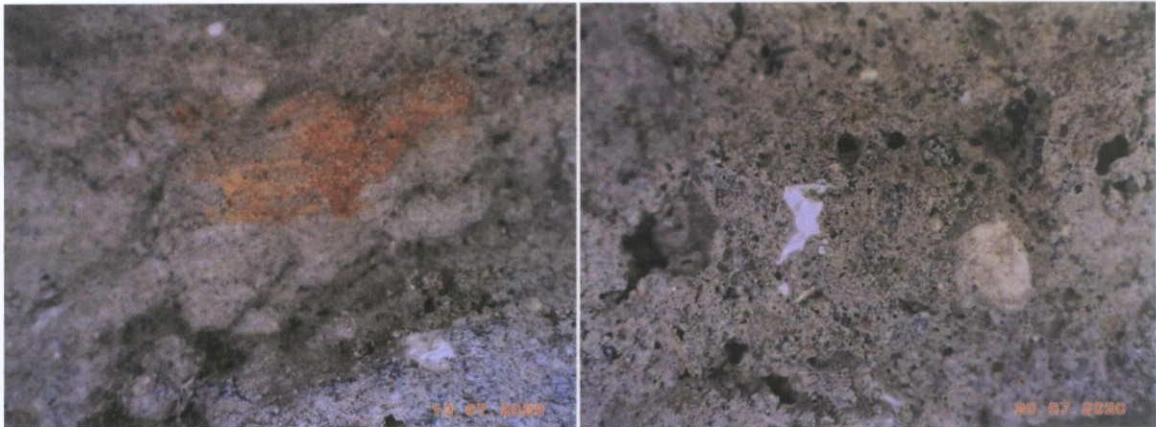


Fig.4.16.8: Cementitious bedding mortar binding the 1920s yellow stock brick at the north-east corner, exposed internally.



Fig.4.16.9: c.1920 yellow stock brick beneath a Portland Cement render at the north end of the east elevation.



Fig.4.16.10: Cementitious bedding mortar seen externally at the north end of the east elevation.

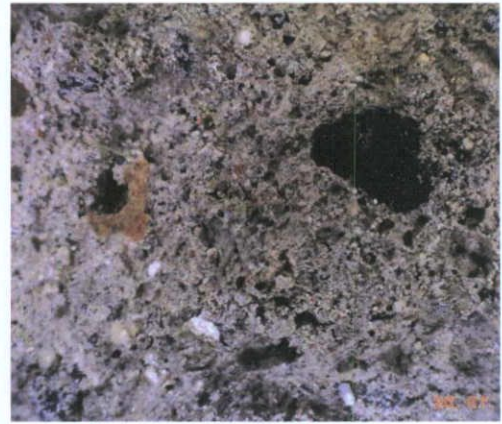
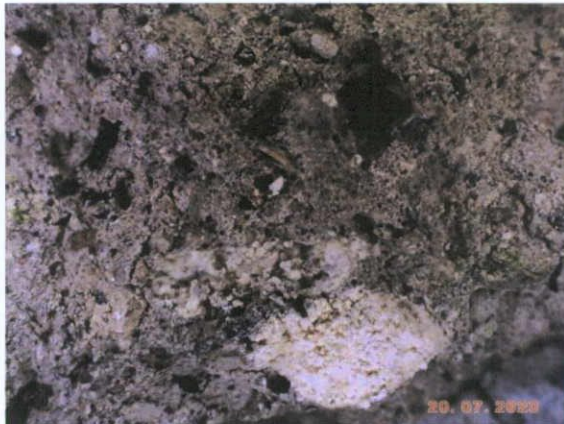


Fig.4.16.11: The cementitious bedding mortar contains crushed yellow and stock brick. Construction work may have availed of building debris (crushed to form aggregate).

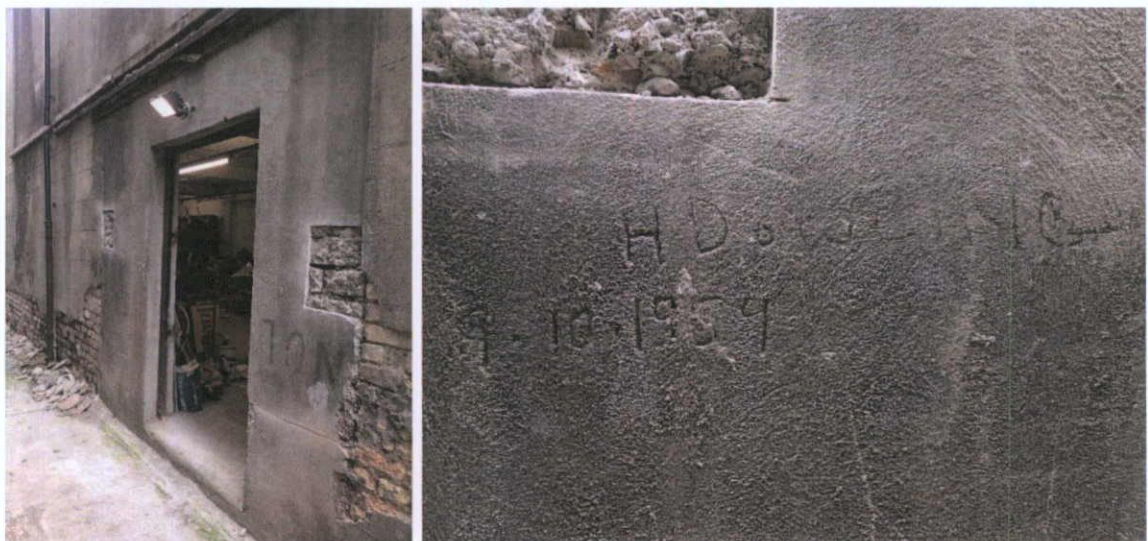


Fig.4.16.12: The 1920s brick wall was altered in 1959.

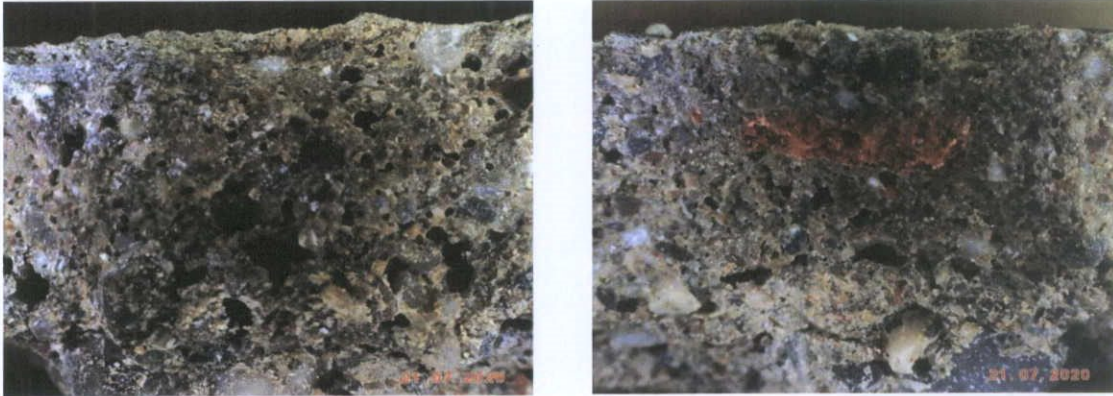


Fig.4.16.13: Cross-section of the 1959 Portland Cement render on the east wall of No.10 Henry Place.



Fig.4.16.14: 1959 concrete repair, east elevation, ground floor level.



Fig.4.16.15: Junction (arrowed) between the c.1920 yellow stock brick in a cementitious bedding mortar and a section of probably nineteenth century stock brickwork in very poor condition.

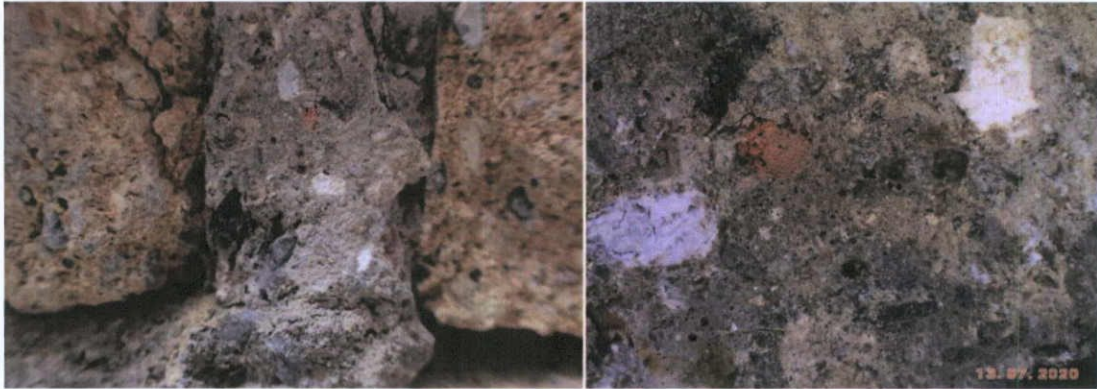


Fig.4.16.16: Detail of the cementitious bedding mortar of the c.1920s yellow stock brick.

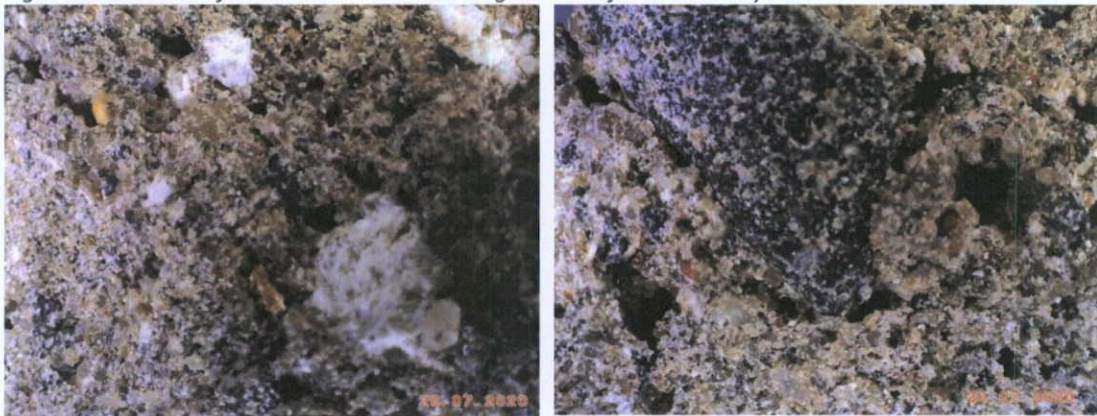


Fig.4.16.17: The aggregate in the cementitious bedding mortar contains natural stone and reused building materials.

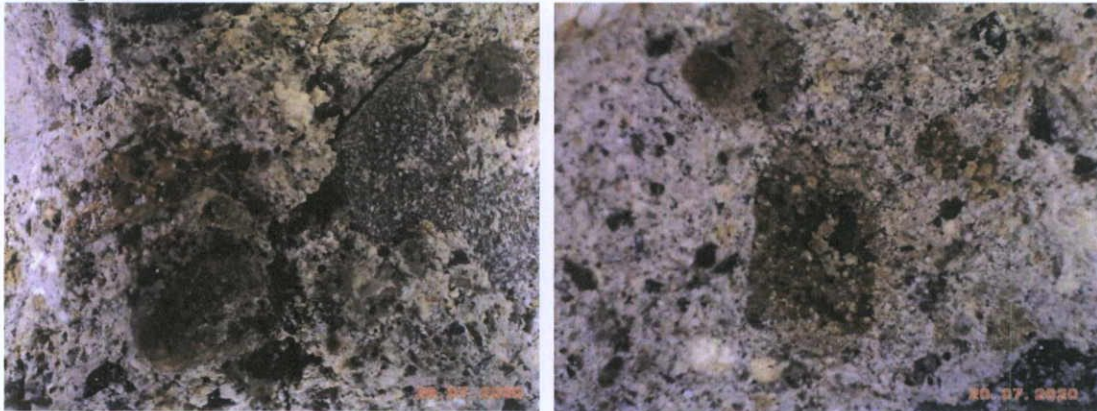


Fig.4.16.18: Crushed brick, timber and stone can be found in the cementitious bedding mortars.

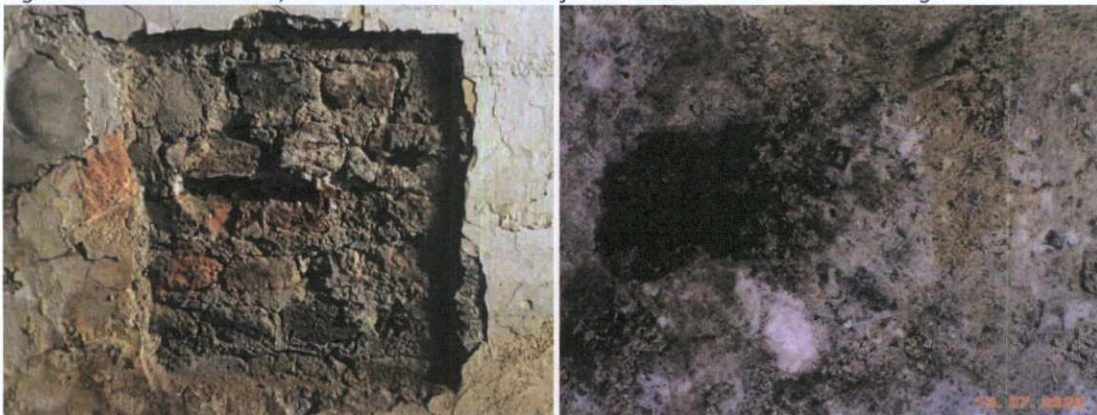


Fig.4.16.19: Nineteenth century stock brick and Calp limestone masonry at the south end of the west wall at ground floor level of No.10 Henry Place, coated with a cementitious internal plaster.



