

LINCOLN'S INN NEW SQUARE LONDON

Architectural Paint Research Report



November 2023

Executive summary

Forty-seven separate phases of decoration were identified on the rendered basement walls of Nos. 1-11 New Square. No one property retained all 47 schemes and it is apparent that each of the buildings has experienced some degree of paint loss, most likely the result of deterioration or sanding down in preparation for redecoration. Nonetheless, the ten houses shared many decorative finishes, and based on the assumption that uniformity of appearance would have been a key visual objective, it was possible to cross-reference the surviving schemes on each range and then throughout the square to construct an understanding of their overall decorative history.

Although the pigments identified in the paint strata were commonly available prior to the late 17th century construction phase and therefore were not helpful date markers, the use of lead, zinc and titanium-based paints assisted in pinpointing when individual decorations were applied. As a consequence, it was possible to determine that the final 16 schemes were executed at some stage after c. 1960. This in turn suggests that the walls were redecorated approximately every three to four years during this late phase of development. If a similar maintenance schedule was employed prior to this date there are a sufficient number of phases remaining to relate back to the mid-19th century. Furthermore, the investigations were able to pinpoint that Scheme 4 was most likely applied after the reconstruction of No. 9 in c. 1870.

Records indicate that No. 11 was re-rendered with Portland cement following WWII bomb damage. Unfortunately, the sample taken from its basement wall was badly disturbed and consequently it was not possible to establish which scheme related to this event, although paint strata from Scheme 33 onwards were present.

In the first surviving mid-19th century phase of decoration the basement walls were painted a brownish stone colour. This was followed two further dark shades of stone before a warmer stone hue was applied. In the following 16 schemes the rendered surfaces were painted in shades of stone or brown with one example of a deep salmon pink colour having been employed. In Scheme 21 the basement walls were lightened to white before as many as ten stone or brown decorations and one late cream coloured finish were observed. Traditional lead-based oil paints were employed exclusively up to this point in the stratigraphy pattern.

From Scheme 32 onwards the basement render was decorated in a lighter palette consisting of mostly white paint finishes, although one cream and one deep yellow coloured coating were also recorded. This change in appearance coincided with the introduction of modern titanium-based paints from c. 1960 onwards and highlights the significant shift in taste which occurred in London in the years following World War II. Sandwiched between these modern paint layers two examples of white limewash were also recorded.

Overall, a surprising the level of uniformity of colour was achieved at basement level. However, two notable exceptions were identified in Schemes 6 and 30 when contrasting shades of stone, cream and brown were used, although the buildings in each range continued to be painted in a similar manner to one another.

Generally speaking, the type of render mixture identified was consistent with the number of decoration schemes surviving. However, the northern section of the wall at No. 7 was finished with Portland cement and retained strata from Scheme 4 which is thought to date to c. 1870. As Portland cement render was not commercially popular until the 1850s, the substrate at No. 7 either represents a relatively early example of its use or the area of wall sampled for the paint investigations retained a different, more historic, form of render.

Executive summary

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1. BACKGROUND AND BRIEF

Nos. 1-11 New Square is a continuous terrace of Grade II* listed buildings built between 1691-97 sited around three sides of a green in the centre of London. The houses were originally constructed on three floors in brick above a basement. Accommodation was extended into the roof space in the early 18th century and in the second half of that century they were developed upwards by one floor and the roof structures were rebuilt. Some of the properties have more recently had one further floor added.

In response to fires and other catastrophes significant programmes of reconstruction have occurred over the years including Nos. 10-11 in 1752; Nos. 3-4 in 1782; No. 2 in 1849; No. 9 in c. 1870 and No. 11 following WWII bomb damage.

A survey of the basement rendered facades has recently been conducted to determine both their condition and the materials used in their formulation. With the exception of No. 10 all the buildings have been stuccoed at basement level. Although the render on many of the properties is historic, no original 17th century examples are thought to have survived, suggesting that either previous coatings were replaced or it was not used originally. Five of the houses retain Roman Cement substrates - a formulation invented in c. 1794 -one employs an oil mastic render and another four display relatively more modern Portland cement mixtures. As different sands have been identified in many of the render formulations it is likely that renewal was phased, an assumption supported by the variation identified in the spacing of the lining out.

The current architectural paint research was commissioned to examine the decorative history of the basement rendered elevations and to establish a permanent record of their surviving strata. It is anticipated that the results of these investigations will inform any future refurbishment and redecoration projects.

2. ARCHITECTURAL PAINT RESEARCH

2.1 Removal of paint samples

Sixteen paint samples were removed from the basement level render on Nos. 1-9 and 11 New Square. Samples were taken with a scalpel blade, dentil drill and conservation chisel from ground height.

Sample locations can be found on the sample list outlined in Appendix 4.1 and the sample location photographs in Appendix 4.2.

2.2 Examination of paint samples

Samples were mounted in polyester resin and cross-sections prepared. These were examined microscopically at high magnification under incident and ultra-violet light. Once stratigraphy patterns were established micro-chemical tests were undertaken to identify pigments and media.

The findings are noted in the Description of paint samples and Conclusions sections of this report.

2.3 Description of paint samples

2.3.1 South Range – Nos. 4-6 New Square

No. 4 New Square

Sample 5 was removed from No. 4. The property is thought to have been substantially reconstructed in 1782.

