



VASSA

Vernacular Architecture Society Of South Africa
Umbutho wezakhiwo zemveli waseMzantsi Afrika
Volksboukundige Vereniging van Suid-Afrika

VASSA Journal

In this Issue

Harnessing heritage to empower people in the wake of disaster:

The rescue restoration of the historic town centre of Wupperthal Mission Station Cederberg,

South Africa, 2019-2021 | Graham Jacobs

Rebuilding homes after the fire of 2018 | John Wilson-Harris



ISSN 1562-5257

JUNE 2024

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Contents

The rescue restoration of the historic town centre of Wupperthal Mission Station, Cederberg, South Africa (2019-2021)	1
Historical Background.....	1
The Fire	2
Action immediately after the fire	4
Heritage Principles underpinning the work	6
The Rescue Restoration Process.....	7
Restoration of the various buildings	11
Additional services, infrastructure and smaller restoration-related projects	39
Conclusion.....	50
Acknowledgements.....	51
References.....	57
 Rebuilding homes after the fire of 2018	58
Introduction.....	58
Historical Background.....	59
Form of Settlement	59
Historical Significance.....	59
The Fire	60
The 'Community'	62
The ClfA Undertaking	62
Work by SEA.....	65
Work by ClfA.....	67



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CIFA complete	69
Re-building	70
Transgressions.....	71
Thatch.....	73
Rupert Historiese Huise Stigting.....	73
Transgression repair	75
April 2024	76
Land Restitution	76
Acknowledgements.....	76
References & Resources	77



Cover picture:

A charred music book belonging to the Wupperthal brass band, photographed in the ashes amongst the band's destroyed musical instruments. Photographer: anonymous. From Google Images January 2019.

Photographs:

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Harnessing heritage to empower people in the wake of disaster:

The rescue restoration of the historic town centre of Wupperthal Mission Station, Cederberg, South Africa (2019-2021)

Graham Jacobs¹

Historical Background

The mission station of Wupperthal is a veritable time capsule. It is located within the arid Cedarberg region of South Africa, a place characterized by craggy wilderness landscapes and spectacular seasonal displays of wild flowers which have drawn and captivated many over the years: from the celebrated poet, medical doctor and epicure, C. Louis Leipoldt in the earlier 1900s, to modern day international rock climbers and those simply seeking a temporary break from their hectic city lives.

Wupperthal was established in 1830 as the first Rhenish mission station in South Africa. The new settlement was spearheaded by the missionaries Baron Theobald von Wurmb and Louis Leipoldt's grandfather, Gottlieb Leipoldt. The mission was laid out on the farms Rietmond and Koudeberg, situated in the isolated but fertile Tra Tra River valley approximately 72km from Clanwilliam and about 250 km from Cape Town, after the farms were acquired by the Rhenish Mission Society. Interestingly, the founding of this mission town pre-dated, by approximately 100 years, the formal founding of its namesake in Germany.

By 1834 a church and school had been built to serve the local population that soon came to include freed slaves from surrounding farms and dispersed Khoe San that had survived an earlier devastating smallpox epidemic at the Cape. Gottlieb Leipoldt initially used what was almost certainly the original Rietmond farmhouse as the first parsonage. It was from its semi-circular front stoep that open air church services seem to have been held until the completion of the settlement's church building. The old farmhouse was subsequently named Leipoldt House in his honour.

The mission station expanded rapidly and by the 1850s, the town centre, or *kerkwerf* included a new parsonage, new school buildings, a tannery and a small shoe factory. Rev. Leipoldt, who was also a qualified cobbler, provided the instruction. The residential portion of the village, comprising terraces of thatched houses, grew up against the hillside to the northeast of the town centre. In 1965, the mission settlement was formally taken over by the Moravian Church after the Rhenish Mission Society left South Africa.

¹ ARCON Heritage Consultants: arcon@megaserve.net. The original report was first published on the *Heritage Portal*, 12 June 2023.

Figure 1: Aerial view showing the gutted state of some of the buildings in the town centre after the fire. Top centre are the remains of Leipoldt House with its T-shaped plan and semicircular stoep. To the left are the remains of the old Mission Stores building, the first school building in the settlement. Below are the remains of the Community Hall. The Old Blacksmith's Shop (Smitswinkel) where wagon wheels were repaired after a torturous trip down the mountain pass is just visible on the extreme upper right. The latter was the first building to be gutted in the fire. The road on the bottom right enters Wupperthal from the pass. (Drone image: Goal Zero Consulting)



The Fire

On 30 December 2018 at the height of summer, a disastrous fire broke out at the base of the pass entering the town after some local residents tried to smoke out a beehive for honey. The hive was in a tree surrounded by tinder dry underbrush while a strong wind was prevailing. The fire, assisted by the wind and dry leaves, soon became uncontrollable. It spread, splitting in two directions where it gutted a substantial number of buildings in the town centre and turned 52 houses within the residential area into blackened shells.

The fire was not only disastrous for the historic fabric of the town, but also the community, resulting in one fatality and approximately 200 destitute, homeless people. The settlement's brass band, a social focus of village life in this isolated part of the world, lost all of its brass instruments which had been stored in the Community Hall. So bad was the damage to both the town and its residents that the cataclysm came to be regarded as the worst disaster to affect built heritage since the 1969 earthquake that struck the historic town of Tulbagh in the Western Cape.

To make matters worse, most of the severely damaged buildings had either been underinsured or not insured at all. Initial structural engineer's reports were that the gutted buildings were now structurally dangerous and would have to be demolished. There were also rumours that demolition teams were preparing to demolish these severely damaged structures.

Figure 1: Site plan of the Wupperthal town centre with buildings gutted by fire circled in red. Other buildings where significant refurbishments were done are circled in green. The church and shoe factory were miraculously not burned. (Base diagram; TV3 Architects & Planners)

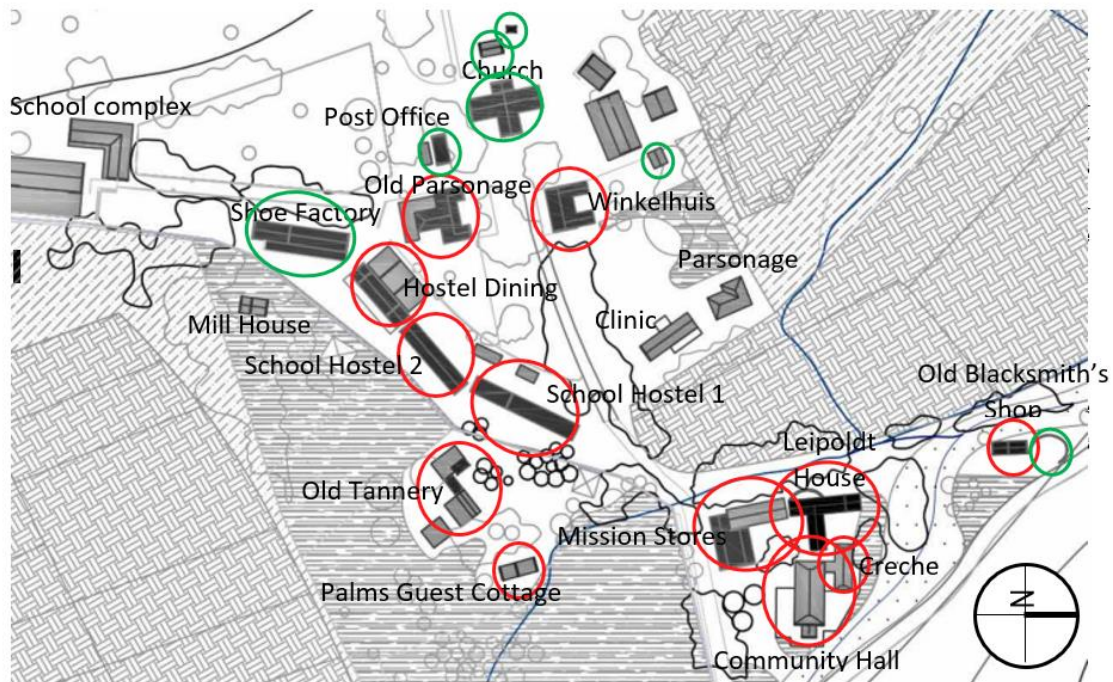


Figure 3: The fire-gutted 'Winkelhuis' (Shopkeeper's House) after the fire. The building had been the administration headquarters for the town before the fire. This image is typical of the degree of damage sustained. (Image: ARCON, 24 January 2019)





Figure 4: Most of the town's records were lost in the fire. That included drawings, photographs, title deeds, survey diagrams and other historic and historical records that would otherwise have been useful for informing the reconstruction process. (Image: ARCON, 24 January 2019)

Figure 5: Left: One of the gutted school hostels littered with mangled bed frames and building debris.

Right: The fire spread so rapidly that the fire extinguishers could not be used. This example was left to explode on its wall bracket. (Image: ARCON, 24 January 2019)



Action immediately after the fire

Various private and public bodies were quick to react despite the disaster having occurred during the festive season holidays. Amongst those were Gift of the Givers who donated a substantial amount towards the reconstruction of the settlement's gutted houses; Heritage Western Cape who dispatched a team to assess the damage that included some of its Council members; the Vernacular Architecture Society of South Africa, Cape Institute for Architecture (CIfA) and various individual donors. CIfA set up a team of volunteer members to assist, free of charge, in preparing the drawings required for the reconstruction of the gutted houses. The Provincial Department of Human Settlements arranged for temporary housing to be erected on the town's sports field for those now rendered homeless, although that took much longer to implement.

By far the most significant contribution was from the Rupert Foundation. That transpired after the industrialist Johann Rupert, son of the late Dr Anton Rupert who had been largely instrumental in the restoration of Church Street, Tulbagh in the wake of the 1969 earthquake, offered to assist. The Rupert Foundation (hereafter 'the Foundation') was ultimately to fund almost all the rescue restoration works

within the town centre and, thereafter, much of the reconstruction work to the fire-damaged houses. This was especially significant as approximately 80% of the residents are reliant on one or other form of state welfare grant.

Figure 6: Disaster relief: clothing donations being sorted in a marquee erected on the town's sports field for victims of the fire. (Image: ARCON, 24 January 2019)



A Stellenbosch firm of architects and planners was engaged to prepare the documentation for the rescue restoration work to the town centre and I was brought in to assist as the architectural heritage consultant. A Cape Town based firm of structural engineers was specially selected for the project based on their experience in working on historic buildings, to ensure that as much historic fabric as possible would be retained without compromising public safety. A Worcester-based building contractor won the tender to undertake the work. Site handover occurred in early July 2019 despite delays caused by the COVID epidemic, and once heritage and local authority approvals were in place.

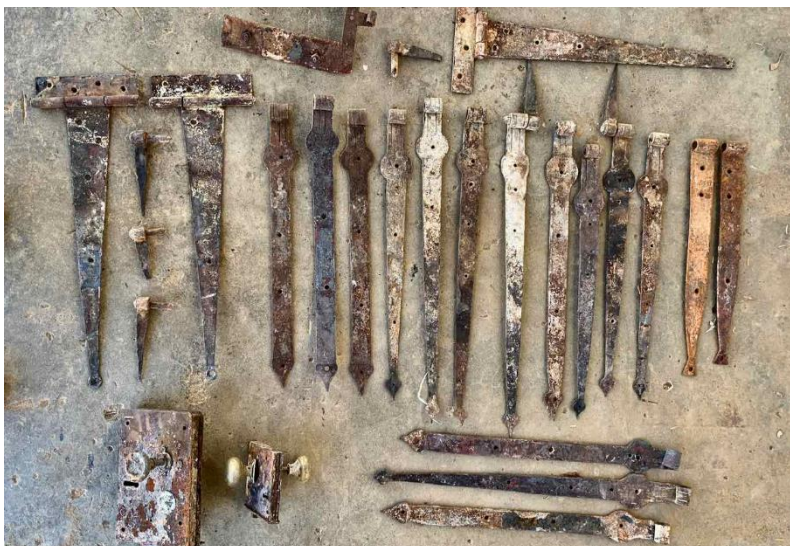


Figure 7: Examples of historic ironmongery recovered after the fire. These included a large 19th C front door lock (bottom left). Most were recovered from the ashes and rubble of the Winkelhuis; and most, including the badly damaged and heat-seized door locks, were reconditioned and reinstalled during the restoration project. (Image: ARCON, 24 January 2019)

Prior to work commencing, plastic damp proof sheeting was tied over all soft sun-dried clay brick wall caps that had been exposed by the fire. That was to prevent saturation by impending winter rains that would otherwise likely have led to wall collapses. Furthermore, and with guidance from Heritage Western

Cape, the ashes and rubble of each of the buildings was carefully sifted for historic ironmongery and other surviving period features. All recovered items were numbered and bagged, all in accordance with the buildings from which they had been retrieved, so that they could be re-installed, wherever possible, as part of the reconstruction process that lay ahead.

It was agreed with the Moravian Church that restoration works would commence with the Community Hall, Creche and Mission Stores buildings as these could then be used to address community needs.

Heritage Principles underpinning the work

The following principles were applied to all restoration and reconstruction work:

- i. *The Intention of the Restoration Process itself:* The intention was, wherever possible, to return affected buildings to their appearances before the fire apart from where details and envelope configurations had previously compromised durability and sustainability of old core fabric. Examples of poor detailing and configurations rectified during reconstruction included the following:
 - Thatch roofs with sub-standard gradients and consequent poor rainwater runoffs that reduced life expectancies of the thatch;
 - Various mid to latter 20th C cement brick accretions which were in predictably poor structural condition after the fire; and
 - Certain over-sized 20th C window openings (some with surviving but fire-twisted steel window frames) visually at odds with the consistency of the historic pattern of the townscape.
- ii. *Significance of Surviving Historic Fabric to the Community:* The Church and its community had, from the start, expressed a strong desire for as much of the surviving historic fabric to be retained as possible. Consequently, the project focused on achieving this apart from in certain exceptions discussed in ix and x.
- iii. *Demolitions as a Last Resort:* Demolitions were considered only as a last resort for all significant surviving remains and/or where specific demolitions would recover heritage significance. Where demolitions were either unavoidable or desirable for reinstating heritage significance, attempts were made to recover as much historic material for re-use in the reconstruction work as possible; the purpose being to retain authenticity and ensure fabric performance compatibility.
- iv. *Re-use of Surviving Historic Elements:* Wherever sound surviving fittings and/or other materials were recovered, these were relocated in their a-found positions or as close to those as possible.
- v. *Salvaging Surviving Historic Elements Unfit for Re-Use:* Where historic elements were too badly damaged for re-use, they were retained in safe storage as relics for future inclusion as displays in the museum planned for Leipoldt House after its restoration.
- vi. *Introduction of replacement elements:* Replacement elements were fabricated to be either as durable, or more durable than their predecessors. The intention nonetheless remained that where new materials were introduced, e.g. replacement carpentry and joinery, those materials had, firstly, to be physically compatible with the surviving fabric, and secondly, not of a nature that would change the traditional appearance of the affected structure.

