



KLEREFONTEIN FARM

CONSERVATION MANAGEMENT PLAN



KLEREFONTEIN FARM
SQUARE KILOMETRE ARRAY (SKA), KAROO

by
MAYAT HART ARCHITECTS & HERITAGE PRACTITIONERS

2023

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COVER:

Klerefontein Farmhouse Gables on Eastern Facade



CONTENTS

Executive Summary	1
1. Introduction	3
a. Background	3
b. Context and Locality	4
c. Definitions and Abbreviations	7
d. Legislative Protection and Heritage Status	8
e. Approach and Methodology	9
f. Limitations	10
2. Historical Development	13
3. Assessment of Significance and Grading	39
4. Conservation Management Plan	51
a. Introduction	51
b. General Approach to Conservation	51
c. Conservation Guidelines	56
d. Conservation Management	65
i. Farmhouse	66
ii. Kraal	73
iii. Workshop	78
iv. Outhouse	83
v. Barn	87
5. Conclusions and Recommendations	91
6. References	93
7. Appendix	94

Figure 01 (left):
Veranda Columns on Eastern Facade of Farmhouse



EXECUTIVE SUMMARY

The Klerefontein farm is not currently a formally protected heritage resources. It is however of heritage and cultural significance in its context and is recommended to be graded as a Grade 3B Heritage resource and included in local heritage registers. This Conservation Management Plan aims at providing the structure for the long term use, maintenance and management of the site as an important working base for the larger SKA project. The CMP details the actions required for the long term protection and management of the site and structures as a whole and should be read in conjunction with the Section 38 Heritage Impact Assessment for the further development of the support facilities at the site. The significance of the Klerefontein farm comes from both it being part of the history and development of the area, its relatively well maintained condition, its farm werf and relationship with other historic buildings on the site. The CMP looks at the retention, reuse and long term maintenance of all of these structures as a means of ensuring their long term protection and functional importance. The adaptive reuse of the structures on the site with sensitive changes and additions balances the requirements for the conservation and protection of the site with its new functional requirements. The actions required to be taken as part of the CMP are outlined Part 4 of the report (Conservation Management Plan) with particular reference to the Conservation Guidelines and Conservation Management. This report should be viewed as a living document with a full review and update occurring a minimum once every 10 years. The adoption of the full conservation management plan is recommended as is the management of the site as a whole as a Grade 3 Local Heritage site as defined in the National Heritage Resources Act

Figure 02 (left):
East elevation and entrance to the original Klerefontein Farmhouse



1. INTRODUCTION

A. BACKGROUND

The South African Radio Astronomy Observatory (SARAO) is the National Research Foundation's National Facility which incorporates South Africa's radio astronomy instruments and programmes such as the MeerKAT and KAT-7 telescopes in the Karoo in the Northern Cape.

The Square Kilometre Array (SKA) is a global project to build and operate two multi-purpose radio telescopes that will be located in South Africa and Australia. SKA phase 1 construction and operations in South Africa (SKA1_MID) will be conducted by the SKA Observatory (SKAO) in partnership with the South African Radio Astronomy Observatory (SARAO).

In order to host the SKA project in South Africa, a hosting agreement between the Republic of South Africa, represented by the Department of Science and Innovation (DSI), and the Square Kilometre Array Organisation (SKAO) was established. As part of this agreement South Africa is responsible for the provision of hosting buildings in support of the project, some of which are to be developed at the Klerefontein Support Base (KSB).

In order to support the construction and operation of the SKA project in South Africa, a support base has been established, approximately 80km away from where the SKA1_MID will be developed. The Klerefontein Support Base (KSB), up to now, has been used to support the construction and operation of the MeerKAT radio telescope. The transition of the use of the KSB to now support the larger SKA1_MID telescope requires the expansion of the current office, workshop, parking and storage facilities to accommodate a larger staff compliment and resource requirements.

This Conservation Management Plan (and the associated section 38 Heritage Impact Assessment application) form part of the next stage of the development and management of the KSB. The CMP details the history and significance of the site and individual buildings and outlines the actions that need to be taken to conserve and protect their cultural significance.

This report should be read in conjunction and cross referenced with the primary CMP for the SKA core and spiral arms. This report is a guideline and gives structure to the management of the site and should form an integral part of all planning for and work undertaken at the site. This report should also be understood to be a living document which will need to be updated and reviewed as defined by the NHRA.

Figure 03 (left):
Veranda

B. CONTEXT AND LOCALITY

The Klerefontein farm is a state-owned property of approximately 18000ha in extent. The farm is owned by the Provincial Administration of the Northern Cape for use by the Department of Agriculture, Environmental Affairs, Rural Development and Land Reform as an Agricultural Research Centre (ARC). The National Research Foundation (NRF), through its National Facility, SARAO, have a Memorandum of Agreement (MoA) with the Department of Agriculture allowing SARAO to utilize a portion of land of approximately 8.5 hectares on the farm.

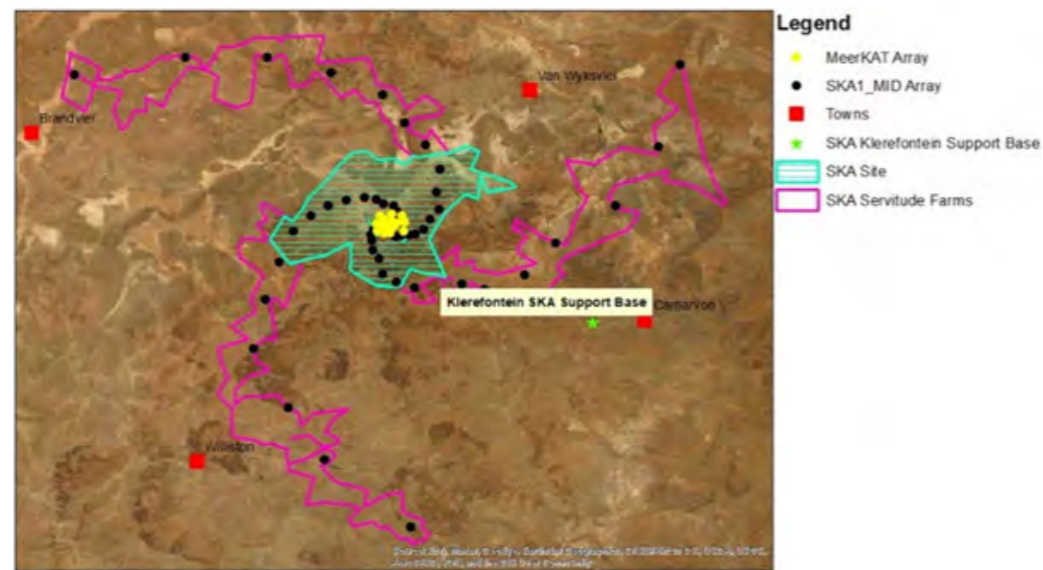


Figure 04: Klerefontein Support Base location in relation to the larger SKA (SARAO)



Figure 05: Klerefontein Support Base site plan (Pro Plan)



Figure 06: Aerial Photograph of the site (Google Earth)

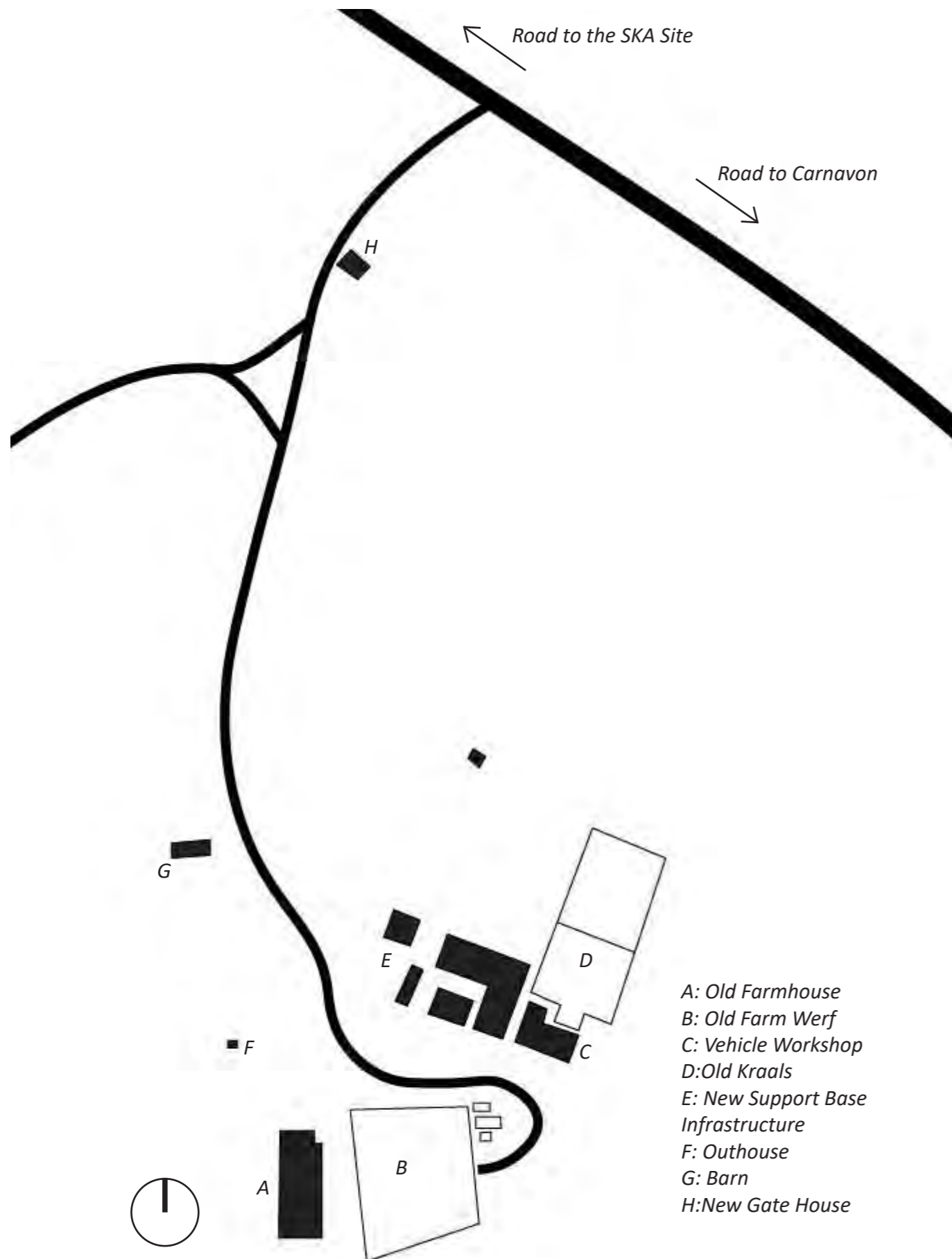


Figure 07: Key of Aerial View

C. DEFINITIONS AND ABBREVIATIONS

- **The Act** – National Heritage Resources Act
- **Alter** – Any action affecting the structure, appearance or physical properties of the building including painting, plastering etc. (section 2 (1) NHRA)
- **Ashoop** – Ash heap and rubbish dump (also referred to as a midden) used on Karoo farms for the disposal of waste
- **Brakdak** – A flat, clay topped roof built on a timber sub structure
- **Conservation** – The protection, maintenance, preservation and sustainable use of places or objects so as to safeguard their cultural significance (section 2(ii) NHRA)
- **Cultural Significance** – A statement of Heritage value or significance. Defined as having Aesthetic, architectural, historical, scientific, social, spiritual, linguistic or technological value of significance (section 2(vi) NHRA)
- **CMP** – Conservation Management Plan
- **Corbelled** – A method of construction using brick or stone where each course of stone or brickwork steps or projects slightly from the course below
- **Development** – Any physical intervention, or action (other than natural causes) which may in the opinion of a heritage authority result in a change to the nature, appearance or physical nature of a place as defined in the NHRA
- **Heritage Resource** – A place, object or structure of cultural significance (section 2(xvi) NHRA)
- **Heritage Value** = Cultural Significance
- **HIA** – Heritage Impact Assessment as outlined in section 38 of the NHRA
- **IAP** – Interested and affected parties
- **KSB** – Klerefontein Support Base
- **Living Heritage** – Intangible aspects of inherited culture including cultural tradition, oral history, ritual, popular memory etc. (NHRA)
- **Management** – In relation to heritage resources includes conservation, presentation and improvement of a heritage resource (NHRA)
- **MeerKAT** – A 64 dish Radio telescope which will become part of the larger SKA.
- **National Estate** – Heritage resources which are of cultural significance or other special value for the present community and for future generations (section 3 NHRA)
- **National Monument** – A site protected in terms of the National Monuments Act. The National Monuments Act was replaced by the NHRA. All National Monuments are now Provincial Heritage Sites.
- **NHRA** – National Heritage Resources Act, Act number 25 of 1999

- **NRF** – National Research Foundation
- **PHRA** – Provincial Heritage Resources Authority
- **SARAO** – South African Radio Astronomy Observatory
- **SKA** – Square Kilometre Array Radio Telescope
- **Structure** – Any building, works, device or other facility made by people which is fixed to the land. This included all fixtures, fittings and equipment associated therewith (NHRA)
- **Trap Vloer** – a threshing floor where wheat is ‘threshed’ to separate the grain from the chaff
- **Vernacular Architecture** – Buildings that are not designed by an architect and not reliant on imported materials. Materials are used from the local context informed by traditional building practices. They are a product of their environment
- **VASA** – Vernacular Architecture Society of South Africa
- **Werf** – The collective space and buildings around a farm house

D. LEGISLATIVE PROTECTION AND HERITAGE STATUS

Heritage resources in South Africa are protected under the National Heritage Resources (NHRA), act number 25 of 1999.

The NHRA has two forms of protection for built environment Heritage Resources:

- **Formal Protection**
Declaration as a heritage resource in various categories (for example a National Heritage Site (Grade I), a Provincial Heritage Site (includes all former National Monuments) (Grade II) or a Local Heritage Site (Grade III) recorded on a Heritage Register).
- **General Protection**
General protection is triggered by the following:
 - In terms of section 34(1) of the NHRA which states that “No person may alter or demolish any structure or part of a structure which is older than 60 years without a permit issued by the relevant provincial heritage resources authority”.
 - In term of section 38(1) of the NHRA which states that any person who intends to undertake a development categorised as:
 - The construction of a linear barrier (road, wall, pipeline etc.) exceeding 300m in length
 - The construction of a bridge exceeding 50m in length
 - Any development or activity which changes the character of a site
 - Exceeding 5000m²

- Involving 3 or more erven
- Involving 3 or more erven which have been consolidated in the past 5 years
 - A rezoning exceeding 10 000m²

Must approach the responsible heritage resource authority at the soonest possible time to confirm if a HIA is required.

- **Heritage Status**

- The structures at the Klerefontein farm have not been previously surveyed. The buildings/site have not been formally graded and protected under the formal protections of the NHRA.
- All of the original farm buildings documented in this report that make up the main farm werf are over 60 years of age and therefore protected under the general protections of Section 34 of the NHRA.
- The extents of the site exceed 5000m² and is therefore protected under general protections Section 38 of the NHRA.
- The NHRA states in section 3(1) that anything that is considered to be part of the national estate “falls within the sphere of operations of heritage resources authorities.” The Klerefontein Farm werf therefore forms part of the national estate.

E. APPROACH AND METHODOLOGY

The aim of this report is to develop a conservation approach and set of conservation guidelines for the current and future development and preservation of the Klerefontein farmstead. The approach and methodology used is as follows:

1. Historical Analysis

A study of the history of the building using the following sources:

- Secondary literary resources including various books and journal publications on Karoo vernacular architecture and history, VASA journal and selected academic dissertations (see references)
- Previously completed studies and reports prepared for previous phases of the SKA / MeerKAT radio telescope project (see references)
- Historical drawings and photographs from the various archives

2. Assessment of Significance

Cross referencing of existing assessment and understanding of the buildings cultural and historical significance with observations made during the detailed site inspections.

3. Site Inspections, Assessment and Building and Material Analysis

The site was visually inspected and documented to understand its physical structures and current condition. These inspections and assessments assisted in understanding both the changes that have been made to the buildings over time as well as the buildings functional and material limitations, successes and failures, condition and long term maintenance. The farm was visited in March 2018 and October 2020 during previous phase of the SKA project. Detailed inspections and surveying of the buildings were conducted in January 2023.

F. LIMITATIONS

The following assumptions and limitation must be noted:

- Existing Databases & Reports
 - The assumption is made that, as far as possible, the information available on existing databases and reports is accurate and correct.
 - The completeness and extents of existing databases and reports is unknown. Attempts have been made to mitigate against this through the use of multiple sources as well as through fieldwork.
 - The subjectivity of existing sources. Attempts have been made to mitigate against this through the use of multiple sources as well as through fieldwork.
- Environmental Conditions and Access
 - Existing environmental conditions create limits with relation to the conducting of on-site fieldwork. These include:
 - The time available for on-site work
 - Limitations in terms of communications
 - The site is very remote and difficult to access making site inspections challenging.
- CMP Report
 - This CMP report is written at a specific point in time. Assumptions about the potential future changes and risks to the long term protection and management of the cultural significance of the building are limited to the information available at the time.
 - This CMP report identifies areas or aspects of the site and individual building that relate to the identified cultural significance. This does not necessarily indemnify or exclude other aspects, characteristics or features of the site/building from having cultural significance.
 - This CMP report can be used as a guide for the future conservation of the building. While the CMP gives sanctioned guidance, limits and restrictions as well as providing areas of exemption from heritage restrictions it does not however replace all future NC-PHRA applications for proposed work, particularly work which could not have been envisaged by the CMP and which is in contradiction with its recommendations.
 - This CMP has a limited lifespan. The CMP should be assessed and if necessary updated every 10 years.
- COVID 19
 - The COVID 19 pandemic has limited physical access to certain archival resources.



*Figure 08:
Ruins of stone building*



2. HISTORICAL DEVELOPMENT

Corbelled buildings in the Karoo are buildings made of stone with dome shaped roofs. The technique of 'corbelling' refers to the roof which was constructed by the laying of each successive row of flat stones slightly inwards. The gradually domed roof is then closed off by a flat stone. Corbelled buildings have been constructed over centuries in the Mediterranean, Middle East and the British Isles. In South Africa corbelled buildings can be differentiated into groups, the buildings of the Ghoysa people found in the Free State, Gauteng and Mpumalanga; and the buildings of the early trekboers in the Carnarvon/Loxton/Fraserburg area of the Karoo. (Kramer 2007:5)



Figure 10: Schuinshoogte Corbelled House (Walton 1961)

James Walton, an early South African pioneer researcher on vernacular architecture, was asked by the National Monuments Council in 1960 to examine some corbelled structures in the Karoo. Subsequently a number of them were declared National Monuments. In 2008, the Vernacular Architecture Society of South Africa (VASSA) started a project to locate more of them. Patricia Kramer, an archaeological researcher on corbelled buildings, came to the realisation on this study that "this collection of buildings was an invaluable source of information about life in the Karoo in the 19th century, which is undocumented" (2011).

*Figure 09 (left):
View of Corbelled Stone*



Figure 11: Map showing the area where the majority of corbelled buildings are located (Kramer 2011:1)

Corbelled buildings were constructed primarily due to the lack of trees in the environment and an abundance of suitable stone. The environment has low, sporadic rainfall with poor soil which cannot support any substantial trees. The majority of buildings are found in the area of Williston in the west, Carnarvon in the east, and extending to Loxton and Fraserburg. A few corbelled structures are found outside of these parameters, notably the Groot Paardekloof corbelled house located to the north east of Williston. Kramer (2011) notes that due to the lack of wood, a house with a pitched roof or a 'brakdak' (a flat, clay topped roof), could not be constructed. Corbelled buildings were additionally warm in winter and cool in summer.

The lack of trees and the availability of fine-grained stone that broke easily into slabs set the right conditions for the construction of a building entirely of stone. The stone of the Karoo Supergroup was created by the deposition of fine grains of sand when the Karoo was a large inland sea with calm water conditions. This resulted in layered stone which is easily broken into building blocks with simple handheld tools (Kramer 2019: 21).



Figure 12: Pre colonial 'herd boy' hut (Frescura 2016:42)

The corbelled structures were built by the early stock farmers or trekboers which included whites from the Cape and Europe, as well as Basters (mixed race people) originally from the north of the Orange River. The land they occupied was inhabited by the San who were ultimately decimated in the area. Corbelled structures may also be influenced by Xhosa settlements in the area as well as Sotho and Tswana refugees, Mantatees, who crossed the Vaal. These groups all came from a stone building culture from pre-colonial times. (Kramer 2011)



Figure 13: Examples of corbelled buildings from France (left) and Italy (right) (Kramer 2012:7)

Early researchers such as Walton assumed corbelled buildings were most likely built by southern European settlers. Walton (1989: 123) believed that a builder from a Mediterranean country most likely helped build one with the assistance of the Khoi, who learned the technique and consequently helped to build corbelled houses for the farmers. Kramer (2007:5) further notes that South African corbelled buildings are only one layer of stone thick unlike those found in the northern hemisphere.

While later research (Van der Waal-Braaksma and Ferreira, 1986) alludes to the theory that corbelled housing was an expected development from the rondavel with a reed roof. It is generally accepted however that these stone structures were influenced by the Sotho – Tswana people (Frescura 1981:23).

Kramer (2019: 43) surmises that the corbelled structure’s designs were probably “a communal solution to the problem of the absence of wood, the availability of suitable stone for building, possible knowledge of corbelling by trekboers, and the possible presence of Mantatees” and the indigenous tradition of erecting round huts.

MIGRATION OF THE TREKBOERS INTO THE KAROO

At the beginning of the eighteenth century the wine and grain market was saturated resulting in many farmers turning to stock farming. However due to overgrazing, many farmers looked for pasturage further afield. Permits to graze on outposts beyond settlement areas were given and known as leenings plaats (loan places). The farmers had no right over the land but if a building was erected, it could be sold to the Government or a future tenant (Walton 1989: 113).

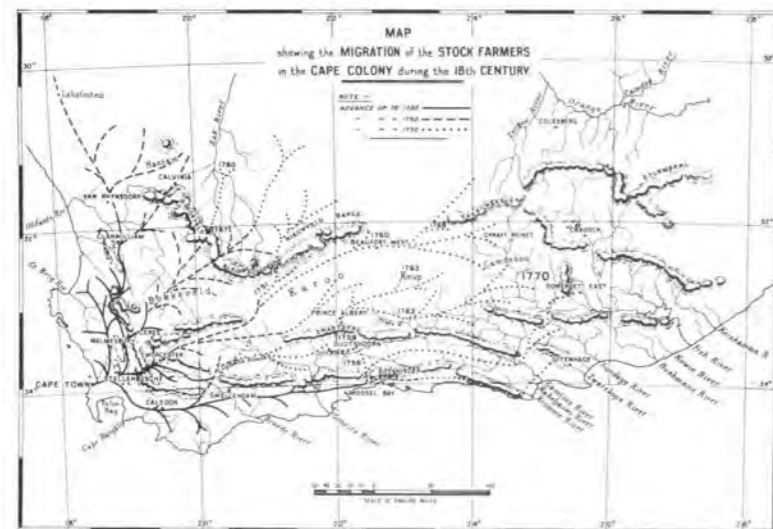


Fig. 218 Map showing the migration of the stock farmers during the 18th century



Figure 15: Sketches made by Erich Mayer in the 1920s showing the adoption of the indigenous matjieshut by trekboers (Kramer 2012:57)

Figure 14 (left): Map showing the of the migration stock farmers in the Cape Colony during the 18th Century (Walton 1986:115)

Trekboers started moving into the area in the 1750s; wagons, tents and matjehuisse were all used initially as dwellings. (Kramer 2011:43)

The evolution of semi-permanent dwellings to corbelled buildings was the move away from transhumance farming to a more permanent farm with the recognition of legal permanency through the 1813 Cradock Proclamation. This proclamation gave farmers a greater sense of security over ownership of the land however surveying only got underway in the 1820s. Kramer (2011) therefore surmises that the first corbelled buildings date from around this time. Based on oral records, surveyor diagrams and material usage, the last corbelled buildings were constructed in the 1870s, a period of around 60 years.

In the northern area of Carnavon and Williston corbelled buildings date to between 1850s and the 1880s. This area only became Crown Land in 1847 when grants were issued, after grants were halted in 1830. However Kramer (2019: 51) notes these northerly farms were occupied earlier and many had already built houses, dams and in a few cases 'roundables' or corbelled buildings. See Pg 50 for map

CORBELLED BUILDING CONSTRUCTION AND VARIATIONS

There are significant variations in corbelled buildings in terms of style, size and function. Kramer (2011) observes that no two corbelled buildings are exactly the same, making them true forms of vernacular architecture. The huts are generally circular, with a few rectangular and square exceptions, in plan with an internal diameter within the range of 5 metres. The walls can reach up to 75 mm in thickness and can reach a height of about 2 – 5 metres and then curve inwards to an apex, giving it a beehive shape. The final opening is closed off by a large flat stone slab. (Walton 1961)



The method of construction is known as corbelling, “whereby each course of stones projects slightly beyond the one below” (Walton 1961). The roofs often have projecting stones which most likely served as steps and anchors for scaffolding in the construction, as well as for repair work, another suggestion is that they were used for counterweights. Doors were generally stable doors which were brought from ox-wagon from Beaufort West. A window faced the entrance which may have been closed with shutters. Walton (1989: 124) elaborated that many farmers informed him that the windows were made small in case of an attack by San bowmen but any opening is also a potential weak point in a stone structure (Kramer2019: 63). The floor was a mixture of clay and cow dung and in some cases was rubbed smooth and often polished with a mixture of ox blood and fat. “Keeping – holes” were found in the walls and beams often stretched across the arcs for drying meat or hanging clothes. Animal horns were also used as pegs. In some cases a loft, accessed by a ladder, covered part of the floor and was used for sleeping or to store grain.