Thirty-two separate phases of decoration survive on the basement wall over an oil mastic render substrate (see Table 1). However, comparison with other New Square samples suggests that a total of 47 decorative phases were preserved on the buildings overall, thereby indicating that No. 4 has lost numerous interim schemes. This loss was most likely the result of deterioration or sanding down in preparation for redecoration. Analysis highlighted that the 13 final decorations at No. 4 were executed at some point after c. 1960, suggesting that the basement render was repainted approximately every three to four years during this period. If a similar maintenance schedule was employed prior to c. 1960 there are a sufficient number of schemes remaining to date back to the mid-19th century.

Initially, the basement render at No. 5 was painted a brownish stone colour over a red lead primer. Two deep stone coloured decorations can then be seen before a warm shade of stone was applied in Scheme 4. Another 14 decorations executed in various shades of stone or brown followed. One exception to this colourway occurred in Scheme 18 when a distinctive deep salmon pink paint mixture was identified. In Scheme 31 the render was painted a more neutral cream colour.

Micro-chemical tests and examination of the decorations recorded up to this point in the stratigraphy pattern under incident and ultra-violet light indicates that they were executed using traditional lead-based oil paint mixtures and coloured with a range of iron oxide earth, carbon black and

red lead pigments.

Iron oxide earth and carbon black have been used as pigments since prehistory and red lead from the Classical period. Therefore, as they pre-date the construction of the New Square buildings, they are not helpful in establishing when these schemes were applied. Lead white was the most commonly used body colour for decorative oil paints from the Classical period up to the 1950s. However, by c. 1960 they had been superseded in popularity by modern titanium-based paints which first came on to the market in c. 1920.

From Scheme 32 onwards the basement render was decorated in a lighter palette consisting of mostly white painted finishes, although one cream and one deep yellow coating were also observed. This change in appearance coincided with the introduction of modern titanium-based paints from c. 1960 onwards and highlights the significant shift in taste which occurred in London in the years following World War II.

No. 5 New Square

Sample 6 was removed from the render at the east end of the building and sample 7 from the west end.

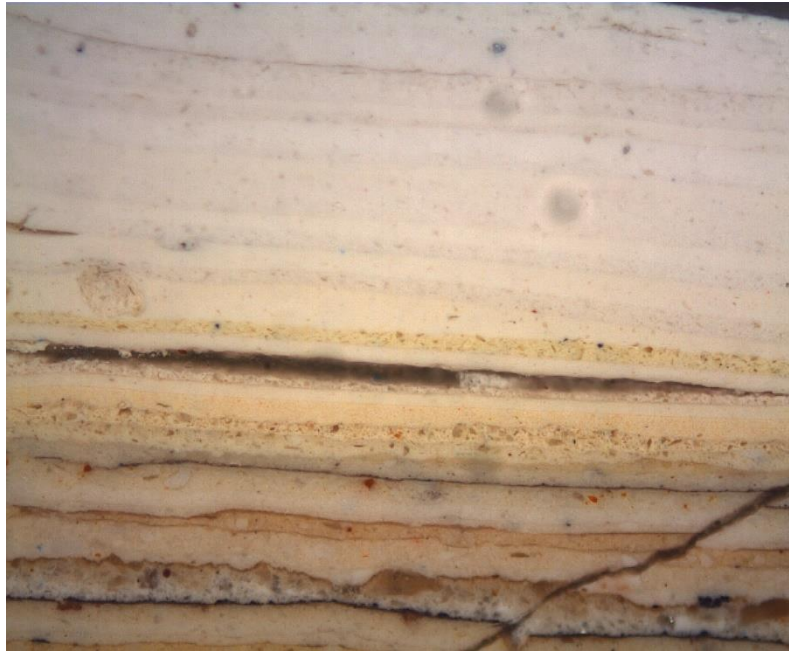
The west side of the basement displayed decoration from Scheme 24 over an unidentified render substrate. In the first three surviving phases the wall was painted in light shades of stone. This was superseded by one warm brown and one brownish stone coloured paint mixtures. Traditional lead-based oil paints were employed throughout this period, pigmented with particles of iron oxide earth, carbon black and occasional chunks of red lead.

Two of the light stone and the warm brown scheme were not present on No. 4, suggesting that either the two adjacent buildings were periodically treated in a contrasting fashion or that No. 5 retains strata lost on the neighbouring facade. As the three absent decorations were recorded on many of the other New Square buildings, the latter scenario is thought more likely.

In the post c. 1960 period the render was painted white 11 times with the cream and deep yellow decorations noted at No. 4 also visible.

The eastern end of No. 5 fared less well and only retained strata from Scheme 32 onwards. Here, six titanium white and the cream coloured post c. 1960 decorations were visible above a Roman cement render. In addition, the basement appears to have been limewashed white as part of Scheme 41. Two areas of repair with also noted with fillers or render used in Schemes 33 and 44.

Photomicrograph illustrating sample 5 taken from the basement render at No. 4 New Square, showing its surviving decorative history. Photographed in cross-section in incident light using a 10X lens. Printed magnification not calculated.