-
- vii. *Physical Compatibility of New Materials:* Only traditional and other materials physically compatible with the surviving fabric were used for reconstruction purposes. That required substantial importation of materials such as poplar and thatch from elsewhere due to the shortage of locally available supplies on the scale needed for the whole project. The purpose was to avoid exhausting local resources on the basis that they would be better devoted to periodic maintenance in future years.
- viii. *Replication of Pre-existing Elements:* Even where the appearance of pre-existing elements was known, replacement materials and elements were intentionally fabricated not to be exact copies. Such replacements were, however, designed and fabricated to be aesthetically compatible and respectful of the historic character, scale and proportions of the old. The purpose was to avoid confusion in later years between what was historically authentic and what had been added after the fire. This point was considered especially relevant given that the town's records had been destroyed in the fire, including the records of its buildings. That made the importance of distinguishing old from reconstructed new fabric even more important in the knowledge that the fire showed that documentary evidence cannot always be relied on to survive for future reference.
- ix. *Historic 'Layering':* It was recognized that subsequent additions to certain historic structures had achieved significance in their own right as parts of historically 'layered' built systems. Consequently, it was definitely not assumed that previous additions or alterations to historic structures would automatically justify demolition. Indeed, most such additions to the old buildings in the town centre were retained. Where demolitions did occur, that was only where it could be convincingly argued that by so doing, historic architectural integrity and sense of place would benefit, e.g. re-establishing stylistic consistency or removing poorly constructed (and dangerous) 20th C accretions. A clear example was the front façade of the Winkelhuis where stylistic consistency was re-established by replacing certain 20th C steel doors and windows with traditionally proportioned and configured timber joinery. Where steel windows formed a consistent pattern and had remained undamaged by the fire, e.g. on the front façade of the Shoe Factory, they were retained and not replaced.
- x. *Insertions in the Interests of Amenity and Reducing Future Fire Risk:* New insertions and additions were considered justifiable where they would:
- Reduce future fire risk to historic fabric;
 - Reinstatement structural stability;
 - Provide new services needed to sustain the settlement;
 - Improve thermal performance in the interests of reduced energy consumption; and
 - Improve the versatility of a building as a viable economic unit, (e.g. installation of bathrooms and partitioning to create guest rooms for income generation).

Such interventions were considered justified where they were respectful of historic character and minimised physical impacts on the integrity of old fabric.

The Rescue Restoration Process

Decision-making from the outset

Wupperthal residents made it clear that they wanted Wupperthal buildings to be substantially restored to their appearances before the fire. Given that so much of the built fabric had been destroyed, the heritage significance of the surviving material, i.e. mostly wall fabric, had by implication, increased. A

conscious decision was therefore made by the Moravian Church in conjunction with the project team to retain and re-incorporate as much as possible of that authentically old fabric in the reconstruction process. That included mainly historic ironmongery and bricks. These elements were prioritized over new material and set aside for re-use (including old bricks) wherever that was possible. Nonetheless, a considerable amount of new material including bricks, but especially new timber and thatch, was required for new floors, ceilings, doors, fenestration and roofs, given the extent of the fire damage.

Ironically, it was the old masonry fabric with its soft sun-dried clay bricks and clay mortars that had survived the fire far better than the contemporary walls constructed of 20th century kiln fired bricks laid in modern Portland cement mortars. Most notable in that respect were the Community Hall and adjacent Creche buildings. Both had been constructed in c.1980 using contemporary materials that had cracked and spalled badly in the fire. In the case of the older buildings, their soft sun-dried brick walls had simply baked harder. The Creche building with its cement bricks was so badly damaged that it had to be demolished; one of a few more recent fire-damaged buildings that could not be saved, ironically because of the poorer performances of their fabric.

Another conscious decision was to use only lime mortars, plasters and renders in the reconstruction project (no Portland cement added to the mix whatsoever), with the exception of new foundations and floor slabs. In those latter instances, the inclusion of Portland cement was permitted but subject to the contractor keeping a log of when and where cement was used. The cement was also stored separately from the stockpiles of builder's lime. The underlying principle was that newly introduced material had to be as physically compatible with the old traditionally constructed fabric as possible. Builder's lime, being able to accommodate considerably more movement than Portland cement, having superior adhesion properties to softer clay mortars and old brickwork, and being more permeable to water vapour, was therefore the obvious choice over Portland cement.

Initially, the main contractor was very suspicious of using lime in the new construction, especially without cement being added to the plasterwork. Consequently, trial areas using only lime/sand plasters and renders, and trial structures using only lime/sand mortars were prepared to convincingly show that lime would indeed be suitable. A traditional guide mix of 1 part slaked lime to 3 parts coarse, clean sharp sand was generally used, with thorough wetting thereafter employing backpack plant water sprayers to ensure proper curing.

The contract had a special condition that pan mixers were to be used for the mixing of lime/sand mortars and renders. That was to ensure that the ingredients would be properly mixed to avoid possible future adhesion problems and weak spots. Improperly mixed and poorly prepared and cured lime mortars and renders have been one of the main problems behind the unfair reputation that lime products have acquired in the construction industry in South Africa. One unexpected drawback of using lime was discovering during the first winter months when temperatures in the Cederberg occasionally plunged to below freezing point. Lime stops hardening below 5°C which consequently did slow operations during the coldest days. From then onwards, the contractor was instructed to keep a maximum/minimum thermometer in the site office and daily temperatures were recorded and included in the contractor's monthly reports.

It was made very clear at the outset that no 'chicken wire' would be used in the plastering processes, as employed widely elsewhere on various other heritage projects to 'assist' cementitious plasters to adhere to walls. In fact, given that only lime/sand plasters and renders were being used, the use of such wire reinforcement would not only have been unnecessary, but would have rendered the wire prone to rust,

eventually facing prospects of plasters and renders delaminating. That is not to say that mesh reinforcement was avoided. Indeed, it was used, albeit to a limited extent. A notable example was the use of stainless-steel mesh reinforcement fastened into the brickwork with alkali resistant poly-anchors, stainless steel drive screws: but only in instances where structural cracks had to be reinforced prior to plastering.

Figure 8: Trial panels using lime/sand mixes for plastering and laying brickwork. Left: Two separate lime plaster panels experimenting with water proportions. The shrinkage cracks in the lower panel show that too much water was added. Right: Trial samples of brick walls constructed using exclusively lime/sand mortars to convince an initially sceptical contractor that such lime mortars without Portland cement would be structurally sound. The wall in the foreground is constructed using modern fired bricks. The darker wall in the background experiments with bricks recovered from the fire damaged ruins. (Image ARCON, 30 August 2019)



Figure 9: Pan mixers in action preparing lime/sand mortars and renders. The sand used was Malmesbury sand which is coarser and therefore preferred over finer Cape Flats silica sands for work on historic buildings. (Image: ARCON, 25 October 2019)



Helping to restore lives

Wupperthal derives its heritage significance, not only from its historic buildings, but also the social practices of its community which have remained substantially unchanged for many decades due to the town's physical isolation. The settlement has consequently remained, to a large extent, a social time capsule. Apart from the church, the church brass band was (and still is) a focus of community life. It plays at all social functions including dances, funerals and special events. Consequently, the loss of the band's instruments in the fire was a significant added blow to residents, many of whom had become destitute with only the clothes they had been wearing after the fire. Funeral services became 'silent' events due to the absence of the brass band, yet another bitter reminder of the social upheaval caused by the fire.

It was against that background of quiet desperation that it became very clear that the restoration of the settlement would not only be about its buildings, but also its people. The Foundation therefore made it a funding requirement that preference be given to local employment on the project. The purpose was to provide the opportunity for locals to acquire niche skills in the use of traditional materials such as lime for the construction and maintenance of historic buildings; income generating skills that could then be used to maintain the town's old buildings as well as historic farm complexes in the surrounding area. Harnessing heritage to empower people duly became an underlying ethos of the project.

From the outset there was no stage at which locals did not make up well over 50% of the work complement on the project while at most times, that proportion was around 75%. One aspect of construction in which many locals were already well skilled, was thatching. In that respect, locals proved to be much more adept and effective in working under hot, sunny days than their imported counterparts from the city. Some of the local labour, accustomed to a hard life of subsistence farming and bartering, earned the first wages they had ever received in their lives.

The project, which initially had the aim of restoring fire damaged buildings only, gradually expanded to include other buildings and infrastructure not damaged in the fire. These included the church building which was re-thatched after its roof was found to be in a state of semi-collapse; and re-thatching and refurbishment of the shoe factory by installing a new electrical system, lighting, fans, workstations, kitchen, ablutions and a new floor.

As work proceeded, it was found to be a futile exercise to attempt to discharge newly installed sewer outlets from the restored buildings into the town's existing sewer system, which was in extremely poor condition. Such was the problem that the Foundation agreed to fund the installation of an entirely new soil water reticulation system, along with a new stormwater discharge system at the southern end of the town centre.

The water supply was also found to be in poor condition with the town reservoir containing sufficient water to supply the town for only 24 hours in the event of an unexpected supply failure. The reservoir was at that stage at an elevation too low for supplying the top tier of homes against the opposite slope in the residential area. A new reservoir with double the capacity was therefore installed at a higher elevation, enabling all houses in the residential area to receive water for the first time. A new water supply pipeline to the reservoir from a distant river was installed to replace the old decrepit line that had comprised a patchwork of plastic irrigation and asbestos cement pipes, posing a serious health threat to the town. All of the aforementioned additional work was funded by the Foundation.

Restoration of the various buildings

Leipoldt House

Leipoldt House is the oldest dwelling in the town and, according to Fransen, dates back to c.1800. It is most likely the original Rietmond farmhouse in which the Rhenish missionaries lived when they first arrived in the valley. It was in this building that Gottlieb Leipoldt lived when Wupperthal was founded. The building has a traditional vernacular T-shaped plan which is clearly visible in Figure 1.

Figure 10A: : Exterior of Leipoldt House after the fire. This building is most probably the original Rietmond farmhouse, pre-dating the arrival of the Rhenish missionaries by about 30 years. The uncharacteristic semicircular stoep appears to have been used as a podium from which open-air services were conducted before the church was completed, explaining its non-traditional shape. (Image: ARCON, 25 October 2019)



Figure 10B: : Exterior of Leipoldt House after restoration. (Image: ARCON, 27 Nov 2020)





Figure 10C: The kitchen hearth of Leipoldt House after the fire which collapsed.



Figure 10D: The kitchen of Leipoldt House after restoration and reconstruction of the hearth flue. (Image: ARCON, 1 September 2020)



Figure 10E: : Leipoldt House memorial wall: It was decided that one of the end walls in Leipoldt House should be retained in the condition in which it was found after the fire to commemorate the disaster. This was considered especially relevant as this part of the building is scheduled to become the town's museum. (Image: ARCON, 8 June 2021)



Figure 10F: Carpenter's marks: All new joinery in Leipoldt House and other buildings was stamped with the name of the joiner and date of fabrication in inconspicuous places as a record for future researchers: all in the tradition of historic carpenter's marks incised into their work through the ages, and consistent with similar early practices in the town (see Figure 16C) (Image: ARCON, 8 June 2021)

The Community Hall

The Community Hall was constructed in c.1980 and is consequently the most recent public building in the town. Work was prioritized so that the hall, on completion, could be used for church services while the church was being re-thatched. Re-thatching was decided upon after noting the poor condition of the church roof even though the building not having sustained fire damage.

Figure 11A: : Exterior of the Community Hall after the fire. (Image: ARCON, 24 January 2019)



Figure 11B: : Exterior of the Community Hall after restoration. The small addition in the foreground replaces an earlier cement brick addition that stored the brass band's instruments and suffered bad structural cracking in the fire. It had to be totally reconstructed because of the damage sustained to its cement brick walls. The walls and buttresses of the main hall were able to be retained. The building is relatively recent, having been constructed in 1980. It was designed by renowned architects Revel Fox & Pnrs. (Image: ARCON, 8 June 2021)



Figure 11C: Gutted interior of the Community Hall after the fire. (Image: ARCON, 24 January 2019)



Figure 11D: The interior of the Community Hall after restoration was practically complete. The roof trusses are a more rustic re-design of the destroyed originals, which had been made of uniformly turned members. The simple chandeliers were specially designed for the interior. (Image: ARCON, 9 July 2020)

The Creche Building

The Creche building, constructed in c.1980 with the Community Hall, was so badly damaged by the fire that the remains had to be demolished down to foundation level. The Moravian Church then decided to relocate the creche and requested that the building be reconstructed to accommodate new toilets and an office for the restored hall.

Figure 12A: The Creche Building under reconstruction (left) to accommodate new toilets and office space for the Community Hall. (Image: ARCON, 21 January 2020)



Figure 12B: The Creche Building under reconstruction (left) to accommodate new toilets and office space for the Community Hall. (Image: ARCON, 21 January 2020)



The Old Mission Stores Building

The Mission Stores, one of the oldest buildings constructed or enlarged by the Rhenish missionaries, originally housed the first school in Wupperthal. Fransen records the building as having sash windows stylistically dating back to c.1830 with much internal timberwork of the same period. All of this was, most unfortunately, lost in the fire. At the request of the Moravian Church, it was decided to restore the building to include a restaurant and kitchen as an opportunity for promoting local business and job creation.