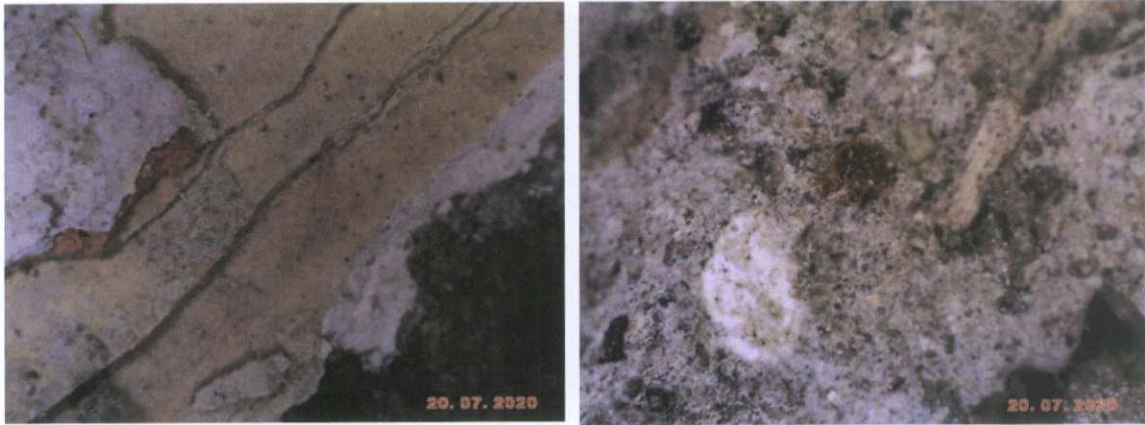


Fig.4.16.20: Detail of the cementitious plastering mortar. This has the same components and mix as used to bed the c.1920 yellow stock brickwork.

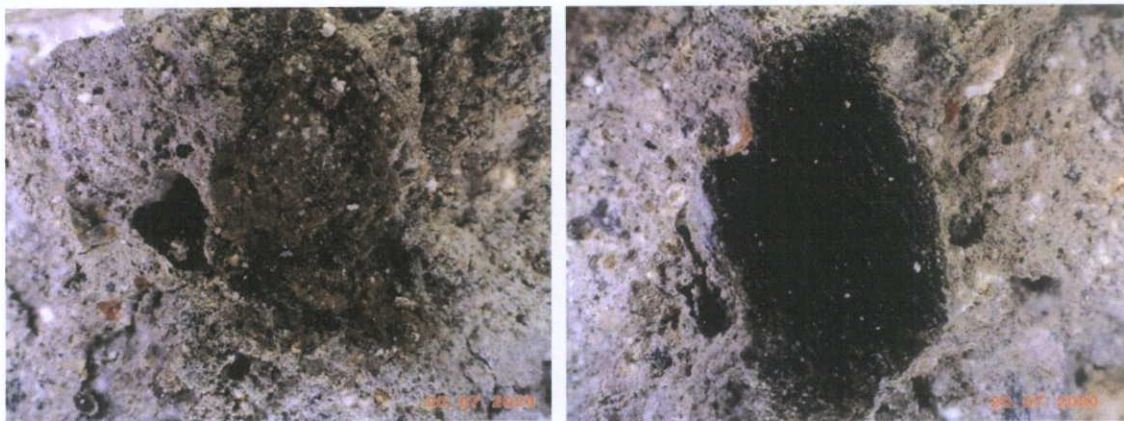


Fig.4.16.21: Crushed yellow, brown, beige, red and orange brick fragments are found in the plaster.

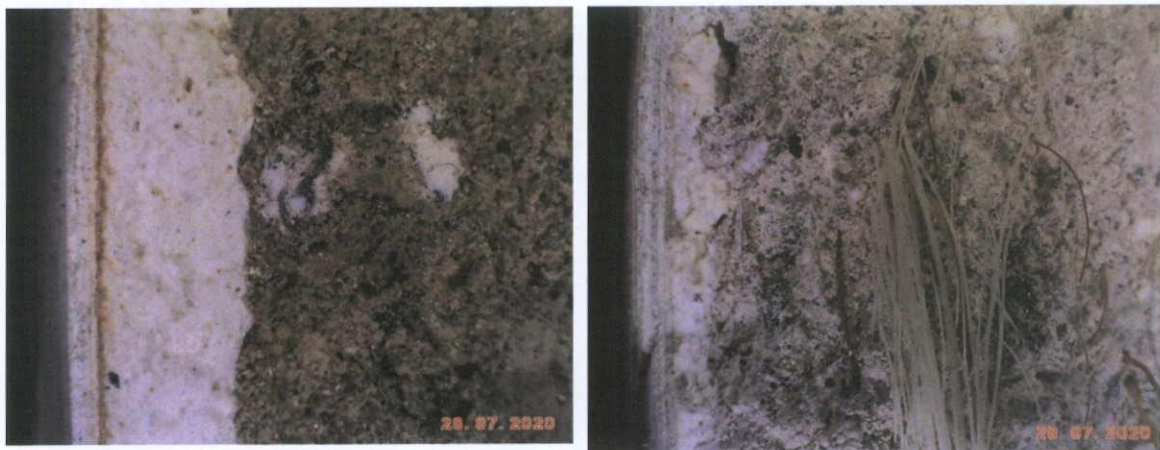
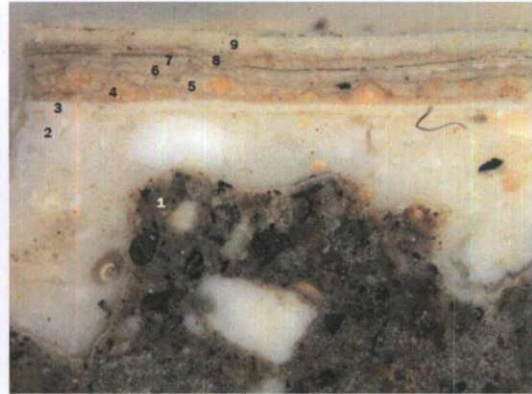


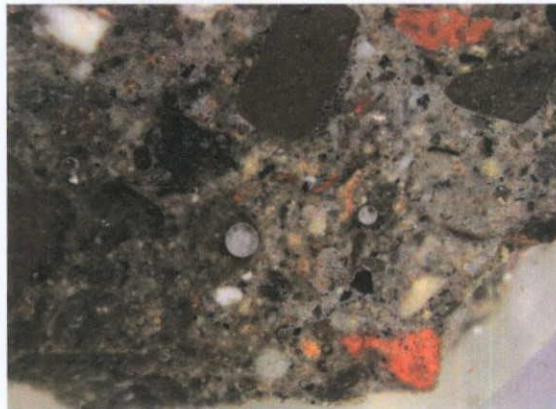
Fig.4.16.22: Detail of plaster, ground floor level, south end of the west wall. Some parts retain areas of haired lime, which were considered as trace remnants of the nineteenth century surface.



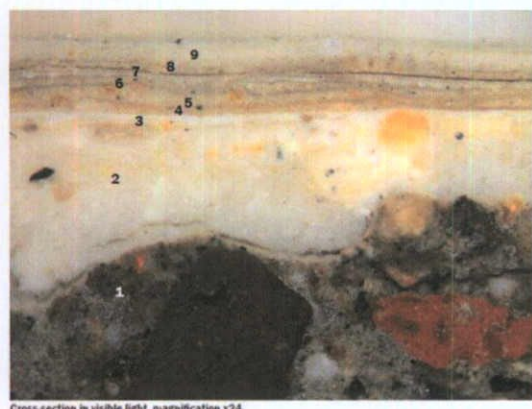
Cross-section in visible light, magnification x13.5.



Cross-section in visible light, magnification x24.



Cross-section in visible light, magnification x13.5.

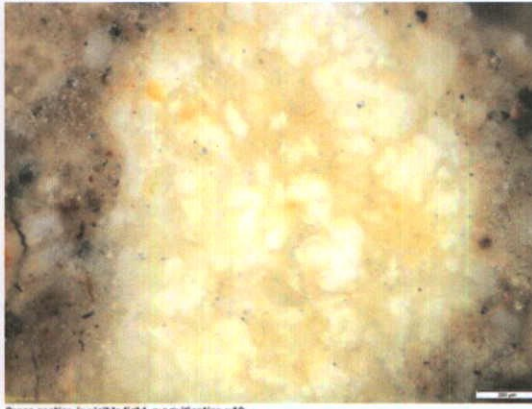


Cross-section in visible light, magnification x24.

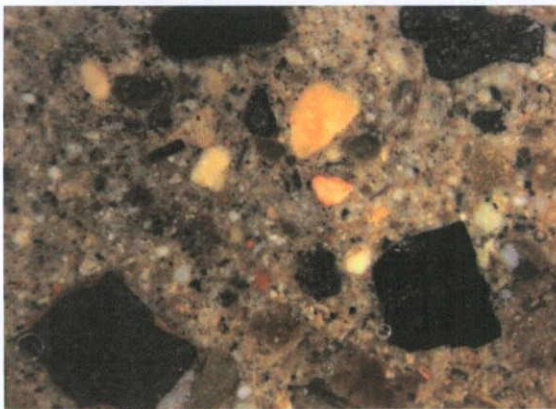
Fig.4.16.23: Most of the plaster on the internal wall surface along the west wall is composed of a cement binder with abundant crushed brick aggregate.



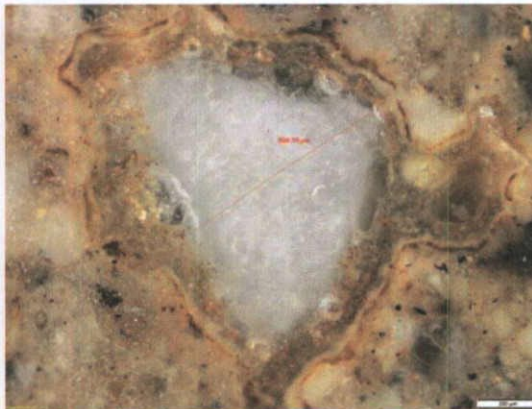
Cross-section in visible light, magnification x13.5.



Cross-section in visible light, magnification x40.



Cross-section in visible light, magnification x13.5.



Cross-section in visible light, magnification x40.

Fig.4.16.24: Cross-section of cementitious plastering mortar.

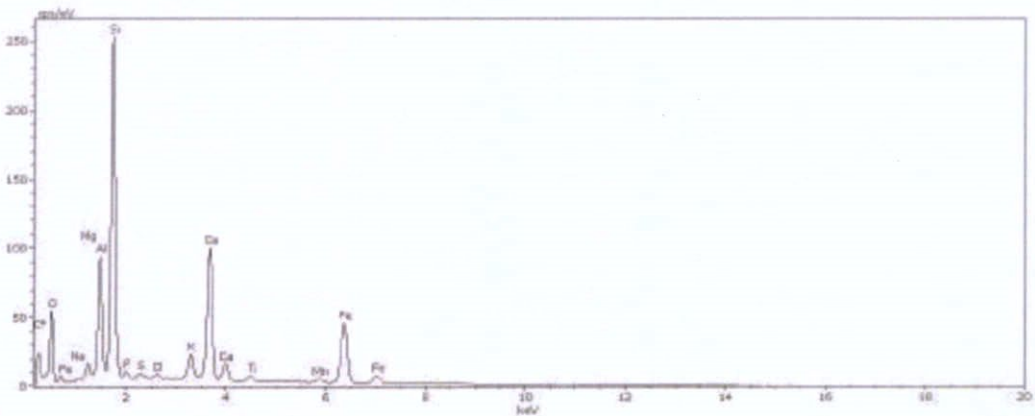
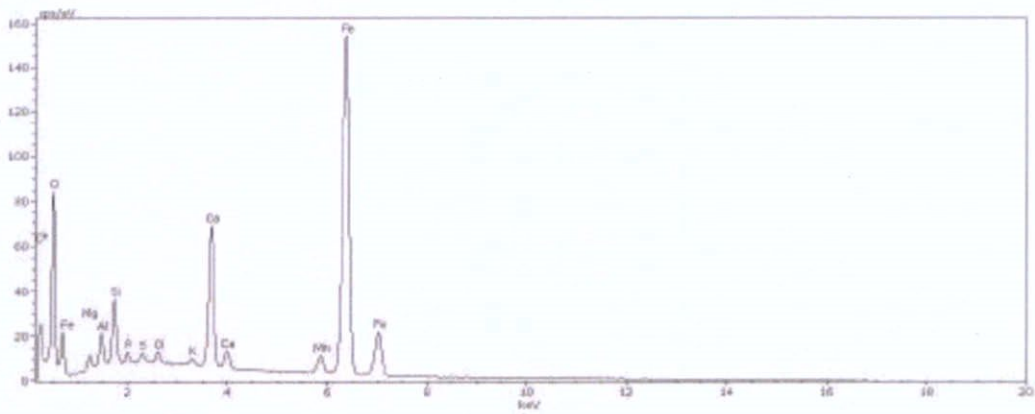
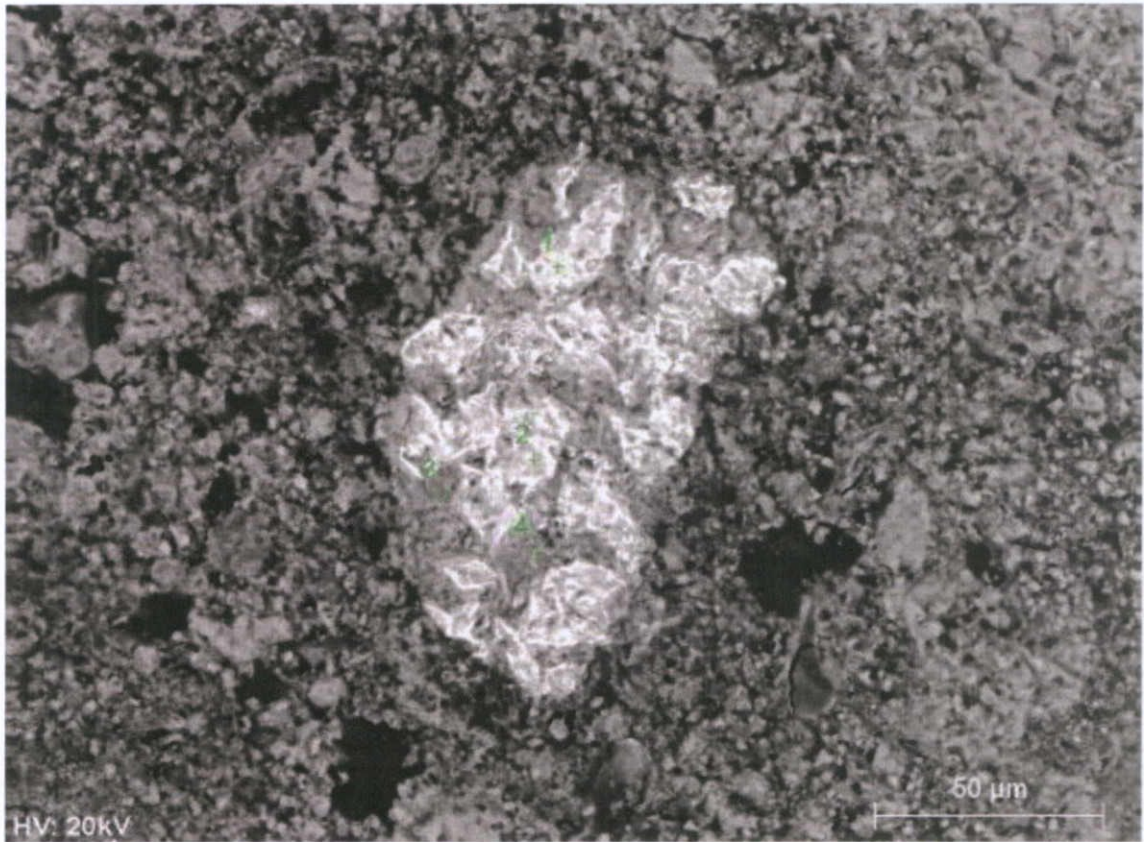