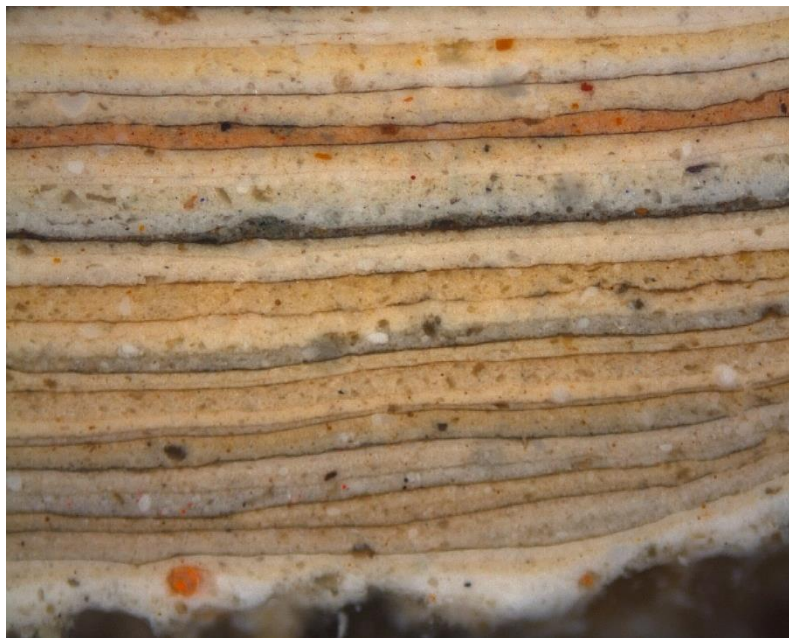
Schemes 39-40 & 42-46: Titanium white paint X7

Scheme 37: Deep yellow paint
Schemes 34-36: Titanium white X3
Scheme 33: Cream paint
Scheme 32: Titanium white paint

Scheme 31: Cream paint
Scheme 30: Light brown paint

Scheme 29: Brownish stone paint

Scheme 27: Light stone paint
Scheme 22: Warm yellow-stone paint
Scheme 20: Light stone paint
Scheme 18: Deep salmon pink paint



Scheme 17: Warm stone paint

Scheme 16: Light stone paint
Scheme 15: Brown paint
Scheme 11: Warm stone paint
Scheme 10: Light warm stone paint
Schemes 8-9: Light & Deep brown stone
Scheme 7: Brown-stone paint
Scheme 4: Warm stone paint
Schemes 2-3: Deep stone paint
Scheme 1: Brown stone paint

Oil mastic render

Table 1: Nos. 4-5 New Square

	Sample 5 No. 4 New Square	Sample 6 No. 5 New Square, East	Sample 7 No. 5 New Square, West
47			Titanium white paint
46	Titanium white paint	Titanium white paint	Titanium white paint
45	Titanium white paint	Titanium white paint	Titanium white paint
44	Titanium white paint	Titanium white paint <i>Render(localised repair)</i>	Titanium white paint
43	Titanium white paint	Titanium white paint	Titanium white paint
42	Titanium white paint		Titanium white paint
41		White limewash	
40	Titanium white paint		Titanium white paint
39	Titanium white paint		Titanium white paint
38			
37	Deep yellow paint		Deep yellow paint
36	Titanium white paint		Titanium white paint
35	Titanium white paint		
34	Titanium white paint on off-titanium white undercoat	Titanium white paint	Titanium white paint
33	Cream paint on broken titanium white undercoat	Cream paint on broken titanium white undercoat <i>Filler</i>	Cream paint on broken titanium white undercoat
32 Post c. 1960	Titanium white paint on off-titanium white undercoat	Titanium white paint	Off-white undercoat
31	Cream paint on lead white undercoat		
30	Light brown paint on warm lead white undercoat		
29	Brownish stone on lead white u/c		Brownish stone paint on lead white u/c
28			Warm brown paint on lead white and light grey undercoat
27	Light stone paint on lead white u/c		Light stone paint on lead white u/c
26			Light stone paint
25			
24			Light stone paint
23			
22	Warm yellow stone paint on lead white undercoat		
21			
20	Light stone paint on light grey u/c		
19			
18	Deep salmon pink paint		
17	Warm stone paint on lead white, light stone and dark warm grey u/cs		
16	Light stone paint		
15	Brown paint		
12-14			
11	Warm stone paint on dark grey u/c		
10	Light warm stone paint		
9	Deep brown-stone paint		
8	Light stone paint on grey u/c		
7	Brown -stone paint on grey u/c		
6			
5			
4	Warm stone paint on warm grey u/c		
3	Deep stone paint on grey stone u/c		
2	Deep stone paint on grey u/c		
1 Mid-19 th c.	Brown-stone paint <i>Red lead primer</i>		
Substrate	Oil mastic render	Roman cement	Unknown

No. 6 New Square

Sample 8 was taken from the east and sample 9 from the west side of the basement render.

The east end of the façade retained decorative strata from Scheme 4, when it was painted warm stone in unison with No. 4, over a Roman cement render. Nine stone or brown coloured decorations followed before the basement wall was painted a warm shade of white in Scheme 21. This was superseded in turn by a further seven stone or brown finishes. All the coatings identified were traditional lead-based oil paint mixtures with particles of iron oxide earth, carbon black and red lead employed as colourants.

In Scheme 32 the render was painted titanium white, in keeping with the other properties on the south elevation of New Square. However, in this instance, this mixture was used as a base layer on to which a white zinc-based oil paint was applied.

