



## DETAILS OF RESTORATION

**Introductory Note:** It is very fortunate that during its first 50 years none of the residents of the Fishwick house made any irreversible structural alterations to it, unlike most other Griffin houses. Because Fishwick rented it out soon after its completion until the mid-1940s, there was no incentive for him to spend money on it. The second owners, Rawson and Nancy Deans, adequately maintained the house during their 36 year occupancy but fortunately did not change it materially. As a result, the current owners bought a building in poor repair in 1976 which was, apart from some “add-ons”, fundamentally unaltered.

Also fortunately, most items which could have been lost or broken during that half-century survived remarkably well; the house had almost all its original solid brass hardware, ceramic tiles, coloured glass and wood or concrete detailing. In most cases the original decorative finishes were able to be determined. The house was, therefore, an excellent subject for restoration.

Owners of important heritage buildings generally are aware that any contemporary work on them must be undertaken in such a way that it can be distinguished from that of the original structure. For this reason, this room-by-room description of the restoration projects is quite detailed, being intended to assist future owners. It describes the work on the house in three phases: known maintenance before being bought by the present owners in 1976, their initial work to stabilise the building and repair its services, mainly in the late 1970s and early 1980s and its major restoration in the mid 1990s.

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### Early Maintenance

Little is known of work done on the house before the Deans rented it from Fishwick in 1940. From a letter he wrote to Professor James Weirick in 1972 [1], clearly the fish pools in the dining room ceiling pleased Fishwick but must have proved impractical as they were turned into skylights soon after he vacated the house in late 1932.

Originally, all the external timber work was simply dressed with an oil-based finish so the natural grain was visible. This proved to be unable to withstand Australian conditions and had been painted white, as was almost all of the interior timberwork.

During the 1950s, most of the pigmented mortar wall and ceiling finishes were painted white, presumably to “brighten the place up”. Aside from installing an outside toilet under the bathroom window the only significant structural work was in the kitchen. The original house plans include very detailed drawings of this room; it had very interesting features such as a cooling cupboard with an ingenious breezeway, crockery drying racks across the window, cupboards with simple pin hinges, a pass-through servery to the dining room and a small cupboard with both internal and external doors so the milkman could pass his bottles into the house. All of these features had been removed.

In other earlier work, the front courtyard which originally extended only a few metres from the kitchen wall was extended to the street through excavation of the intruding sandstone; a number of aluminium sun awnings were fixed over windows; various paths and garden walls were built by a local handy-man; and the entire upper roof area was bordered by a fence of galvanised water pipe and chicken wire.

When the current owners bought the house in 1976 they were attracted by its obvious importance architecturally, but it also presented a formidable restoration challenge. The house leaked badly, most windows and external doors had rot problems, ceilings and wall surfaces were unstable or cracked and many service connections were old and deficient.

From the many examples of inferior or unacceptably conspicuous “making do” efforts, there was ample evidence that generations of tradesmen had become frustrated in making repairs because its unconventional structure made access to concealed pipes and conduits extremely difficult.

## **Stabilisation & Repair of Services**

During the 1970s and 1980s, the most important work on the house was concentrated on stabilising the building’s fabric which, in some cases, was in a perilous state, and ensuring that all services were operating effectively. Projects included:

- Replacing the bitumen and pebble roofing membrane with a modern product to stop numerous ceiling leaks.
- Repairing severe concrete spalling in most of the rooms. This was caused by the reinforcing rods rusting due to moisture penetration, exacerbated by Griffin’s use of “coke breeze” as lightweight filler.
- Rebuilding the kitchen. This is the only room in the house which was beyond restoration. Its flooring had rotted, cupboards replaced by ready-made units and fittings removed. The room was completely stripped to allow a new concrete slab to be poured. The supervising architect’s design followed the original as closely as possible. The room’s bulkheads, original cupboard detailing and hardware were preserved.
- Underpinning the north-east corner of the house. This is the only section of the foundations of the house which is not directly resting on the sandstone platform. Here the structure proved to have been supported on a floating rock and was subsiding rapidly.
- Where possible, replacing water, gas, sewerage, stormwater and electrical services. For example, Griffin had embedded mild steel electrical conduits in the concrete slabs to carry the rubber-sheathed electrical cables. Inevitably the conduit rusted and the rubber perished; this combination was the source of many electrical short circuit problems