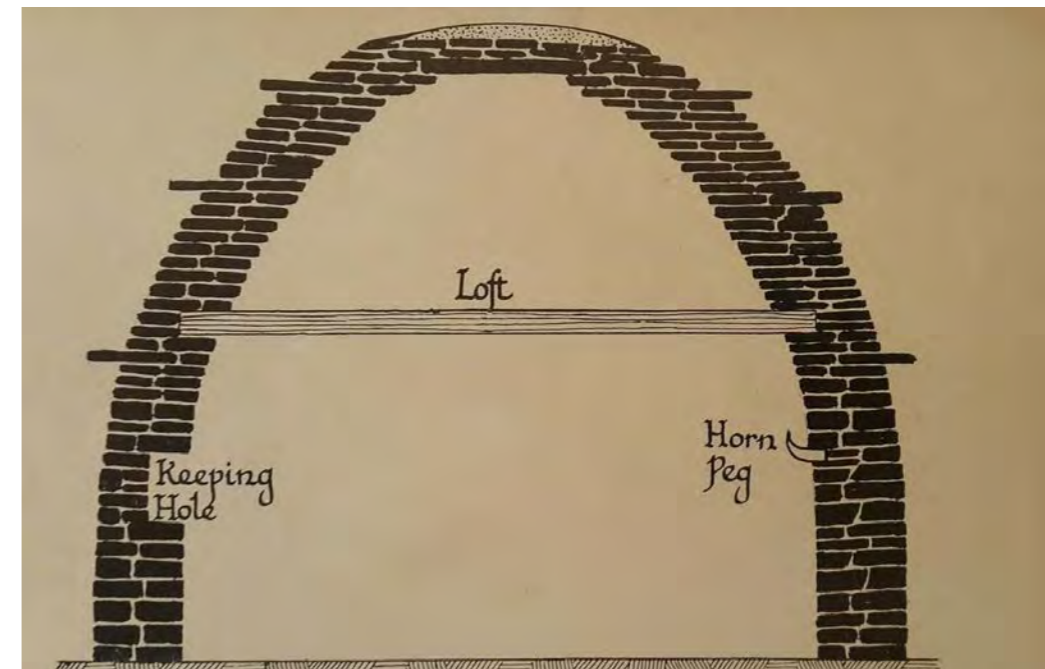


Figure 17: Section across a corbelled building at Schuinshoogte (Walton 1961)

Figure 16 (left): Gawie Fagan illustrating the speculated use of projecting stones as scaffolding for construction and roof repair (Fagan 2008:38)

Large stone lintels were also used to withstand the 'weight' of the structure over weak points such as doorways, windows and any niches. Kramer (2019: 63), further notes that cracked lintels are often the most common reason for the collapse of corbelled structures.

Early corbelled dwellings had internal fireplaces and cooking was done outside, in a kookskerm. Later examples have been found to have a raised hearth. A circular or rectangular hut was initially built when a farmer settled for his immediate requirements. More corbelled buildings were later added or a rectangular one used as an extension with a pitched roof. They were often linked with an internal doorway or simply had an outside door. There are also a number of separate corbelled kitchens found with large hearths and later on Dover style stoves were added. Kramer (2019: 78), surmises that after the 1860s many families moved activities indoors as they became more settled on their farms.

There is a direct relationship between the floor diameter and the height of the structure. Lower walls are often double stone walls with linking stones for support. Unlike European corbelled buildings, South African examples typically have clay mortar between the stones. The size of the doorway defines the function of the building. Half-door openings were used as chaff storage buildings, kafhokke, and don't have any windows, niches or shelves. They may further have a trapvloer or threshing floor. The grain however was stored in the house. Other buildings without windows were used as cold store rooms for meat, tallow, butter or candles, or as a general storeroom. Buildings with full-door openings (which often faced east to avoid the sun), have windows, wall niches and shelving were inhabited. Buildings were however altered over time with a change in function. Storerooms may have been converted to dwellings for farm workers or vice versa once a family had built another house. (Kramer 2011:230)

Kramer (2011: 95) notes that most interiors were plastered till roof height. Mud plaster covered the walls both inside and out and mud mortar was used between the stones too. Termite mounds made for good mortar as well as soil and saline crystals from pan surfaces. This plaster was often painted over with a lime wash made from local white limestone (Kramer 2019: 59). It is however difficult to tell if corbelled buildings were plastered and painted on the outside. This is mostly due to the effect of weather or farmers who at some later stage plastered their buildings with new materials.



Figure 18: Vischgat homestead showing the evolution of architectural styles including circular corbelled hut, square corbelled hut and T plan pitch roof house with a brak dak buite kamer attached (VASA 2007:58)

Corbelled buildings were always associated with one or more kraals as small livestock were important for survival in the Karoo. Corbelled buildings within a farmyard or werf were associated with various other farm structures too. Those located in the veld always had a kraal nearby and many still remain (Kramer 2019: 14).

At the end of the 19th century Walton (1989: 129) concluded that the sheep farmers reverted to a more conventional rectangular dwelling form. These often initially had flat brakdaks but corrugated iron became more widely used with their increased availability. It provided cover for larger living areas and required less maintenance. The change from corbelled buildings to rectangular flat-roofed dwellings, to corrugated iron pitched dwellings can still be seen at some farm homesteads where these forms can all be found with subsequent changes over time.

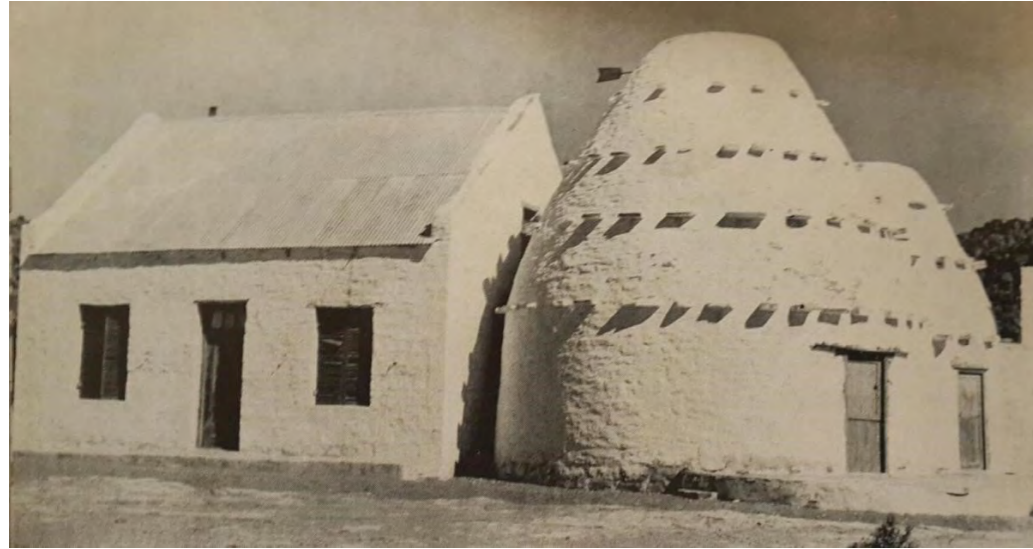


Figure 19: Stuurmansfontein homestead with two linked corbelled rooms with a later pitch roofed rectangular room and a flat roofed rectangular building (VASA 2007:55)

Walton’s work led to the declaration of a number of corbelled buildings as National Monuments under the former National Monuments Act (now provincial heritage sites).

With the passing of time and as farms changed many corbelled houses were used for different purposes. With a family moving out of the corbelled structure and into a larger house, they were left to be used as storerooms or to house farm workers. Many kafhokke doorways were subsequently enlarged to be used for accommodation and the blackening of interiors for indoor cooking is due to this (Kramer 2019: 82).

Corbelled buildings of the Karoo can be used as a means of gaining understanding of the “frontier” and the interaction and cultural contact of various people during this relatively undocumented period. History has been adapted and distorted and associated with the events such as Great Trek or specific battles. This history tends to ignore the indigenous people of the area and the encounters and interactions that they would have had with the early trekboers. Corbelled structures of Karoo are a vernacular architecture that reflects this situation.

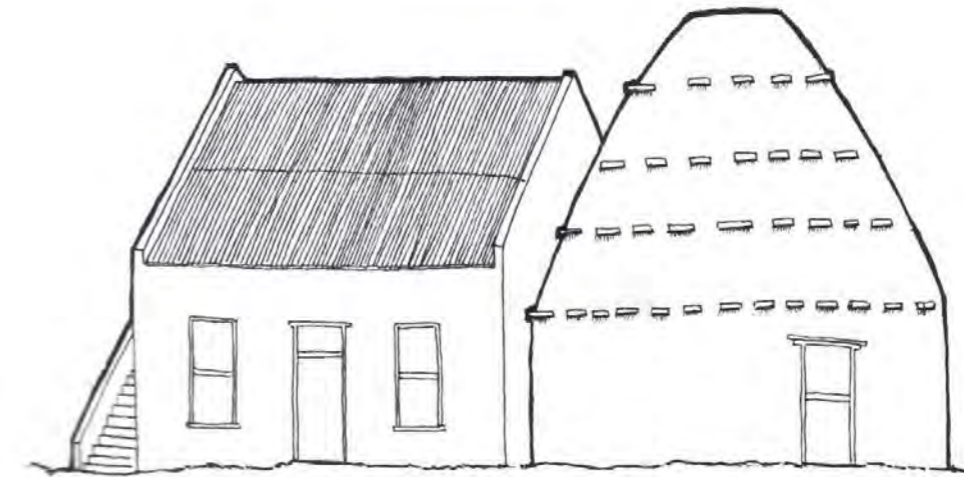
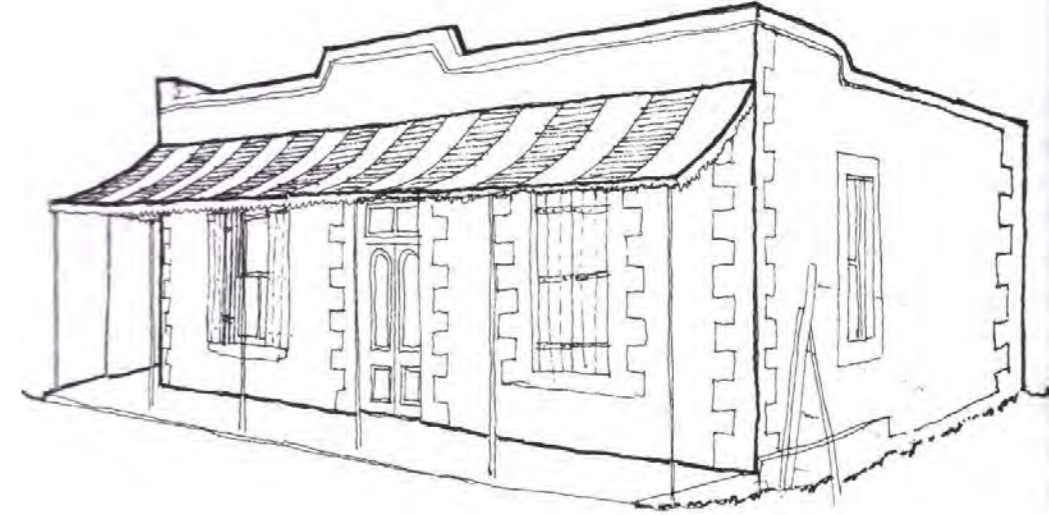


Figure 20 & 21: 1880’s Karoo dwelling with concave corrugated sheeting roof (above) with earlier corbelled house with pitched roofed addition (Frescura 2016:42).

- First Generation Farm Building – Stacked stone building, usually circular in plan form, with a corbelled stone domed roof
- Second Generation Farm Building – Rectangular plan form building, often with stone walls, with a low pitched mono pitch ‘brakdak’ roof. Often the roofing was later replaced with corrugated iron.
- Third Generation Farm Building – rectangular plan form building with more steeply pitched corrugated iron sheeted roof. Building often has a lean to veranda also with a sheeted roof.

KLEREFONTEIN

There are no original records of the establishment of the Klerefontein farm. The name, Klerefontein translates to “clothes fountain” and presumably refers to the stream and water source located immediately to the west of the farmstead. The farm would have been established and functioned as a sheep farm with limited agricultural activity happening along the banks of the river to the west.



Figure 22: Main façade of the Klerefontein Farmhouse (as built drawing by Mayat Hart Architects)

Figure 23: circa 2008 Aerial view of the werf in front of the farmhouse prior to its redevelopment as a parking lot



While the original date of the main Klerefontein farmhouse is not known it can be presumed that the building dates from between 1880 – 1900. This assumption is based on physical evidence of the building itself. As has been noted early settler structures in this area of the Karoo were rounded corbelled buildings followed by Brakdaks rectangular farm houses. Corrugated iron was invented in England in 1829 but only became readily available in the Cape from the 1850’s onwards (Kramer & Proust 2021: 180). Farmsteads in the Karoo only started converting their brakdaks (or building new) with corrugated iron in the last quarter of the 19th century (Walton 1989:129).

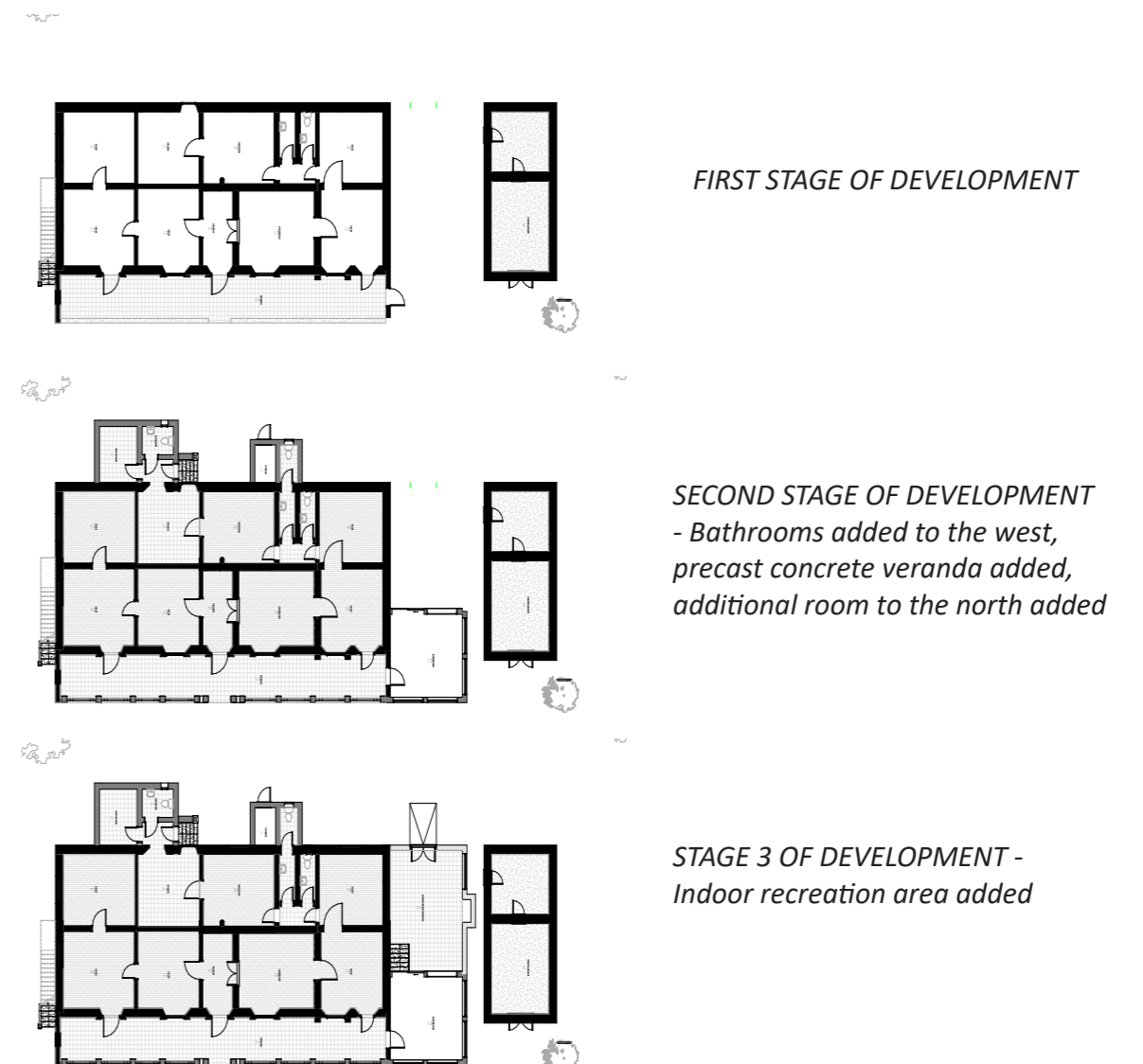


Figure 24: Plan of the Klerefontein Farmhouse showing phases of development (as built drawing by Mayat Hart Architects)

The plan of the Klerefontein farmstead suggests that the building was developed in one phase with its large size and deep plan form being made possible through the more readily available imported building materials (such as timber and corrugated iron for roofing). The simple plan of the building (two rows of rooms along a central structural wall on which fireplaces/chimneys are located) is typically functional for rural farm houses and is a direct response to available materials.

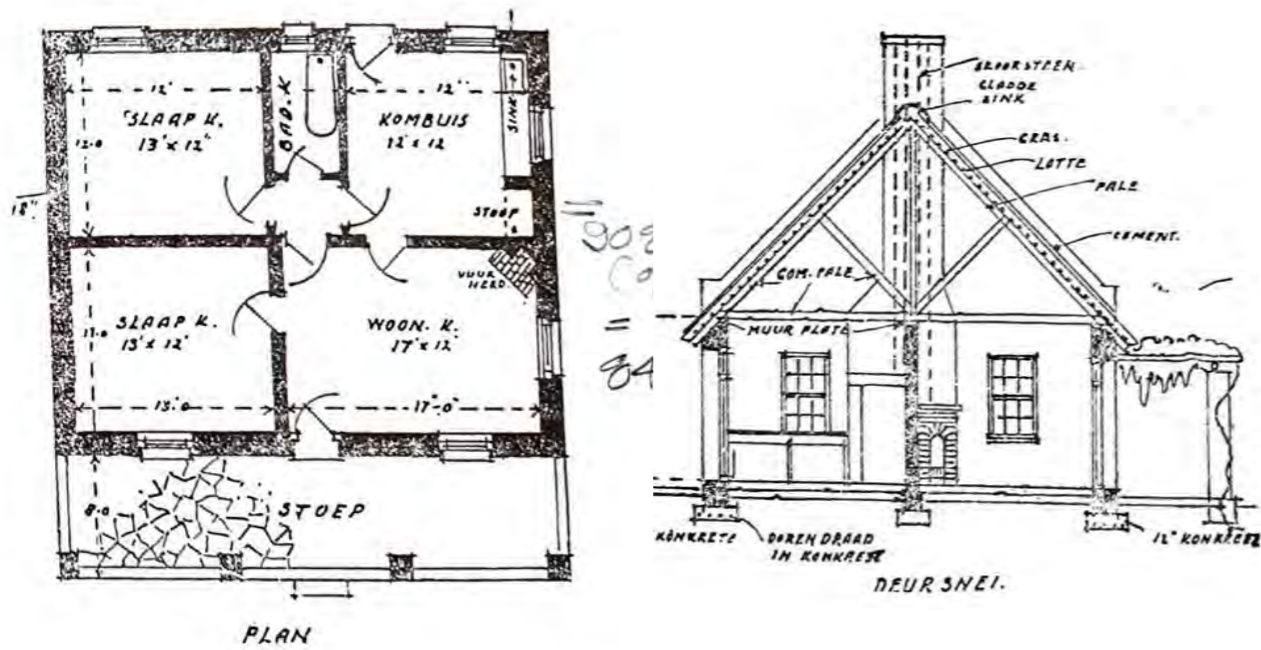


Figure 25: Typical simple farm house plan and section (Fisher & Le Roux 1986: 28)

The distinctive veranda/stoep with its precast concrete of the house is likely a later addition (possibly dating from the 1920's – 1940's). The original building most likely had a covered stoep but this would most likely have been a simpler steel or timber lean to structure. The ornate Cape revival gables of the main façade are also likely a later addition possibly also dating from 1910 – 1920. This fits with a revival of this style of architecture at the time.



Figure 26 & 27: The front stoep of the Klerefontein farmhouse in comparison with the Front stoep at the Groot Paardekloof farmhouse. The original Klerefontein stoep design was likely similar to that of Groot Paardekloof.

Other significant original features of the building include the panelled sash windows and door frame which are most likely original.



Figure 28: The internal panelling and detail of the sash windows



Figure 29 & 30: The Klerefontein farmhouse in 2008 prior to repair/restoration. Note the holes in the roof where the original chimneys were removed (SARAO).

OTHER FARM BUILDINGS

The original Klerefontein Farm werf was made up of a number of buildings in addition to the main farmhouse. These are described in more detail below:

KRAAL

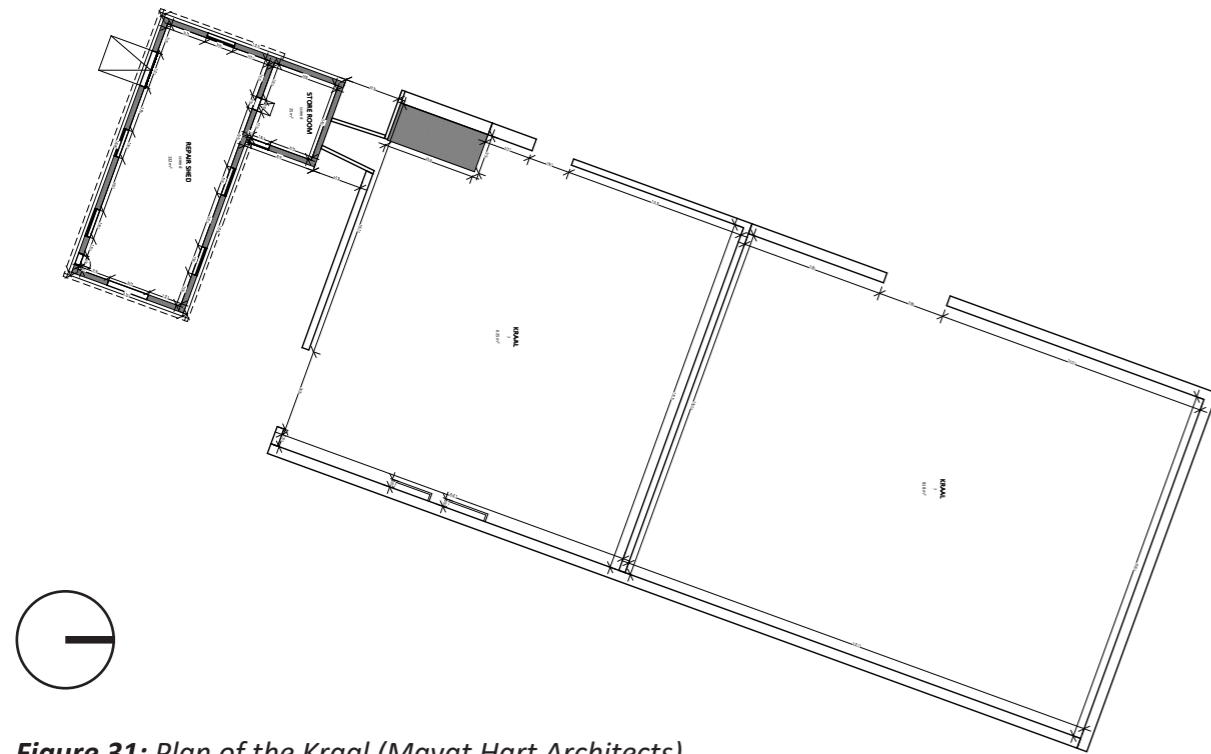


Figure 31: Plan of the Kraal (Mayat Hart Architects)



Figure 32: Photograph of Kraal

The two large kraals located at the farm are made of thick stone walls. The size of the kraals as well as their construction methods suggest that they are contemporaries of the farm house. Older kraals were very large as they needed to accommodate a farmer's entire flock of sheep overnight to protect them from predators such as jackals. Kraals only became smaller once fencing became more readily available.