Fig.4.16.25: SEM-EDS analysis of the cementitious binder binding the 1920s yellow stock brick showing clinker phases



Fig.4.16.26: In contrast, the aggregate of the lime-based bedding mortars consists mainly of limestone, quartz, some chert and a fraction of brick aggregate.



Fig.4.14.27: No.10 Henry Place is shown set out as three separate tenements on the 1893 Goad's Fire Insurance Map (left) comprising a northern building, a narrow passage and a southern building divided into two parts with a western yard. The 1907 Ordnance Survey map (centre) shows the outline of the two buildings and the intervening passage mirroring the arrangement on the 1893 map. Goad's 1926 Fire Insurance Map shows a single long rectangular building indicating that substantial alteration had been undertaken. The physical remains suggest that only parts of the southernmost tenement building were retained in the rebuilding of the site.



Fig.4.14.28: Ground and first floor plan of No.10 Henry Place showing sampling locations.

**4.17 11-13 Henry Place:** This two-storey five-bay warehouse building consists of yellow stock brick with red brick for windows, quoins and architectural details. The parapet has been raised with later modern red brick bedding in Portland Cement. The brickwork has been damaged with new openings inserted above windows, blocked-up openings at ground floor level and failure of the rainwater goods leading to saturation of the brick masonry which has damaged the bedding mortars. The building retains a painted sign for 'Goodalls of Ireland Ltd.'. Internally the brick fireplace at first floor level of the east elevation is composed of hand-made and clamp-fired brick but plastered in a cement mortar. The inside face of the north wall has been plastered throughout in cement. The external brickwork is consistent with the last quarter of the 19th century.



Fig.4.17.1: General view of Nos.11-13 Henry Place.

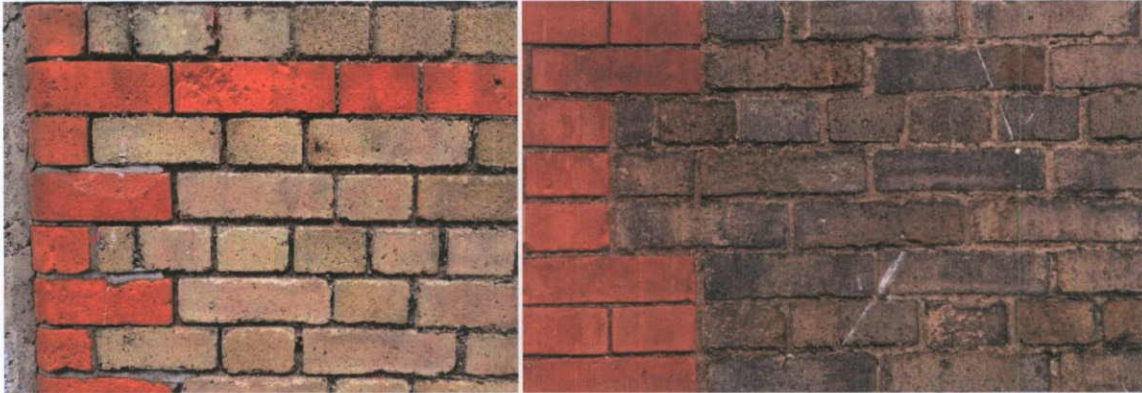


Fig.4.17.2: 'Cleaned' brickwork showing surface damage to the red and yellow brick with loss of fireskin and mortar from the bedding joints (left); soiled but intact original brick and mortar.

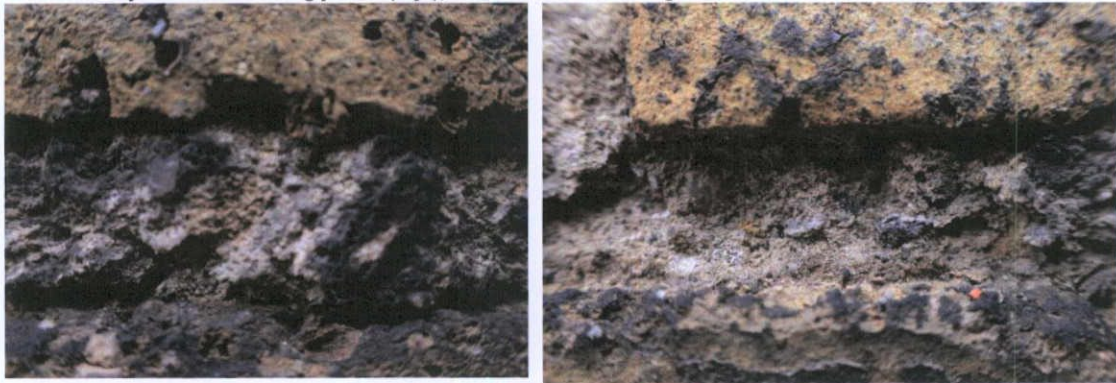


Fig. 4.17.3: Soiled, damaged surface of the bedding mortars.



Fig. 4.17.4: Poorly sorted limestone, sandstone, quartz and chert aggregate with coarse lime lumps in a water-damaged lime binder.

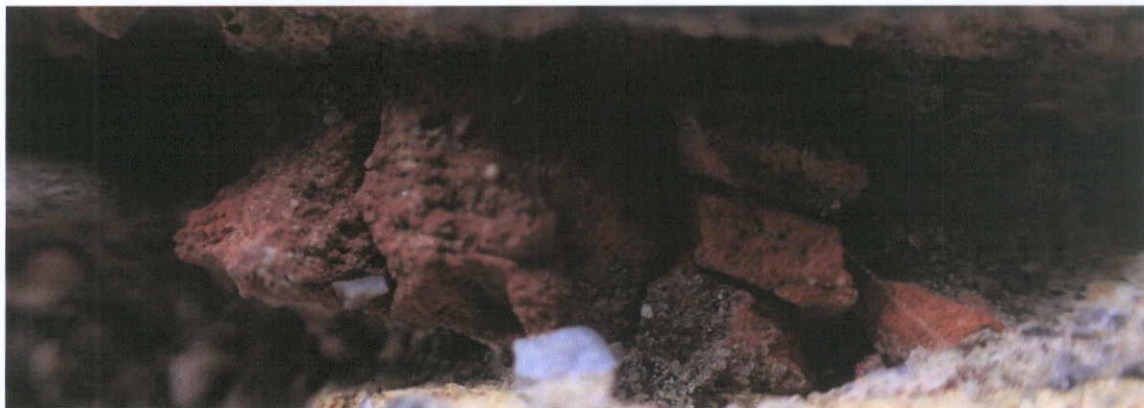


Fig.4.17.5: Crushed brick used as aggregate in the mortar.



Fig. 4.17.6: Shell used as porous calcareous aggregate in the mortar.

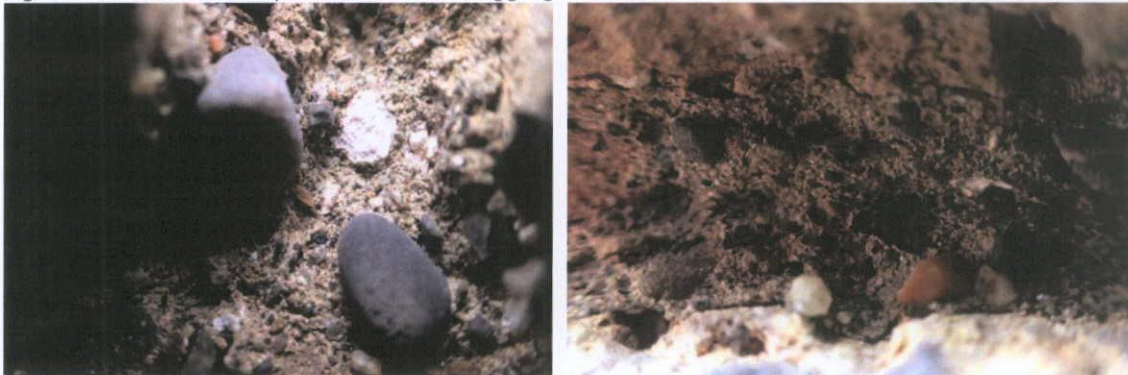


Fig. 4.17.7: Rounded limestone aggregate and sub-angular quartz with coarse burnt fuel fragments.



Fig. 4.17.8: Rounded limestone and crushed yellow brick aggregate



Fig. 4.17.9: Crushed brick in the mortar.

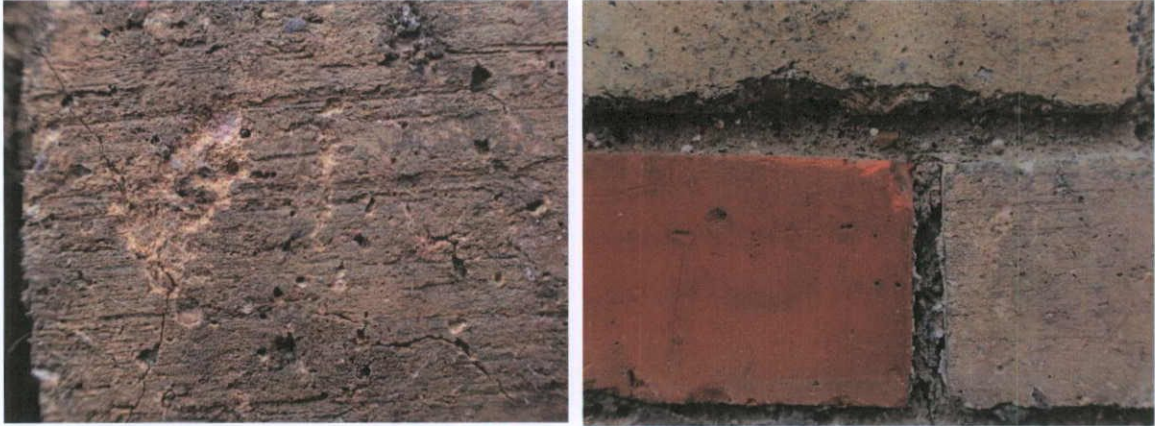


Fig. 4.17.10: The red brick is cut, while the yellow brick shows moulding striae.

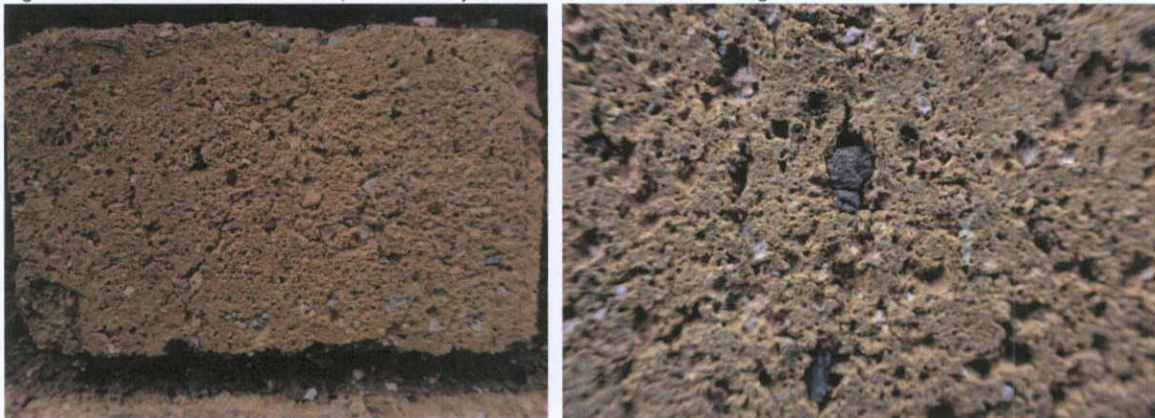


Fig. 4.17.11: Yellow brick damaged by abrasive cleaning showing the exposed brick core with abundant pebble inclusions from the unprocessed raw clay used to manufacture the brick.