When the current owners lived overseas from 1989 to 1996, most of the work on the house was purely for maintenance, supervised by an architect friend. During that period his TV inspection of the house’s main sewerage and stormwater system showed severe corrosion of its cast iron down-pipes and cracking in its earthenware drainage pipes. Unfortunately, Griffin had chosen to route some downpipes within the house’s main fireplace structure, then led them outside the house underneath the entrance hall and lounge floors. Consequently, the stone fireplace began to suffer severe water damage and the sewer line under the lounge floor frequently became blocked due to penetration of tree roots. It was mainly these critical problems which led them to decide that on their return they would commence a major series of works to overcome all the structural and functional problems and to restore the character of the house as much as possible to its original state.

## **Major Restoration**

The thorough restoration project which wholly transformed the exterior, interior and landscaping of the house, began in mid 1996 and lasted over two years. This took place mostly under the supervision of both a heritage architect and the architect who had worked on the house since the mid 1970s and was technically very familiar with it. Major projects included:

- Raising the entrance hall and lounge floorboards to install new sewerage and stormwater lines. This also allowed the installation of improved gas, electrical, security, telephone and heating services.

- Rebuilding many windows and almost all of the external doors which were unserviceable due to dry rot. The missing wooden window decorations were also restored, requiring the making, painting and installation of 168 Y-shaped cedar pieces, mostly of different dimensions.
- Restoring or closely replicating the original paint finishes in every room.
- Removing bamboo infestations on the property and the adjoining Buttress Reserve, a project which took three growing seasons and required massive amounts of physical labour. Only when the bamboo was controlled could work begin on restoring the terraced dry-stone walls and removing overgrown garden beds and deep run-off soil deposits. This revealed the sandstone platforms, drop-offs and boulders around which the house was designed.

A detailed review of each area of the house follows. All work dates from 1996 to 1998 unless otherwise noted. For a more general, briefer overview of the restoration process see the [Restoration](#) section.

**House Exterior.** The house's window and doorframes were originally oiled cedar. Many had rotted, so were rebuilt or replaced and subsequently painted white, then mission brown. The front door, maid's terrace doors and garage doors were original, but all other exterior doors were inappropriate replacements so they were rebuilt and fitted with Griffin-inspired designs.

Almost all the garden beds which had been built for exotic flowers and shrubs were removed, uncovering many sandstone shelves and boulders which had been completely buried. Garden lighting and irrigation systems were installed, dry stone walls restored, a garden pond built to complement the natural rock formations and stone steps and paths were either rebuilt or constructed. Previously, so thick was the bamboo infestation on the lowest three terraces that it was literally impenetrable. Only during its ultimate removal were revealed a stone stairway, a small cave and several dry-stone retaining walls, all previously unseen.

**Entrance Way.** Presumably to make it less gloomy, the narrow entrance way tunnel had been painted white. Its prominent feature, the 25 tall vertical panels made of mirrored amber glass, was in a very poor state with most of the glass broken or missing. In order to route services from the garage to the southern sections of the house tradesmen had fixed piping and conduits to the entrance way's ceiling. A false ceiling was erected to conceal these.

Found inside the meter box were the remnants of the original mirrored glass tiles and wall finishes which guided their restoration. For example, an unusual surface finish resulted from using paint which contained finely ground quartz. Its extremely low light reflectance replicated the effect of the original pigmented mortar seen in the meter box. Most of the prominent green square feature mouldings topping the glass tiles remained and were repainted. Those damaged were re-rendered in-situ.