WORKSHOP BUILDING



Figure 33: Photograph of the Workshop building



Figure 34: East elevation of the Workshop building with date of construction (1952)

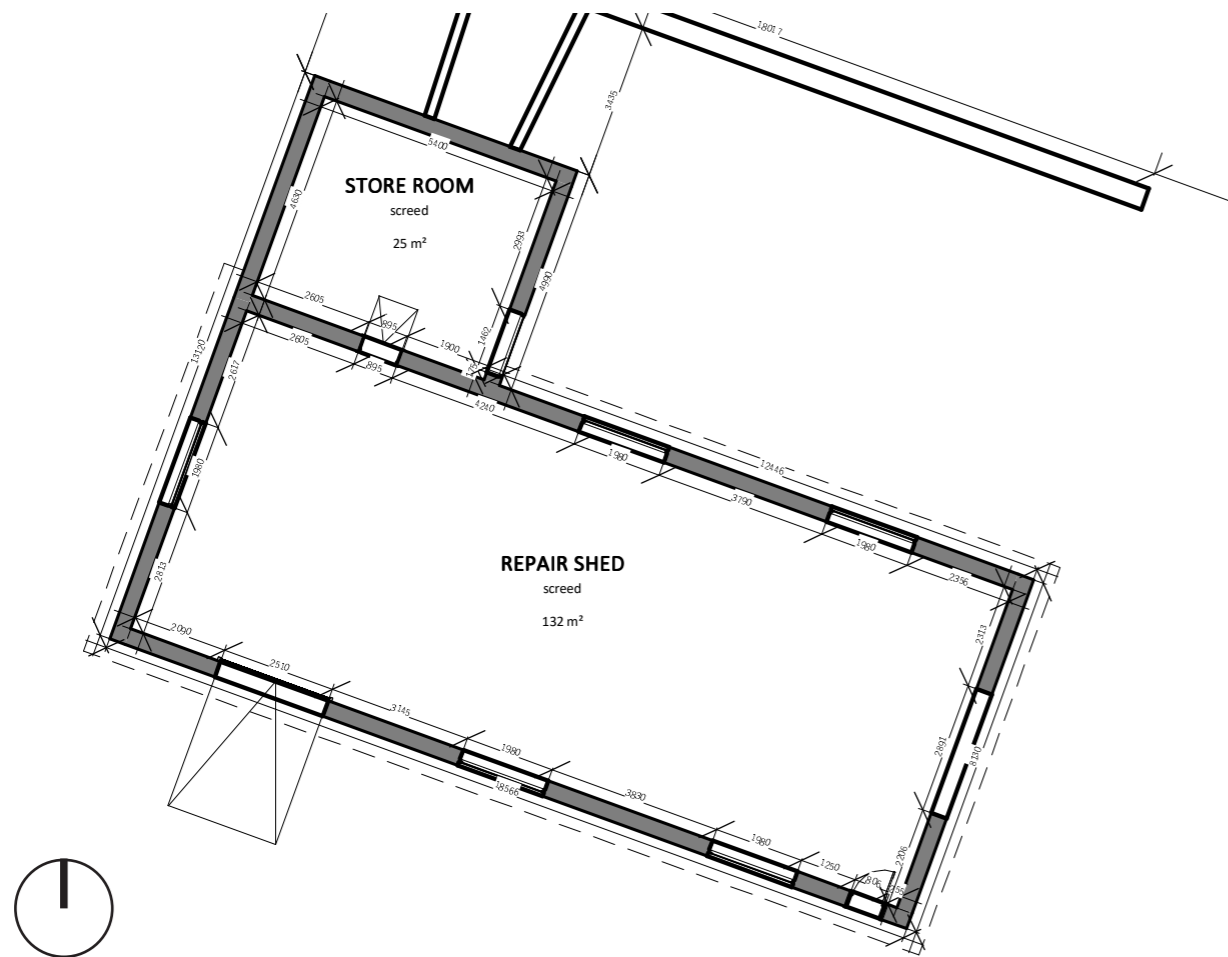


Figure 35: Plan of the Workshop Building (Mayat Hart Architects)

The workshop building is a functional barn like structure with an attached lean to store room. The structure presumably dates from 1952 from the date on the gable as well as its method of construction. It is located next to the earlier kraal. The building would likely originally have functioned as a workshop and equipment store with the lean to structure used for sheep. The conversion of the building by SARA0 in circa 2010 upgraded it internally and converted the former lean to structure for sheep into a tool store room.

BARN

The barn is a corrugated iron building located to the north of the farmhouse. Its method of construction suggest that the building dates from circa 1930 – 1940, predating the workshop building.



Figure 36: Photograph of the Barn

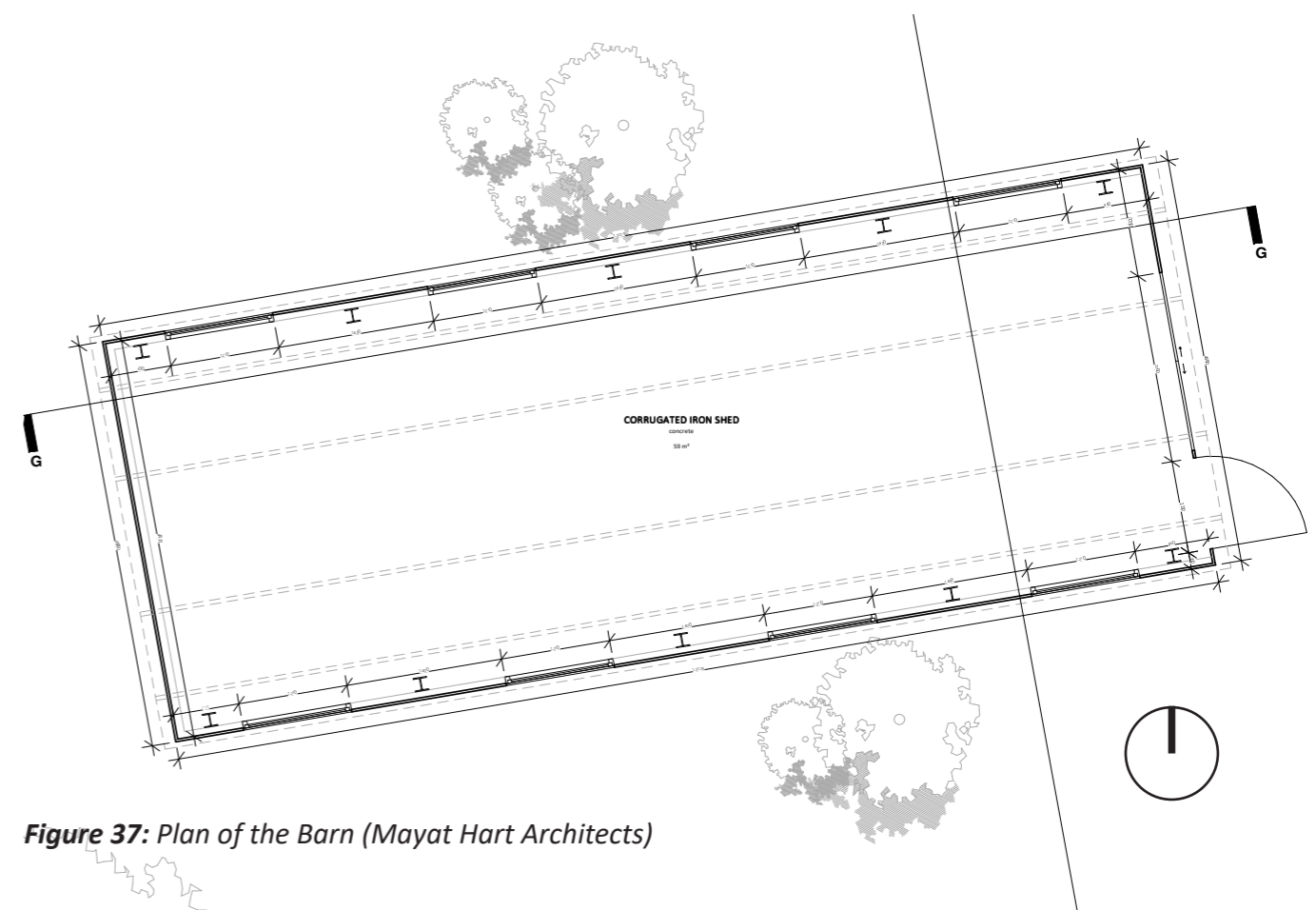


Figure 37: Plan of the Barn (Mayat Hart Architects)

OUTHOUSE



Figure 38: Photograph of the Outhouse

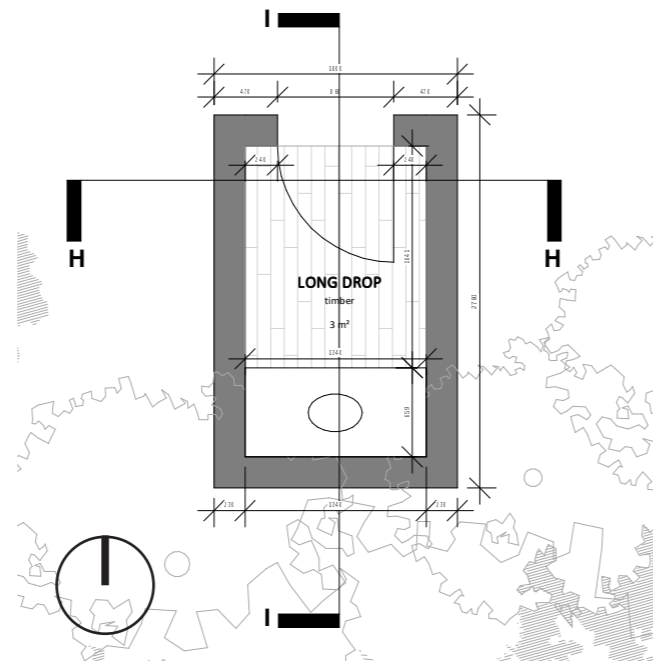


Figure 39: Plan of the Outhouse (Mayat Hart Architects)

The outhouse, located to the north of the farm house, is likely an early/original toilet for the farm house. It is a simple brick structure with a corrugated iron roof. Inside it has the remains of a timber long drop toilet.

DEVELOPMENT OF THE KLEREFONTEIN FARM WERF

The development of the Klerefontein farm werf is tracked through historic aerial photographs below:

1967

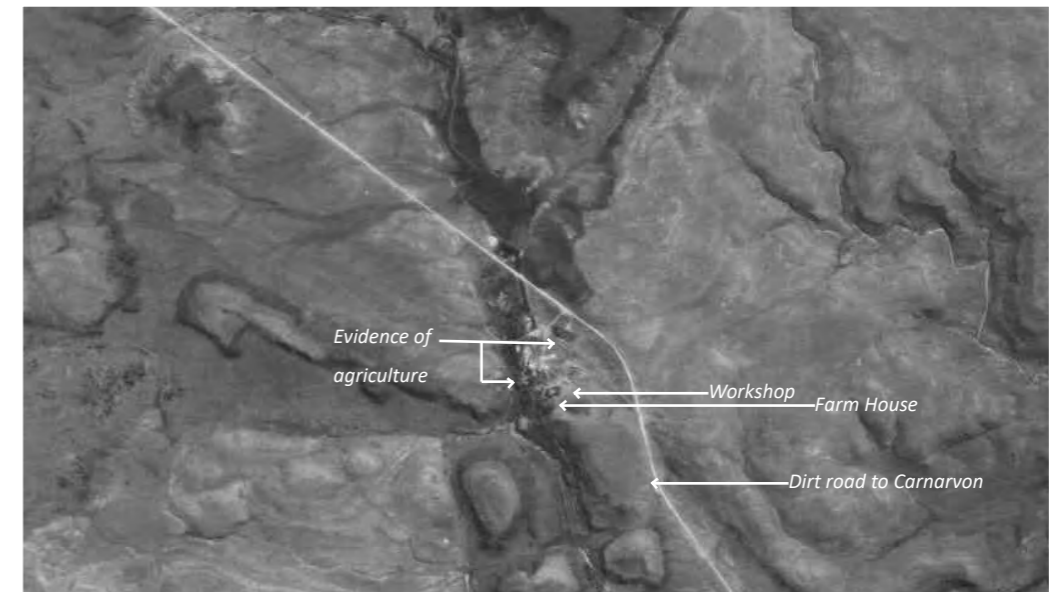


Figure 40: All of the farms historic buildings have been developed at this point in time. Limited agricultural activity can be seen. This is close to the river/dam or, where further away, likely prickly pears. The dirt road to Carnarvon is visible. (Chief Directorate of Geospatial Information)

1978

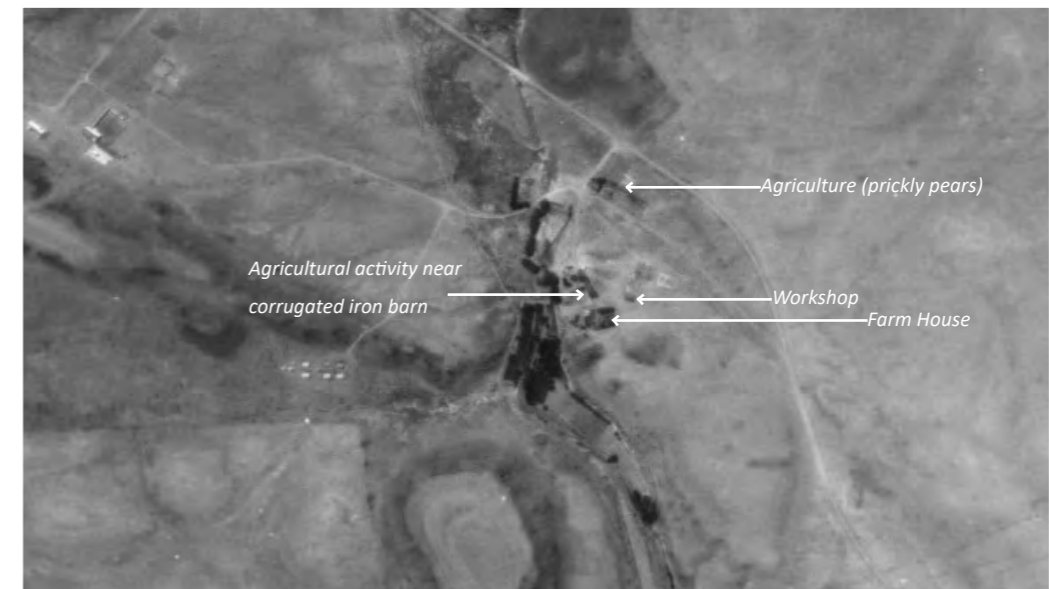


Figure 41: There is limited change from the earlier image except for what appears to be greater agricultural activity. (Chief Directorate of Geospatial Information)

1985

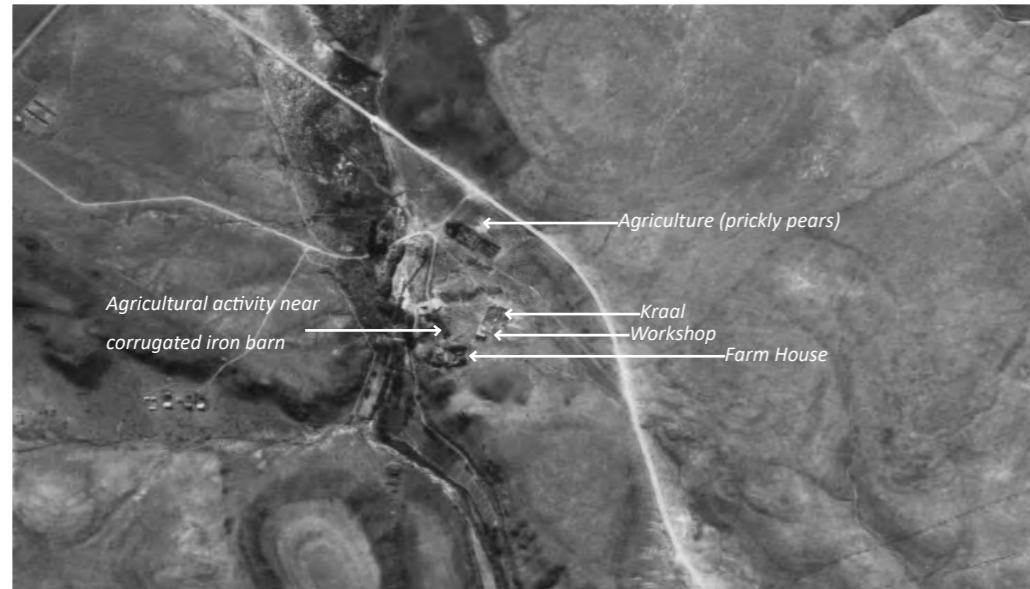


Figure 42: There is limited change from the earlier image. In this image with its higher resolution the large kraal is visible. (Chief Directorate of Geospatial Information)

PRESENT



Figure 43: There have been a number of changes since the SARA0/SKA took over the site as the KSB. These include the new operations centre, temporary container offices, new parking in front of the farm house, a new gate house as well as the tarring of the road from the site leading to Carnavon. (Google Earth)

THE CURRENT USED AND DEVELOPMENT OF THE KLEREFONTEIN FARM

Prior to the establishment of the KSB, the Klerefontein farm was used for sheep farming and later by the Northern Cape Department of Agriculture as the Klerefontein Agricultural Research Centre. The adaptation that has taken place at the farm to date has, as far as possible, maintained and/or upgraded the existing farmstead infrastructure for adaptive reuse by SARA0. This adaptive reuse included:

- The old farm house which is currently used as office space
- Various outhouses and supporting structures are currently used as workshops for mechanical and electrical purposes and/or as storage spaces
- The old stone walled sheep kraal is currently used as an open-air storage and lay down area.



Figure 44: The farmhouse after restoration in 2010 (SARA0)

3. ASSESSMENT OF SIGNIFICANCE



Figure 45: Photograph of the Kraal

In addition to the existing farmstead infrastructure, SARAo needed additional engineering office space and workshops which led to the establishment of the existing Engineering Office and Workshops facility. Furthermore, in support of the MeerKAT work operations, at Klerefontein, the following has already been established to date:

- Security guard hut for access control into the KSB;
- Parking facilities;
- Fuel storage (22m³ tank);
- Conservancy tanks;
- Temporary medical clinic;
- Temporary office containers – to account for additional office space requirements;
- Temporary Artisan Training centre; and
- Recently cleared ±0.4ha area for operational purposes.

The following assessment of cultural significance and grading is extracted from is based on a combined assessment of the buildings on site from site inspections as well as historical research.

SUMMARY OF RECOMMENDED GRADING

The grading and declaration of heritage sites is defined under the relevant sections of the NHRA. The levels of grading are described further below:

- Grade 1 – National Heritage Site
 - These are heritage sites of national importance to South Africa as a whole.
- Grade 2 – Provincial Heritage Site (includes all former National Monuments)
 - These are heritage sites of importance within the province in which they are located.
- Grade 3 – Local Heritage Site
 - These are site of local cultural significance.
 - Grade 3 sites are further broken down as Grade 3A, 3B and 3C heritage sites with 3A meaning the highest local heritage significance and 3C the lowest.
 - Recorded on a Heritage register maintained by the local PHRA and Municipality.

STATEMENTS OF SIGNIFICANCE

- The assessment and statement of significance is conducted as per the definition in section 3(3) of the NHRA.
- Additional images of the identified heritage resources are included in Appendix B of this report.

Reference	Klerefontein Farmhouse
GPS Coordinates	30°58'26.22"S 21°59'38.25"E



Figure 46: The Klerefontein Farmhouse

- The building is a good example of a second generation farmstead dating from the latter half of the 19th century.
- The building shows the architectural evolution of farmhouses from the late 19th to early 20th centuries. The buildings layered evolution is part of its cultural significance.
- The building is in a good state of repair.
- Internally the building has some original features such as ceilings, cornices, internal doors and some original windows. There has however been substantial internal alteration to services spaces.
- Externally the building has retained many original/early fittings and features, particularly on the main façade
- The immediate farm werf and context of the building is largely intact although some changes to the former terraced garden space have occurred with its use as the KSB.
- The relationship of the building with its associated farm buildings and kraals is of importance.
- The location of the building, particularly as viewed from the main road and its association with the river behind is picturesque and adds to its significance

Resource ID	Type	Description	Aesthetic	Aesthetic Field Rating	Historic	Historic Field Rating	Scientific	Scientific Field Rating	Social	Social Field Rating	INTEGRITY	VALUE	Designation	Recommended Field Rating	Recommended Field Rating2	Field Rating Description
KSB 1	Site	Farmhouse	4	4	2	3	2	3	3	4	4	11	Medium	4.00	Grade III B	Heritage resources which, although forming part of the national estate, can be considered to have special qualities which make them significant within a more localised context -high significance rating

Reference	Klerefontein Kraal
GPS Coordinates	30°58'23.41"S 21°59'41.73"E



Figure 47: The Klerefontein Kraal

- The kraal is a good example of an early stone type kraal dating from the 19th century
- The kraal is in a fair state of repair but is showing some damage/collapse in places.
- The relationship of the kraal to the other original building is of significance. Some of the significance of the relationship of the kraal to the farmhouse has been lost due to the construction of the new support base building.
- The kraal is significant as part of the collection of buildings and structures of the Klerefontein farm werf.
- The location of the kraal, particularly as viewed from the main road and its association with the farmhouse behind is of significance.
- In isolation the kraal has a Grade 3C grading. Due to its association with the farmhouse and werf it should be treated as having a grade 3B grading as per the farmhouse.

Resource ID	Type	Description	Aesthetic	Aesthetic Field Rating	Historic	Historic Field Rating	Scientific	Scientific Field Rating	Social	Social Field Rating	INTEGRITY	VALUE	Designation	Recommended Field Rating	Recommended Field Rating2	Field Rating Description
KSB 2	Site	Kraal	3	4	2	3	2	3	3	4	3	8	Low	4.00	Grade III C	Heritage resources which, although forming part of the national estate, can be considered to have special qualities which make them significant within a more localised context - high significance rating

Reference	Klerefontein Workshop
GPS Coordinates	30°58'24.45"S 21°59'41.10"E



Figure 48: The Klerefontein Workshop

- The workshop building is a typical example of a utilitarian farm building from the mid 20th century.
- The building has been substantially altered internally for its current function. It is in a good state of repair.
- The relationship of the workshop building to the other original building is of significance.
- The building is significant as part of the collection of buildings and structures of the Klerefontein farm werf.
- In isolation the workshop building does not meet the criteria for grading. Due to its association with the farmhouse and werf it should be treated as having a Grade 3C grading.

Resource ID	Type	Description	Aesthetic	Aesthetic Field Rating	Historic	Historic Field Rating	Scientific	Scientific Field Rating	Social	Social Field Rating	INTEGRITY	VALUE	Designation	Recommended Field Rating	Recommended Field Rating2	Field Rating Description
KSB 3	Site	Workshop	2	3	2	2	2	2	2	3	2	4	Negligible	3.00	NO GRADING - General Protection IV A	Resources under general protection in terms of NHRA sections 34 to 37 with Medium to Medium-High significance

Reference	Klerefontein Barn
GPS Coordinates	30°58'23.41"S 21°59'41.73"E



Figure 49: The Klerefontein Barn

- The barn building is a typical example of a utilitarian farm building from the early to mid 20th century.
- The building is original with no notable changes. It is in a fair state of repair.
- The relationship of the barn building to the other original building is of significance.
- The building is significant as part of the collection of buildings and structures of the Klerefontein farm werf.
- In isolation the barn building does not meet the criteria for grading. Due to its association with the farmhouse and werf it should be treated as having a Grade 3C grading.

Resource ID	Type	Description	Aesthetic	Aesthetic Field Rating	Historic	Historic Field Rating	Scientific	Scientific Field Rating	Social	Social Field Rating	INTEGRITY	VALUE	Designation	Recommended Field Rating	Recommended Field Rating2	Field Rating Description
KSB 4	Site	Barn	2	3	2	2	2	3	2	2	2	4	Negligible	3.00	NO GRADING - General Protection IV A	Resources under general protection in terms of NHRA sections 34 to 37 with Medium to Medium-High significance

Reference	Klerefontein Outhouse
GPS Coordinates	30°58'24.53"S 21°59'37.19"E



Figure 50: The Klerefontein Outhouse

- The outhouse building is a typical example of a utilitarian farm building from the late 19th to early 20th century.
- The building is original with no notable changes. It is in a poor state of repair.
- The relationship of the outhouse and the farmhouse is of significance.
- The building is significant as part of the collection of buildings and structures of the Klerefontein farm werf.
- In isolation the outhouse does not meet the criteria for grading. Due to its association with the farmhouse and werf it should be treated as having a Grade 3C grading.

Resource ID	Type	Description	Aesthetic	Aesthetic Field Rating	Historic	Historic Field Rating	Scientific	Scientific Field Rating	Social	Social Field Rating	INTEGRITY	VALUE	Designation	Recommended Field Rating	Recommended Field Rating2	Field Rating Description
KSB 5	Site	Outhouse	2	3	2	3	2	3	2	3	2	4	Negligible	3.00	NO GRADING - General Protection IV A	Resources under general protection in terms of NHRA sections 34 to 37 with Medium to Medium-High significance



4. CONSERVATION MANAGEMENT PLAN

A. INTRODUCTION

The Klerefontein farmstead and individual buildings and structures have been shown to be a heritage resources and of cultural and historical significance. The conservation management of the site needs to balance the diverse and sometimes disparate requirements of its identified cultural significance with its current function as a support base for the operations of the larger SKA.

These needs are summarised below:

1. The need to conserve the buildings and site as a culturally significant collection of buildings demonstrating the development and history of this part of the Karoo.
2. The need to give the buildings a functional purpose to allow for their long term maintenance and conservation.
3. The need to allow for the development and operations of the KSB site as part of the larger scientific operations of the SKA.
4. The need to balance the maintenance requirements of the buildings with their use, cultural significance and location/accessibility.

The following key requirements have been identified and need to be addressed by the conservation approach for the site as a whole:

- The following of conservation best practice with particular attention paid to the requirements and challenges posed by the conservation of a collection of buildings from different periods within a historic landscape.
- The management of ongoing maintenance of the site and buildings to ensure their long term preservation.
- The meeting of the very specific functional requirements of the site knowing that an unused and unoccupied building is difficult to properly maintain and conserve.
- Flexibility in terms of the potential function of individual buildings to maintain the functional viability of the site.
- The health and safety of all occupants.