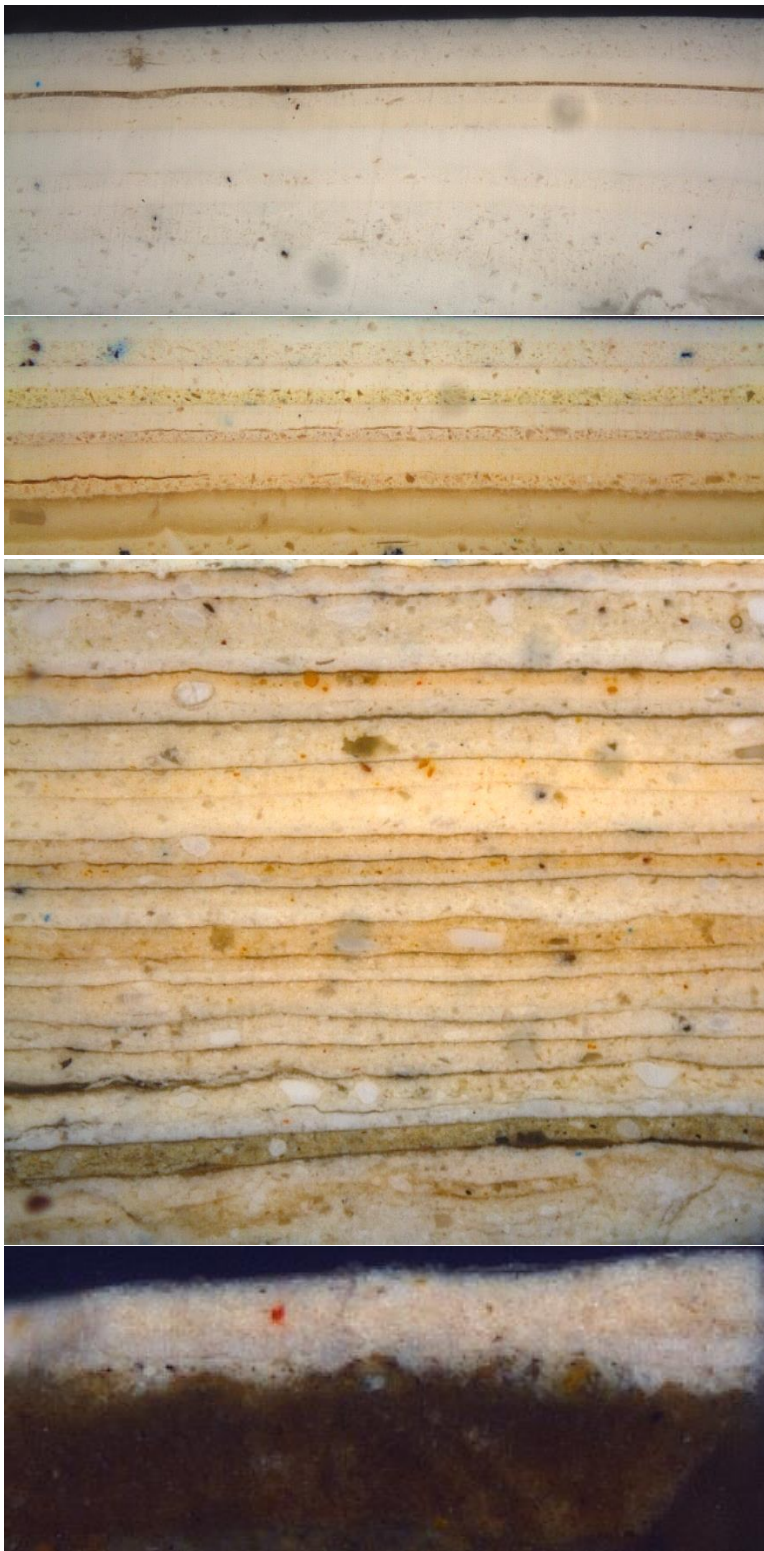
Zinc based oil paints were first introduced commercially in c. 1850. Although they were particularly popular towards the end of the 19th and the opening decades of the 20th centuries due to their non-toxic nature, they are still available commercially today.

Next, one cream, one interim deep yellow and eight white decorations were visible. All were executed using finely ground titanium-based paints and were therefore most likely applied at some point after c. 1960.

The west end of the building did not display evidence prior to the lead-based light brown coating associated with Scheme 30. No further decoration was recorded until Scheme 33, from which point it followed the stratigraphy pattern established at the eastern side of the wall.

The nature of the render substrate is not known.

Photomicrograph illustrating sample 8 taken from the basement render at the eastern end of No. 6 New Square, showing its surviving decoration. Photographed in cross-section in incident light using a 10X lens. Printed magnification not calculated.



