

# M233 Scotland Street Public School

## Introduction

This three-storey school was built by the School Board of Glasgow to serve a densely populated part of Tradeston, just S. of the River Clyde. Some features show the influence of historic Scottish architecture, but the design is remarkable for its novel reinterpretation of tradition, especially in the glazed towers that light the stairs. The boundary wall with its gates and railings and the janitor's house at the N.W. corner of the site were part of the original scheme. Closed as a school due to demolition of the surrounding housing, the building reopened as a museum of education in November 1990.

**Authorship:** Mackintosh is named as architect in official correspondence from the School Board, and in other contemporary sources. Scotland Street School was one of his most important commissions.

**Cost from job book:** £18,597 2s 6½d

**Cost from other sources:** The final measurements of £19,171 8s 1d plus other expenses of £1370 0s 6d gave a total of £20,541 12s 6d. <sup>1</sup>

**Status:** Standing building

**Current name:** Scotland Street School Museum

**Current use:** Museum of Education (2014)

**Listing category:** A

**Historic Scotland/HB Number:** 33534

**RCAHMS Site Number:** NS56SE 328.01

**Grid reference:** NS 57752 64142

## Chronology

### 1903

27 April: Purchase of ground for new school in Tradeston. <sup>1</sup>

22 June: Mackintosh appointed architect (but official letter of appointment not written until 21 August). <sup>2</sup>

2 November: First drawings submitted to The School Board of Glasgow. Modifications requested. <sup>3</sup>

### 1904

January: First set of drawings for school and janitor's house made for submission to Glasgow Dean of Guild Court. <sup>4</sup>

August–September: Second set of drawings made for submission to Glasgow Dean of Guild Court. <sup>5</sup>

24 October: Appointment of principal contractors. <sup>6</sup>

24 November: Plans approved by Glasgow Dean of Guild Court. <sup>7</sup> 15 December: Work begins on site. <sup>8</sup>

### 1905

23 February: Glasgow Dean of Guild Court approves revised design for janitor's house. <sup>9</sup>

May: Iron beams laid at first- and second-floor level in school. <sup>10</sup>

September: Roof of school being slated. <sup>11</sup>

October: Concrete floors being put in school. <sup>12</sup>

## **1906**

May: Finishing plasterwork in classrooms. <sup>13</sup>

4 August: School year commences in the new building. 108 children enrol on the first day. By 21 September, 391 children have enrolled. <sup>14</sup>

5 October: Formal opening of new school. <sup>15</sup>

## **1907**

2 May: Building work discharged by Glasgow Dean of Guild Court <sup>16</sup>

## **1914**

11 September: 1033 children present, the highest ever recorded in the school log book. <sup>17</sup>

## **1940**

1 April: Air raid shelter for 400 children completed. Openings between piers of drill hall probably filled in at this time. <sup>18</sup>

## **1971–c. 1973**

Improvements to toilet blocks and cloakrooms carried out by Glasgow Corporation. Fire doors installed. <sup>19</sup>

## **1974**

Charles Rennie Mackintosh Society recommends restoration of Mackintosh's W. gateway, altered at an early date to allow vehicular access. Exterior stonework cleaned with aggressive chemicals between spring and autumn. <sup>20</sup>

## **1979**

W. gateway damaged, following inaccurate reconstruction at unknown date after November 1974. <sup>21</sup>

June: Ceases to operate as a school. <sup>22</sup>

## **1981–c. 1982**

Refurbishment of janitor's house, including blocking fireplaces, capping chimneys, rewiring, new plumbing and central heating. <sup>23</sup>

## **1986**

June to October: 'Renovation work in progress'. <sup>24</sup>

## **1988**

6 April: W. gateway restored to its original form by this date. <sup>25</sup>

## **1989–1990**

Work carried out by Strathclyde Regional Council in connection with conversion to museum of education, including reinstatement of drill hall piers, restoration of cloakrooms and cookery room, repairs to masonry of stair-towers and replacement of N. windows with small-paned sashes. <sup>26</sup>

## **1990**

26 November: Reopened as a museum devoted to the history of education. <sup>27</sup>

## **1997**

Following the reorganisation of local government when Strathclyde Regional Council is abolished, ownership of building transferred to Glasgow City Council, under the departmental jurisdiction of Glasgow Museums. <sup>28</sup>

## **1999–2001**

Alterations to the building including the installation of passenger lift at W. end of building; the construction of an access ramp in drill hall; the restoration and replastering of five former classrooms and the corridor on the top floor; and new displays on the history of the school and catchment area. <sup>29</sup>

## **2001**

October: Most of the building reopened to the public. <sup>30</sup>

## **2002**

January: Three classrooms containing displays examining the design of the school, the history of education and the history of the surround Kingston district opened. <sup>31</sup>

# Description

## Commission

Scotland Street runs E.–W. through the district of Tradeston, between the River Clyde and the Glasgow to Paisley railway. The O.S. map of 1896 shows a grid of streets on its N. side lined with tenements, and it was to serve the residents of this densely populated area that the School Board of Glasgow chose Scotland Street for the site of a new school.



By 22 June 1903 the Board had decided to appoint 'Mr Mackintosh of Honeyman, Keppie and Mackintosh' as architect, although the official letter of confirmation was not sent until 21 August.<sup>1</sup> It appears that no competition was held, and it is unclear how the commission was awarded. By this date the practice had worked on several projects for the Board – Rockvilla, Henderson Street and Tureen Street schools were designed by John Honeyman as early as 1874–7,<sup>2</sup> followed by a substantial addition to Little Dovehill Street in 1893–5, and Martyrs Public School in 1895–8 – so it was well qualified by experience.