Figure 13A: The Mission Stores Building after the fire. (Image: ARCON, 24 January 2019)



Figure 13B: The Mission Stores Building restored to include a restaurant and catering kitchen. (Image: ARCON, 9 March 2021)



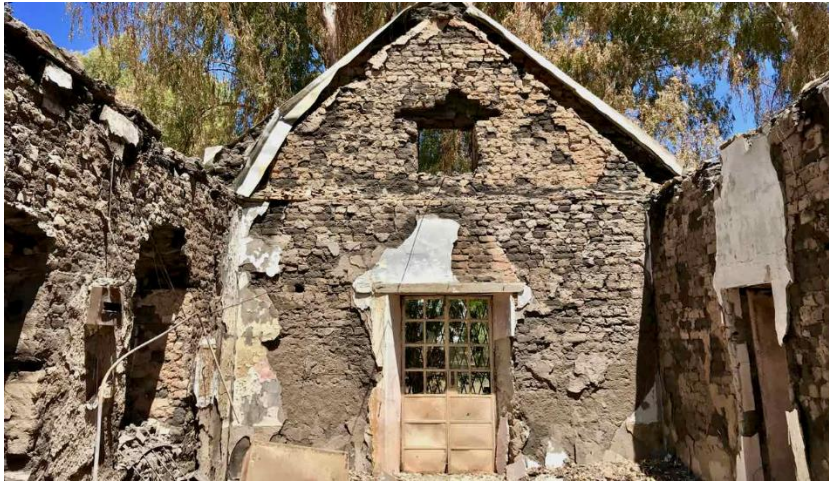


Figure 13C: Part of the Mission Stores interior after the fire. (Image: ARCON, 9 March 2021)



Figure 13D: The same view of the Mission Stores interior after restoration, now intended for use as restaurant space opening onto a small terrace. (Image: ARCON, 18 May 2021)



Figure 13E: Example of old wrought iron strap hinges recovered after the fire, refurbished and reinstalled in the Mission Stores building. (Image: ARCON, 7 April 2021)



Figure 13F: Replacement windows in the Mission Stores after restoration. It is suspected that the additional glazing on the sides was to provide extra light for pupils when the building was still a school in the 1830's. (Image: ARCON, 7 April 2021)

The Old Parsonage

The date of construction of the parsonage is not clear but appears to have been built shortly after 1845. Rev. Gottlieb Leipoldt would probably have used this building as his residence after Leipoldt House. It appears to have been constructed in two stages, the earlier central portion using rammed earth (an old pioneer construction technique) with flanking wings constructed of bricks, added later.

Figure 14A: The Parsonage after the fire. (Image: ARCON, 24 January 2019)



Figure 14B: The Parsonage after restoration. The palisade fence was copied from remains that survived the fire in front of the Winkelhuis opposite. (Image: ARCON, 8 June 2021)



Figure 14C: The front façade of the Parsonage after the fire debris had been cleared. The rammed earth construction of the central portion of the facade is clearly evident in the horizontal wall striations. (Image: ARCON, 30 January 2020)



Figure 14D: The front façade of the Parsonage after restoration. (Image: ARCON, 8 June 2021)



Figure 14E: The new simple, yet contemporarily styled Parsonage kitchen installed in the Parsonage as part of the reconstruction works. (Image: ARCON, 7 April 2021)



Figure 14F: The west side of the Parsonage after restoration. (Image: ARCON, 23 March 2021)

Die Winkelhuis

Die Winkelhuis, or 'Winkelier se Huis' (Shopkeeper's House) is said to have been constructed in c1838, not long after the church building was completed. At the time of the fire, it was the administration building of the town and meeting place for the local church Council. Sadly, almost all of its timber joinery and carpentry, much of which had been original, was lost in the fire.

Figure 15A: The front façade of the Winkelhuis after the fire. This was one of the buildings initially considered particularly dangerous with various large wall cracks. However, on closer examination, it was found that the cracks pre-dated the fire. (Image: ARCON, 23 March 2021)



Figure 15B: The Winkelhuis front façade after restoration. (Image: ARCON, 9 March 2021)





Figure 15C: From the lounge interior of the Winkelhuis looking through to the back garden after the fire. (Image: ARCON, 24 January 2019)



Figure 15D: The same view as Figure 15C after restoration. The door opening on the left had to receive a horizontal lintel after the previous segmental arch suffered a collapse. (Image: ARCON, 16 October 2020).



Figure 15E: Collapsed kitchen hearth in the Winkelhuis after the fire. All intact bricks were recovered and re-used in its reconstruction. (Image: ARCON, 24 January 2019)



Figure15F: New simple, contemporarily styled kitchen with reconstructed hearth converted to a pantry. (Image: ARCON, 7 April 2021)



Figure 15G: Remnant of cedarwood flooring recovered after the fire and set into the new floor in the same position where it had been recovered. An interpretative plaque explaining the significance of these floorboards has been placed on the wall above. Out of all the buildings damaged in the fire, this is the only area where a small portion of cedarwood flooring survived. (Image: ARCON, 27 November 2020)



Figure 15H: Rear veranda of the Winkelhuis with reconstructed canopy based on a photograph that the author, by pure coincidence, took on a casual visit to Wupperthal about 4 months before the fire. That photograph proved to be the only known record of the rear façade of the house with its canopy. (Image: ARCON, 27 November 2020).

The Old Rhenish Church Building

The church building, inaugurated in 1835 by the Rhenish missionaries, was found to have a structurally poor roof. The Foundation therefore generously decided to broaden the project brief, leading to the entire re-roofing of the building despite it not having sustained fire damage. Carpenter's marks on one of the ceiling ribs (Figure 16C) show the ceiling to have been a later addition. It was found that the original installation had involved the cutting away of diagonal trusses between the nave and transept, presumably because those trusses would have extended below the new vault line. That resulted in a badly weakened roof at the intersection between nave and transept and was on the point of collapse. The roof consequently had to be strengthened with new trusses placed between the old, effectively becoming a new roof structure. The building was then fully re-thatched.



Figure 16A: View of the thatch roof of the church before reconstruction. The roof was in very poor condition and in a state of near collapse between nave and transept. (Image: ARCON, 1 Nov. 2019)

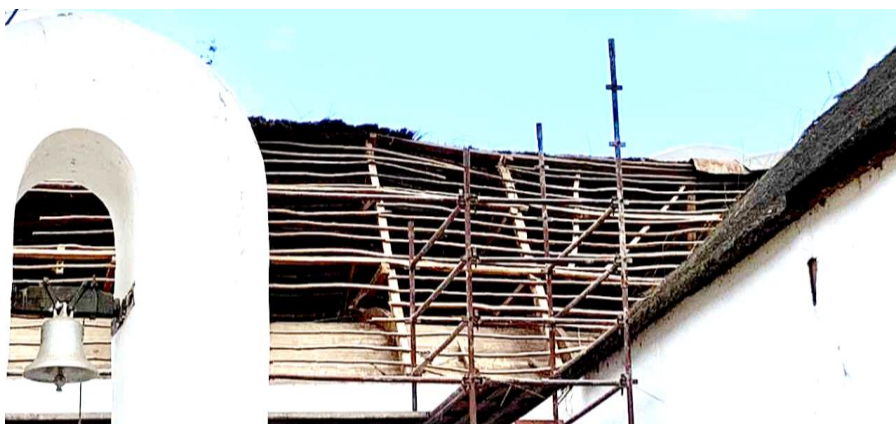


Figure 16B: The roof with thatch removed showing the very poor condition of the roof timbers. (Image: ARCON, 1 Nov. 2019)



Figure 16C: Carpenter's signature on one of the saucer vault ribs record that the ceiling was added in 1894. This practice has been revived at Leipoldt House and other new joinery forming part of the restoration process (Figure 10F). (Image: ARCON, 1 Nov. 2019)



Figure 16D: The simple Church interior with saucer vault ceiling and freshly painted walls. (Image: ARCON, 14 Jan 2021)



Figure 16E: Re-laying the stone flags in front of the church. The grey mortar is lime mixed with local dark grey river sand and not cement. (Image: ARCON, 27 November 2020)

Figure 16F: The church building after completion of the new roof and repainting with a propriety breathable wall coating. (Image: ARCON, 14 January 2021)



The Post Office

The date of the Post Office building is not known but suspected to date back to the earlier half of the 20th C. The building was left almost completely undamaged by the fire apart from its thatched front entrance canopy which had totally burned away. Fortunately, the main thatch roof had not caught fire. The building was, however, in need of maintenance. That included requiring attention to extensive cracks in its walls. It was therefore decided to repair the cracks, repaint the building and construct a new canopy. This new canopy is a smaller cantilevered corrugated iron roofed structure and not thatch. Another thatch version would have deteriorated faster, considering its shallow pitch.



Figure 17A: The Post Office Building before the fire.
(Image: Gabriel Fagan Architects, 22 September 2009)



Figure 17B: The Post Office Building after refurbishment including new paving on the front stoep using locally sourced sandstone laid by local labour. A smaller corrugated iron front entrance canopy replaced the previous burned-out thatch canopy which had too shallow a pitch to withstand protracted weathering.
(Image: ARCON, 18 May 2021)

A note on choice of paint colour for the timber. Unlike most other Cape vernacular joinery which is traditionally painted green and white, joinery in Moravian mission stations is painted brown and white. The brown is known as *doodskisbruin* (coffin brown). The custom dates back to a time when mission stations were supplied with brown paint for finishing their locally made pine coffins. (All funeral preparations were done locally and in some mission stations, still are today.) Because of its availability, the same brown paint was soon adopted for use on the doors and windows of most mission buildings in all Moravian mission stations. The only exception in Wupperthal is Leipoldt House, which pre-dates the mission station and has retained its traditional Cape vernacular green and white colour scheme.

The Shoe Factory

The Wupperthal Shoe Factory was founded in 1836 with the factory building probably constructed at the same time or a little later. The oldest portion of the building in all likelihood pre-dates 1840. Although its front façade now has steel windows, the rear façade retains its original timber casement windows; probably now the earliest surviving casements in the town after the fire. Although the building was not damaged during the disaster, its interior especially, was found to be in poor condition and its machinery and electrical infrastructure, antiquated.

The small factory still retained a good reputation for the quality of its products, most famous of which were its veldskoens shoes. After the main operation moved to Clanwilliam (see also ‘The Old Tannery’), production in Wupperthal continued on a smaller scale, eventually dwindling to only three cobblers of advanced age operating in the premises at the time of the fire. The Foundation decided to assist in reviving this important historic industry by refurbishing the factory and assisting with the marketing of its products. Like the on-the-job training for developing niche skills in the use of lime mortars, renders and other traditional construction materials of local origin, the shoe factory presented another opportunity for expanding job creation and promoting local industry.



Figure 18A: Interior of the Shoe Factory before refurbishment with surviving original casement windows; now in all likelihood the oldest surviving casement windows in the settlement since the fire. (Image: ARCON, 17 March 2020)



Figure 18B: Interior of the Shoe Factory before refurbishment. (Image: ARCON, 17 March 2020)



Figure 18C: Interior of the Shoe Factory after refurbishment. The floor had to be entirely re-laid, but using planks cleaned and recycled from the old floor. There was a conscious effort to retain as much of the floor's worn, rustic quality as possible. New lighting, fans, workstations and electrical systems were added. (Image: ARCON, 4 May 2021)

Figure 18D: Exterior of the shoe factory prior to refurbishment. It had been re-thatched by the Moravian Church a few years previously. The extension on the far left was then used as the town library and had a corrugated iron roof. (Image: ARCON, 17 March 2020)



Figure 18E: Exterior of the Shoe Factory after refurbishment. The extension on the far left was provided with a thatched roof to match the roofscape of the rest of the town centre. The interior was refurbished to provide a shop for the factory. The steel windows were retained. (Image: ARCON, 8 June 2021).



The Old Tannery

The Old Tannery comprises a cluster of attached buildings that did not form part of the original restoration program. It was only after blackened masonry walls were discovered in the midst of piles of fire-twisted metal that had previously been a group of prefabricated buildings, that it was realized that the blackened walls were the remains of settlement's historic tannery. This small complex had supplied the shoe factory with its leather for over a century before the Rev. Strassberger moved most of the operation to Clanwilliam, from where it still operates as the oldest shoe factory in South Africa after Wupperthal's. Shoemaking continued at Wupperthal but on a much smaller scale.

When the significance of this small complex was realized, the Foundation offered to include the reconstruction and partial restoration of the Old Tannery buildings in its funding; an offer gladly accepted by the Moravian Church. Locals were quick to confirm that this historic complex with its series of surviving open cement tanning tanks, had supplied the Shoe Factory with its leather until the early 1950s. The Old Tannery cluster is therefore, in all likelihood, of roughly similar age to the Shoe Factory. It was restored but with new interiors fitted out as guest accommodation for the village, providing yet another opportunity for job creation and local income generation.

Figure 19A: The Old Tannery after the fire. Burning palm fronds played a large role in spreading the fire in the strong wind that had prevailed. (Image: ARCON, 26 May 2020)



Figure19B: The Old Tannery after restoration/reconstruction. Part of one of the old tanning tanks is just visible in line with the building on the extreme left. (Image: ARCON 4 May 2021).



Figure 19C: View of the back (southwest end) of the fire gutted shell of the tannery. The fabric on the extreme left comprised the remains of a shallow mono-pitch extension which has stylistically latter 1950s/1960s bagged and horizontally raked 1 brick thick walls constructed with cement mortar. The burned-out shell of one of the school hostels is visible in the background to the extreme left. The cement and concrete slabs and bases in the foreground once formed part of the now defunct tanning operation. These elements were finally removed after the project archaeologist gave the go-ahead. The old concrete tanning tanks (not visible in this image) were retained. (Image: ARCON, 6 December 2019)



Figure 19D: View of the back of the tannery after the fire (southwest end) showing various remnants of cement and concrete bases which once supported tanning machinery. The 'stoep' in the foreground was once under a lean-to roof, and remains of an old stone wall base are visible running diagonally across the foreground (Image: ARCON, 6 December 2019)



Figure 19E: View of the back of the tannery after restoration for use as guest accommodation. The new stone structure in the foreground is a braai. Most of the concrete bases in Figure 19D were retained under the new stoep. (Image: ARCON, 4 May 2021)

The School Hostels / Old School Buildings

Before the fire, the school hostel complex comprised three structures, two being former school buildings dating back to the 1840s and later converted to hostels for the children of the numerous outlying settlements. The third was a dining hall constructed of cement bricks dating from between the mid-to second half of the 20th century. Like the Creche building next to the Community Hall, the dining hall's cement bricks did not fare well in the fire and the building had to be demolished. The two hostel buildings have been retained and restored as guest accommodation, the intention being to provide yet another means for creating job opportunities and additional income for the local community by capitalizing on the town's enormous tourism potential.