B. GENERAL APPROACH TO CONSERVATION

In the South African context the Burra Charter (the Australia ICOMOS Charter for Places of Cultural Significance) is widely regarded as defining conservation best practice. The charter advocates the following:

- A cautious approach
- Consultation

Figure 51 (left):
Kraal Wall

- The value of original material
- Reversibility
- Legibility
- The favouring of maintenance and repair over restoration and reconstruction.

All of the above is however balanced against and in proportion to the cultural significance and heritage value of the identified heritage resource. The more important and significant the building and structure the greater care and caution that needs to be used. In the case of Klerefontein and the SKA site this also needs to be balanced against the significance of the work that will be undertaken by the SKA once fully operational.

While the general principles of the Burra Charter are applicable to most conservation projects, a more specific and tailored approach is required for the future conservation and preservation of the Klerefontein. A “one size fits all” approach is not appropriate for the site. This approach needs to take into account the layered and complex nature of the site with its various buildings of varying heritage values and cultural significances and balance this with the current and proposed use of the site as a means of ensuring its long term conservation. This is best termed as a critical conservation approach.

A critical conservation approach assesses and understands the specific cultural significances of the individual structures/buildings and then responds directly to these. This is not a singular prescriptive approach but rather multiple designed solutions where critical creative intervention can work hand in hand with traditional restoration or preservation.

THE VALUE OF THE ORIGINAL DESIGN

The original design and use of each structure needs to be fully understood for each preserved building with respect to:

- The spatial layout and configuration of the individual buildings
- The use and type of materials originally employed in the individual buildings
- The potential for adaptability and flexibility of the spaces within the individual buildings
- The structural logic and construction of the individual buildings

DESIGN SYSTEMS AND EXPECTATIONS

Each retained building needs to be understood in relation to the systems found within the building. These include but should not be limited to:

- Water and weather proofing
- Closure and security
- Water supply and drainage
- Electrical supply
- Structural systems

The current behaviour and expectations of all of these systems should be appreciated.

- Failures or successes of these systems should be understood
- Where systems meet functional requirements they should be retained rather than replaced.
- Where systems have failed they should:
 - Preferably be restored or, if this is unfeasible, replaced (only if required for the functioning and preservation of the building)
 - New innovative technical solutions can be implemented which comply with the defined conservation aims

CONSERVATION MANAGEMENT

A multi-pronged approach to the conservation management of the building is proposed. These are defined as follows:

APPROACH 1: BUILDING AS DOCUMENT APPROACH

- The building as document approach looks at a building (or site) as a record of its own history. The structure of a building records its own history through its adaptation, growth, repair and decay. It is an artefact and no specific period in a building (or sites) history should be given precedence.
- This approach to conservation was first developed in the 19th century by John Ruskin, a proponent of the Arts and Crafts movement and a pioneer of conservation and preservation. It was developed as a response to what was perceived as the often reckless ‘restoration’ of historic buildings in Europe at the time.
- The ethos of the approach is best summed up in the words of Ruskin (from his book *The Seven Lamps of Architecture*) and William Morris (a follower of Ruskin):

“For, indeed, the greatest glory of a building is not in its stones, nor in its gold. Its glory is in its Age, and in that deep sense of voicefulness, of stern watching,

of mysterious sympathy, nay, even of approval or condemnation, which we feel in walls that have long been washed by the passing waves of humanity [...] it is in that golden stain of time, that we are to look for the real light, and colour, and preciousness of architecture.” John Ruskin (SPAB 2018)

“It is for all these buildings, therefore, of all times and styles, that we plead, and call upon those who have to deal with them, to put Protection in the place of Restoration, to stave off decay by daily care, to prop a perilous wall or mend a leaky roof by such means as are obviously meant for support or covering, and show no pretence of other art, and otherwise to resist all tampering with either the fabric or ornament of the building as it stands ...” William Morris (SPAB 2018)

APPROACH 2: FULL RESTORATION

- This approach is retained for buildings and structures within the Klerefontein site which have been identified as having the greatest cultural significance.
 - Restoration of these spaces should include:
 - The retention or, if lost, reinstatement of original finishes and fittings.
 - Limits on new interventions such as signage, conduiting, ducting etc.
 - Original material is of importance in these spaces and should be retained.

APPROACH 3: CONCEPTUAL RESTORATION

- This approach is retained for buildings and structures within the Klerefontein site that, while of importance and cultural significance, do not warrant full retention or restoration.
 - Retention of original material is preferable but not essential. Material authenticity is secondary to the original design and conceptual authenticity. Reinterpretation and intervention within these limits are possible.
 - The material and colour palette used can be a reinterpretation of the original used in a sympathetic manner.

APPROACH 4: MODERN ADAPTATION

- This approach is retained for buildings and structures within the

Klerefontein site that are functional, have been previously changed or adapted and have a low cultural significance.

- Little original material remains. The retention of original material or configurations is only necessary where they will effect a space or aspect of the building that has identified cultural significance. For example the retention of a window in a room because its removal will have a negative effect on the external façade.
- The layout and fit out of a space can be changed and adapted to meet new functional requirements.
- The material and colour palette used can be contemporary but it is suggested that it be sympathetic and reference the materiality and intention of the original building where possible.
- The only limitations placed on changes in the identified spaces within the building is that they should not negatively affect spaces or aspects of the building that have a high level of cultural significance.

APPROACH 5: DEMOLITION

- As a balance to the more stringent requirements of the first 4 conservation approaches a fifth approach is proposed for parts of the site that are of a lower cultural significance. This approach is for parts of the site which are of a low significance whose loss/removal would not negatively affect the overall significance of the site and other significant structures.

NOTE:

Occasionally a building or structure may call for different approaches to be used for different aspects of the building.

New Components

- New components and interventions should be in accordance with the logic of the original architectural concept.
- New components and interventions outside of areas identified as suitable for Approach 3: Modern Adaptation should only be undertaken where absolutely necessary.
- New components should have a functional simplicity to their design but should still be carefully designed, proportioned and detailed in relation to the scale proportions and logic of the original building.
- New interventions form part of a new architectural layer within a building. While they should be contemporary in their material language and execution the difference between the old and new components should be subtle in contrast. They must not be unnecessarily bold or

jarring.

- A consistent approach needs to be taken for the language of the new architectural interventions throughout the Klerefontein site.
- The material language of the new components should reference the existing material palette of the individual buildings.

Legibility and Education

- The concept of historical layering is important. New layer and interventions should be of their time but should subtly fit in with the original design and concept of the building.
- New layers and interventions should never copy the original. Subtle references are preferable.
- New layers should not dominate. The original layers where retained are always the most important.
- The use/explanation of the history of the site should be used as an educational tool where even possible.

Compatible Reuse

- New functional requirements and uses of the building should as far as possible be spatially compatible with the conceptual spatial and functional arrangement of the individual buildings.
- The reuse of existing spaces is always preferable over the creation of new spaces within the individual buildings.
- The continued positive and compatible use of the site and individual buildings is important for their long term conservation and protection of their cultural significance.

Longevity

- The longevity of the Klerefontein site and individual buildings is of great importance. Repair and maintenance should be prioritised.
- The original design intention of simplicity in plan form and adaptable usage should be carried through into all new work. Designs which are restrictive in their potential reuse are undesirable.

For all work undertaken at the Klerefontein site the concept taken from the Burra Charter of “do as little as possible but as much as necessary” should be followed.

C. CONSERVATION GUIDELINES

THE VALUE OF GUIDELINES

Guidelines for the conservation and future reuse of the Klerefontein Farmstead, buildings and structures identified as having cultural significance have been developed with the following intentions:

- To maintain the cultural value and significance of Klerefontein the farm and place and that of individually significant buildings.
- It is important from the outset of any long-term vision for the Klerefontein farmstead and individual buildings to understand the legal heritage status of the buildings, to know and understand the cultural significance of the buildings, as well as the opportunity and limitations that this presents.
- The nature of the current and future long term occupation of the site and individual buildings means that there is the potential for continued and repeated incremental changes made. Long term usage and changes to the buildings for potentially unknown purposes gives value to guidelines which will assist in creating a consistency of vision and approach to the buildings adaptation and conservation.
- Guidelines ensure a degree of consistency in a phased and continuous project, ensuring that standards are consistently met.
- Guidelines assist in the resolution of potential conflict that may exist between the sometimes contradictory demands of conservation and functional needs.

GUIDELINES

MAINTENANCE

- Maintenance of the existing built fabric should always be the first priority.
- The outside of all building should be kept watertight and the roofs and gutters maintained annually.
- Corrosion can cause irreversible damage. Windows, steel columns, sheeting barn doors and any external steel fittings should be annually checked for corrosion and treated where necessary.
- All external woodwork should be maintained annually and repainted/retreated.
- The landscape of the farmstead is an important part of the identity and heritage value of the site. It is also fragile (particularly the gardens and trees around the main farm house). These should be regularly maintained.

- Samples of all repair methods should be done and assessed prior to the commencement of the work.
 - All methods used must be those approved as part of the CMP or Section 34 application by the relevant heritage authorities.
 - Cleaning of stonework and face brick should be done with the advice of a specialist and experience heritage stone mason.
 - Sample areas should be prepared and monitored to assess their suitability.
 - No chemical or acid cleaning methods should be employed.
 - No excessively abrasive cleaning methods should be employed.
 - No water proofing sealants should be used on face brick or stonework. They are surfaces that should be able to ‘breathe’. Waterproofing sealants, paint etc. will exacerbate their deterioration.

CONCEPT

- The spatial arrangement and intention of the original design of individual buildings need to be considered when any changes are made. These should be maintained as far as is reasonable.
- All new interventions must take cognisance of and relate to the scale and proportioning used in the original design of each individual buildings and should be flexible and adaptable.

REPAIR AND RESTORATION

- Buildings/areas marked for full restoration should aim, as far as is reasonably possible, to return these spaces to their original designed state.
- The methods for repair and restoration and the materials used should as far as possible be the same as those originally employed. These methods include (but are not limited to): slate/stone masonry sourced locally, mud mortar, mud plaster, sun dried mud bricks, timber door and windows (generally oregon pine), corrugated iron roof sheeting and flashing as well as modern construction materials for later buildings. If the original material or method was flawed, unavailable or a proven new material or method found, this can be employed as an alternative.
- Original materials are always valued over new in restored spaces. Original materials should only be replaced if no longer functional, beyond repair and if a suitable matching new material can be found.
- The patina caused by the passing of time should remain. The intention is not to strip back the building to a state of ‘pristine newness’.
- Woodwork should never be stripped back to the raw timber. It should be carefully rubbed down before resealing.
- All new sealants, cleaning products, restoration methods etc. should be adequately tested on the surface before used.
- All new finishes should be tested for longevity. External sealants should be tested for UV stability and long term discolouration.

COLOUR

- Areas/buildings deemed for full Approach 2: Restoration should as far as possible be returned to their original colour scheme
- The original colour scheme should be used as a departure point and inspiration for the colour of all other buildings/spaces earmarked for Approach 3: Conceptual Restoration.
- Areas/buildings earmarked for Approach 4: Modern Adaptation are free to use any colour scheme but a colour palette that is sympathetic to the original is always deemed to be preferable.

SERVICES

- Existing services which still fulfil their required purpose should be retained.
- Redundant services should be removed.
- New services should generally follow the logic of the original design and service reticulation of the individual buildings. The new reticulation of services should be introduced in as subtle a manner as possible.
- The reticulation of services:
 - The reticulation of services should be in existing ducts, floor voids and roof voids so as to remain hidden.
 - Where possible the original services should be reused. Where this is not possible new visible service reticulation can be used. Service reticulation and ducting should be designed to be as subtle as possible and limited to what is absolutely necessary.
- Buildings and areas identified as being of high significance and to be restored as per Approach 2: Restoration should not as far as possible have any visible new services introduced.
- Services should not be visible and run on the outside of buildings. External services such as air conditioning units, solar panels etc. should be limited and where absolutely required placed out of sight.

ABLUTIONS

- Ablution and kitchen facilities should remain in their current location to prevent the need for the unnecessary relocation of wet services.
- All ablutions on the site have been upgraded in the past. Future changes can follow Approach 4: Modern Adaptation for all work.

LIGHT FITTINGS

- In areas that are marked for full restoration original light fittings should be retained. If these are missing new light fittings to match the design of the original as closely as possible should be installed.
- Where these are functionally insufficient new light fittings that meet the functional requirements yet are simple in design should be added

- to supplement the original.
- Original light switches, where still in existence, should as far as possible be retained and reused.

EXTERNAL GLAZING

- All original external glazing must be retained.
- Where windows and doors have been damaged, altered or removed they should be replaced to match the original design.
- Existing window frames should be fully cleaned/repainted and serviced to ensure that they close properly.

SAFETY & ACCESSIBILITY

- The buildings on site should meet the minimum requirements regarding public safety and accessibility where feasible.
- Any additional handrails that may be required should only be installed if absolutely necessary. They should be removable, not fix into surfaces which cannot be repaired (for example natural stone or face brick) and made to be as inconspicuous in their environment as possible.
- Ramps for accessibility should only be installed where no alternative access is possible. These should be light weight and removable.
- Safety requirements regarding the visibility/grip of stair nosing's etc. need to be carefully considered. No permanent or irreversible changes are to be allowed to stairs with natural stone finishes. A removable clear adhesive strip for additional traction may be considered as long as not permanent damage or discolouration is caused if absolutely necessary.

SECURITY & ACCESS CONTROL

- The security of the perimeter of the site should be prioritised to prevent vandalism or theft.
- Where necessary, securing of buildings should be done so in as inconspicuous manner as possible using existing methods/designs such as wooden shutters over security bars. Burglar bars and security gates (internal and external) should only be installed where absolutely necessary.
- Security cameras, if required, and their reticulation should follow the policy for the reticulation of services.
- Fencing of the site is undesirable. If necessary fences should be installed on the outskirts of the site as far away from the buildings as possible. Where necessary fences should be of a subtle and visually recessive design (for example a Clear View type fence in a dark colour).

SIGNAGE

- All original historic signage, where existing, should be retained. Where the signage has been damaged or removed this should be reinstated to match the original.
- Areas marked for Approach 4: Modern Adaptation have no signage limitations.
- Areas marked for Approach 1, 2 & 3 should have as little new signage as possible.
- The original signage should always be the most dominant.
- New signage and wayfinding should be consistent throughout the site. New signage should be kept to a minimum and should always be smaller in size than the original signage. The mounting of new signage should similarly be carefully considered. No new signage can be mounted to original natural stone or face brick surfaces. In areas such as these free standing signage pylons should be considered if absolutely necessary.

NEW INTERVENTIONS

- New interventions should, where required, follow the scale and proportioning systems of the used in the design of the individual buildings.
- There should be a standardisation of the detailing and materials used for new interventions.
- Generally "lightweight" materials such as steel, aluminium, glass and timber are preferable for new interventions.
- The detailing of new interventions should be contemporary and read as a new historical layer to the building.
- New interventions should be visually subtle. They should never be dominant.
- The junctions between new interventions and the existing buildings/materials should be carefully considered. Spatial continuation through the use of shadow line or off set junctions should be considered.
- The subdivision of larger spaces is undesirable. Where this is necessary the division should be detailed in a manner that the integrity and legibility of the entire space is maintained.

NEW OPENINGS

- New openings in existing internal walls should only be made where justifiably necessary and where the impact is limited. New openings in internal walls are allowed in areas marked for Approach 1: Modern Adaptation.
- The scale, proportion, treatment of the edges, floor and ceiling

- junctions, the retention of nibs etc. should be carefully considered.
- No new openings should be made in the external façade of buildings identified as having a high cultural significance.

EXTERNAL SPACES

- The external spaces and landscape of at the Klerefontein farmstead are part of the significance of the farmstead as a whole and are of particular significance to the significance of the main farmhouse.
- Any new intervention in the eternal spaces and landscape of the site should:
 - Not block any of the important views of or approach to the buildings and should not obscure important original features. See figure 52 below.
 - Be cognisant of the natural and historical landscape and landscaping of the site.
 - Have a limited visual impact and, as far as possible, be reversible.



Figure 52: Aerial photograph showing significant views.
 1. Framed view of the farmhouse and werf 2. View of the approach to the farmhouse with hill behind
 A. View from the farmhouse through the tree former framed werf across the landscape
 B. View from the farmhouse towards the stream, dam and cultivated areas.



Figure 53: Aerial photograph showing significant open spaces and visual connections
 1. The farmhouse and original framed garden space and surrounding spaces 2. The kraals and workshop building and surrounding spaces 3. The open area, trees and former cultivated areas alongside the dam and stream, dam and cultivated areas.

GENERAL CONSTRUCTION CAUTION

- **CAUTION** – Caution needs to be taken when any work is done at the Klerefontein site. This includes (but should not be limited to): care taken not to damage the building with any vehicles, machinery etc. during construction or demolition works, care taken to secure buildings and materials from theft during demolition/construction, care to not damage the building with storage/installation of new elements, care taken to not damage the building during the removal of elements that are to be repaired or replaced.
- **PROTECTION** – Sufficient care needs to be taken when working on the site/buildings knowing their historic and cultural significance. This should include as a minimum the protection of areas from damage and theft while working including areas used for the stockpiling of material and construction waste. Adjacent surfaces should be covered with soft board or similar to prevent damage during construction, no preparatory work should be done in the building, all materials should be stored a distance away from the building in a clearly demarcated storage areas. Heritage buildings or spaces should be clearly demarcated and 10m exclusion areas created around all heritage elements of the site as no go areas except for the execution of the proposed works. This is particularly true for surfaces which are exposed (stone façades, face brick, timber etc.), important details and architectural features (doors and windows, door handles, decorative relief works etc.).
- **CONTRACTOR** – the demonstration of relevant experience working on historic buildings should be required by any contractor who works on site.
- **SAMPLES** – Samples of all work, methods of fixing, cutting, removal and demolition need to be assessed and approved prior to any work being undertaken.
- **CLEANING** – it is very important that the site be left as clean as found after construction. All building rubble and waste must be removed and gravel/sand surfaces swept clean.

ARTEFACTS

- Construction work and the general use of the site will result in the uncovering and discovery of historical relics and artefacts. These can range from old farming implements, pottery shards from an ashooop, glass bottles, building material etc.
- All parties, particularly building contractors, need to be made aware of the potential historical value of these artefacts.

- All artefacts need to make reference to Section 35, and the potential MoU with the McGregor Museum as the designated repository. The MoU is not finalised, but the intent is to establish it. All artefacts should be kept and assessed. Where possible these may form part of the museum displays at the house speaking of the history of the farm and area. Removal of artefact's needs to comply with Section 35 of the NHRA. The McGregor Museum is in the process of entering into a MoU with the SKA as the designated repository for artefact's and should be consulted with respect to the inclusion of these in any future museum displays

D. CONSERVATION MANAGEMENT

The detailed conservation management plan for each structure is outlined below.

OLD FARMHOUSE



Figure 54: Klerefontein Farmhouse

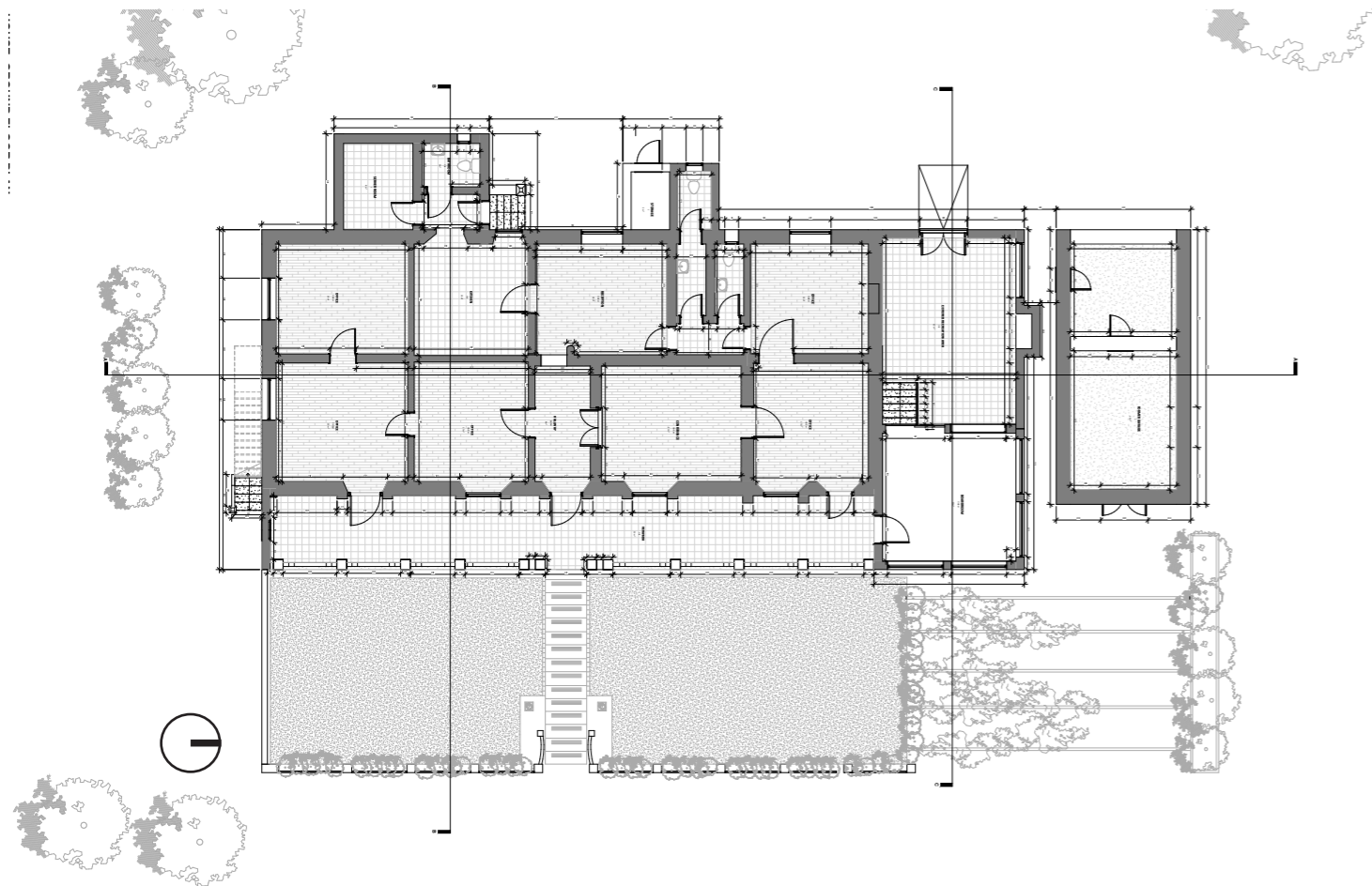
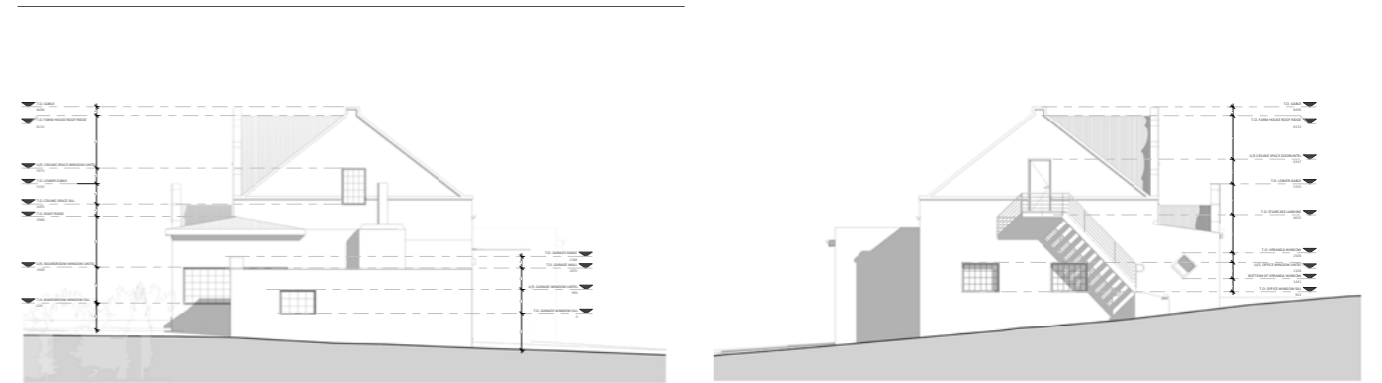