Mackintosh's design was revised a number of times in response to comments from the Board and the Scotch Education Department (which provided a loan to finance construction). Initial drawings, which do not appear to survive, were submitted on 2 November 1903, but the Glasgow Dean of Guild Court did not finally give its approval until 24 November the following year. There were further revisions to the design of the janitor's house and boundary wall, approved in February 1905.<sup>3</sup> The building was first occupied on 4 August 1906. The Board's minutes and letters make clear that the independent-minded Mackintosh was not easy to deal with, and in October and November 1905 he was severely reprimanded for departing from the agreed plans, the Board threatening to hold the practice liable for any additional costs incurred.<sup>4</sup>

## Design

### Exterior

The Scotch Education Department insisted on separate entrances and staircases for boys and girls, which automatically favoured a symmetrical, bilateral plan and elevations.<sup>5</sup> Within these constraints, however, Mackintosh produced a design that is far from conventional. The N. front is dominated by a pair of projecting, conical-roofed towers, containing the two main entrances and giving access to two staircases. The towers flank a central, three-storey block, with a small entrance porch for infants in the middle: the ground floor here is occupied by the drill hall, used for physical exercise. Immediately E. and W. of the towers, the roof level is lower but the number of storeys increases to five: these relatively low-ceilinged floors, which step back from the building line as they rise, correspond to the landings and half-landings of the stairs, and contain children's cloakrooms. They are book-ended by three-storey bays containing teachers' rooms, set back still further from the main building line.<sup>6</sup>



The much simpler 18-bay S. front has no projections and no variations in roofline. Unusually for Mackintosh, it is almost classical in composition: the uniform windows of conventional, upright proportions are regularly disposed, the middle and end bays emphasised by ornament.



The centre of the N. elevation is similar, with a cornice-like string-course above the first floor, making the top storey read as an attic. The E. and W. ends, by contrast, seem to derive from Scottish vernacular architecture, their asymmetrical gables and large expanses of blank wall punctured by variously shaped windows and shallow, canted oriels. Neighbouring buildings make the E. end difficult to see, and the W. end was originally obscured in the same way.

### Towers and windows

The towers are rooted in Scottish architectural tradition (they can be compared with the conical-roofed towers of Falkland Palace, Fife, which Mackintosh sketched c. 1900)<sup>7</sup> but at the same time they subvert this tradition.



In 16th- and 17th-century Scottish architecture, round towers invariably contain spiral stairs and have thick, defensive walls and small windows. The Scotland Street towers, on the other hand, are more glass than stone, and while they light the stairs, they do not enclose them. They are in fact semi-cylindrical bay windows, their leaded glazing divided into narrow strips by slender mullions, and they have more in common with the windows of Elizabethan houses such as Kirby Hall, Northamptonshire, and with their late 19th-century descendants, such as C. F. A. Voysey's Broad Leys, Cumbria, of 1899. The Earl's Palace of 1606 at Kirkwall, Orkney, has comparable glazed oriels, but a closer precedent in Scottish architecture is perhaps the multi-storey stack of bay windows so characteristic of late 19th-century Glasgow tenements.<sup>8</sup>



In the January 1904 drawings for Scotland Street, the semi-transparent towers were matched by a huge window, 12 ft (3.65 m) high and 44 ft (13.41 m) long, lighting the drill hall. The lintel of this giant horizontal opening would have been carried on slender cast-iron columns, standing on the window sill and visible only from inside. From outside, the impression would have been of a shimmering, uninterrupted expanse of leaded glazing. This extraordinary proposal, comparable to the fenestration of the Willow Tea Rooms and the unexecuted billiard room for The Hill House, but on a much larger scale, appears to have been vetoed by the Scotch Education Department. <sup>9</sup>



In the drawings of August 1904, seven sash windows of conventional proportions were substituted, matching the floors above. The elaborate perspective drawing of 1904 shows that Mackintosh wanted all the windows to have small, square panes. This was opposed by the School Board, who insisted on windows divided into larger panes. These survive on the S. elevation, but on the N., windows like those in the perspective were introduced during refurbishment in 1989–90. <sup>10</sup>

## Decoration

Surprisingly, the School Board's stringent approach to costs did not eliminate Mackintosh's elaborate programme of carved decoration, carried out by R. A. McGilvray & Ferris. Concentrated around the entrances and towards the top of the building, it breaks up what might otherwise be a top-heavy mass of stonework. It has been suggested that the carved decoration rising up the stair towers and the rear elevation evokes themes of the tree of life and the tree of knowledge and connects with that of childhood development from infancy to maturity, reflecting the progress of pupils from ground to first to second floor in the course of their years at the school. But no evidence has emerged to link this to Mackintosh's intentions. <sup>11</sup> On the S. front, the two end bays are emphasised by extraordinary carved mouldings, largely geometric, but incorporating roundels of stylised organic forms above the ground-floor windows.



Between the middle pair of second-floor windows is a Scottish thistle composed of triangles, and a chequered Tree of Life, both apparently influenced by contemporary Viennese decorative art. <sup>12</sup> Coloured ceramic squares set into the stonework complement the carving.



On the N. front, the stubby, square piers flanking the infants' porch have grids of squares and triangles on their capitals.