Figure 20A: The northernmost of the two school hostels after the fire. (Image: ARCON, 24 January 2019)



Figure 20B: The northernmost of the two school hostels with restoration nearing completion. New casement windows were installed in the openings of the burned-out 20th C false sash windows which had, in turn, probably replaced the original windows, possibly similar to the surviving casement windows in the Shoe Factory (Figure 17A) except that the latter are single casements and not double casements as installed here. (Image: ARCON, 4 May 2021)



Figure 20C: Part of one of the hostel interiors shortly after the fire. The twisted remains of hostel beds lie amongst the wreckage. (Image: ARCON, 24 January 2019)



Figure 20D: Part of the same interior, now a bathroom for one of the new guest flatlets. Where window openings were bricked in, the infill brickwork was recessed as a record of that opening. Stone for the new floors was all locally sourced. (Image: ARCON, 18 May 2021)



Figure 20E: Kitchenette in one of the guest flatlets. Door openings that were bricked in were left recessed as a record of that opening, and to double as shelf space. (Image: ARCON, 4 May 2021)

Figure 20F: View of both restored hostel buildings now repurposed as guest accommodation for the village. The channel and outfall in the centre of this image is part of a new stormwater system installed by the Foundation to control flood waters which had previously been a problem, after heavy rains. (Image: ARCON, 4 May 2021)



The Palms Guest House

The date of the Palms Guest House is not known. However, it is suspected that this small building was constructed in the late 19th/early 20th C, and therefore more recent than the other historic buildings in the town centre. It was one of only two guest houses in the village prior to the fire. Like many of the thatch buildings in this part of the village, it was flaming palm trees in a high wind that caused its demise. Consequently, palm trees closest to this and other buildings in the area were removed in the interest of future fire safety.

Figure 21A: The gutted Palms Guest House after the fire. (Image: ARCON, 24 January 2019)



Figure 21B: The Palms Guest House after restoration. (Image: ARCON, 24 January 2019)





Figure 21C: A portion of the gutted interior of the Palms Guest House after the fire. (Image: ARCON, 24 January 2019)



Figure 21D: The same part of the interior after restoration. (Image: ARCON, 10 November 2020)

The Blacksmith's Shop

The Blacksmith's Shop was the first building to be gutted in the fire, having been closest to where it started. The age of the building is not known but judging from its plastered masonry construction, which is similar to that of Leipoldt House, it could be that the part closest to the adjoining threshing floor is another of the original Riedmond farm structures. The Blacksmith's Shop is on two levels and, with the threshing floor adjacent to a stream has on occasions, created the mistaken impression that this was once a mill. The lower level contains the remains of a forge which would have been strategically placed for attending to wagon wheels damaged during the torturous mountain descent to the settlement.

Figure 22A: The gutted Blacksmith's Shop after the fire. (Image: ARCON, 24 January 2019)



Figure 22B: The Blacksmith's Shop after restoration. (Image: ARCON, 10 November 2020)





Figure 22C: The remains of the forge flue after the fire. (Image: ARCON, 24 January 2019)



Figure 22D: The forge area after restoration. The forge was not reconstructed as the building is earmarked to be the new information centre for the town. The extra floor area was needed for office space. (Image: ARCON, 9 July 2020)



Figure 22E: The Blacksmith's Shop after restoration. (Image: ARCON, 23 February 2021)

Figure 22F: The Blacksmith's Shop with threshing floor on the left and a fire hydrant kiosk to its right. It was not initially intended to restore the threshing floor, but it was in such bad condition that the Foundation agreed to include it in the program. The roof dormer is a new insert to provide natural light to an otherwise dark upper level after it was decided to use the building as the town's information centre. (Image: ARCON, 23 February 2021)



Additional services, infrastructure and smaller restoration-related projects

As work progressed and the very poor state of parts of the town's infrastructure became apparent, the Foundation agreed to extend its funding to include services that had not been affected by the fire but were either non-existent or in such poor condition that they were affecting the proper functioning of the settlement. This was predicated on the recognition that the project was aimed not only at restoring buildings, but also lives and livelihoods.

New Fire Safety Measures

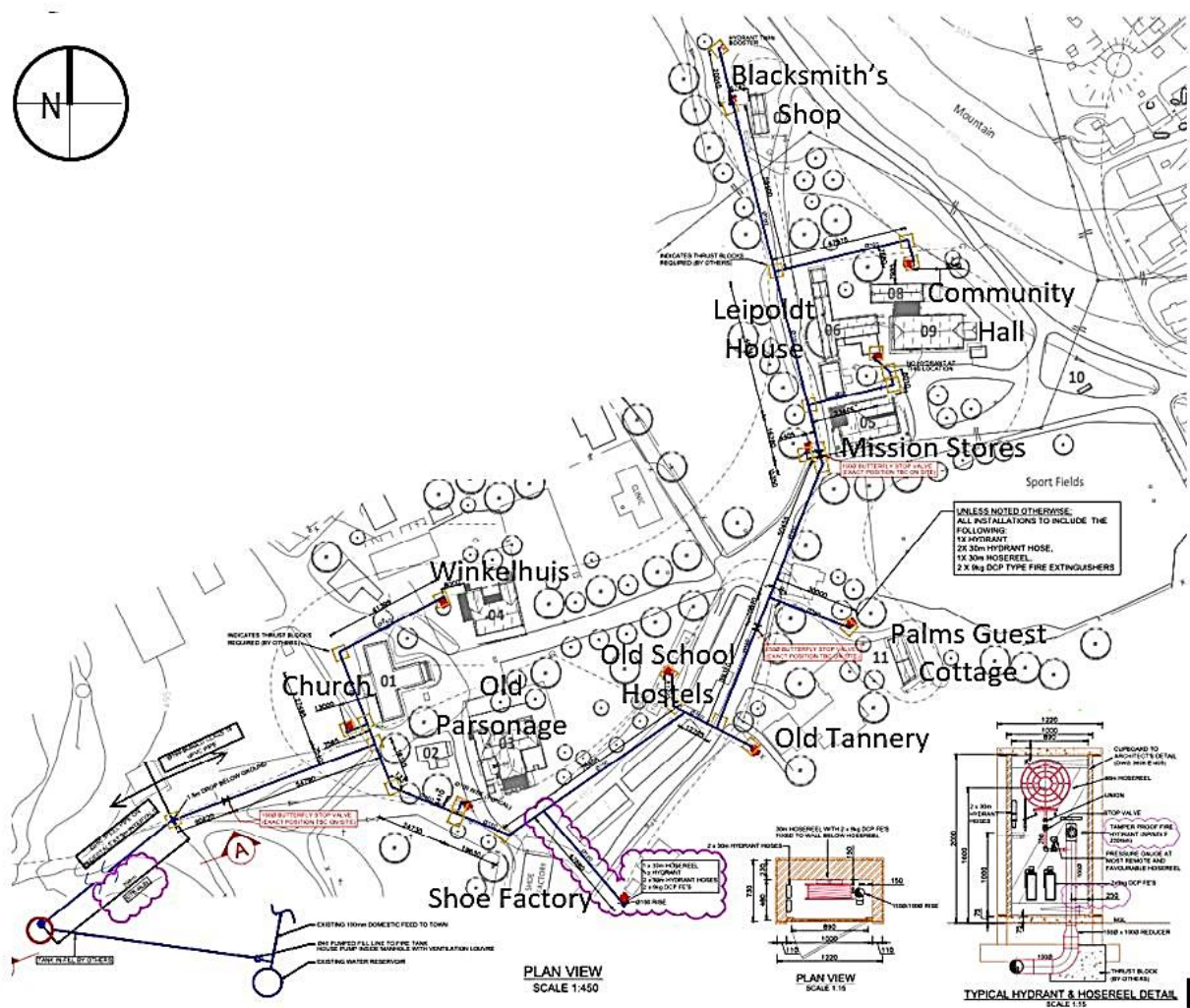
It would have been pointless to restore the town centre with thatch roofs without providing appropriate fire emergency systems. After much discussion with the project fire safety experts, it was decided to install a fully operational fire hydrant reticulation and electronic alarm system linked to fire sensors within the Church Precinct; all operated by local residents who underwent special training in firefighting and fire prevention as part of the project. This was considered better than installing thatch sprinkler systems due to their unreliability in strong winds.

Brandsolders (fire retardant ceilings to catch burning thatch) employing contemporary lightweight but highly effective fire-resistant screeds were re-installed in the buildings where ceilings had previously existed, i.e. Leipoldt House, the Mission Stores, Winkelhuis and Parsonage. Contemporary fire detection systems with alarms were installed in all restored buildings together with statutorily required fire

retardant blankets in the thatch. The thatch itself was not treated with a fire retardant due to its reputation for significantly reducing the lifespan of thatch in many instances.

A separate water tank dedicated to supplying the new fire hydrant system was installed behind an outcrop on the mountainside above the town. This made it invisible from within the Church Precinct, while a stone embankment was constructed to camouflage the new tank from scenic outlooks from the mountain pass approaching the town. Trenching for the hydrant system had, of course, to undergo archaeological scrutiny prior to its laying, while hose reel kiosks were specially located and scaled to minimize visual impacts on the Precinct.

Figure 23A: Layout of the new fire hydrant reticulation system installed within the Wupperthal Church Precinct. (Image: SECURE FIRE, July 2019)



Trees, and especially palm trees, had played a significant role in spreading the fire in the strong wind that had prevailed on the day. As a future fire precaution, a number of these trees were removed with the approval of Heritage Western Cape (Wupperthal is a designated Heritage Area) while retaining the majority due to their strong role in defining the character of the Church Precinct.

Figure 23B: Palms were likely the most instrumental in spreading the fire in the Church Precinct due to the aeration imparted by the shape of their fronds. Although palms strongly characterize the precinct, these and other trees close to the thatch buildings had to be removed as a precaution against the spreading of future fires. This example would have been at least partly responsible for the gutting of Leipoldt House. Its removal was debated at the time because of the risk its removal posed to the foundations of this historic building. Ultimately, it was removed, and a small buttress constructed to reinforce the base of the wall in its place. (Images: ARCON, 24 February 2019 & 23 March 2021)



Figure 23C: Left: A palm next to the Winkelhuis was another example of a tree removed for fire security reasons. This image also indicates the emergency propping installed shortly after the fire using locally available timber to prevent a gable collapse. Right: the size of the root bowl of the palm after its removal. (Images: ARCON, 24 February 2019 and 11 October 2019)



Figure23D: Typical example of a fire hydrant kiosk. These enclosures were scaled to respond to the simple architecture of the precinct while being as visually unobtrusive as possible. (Image: ARCON, 23 February 2021)



Figure 23E: New fire sensor and alarm systems were installed in all the restored buildings. Prior to the fire, the only alarm system in the settlement had been the church bell. (Images: ARCON, 7 April 2021)





Figure 23F: New fire alarm system in Leipoldt House. The panic button and red alarm light are next to the front door (left) with the control panels at the left far end. Smoke detectors are mounted to the underside of new rafters supporting a new brandsolder and reed ceiling. (Images: ARCON, 8 June 2021)

The Church Campanile and Ablution Block

Due to the poor condition of the timber framed campanile and adjacent church ablution block it was decided to repair and refurbish these structures to bring them in line with the fire damaged buildings that were being restored.

Figure 24A: The campanile behind the church. Left: before refurbishment. Right: the campanile after refurbishment. The stays had been added by the locals at some stage after the 2009 photograph on the left and did not form part of the restoration project. (Image left: Gabriel Fagan Architects, 22 September 2009; right: ARCON, 27 October 2020)





Figure 24B: The church ablution after re-thatching and undergoing crack repairs prior to repainting. (Image ARCON, 27 October 2020)

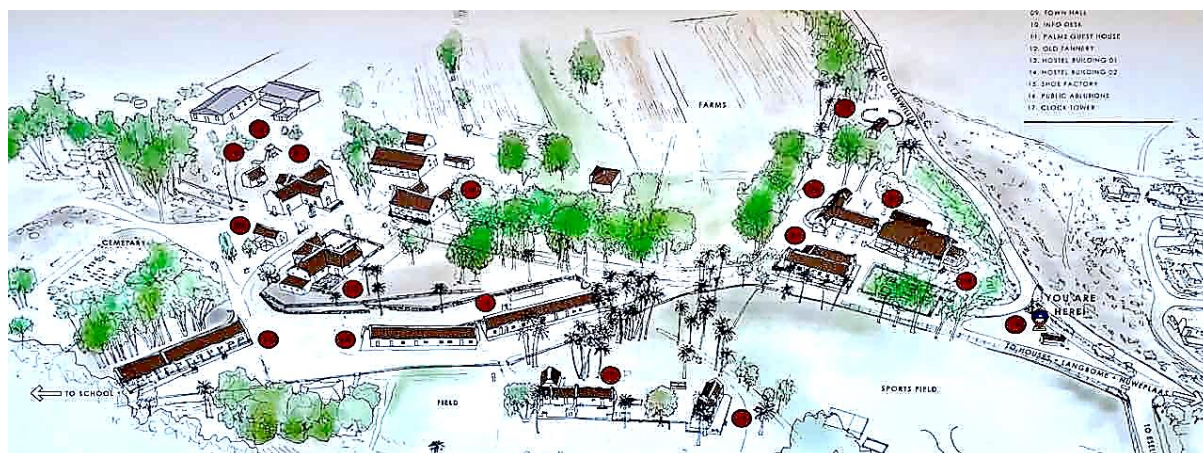
The Information Kiosk

The information kiosk was another structure that was not damaged in the fire but was in need of upgrading. The work included re-thatching and the installation of two specially commissioned information boards for visitors.

Figure 25A: The refurbished visitor information kiosk in the foreground with the Mission Stores building behind on the left and the Community Hall on the right. (Image ARCON, 27 October 2020)



Figure 25B: Diagram of the Church Precinct commissioned for the information kiosk. The other side contains a topographic map of the Cedarberg indicating the location of Wupperthal and its surrounding settlements. (Image ARCON, 27 October 2020)



Landscaping and Recovering Open Space

The Wupperthal Church Precinct must have been an impressive sight two hundred years ago, nestled in the fertile Tra Tra Valley with its green agricultural allotments, especially upon arrival after a long, exhausting wagon trip from Clanwilliam. Unfortunately, due to an increasing lack of funds, dwindling job opportunities and a gradual loss of local expertise in critical aspects of maintenance, the town centre had lapsed into a very poor state of repair by the time the fire struck in late 2018. The poor condition of the fabric extended not only to many of the historic buildings, but the groundworks and much of the stone walling of the village, especially the retaining walls behind the Old Hostels.

Figure 26A: The western end of the Mission Stores with flat roofed kitchen extension (centre) and the derelict café building on the far left. (Image ARCON, 24 February 2019)



It therefore wasn't long after the decision to add the hostels to the restoration programme that it was realized that a logical extension of that work would be to repair the seriously deteriorated retaining walls behind these buildings. That was followed by a decision to repair the stone walls along the approach to the church and landscape the re-opened space between the Mission Stores and Leipoldt House. This space was created after demolishing a derelict, poorly built latter 20th C café building constructed out of cement blocks alongside Leipoldt House. After much discussion, it was decided, with the support of the

Moravian Church, to plant olive trees in a part of the reclaimed open space and in the large, uncultivated area to the east of the Old Parsonage. The purpose was to keep the design very simple and in keeping with the biblically rustic quality of the area.