Figure 55: Plan of Farmhouse

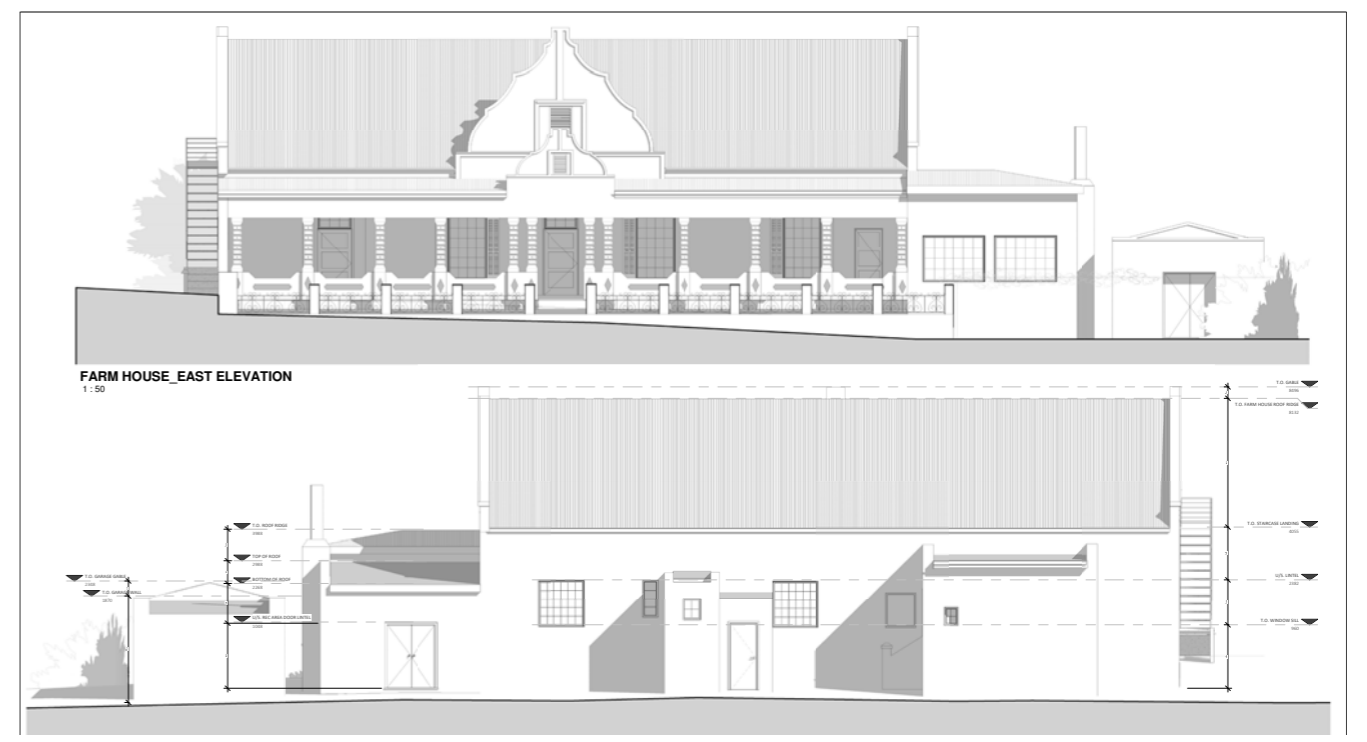


Figure 56 - 59: Elevations of Farmhouse

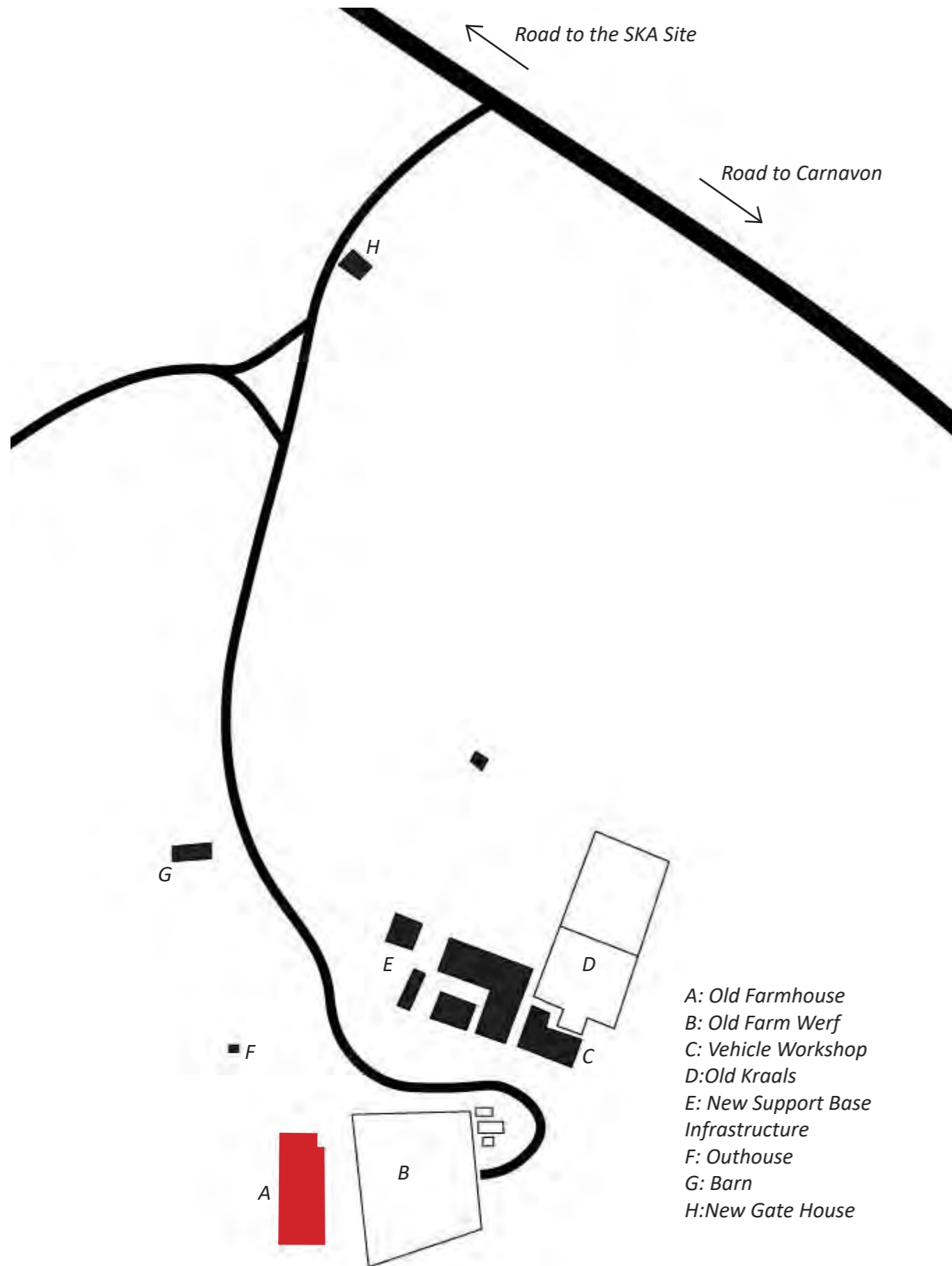


Figure 60: Site Plan of Klerefontein Farm highlighting the Old Farmhouse

OLD FARMHOUSE

Conservation Approach

Approach 2 – full restoration except for the following areas: kitchen and ablution areas.
 For the kitchen and ablutions area Approach 4 –modern adaptation should be used.

General Conservation Management



- Check roof sheeting and waterproofing for general condition and repair where necessary.
- Check all roof flashing and repair with new galvanised flashing where necessary.
- Repaint in roof paint colour to match existing.



- Check gutters and downpipes for general condition and repair/replace where necessary.
- New gutters to be half round galvanised as per the original, not the square profile section that has been used for a portion of the roof.
- New downpipes to be round galvanised as per the original. New downpipes to be installed in the same position as originals



- Assess and monitor the structural condition of the building (no visual signs of structural decay outwardly noticeable)
- Roof to be structurally assessed and repaired in situ where necessary.



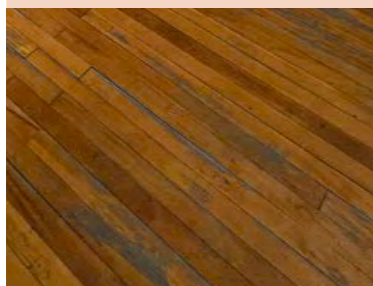
- A heritage plaque/signage/display should be installed explaining the history and significance of the building.



- Paint and repair external doors and windows.
- Ensure that they are fully operational, reusing original ironmongery.
- Loose paint to be removed, timber window frames to be sanded, primed and repainted in enamel paint (colour to be white or combination of green and white – refer to historic images).
- Broken glass to be replaced to match existing.
- All repairs to match existing profiles and materials.

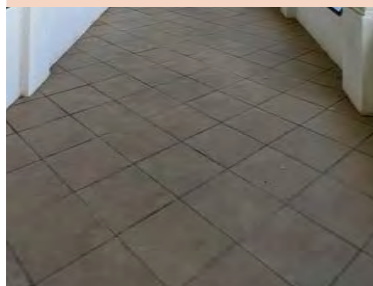


- Check existing external plasterwork for damage.
- Repair damaged/loose plaster with new lime plaster to match existing
- Paint in colour to match existing. Internal paint colour can vary but should be in the cream/white colour range
- Note: only lime wash or standard PVA paint to be used. No water proof wall paints to be used.



Timber Floors

- Existing floor finishes are to be retained.
- Floor structure is to be assessed and damaged members replaced with new to match the existing where necessary
- Floor boards to be assessed and replaced with new to match the existing where necessary.
- Floors boards to be sanded and sealed.
- Timber to be lightly, possibly hand, sanded and resealed with a suitable clear sealant. A sample area needs to be done form approval.



Painted Concrete Floors

- To be repaired where necessary before repainting with a stoep paint, colour to match the existing.

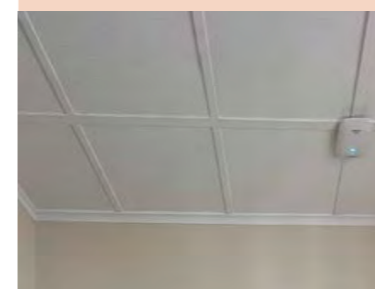
Tiled Floors

- Tiled floors to be maintained and re-grouted where necessary.
- Tiles to the front stoep can only be replaced with a terracotta tile if needed.
- Other tiled areas can be replaced with any tile should this be necessary



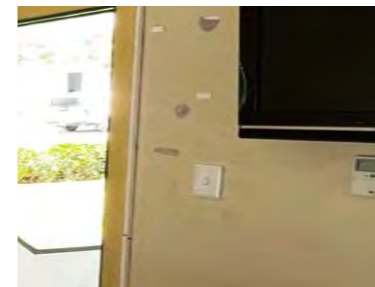
Internal Walls

- Existing plastered walls to be patched and repaired before repainting.
- Painting to be as per the described painting methodology.
- Existing picture and skirtings to be repaired or replaced where missing.



Ceilings

- Plaster board ceilings to be repaired where necessary to match the existing and repainted.
- Cornices to be repaired where necessary and replaced where necessary.
- Ceilings to be painted as per the existing.



Electrical installation

- Existing conduits to be used where possible.
- Concealed new conduits, as per the described reticulation methodology, to be installed where necessary.
- Existing ceiling light points to be reused with new light fittings.
- New power points and switches to be chosen to be as unobtrusive as necessary, possibly installed in the floor to prevent unnecessary chasing into the walls.



- Functional spaces (bathrooms, kitchens etc) can be sensitively adapted as required.

Maintenance

Fire Breaks and Clearing

- Firebreaks and the clearing of grass etc. should be done bi-annually.
- The creating of firebreaks through burning is discouraged as it poses too great a risk to the adjacent buildings.

Documentation & Inspections

- The building should be photographically documented annually and checked for changes in relation to the previous year's photographs
- The building should be inspected biannually and after rain storms, fire and high winds.
- The individual in charge of inspections must be familiar with the site and have access to the photographs taken regularly of the site as part of the inspections, have access to the CMP report and, where possible have experience in building maintenance and repair.
- The intention is that this person will raise the alarm should there be change or deterioration in the building.

Painting	<ul style="list-style-type: none"> Painted portions of the building are to be assessed for repainting every 5 to 10 years after initial repainting. Only breathable paints are to be used, no waterproofing paints such as Micatex or similar are to be used.
Electrical	<ul style="list-style-type: none"> Electrical services to be regularly checked and maintained for safety and compliance by a registered electrician.
External Doors and Windows	<ul style="list-style-type: none"> Annually check for maintenance and repairs. Window mechanisms are to be serviced (especially sash windows), broken putty and beading repaired/replaced and frames repainted where necessary.
Roofs, gutters and downpipes	<ul style="list-style-type: none"> Roof sheeting to be checked annually for maintenance and repairs. Gutters and downpipes to be checked annually for maintenance and repairs. Gutters to be checked quarterly monthly (or as required) for leaves and blockages.
Landscaping	<ul style="list-style-type: none"> Existing landscaping to be retained and maintained. This includes: <ul style="list-style-type: none"> Grassed area in front of the house Trees immediately surrounding the house Trees framing the former werf (now parking area) in front of the house. The parking area (former werf) in front of the house should remain open and temporary container offices removed in the long term. Missing trees in this area should be replaced. Wear and tear and damage from cars and grading of road surfaces should be assessed and addressed where necessary. This is especially evident at the wall to the garden area where the ground level has been raised by grading (this should be lowered) and around the original gate posts.

KRAAL



Figure 61: Kraal

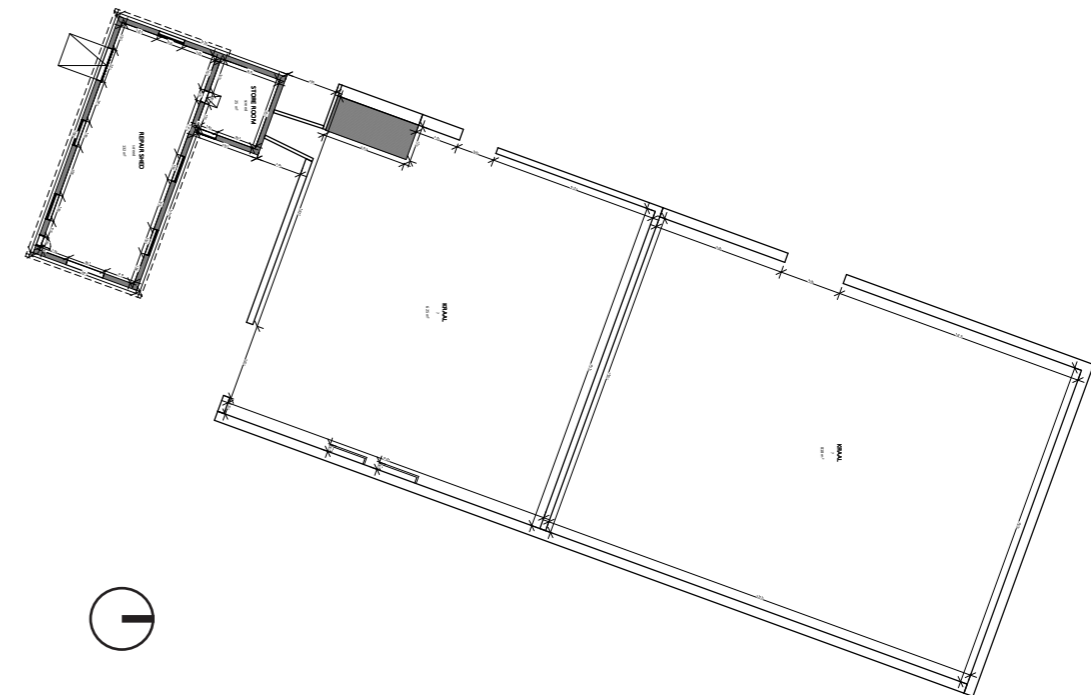


Figure 62: Plan of Kraal

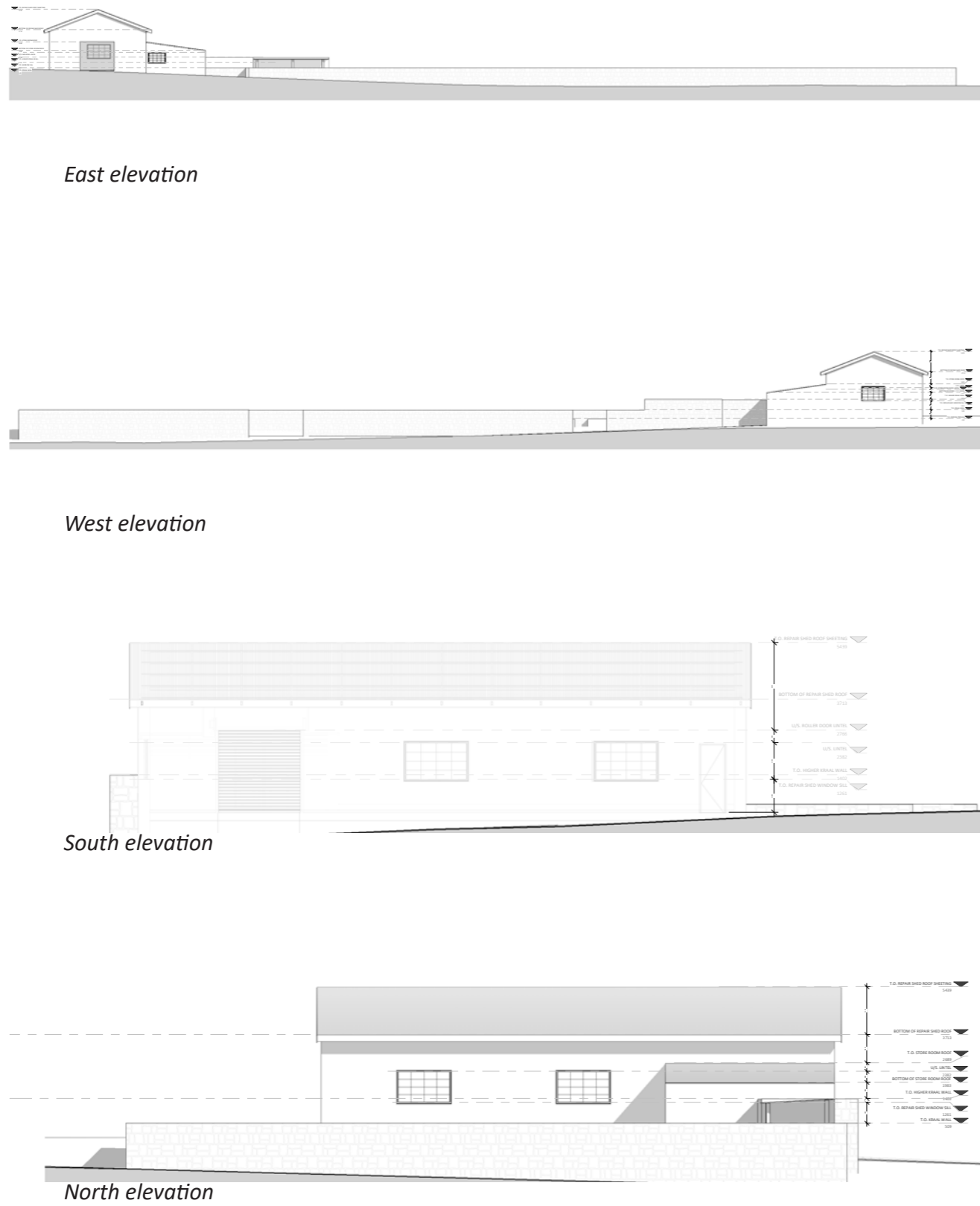


Figure 63-66: Elevations of Kraal

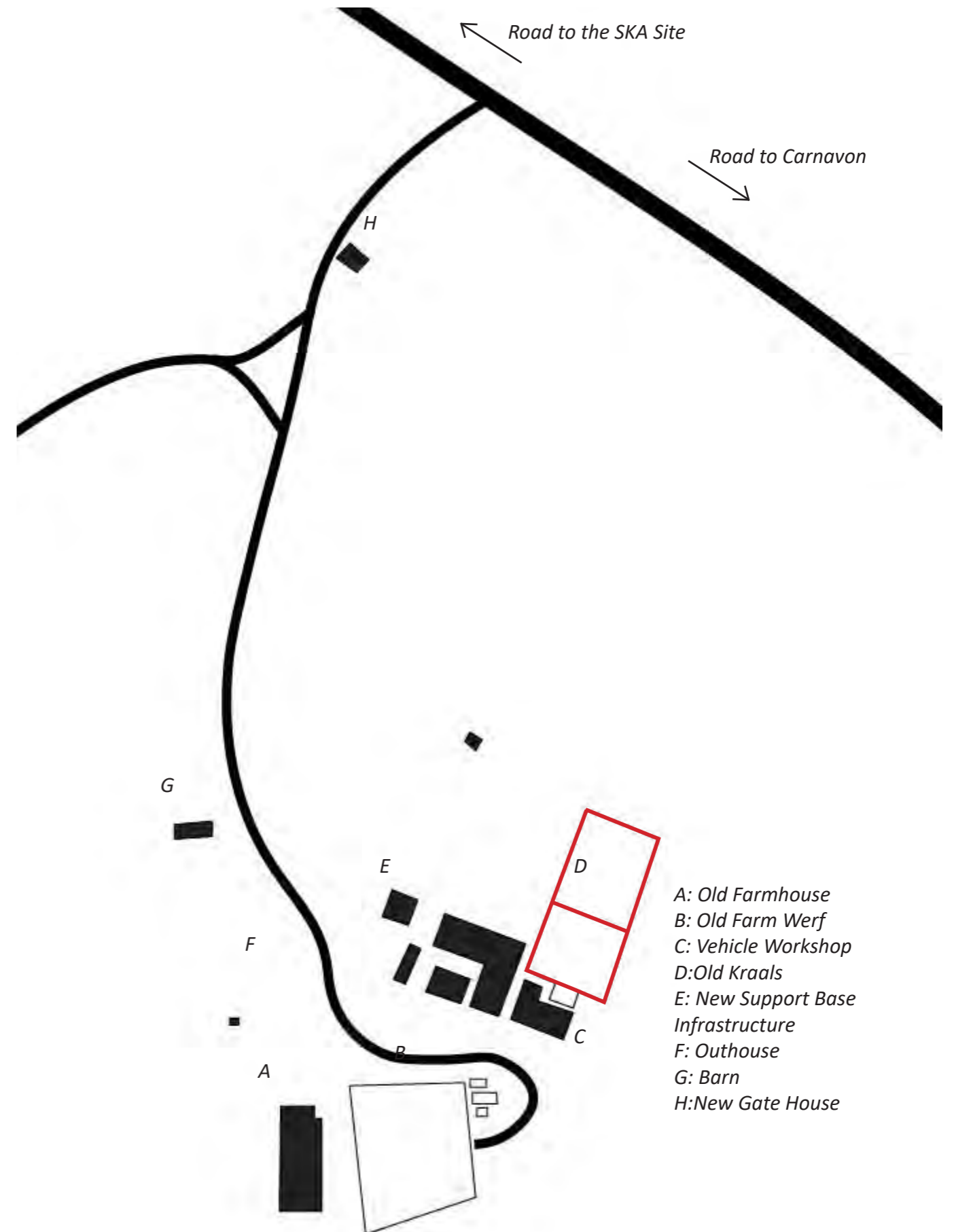


Figure 67: Site Plan of Klerefontein Farm highlighting the Kraal

KRAAL

Conservation Approach Approach 1 – Building as Document

URGENT ACTION (to be addressed immediately)



- Remove any plant growth from the stone retaining walls



- Assess the items in storage in the kraal and relocate those that are/ may damage the stone retaining walls



- Assess the external ground levels around the kraal walls. Where recent building/grading work has raised these levels by more than 100 – 200mm the level should be lowered and returned to the original to prevent future structural issues. This is particularly noticeable on the west of the kraals adjacent to the new KSB building



- Areas with damaged, crumbling or bulging stone retaining walls to be immediately propped and repaired to match the existing using the original stonework.

General Conservation Management

- Check roof sheeting and waterproofing for general condition and repair where necessary.

- Assess and monitor the structural condition of the kraal (no visual signs of structural decay outwardly noticeable)

Maintenance

Fire Breaks and Clearing

- Firebreaks and the clearing of grass etc. should be done bi-annually.
- Internal area of the kraal to be cleared
- The creating of firebreaks through burning is discouraged as it poses to great a risk to the adjacent buildings.

Documentation and Inspections

- The building should be photographically documented annually and checked for changes in relation to the previous year's photographs
- The building should be inspected biannually and after rain storms, fire and high winds.

Roofs

- Roof sheeting to be checked annually for maintenance and repairs.