Fig. 4.17.12: The brick fireplace in the east wall at first floor level.



Fig. 4.17.13: Cement used to plaster the inside of the north wall at first floor level.



## 5. Site 4

A distinctive eighteenth century hand-made clamp-fired brick type is found at Nos. 10, 13, 18, 20 and 21 Moore Street. At ground floor level of No13 Moore Street, one of these bricks bears the fingermarks of a child (Fig.5.3.4) and is rare physical evidence of the common use of child labour in brickmaking and construction in eighteenth and nineteenth century Ireland. A proportion of this brick is 'shell lime' brick and shows such striking similarities that they should be considered contemporaneous.

Nos.6-8 Moore Lane and Nos.17-18 Moore Lane are examples of mid-late nineteenth century warehouse/industrial buildings. Nos.6-8 Moore Lane is a pre-1893 mix of traditional Calp Limestone masonry and granite detailing with a relatively new kiln-fired perforated brick. Nos.17-18 Moore Lane is the cut-down ground level of a yellow stock brick with terracotta and red brick architectural detailing industrial building.

**5.1 10 Moore Street:** The building has a red brick façade with moulded specials at the corner rising to a granite coping at parapet level; and showing joint recession throughout. The side (south) elevation is of a yellow to buff soiled brick laid in English garden bond pointed at ground floor level in a coarse- to medium-grained lime-based bedding mortar. It is very difficult to date the façade and side elevation without close inspection, and could date to anywhere from the late nineteenth century to c.1920. However, the presence of 'shell brick' in the north wall suggests that substantial parts of the building is early for the Moore Street area, possibly late eighteenth or early nineteenth century.

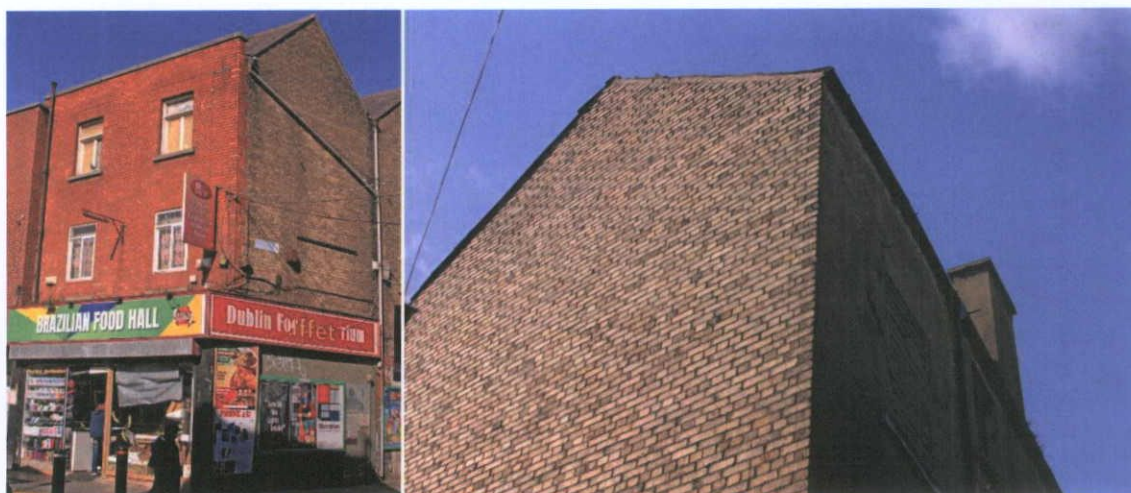


Fig.5.1.1: Façade and side (south) elevations of No.10 Moore Street with the rear (east) rendered.

A 'creephole' can be seen in the north elevation at second floor level which is indicated by a disturbance and subsequent patching of the brick masonry fabric, suggesting that this part of the building is associated with the 1916 Easter Rising. The walls retain early haired lime plaster adjacent to the 'creephole' as well as 'lined' pointing joints.

The brick at the rear (north) wall at first floor level is hand-made clamp-fired brick containing shell inclusions. This brick is found at Nos. 10, 13, 18, 20 and 21 Moore Street, and show such striking similarities that they should be considered contemporaneous. The bricks in the north wall of No.10 Moore Street and in the party wall between Nos.13 and 12 Moore Street are very similar in form, composition and inclusions. Mortars were taken from both locations for analysis and cross-comparison. These bricks are hand-made, clamp-fired bricks with distinctive burnt shell inclusions<sup>1</sup>. The bricks are poorly formed and probably hand-moulded, with distortions exacerbated by the firing process. Firing was uncontrolled with some bricks under-fired and relatively 'soft', and other bricks showing 'hot spots' and areas which were over-fired, vitrified, coloured

black and appearing glassy. The raw clay shows no evidence of processing or sorting. This 'shell brick' was also found in the chimney stack of No.59 O'Connell Street at rooftop level.

Shells are an uncommon find in historic Irish brick. The shells are partially calcined indicating that they were held within the brick at the time of firing. Shell can occur in raw brick clay in coastal areas (e.g. Lord Merrion's brick fields in Sandymount) due to occasional coastal flooding, or can occur as food waste. The shells exposed in the brickwork are consistent with food waste<sup>2</sup>. The brickwork in Nos.10, 13 and 18 are certainly pre-1916, and may be examples of early brickwork on Moore Street.



Fig.5.1.2: The façade is of machine-cut fired clay brick, and was not closely examined.

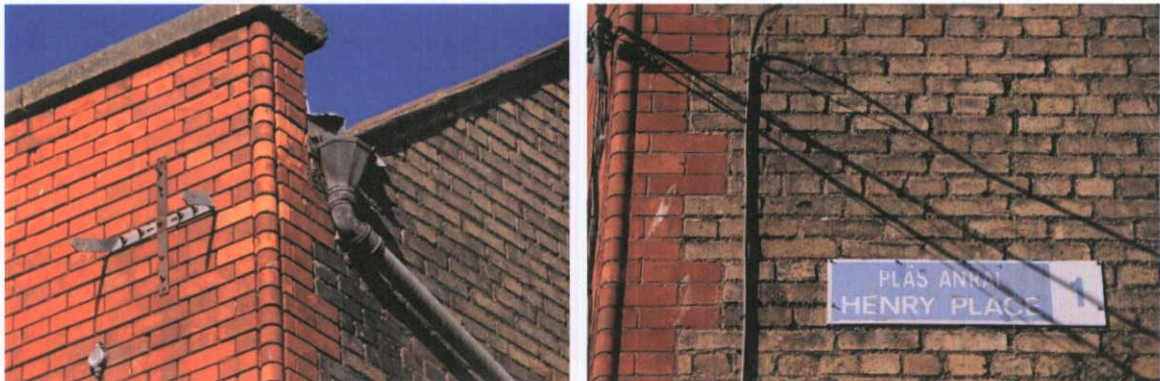


Fig.5.1.3: The red brick façade has moulded specials rising to the coping stones at parapet level (which are found on late nineteenth century and early twentieth century work) and is tied into the yellow stock brick side elevation with 'block and start' work.

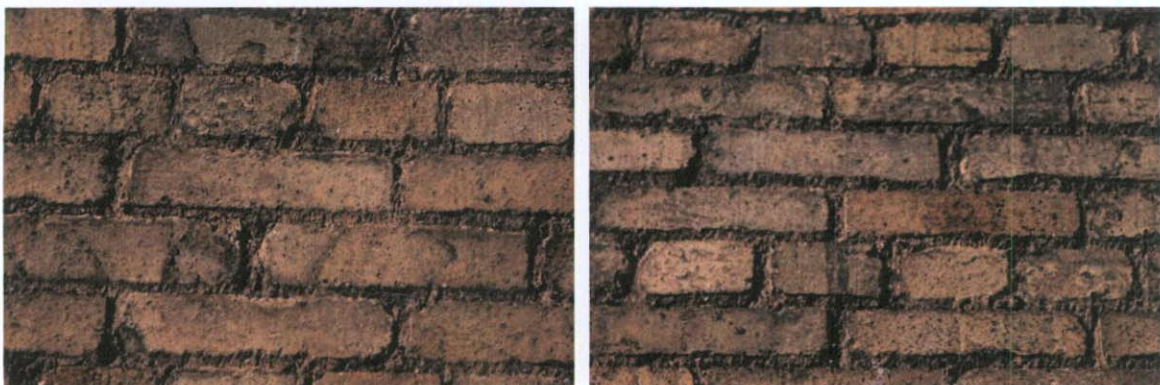


Fig.5.1.4: The south elevation is painted at ground floor level, and the upper parts are soiled and were not accessible. The yellow stock brick have some surface defects, and the soiled bedding mortars show flush finishes, weatherstruck finishes but are mostly disrupted (suggesting that the soiling is gypsum-based and the bedding contains lime). The brick appears broadly similar to that seen at Nos.17-18 Henry Place.



Fig.5.1.5: The rear of No.10 Moore Street is rendered. The north side (arrowed) was opened up.



Fig.5.1.6: Exposed brickwork beneath Portland Cement render, north elevation, 10 Moore Street. The masonry has been disturbed and appears to be a 'creep hole' (arrowed). See Fig.5.1.9 also.



Fig.5.1.7: Detail of north elevation of No.10 Moore Street. The exposed brickwork consists of hand-made clamp-fired bricks showing a lack of sorting of the raw clay material, characteristic moulding and shaping defects, and both underfired and over-fired examples of brick. The bricks do not conform to standard imperial sizing.



Fig.5.1.8: Detail of brick from the north elevation of No.10 Moore Street showing examples of shell inclusions in the fired clay matrix.



Fig.5.1.9: Internal face of the wall show in Fig.5.1.6 with a change in both brick and mortar at the 'creephole' (left); while the surviving wall plaster has early haired lime plaster layers surviving beneath twentieth century surface finishes (right).



Fig.5.1.10: The party wall between Nos.10 and 11 Moore Street contains early brickwork with lime mortars struck in the same style as the internal walls of the mid-eighteenth century No.42 O'Connell Street.

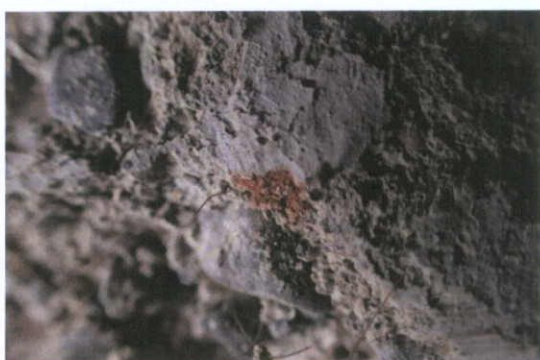


Fig.5.1.11: The bedding mortars of the party wall contains sub-rounded limestone aggregate and brick pozzolan (left); while the lime plasters on the wall have clumps of animal hair (right).



Fig.5.1.12: Lined mortar joint on the brick party wall between No.10 and 11 Moore Street, with traces of the animal hairs from the haired lime plaster adhering to the joint (right). This finish is also found on the eighteenth century internal walls of No.42 O'Connell Street.



Fig.5.1.13: Poorly sorted bedding mortar containing limestone, chert and quartz aggregate.

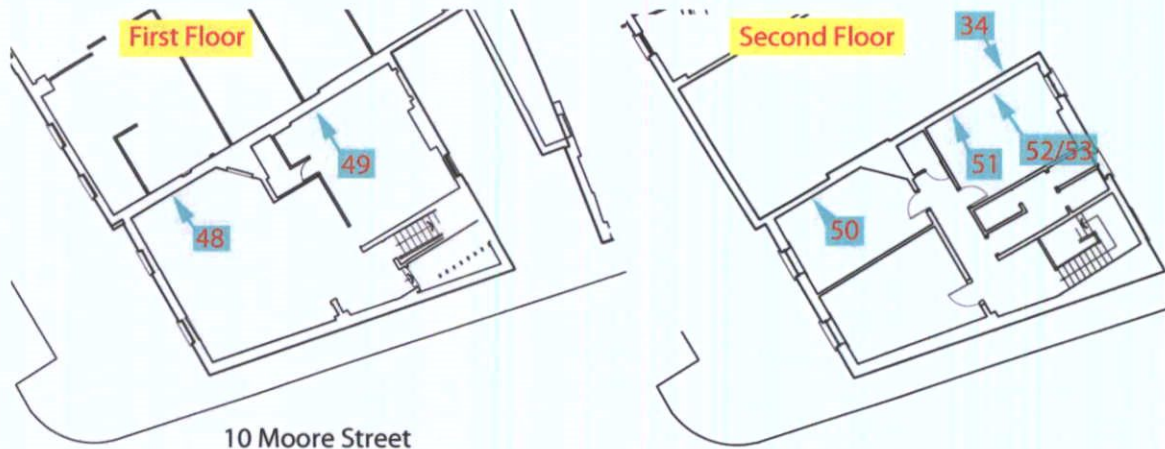


Fig.5.1.14: Location of samples taken from the interior of No.10 Moore Street.

**5.2 11-12 Moore Street:** Three-storey two-bay brick-fronted building with a flat roof concealed behind the parapet. The red brick used for the façade is very similar to that used in the façade of No.13 Moore Street. The unroofed return at the rear of the building was built using a yellow stock brick, similar to that seen at No.10 Henry Place, but is in very poor condition with invasive vegetation and water-based deterioration processes disturbing the fabric.



Fig.5.2.1: The façade of 11-12 Moore Street was built of machine-cut textured brick bedding in Portland Cement and finished with a 'bucket handle' joint, this finish is common from the late 1950s-1980s. The brick is widely used in the twentieth century, and this type of textured brick could date from anywhere from the 1930s to the 1990s.



Fig.5.2.2: Yellow stock brick sampled from the rear return of No.12 Moore Street.