Rough-finished sandstone paving replaced 1970s brown quarry tiles, which had been laid on a smooth concrete path. During excavation it was revealed that the original paving was of concrete containing fine hard stones and a deep green oxide stain.

The entrance lighting was renewed. Originally the two still-existing switches inside the front door controlled ceiling-mounted lights while two pull-cords near the entrance controlled courtyard and wall-mounted lights, but these fittings had been removed previously.

**Entrance Hall.** Unfortunately, urgent and critical under-floor drainage problems required the floor boards in the entrance hall and part of the lounge to be raised, causing many to be damaged. Since the original floorboards in these areas were of New Zealand rimu, a threatened conifer no longer available, they were replaced with oiled Tasmanian oak. The new flooring was onto a tamped-down cement, sand and bitumen mix, itself laid directly on the earth/rubble infill, as was the original floor. This was intended by Griffin to both moderate the room temperature and to provide a barrier against moisture and vermin. According to an engineer, an expert in bituminous products, this system worked very effectively and had kept the boards in good condition for almost 80 years.

The entrance hall ceiling is plasterboard, installed when the existing fibreboard ceiling collapsed due to a joist failure. A similar event in the study revealed that the original ceiling was of lath and plaster.

The pillars in the entrance hall had been repainted many times with white or pastel oil paints. Fortunately, the original finishes were very firm and it was possible to pick the covering layers away to reveal them. The best three were preserved and the others re-decorated using the same techniques and colours but slightly different textures, restoring a close semblance to the originals

The four sets of double amber glass doors leading to the study were original and in good condition but had been painted white. Experts advised that while the paint could be removed by immersion in a caustic bath this would harm their narrow timber frames. A specialist restorer repainted them, creating a faux timber finish complete with complex grain patterns and knots. Planned alcoves with doors, shown on the original plan to house a telephone, radio and vacuum cleaner, were not built.

**Lounge.** The counterbalanced picture window in the lounge was designed to rise into a concrete void, conspicuous from the east. It was inoperative by the 1940s and, being considered too difficult to repair, was sealed shut.

The main fireplace was re-pointed and its firewall rebuilt. Stonemasons repaired the water damage on the south face caused by the downpipe failure by rubbing the stones carefully with other sandstones.

There is uncertainty over some of the original wall colourings. From scrapings, some parts of the plaster picture rail might have been deep red and green. Also, in the 1970s the pointing between the sandstone blocks was a dull mid-brown, but a letter from Fishwick subsequently suggested that it was once pale green. [2]

**Dining Room.** The dining room ceiling fish pools had been removed by the mid 1930s and replaced by tent-shaped timber and glass skylights. [3] These also were replaced by fibreglass skylights in the 1970s. Finally, new skylights of metal and reinforced glass were installed, designed to resemble the skylight above the main stairs which is still in place.

A new glassware storage cupboard was built in the dining room to cover the damage to the northern wall caused by sewerage downpipe repairs. American oak was especially sourced for this to match the timber of nearby original unpainted internal doors.

**Study.** This room is not shown on the original plan. Presumably it was decided that it was worthwhile to excavate deeply into the bedrock to gain another room. The unusual windows were Griffin's solution to a problem: he needed to provide the room with natural light but its

walls were very thick and curved and much of the western wall was below the level of the natural stone shelf behind it. His solution was to position two windows in the northern section of the wall, embedding them in a complex window cavity designed to disperse the maximum amount of light through a narrow opening.

The original lath and plaster ceiling collapsed in the late 2000s. It was replaced by a double layered plaster ceiling, one layer containing lead sheeting to provide soundproofing for the bedroom above. This unplanned access to a large exposed void allowed security and electronics service cables to be laid in the ceiling.