The boys' and girls' entrances are set within cubic projections, low and broad, seemingly extruded from the tower bases, and framed by heavy, angular architraves. The carving here has no obvious historical source, but includes unexpected triplets of square guttae, like those found in Edwardian baroque versions of the Doric order. The tops of the towers are enlivened by rows of inverted V shapes, resembling paired sycamore seeds, arranged against close-set vertical mouldings 'like notes on a musical stave' (in Alan Crawford's phrase). <sup>13</sup>



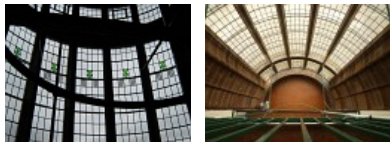
The carving is echoed by comparable motifs in stained glass, set into the tower windows.

## Interior

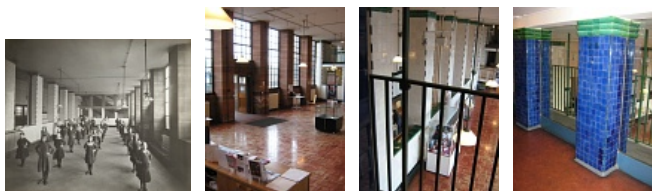
Inside, an E.–W. corridor runs almost the full length of each floor, connecting with the stairs at each end. This arrangement was unusual for Glasgow, where central-hall plans like that of Martyrs School were the norm, but it had the advantage of maximising the number of well-lit S.-facing classrooms. <sup>14</sup> Indeed,

classrooms occupy all three floors on the S. side, plus the two upper floors on the N. On the ground floor of the N. side is the drill hall.

From the interior, it is obvious at once that the stairs are not contained in the rounded, glazed part of the towers, but set behind the main building line. The stone treads are carried on exposed ironwork and rise in straight flights in a conventional dog-leg pattern. The half landings are treated as internal balconies, looking into the glazed void, which extends uninterrupted from ground level to the open timber roof. The Scotch Education Department did not allow 'triangular steps or "winders"', presumably on safety grounds, but it seems certain that the straight flights and balcony-landings were an aesthetic choice on Mackintosh's part: he resisted pressure to extend the half-landings into the rounded bays, which the School Board prosaically argued would make window-cleaning easier, no doubt because it would have destroyed the uninterrupted flow of light and space that was the crux of his design. <sup>15</sup> Where the landings meet the corridors, Mackintosh's treatment of space is now compromised by glazed fire doors, installed in 1972. <sup>16</sup>



Apart from the towers, the most interesting interior space is the bright but austere drill hall. It is enclosed E., S. and W. by colonnades of piers linked by low walls (the openings between the piers were blocked during the Second World War but opened up again by 1990, restoring the original views through to the stairs and corridor). <sup>17</sup> Mezzanine floors cut across the W. and E. ends at the level of the half-landings. Piers, corridors and stairs are all tiled, mostly in cream, the borders of the openings picked out in broken lines of black. Blue is used for the piers at mezzanine level, green for the capitals, which have a vaguely Egyptian, zig-zag profile. Mackintosh originally wanted all the tiling to be 'dark', but the School Board overruled him. <sup>18</sup> The N. side of the hall is visually of a piece with the colonnaded treatment of the other three, the residual strips of sandstone wall between the windows reading as square piers. The floor level is lower than the corridor, necessitating the introduction of a ramp at the W. end in 2000–1 for museum visitors.



Scotch Education Department rules determined the 8 ft (2.44 m) standard width of the corridors and the size of the 21 classrooms in relation to numbers of pupils. <sup>19</sup> They are mostly 25 x 24 ft (7.62 x 7.32 m), giving ten square feet for each pupil. The school was designed with capacity for 1250 pupils, though attendance in the first ten years averaged between 800 and 900. <sup>20</sup> Dividing walls between classrooms are solid below, glazed above, but the middle two classrooms on each floor of the S. side were originally separated by folding partitions, and could be thrown together to form single, large rooms. Only one original sliding partitions survives, on the first floor.



The former cookery room, which fills the space between the towers on the N. side of the second floor, is the only classroom that shows something of Mackintosh's individuality. Its shallow vaulted ceiling pushes up against the trusses of the roof to maximise the height of the room, but Mackintosh may also have intended it to evoke the barrel-vaulted basement kitchens of Scottish tower houses.



## Materials and services

External walls are of red Locharbriggs sandstone ashlar, with slate for the roofs. Mackintosh wanted white Dullatur stone, but he was overruled on grounds of cost. <sup>21</sup> The floors throughout are of reinforced concrete, carried on steel girders of the type patented by John Burdon & Sons of Bellshill. Heating was by low pressure hot water, and contaminated air was extracted by Boyle's Air Pump Ventilators on the roof. The school was lit by electricity from the outset.

## Subsidiary structures

The boundary between the N. playground and Scotland Street has two wide stone entrance arches for boys and girls (the W. one a reconstruction dating from the 1980s), <sup>22</sup> and a blind stretch of wall in the middle. This is carved with the school's name, and serves also to screen the infants' toilet block, a flat-roofed structure within the playground. Between the arches and the central wall are railings incorporating wrought-iron motifs, sometimes interpreted as thistles. <sup>23</sup> The boundary wall enclosing the S. playground is utilitarian brick; that for the N. playground is largely stone. On the E. side, a semicircular stone arch supporting an arched bellcote links it to the school; on the S., play shelters and toilets for older children are built against it.