**5.3 13 Moore Street:** The two-storey two-bay brick façade is very similar to that of Nos.11-12 Moore Street and probably dates to the same period of construction in the third quarter of the twentieth century. The internal walls are very different, with the party wall with No.12 Moore Street containing late eighteenth/early nineteenth brick and a ‘creephole’ probably from the 1916 Easter Rising. Removal of plaster on the surface of the party wall with No.14 Moore Street also revealed hand-made brick; suggesting that the façade was rebuilt, but that substantial parts of the side walls of the building survive.

The late eighteenth/early nineteenth century brick in the party wall with No.12 Moore Street is a distinctive hand-made clamp-fired brick containing shell inclusions. This type of brick is also seen in the brick masonry of Nos. 10, 12, 18, 20 and 21 Moore street, and is also found in the chimney stack of No.59 O’Connell Street. These bricks are poorly formed and probably hand-moulded, with distortions exacerbated by the firing process. Firing was uncontrolled with some bricks under-fired and relatively ‘soft’, and other bricks showing ‘hot spots’ and areas which were over-fired, vitrified, coloured black and appearing glassy. The raw clay shows no evidence of processing or sorting.

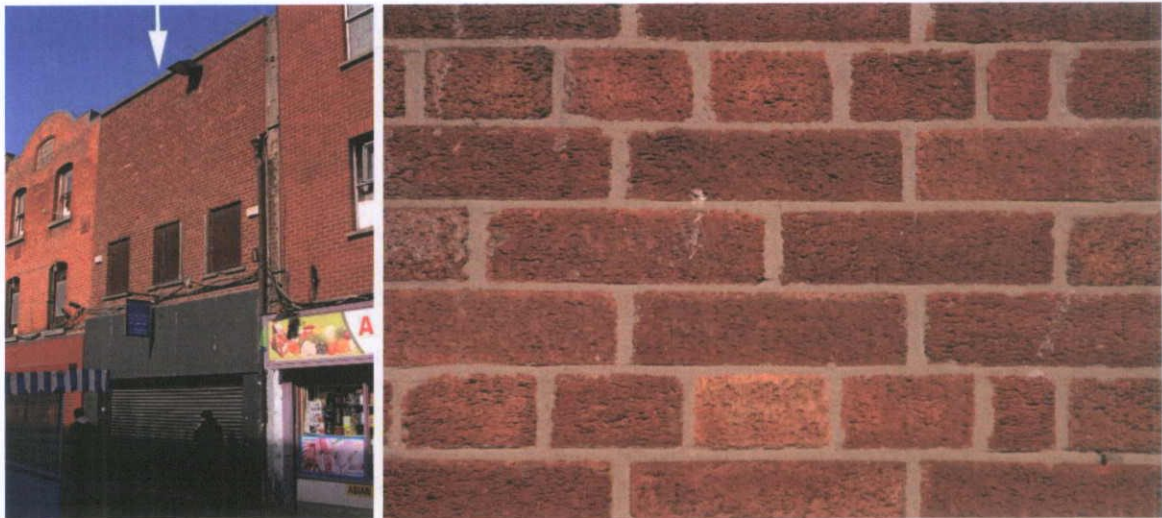


Fig.5.3.1: The façade of 13 Moore Street was built of machine-cut textured brick bedding in Portland Cement and finished with flush joint.



Fig.5.3.2: 13 Moore Street, Ground Floor, Rear Room, north face of south wall (party wall with No.12). Detail of handmade brickwork from the internal party wall between Nos.13 & 12 Moore Street with burnt shell inclusions (arrowed) within the fired clay matrix (left). The original brick at first floor level (right) is also hand-made and of varying dimensions and qualities, laid in deep lime mortar joints. These are ‘place’ bricks intended to be coated with a lime plaster.



Fig.5.3.3: 13 Moore Street, Ground Floor: Detail of burnt shell inclusions in the brick.



Fig.5.3.4: Fingerprint impression (probably from a child or young adolescent) formed in the brick. This occurs when the brick is 'green' and is turned prior to firing.



Fig.5.3.5: Internal party wall at upper floor level showing hand-made brick bedded in a lime bedding mortar.





Fig.5.3.6: The original bedding mortar is lime based, without obvious pozzolanic additions, and containing rounded limestone pebble to gravel-sized aggregate.



Fig.5.3.7: 'Creephole' at ground floor level, front room, south wall: showing a change in construction with the insertion of broken cobbles and other materials bonded in a cement-based mortar.



Fig.5.3.8: The late eighteenth/early nineteenth century mortars contain abundant lime limps (left) but no obvious porous brick aggregate or pozzolanic brick dust; while a proportion of the brick contain shell fragments as inclusions within the matrix – these are partially fired indicating that they were contained within the brick during manufacture.



Fig.5.3.9: Late eighteenth/early nineteenth century brickwork, ground floor, south wall, with concrete infill.



Fig.5.3.10: Detail of 20<sup>th</sup> century concrete repair to the south wall at ground floor level.

**5.4 5a Moore Lane:** This building was not accessible at the times of inspection. The boundary wall is formed of modern concrete blockwork and a modern roller shutter. It is unclear whether any early fabric survives within the site.

**5.5 6-8 Moore Lane:** This probably mid to late nineteenth century building has a Calp limestone masonry ground floor level pointed with Portland Cement strapwork over heavily soiled probably lime-based bedding mortar; with a granite string course separating the Calp from the brick masonry at first floor level, and a second granite string course forming the cills of the clerestory windows. This brick is machine cut extruded brick laid in a medium-grained probably lime-based bedding mortar finished flush. The site is shown as J. & G. Campbell Ltd. On the 1893 and 1927 Insurance plan maps

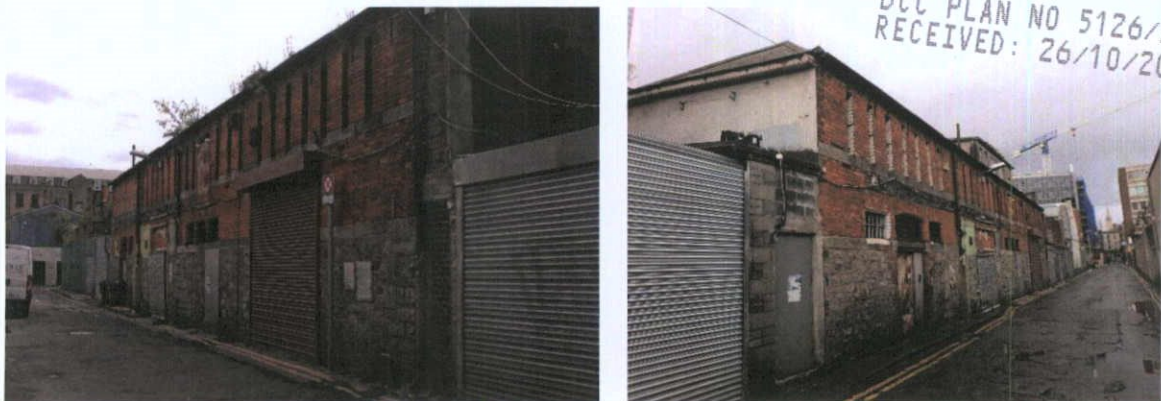


Fig.5.5.1: General view of Nos.6-8 Moore Lane.



Fig.5.5.2: The coursed hewn Calp limestone masonry has been repointed with coarse-grained Portland Cement strapwork, which was also used as a repair mortar at the time of application.

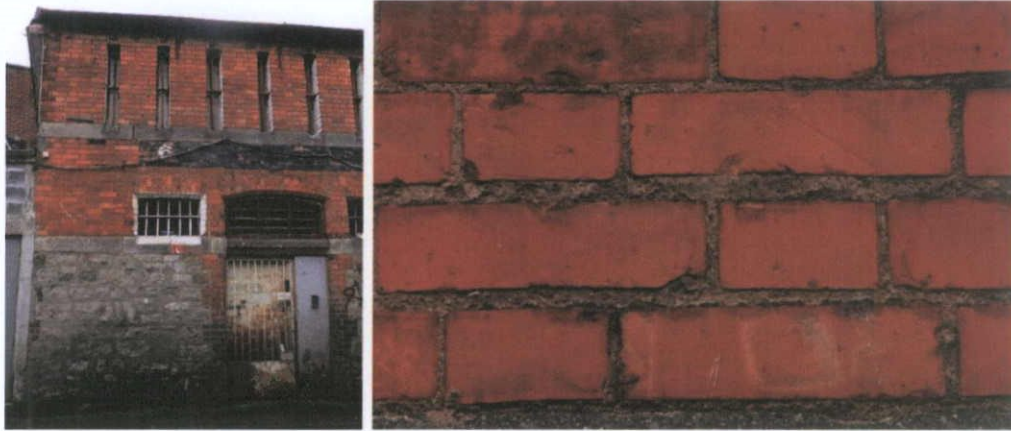


Fig.5.5.3: View showing brick over granite string course with Calp limestone at ground floor level; and a view of kiln-fired machine-cut extruded brick, with a 'kiss-mark' visible.



Fig.5.5.4: The brickwork was laid in a lime-based mortar finished flush.



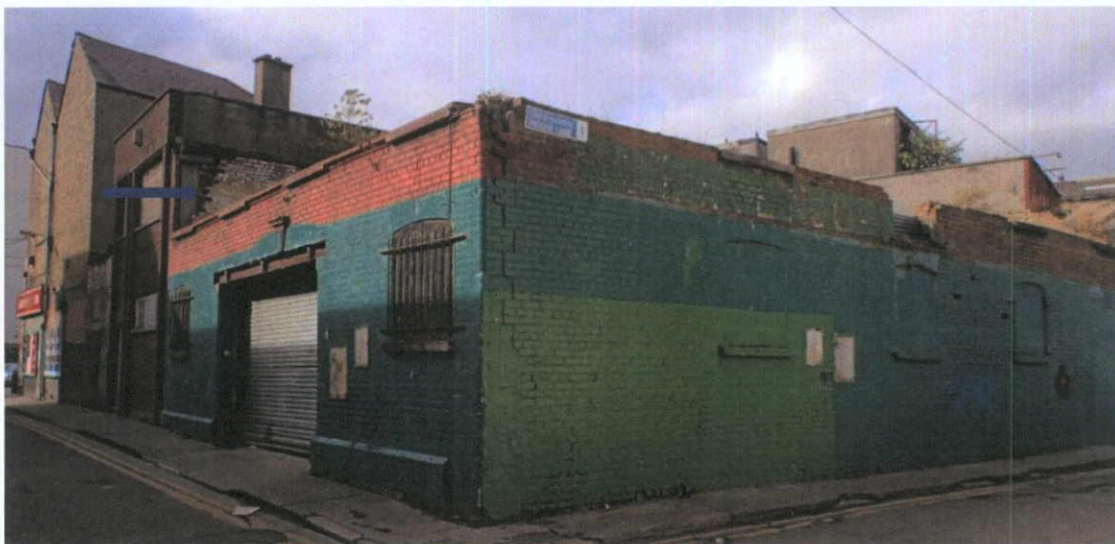
Fig.5.5.5: The lime-based bedding mortar contains sub-rounded to sub-angular aggregate, fine lime lumps and partially slaked limestone and some crushed brick.



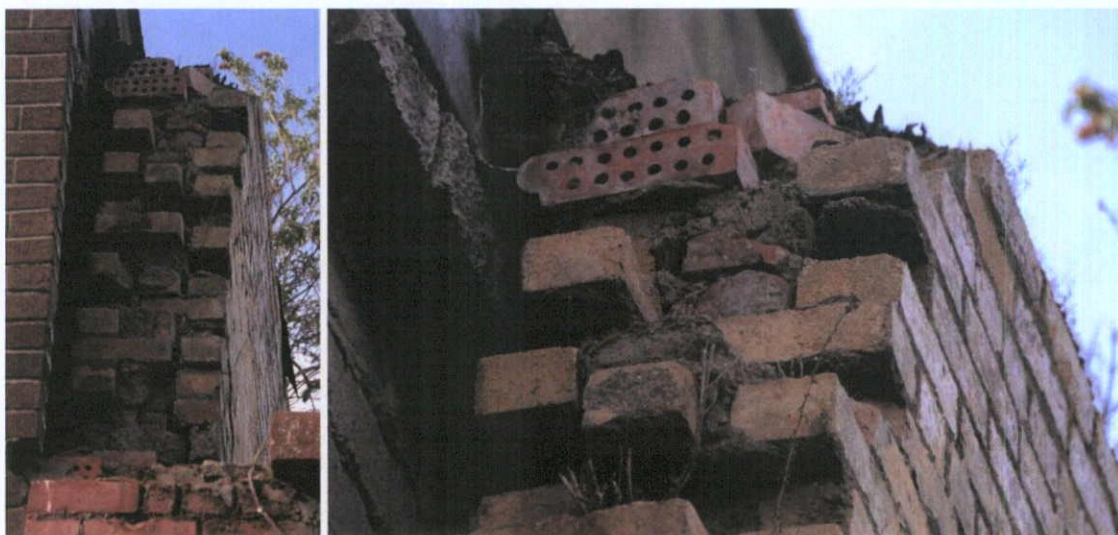
Fig.5.5.6: Mid-twentieth century Portland Cement-based repair and pointing mortar.

**5.6 17-18 Moore Lane:** The exterior of the building is painted but appears to consist of a red machine-cut extruded perforated brick for door and window openings, quoins and string course, with the 'flatwork' and inner leaf built with a yellow stock brick. The south entrance has a terracotta keystone, and the west wall at first floor level has moulded perforated red brick indicating that the west elevation had decorative elements. The brick is similar to that seen in Nos.5-8 Henry Place, and probably dates to the last quarter of the nineteenth century. The brick has been laid in a medium-grained cement-lime based bedding mortar with flush joints.

The inner walls differ in composition, but are difficult to interpret due to surface treatments – with the inside of the south face having a lime-rich bedding mortar; the east wall composed of a pebbly yellow brick bedded in a grey Portland Cement mortar; and the north wall consisting of red place brick concealed behind a cement-based plaster. The north wall is bedded in a pozzolanic lime mortar and may be earlier than the other walls in the structure.