Schemes 39-40 & 43-47: Titanium white paint X7

Scheme 37: Deep yellow paint
 Scheme 35: Titanium white paint
 Scheme 33: Cream paint
 Scheme 32: Zinc white paint on titanium white base

Scheme 30: Light brown paint
 Scheme 29: Brownish stone paint
 Scheme 28: Warm brown paint

Schemes 24, 26-27: Light stone paint X3
 Scheme 23: Warm brown paint
 Scheme 21: Warm lead white paint
 Scheme 19: Brown paint

Schemes 12-14 & 16: Light stone paint X4

Scheme 11: Warm stone
 Scheme 9: Deep brown paint
 Scheme 8: Light stone paint
 Scheme 7: Brown-stone paint

Scheme 4: Warm stone paint

Roman cement substrate

Table 2: No. 6 New Square

	Sample 8 No. 6 New Square, East	Sample 9 No. 6 New Square, West
47	Titanium white paint	Titanium white paint
46	Titanium white paint	Titanium white paint
45	Titanium white paint	Titanium white paint
44	Titanium white paint	Titanium white paint
43	Titanium white paint	Titanium white paint
42		Titanium white paint
41		
40	Titanium white paint	Titanium white paint
39	Titanium white paint	Titanium white paint
38		
37	Deep yellow paint	Deep yellow paint
36		
35	Titanium white paint	Titanium white paint
34		
33	Cream paint on titanium white undercoat	Cream paint
32	Zinc white paint	
Post c. 1960	Titanium white paint	
31		
30	Light brown paint on lead white u/c	Light brown paint on off lead white u/c
29	Brownish stone paint on lead white u/c	
28	Warm brown paint on lead white and light grey undercoat	
27	Light stone paint on lead white undercoat	
26	Light stone paint on lead white undercoat	
25		
24	Light stone paint on lead white undercoat	
23	Warm brown paint on lead white u/c	
22		
21	Warm lead white paint	
20		
19	Brown paint on lead white undercoat	
17-18		
16	Light stone paint on lead white undercoat	
15		
14	Light stone paint	
13	Light stone paint on lead white undercoat	
12	Light stone paint	
11	Warm stone paint	
10		
9	Deep brown paint	
8	Light stone paint	
7	Brown-stone paint on lead white undercoat	
5-6		
4	Warm stone paint on light grey undercoat	
1-3		
Substrate	Roman cement	Unknown

2.3.2 West Range – Nos. 7-11 New Square

No. 7 New Square

Sample 10 was removed from the north and sample 14 from the south end of the basement render at No. 7 New Square.

Commencing from Scheme 4, the northern section of the wall retained 30 phases over of decoration over a Portland render cement. This is considered to be sufficient evidence to date back to the c. 1860/70s. Portland cement render was first patented in 1824 but was not commonly used until gypsum was added to commercial mixtures in c. 1852. Therefore, either the Portland cement render on No. 7 represents a relatively early example of its use or the area of wall sampled for paint analysis retained a different, more historic form of render.

Initially, the basement wall was painted a warm shade of stone over a red lead primer. The same paint mixture was noted previously on the basement walls at Nos. 4 & 6. A series of 16 stone or brown coloured decorations were then visible, many of which were previously recorded on the southern range of the square. One exception occurred in Scheme 6 when the wall was painted a warmer shade of stone. Another deviation was present quite late in the stratigraphy pattern when in Scheme 31 the wall was painted with a previously unseen brown paint mixture resting over a salmon brown undercoat.

In the post c. 1960 period one cream, one deep yellow and 11 white decorations were applied, all executed using modern, finely ground titanium-based coatings.

At the south end of No. 7 no decoration was visible until the brown paint mixture associated with Scheme 15 was applied. The type of render substrate employed in this location is not known.

No further strata were visible until Scheme 25 when a further six brown or stone coloured painted decorations were recorded, in keeping with the findings at the northern end of the basement elevation.

In Scheme 32 the wall was painted zinc white over a titanium white base layer. The modern cream coloured paint mixture relating to Scheme 33 can then be seen followed by nine titanium white and one interim deep yellow finish.

Photomicrograph illustrating sample 10 taken from the basement render at the northern end of No. 7 New Square, showing its surviving decoration. Photographed in cross-section in incident light using a 10X lens. Printed magnification not calculated.



- Schemes 39-40 & 42-46: Titanium white paint X7
- Scheme 37: Deep yellow paint
- Schemes 34-36: Titanium white paint X3
- Scheme 33: Cream paint
- Scheme 32: Titanium white paint
- Scheme 31: Brown paint
- Scheme 29: Brownish stone paint
- Scheme 28: Warm brown paint
- Schemes: 26-27: Light stone paint X2
- Scheme 25: Brown paint
- Scheme 24: Light stone paint
- Scheme 23: Warm brown paint
- Scheme 22: Warm yellow-stone paint
- Schemes 16 & 17: Light & warm stone
- Scheme 15: Warm brown paint
- Scheme 11: Warm stone paint
- Scheme 8: Light stone paint
- Scheme 6: Warm stone paint
- Scheme 5: Brown-stone paint
- Scheme 4: Warm stone paint
- Portland stone render