Integral with the N. boundary wall is the L-plan janitor's house, a picturesque cottage resembling the lodge of a country house, with deep eaves and a cat-slide roof over the door. Its walls are of snecked rubble, adding to its rustic character. The design dates from December 1904, replacing a proposal of January that year for a simpler rectangular house with a circular stair-tower on the S. side. <sup>24</sup>



## Critical reception

The *Builders' Journal and Architectural Engineer* published photographs and a description of the school some six weeks after it opened, along with three other recent Glasgow Board Schools. <sup>25</sup> It noted the glazed towers, 'which give such an unusual appearance to the front', and observed that 'The architects were Messrs. Honeyman, Keppie & Mackintosh, but it is clear that the last-named has controlled the design'. It also commented on the simple, functional character of the interior: 'In designing the school every effort has been made to arrive at a frank solution of the requirements, the furnishings and fittings of the classrooms being of the simplest character, and glazed tiles used as a sanitary finishing to walls and piers.'

Reviewing the impressive perspective drawing shown in the 1906 exhibition of the Glasgow Institute of the Fine Arts (974), the critic of the *Glasgow Herald* described the building as 'distinctly away from the commonplace', contrasting it with schools at Dalmuir and Bowling that were 'happily less original'. <sup>26</sup> He noted that the 'two flanking round towers make up a good composition, and window space is abundant', but questioned the functional relationship between exterior and interior, remarking that '[a] key plan would have shown how the towers are utilised'. Perhaps in response to this criticism, when the drawing was reproduced in *Academy Architecture's* coverage of the exhibition it was accompanied by floor plans. <sup>27</sup> In 1947 W. S. Moyes wrote of this drawing: 'Regarding [the] perspective of Scotland Street Public School, I may have set up the perspective in pencil for Mr. Mackintosh but he would have completed it in ink and added the master touches.' <sup>28</sup>

## People

### Clients:

- The School Board of Glasgow

### Contractors:

- James L. Arnot
- George Barlas & Co.
- British Art Tileries
- Brooks & Co.
- Charles Carlton & Son
- Chalmers' Stores
- James Combe & Son
- P. & R. Fleming
- John Forbes
- Hamilton & Co.
- William Lightbody
- R. & A. Main Ltd
- R. A. McGilvray & Ferris
- McIntyre & Jolly
- J. D. MacKenzie & Co.
- Robert L. Paterson & Co.
- Peace & Norquoy
- W. G. Walker & Sons
- Archibald B. Watson

### Other:

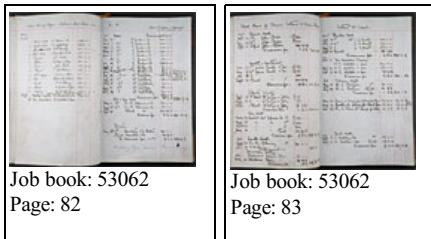
- Robert S. Allan, chairman of the School Board
- Dr Henry Dyer, School Board member
- William Graham, convenor of the School Board Property Committee
- William Martin Haddow, School Board member
- Mrs Mary Mason, School Board member
- Grace Paterson, School Board member

# Job Book

The job books of Honeyman & Keppie (later Honeyman, Keppie & Mackintosh) are now held by The Hunterian, University of Glasgow and include four volumes related to the Mackintosh period. The books were used by the firm to keep a project-by-project, day-by-day record of contractors, suppliers and expenditure. The name of a project and/or client is usually at the top of the left-hand page, followed by information about tradesmen who tendered. The name of the measurer (quantity surveyor) is usually at the top of the right-hand page, followed by information about payments to contractors and suppliers. All of the data for M233 is entered in the tables below.

Page numbering is not consistent in the job books. Sometimes a single number refers to a double-page spread and sometimes each page is individually numbered. Here, each image of a double-page spread is identified by the number given at the top of the left-hand page. (Images of all of the pages from the four job books can be found at [Browse Job Books, Visit Book and Cash Book.](#))

The following information about M233 has been extracted from the job books:



**Client:** The School Board of Glasgow

**Measurer:** Archibald B. Watson

**Measurer address:** 189 St Vincent Street

**Tenders:**

Contractor	Type	Address	Date	Value	Accepted
George Barlas & Co.	mason	no data in job book	no data in job book	£7099 11s 3d	yes (2 November 1904)
William Lightbody	wright	no data in job book	no data in job book	£3448 0s 0d	yes (2 November 1904)
P. & R. Fleming	steel	no data in job book	no data in job book	£245 11s 2d	yes (2 November 1904)
Hamilton & Co.	slater	no data in job book	no data in job book	£273 2s 3d	yes (2 November 1904)
James L. Arnot	plumber	no data in job book	no data in job book	£813 5s 7d	yes (2 November 1904)
McIntyre & Jolly	plasterer	no data in job book	no data in job book	£186 15s 1d	yes (2 November 1904)
John Forbes	pavior	no data in job book	no data in job book	£502 19s 7.5d	yes (2 November 1904)
Robert L. Paterson & Co.	glazier	no data in job book	no data in job book	£187 0s 0d	yes (2 November 1904)
Chalmers' Stores	ironmongery	no data in job book	no data in job book	£65 6s 6d	yes (2 November 1904)
British Art Tileries	tiler	no data in job book	no data in job book	£865 5s 5d	yes (2 November 1904)
P. & R. Fleming	smith	no data in job book	no data in job book	£390 17s 4d	yes (2 November 1904)
Charles Carlton & Son	painter	no data in job book	no data in job book	£287 0s 0d	yes (2 November 1904)
James Combe & Son	heating	no data in job book	no data in job book	£452 4s 0.5d	yes (2 November 1904)
J. D. MacKenzie & Co.	electric lighting	no data in job book	no data in job book	£539 4s 5d	yes (2 November 1904)
W. G. Walker & Sons	tarmacadam	no data in job book	no data in job book	£519 0s 0d	yes (2 November 1904)