*Fig.5.6.1: The building appears to have been cut down with upper floors removed. Part of the west wall at first floor level survives (arrowed). There is no wall-top, coping or other finish to the brick walls.*



*Fig.5.6.2: Detail of the inner leaf of yellow stock brick forming the west wall at first floor level; with moulded perforated red brick indicating decorative treatment to the west elevation of the building.*



Fig.5.6.3: View of the roof from the west, with the inner leaf of yellow stock brick from the now lost first floor level visible at the wall tops.

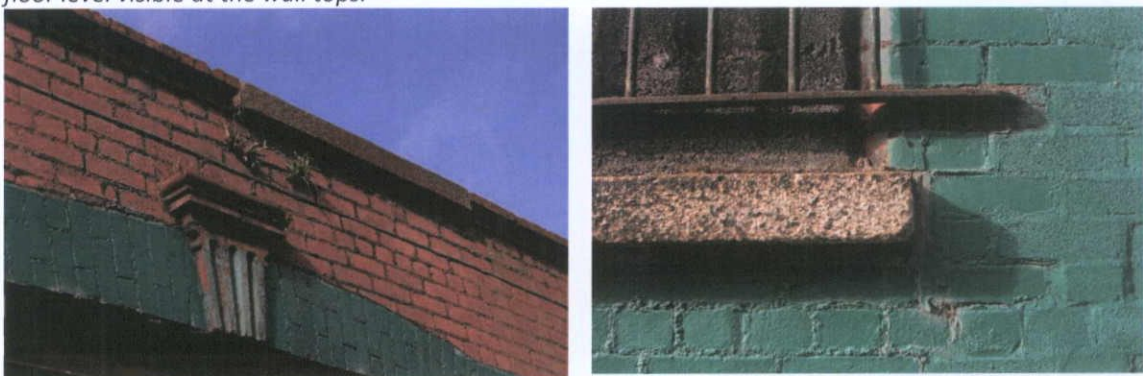


Fig.5.6.4: Decorative moulded red brick specials forming a string course aligned with a probably window cill on the south elevation (left) and a granite cill on the east elevation (right).

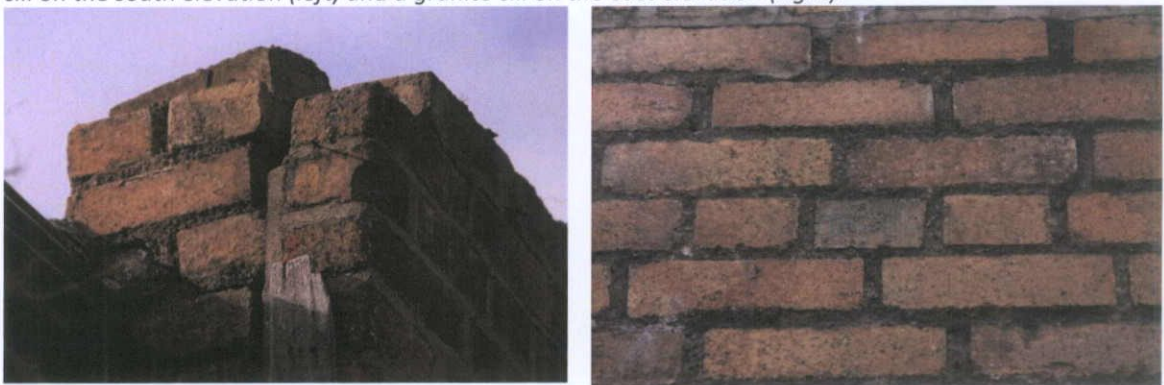


Fig.5.6.5: Yellow stock brick from the east elevation.



Fig.5.6.6: The yellow stock brick was used for the east (left) and north (right) elevations.

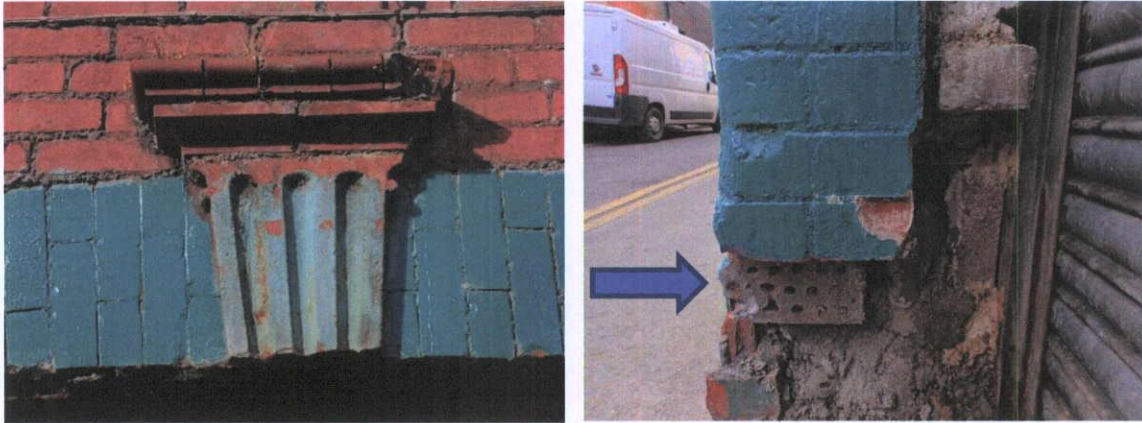


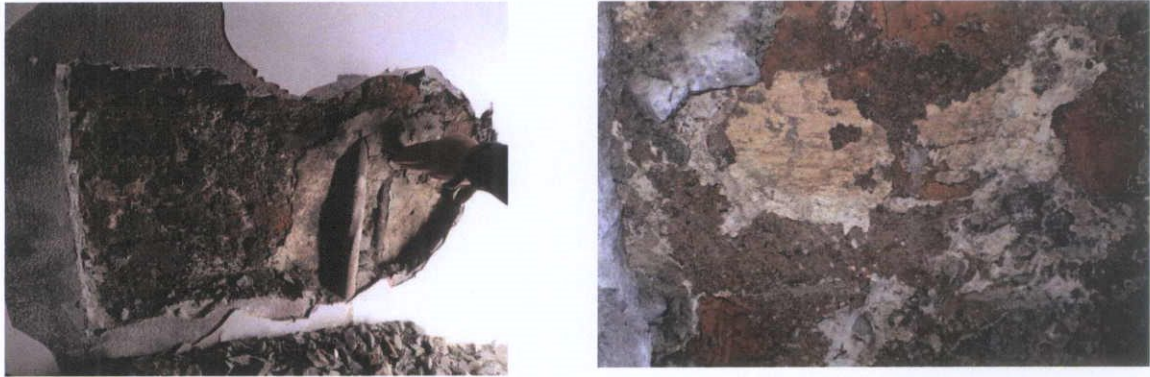
Fig.5.6.7: Terracotta keystone and perforated brick opening (arrowed) with inner leaf of yellow stock brick.



Fig.5.6.8: Detail of yellow stock brick from the inner face of the south wall bedded in a lime-rich mortar; and the inner face of the east wall showing coarse yellow brick bedded in a cement mortar (right).



Fig.5.6.9: The south wall is of extruded brick and terracotta with yellow stock brick as internal wall linings, and is probably late nineteenth century construction work.



*Fig.5.6.10: The north wall is composed of hand made and probably clamp-fired red place brick, concealed behind a cement-based plaster. This brick masonry wall is very different in composition to the other walls in the building, and is more similar to the party walls found behind the internal plasterwork of the buildings between No.18 and Nos.20-21 Moore Street. While only a relatively small section of brickwork was exposed – this appears to be an early wall for the area, and may even be a late eighteenth or early nineteenth century brick wall.*

**5.7 18 Moore Street (10-11 Moore Lane):** Two-storey two-bay brick fronted building laid in English garden wall bond with a chimney stack on the north side. This façade shows a machine-cut brick with 'kiss marks' (colour variations) arising from the placement of bricks in the kiln at the time of firing. These bricks were in common use in Dublin City from the 1890s until after the 1920s. It can be found on the Iveagh Trust buildings (c.1901-1904) and are also found at Nos.20-21 Moore Street. Similar bricks are also found in domestic housing from later in the 20th century, so there were a number of decades in which this type of 'kiss marked' red brick was in use in Dublin City. It is not possible to state with any certainty whether these bricks were erected before or after 1916.

The kiss-marked bricks extend 5 courses above the heads of the windows. The uppermost 10 courses of brickwork and the chimney do show any kiss-marks (at least from ground level) and have dry joints (where the mortars have receded) and a number of the brick have lost their outer face (where the kiss-mark is located). There is no strong evidence that the upper part of the building was rebuilt<sup>41</sup>, though both brick and mortar deterioration is present. The thickness of the joints is consistent throughout the facade and this appears to be a single uniform facade.

Internally, the party wall with No.17 Moore Street is of concrete block construction. The exposed areas on the ground floor within No.18, and exposed at ground and first floor levels within No.17 are of concrete blocks, made with 'clinker' concrete, and bedded in a cement-based mortar. Clinker concrete was used for mass concrete work and for making concrete window cills from c.1900. This type of concrete is seen at Nos.3-6 Moore Street where it forms the party and rear walls. At No.18, the concrete was cast into large blocks with large coarse stone aggregate, clinker and occasional iron impurities. These can be seen used to form garden walls in Phibsboro from the mid-twentieth century. The block is very lean - i.e. there is insufficient cement to bind the aggregate, and it crumbles and breaks easily. This was an issue with concrete made during the Emergency Years c.1939-45 when cement supplies were low. Given the poor quality of the concrete, on the balance of probabilities, this concrete is likely to date from after 1916.

The rear wall of No.18 Moore St is also of concrete blockwork. This is made of very similar concrete to that seen in the party wall between Nos.18 and 19, and again bedded in a fine-grained cement mortar. The blocks are smaller in dimension, but of similar composition and of similar poor quality. Given the similarity to the concrete blocks in the party wall coupled with the poor quality of the concrete, on the balance of probabilities, this concrete is likely to date from after 1916.

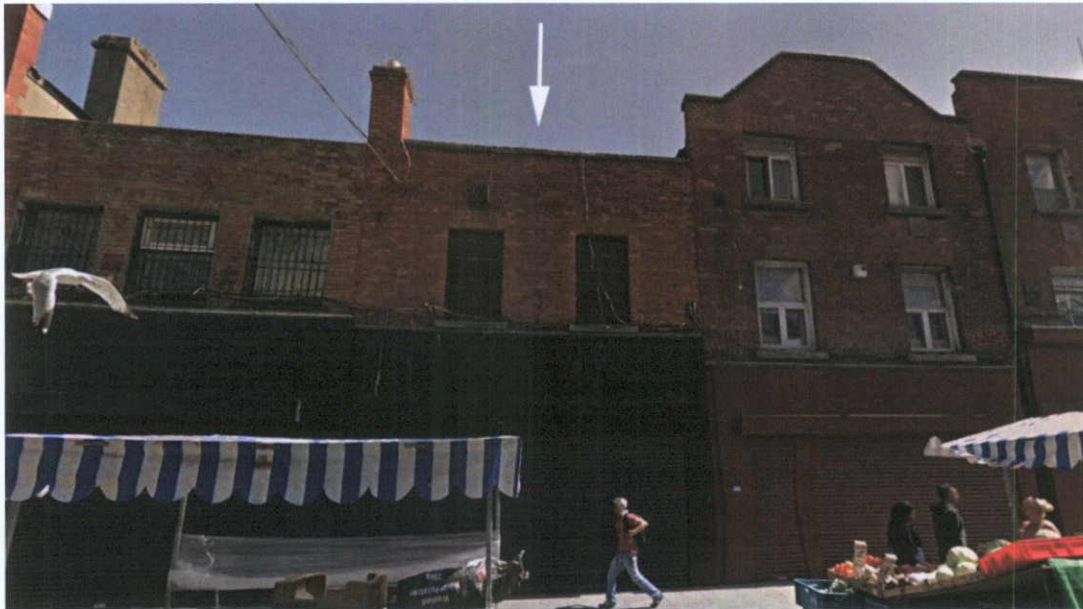


Fig.5.7.1: 18 Moore Street, showing a twentieth century brick façade.

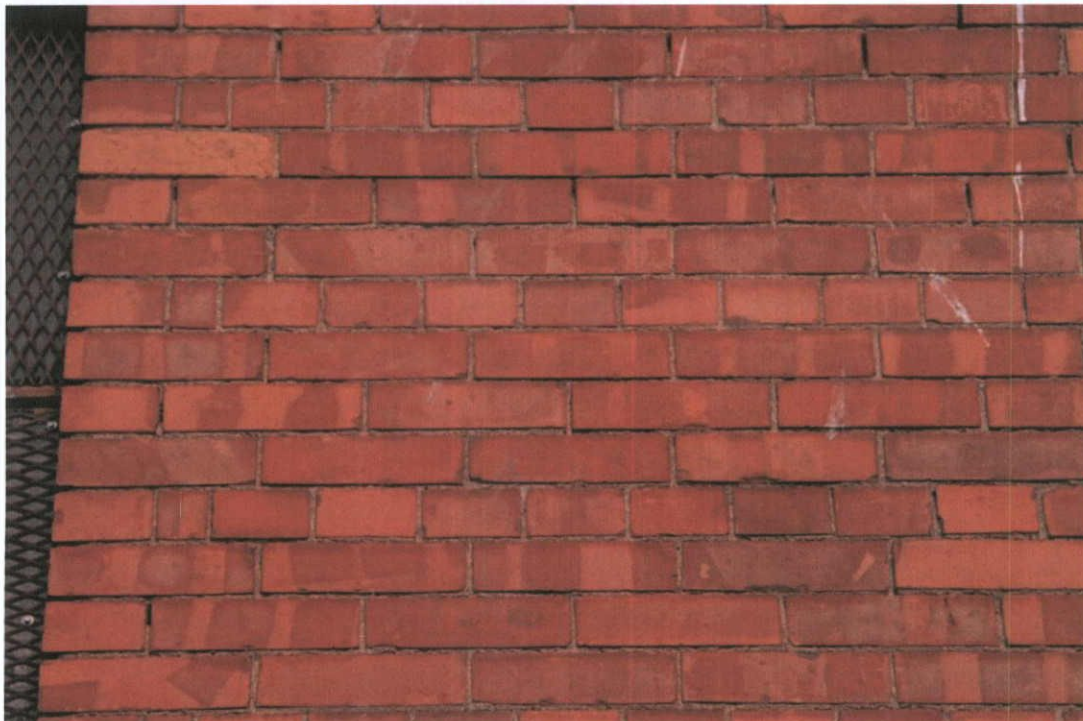


Fig.5.7.2: Machine-cut red brick showing 'kiss marks' from the firing process.