Figure 26B: The same view but with the kitchen extension and derelict café now removed, reclaiming the open space between the mission Stores and Leipoldt House. (Image ARCON, 8 June 2021)



Figure 26C: Simple new landscaping in the reclaimed open space after the demolition of a derelict café building between Leipoldt House and the Mission Stores. The tree enclosures comprise hand cut local laths and diamond mesh fencing to keep wandering donkeys at bay. The rear wing of Leipoldt House is in the background. (Image ARCON, 27 October 2020)



Figure 26D: The semi-ruined stone retaining wall behind the Hostel Buildings. The Old Parsonage is left of centre with the Church to the right of centre beyond. (Image ARCON, 26 May 2020)



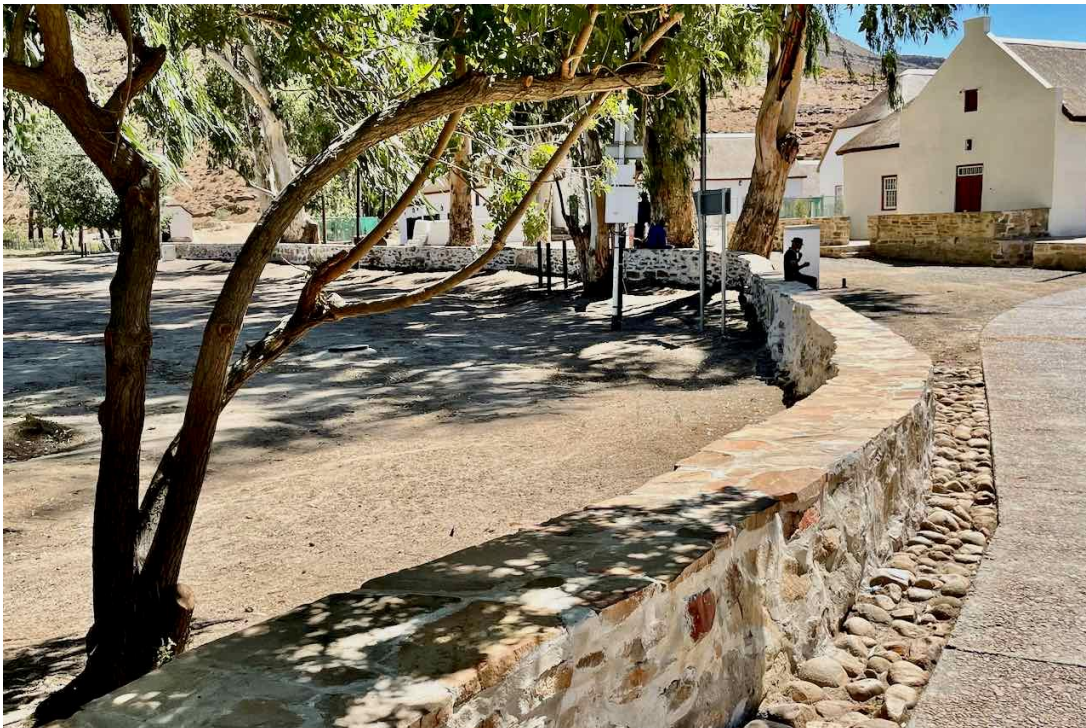
Figure 26E: The stone retaining walls after reconstruction behind the Hostel Buildings. (Image ARCON, 8 June 2021)



Figure 26F: Reconstructed stone walls behind the restored Hostel Buildings (left). The Shoe Factory is in the background to the right. (Image ARCON, 8 June 2021)



Figure 26G: Reconstructed stone wall along the roadway between the Church and Mission Stores. (Image ARCON, 23 February 2021)



Revitalizing the water supply to the town

Before the fire, potable water for the town was stored in a reservoir on the hillside which was supplied from a stream approximately 3km away and then gravity fed to the settlement. This is pure, untreated mountain water. The elevation of the old cement reservoir was insufficient for supplying water to the top tier of dwellings in the residential area on the opposite side of the valley.

A further shortcoming was that the capacity of the old reservoir was only adequate for supplying the town with water for 24 hours in the event of a supply interruption. A 24-hour water reserve is half the statutory minimum capacity required. The Foundation therefore decided to fund a new reservoir of double the capacity of the old, and at a greater elevation to the old water storage facility. The improvements enabled all residents of Wupperthal to receive running water in their homes, many for the first time.



Figure 27A: The new reservoir funded by the Foundation nearing completion. (Image ARCON, 14 January 2021)



Figure 27B: The new reservoir painted to match the surrounding mountainsides but is in any case largely obscured from the Church Precinct below. (Image ARCON, 14 January 2021)

Interpretation plaques on the buildings

Interpretation plaques were placed on all the principal buildings in the Church precinct. Each provides a brief history of the building on which it is placed, while others explain the periods of different layers of historic wall fabric which were consolidated with a special breathable fixative and left uncovered on strategic portions of wall within the Hostel Buildings.

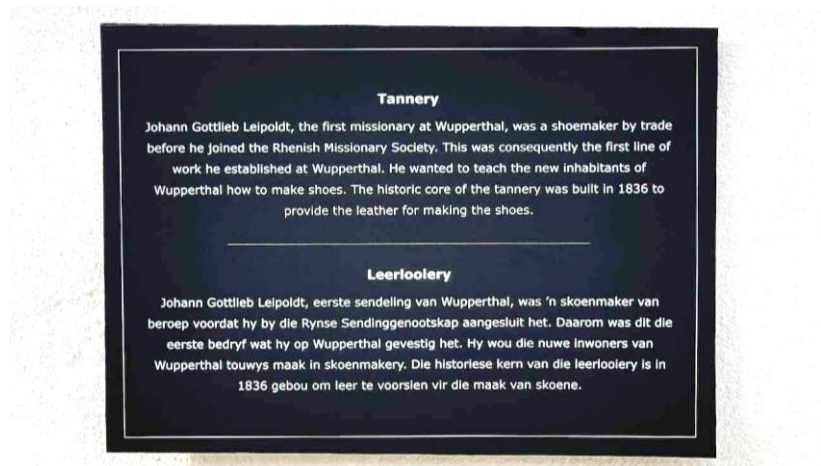


Figure 28A: Typical example of one of the interpretive plaques fixed to the exterior of a restored building. This one is mounted on the front façade of the Old Tannery building. (Image ARCON, 14 January 2021)



Figure 28B: Masonry panel left unplastered and treated with a special breathable fixative to prevent it from dusting. This panel shows three periods of construction with a partly charred lintel from the fire still in place. This image was taken before the interpretative plaque was fixed to the wall. (Image ARCON, 14 January 2021)

Conclusion

The focus of this project has been on both the buildings that were so badly damaged and the people whose lives were so severely disrupted by the fire. This was a project in which all members of the team and contracting parties alike worked with common purpose. The mood throughout the project was one of a shared dedication to do the right thing for this traumatized community. Problems that cropped up on site were promptly addressed, in many cases very creatively.

The project has enabled locals to acquire knowledge in the use of traditional materials compatible with the town's historic buildings; niche skills which they will hopefully now be able to employ on other old settlements and farms within the Cederberg area. While locals have retained the thatching skills of their forefathers, the same could not be said for masonry construction prior to the fire. Hopefully, with the knowledge gained in the use of traditional lime mortars, plasters and renders, and a re-awakened

awareness of cost savings to be made by using locally sourced materials such as stone in lieu of cement blocks, that will now change.

The project has however had its fair share of frustrations. Apart from the well over 300 punctures sustained by contractor's vehicles on the passes during the course of the project, and significant disruptions caused by COVID, there were disappointing incidents such as contractors returning after builder's holidays to find diesel drained from vehicles and excavators. Theft of contractor's power tools while on the job was equally and unfortunately prevalent. There is clearly much that still needs to be done on a social level within the town.

Most disappointing, however, is the fact that because of a rates dispute between the Moravian Church and the local authority, occupancy certificates were not yet issued for the newly created and fairly extensive guest accommodation at the time of this article. This accommodation has the potential to be a significant income generator and source of local employment for the settlement; income and jobs which will frustratingly not be realized until the rates matter is resolved.

As far as the building contract itself is concerned, that was implemented with a high degree of success. On a social level, there has, more recently, been significant progress in revitalizing the shoe factory with a new generation of apprentices now in place to take over from the three remaining cobblers who are acting as their mentors. As for unlocking the significant potential that the town has for generating income from overnight guests, that will remain frustratingly unresolved until the buildings that are ready to receive them are issued with the required occupancy certificates.

Acknowledgements

Project team

Overall Management & Donor Owner	The Rupert Foundation The Moravian Church of SA	Johann Rupert
Project Coordinator		Pieter Kotzé
Project Management & Principal Agent	Goal Zero Consulting	Chris Bornman
Conservation Architect	ARCON Conservation Architects & Spatial Heritage Consultants	Graham Jacobs
Project Architects	TV3 Architects & Town Planners	Edwin Swanepoel Hendro Hugo Jay-Dee Le Roux
Structural Engineer	Henry Fagan & Partners	Henry Fagan
Archaeologist	ACO Associates	John Gribble
Quantity Surveyors	De Leeuw Stellenbosch	Deon Potgieter Francois Mentz Johann Sherrer
Fire Engineer	SPARQ Consulting	Ryan Rudden
Health & Safety Consultant	EHS Greenleaf	Henk Paxton
Principal Building Contractor	Boland Bouers (Pty) Ltd	Kobus Smit Ian Rabie Ivan Plisic Jacques Smith
Thatcher	Robbi Thatch Cape (Pty) Ltd	Rob Louw

Workers on the ground

There were many people on the ground who made the project possible. These included the members of the Principal Building Contractor and the workers. The latter were mostly residents of Wupperthal and its surrounding settlements.



27 January 2020: Thatching contractor checking work at the Blacksmith's Shop.



6 August 2020: Laying new rainwater channels for Leipoldt House.



16 September 2020: Site supervisor at one of the School Hostels.



16 September 2020: Fitting one of the new window frames at the Old Parsonage.



16 October 2020: Taking a break on the steps of the Church Building.



20 November 2020: Thatching one of the School Hostels.



27 November 2020: Removing a massive tree root under the Shoe Factory floor.



14 January 2021: Finishing work inside the Old Parsonage.



14 January 2021: Painting the town's new water reservoir to reduce its visibility.



9 March 2021: Reconstructing the retaining walls behind the School Hostels.



9 March 2021: Digging the massive new underground sump behind the School Hostels as part of a system to alleviate future stormwater flooding.



23 March 2021: Repairing the floor in the new Shoe Factory shop space.



7 April 2021: Wall repairs at the back of one of the School Hostel buildings. The mortar has the appearance of Portland cement but is actually builder's lime mixed with a very dark local river sand.



8 June 2021: Hanging new doors at Leipoldt House.

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Rebuilding homes after the fire of 2018

John Wilson-Harris

Introduction

Wupperthal is a remote Moravian Mission settlement in the Cederberg mountains, 350km north of Cape Town. On the 30th of December 2018, a fire swept through the village destroying many of the historical central precinct (werf) buildings, as well as 53 homes. Almost immediately, the Rupert Historiese Huise Stigting (which I will refer to as the Rupert Foundation) funded and co-ordinated the appointment of a team of consultants to appraise and document the werf buildings for restoration. Re-building of these structures started on site in August 2019 with completion in May 2021 (Jacobs, 2024). The re-building of the homes however was not included in this work, and this article discusses their re-construction.



Figure 1: Western Cape Context.



Figure 2: Aerial Imagery of Wupperthal. (Google Earth, 2023)



Figure 3: Wupperthal layout:

A – Central werf

B – Housing

(Google Earth, 2023)

Historical Background

Riedmond farm was bought by the Rhenish Church from Barend Lubbe in 1830. The site had good water and pasture. A village of 'cottage styled houses' was established by them, close to the Tra-Tra river and 200 metres from the werf which had been established in existing farm buildings (Japha *et al.*, 1992). The property was first registered by David Kleyn in 1782.

Before the arrival of the church, there were already seven farm worker families living on the land in clay and reed huts, as well as numerous Khoesan people who pastured near the river. These families worked for the previous owners of the farm and remained on the land after the farm was sold (Bilbe, 1999). Shortly after the arrival of the missionaries, roughly 100 Khoesan people came to settle in or near Wupperthal. With the spread of word of the missionary church, the number of total Khoesan inhabitants increased to 190 people by 1840 (Bilbe, 1999). By the mid-19th century, Wupperthal experienced economic and financial growth. The property was extended by the addition of surrounding land parcels that were either purchased by the Rhenish Mission or acquired by means of colonial government grants.

With the gradual scaling down of the Rhenish Mission in South Africa, it was agreed in 1965 that Wupperthal should become part of the Moravian Church, which it remains today. The mission settlement is now made up of the original village of Wupperthal and twelve outlying stations including Langbome, Buekeskraal, and Eselbank. The total area of some 38,000 hectares is owned and managed by the Moravian Church from their Western Cape base in Cape Town.

Form of Settlement

The first houses of Wupperthal were set out linearly, parallel to the hillside contours from west to east with direct access and visibility to the garden allotments in the river valley in front. The village was extended up the slope of the hillside with each level of housing receiving its own serving street that were accompanied by perpendicular pedestrian footpaths leading down the slope. These houses were concentrated to the west to be closer to the werf (Japha *et al.*, 1992). The form of settlement has remained unaltered.

The houses were terraced into the existing slope of the site to create level building platforms. This intricacy of the layout of the small scaled settlement of houses on the slope allowed for both a synthesis between manmade elements and nature, as well as a cohesive relationship between the public werf space and the residential area of the village (Japha *et al.*, 1992).

Historical Significance

Wupperthal is one of the few remaining examples of mission settlement vernacular architecture in the country. The significant quality of place is achieved by the way the houses interact with the landscape and topography, how they interact with the street, and how they interact with each other.

Each house contributes with a regularity of gabled form, materials, openings, scale and roof pitch, along with a slight irregularity of size and positioning relative to its neighbour. There is a consistent manipulation of the sloping site into various terraces fronting onto the street, which gives the streetscape variety that is shaped by organic growth, but also controlled by a uniformity created by the restricted palette of available building materials. These include thatch for roofs, plastered and whitewashed walls, and painted timber doors and timber and steel windows.

The village and surrounds are part of a proclaimed Heritage Area, as described in Section 31 of the National Heritage Resources Act of 1999 (NHRA). As such, any alteration or development to structures in the area requires approval from the Provincial heritage authority, Heritage Western Cape (HWC).