WORKSHOP



Figure 68: Klerefontein Workshop

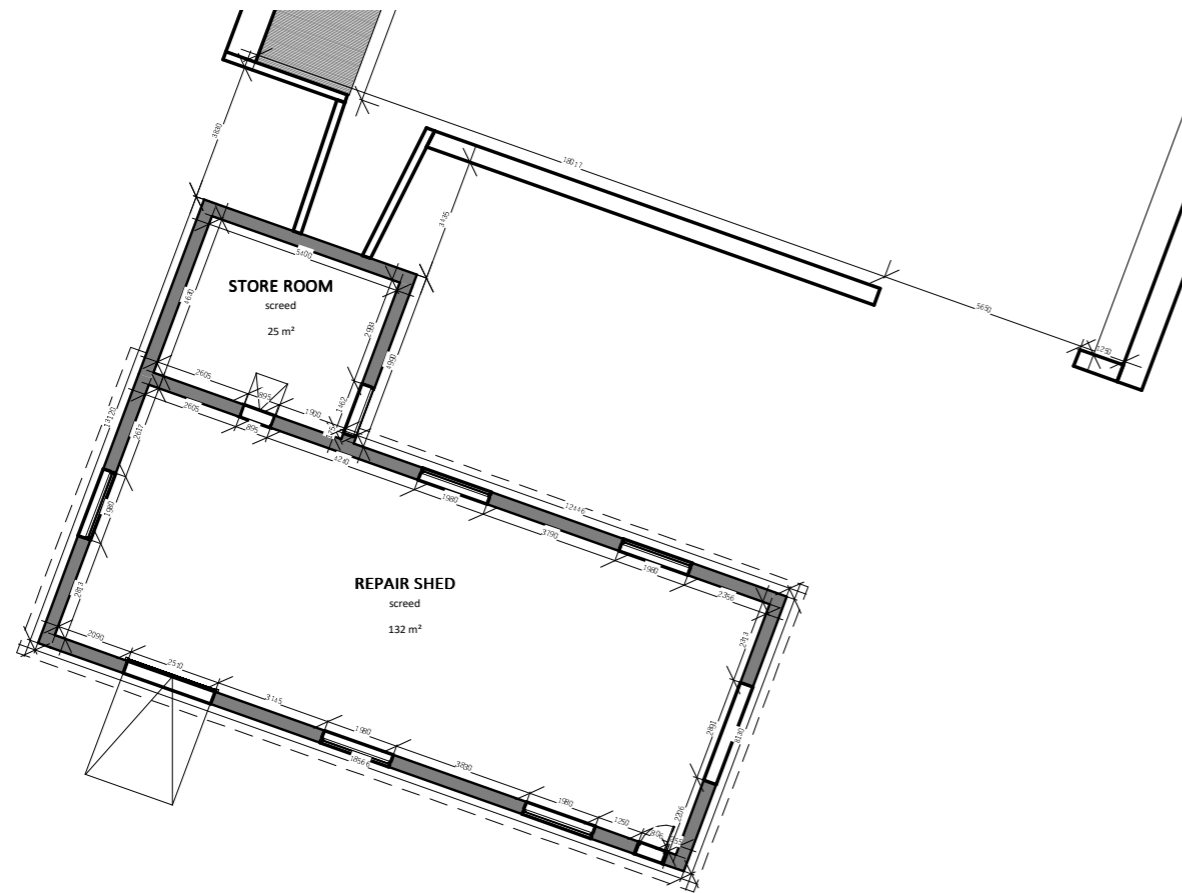
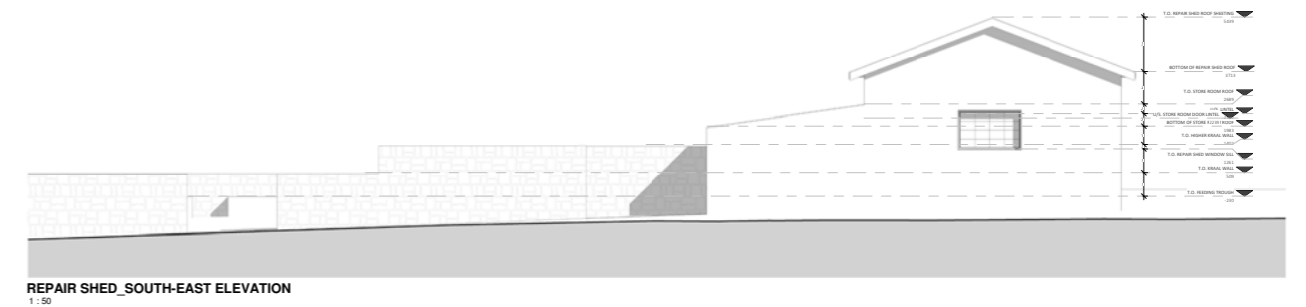
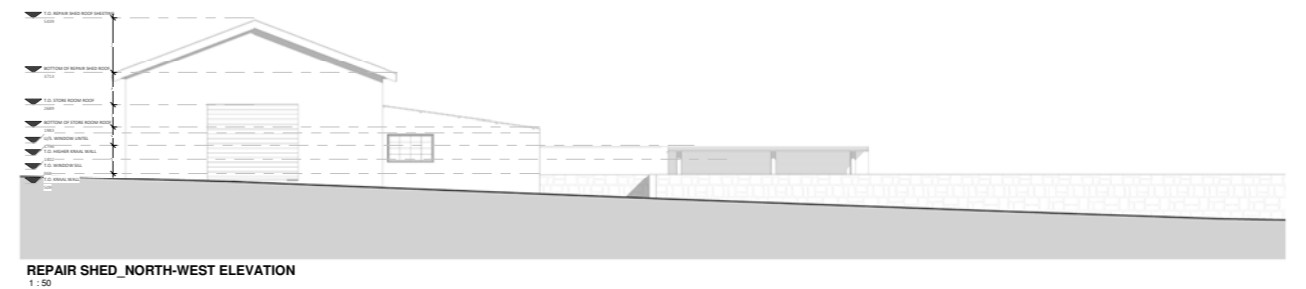
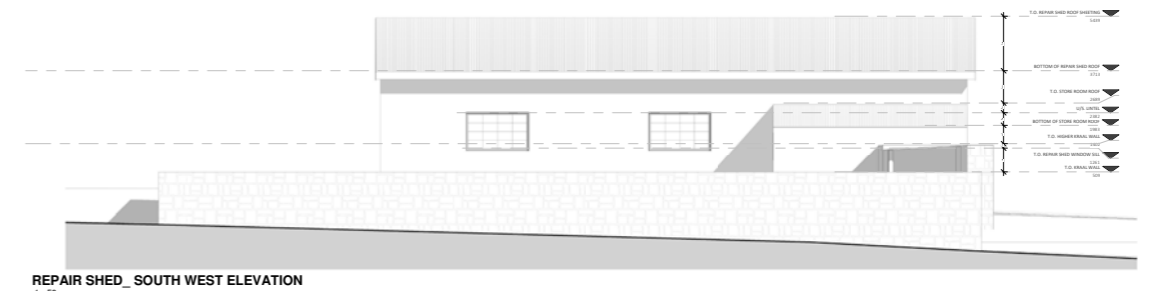
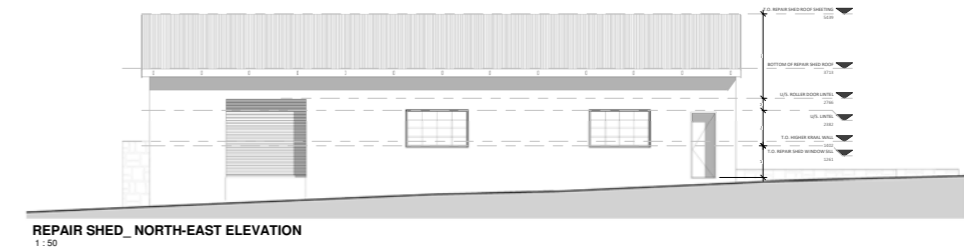


Figure 69: Plan of Workshop

Figure 70-73: Elevations of Workshop

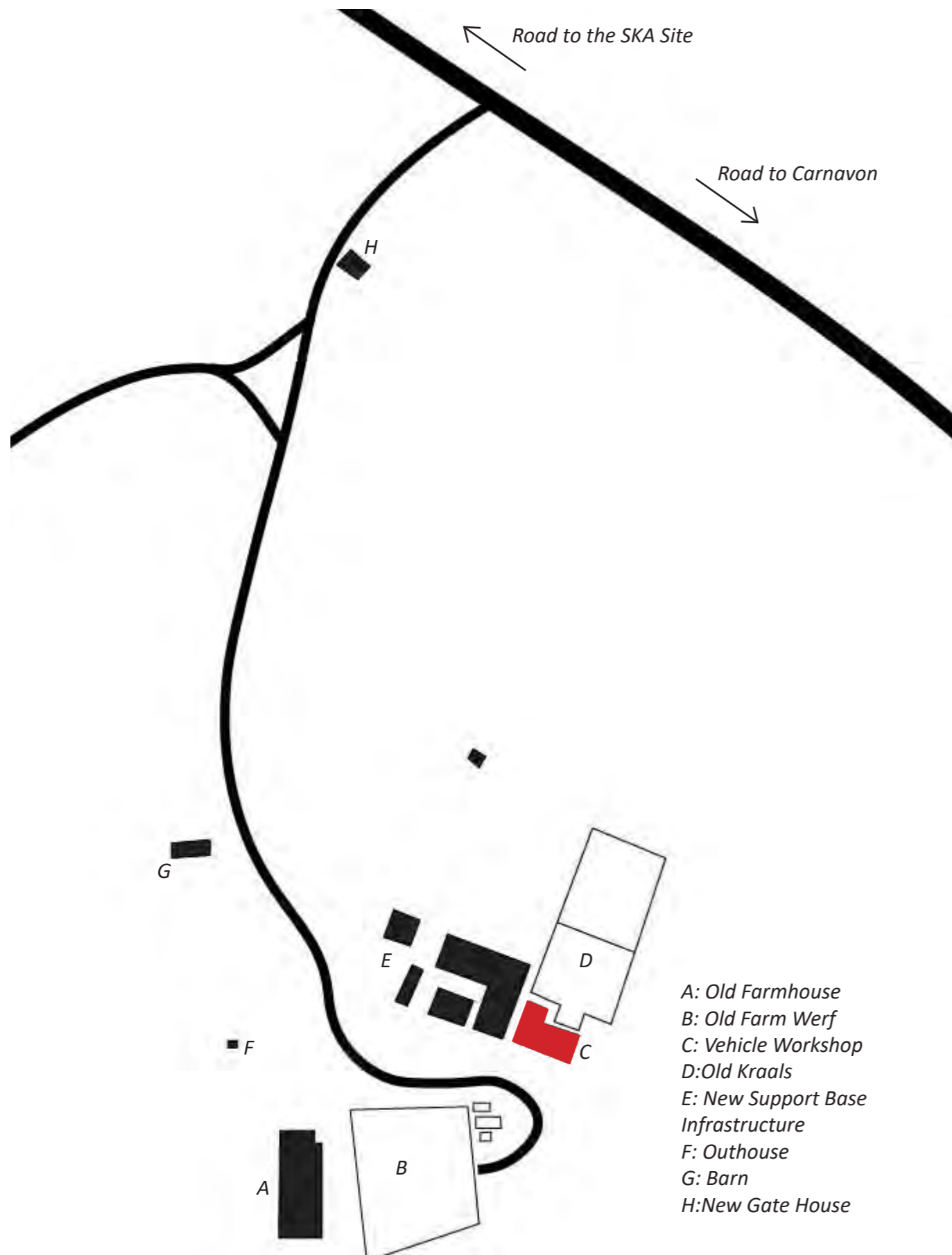


Figure 74: Site Plan of Klerefontein Farm highlighting the Workshop

WORKSHOP

Conservation Approach Externally - Approach 3 – Conceptual restoration
 Internally - Approach 4 – modern adaptation

General Conservation Management



- Check roof sheeting and waterproofing for general condition and repair where necessary.
- Check all roof flashing and repair with new galvanised flashing where necessary.
- Repaint in roof paint colour to match existing.



- Check gutters and downpipes for general condition and repair/replace where necessary.
- New gutters to be half round galvanised as per the original, not the square profile section that has been used for a portion of the roof.
- New downpipes to be round galvanised as per the original. New downpipes to be installed in the same position as originals



- Assess and monitor the structural condition of the building (no visual signs of structural decay outwardly noticeable)
- Roof to be structurally assessed and repaired in situ where necessary.



- Paint and repair external doors and windows.
- Ensure that they are fully operational.

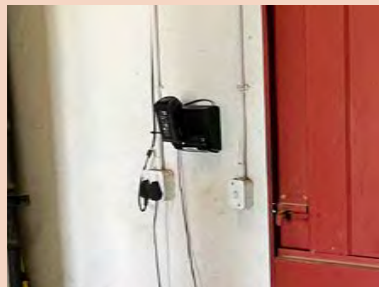


- Check existing external plasterwork for damage.
- Repair damaged/loose plaster
- Paint in colour to match existing. Internal paint colour can vary



Internal Walls

- Existing plastered walls to be patched and repaired before repainting.
- Painting to be as per the described painting methodology.



Electrical installation

- Existing electrical installation to be maintained and reused/adapted where necessary.

Maintenance

Fire Breaks and Clearing

- Firebreaks and the clearing of grass etc. should be done bi-annually.
- The creating of firebreaks through burning is discouraged as it poses too great a risk to the adjacent buildings.

Documentation and Inspections

- The building should be photographically documented annually and checked for changes in relation to the previous year's photographs
- The building should be inspected biannually and after rain storms, fire and high winds.

Painting

- Painted portions of the building are to be assessed for repainting every 5 to 10 years after initial repainting.
- Only breathable paints are to be used, no waterproofing paints such as Micatex or similar are to be used.

Electrical

- Electrical services to be regularly checked and maintained for safety and compliance by a registered electrician.

Roofs, gutters and downpipes

- Roof sheeting to be checked annually for maintenance and repairs.
- Gutters and downpipes to be checked annually for maintenance, repairs and clearing.

OUTHOUSE



Figure 75: Front elevation of Outhouse

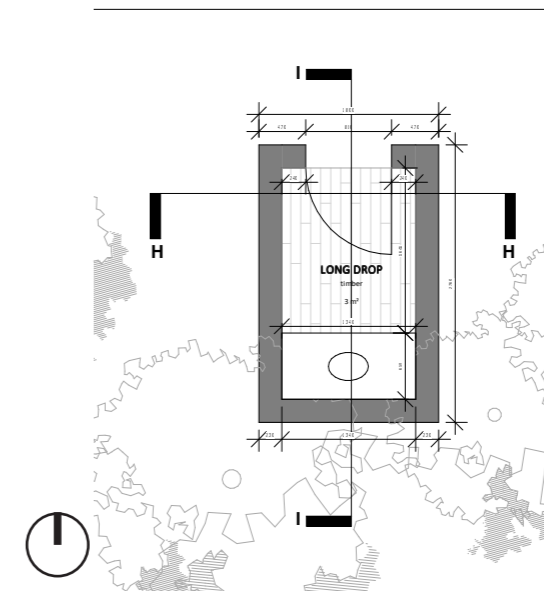


Figure 76: Plan of Outhouse

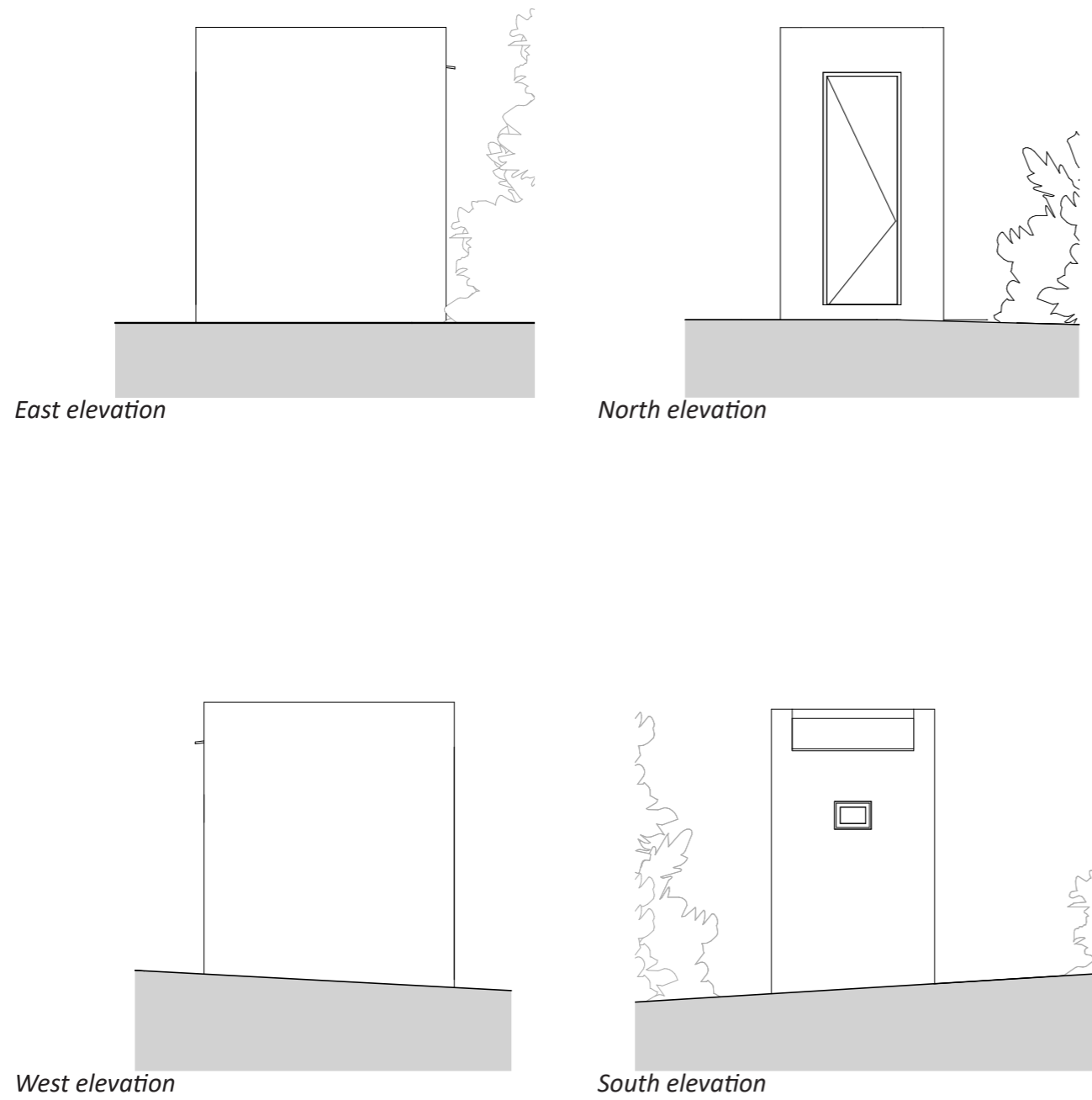


Figure 77-80: Elevations of Outhouse

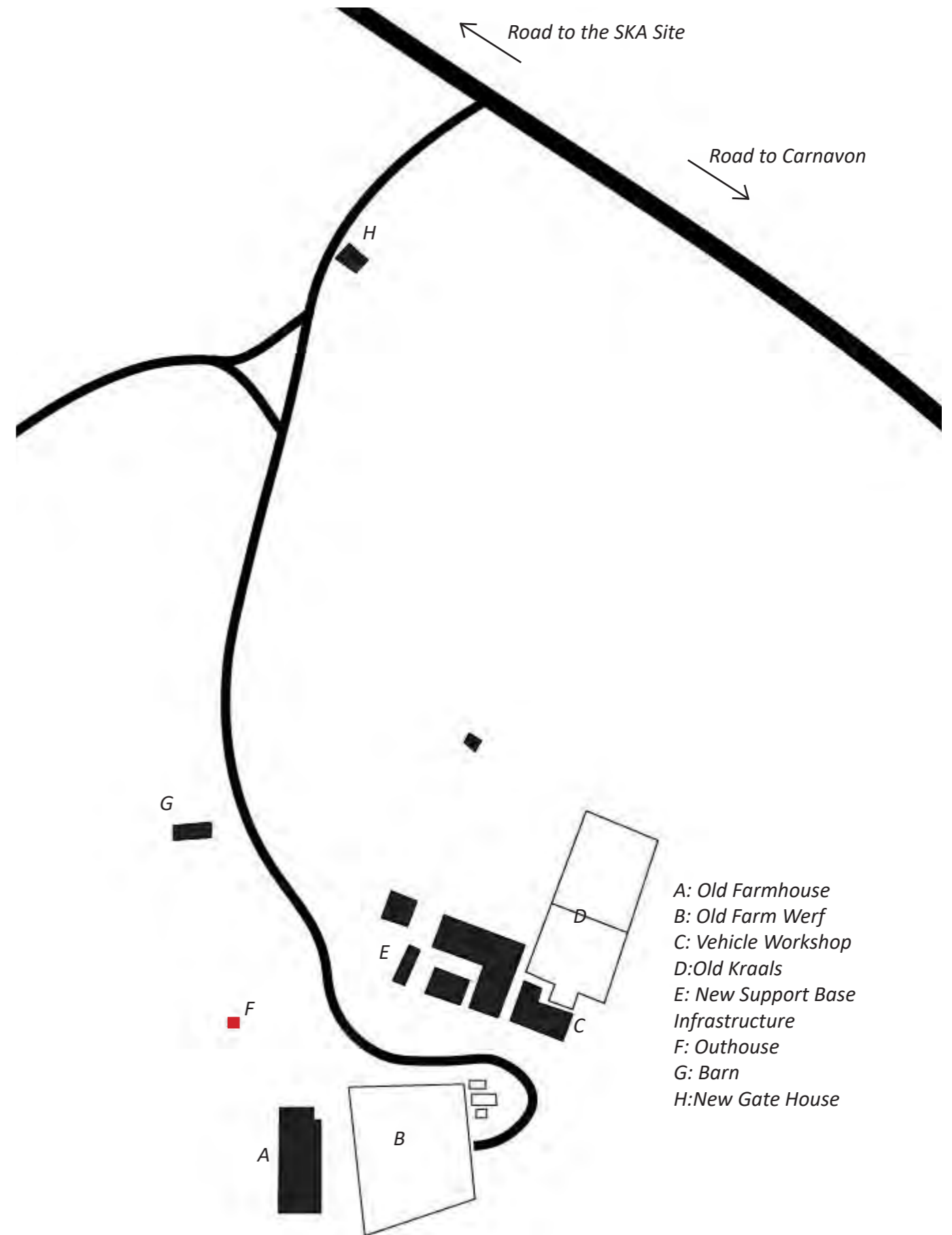


Figure 81: Site Plan of Klerefontein Farm highlighting the Outhouse

OUTHOUSE

Conservation Approach Approach 1 – Building as document

General Conservation Management



- Check roof sheeting and waterproofing for general condition and repair where necessary.



- Assess and monitor the structural condition of the building (no visual signs of structural decay outwardly noticeable)
- Minimal repairs to ensure structural soundness to occur where necessary.



- Repair external doors and windows.
- Ensure that they are fully operational.

Maintenance

Fire Breaks and Clearing

- Firebreaks and the clearing of grass etc. should be done bi-annually.
- The creating of firebreaks through burning is discouraged as it poses too great a risk to the adjacent buildings.

Documentation & Inspections

- The building should be photographically documented annually and checked for changes in relation to the previous year's photographs
- The building should be inspected biannually and after rain storms, fire and high winds.
- The individual in charge of inspections must be familiar with the site and have access to the photographs taken regularly of the site as part of the inspections, have access to the CMP report and, where possible have experience in building maintenance and repair.
- The intention is that this person will raise the alarm should there be change or deterioration in the building.

External Doors and Windows

- Annually check all timber doors for maintenance and repairs.

Roofs, gutters and downpipes

- Roof sheeting to be checked annually for maintenance and repairs.