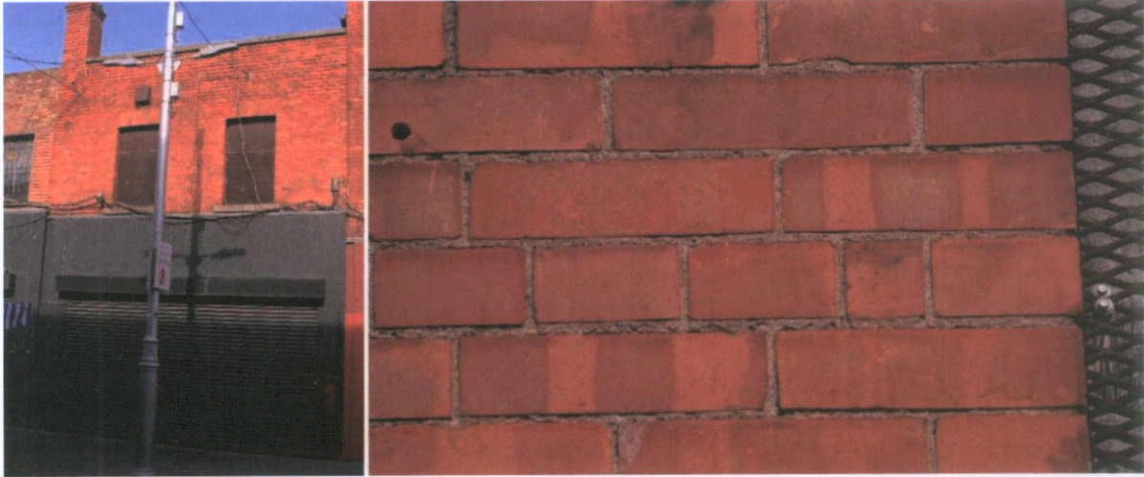


Fig.5.7.3: The first floor has brick with 'kiss marks' from the firing process. This type of brick is found in buildings in Dublin City from the 1890s and used thereafter for a number of decades.

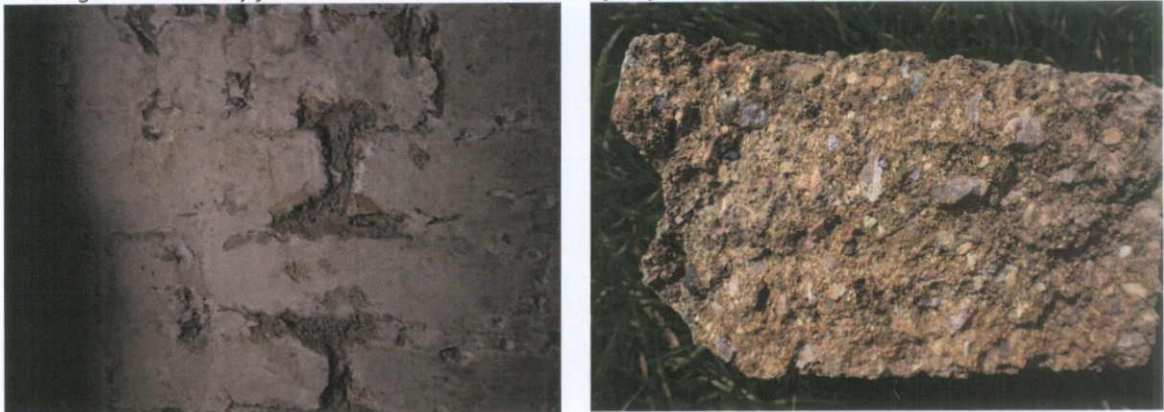


Fig.5.7.4: The inner leaf of the façade at first floor level is composed of a gritty yellow stock brick laid in a fine grey-coloured mortar beneath layers of paint and a later plaster.



Fig.5.7.5: Concrete blockwork with natural stone, clinker and occasional iron fragments used to form the party wall with No.17 Moore Street, with a similar concrete block of smaller dimension used to form the rear wall of No.18 Moore Street.

**5.8 19 Moore Street:** Two-storey two-bay brick fronted building laid in English garden wall bond rising to a granite coping. The brick surface is largely concealed by paint; but the textured brick appears to be of a type commonly used during the twentieth century. The building is said to be c.1930s and the façade does not appear to show any early fabric. Internally, the north, south and west (inside façade of the façade) were found to be of concrete.

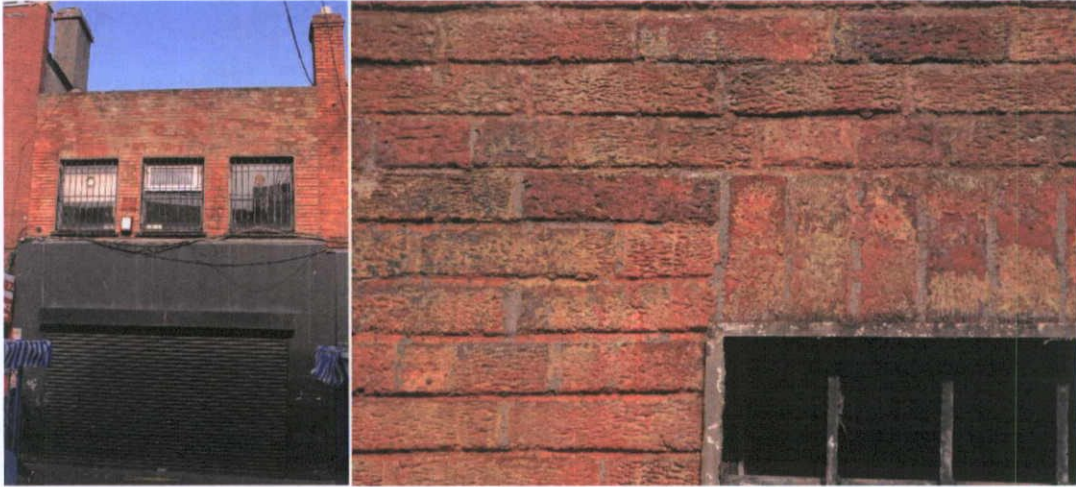


Fig.5.8.1: General view of 19 Moore Street with a detail of the painted brick at first floor level.

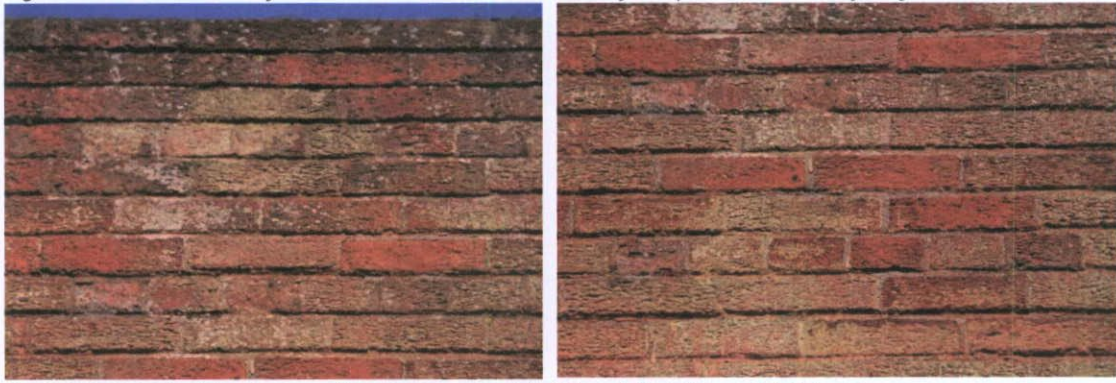


Fig.5.8.2: Detail of the textured brick at parapet (left) and first floor (right) level.

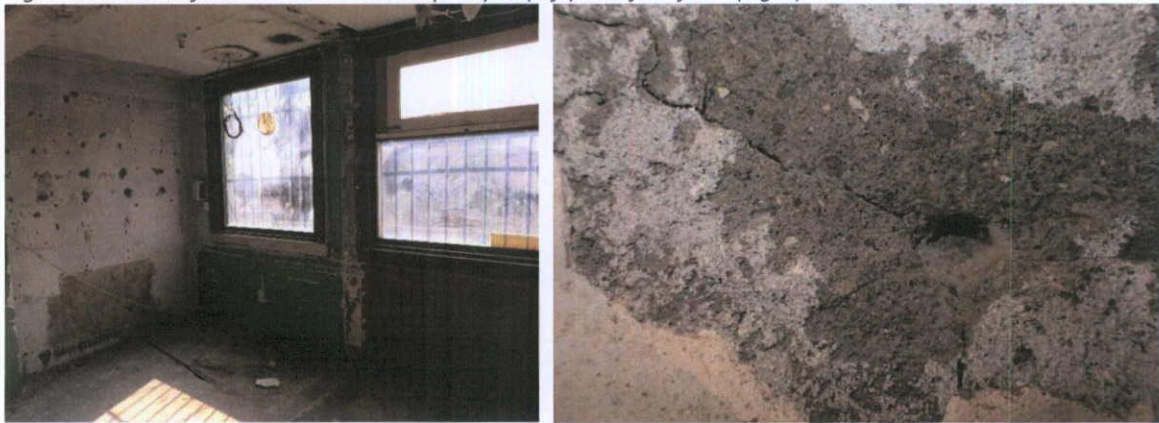


Fig.5.8.3: View of the south-west corner at first floor level, with a detail of the party wall with No.18 Moore Street (right) showing concrete.



Fig.5.8.4: The party wall (left) and inner face of the west wall (right) are of concrete.

## 6. Site 5

- The internal party walls between Nos.20-21 Moore Street shows eighteenth-century hand-made clamp-fired 'place' brick; a proportion of which is 'shell lime' brick also seen at Nos.10, 12, 13 and 18 Moore Street.
- The wall within the depot at No.14 Moore Lane consists of two distinct walls: a probably late eighteenth or nineteenth century Calp limestone wall at the east end; and a irregular hand-made clamp-fired place brick wall at the west (this brick type was cheaply imported into the city along the canal routes from the 1790s onwards); with a scattered, disparate range of tiles, stamped and unstamped brick inserted haphazardly into the fabric which were interpreted as later repairs.
- Nos.22-23 and No.24 Moore Street are of relatively modern origin and no early building fabric was observed during the site visits.

**6.1 20-21 Moore Street & 12 Moore Lane:** The building consists of a three-storey-over-basement brick fronted building with a concrete/cast stone frieze<sup>42</sup>, and having 2/2 timber sash windows at first and second floor levels of No.21 Moore Street. The brickwork on the façade is a common machine-made type that was not closely examined, but could date from 1890-1920s. The building has been greatly repaired, with the internal party walls consisting of three different material fabric:

- The party wall between Nos.20 & 21 at first and second floor levels consists of hand-made clamp-fired 'place' brick intended to be used for wall-linings. A proportion of this brick is 'shell lime' brick, which is also seen at Nos.10, 12, 13 and 18 Moore Street.
- The party wall with No.19 Moore Street (south wall of the building) is of twentieth century concrete construction.
- The party wall with No.22 Moore Street (north wall of the building) is of extruded machine-cut brick construction; and likely to be from the first quarter of the twentieth century. A similar brick was used for the link building between 42 O'Connell Street and O'Connell Hall.

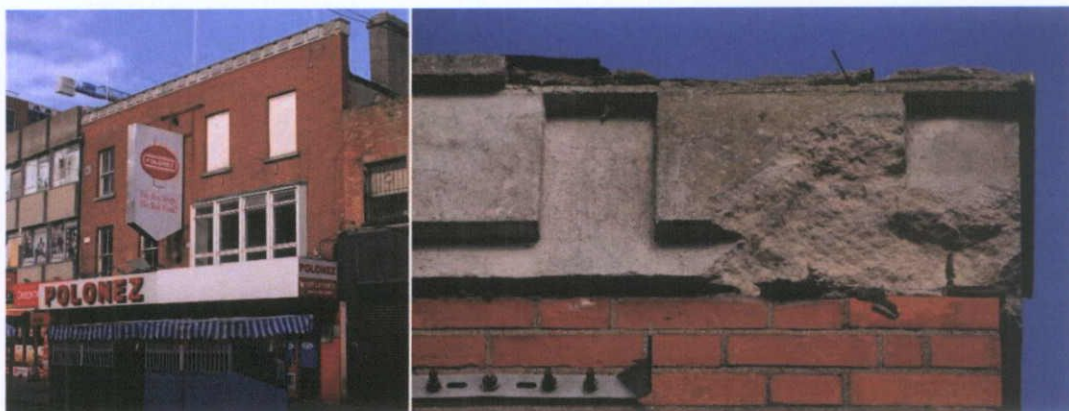


Fig.6.1.1: General view of the façade with a detail of the cast stone/concrete frieze at parapet level.



Fig.6.1.2: Detail of the brickwork at the façade, showing 'kiss marks' from the firing process.



Fig.6.1.3: The south wall of the building (party wall with No.19 Moore Street) is of concrete construction.



Fig.6.1.4: The party wall between Nos.20 and 21 is of hand-made clamp-fired brick laid in deep lime mortar joints.