Table 3: No. 7 New Square

	Sample 10 No. 7 New Square, North	Sample 14 No. 7 New Square, South
46	Titanium white paint	Titanium white paint
45	Titanium white paint	Titanium white paint
44	Titanium white paint	Titanium white paint
43	Titanium white paint	Titanium white paint
42	Titanium white paint	Titanium white paint
41		
40	Titanium white paint	Titanium white paint
39	Titanium white paint	Titanium white paint
38		
37	Deep yellow paint on titanium white u/c	Deep yellow paint
36	Titanium white paint	Titanium white paint
35	Titanium white paint	Titanium white paint
34	Titanium white paint	
33	Cream paint on titanium white undercoat	Cream paint on titanium white undercoat
32		Zinc white paint
Post c. 1960	Titanium white paint	Titanium white base layer
31	Brown paint on salmon brown undercoat	
30		Light brown paint on lead white undercoat
29	Brownish stone paint on lead white u/c	Brownish stone paint on lead white u/c
28	Warm brown paint on lead white and light grey undercoat	Warm brown paint on lead white and light grey undercoat
27	Light stone paint on lead white undercoat	Light stone paint on lead white undercoat
26	Light stone paint on warm lead white u/c	Light stone paint
25	Brown paint on light grey undercoat	Brown paint
24	Light stone paint on light grey undercoat	
23	Warm brown paint on grey undercoat	
22	Warm yellow-stone paint on warm grey undercoat	
18-21		
17	Warm stone paint on grey undercoat	
16	Light stone paint	
15	Brown paint	Brown paint
12-14		
11	Warm stone paint on warm grey u/c	
9-10		
8	Light stone paint on broken lead white u/c	
7		
6	Warm stone paint on broken lead white undercoat	
5	Brown-stone paint on grey undercoat	
4	Warm stone paint <i>Red lead primer</i>	
1-3		
Substrate	Portland cement render	Unknown render

No. 8 New Square

Sample 11 was taken from the south and sample 12 from the north section of the basement rendered wall.

The south end retained decoration from Scheme 19 – thought to date from the first quarter of the 20th century – at which time the wall was painted brown over a Portland cement render. Seven further stone or brown coloured lead-based decorations were subsequently applied echoing the stratigraphy pattern established elsewhere in the square.

Next, the zinc and titanium white decoration associated with Scheme 32 was visible followed by three further titanium white schemes. There is evidence that render repairs were undertaken in Scheme 44.

The north end of the wall exhibited strata from Scheme 24 and appears to have been painted in tandem with its southern counterpart. However, two limewash decorations believed to relate to Schemes 38 and 41 were present on the sample examined. The nature of the render substrate mixture is not known.

No. 9 New Square

Sample 15 was taken from the north and sample 13 from the south section of the basement rendered wall.

The south end of the basement wall retained the warm stone decoration associated with Scheme 4 over a red lead primer and a Roman cement substrate. Between Schemes 10-30 eight stone or brown coloured paint finishes were recorded. In the post c. 1960 period the wall was first painted cream and then titanium white before being limewashed white. In the final two phases it was overpainted titanium white twice.

Documentary research established that No. 9 was reconstructed in c. 1870 and it is therefore feasible that Scheme 4 – the first retained scheme – dates to this programme of work.

The northern section of the wall did not display strata until Scheme 38 when it was limewashed white. One titanium white paint mixture was subsequently applied before the surface was re-limewashed white. Finally, four titanium white painted decorations were visible. The type of render employed in this area of the basement is not known.

Table 4: No. 8 New Square

	Sample 11 No. 8 New Square, South	Sample 12 No. 8 New Square, North
46	Titanium white paint	Titanium white paint
45		
44	Titanium white paint <i>Render (localised repair)</i>	Titanium white paint
42-43		
41		White limewash
39-40		
38		White limewash
37		
36	Titanium white paint	Titanium white paint
33-35		
32 Post c. 1960	Zinc white paint Titanium white base layer	Zinc white paint Titanium white base layer
31		
30	Light brown paint on lead white undercoat	Light brown paint
29	Brownish stone paint on lead white u/c	Brownish stone paint on lead white u/c
28	Warm brown paint on lead white undercoat	Warm brown paint on lead white undercoat
27	Light stone paint on lead white undercoat	Light stone paint on lead white undercoat
26		
25	Brown paint on lead white undercoat	
24	Light stone paint on lead white undercoat	Light stone paint on light grey undercoat
23	Warm brown paint	
20-22		
19	Brown paint on lead white and warm grey undercoats	
1-18		
Substrate	Portland cement	Unknown

No. 11 New Square

Sample 16 was removed from the north section of the basement elevation. Records indicate that wall was re-faced following WWII bomb damage using a Portland cement render.

Unfortunately, the sample taken from the facade was badly disturbed and the first discernible decoration was the modern cream paint mixture associated with Scheme 33.

One white limewash and one titanium white painted decoration were then applied before further localised repairs were undertaken and the wall was repainted titanium white once more.

Table 5: Nos. 9 & 11 New Square

	Sample 13 No. 9 New Square, South	Sample 15 No. 9 New Square, North	Sample 16 No. 11 New Square, North
46	Titanium white paint	Titanium white paint	
45		Titanium white paint	
44	Titanium white paint	Titanium white paint	Titanium white paint <i>Render</i>
43			
42		Titanium white paint	Titanium white paint
41	White limewash	White limewash	White limewash
40			
39		Titanium white paint	
38		White limewash	
37			
36			<i>Sample disrupted</i>
35			
34	Titanium white paint <i>(Scheme 30 zinc white paint caught up in strata)</i>		
33 Post c. 1960	Cream paint on titanium white undercoat		Cream paint
32			<i>Sample disrupted</i>
31			
30	Light brown paint on lead white undercoat		
29			
28	Warm brown paint on warm lead white undercoat		
27	Light stone paint on lead white undercoat		
26	Light stone paint on grey undercoat		
25			
24	Light stone paint on grey undercoat		
18-23			
17	Warm stone paint		
12-16			
11	Warm stone paint on light grey undercoat		
10	Light warm stone paint on grey undercoat		
5-9			
4 c. 1870	Warm stone paint on brown undercoat <i>Red lead primer</i>		
1-3			
Substrate	Roman cement	Unknown	Portland cement

2.3.3 East Range – Nos. 1-3 New Square

No. 3 New Square

Sample 4 was removed from the basement Roman cement render at No. 3 New Square. Documentary evidence suggests that the building was significantly reconstructed in c. 1782.