The original use of the room is not clear. It has been referred to in various sources as a study, library or conservatory. However, the remains of a gas heater were found, so presumably it was where the original residents gathered in winter, given the difficulty of heating the rest of the house. Its cupboard is original, but the bookshelves were added in the late 1970s. There are no traces of the original colour schemes, so the secure, snug feeling of the room was enhanced with deep, rich colours and low, plush furnishings.

**Kitchen.** In the 1970s, because of rot in the floorboards and the corrosion of the original water and gas pipes, it was decided to re-build the kitchen entirely. The north end of the room was adapted for improved storage, to accommodate kitchen appliances and to conceal ducts and pipes from the bathroom above. A new floor slab was poured and covered with cork tiles similar to those removed.

Tasmanian oak cabinets and bench tops were custom made and installed. Where possible, these adopted the design features of the originals. The brass knobs were stripped of layers of paint, polished and re-used. A “Griffinesque” grid was designed to support lighting and an extraction fan above the cook top. Tiles, the same shape of those in the bathrooms, were laid.

**Main Bedroom.** This room is the most unusual in the house and every effort was made to re-create its original atmosphere. Natural sandstone rocks coloured differently according to their mineral content were found on the property and crushed to yield a “palette” of coloured sand with a wide variety of tonings: yellow, red, brown and violet. This was mixed with lime and colour-matched to fill the many holes which previous residents had drilled into the stone fireplace; these are now virtually invisible. This method was also used on the main fireplace. The small square glass tiles in the fireplace hearth are original.

Scrapings disclosed wall and pillar colours and finishes which were closely matched. It is notable that the unusual colour combination on the pillars was probably chosen to echo the wide spectrum of colours on the fireplace stones.

Because of its highly unusual layout, this room was very difficult to furnish. To emphasise its semi-circular shape an “island” of Australian hardwood furniture was designed, incorporating moulding styles and hardware to match those found elsewhere in the house.

**Bathrooms.** The highly unusual layouts of both bathrooms were unchanged with both end-on baths being original. The ceramic surfaces, basins and toilets in both rooms were in bad condition and were replaced. This work was carried out in the 1970s; a more authentic restoration could be undertaken in the future if suitable ceramics from the 1920s could be obtained.

The main bathroom window has been partially rebuilt. Originally, a casement window opened behind the mirror and the side windows were fixed. Cleaning was almost impossible, so their functions were reversed. The wooden mirror frame is original. The toilet cisterns for both bathrooms were mounted on the roof and each was flushed using a chain coming through the ceiling. All the plumbing in both rooms had been renewed during the earlier stabilisation phase in the 1970s; this required the destruction of some tiles. Fortunately, sufficient matching green tiles for the main bathroom were recovered from the dining room ceiling fish pools and yellow tiles for the second bathroom were recovered from behind the kitchen cabinets. Both bathrooms had cork-tiled floors, but of a slightly smaller square dimension than their replacements. There were originally no power points in either bathroom.

**Second Bedroom.** All the fixtures, fittings and tiles in this room are original except for the wall lights. This and the main bedroom had polished timber floors, but these were in poor condition. The collapse of the entrance hall ceiling directly below and an electrical short in the power feed to the light switch required the removal and replacement of a large area of timber flooring in this room, so it was decided to carpet both bedrooms.

The wall colouring was disclosed by scrapings and closely matched. The colour of the pillars was less certain, so they and the fireplace's concrete surfaces were coloured to complement the ceramic tiles which are highly unusual for a Griffin building, appearing to have South American Indian motif.

**Stairs and Upper Hall.** Cracked amber glass in the stairway skylight and the three glass wall panels off the stairwell was replaced, as was the clear glass in the central skylight onto the upper roof. The metal counterbalanced door leading to the upper roof had been functional, but was sealed because it was prone to rust and became a major source of leaks.