**Payments (trades):**

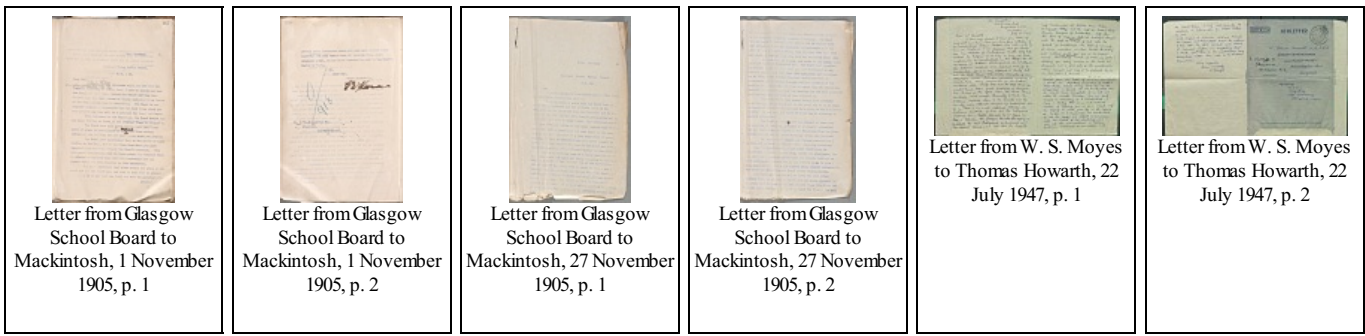
Name	Type	Payment out sum	Measurer fee payments
George Barlas & Co.	mason	<b>First installment:</b> 23 January 1905 <b>Final installment:</b> 14 January 1907 £8475 16s 10d	£63 10s 0d <sup>1</sup>
William Lightbody	wright	<b>First installment:</b> 28 July 1905 <b>Final installment:</b> 14 January 1907 £3780 7s 2d	£28 7s 0d <sup>2</sup>
P. & R. Fleming	steel & iron	<b>First installment:</b> 9 May 1905 <b>Final installment:</b> 20 September 1907 £421 2s 9d	£3 3s 0d <sup>3</sup>
Hamilton & Co.	slater	<b>First installment:</b> 25 August <b>Final installment:</b> no data in job book £264 4s 3d	£2 0s 0d <sup>4</sup>
John Forbes	pavior	<b>First installment:</b> 17 October 1905 <b>Final installment:</b> 10 September 1907 £706 2s 3½d	£5 5s 9d <sup>5</sup>
James Combe & Son	heating & ventilating	<b>First installment:</b> 27 November 1905 <b>Final installment:</b> 10 September 1907 £1111 6s 9d	£8 8s 0d <sup>6</sup>
McIntyre & Jolly	plasterer	<b>First installment:</b> 15 December 1905 <b>Final installment:</b> March 1907 £222 0s 11d	£1 13s 0d <sup>7</sup>
British Art Tileries	tiler	<b>First installment:</b> 20 March 1906 <b>Final installment:</b> 2 May 1907 £696 9s 5d	£5 5s 0d <sup>8</sup>
P. & R. Fleming	smith	<b>First installment:</b> 22 August 1906 <b>Final installment:</b> 20 June 1907 £706 2s 3½d	£3 6s 3d <sup>9</sup>
Chalmers' Stores	ironmongery	<b>First installment:</b> no data in job book <b>Final installment:</b> 10 May 1907 £69 5s 5d	10s 6d <sup>10</sup>
James L. Arnot	plumber	<b>First installment:</b> 17 October 1905 <b>Final installment:</b> 11 September 1907 £898 2s 4d	£6 15s 4d <sup>11</sup>
W. G. Walker & Sons	tarmacadam	<b>First installment:</b> 13 March 1906 <b>Final installment:</b> 15 October 1907 £550 1s 8½d	£4 4s 0d <sup>12</sup>
Robert L. Paterson & Co.	glazier	<b>First installment:</b> 4 May 1906 <b>Final installment:</b> 24 May 1907 £163 1s 3d	£1 5s 6d <sup>13</sup>
Charles Carlton & Son	painter	<b>First installment:</b> 3 September 1905 <b>Final installment:</b> 10 May 1907 £267 11s 8d	£2 0s 0d <sup>14</sup>