The first decoration recorded on the façade was the warm stone coloured paint mixture associated with Scheme 4, thought to have been applied in c. 1870. A series of six stone or brown lead-based decorations can then be seen following the stratigraphy pattern established on the other buildings examined in New Square. In Scheme 31, executed in the mid-20th century, a cream coloured paint mixture was applied. This contrasts with the brown decoration identified on the West Range at this time.

These early decorations were executed with traditional lead-based oil paints pigmented with a range of iron oxide earth, carbon black and red lead particles.

Post c. 1960, the rendered wall was painted white eight times with one cream and one deep yellow decoration also noted. Modern finely ground titanium-based coatings were used through this period.

No. 1 New Square

Sample 1 was taken from the south end of the basement wall at No. 1 New Square. The nature of the render used has not been identified.

The first surviving decoration was applied in Scheme 21, when a white coating was recorded over a red lead primer. No further strata were visible until the wall was painted a warm shade of brown in Scheme 28. Analysis indicates that both decorations were executed with lead-based oil paint mixtures.

From Scheme 32 onwards a series of nine white paint finishes were observed as well as one cream and one deep yellow decoration, all titanium-based.

No. 2 New Square

Sample 2 was removed from the north end of the basement wall at No. 2 New Square, thought to have been reconstructed in c. 1849. Mortar analysis determined that the render was a Portland cement formulation.

The facade retained no evidence prior to Scheme 31, at which time it was painted a cream colour in unison with No. 3.

In the post c. 1960 period it was redecorated cream in Scheme 33 and then white four times with modern titanium-based paint mixtures. There is evidence that the wall was repaired locally as part of Scheme 44.

Table 6: Nos. 1-3 New Square

	Sample 1 No. 1 New Square, South	Sample 2 No. 2 New Square, North	Sample 3 No. 2 New Square, South	Sample 4 No. 3 New Square
46		Titanium white paint	Titanium white paint	
45	Titanium white paint	Titanium white paint	Titanium white paint	Titanium white paint
44	Titanium white paint	Titanium white paint <i>Render (repair)</i>	Titanium white paint	Titanium white paint
43	Titanium white paint			Titanium white paint
42	Titanium white paint			Titanium white paint
41				
40	Titanium white paint			Titanium white paint
39	Titanium white paint			Titanium white paint
38				
37	Deep yellow paint			Deep yellow paint
36	Titanium white paint			Titanium white paint
35				
34	Titanium white paint	Titanium white paint		Titanium white paint
33	Cream paint on titanium white u/c	Cream paint on titanium white u/c		Cream paint on titanium white u/c
32 Post c. 1960	Titanium white paint			
31		Cream paint lead on white undercoat		Cream paint lead on white undercoat
30				
29				
28	Warm brown paint on lead white u/c		Warm brown paint on lead white u/c	Warm brown paint on lead white u/c
24-27				
23				Warm brown paint on lead white u/c
22				
21	Lead white paint <i>Red lead primer</i>			
10-20				
9				Deep brown paint
8				Light stone paint
7				Brown-stone paint on lead white u/c
6				Light stone paint on grey undercoat
5				
4 c. 1870				Warm stone paint on grey undercoat
1-3				
Substrate	Unknown render	Portland cement	Roman cement	Roman cement

3. CONCLUSIONS

Forty-seven separate phases of decoration were identified on the rendered basement walls of Nos. 1-11 New Square. No one property retained all 47 schemes and it is apparent that each of the buildings has experienced some degree of paint loss, most likely the result of deterioration or sanding down in preparation for redecoration. Nonetheless, the ten houses shared many decorative finishes, and based on the assumption that uniformity of appearance would have been a key visual objective, it was possible to cross-reference the surviving schemes on each range and then throughout the square to construct an understanding of their overall decorative history.

Although the pigments identified in the paint strata were commonly available prior to the late 17th century construction phase and therefore were not helpful date markers, the use of lead, zinc and titanium-based paints assisted in pinpointing when individual decorations were applied. As a consequence, it was possible to determine that the final 16 schemes were executed at some stage after c. 1960. This in turn suggests that the walls were redecorated approximately every three to four years during this late phase of development. If a similar maintenance schedule was employed prior to this date there are a sufficient number of phases remaining to relate back to the mid-19th century. Furthermore, the investigations were able to pinpoint that Scheme 4 was most likely applied after the reconstruction of No. 9 in c. 1870.

Records indicate that No. 11 was re-rendered with Portland cement following WWII bomb damage. Unfortunately, the sample taken from its basement wall was badly disturbed and consequently it was not possible to establish which scheme related to this event, although paint strata from Scheme 33 onwards were present.

In the first surviving mid-19th century phase of decoration the basement walls were painted a brownish stone colour. This was followed two further dark shades of stone before a warmer stone hue was applied. In the following 16 schemes the rendered surfaces were painted in shades of stone or brown with one example of a deep salmon pink colour having been employed. In Scheme 21 the basement walls were lightened to white before as many as ten stone or brown decorations and one late cream coloured finish were observed. Traditional lead-based oil paints were employed exclusively up to this point in the stratigraphy pattern.