The Fire

The fire of 2018 claimed one life and left some 200 people homeless. Public donations of money, clothing and consumables were made. Each household was eventually apportioned R72,000 from donations for rebuilding. The Department of Human Settlements constructed temporary housing on the village rugby field. Heritage Western Cape visited the village to assess the damage.



Figure 4: Before.

(Fai-Ter-Ral-Boy, Dublin, NZ)



Figure 5: After.

(Halden Krog)

The Rupert Foundation were quick to start assembling a team to document and rebuild the werf buildings. There was little in the way of meaningful action to rebuild the homes. As they were part of a

Heritage Area, under Section 31 of the NHRA, documentation including a heritage assessment, plans documenting the proposals for the rebuilding, and a specification of materials and methodology for each house was required by Heritage Western Cape.

Wupperthal occupies an important part of the consciousness of most Capetonian architects. The University of Cape Town's School of Architecture and Planning periodically visited Wupperthal as a site of learning for students, and key practitioners have dedicated time and resources to document the town, with Vivienne and Derek Japha, Lucien Le Grange and Revel Fox being prominent amongst these. For much of the Cape architecture fraternity, it is therefore considered a key example of mindful settlement making, of great value to the profession, and to society in general.

The Cape Institute for Architecture (CIa) recognised this, and also the similarities between the Wupperthal fire and the Tulbagh earthquake of 1967, where the Institute played a part in Tulbagh's rebuilding. Whilst the earthquake impacted the countryside on a far greater scale than the fire, it should be considered that the heritage discourse, legacy and focus of the work at Tulbagh centred on the rebuilding of Church Street. The similarity of scale and needs of the community therefore made the comparison between the two seem obvious. CIa accordingly resolved to offer pro bono assistance to the Wupperthal community in compiling the necessary documentation for submission to Heritage Western Cape to allow rebuilding to proceed. This work would be co-ordinated by CIa's Heritage Committee, led by the Committee's convenor.

Two well attended meetings to plan a way forward were held at CIa at the start of 2019 with CIa volunteers and members of the public who had heard about the initiative and who were willing assist.

The agreed scope of work included:

1. Co-ordination with the Moravian Church, as the landowner.
2. Measuring up all 53 houses not only to establish the original plans, elevations and sections, but also to document the extent of the damage to roofs, floors, walls, windows and doors in order to record on the drawings what repair actions needed to be taken for each house.
3. Assessing whether there might be an opportunity to remove some of the structures built onto the original stoeps and to reposition the rooms towards the back of the house during re-construction. This was an attempt to gain back some of the lost significance of the streetscape through residents having built onto the stoeps in the past without approvals.
4. Interviewing all the residents, on site, to work through the remains of their structures to clarify layouts and to discuss suggested changes related to 3 above. It was agreed early on with Heritage Western Cape that the overall area of the houses would not be reduced by these actions, and that the exercise was to rebuild to the plan at the time of the fire, not to correct building transgressions that might have occurred before the fire, unless agreed to by the residents.
5. Compiling a repair specification. Fortunately, most of the houses had very similar construction materials, elements and techniques, so one common specification for all was practical.
6. Collating the necessary heritage assessments for each house to review its significance, original form and structure, and motivate the proposed rebuilding and repair methodology to Heritage Western Cape.
7. Undertaking the submission and presentation of each house to Heritage Western Cape and attending to any queries from them until the plans were approved.

During that initial phase, what became apparent almost immediately were the differences in responses between the Tulbagh and Wupperthal disasters. Although Wupperthal is arguably of greater heritage significance, following the initial concern by citizens and government for Wupperthal which was reflected in the generosity of donations and material assistance by the public as well as an eventual response by the Department of Human Settlements to build temporary accommodation, the disaster quickly began to fade from the collective consciousness. This was not the case in Tulbagh. Unlike Wupperthal which is owned by the Church, the Tulbagh houses were primarily privately owned, and the residents bought into a funded reconstruction proposal. The State was heavily involved, with four provinces and South West Africa (a protectorate at the time that became the independent Namibia) agreeing to Provincial patronship, and the Prime Minister of the country agreeing to be Patron-in-Chief. A National Committee was launched including prominent administrators, conservation bodies (including the South African Institute of Architects, the National Monuments Council, Vernacular Architecture Society, Simon van der Stel Foundation and Historical Homes of South Africa), the Department of Community Development, Dr Anton Rupert, the mayors of Tulbagh and Ceres, and eminent conservationists (Hoogenhout, 1974). No similar assistance or interest was given for the Wupperthal house rebuilding after the fire.

It is understandable that the Rupert Foundation would concentrate their initial and immediate attention on the werf precinct, as it held the larger civic buildings that made up the important central core of the settlement. They were also able to work solely with the Church, a much easier proposition than working with at least 53 individual residents. There was also an expectation that the Church would rebuild, or assist in rebuilding the houses. It soon became clear however that the Church had no funds for this. Where the werf buildings had at least some insurance, the system of ownership of the houses where the Church owns the land and the houses are in the care of the residents, meant that insurance fell to the residents. No insurance money was invested into the rebuilding of the houses that were eventually assisted by funding through the Rupert Foundation.

The ‘Community’

CIfA’s perception of the Wupperthal settlement, and a significant impetus for its involvement, was that the community was a financially challenged, single, coherent entity. CIfA’s work continued under this impression, but as the work proceeded, this perception changed. Indeed, there were 10 houses where residents refused eventual assistance from the Rupert Foundation. Of the remaining 43, ‘ownership’ was divided into people who lived and worked in Wupperthal, people who lived in Wupperthal and did not work (generally aged), and people who worked and lived in Cape Town and surrounds and used the houses as holiday homes. Although all were connected to Wupperthal in their particular way, and with each household known by all the other residents in the manner of a tightly knit community, it was of interest that there was little of the anticipated single, and perhaps utopian, ‘community’ that CIfA had set out to assist.

The CIfA Undertaking

Early in 2019 CIfA met with Heritage Western Cape and representatives from the Department of Human Settlement to co-ordinate action and to ask the Department to assist financially in producing the necessary heritage requirements towards rebuilding. The Department had already employed a Structural Engineer to visit the town to compile a report on the houses. When it was queried as to why they could not also arrange for the required heritage specialists to undertake the work to get the rebuilding process started, they advised that this would be considered as giving State money to the Church, which was not acceptable. CIfA argued that the heritage work was more necessary in the

humanitarian crisis than the State-funded structural report, but it became apparent that working with the Structural Engineers was an ingrained standard procedure at the Department, whereas taking the more beneficial step of appointing a Heritage Consultant was not.

The meeting established that ClfA would have to proceed unassisted by the Government. This was reaffirmed at a later meeting between the Church, the Department of Human Settlement and ClfA at the Church's head office in Wetton where the Department again advised that they could not be seen to be giving monetary assistance to a private body such as a Church.

Documentation was therefore required, and a call went out to the ClfA membership for any information and plans that might be available for use as a base for developing the necessary paperwork. Despite all the academic analyses through the years there was surprisingly little material. Focus of studies had primarily been on the werf buildings. There were no plans of the houses. The most valuable find was a set of photographs taken in 1979 from front and back of all the houses by Revel Fox Architects (examples Figures 6 and 7). These formed a baseline for all the later heritage assessments and were eventually included on all assessment sheets.



Figure 6: Photo of the front of 9 Middel Street.

(Revel Fox & Partners, 1979)



Figure 7: Photo of the back of 9 Middel Street.

(Revel Fox & Partners, 1979)

After approaching various surveying practices to invite them to help with developing the basic layout drawings, Cape Survey offered pro bono assistance. They offered to undertake a point cloud scan of the buildings using a drone, augmented by scanning at ground level. After numerous delays in getting the drone down to Cape Town, it eventually arrived in Wupperthal on a stormy weekend in May 2019. Because of the inclement weather, the operators were only able to survey part of the settlement, and although architectural practices had offered the use of their software and expertise to translate the scans into usable documentation, the results were vague and of low definition (Figures 8 and 9). It was concluded that ClfA would have to find volunteers to measure up the buildings on site.



Figure 8: Point cloud survey - drone (Cape Survey, 2019)



Figure 9: Point cloud survey – terrestrial. (Cape Survey, 2019)

Work by SEA

Cape Town's School of Explorative Architecture (SEA) had their first intake of students at the beginning of 2019. The educators saw that assistance to the Wupperthal community was analogous with their learning mission. They arranged for 12 visiting Masters students from Azrieli School of Architecture and Urbanism in Ottawa, Canada, supervised by Albert van Jaarsveld, to interact with the community and to survey and draw up the damaged houses (Van Jaarsveld et al., 2019). They did this over two visits to Wupperthal.

On completion of their work in May 2019, Van Jaarsveld offered it to ClfA as a basis for their documentation, and it was gratefully accepted. Although SEA had envisaged seeing the project through to Heritage Western Cape submission, they were advised by HWC that the heritage authority might not accept their credentials to assign or establish the significance of the buildings or to motivate the proposed rebuilding work and specifications. The documentation included photographs (example Figure 10), site survey drawings (example Figure 11), and computer-aided design (CAD) drawings (example Figure 12), as well as a compiled town plan of the affected buildings (Figure 13).

On closing out their work and involvement in Wupperthal, SEA invited ClfA to attend a meeting in Cape Town that they had arranged with residents who were based in Cape Town and those who were able to attend from Wupperthal. The meeting on 24th April 2019 could be considered where charitable commitments were handed over from SEA to ClfA. Remaining documentation was completed by SEA in March. ClfA were also introduced to schoolteacher Shona Reed, who took up the role of liaison between ClfA and the community for the duration of the approval process and into the re-building process, and whose assistance proved invaluable.



Figure 10: 9 Middel Street - photographs (Van Jaarsveld et al., 2019)

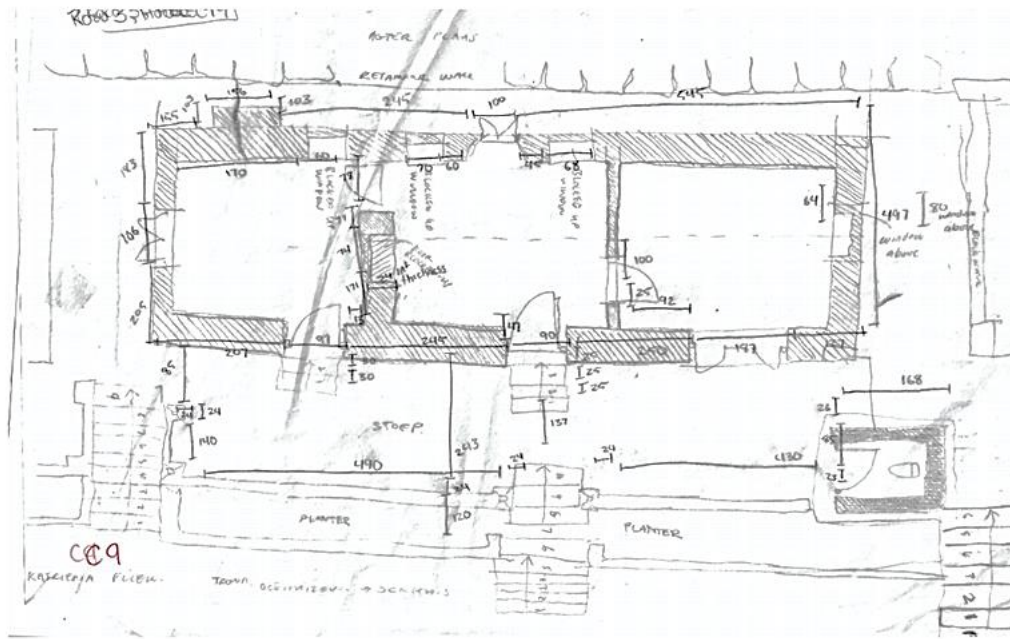


Figure 11: 9 Middel Street – Students’ site survey drawing (Van Jaarsveld et al., 2019)

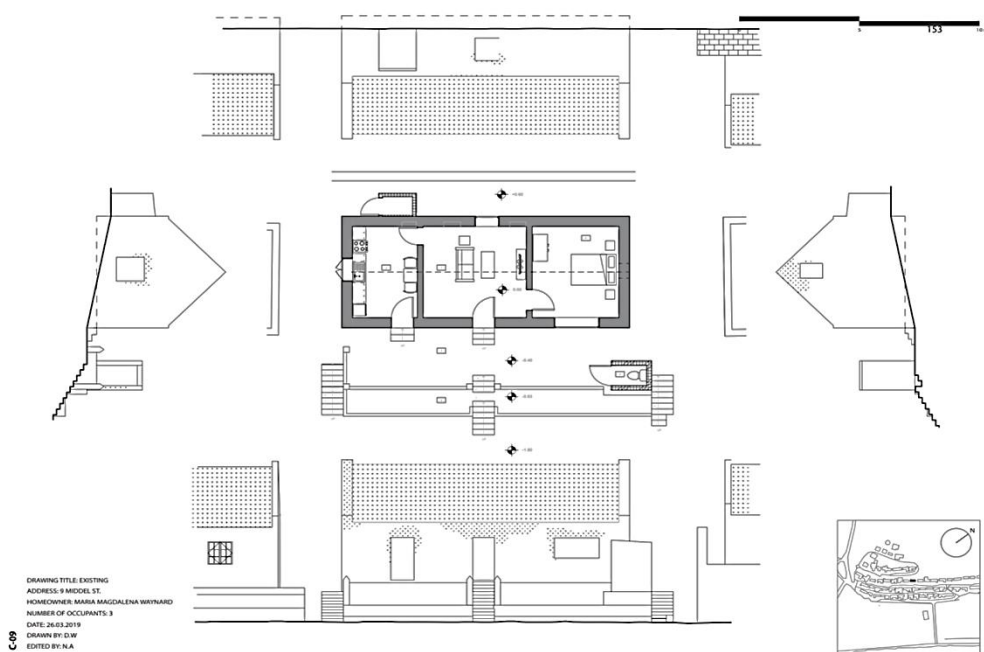


Figure 12: 9 Middel Street – Students’ CAD drawing (Van Jaarsveld et al., 2019)



Figure 13: Students' compiled town plan (Van Jaarsveld et al., 2019)

Work by ClfA

Heritage Western Cape had required three elements towards heritage approval and re-building.

1. Heritage assessments
2. Repair drawings
3. Repair specifications

With the SEA documentation, and the 1979 photographs, ClfA were able to start compiling draft heritage assessments. Once the student documentation had been reviewed and combined into draft assessments, ClfA arranged with the community to visit each of the houses, with the residents. The task was first to confirm the extent of the house with them, and secondly to check the SEA student drawings. The issue around moving elements built onto the stoeps was also discussed and agreed. Some of the houses had no ablutions, and these were positioned on the plans for discussion with the residents so that, even if they could not afford to build them during the restoration, then at least they had approved plans for the future.