**Payments (suppliers):**

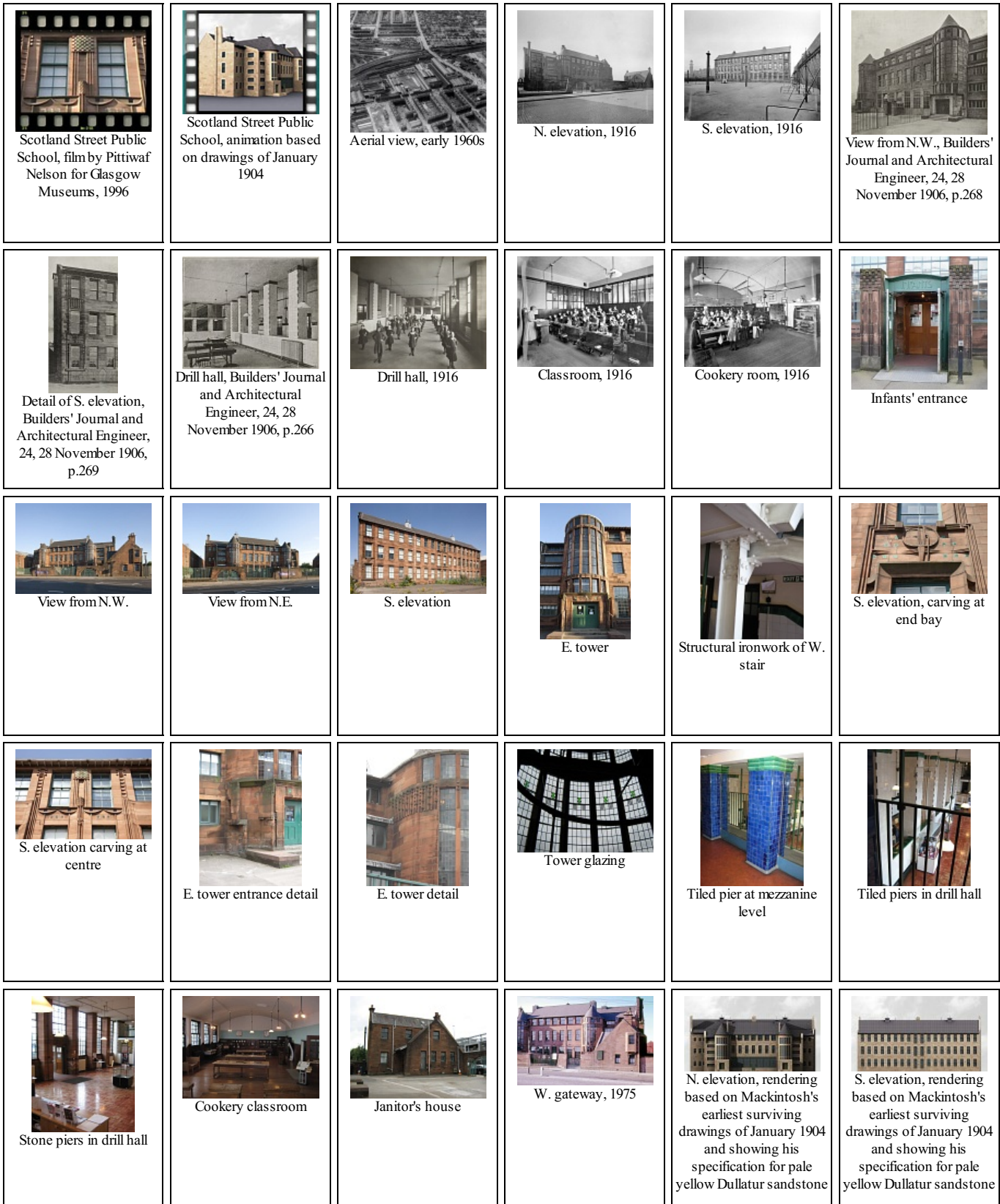
Name	Service	Payment date	Payment sum
R. A. McGilvray & Ferris	stone carving	no data in job book	£36 0s 0d
Peace & Norquoy	folding partitions <sup>15</sup>	30 May	£97 10s 0d
Brooks & Co.	fittings for cloak rooms <sup>16</sup>	14 August	£119 10s 0d
R. & A. Main Ltd	range for cookery classroom	20 November	£12 7s 6d





**Documents**





## Images



 <p>E elevation, rendering based on Mackintosh's earliest surviving drawings of January 1904 and showing his specification for pale yellow Dullatur sandstone</p>	 <p>W. elevation, rendering based on Mackintosh's earliest surviving drawings of January 1904 and showing his specification for pale yellow Dullatur sandstone</p>	 <p>Perspective from N.W., rendering based on Mackintosh's earliest surviving drawings of January 1904 and showing his specification for pale yellow Dullatur sandstone</p>	 <p>Perspective from S.E., rendering based on Mackintosh's earliest surviving drawings of January 1904 and showing his specification for pale yellow Dullatur sandstone</p>		
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## Bibliography

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- David Walker, 'The Glasgow Years' in Wendy Kaplan, *Charles Rennie Mackintosh*, New York and London: Abbeville Press, 1996, pp. 140–2
- Elizabeth Williamson, Anne Riches and Malcolm Higgs, *Buildings of Scotland: Glasgow*, London: Penguin, 1990, pp. 64–5 and 512–13
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- Alison Brown, 'Mighty Oaks from Little Acorns Grow: Deciphering the Ornament at Scotland Street School', *Charles Rennie Mackintosh Society Newsletter*, 90, Spring 2006, pp. 10–12
- Alison Brown, 'Mighty Oaks from Little Acorns Grow: Deciphering the Ornament at Scotland Street School', *Charles Rennie Mackintosh Society Newsletter*, 91, Winter 2006, pp. 4–9
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- *Builders' Journal and Architectural Engineer*, 24, 28 November 1906, pp. 266–8
- *Glasgow Herald*, 14 April 1906, p. 5; 6 October 1906, p. 10

### Unpublished

- Hiroaki Kimura, 'Charles Rennie Mackintosh: Architectural Drawings Catalogue and Design Analytical Catalogue', University of Glasgow: unpublished PhD thesis, 1982, pp. 48–9, 191–9
- Glasgow City Archives Collection: Minutes of the Glasgow School Board, D-ED 1/1/1/7; D-ED 1/1/1/8; D-ED 1/1/1/9; D-ED 1/1/1/10
- Glasgow City Archives Collection: Glasgow School Board Property Department letter book, D-ED 1/1/12/20; D-ED 1/1/12/21; D-ED 1/1/12/22
- Glasgow City Archives Collection: Scotland Street School log book 1906–1944, D-ED 7/275/1/1
- Glasgow City Archives Collection: Glasgow Dean of Guild Court, Register of Inspections, D-OPW 25/60, p. 101