Fig.6.1.5: The lime mortar joints bedding the hand-made clamp-fired brick consist mainly of sub-rounded limestone aggregate with scarce angular lime lumps.



Fig.6.1.6: Shell (arrowed), partially fired, inclusion within the brick.



Fig.6.1.7: Many of the bricks were unevenly fired, with sections over-fired and partially vitrified.



Fig.6.1.8: The north wall (party wall with No.22) consists of kiln-fired extruded machine-cut yellow stock brick. Similar brick is found in the link building between 42 O'Connell Street and O'Connell Hall.

**6.2 22-23 Moore Street & 13 Moore Lane:** The building is composed of a c.1960s concrete brick finished with a flush Portland Cement mortar joint. This building was not examined internally.



Fig.6.2.1: 22-23 Moore Street.



Fig.6.2.2: Detail of the concrete brick on the façade.

**6.3 24 Moore Street:** The three-storey three-bay brick-fronted building has cast concrete faux-quoins framing the façade. The frieze was not closely examined but is also likely to be a modern concrete cast in imitation of natural stone. The building was examined internally, but no opening up works were undertaken. However, the structure appears to be of modern origin.

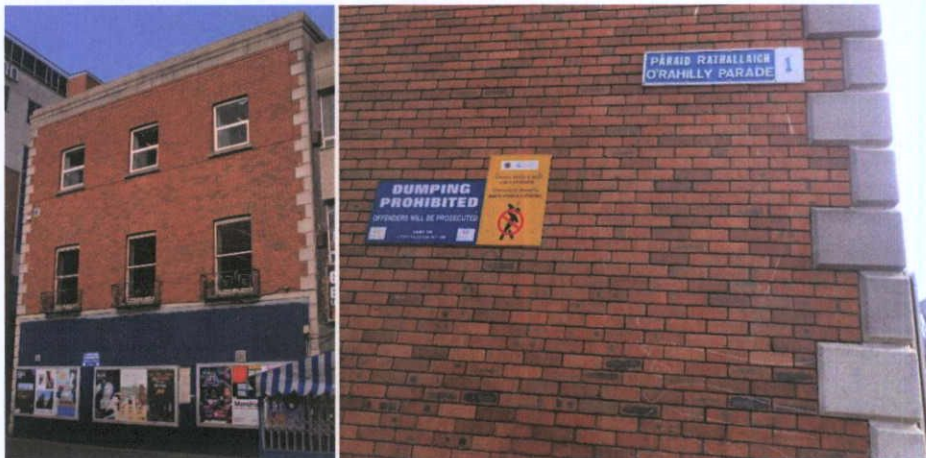


Fig.8.3.1: General view of Nos. 24-25 Moore Street.



Fig.8.3.2: Detail of the brickwork and cast stone quoins.

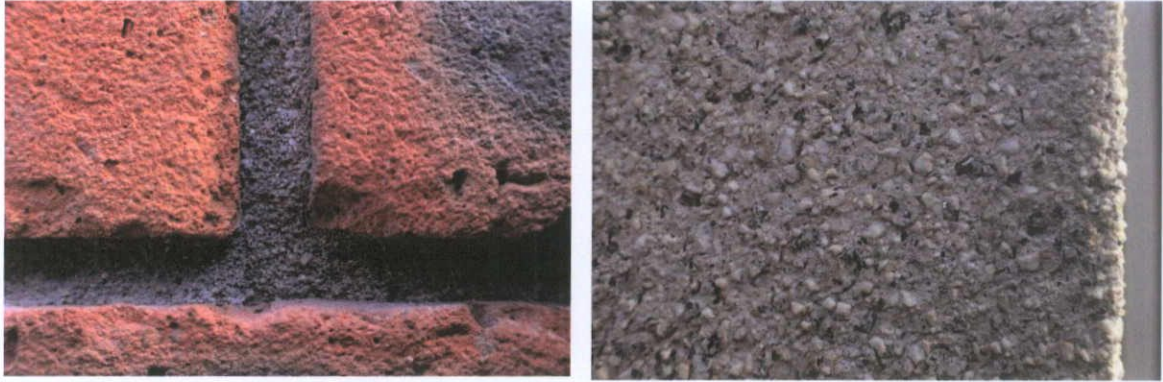


Fig.8.3.3: Detail of the brick and Portland Cement mortar (left) and cast stone quoin (right).



Fig.8.3.4: View of the north elevation and rear from Rahilly Parade.

**6.4 14 Moore Lane:** This wall consists of two parts: a probably late eighteenth or nineteenth century Calp limestone wall at the east end and a place brick wall at the west, with a scattered, disparate range of tiles, stamped and unstamped brick inserted haphazardly into the fabric (which were interpreted as later repairs). This plot is in use as a Dublin City Council depot, and is the site of the 'Old Brick Field' on John Rocque's map. A number of buildings are noted on the 1847 and 1864 Ordnance Survey maps, and the site is occupied by 'C.F. Allen Printing & Bookbinding Works' on the 1893 Goad's Fire Insurance map. The wall contains:

- External face of a Calp limestone masonry wall bedded in pozzolanic lime mortar with some rounded boulders and cobbles and tile which may be early nineteenth century. The wall uses the same construction techniques as seen in earlier walls and contains coarse brick aggregate, but lacks the fine brick pozzolan which provided hydraulic qualities seen in Georgian building fabric further south along Moore Lane.
- Internal face of irregular hand-made clamp-fired place brick bedded in lime mortar which is probably nineteenth century (as the brick is similar to that cheaply imported into Dublin along the canal networks, with the Royal Canal opening at the end of the eighteenth century).
- Stamped 'Bridgewater' nineteenth century Somerset brick imported from England. This brickmaker was established in 1857 and manufactured brick until the 1960s. The typeface used for the stamp appears turn of the century, but this single brick is likely to be an isolated repair.



Fig.6.4.1: General view of 14 Moore Lane.

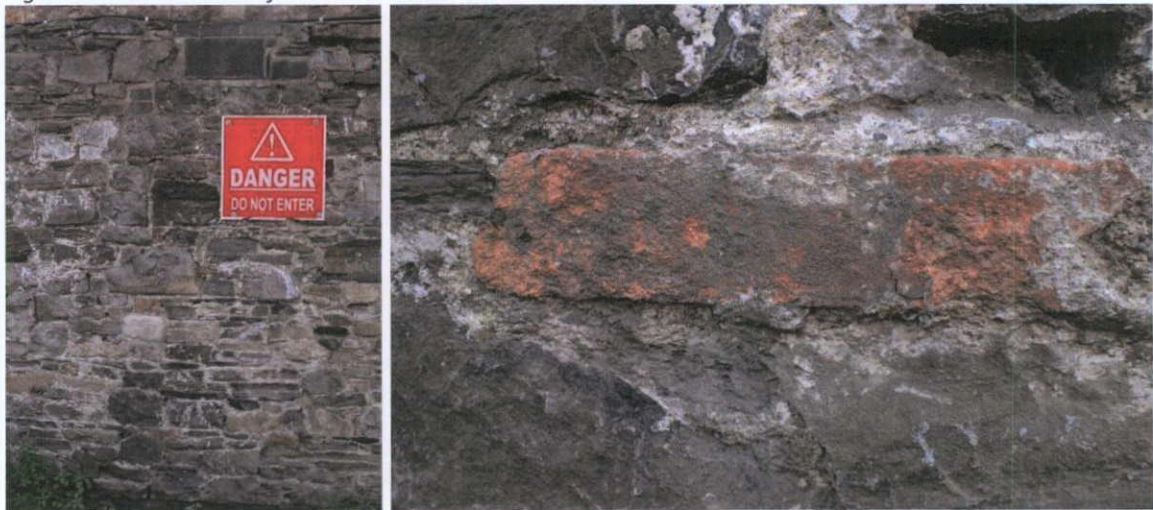


Fig.6.4.2: Calp limestone masonry section with thin brick forming part of the fabric. Note that the masonry contains flaggy and rounded stones. The masonry is similar to the Calp limestone masonry forming the internal east wall at 9 Henry Place (probably the remnants of a nineteenth century stable).



Fig.6.4.3: Rounded cobble-sized limestone is also found in the wall fabric.



Fig.6.4.4: Irregular distorted clamp-fired vitrified yellow brick, possibly 18<sup>th</sup> century (left) and imported stamped 'Colhurst Symon & Co. Ltd Bridgwater' from Somerset. This brickmaker was in operation from 1857 until the 1960s





Fig.6.4.5: The eastern section of the wall consists of hewn Calp limestone masonry bonded in a lime-based mortar.



Fig.6.4.6: Ceramic tile used within the masonry.



Fig.6.4.5: Deep lime mortar joints with poorly sorted predominantly coarse limestone aggregate, slate pinnings and scarce coarse brick aggregate (arrowed).



Fig.6.4.6: Slate pinnings (left) and coarse brick aggregate (right, arrowed) as an occasional component of the aggregate fraction of the mortar.



Fig.8.4.9: Warped hand-made clamp fired brick (left) while the upper course contain occasional imported brick (right, arrowed) presumably added as a levelling-up course before the concrete was poured).



Fig.8.4.10: The western section of the wall is composed of red and yellow place brick, and appears to represent internal lining.



Fig.8.4.11: Poorly formed hand-made place brick, with modern concrete construction adjacent.



Fig.8.4.12: Poorly-fired place brick in a deep lime-based mortar joint, showing a remnant of a lime-based plaster adhering to part of the surface (left, arrowed). Right: Poorly-fired place brick showing vitrified areas, voids, warping, but with traces of limewash on the surface of the brick.

## 6. Summary of Key Findings

**6.1 Early Hand-made Brick:** There are a number of types of hand-made clamp-fired bricks found among the buildings of the Dublin Central Project. No.42 O'Connell Street (treated separately in an accompanying report) provides a useful 'point in time' reference. The façade of this building is composed of red facing brick, but the internal wall linings are composed of a coarser rich red-coloured stock brick containing sharp angular limestone inclusions which are seen in brick in other building on O'Connell Street and Parnell Street. Some of this early brick is also found in 'Building C' at 50-51 O'Connell Street. This is a good contender for brick burnt on the 'Old Brick Field' marked on John Rocque's mid-eighteenth century map of Dublin. These are found bedded in pozzolan lime mortars (where fine brick dust was added to the mix) and lime mortars using only local coarse rounded aggregate with no intentional inclusions.

A second early brick in the area is a relatively soft hand-made clamp-fired mostly pale red-coloured 'place' brick found on internal wall linings along Moore Street and in the chimney of No.60 O'Connell Street. This brick would have little resistance to external weathering stresses and was intended to be concealed by a plaster or render. A proportion of these bricks contain shell which is likely to be a by-product of shellfish consumption rather than indicative of brickmaking along the coast. These bricks are found on internal and external walls along Moore Street, on buildings which were built on the grounds of the 'Old Brick Field' marked on John Rocque's mid-eighteenth century map of Dublin. These are likely to be of late eighteenth or early nineteenth century date.



Fig.9.1.1: Brick with coarse angular limestone inclusions from the basement of No.43 O'Connell Street (left), and seen in the internal walls of No.71 Parnell Street (right).



Fig.9.1.2: 'Shell brick' is found at a number of buildings on Moore Street including No.10 Moore

A third early brick is a red, yellow and variegated colour 'stock' brick is found throughout the site. This type is often referred to as 'Dublin stock brick', but was more frequently made in brickfields to the west of the city. With the opening of the Grand and Royal Canals at the end of the eighteenth century, a large amount of small-scale brickfields opened up along the canals for the purposes of feeding the Dublin construction market. These bricks are variable in quality, with multiple colours seen within a single brick, and with some parts of the brick appearing black and glassy where it was over-fired. Classifying these bricks according to colour tends to be misleading, as the surface colour is often not the colour of the core of the brick. These bricks were made at multiple locations in west Dublin, Kildare, Laois and other places, with larger brickyards becoming established in Athy and other places, and with the quality varying. These bricks were made by many manufacturers between the late eighteenth century and the mid-twentieth century, but with the bulk of use seen in the Victorian period and before the widespread availability of well-fired extruded brick. Only a very small proportion of these bricks were frogged or had manufacturers stamped<sup>43</sup>. However, these bricks tend to be better fired with smaller pebbles than the 'stock' bricks found lining the internal walls of No.42 O'Connell Street, and of better quality than the 'shell brick' found along Moore Street.

A fourth early brick are the yellow-salmon coloured 'sammel' bricks found forming some vaults along O'Connell Street. These are soft and not of great quality in either manufacture or durability (though they have survived in waterlogged and poor conditions) but are visually distinctive and probably relate to mid-eighteenth century structures.

**6.2 19<sup>th</sup> Century Extruded Brick:** A number of the buildings retain nineteenth century extruded brick which became popular for building in Dublin City. These are not intact buildings, but often simply the retained ground floor of industrial buildings such as 5-8 Henry Place and 17-18 Henry Place. Campbell's of Moore Lane retains brick polychrome including a stamped brick indicating that the polychrome brick was sourced from Staffordshire. Polychrome brick is also used at 11-13 Henry Place. These bricks were often used in conjunction with terracotta, but only one example of terracotta has survived. White encaustic brick is known from a number of late nineteenth and early twentieth century buildings in Dublin City, and was popular for areas such as kitchens, W.C.s and other areas which needed high levels of hygiene.

**6.3 20<sup>th</sup> Century Brick:** A number of buildings are known from historical records to have been built c.1917 and in the 1920s and later. These provide useful reference points to clearly identify the type of bricks which were used, and those which were not used after the War of Independence. In general, these bricks tend to be well-formed, well-fired and homogenous red and yellow brick, and are found in both solid and perforated forms. The key different between these bricks and earlier Georgian and Victorian bricks is the choice of raw material. Facing brick from the late nineteenth and twentieth century tends to be formed from clay without natural coarse pebbly inclusions, and fired using controlled temperatures in a brick kiln to provide a consistent finish. The red bricks occasionally retain surface striae from wire-cutting, but are usually