The volunteer group had by now whittled away to some eight individuals, four of whom were able to attend the weekend work outings that were made to Wupperthal whilst three others worked with co-ordinating, revising and completing documentation, and the last worked on the draft specification.

To initiate the repair specification, two members visited Wuppertal in November 2019 to research the construction materials and methods through inspection of the burnt-out houses. As construction was similar for most of the houses in that part of the town, houses that were not affected by the fire were also visited and detailed construction and materials noted to guide the accuracy of the specification for the burnt houses.

The assessment format was standardised. It incorporated a statement of significance, the basic information about the house, its description, alterations proposed, comment from the residents, and recommendations (Figure 14).

Figure 14: 9 Middel Street - Heritage Assessment page. (Cifa)

SITE NAME: 9 MIDDLE STREET, WUPPERTAL, WESTERN CAPE			
PHYSICAL ADDRESS: 9 MIDDLE STREET, WUPPERTAL, WESTERN CAPE			
SP/PA/NAME: FARM 155, CLAY WILLIAM			
CO-ORDINATES: -32 275189, 19 217955			
OWNER: MARIA MAGDALENA WYND			
OWNER'S ADDRESS: 9 MIDDLE STREET, WUPPERTAL, WESTERN CAPE			
OCCUPANTS: 1			
ARCHITECT/BUILDER	CONSTRUCTION	DATE	E 1990
ORIGINAL USE	RESIDENCE	CURRENT USE	RESIDENCE
PROTECTION AND GRADING			
AGE YEARS	YES	NATIONAL MONUMENT	NO
		GAZETTE NUMBER	FAA
		NHRA PROTECTION	531
		PROPOSED GRADING	INC
STATEMENT OF SIGNIFICANCE			
<p>The house is part of the group of stone houses, which together form a precinct of heritage significance. The house is located within the protected Wuppertal heritage area. The regularity of form, materials, openings, doors and roof pitch, the bright irregularity of facades and porches, and the consistent manipulation of the sloping site into various terraces forming onto the road give the street a unity, shaped by organic growth and a controlled uniformity created by the restricted palette of available building materials. The house at 9 Middel Street contributes to this grouping. The proposed grading for the house is 10C.</p>			
SITE AND STRUCTURE ANALYSIS			
<p>DESCRIPTION</p> <p>The house follows the 'tongue' to porch with straight and gables on the shorter sides and a double pitched (40 - 45 degrees), finished roof between with a three room layout. There is a roof lift door in the north-eastern gable. By 1979 the house had been extended towards the 10 Street with a small 'addition' on the back. A freestanding toilet block has been constructed on the forecourt. Both structures were under shallow, more pitched, corrugated iron roofs. The elevated front stone walls are plastered but with some sections of stone-coursing visible, and the lower sections on Middel Street has similar low walls. There is no evidence of a pergola or trellis in 1979 photographs and the recent images. The steps are accessed via a central front plate. The house has two doors facing onto the steps (the central one into the living room, the southern door into the kitchen, as well as a horizontal, stone window with three divisions. A small, round, stone-coursed window into the living room is located along the back elevation of the house. A similar stone-coursed window has been constructed in the southern gable.</p> <p>Roof - The main roof, thatched or timbered, has been burnt. The small extension to the back and the toilet block on the slope are roofed with metal sheets that allowed for minimal pitch, and the coping remains.</p> <p>Walls - Clay brick for the central 'tongue'. The front and back additions are of concrete block. There is evidence of plaster deterioration and patterned clay brick surfaces, with structural cracking in the additions built from concrete blocks. There are some stone cracks above the window openings with masonry and door heads collapsed.</p> <p>Doors & Windows - The masonry windows. All interior doors have been burnt. Road front door has been burnt.</p> <p>Chimney - Traditional chimney evident in 1979 photographs in southern kitchen gable.</p> <p>Floors - The steps have been surfaced with a cement screed.</p> <p>Retaining wall - It appears that all of the retaining walls, front and back, are of packed stone-work. The stone walls have been partially plastered and the walls have been painted white. All appear to be in fair condition.</p> <p>ALTERATIONS - Extension to the back of the cottage was done before 1979, and the addition of the toilet block after this date.</p> <p>OWNER'S REQUESTS - The owner would like the toilet block removed from the front plot, and a new bathroom constructed to the back of the house, and a metal roof instead of thatch, due to concerns about fire.</p> <p>RECOMMENDATION - The owner's request can be accommodated with the impact on the significance of the house to be built back as per the specification for thatch roof. Flooring over the back extension and new bathroom to be built to Victorian profile sheet metal roof with dark grey integrated paint finish.</p> <p>Walls - Original clay bricks to be stabilised and reinforced as per the repair specification. New walls and those of existing concrete block extensions to be rebuilt in clay masonry.</p> <p>Windows - The stone windows are intact and can be repaired.</p> <p>Doors - To be timber framed, hinged, boarded and banded doors and inner frames. Rattle and loose doors to roof.</p> <p>Pergola/trellis - None - not in evidence, therefore no reconstruction necessary.</p> <p>Retaining/steep walls - The existing stone and terrace walls are to be preserved and repaired where required.</p> <p>Chimney - rebuild chimney to generic specification - check gable wall for position and form.</p>			
REMEDIAL WORK FOR THE TOWN OF WUPPERTAL, FARM 155, WESTERN CAPE			

IMAGES (left to right from top row)

1. 1979 photograph of the front of the house from Middel Street (David Fox and Partners, 1979).
2. 1979 photograph of the back of the house from 10 Street (David Fox and Partners, 1979).
3. Front elevation of 9 Middel Street (SEA student survey, 2019).
4. Back elevation of 9 Middel Street (SEA student survey, 2019).
5. Photograph of the toilet block that had been added onto the site after 1979 (SEA student survey, 2019).
6. View of the north-east gable (SEA student survey, 2019).
7. View of the south-east gable (SEA student survey, 2019).

REFERENCES David Fox and Partners, 1979 survey of Wuppertal; SEA student survey, 1979

With the assessments well in hand and the repair specification completed by the start of 2020, the outstanding requirement was for final drawings. COVID-19 had an important part to play in their completion. Although of great assistance, the students' drawings once checked on site, were found to have some inaccuracies, and the line drawings were done using various CAD formats. Making revisions was therefore difficult for the few practices and individuals who had responded to the request for drawing assistance. It was decided to try and standardise the drawings. A template with standard scales, font sizes, line thicknesses, hatching types and dimensioning was developed by one of the team members. And then COVID came. Following the first few weeks of confusion it was recognised that Cifa could use the COVID hard lockdown restrictions to their advantage. Whilst people were at home, a new call went out for drawing assistance, and with the standardised drawing template the uptake was immediate. Over thirty people and practices responded (See Acknowledgements) and by the end of the COVID lockdown most drawings were completed. With the momentum having been started, the drawings were soon finalised after the lockdown (example Figure 15).

All the drawings were checked against resident requirements and site information and were sent to the residents via Ms Reed for their signed approval for the work to be submitted to Heritage Western Cape. The documentation was completed incrementally and HWC set up a special sub-committee of the Built Environment and Landscape Committee (BELCom) to review the submissions more frequently than the monthly BELCom meetings, in order to speed up the approval process.

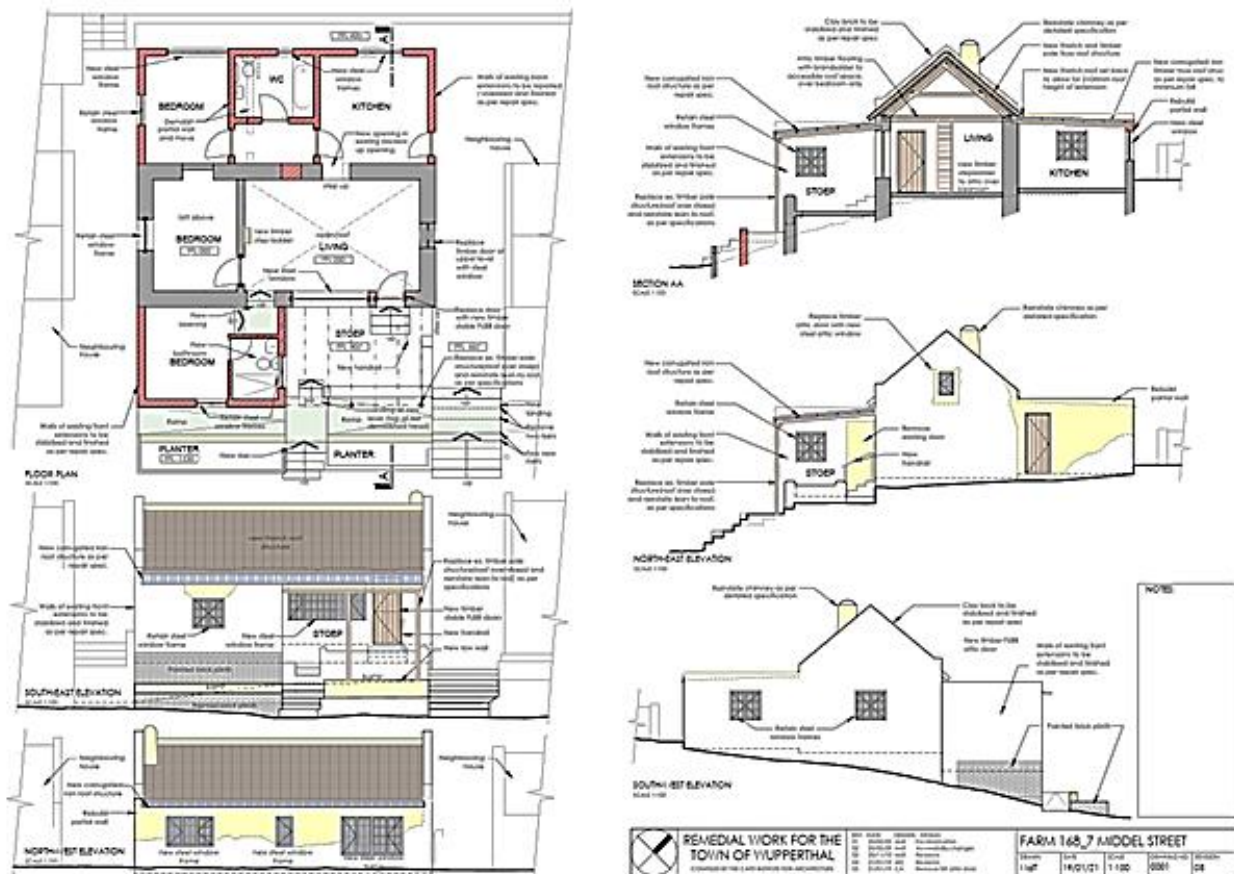


Figure 15: Example of drawings submitted to Heritage Western Cape. (CIfA)

CIfA complete

With the approval by HWC of the last house midway through 2021, CIfA had fulfilled their offer of assistance. A member of the community assisted with submitting the plans to the Cederberg Municipality who readily approved them, initiating the long-awaited authorised start of rebuilding. The work had taken two years.

CIfA still had a concern as to how the rebuilding was to be implemented as it was clear that the R72,000 funding that had been raised for each household would not be adequate. Fundraising ideas were being considered. At the same time, the Rupert Foundation was completing the werf reconstruction. They were made aware that documentation had been completed for the houses and that approvals were in place for rebuilding. They recognized that the residential component of the town held important heritage significance, and as approvals were in place resolved to consider keeping the building contractors on site to assist with the house rebuilding.

Re-building

The R72,000 for each house was held in an account with the building suppliers Build It in Clanwilliam. Building materials could then be drawn down from this amount. Some of the residents had proceeded immediately with reconstruction after receiving HWC and municipal approval. Some had even started before the approvals. Unfortunately, none of this work followed the approved plans which meant that there were transgressions from the outset. Before agreeing to be involved with the re-building of any of the houses, the Rupert Foundation appointed Gabriel Fagan Architects to compile a Status Quo Report to assess the extent of unauthorised work. Once completed at the end of June 2021, this report was copied to HWC. At the instruction of HWC, the Church stopped the transgression works and HWC arranged for a meeting with the Church and community in mid-July 2021.

To assess the probable costs for repair of transgressions, the Foundation instructed the architects to compile a Transgression Report with drawings of each building indicating the deviations from the approved plans and repair specification for costing (example Figure 16). As the wrongdoings were by the residents, the Foundation limited rectification funding to major streetscape elements such as roofing material, wall plate height reduction, and gable repair. The documentation was completed at the end of July 2021. HWC used the information during a visit to the town to decide on what rectification to demand and what compromises would be acceptable. These decisions related to elements like new opening sizes, aluminium windows, and revised internal layouts. A shift in thinking was occurring whereby a balance was now required for these transgression buildings between getting people back into houses, and purist conservation intensions. These issues were not resolved until a visit by HWC in May 2022 and a subsequent report by them which guided the work towards rectifying the transgression houses.

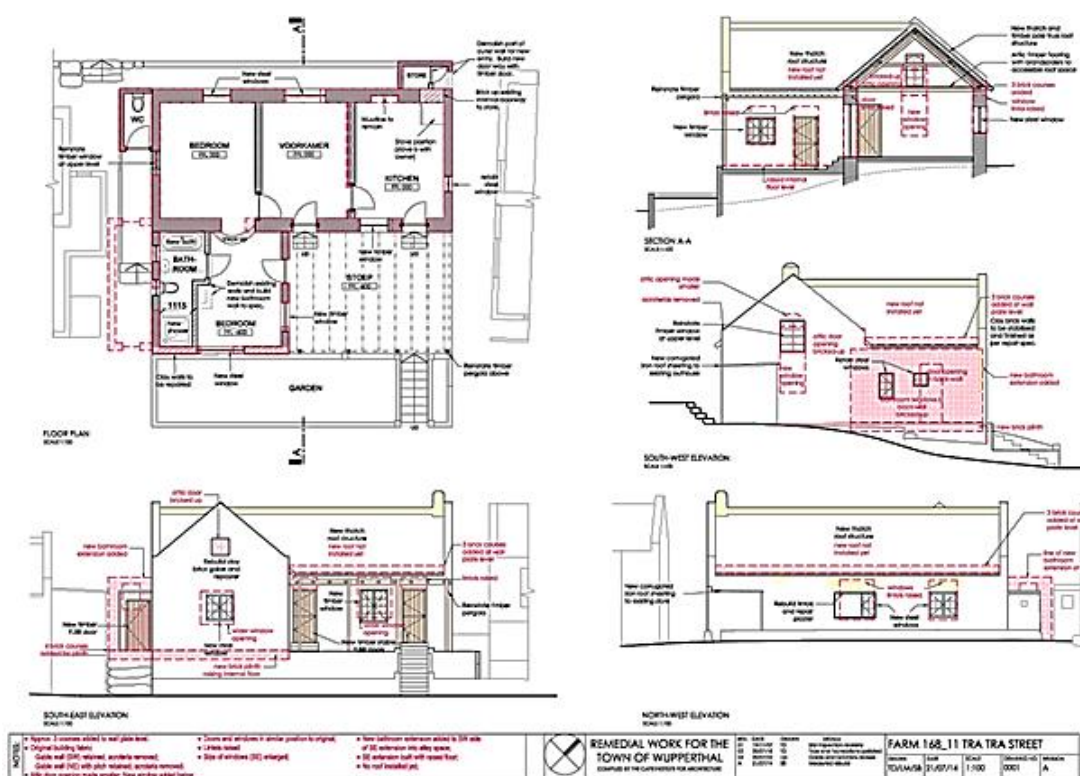


Figure 16 – Transgressions drawing for costing. (Gabriel Fagan Architects, 2021)

Transgressions

The architect's Transgression Report of July 2021 found that 15 transgression houses were up to wall plate level with no roof, 5 houses had roofs but were generally incomplete, and 5 were complete or nearing completion, being occupied or were locked up. The street plan indicating these categories is included as Figure 17.