### Notes:

- 1: Glasgow City Archives Collection: School Board Property Committee minutes, D-ED 1/1/1/12, 1 December 1908.
- 2: Glasgow City Archives Collection: School Board Property Committee minutes, D-ED 1/1/1/7, 27 April 1903.
- 3: Glasgow City Archives Collection: School Board Property Committee minutes, D-ED 1/1/1/7, 22 June 1903; Glasgow City Archives Collection: School Board Property Department letter book, D-ED 1/1/12/20, pp. 418–19.
- 4: Glasgow City Archives Collection: School Board Property Committee minutes, D-ED 1/1/1/7, 2 November 1903, 23 November 1903.
- 5: Glasgow City Archives Collection: Glasgow Dean of Guild plans, SR4/4/48.
- 6: Glasgow City Archives Collection: Glasgow Dean of Guild plans, TD1309/A/520.
- 7: Glasgow City Archives Collection: School Board Property Department letter book, D-ED 1/1/12/21, pp. 612–25, 804.
- 8: Glasgow City Archives Collection: Glasgow Dean of Guild Court, Register of Inspections, D-OPW 25/60, p. 101.
- 9: Glasgow City Archives Collection: Glasgow Dean of Guild Court, Register of Inspections, D-OPW 25/60, p. 101.
- 10: Glasgow City Archives Collection: Glasgow Dean of Guild Court Proceedings, D-OPW 19/21, p. 71.
- 11: Glasgow City Archives Collection: Glasgow Dean of Guild Court, Register of Inspections, D-OPW 25/60, p. 101.