BARN



Figure 82: Barn

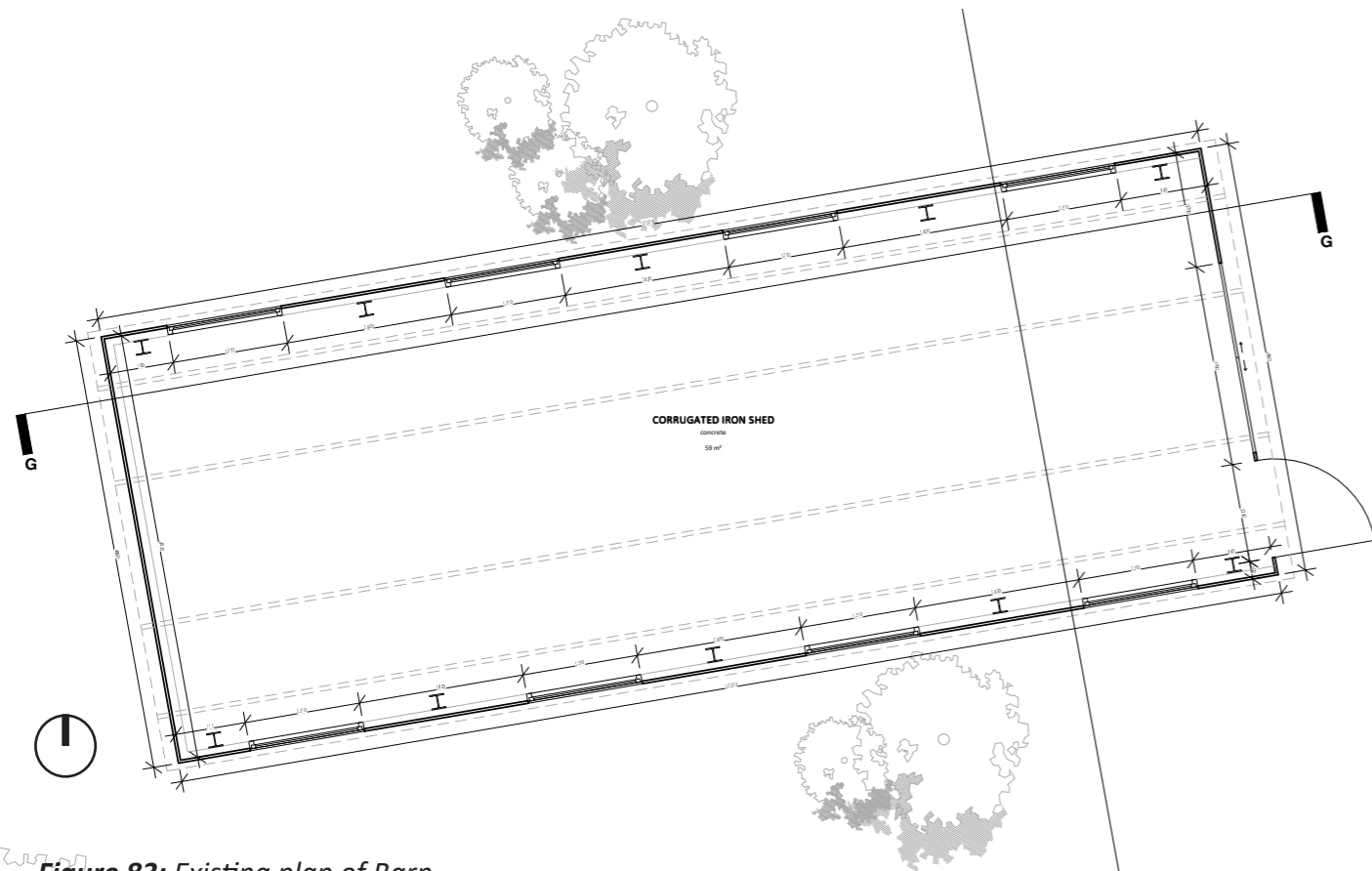


Figure 83: Existing plan of Barn

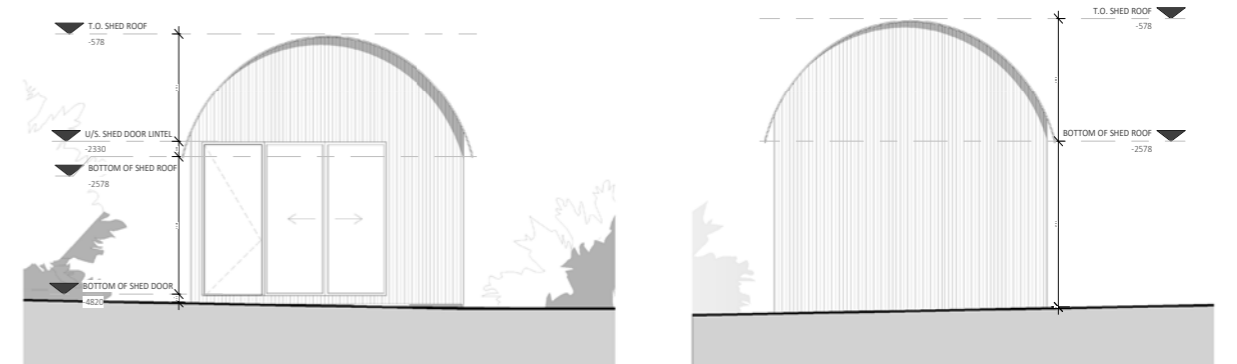


Figure 84-87: Elevations of Barn

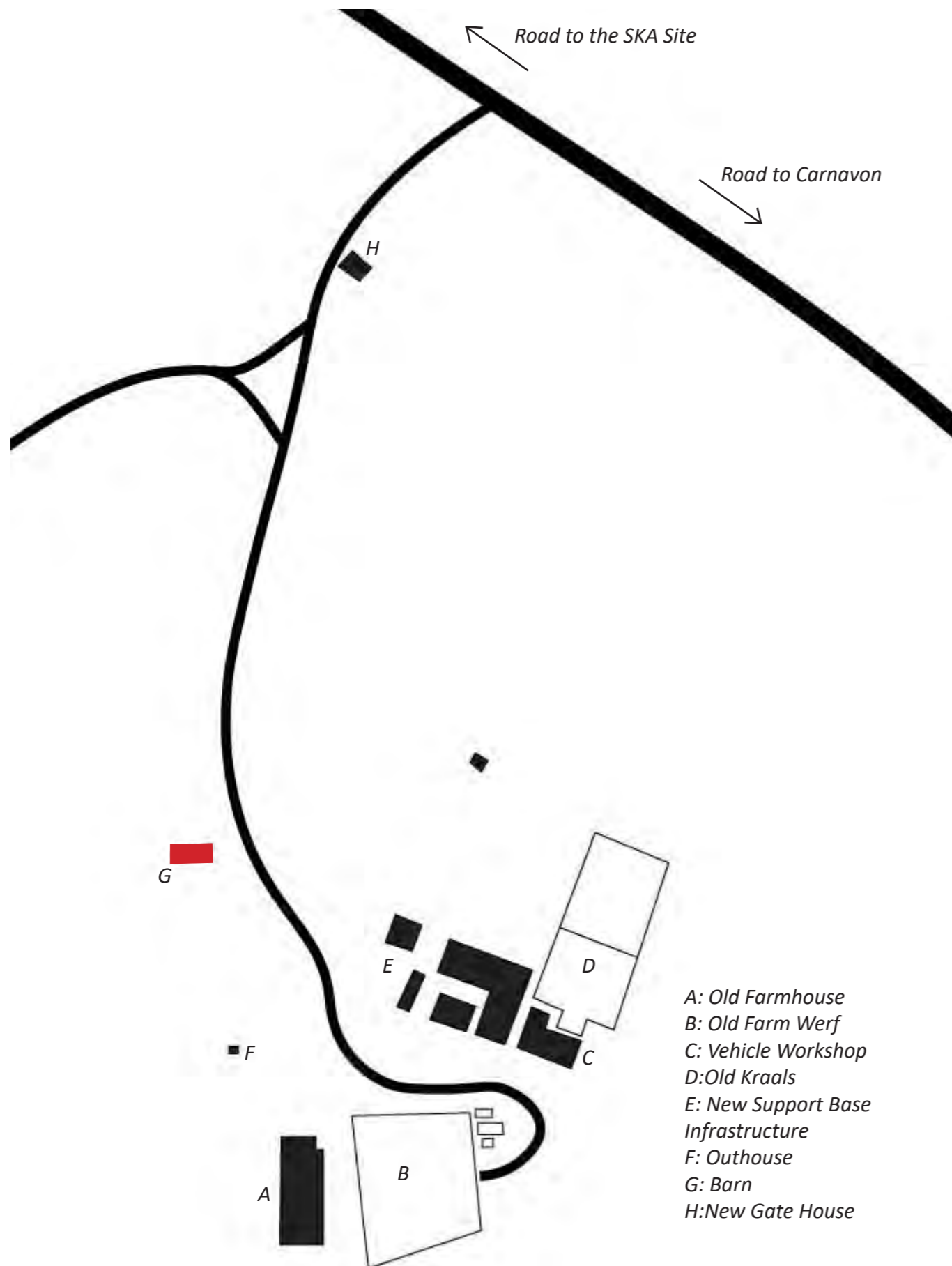
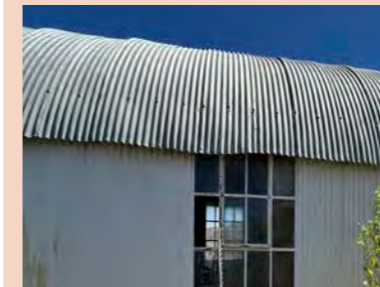


Figure 88: Site Plan of Klerefontein Farm highlighting the Barn

BARN

Conservation Approach Approach 1 – Building as document

General Conservation Management



- Check roof sheeting and waterproofing for general condition and repair where necessary.



- Assess and monitor the structural condition of the building (no visual signs of structural decay outwardly noticeable)
- Minimal repairs to ensure structural soundness to occur where necessary.



- Repair external doors and windows.
- Ensure that they are fully operational.

Maintenance

Fire Breaks and Clearing

- Firebreaks and the clearing of grass etc. should be done bi-annually.
- The creating of firebreaks through burning is discouraged as it poses too great a risk to the adjacent buildings.

Documentation & Inspection

- The building should be photographically documented annually and checked for changes in relation to the previous year's photographs
- The building should be inspected biannually and after rain storms, fire and high winds.
- The individual in charge of inspections must be familiar with the site and have access to the photographs taken regularly of the site as part of the inspections, have access to the CMP report and, where possible have experience in building maintenance and repair.

External Doors & Windows

- Annually check all timber doors for maintenance and repairs.

Roofs, gutters and downpipes

- Roof sheeting to be checked annually for maintenance and repairs.

5. CONCLUSION AND RECOMMENDATIONS

This report has documented the history of the Klerefontein farm, its site and buildings. From this it is clear that the site is of a cultural and historical significance and should be considered as part of the National Estate. While the buildings have been in use by SARAQ/SKA for a number of years they have been well maintained and sensitively adapted. The buildings historical value and cultural significance will be best preserved through continued and meaningful use. Based on this understanding this report recommends the following:

- The conservation management plan for the Klerefontein site should be approved and immediate action taken to implement the recommendations and repair and maintenance items noted.
- The accompanying Section 38 Application for the expansion and development of the KSB should be approved.
- A detailed maintenance plan should be developed taking into account the recommendations of this report including regular monitoring of the site.
- The Klerefontein farmstead as whole should be declared as a Grade 3B local heritage site, included in the local heritage register for the area and afforded all of the protections and privileges that this formal protection under the NHRA affords.

The appropriate conservation and management of the site can achieve a balance between the conservation of the identified heritage resources and the important functional and operational requirements of the KSB and the SKA as a whole. The Klerefontein farm and selected buildings cultural and historical significance can be preserved and protected as an important historical layer of the this area of the Karoo..



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Figure 89 (left):
Farmhouse Gables

7. APPENDIX

APPENDIX A: PHOTOGRAPHIC DOCUMENTATION (BUILDINGS)