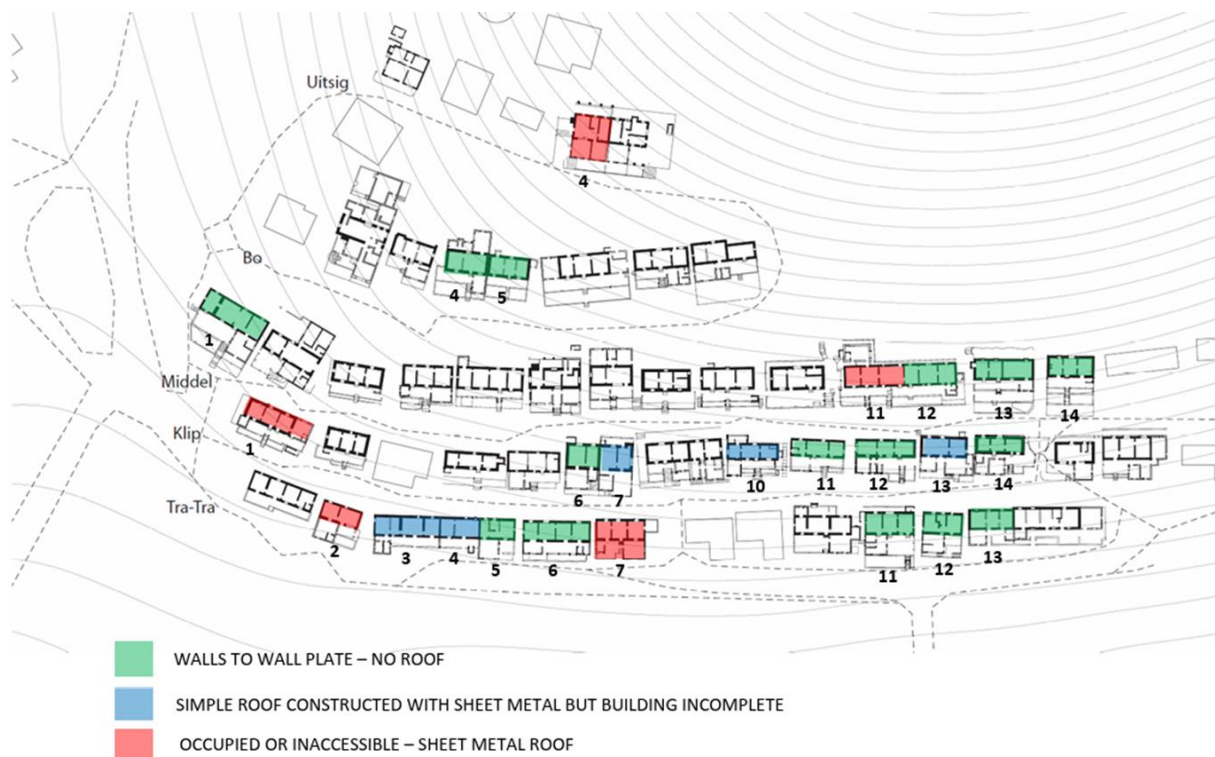


Figure 17: Transgression Houses. (Gabriel Fagan Architects, 2021)

These transgressions mainly related to raising the side walls of the houses to gain additional internal height. The walls were built up to the gable acroteria which meant there was no remaining space for a parapet at the gable ends (Figure 18). This in turn led to gables being broken down or being sheeted over to accommodate the new finished roof level (Figures 19 and 20). In other instances, the gables had been raised (Figure 21). The gables are a prominent part of the streetscape and were nearly all intact after the fire. Fortunately, much of this work was halted by HWC and the Church before roofing commenced and before further damage could be caused to the gables.

Of extreme concern was the rebuilding of 7 Tra Tra Street where the wide street-side stoep had been incorporated into the house and additional area had been added to the northeast side by building into the side lane, all of which was now under a single roof covering the whole building. The old building form or gables were no longer visible. This house remains an over-scaled disruptive element in the middle of Tra Tra Street at the time of writing (Figure 22).



Figure 18: Raised side. (Author)



Figure 19: Consequence of raising side. (Author)



Figure 20: Side walls raised and gables covered over. (Author)



Figure 21: Gables raised. (Author)



Figure 22: 7 Tra Tra Street. (Gabriel Fagan Architects, 2021)



Thatch

One element that evoked much discussion throughout the process was the re-use of thatch as a roof material. The obvious debate was between the aesthetic of the townscape and the fire risk. In the community consultation that the SEA students undertook three months after the fire, of 33 respondents, 70% favoured thatch and 30% “corrugated iron” (Van Jaarsveld et al., 2019). At the outset of discussions between ClfA and HWC, the directive from HWC was that thatch was to be used for the roofs. In a letter of clarification from the HWC Chief Executive Officer to residents and the Church as late as April 2022, the intention was unambiguous:

2.2. The reinstatement of thatched roofs is arguably the single most important contributory factor for recovering heritage significance (Heritage Western Cape, 2022).

Although Wupperthal is known for its skilled thatchers, it was clear that cost was an over-riding issue. Installing sheet metal roofing, that was done prior to or just following approvals to rebuild, along with probable desperation to get back into the houses, resulted in residents following this course. Thatch was also not available at Build It where the re-building funds had been lodged. In addition, there was an underlying sentiment in the town that HWC would not do anything about it anyway.

Although many of the transgression houses were working towards sheet metal roofing, when funding for thatch was offered in a second building phase it was accepted by most of the residents who reverted to it. This decision would have been reinforced by HWC’s letters of non-compliance sent to transgressors. There are still a number of houses under metal sheeting. Now that the comparison can be made, these demonstrate the incongruence of the material in a context such as Wupperthal. After consistent offers to residents to pay for changing the sheet metal on houses to thatch, the Rupert Foundation has eventually withdrawn the offer following the completion of the contracted work and departure of the builders from Wupperthal. The earlier question of whether HWC will do anything of consequence about it is yet to be answered.

Rupert Historiese Huise Stigting

Once the extent of transgressions was understood, the Rupert Foundation agreed to assist only those residents who were transgression-free, and would wait for HWC’s requirements for the transgression houses before considering funding for those. On-site meetings were then arranged between the appointed project manager, heritage architect and individual residents of the 20 transgression-free houses, to make the offer of assistance and to discuss the scope of work that the funding would provide. There was initial reluctance and scepticism by some of the residents around this offer and the acceptance of ‘white monopoly capital’. Johann Rupert was presented as the face of this concept in a well-publicised radio interview in 2018 (Rupert & Mkhari, 2018). The question of “what do the Ruperts get out of this?” was also asked by a number of residents offered funding. Five owners had already declined assistance.

With acceptances by residents in place, a Memorandum of Agreement was signed between the Church and the Foundation who agreed to fund the rebuilding of the 19 (later revised to 20) remaining houses that were not affected by the transgressions and where residents had agreed the scope of work. This was a ‘white box’ rebuild, focused on rebuilding the essential enclosure elements including walls and roof, windows and doors. The Church would be responsible for supplying the poplar poles necessary for the roofs. Through the reconstruction process however, the Rupert Foundation expanded this scope into a full electrical installation, hot water supply, repairs to floors, painting outside and single internal coat,

kitchen cupboard and sink, and plumbing and drainage installation. Work was also extended to the stoeps and the spaces between houses where stormwater management was required. The supply of the poplar poles for all the roofs also eventually devolved to the Foundation when it became apparent that the Church was not assisting with providing these.

Work began on the first 20 houses in November 2021. The builders, Boland Bouers from Worcester, already had good experience in heritage building principles following their two years of work on the werf buildings, instructed by an experienced team of consultants. They were also now well established in Wupperthal following their initial introduction during the werf rebuilding, which had included incidences of stone throwing and demonstrations by members of the community. The enmity had settled down over the course of the werf re-construction and the work commenced on the houses without incident. The majority of the workforce that was brought over to the house building was from Wupperthal and the surrounding villages, and indeed some of the workforce had houses themselves or had relatives with houses that were to be re-built.

The houses were all originally constructed of similar sundried clay bricks with daga mortar and plaster, some with stone riser walls especially at the rear of the house where the walls retained the road that was at a higher level than the floor of the house. Outbuildings or additions were under 'afdak' roofs and their walls were generally of cement brick or block. All of these cement-based walls cracked badly during the fire and the initial structural engineer's report advised demolition. This was done and new clay brick walls were constructed in their place. It was recognised early on during the ClfA work that bargeboards and downpipes should not be included on the afdaks and it is interesting to see the very negative impact that such sensible and seemingly innocuous elements have on the streetscape where they have been installed on some of the transgression houses.

The sundried brick walls withstood the fire well, and it was damage from two winters of exposure that impacted most on these walls. The tops of the walls were therefore worst affected, and rebuilding was undertaken with old or weathered clay brick, not fresh bricks, to avoid differential movement through expansion. Lime mortar was also used, as well as lime plaster, which is far more suitable on the soft brick than a hard cement plaster. Cement plaster delaminates over time and has no breathability, trapping moisture in the walls and causing eventual failure.

Poplar poles were harvested from Wupperthal and surrounds using local labour and the builder's transport. Stripping the bark off the poles would have been an expensive and time-consuming exercise, so poles were used with the bark on. It was found that the donkeys of Wupperthal were partial to the bark, but there were too many poles and too few donkeys for them to be effectively employed in bark stripping.

As mentioned previously, the Foundation expanded the scope of the work during the construction process to go beyond the basic 'white box' structure initially offered, and apart from a final coat of paint internally, the houses were complete for habitation, including electricity and hot water. The average building cost for each house was approximately R700,000.

By September 2022, 14 houses were handed over to residents in emotional circumstances of relief for the people to be back in their own homes. A further 6 houses were handed over in similar circumstances in October 2022. During the handovers, many of the residents trailed the Rupert Foundation representative, Church leaders and Consultants to the home of the next owner and, as a group, toured the house before

listening to the words of thanks from the residents, as well as participating in prayers and songs of praise that accompanied most of the handovers.



Figure 23: Completed buildings.

Transgression repair

Acting on the Transgression Report of July 2021 and various enquiries from residents and donors, Heritage Western Cape issued a report in April 2022 entitled “A Way Forward”. Although the report reiterated general heritage principles about reconstruction, it did not assist with resolving how to deal with the individual transgressions with guidance on what variations might be accepted and what should be changed in the pursuit of getting people back into their homes. It did however declare HWC’s final stance on thatch as the required roof finish, as well as being a tangible demonstration to residents, of HWC’s involvement and concern (besides site visits and meetings). It was not until a further visit from HWC in May 2022 and the issuing of the final version of their house-by-house Transgression Action Report in July 2022 that progress could be made with resubmission of house plans indicating agreed compromises and variations to the approved submissions.

Although the transgressions are acknowledged as being of the residents’ making, this significant delay in response impacted on eventual completion of the affected buildings. Following the issuing of the HWC report, the architects drew up new plans for each of the transgression houses which were submitted for approval as and when the drawings were completed. At the programmed completion of the non-transgression houses in October 2022, 15 more houses were under consideration by the Foundation for rectification and completion. This later increased to 18. This work formed a second phase of construction that started in early November 2022 and was completed in September 2023.

April 2024

At the time of writing, there were still 9 houses that HWC had described as non-compliant. One of the houses, 2 Middel Street, had been left unattended by the residents since the fire and it is feared that it will eventually erode away.

Land Restitution

In his work on Wupperthal in 1999, Bilbe says, “Many of the residents of Wupperthal have been living in houses built by their forefathers, so take great pride in both their home and garden. These residents are constantly plagued by the fear of displacement as they don’t own the land on which their homes are built, despite their families having lived there for over 70 years” (Bilbe, 1999).

This issue was recognised and was being acted upon by the Church with plans being progressed through 2023 for the sub-division of the farm allowing individual title of the houses. Papers were filed by lawyers representing the Wupperthal Community Support Group in August 2023 objecting to the sub-division. The application for sub-division and individual title was withdrawn in February 2024.

Acknowledgements

CIfA Volunteer Group

Apologies to any person or practice that assisted but are not included.

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Louise van Riet	Nellis Beyers
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Practices and individuals who assisted with documentation and initial contributions:

Albert van Jaarsveld and students of the School for Exploratory Architecture (SEA)	
Rennie Scurr Ardendorff Architects	Nicky Duncan
Mariska Schreuder	Tim Ziehl Architects
Elize Mendelsohn	Arc Architects (Gert de Wet)
Greg de Bruyn	Hanmarie Reinecke
Metropolis Design (Jon Jacobson)	Jan Desseyn
Simon McCullagh	Edward Clemence Architects (Peter Clemence)
Young Architecture (Rohan Young)	Emerging Architecture (Eugene da Silva)
Revel Fox Architects	Archilab (Michael Borgström)
Max Voigt	GLA Architects
MBT Architects (Tony Totten)	Hardie van Schalkwyk
Helen Joy Coetsee	Kevin Gadd Architects (Nabeel Enos)
Henk Lourens	Bernard Geldenhuys
SAOTA	In House Design (Jacques van Niekerk)
Antonia Malan	Jayson Augustyn-Clark
KMH Architects (Ferdinand Olivier)	Wolff Architects

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