- 12: Glasgow City Archives Collection: Glasgow Dean of Guild Court, Register of Inspections, D-OPW 25/60, p. 101.
- 13: Glasgow City Archives Collection: Glasgow Dean of Guild Court, Register of Inspections, D-OPW 25/60, p. 101.
- 14: Glasgow City Archives Collection: Glasgow Dean of Guild Court, Register of Inspections, D-OPW 25/60, p. 101.
- 15: Glasgow City Archives Collection: Scotland Street School log book 1906–44, D-ED 7/275/1/1, 4 August 1906, 21 September 1906.
- 16: *Glasgow Herald*, 6 October 1906, p. 10.
- 17: Glasgow City Archives Collection: Glasgow Dean of Guild Court, Register of Inspections, D-OPW 25/60, p. 101.
- 18: Glasgow City Archives Collection: Scotland Street School log book 1906–44, D-ED 7/275/1/1, 11 September 1914.
- 19: Glasgow City Archives Collection: Scotland Street School log book 1906–44, D-ED 7/275/1/1, 1 April 1940.
- 20: Glasgow City Archives Collection: Glasgow District Council building control warrant drawings, GDC12/3/1972/802.
- 21: 'Cleaning Danger', *Charles Rennie Mackintosh Society Newsletter*, 3, Spring 1974, p. 2; 'Scotland Street School', *Charles Rennie Mackintosh Society Newsletter*, 4, Summer 1974, pp. 5–6; 'Scotland Street School', *Charles Rennie Mackintosh Society Newsletter*, 5, Autumn 1974, p. 8.
- 22: The Hunterian, University of Glasgow: correspondence between Charles Rennie Mackintosh Society and the City Architect, Glasgow Corporation, 1974; correspondence between Charles Rennie Mackintosh Society and Depute Director of Education, Strathclyde Regional Council, 1979.
- 23: Colin B. Kirkwood, 'Notes on Mackintosh Buildings', *Charles Rennie Mackintosh Society Newsletter*, 23, Autumn 1979, p. 5; 'Scotland Street School', *Charles Rennie Mackintosh Society Newsletter*, 29, Spring/Summer 1981, p. 2.
- 24: Glasgow City Archives Collection: Glasgow District Council building control warrant drawings, GDC12/3/1981/1065.
- 25: 'Scotland Street School', *Charles Rennie Mackintosh Society Newsletter*, 43, Summer 1986, p. 4.
- 26: Gavin Stamp, 'School Lessons', *Architects' Journal*, 187, 6 April 1988, pp. 42–53.
- 27: Glasgow City Archives Collection: Glasgow District Council building control warrant drawings, GDC12/3/1989/3570/A; Gavin Stamp, 'School Lessons', *Architects' Journal*, 187, 6 April 1988, pp. 42–53; Tom Ewing, 'Scotland Street School Museum', *Charles Rennie Mackintosh Society Newsletter*, 55, Spring 1991, p. 4.
- 28: The work was funded the European Regional Development Fund. Dorothy Stewart, 'Scotland Street School Museum of Education', *Charles Rennie Mackintosh Society Newsletter*, 54, Autumn 1990, p. 3; information supplied by Alison Brown, curator, Glasgow Museums, 24 June 2013.
- 29: Information supplied by Alison Brown, curator, Glasgow Museums, 24 June 2013.
- 30: This work was funded the European Regional Development Fund. Glasgow City Archives Collection: Glasgow City Council building control warrant drawings, GCC16/3/99/04217; Alison Brown, 'Scotland Street School', *Charles Rennie Mackintosh Society Newsletter*, 82, Spring 2002, pp. 7–10. Additional information supplied by Alison Brown, curator, Glasgow Museums, 24 June 2013.
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- 32: Alison Brown, 'Scotland Street School', *Charles Rennie Mackintosh Society Newsletter*, 82, Spring 2002, pp. 7–10. Additional information supplied by Alison Brown, curator, Glasgow Museums, 24 June 2013.
- 33: Glasgow City Archives Collection: School Board Property Committee minutes, D-ED 1/1/1/7, 22 June 1903; Glasgow City Archives Collection: School Board Property Department letter book, D-ED 1/1/12/20, pp. 418–19.
- 34: David Stark, *Charles Rennie Mackintosh and Co.*, Catrine, Ayrshire: Stenlake Publishing, 2004, p. 103.
- 35: Glasgow City Archives Collection: Dean of Guild Court proceedings, D-OPW 19/21, 24 November 1904, 9 February 1905.
- 36: Glasgow City Archives Collection: School Board Property Department letter book, D-ED 1/1/12/22, pp. 867–8, 969–70, 1 and 27 November 1905; Glasgow City Archives Collection: School Board Property Committee Minutes, D-ED 1/1/1/9, 30 and 31 October 1905, and 14 November 1905.
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- 38: A passenger lift was installed at the W. end in this area in 2000–1. Alison Brown, 'Scotland Street School', *Charles Rennie Mackintosh Society Newsletter*, 82, Spring 2002, pp. 7–10.
- 39: The Hunterian, University of Glasgow: GLAHA 41423.
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- 41: Glasgow City Archives Collection: School Board Property Department letter book, D-ED 1/1/12/21, 16 March 1904, p. 50.
- 42: Glasgow City Archives Collection: Glasgow District Council building control warrant drawings, GDC12/3/1989/3570/A.
- 43: Alison Brown, 'Mighty Oaks from Little Acorns Grow: Deciphering the Ornament at Scotland Street School', *Charles Rennie Mackintosh Society Newsletter*, 90, Spring 2006, pp. 10–2; *Charles Rennie Mackintosh Society Newsletter*, 91, Winter 2006, pp. 4–9.
- 44: Alan Crawford, *Charles Rennie Mackintosh*, London: Thames & Hudson, 1995, p. 119.
- 45: Alan Crawford, *Charles Rennie Mackintosh*, London: Thames & Hudson, 1995, p. 119.
- 46: 'Glasgow School Board – New South-Side School', *Glasgow Herald*, 6 October 1906, p. 10.
- 47: Felix Clay, *Modern School Buildings: Elementary and Secondary*, London: B. T. Batsford, 2nd edn, 1906, appendix E, p. 548h; Glasgow City Archives Collection: School Board Property Department letter book, D-ED 1/1/12/22, 27 November 1905, pp. 969–70.
- 48: Glasgow City Archives Collection: Glasgow City Council building control warrant drawings, GDC12/3/1972/802.
- 49: Dorothy Stewart, 'Scotland Street School', *Charles Rennie Mackintosh Society Newsletter*, 54, Autumn 1990, p. 3.
- 50: Glasgow City Archives Collection: School Board Property Department letter book, D-ED 1/1/12/22, pp. 785, 867–8 and 969–70; Glasgow City Archives Collection: School Board Property Committee minutes, D-DE 1/1/1/9, 30 and 31 October 1905, and 14 November 1905.
- 51: Felix Clay, *Modern School Buildings: Elementary and Secondary*, London: B. T. Batsford, 2nd edn, 1906, appendix E, p. 548h.
- 52: Glasgow City Archives Collection: Scotland Street School log book, D-ED 7/275/1/1.
- 53: Glasgow City Archives Collection: School Board Property Department letter book, D-ED 1/1/12/21, p. 728.
- 54: A photograph showing it in its restored state is in Gavin Stamp, 'School Lessons', *Architects' Journal*, 187, 6 April 1988, pp. 42–53.
- 55: Timothy Neat, *Part Seen, Part Imagined: Meaning and Symbolism in the Work of Charles Rennie Mackintosh and Margaret Macdonald*, Edinburgh: Canongate, 1994, p. 164.
- 56: Glasgow City Archives Collection: Glasgow Dean of Guild plans, B4/12/2/532 and SR4/4/48.
- 57: *Builders' Journal and Architectural Engineer*, 24, 28 November 1906, pp. 266–8.
- 58: *Glasgow Herald*, 14 April 1906, p. 5.
- 59: *Academy Architecture*, 29, January 1906, p. 77.
- 60: University of Toronto, Robarts Library: letter from W. S. Moyes to Thomas Howarth, 22 July 1947, with postscript dated 30 July 1894, B96-0028/017 (13). The drawing is now in The Hunterian, University of Glasgow, GLAHA 41346 (M233-024).
- 61: ½ measurer's fee included in total sum paid to contractor.
- 62: ½ measurer's fee included in total sum paid to contractor.
- 63: ½ measurer's fee included in total sum paid to contractor.
- 64: ½ measurer's fee included in total sum paid to contractor.
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- 68: ½ measurer's fee included in total sum paid to contractor.
- 69: ½ measurer's fee included in total sum paid to contractor.
- 70: ½ measurer's fee included in total sum paid to contractor.
- 71: ½ Measurer's fee included in total sum paid to contractor.
- 72: ½ measurer's fee included in total sum paid to contractor.
- 73: ½ measurer's fee included in total sum paid to contractor.



74: ½ measurer's fee included in total sum paid to contractor.

75: 'in joiner schedule'.

76: 'in joiner schedule'.

## Mackintosh Architecture: Context, Making and Meaning

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