From Scheme 32 onwards the basement render was decorated in a lighter palette consisting of mostly white paint finishes, although one cream and one deep yellow coloured coating were also recorded. This change in appearance coincided with the introduction of modern titanium-based paints from c. 1960 onwards and highlights the significant shift in taste which occurred in London in the years following World War II. Sandwiched between these modern paint layers two examples of white limewash were also recorded.

Overall, a surprising the level of uniformity of colour was achieved at basement level. However, two notable exceptions were identified in Schemes 6 and 30 when contrasting shades of stone, cream and brown were used, although the buildings in each range continued to be painted in a similar manner to one another.

Generally speaking, the type of render mixture identified was consistent with the number of decoration schemes surviving. However, the northern section of the wall at No. 7 was finished with Portland cement and retained strata from Scheme 4 which is thought to date to c. 1870. As Portland cement render was not commercially popular until the 1850s, the substrate at No. 7 either represents a relatively early example of its use or the area of wall sampled for the paint investigations retained a different, more historic, form of render.

Table 7: Decorative History of New Square Basement Render

	Nos. 1-3 New Square East Range	Nos. 4-6 New Square South Range	Nos. 7-11 New Square West Range
47	Nothing	Titanium white paint	Nothing
46	Titanium white paint	Titanium white paint	Titanium white paint
45	Titanium white paint	Titanium white paint	Titanium white paint
44	Titanium white paint	Titanium white paint	Titanium white paint
43	Titanium white paint	Titanium white paint	Titanium white paint
42	Titanium white paint	Titanium white paint	Titanium white paint
41	Nothing	White limewash	White limewash
40	Titanium white paint	Titanium white paint	Titanium white paint
39	Titanium white paint	Titanium white paint	Titanium white paint
38	Nothing	Nothing	White limewash
37	Deep yellow paint	Deep yellow paint	Deep yellow paint
36	Titanium white paint	Titanium white paint	Titanium white paint
35	Nothing	Titanium white paint	Titanium white paint
34	Titanium white paint	Titanium white paint	Titanium white paint
33	Cream paint	Cream paint	Cream paint
32		Zinc white paint	Zinc white paint
Post c. 1960	Titanium white paint	Titanium white paint	Titanium white paint
31	Cream paint	Cream paint	Brown paint
30	Nothing	Light brown paint	Light brown paint
29	Nothing	Brownish stone paint	Brownish stone paint
28	Warm brown paint	Warm brown paint	Warm brown paint
27	Nothing	Light stone paint	Light stone paint
26	Nothing	Light stone paint	Light stone paint
25	Nothing	Nothing	Brown paint
24	Nothing	Light stone paint	Light stone paint
23	Warm brown paint	Warm brown paint	Warm brown paint
22	Nothing	Warm yellow-stone paint	Warm yellow-stone paint
21	Lead white paint <i>Red lead primer</i>	Lead white paint	Nothing
20	Nothing	Light stone paint	Nothing
19	Nothing	Brown paint	Brown paint
18	Nothing	Deep salmon pink paint	Nothing
17	Nothing	Warm stone paint	Warm stone paint
16	Nothing	Light stone paint	Light stone paint
15	Nothing	Brown paint	Brown paint
14	Nothing	Light stone paint	Nothing
13	Nothing	Light stone paint	Nothing
12	Nothing	Light stone paint	Nothing
11	Nothing	Warm stone paint	Warm stone paint
10	Nothing	Light warm stone paint	Light warm stone paint
9	Deep brown-stone paint	Deep brown-stone paint	Nothing
8	Light stone paint	Light stone paint	Light stone
7	Brown-stone paint	Brown-stone paint	Nothing
6	Light stone paint	Nothing	Warm stone paint
5	Nothing	Nothing	Brown stone paint
4	Warm stone paint	Warm stone paint	Warm stone paint <i>Red lead primer</i>
3	Nothing	Deep stone paint	Nothing
2	Nothing	Deep stone paint	Nothing
1	Nothing	Brown-stone paint <i>Red lead primer</i>	Nothing
Mid-19th c.			

Appendix 4.1 Sample list

Sample number	Sample element	Property	Number of fragments	Block number
1	Basement external wall	No. 1 New Square, South	(2)	
2	Basement external wall	No. 2 New Square, North		
3	Basement external wall	No. 2 New Square, South	(2)	
4	Basement external wall	No. 3 New Square	(2)	
5	Basement external wall	No. 4 New Square	(2)	
6	Basement external wall	No. 5 New Square, East	(2)	
7	Basement external wall	No. 5 New Square, West	(2)	
8	Basement external wall	No. 6 New Square, East	(3)	
9	Basement external wall	No. 6 New Square, West	(2)	
11	Basement external wall	No. 8 New Square, South		
10	Basement external wall	No. 7 New Square, North	(2)	
12	Basement external wall	No. 8 New Square, North	(2)	
13	Basement external wall	No. 9 New Square, South		
14	Basement external wall	No. 7 New Square, South	(3)	
15	Basement external wall	No. 9 New Square, North	(2)	
16	Basement external wall	No. 11 New Square, North	(2)	

Appendix 4.2

Sample location photographs