The stairway surfaces and upper hall floors were smooth-trowelled concrete, tinted a tan colour. The possibility of restoring this finish was removed when the stairs became unsafe and partially collapsed due to concrete spalling. Because of the need for sufficient clearance above the gas heater below the stairway, re-casting concrete stairs was impossible so it was necessary to rebuild some of the treads with timber.

The small cupboard under the spiral stairway to the top roof is original and has the only remaining pin hinges in the house. The highly unusual painted timber frame, with its diamond-shaped end pieces supporting the amber-coloured glass in the stairway skylight, is original.

**Maid's Lounge and Bedroom.** The unusual moulded concrete fireplace and the glass hearth tiles in the maid's lounge are original. Until very recently, indications were that this room contained the only central light fitting in the house. Unexpectedly, the Walter Burley Griffin Society acquired hundred of photographs taken in Castlecrag in the 1930s, of which 56 were of the Fishwick house. [3]. These show hanging ceiling lights in the dining room and main bedroom, however it is known that some post-Griffin alterations and additions were made in the early 1930s, so caution must be exercised in ascribing their provenance. The design of the original fitting in the maid's lounge is not known, so a copy of the Griffin-designed fitting in the GSDA No 1 house was installed.

The complex colouring of the pillars in both rooms is similar to their original finishes, as disclosed by scraping. The maid was provided with her own hand basin concealed in her lounge's cupboard; this had been removed. Its internal rear wall contained a large area of the original wall finish which has been preserved, as has her full-length mirror inside the cupboard door.

**Garage / Laundry / Workshop.** This utility space under the maid's wing is very large; it was reported that the previous owner ran a commercial printing business from there. No original fittings or fixtures have survived. An architect-designed set of laundry, storage and workshop cupboards in a style sympathetic to the period was installed in 2000.

A square skylight on the maid's terrace illuminating the laundry tub had been constructed from glass bricks set into a five-by-five waffle patterned frame - effectively this was a small-scale steel reinforced concrete fixture within the garage's ceiling slab. Water seepage caused the steel to rust, shattering most of the irreplaceable glass bricks. This skylight was replaced by a toughened glass panel with 25 waffle-patterned etched squares symbolic of the original fixture.

**Flat roofs.** The house's five reinforced concrete slabs function as its only roofing. As shown in Griffin's Plans of the House he specified their surfaces very carefully so that water would run towards central drain holes, thus negating the use of guttering or external drainpipes. In all, the slabs are large in area but have only six drain holes and these are narrow. In Sydney's occasional torrential rain, or if the holes become blocked by leaves, drainage is inadequate. Leakage occurred when blocked water pooled deeply, overflowing flashings between the slabs and the sandstone block walls.

A much more serious source of leaks was failure of the roofing membranes. It appears that an early resident applied a simple bitumen and pebble coating to the slabs which Griffin had left without any surface protection. Later, a more modern bituminous membrane was applied. This was clearly ineffective when the owners bought the house in 1976; since then, they have re-sealed the entire roof and external terrace areas three times. Initially, an aluminium membrane backed with bitumen was applied, but this proved to be too soft and easily punctured. Then a thick, paint-on surface coating was applied, but this soon cracked and failed. Finally, roof leakage problems were satisfactorily solved during the major restoration in the mid 1990s by the application of an effective, but expensive multi-layered membrane system. It consists of two membranes both of which are heat-bonded to their under surface. Each is itself four-layered comprising bituminous and nylon layers with the uppermost surface being covered by small chips of slate to ensure UV protection. Coupled with the use of a paint-on acrylic membrane which adheres well to stone and is therefore ideal for flashings, the house is virtually leak free.

#### Footnotes:

1. Letter from Thomas Fishwick to James Weirick 1972. Courtesy of James Weirick

2. Ibid

3. The existence of the tent-like structures on the fish pools was discovered very recently from photographs taken by Herman Junge in the early 1930s. From other photographs it is known that they were uncovered for a period. The pool covers were later removed, so their provenance is uncertain. For details see the Images of House section.