A FARMHOUSE

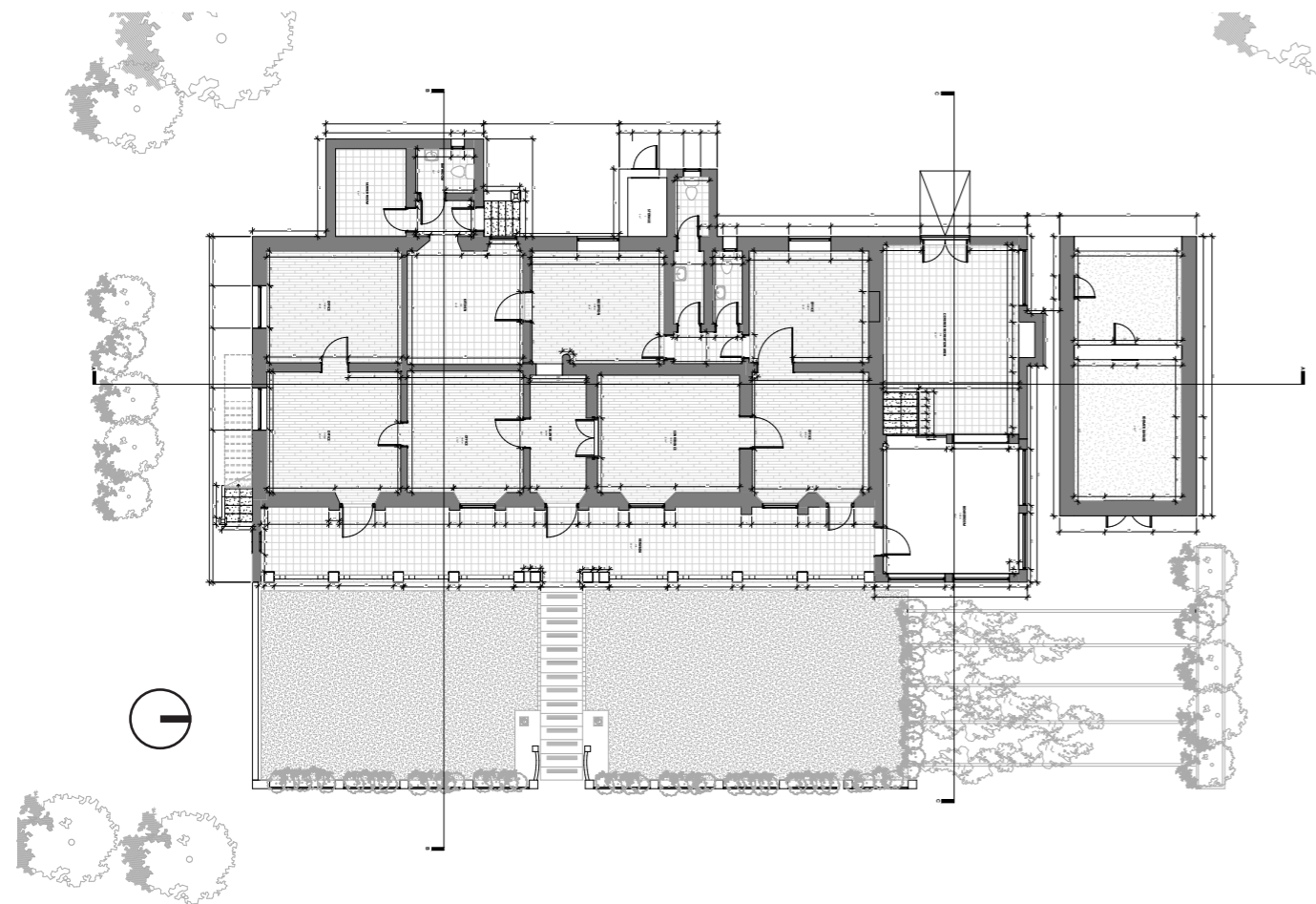


Figure 01: Plan of Farmhouse

A FARMHOUSE

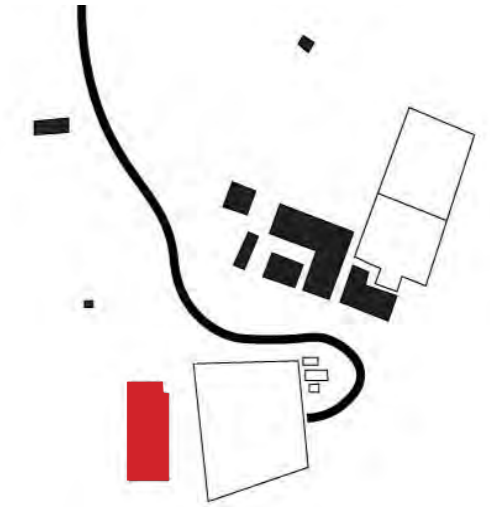


Figure 02: View of Old Farmhouse from Road



Figure 04: Eastern Facade



Figure 03: View of north facade from Road



Figure 05: Path from Farmhouse



Figure 06: Pergola in front of farmhouse



Figure 07: North elevation of garage



Figure 13: Stairs to loft



Figure 14: Stairs to loft

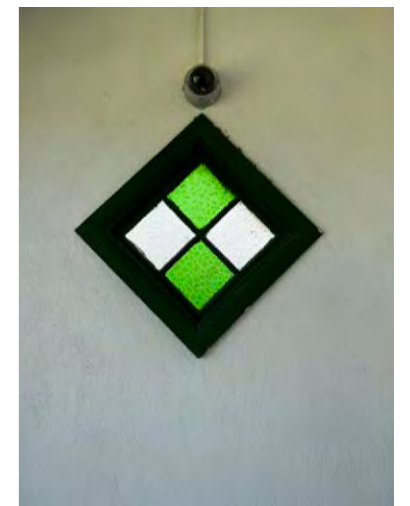


Figure 15: Veranda window



Figure 08: West Facade of garage



Figure 09: West facade of farmhouse



Figure 16: Window shutter detail



Figure 17: Sill detail

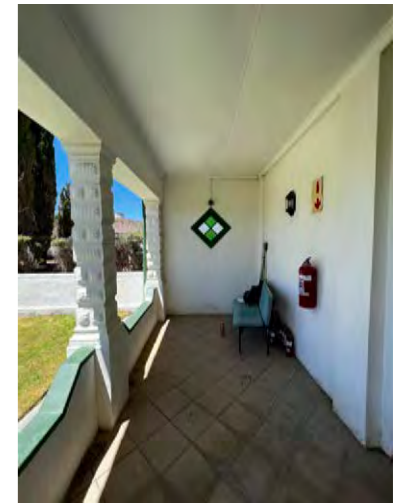


Figure 18: Veranda



Figure 10: Exterior of bathroom and store room



Figure 11: Steps to bathroom and server room



Figure 12: View of farmhouse



Figure 19: Entrance to farmhouse



Figure 20: Front facade



Figure 21: Gable detail



Figure 20: Veranda columns



Figure 22: Window and shutters



Figure 23: Shutters



Figure 30: View of reception from kitchen

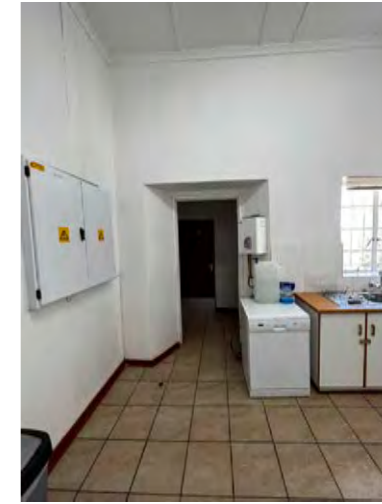


Figure 31: Kitchen



Figure 32: Bathroom



Figure 24: Veranda



Figure 25: Front door exterior

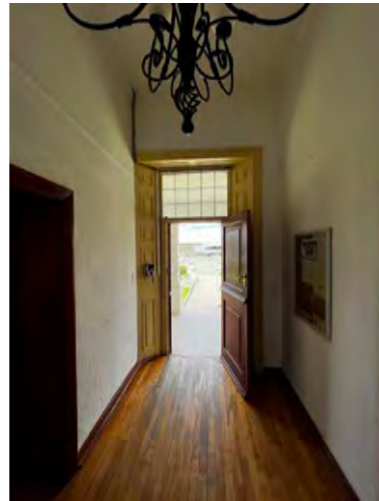


Figure 26: Front door and hallway

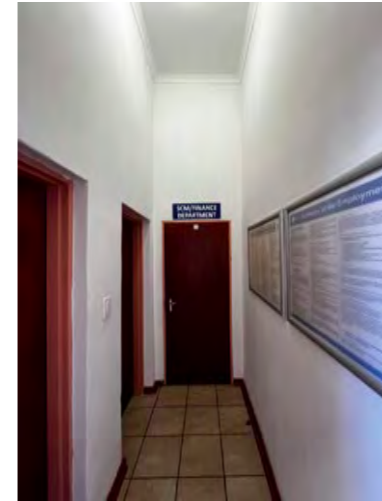


Figure 33: Passage to bathroom



Figure 34: Bathroom

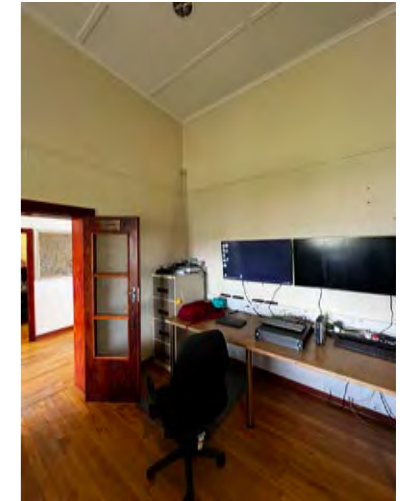


Figure 35: Office 01



Figure 27: View of hallway from reception



Figure 28: Reception



Figure 29: Nib detail



Figure 36: Office 02



Figure 37: Entrance to boardroom

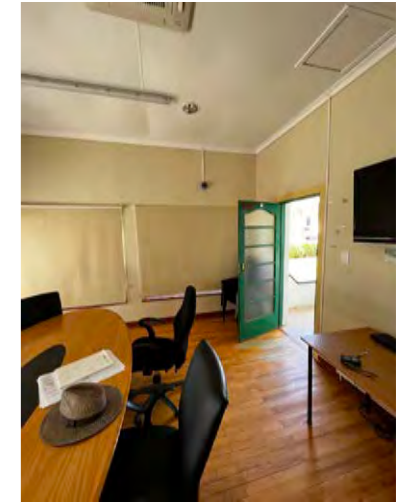


Figure 38: Boardroom



Figure 39: View of recreation area from boardroom



Figure 40: Boardroom



Figure 41: Recreation area

B KRAAL



Figure 42: Recreation area



Figure 43: Loft space

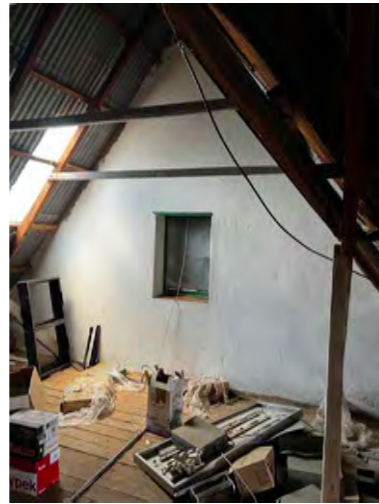


Figure 44: Loft space

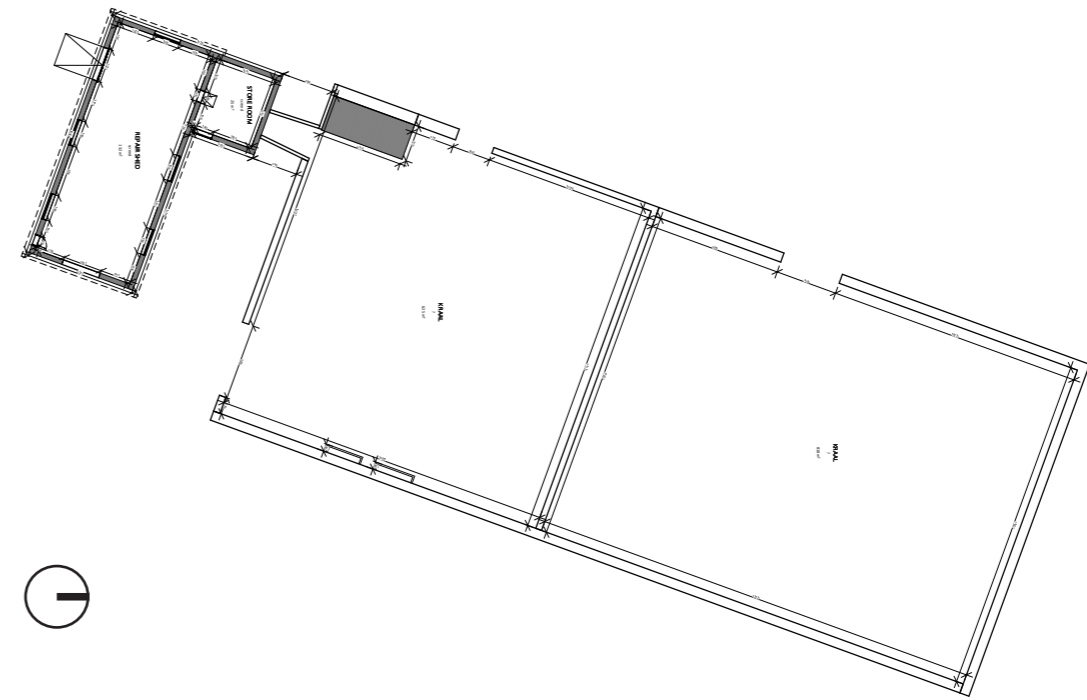


Figure 47: Plan of Kraal



Figure 45: Loft space

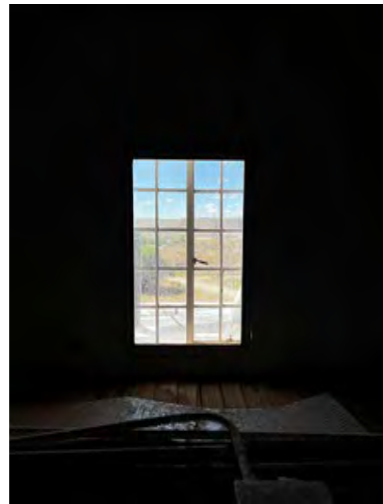


Figure 46: Loft window

B KRAAL

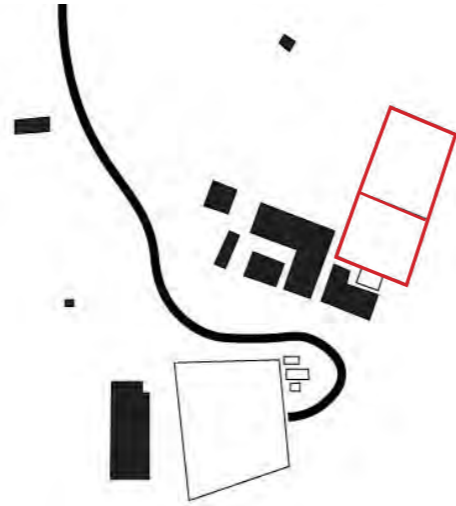


Figure 52: Interior of kraal



Figure 53: Interior of kraal



Figure 48: South elevation



Figure 49: Eastern wall



Figure 54: Southern Wall



Figure 55: Damaged portion of wall



Figure 50: Northern wall



Figure 51: Damaged portion of kraal wall



Figure 56: Roofed area of kraal



Figure 57: Stone wall detail

C WORKSHOP

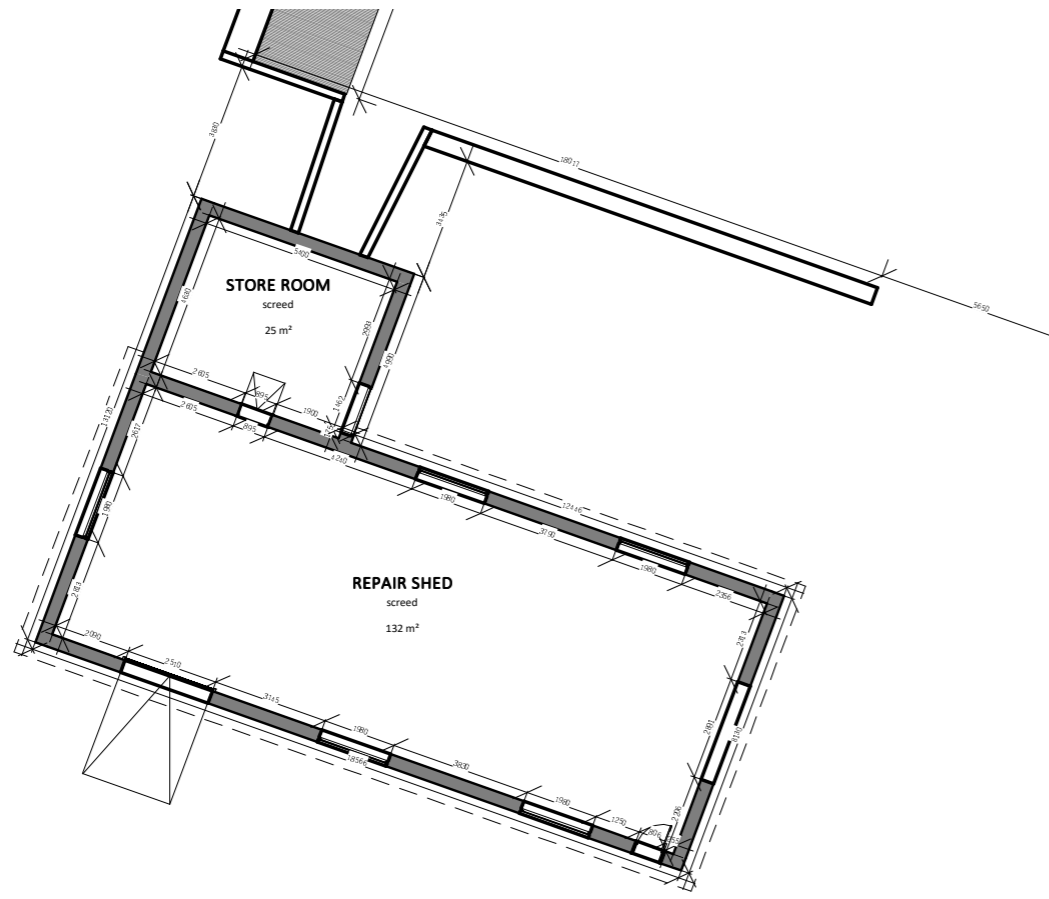


Figure 58: Plan of Workshop

C WORKSHOP

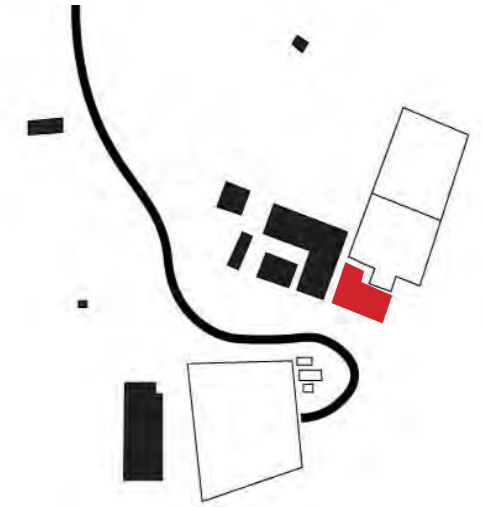


Figure 59: East facade with date



Figure 61: South elevation



Figure 60: View of Workshop



Figure 62: Workshop Vehicular entrance



Figure 63: West elevation



Figure 64: Interior of workshop



Figure 65: Interior of workshop



Figure 66: Storage room



Figure 67: Store



Figure 68: Store

D OUTHOUSE

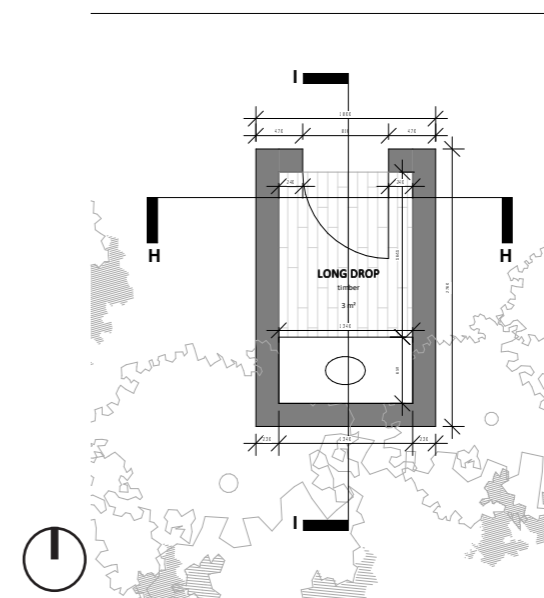


Figure 69: Plan of Outhouse

D OUTHOUSE

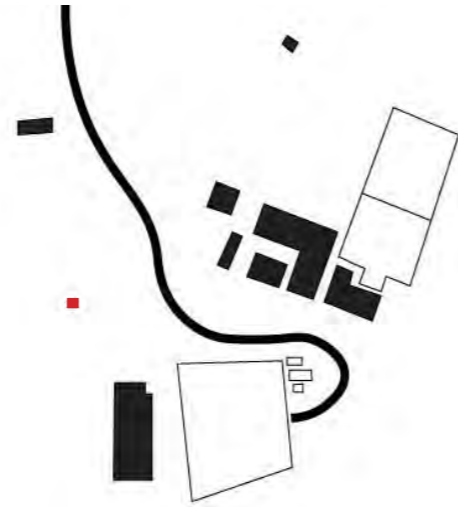


Figure 70: Outhouse north elevation



Figure 71: Entrance



Figure 72: Remainder of long drop toilet

E BARN

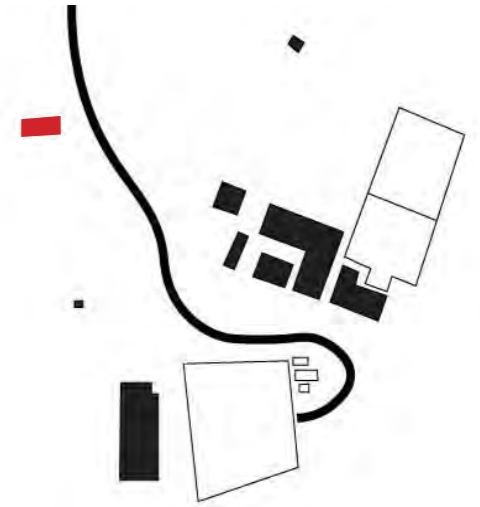


Figure 73: View of Barn



Figure 74: View of Barn



Figure 75: View of Barn



Figure 76: View of Barn



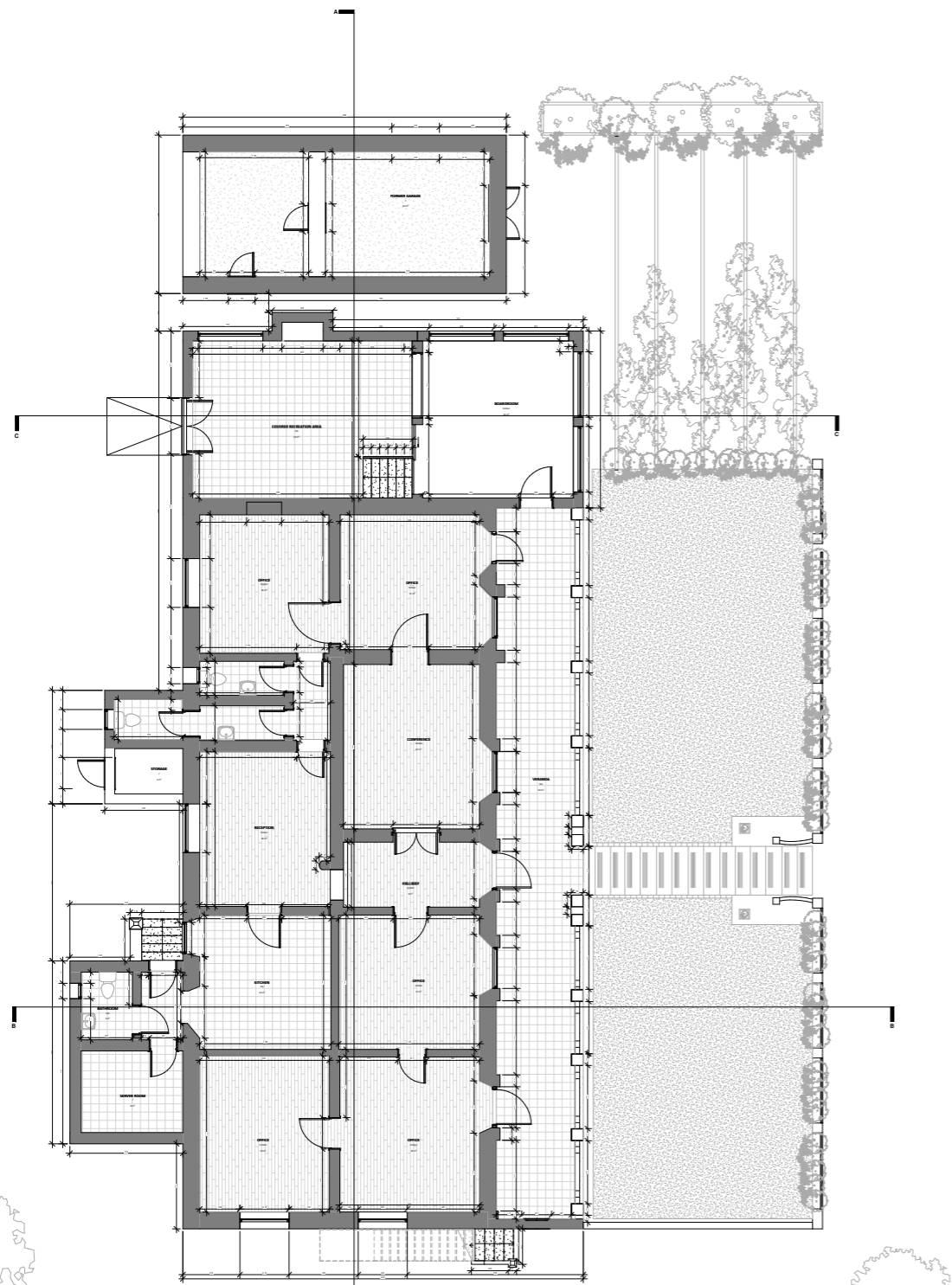
Figure 77: Interior of barn



Figure 78: Corrugated Iron Detail



Figure 79: Barn and Ground Connection



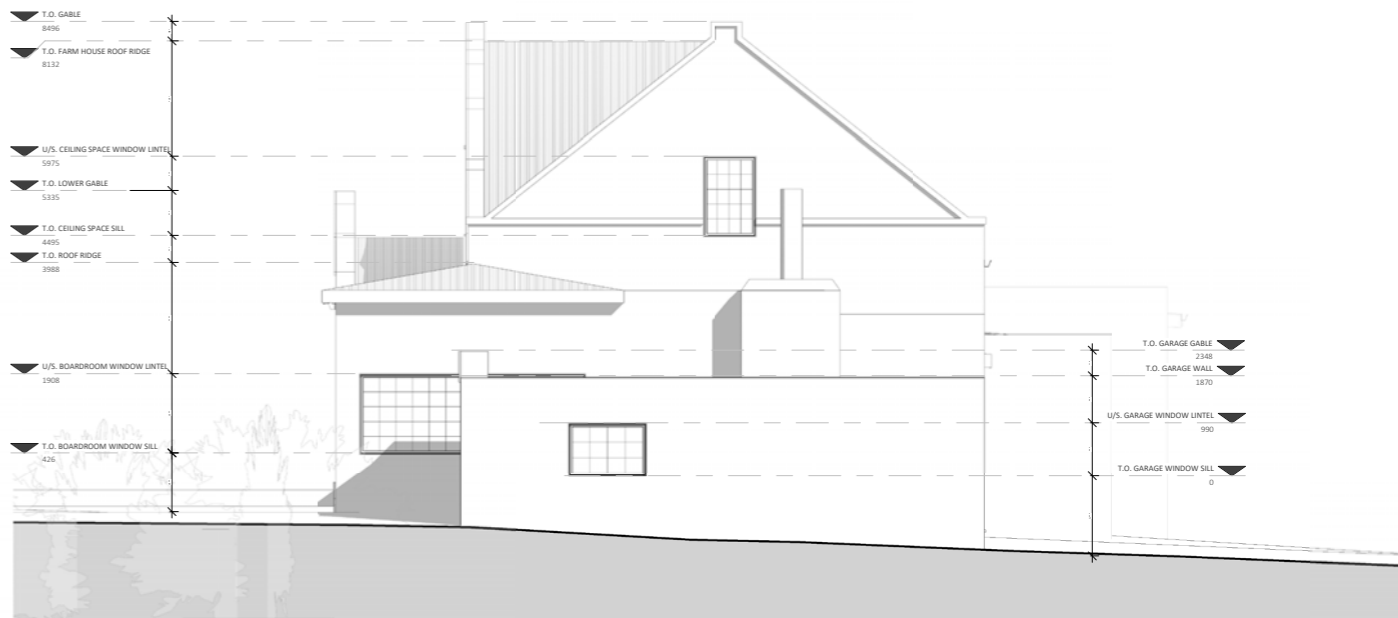
NOTES:
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Revision	Date	Description

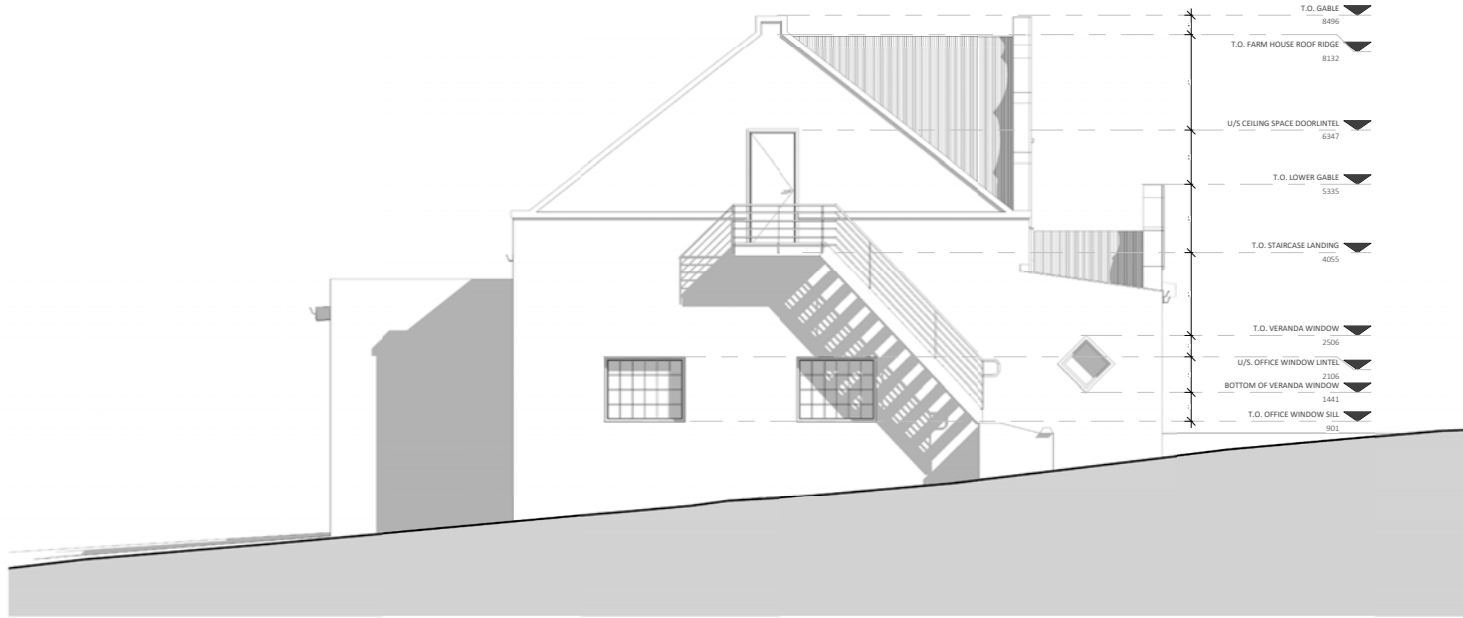
Project: SKA Klerfontein
 Drawing Title: FARM HOUSE_GROUND FLOOR PLAN
 Drawing No: 2301 W001
 Revision: A

MAYAT HART ARCHITECTS

01 FARM HOUSE_GROUND FLOOR PLAN
 1 : 50



FARM HOUSE_NORTH ELEVATION
 1 : 50



FARM HOUSE_SOUTH ELEVATION
 1 : 50

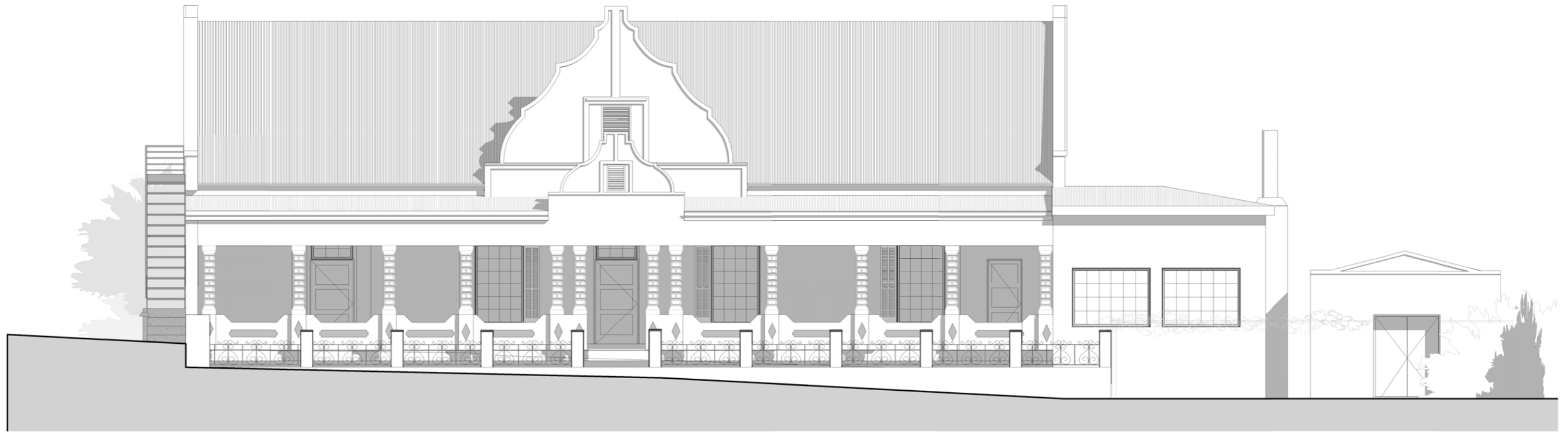
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Revision	Date	Description

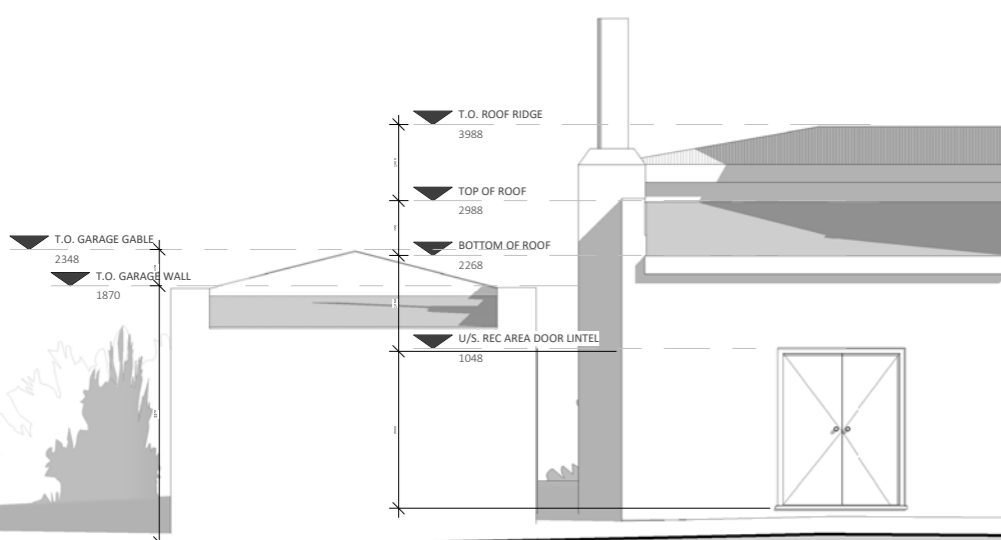
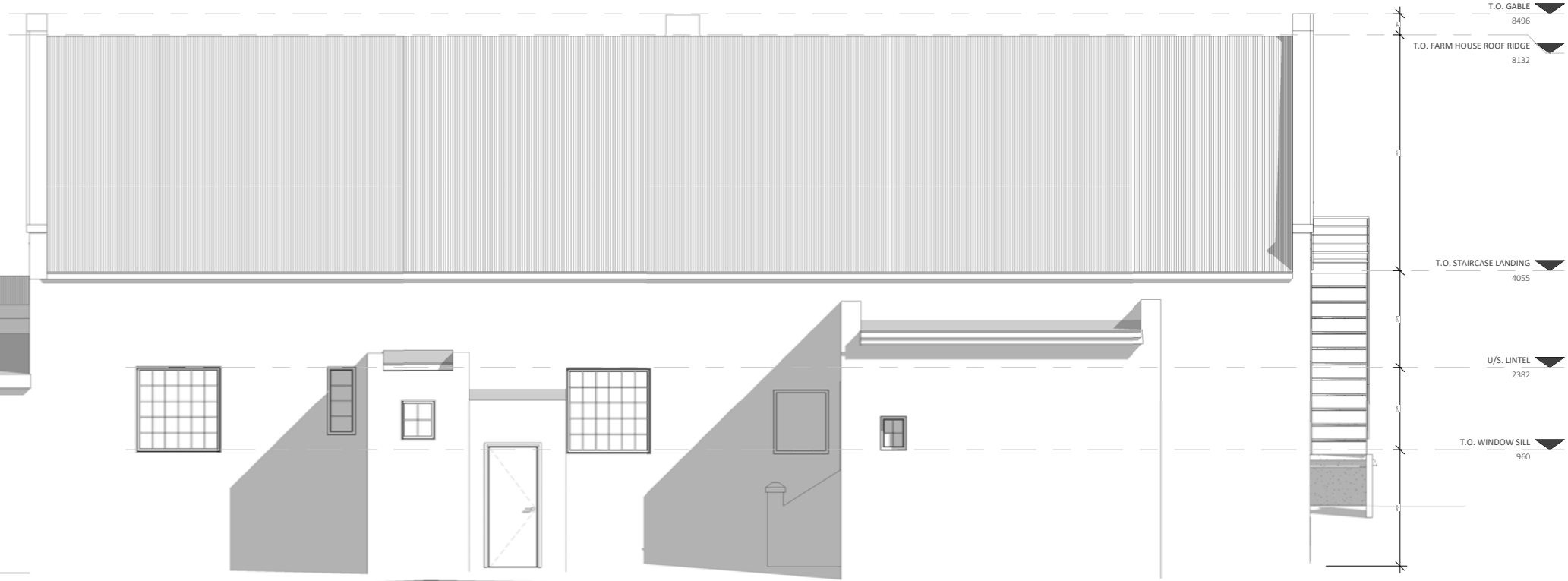
Project: SKA Klerfontein
 Drawing Title: FARM HOUSE_NORTH AND SOUTH ELEVATIONS
 Drawing No: 2301 W002
 Revision: A

MAYAT HART ARCHITECTS

01 FARM HOUSE_NORTH AND SOUTH ELEVATIONS
 1 : 50



FARM HOUSE_ EAST ELEVATION
1 : 50



- T.O. GABLE 8496
- T.O. FARM HOUSE ROOF RIDGE 8132
- T.O. STAIRCASE LANDING 4055
- U/S. LINTEL 2382
- T.O. WINDOW SILL 960
- T.O. ROOF RIDGE 3988
- TOP OF ROOF 2988
- BOTTOM OF ROOF 2268
- U/S. REC AREA DOOR LINTEL 1048
- T.O. GARAGE GABLE 2348
- T.O. GARAGE WALL 1870

FARM HOUSE_ WEST ELEVATION
1 : 50

NOTES:
BASED ON THE NATIONAL BUILDING REGULATIONS AND SABS Code of Practice 0400.
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SOIL POISONING: The ground area prescribed in code of practice SABS 0124 shall be treated in accordance with the recommendations of SABS 0124.
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An approved VERTICAL WATERPROOF MEMBRANE to be fitted where a WALL of a room is in contact with the ground.
Roofs to be ANCHORED to walls in compliance with clause KK13 of The National Building Regulations.
PART L: ROOFS
See sections and roof plans for notes and details.
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PART P: DRAINAGE
SINGLE STACK and 2 PIPE SYSTEMS as shown complying with Part P of the National Regulations and comprising the following:-
100 Ø DISCHARGE STACKS, SOL DISCHARGE PIPES, DRAINS and STACK VENTS of approved material.
50 dia SOL DISCHARGE PIPES to urinals.
40 dia WASTE DISCHARGE PIPES to wash hand basins, showers, baths, sinks discharging to single stacks.
GULLY to comply with P29.

All waste fittings to have RESEALING TRAPS and water seals not less than 65mm.
ACCESS to the drainage installation to be provided by adequately marked and protected and permanently accessible RODDING EYES at all changes of direction, within 1.5m of the drain connection to the sewer, at the highest point of the drain and at 25m intervals along the line of the drain.
INSPECTION EYES at all bends and junctions.
PART R: STORMWATER DISPOSAL
A complete STORMWATER CONTROL and DISPOSAL SYSTEM based on a rational design will be reticulated on site.
PART T: FIRE PROTECTION
FIRE PROTECTION PLANS shall be prepared if required.
PART U: REFUSE DISPOSAL
Storage area for REFUSE CONTAINERS is provided in accordance with the requirements of the Local Authority.
PART W: FIRE INSTALLATION
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Revision	Date	Description

Project: **SKA Klerefontein**

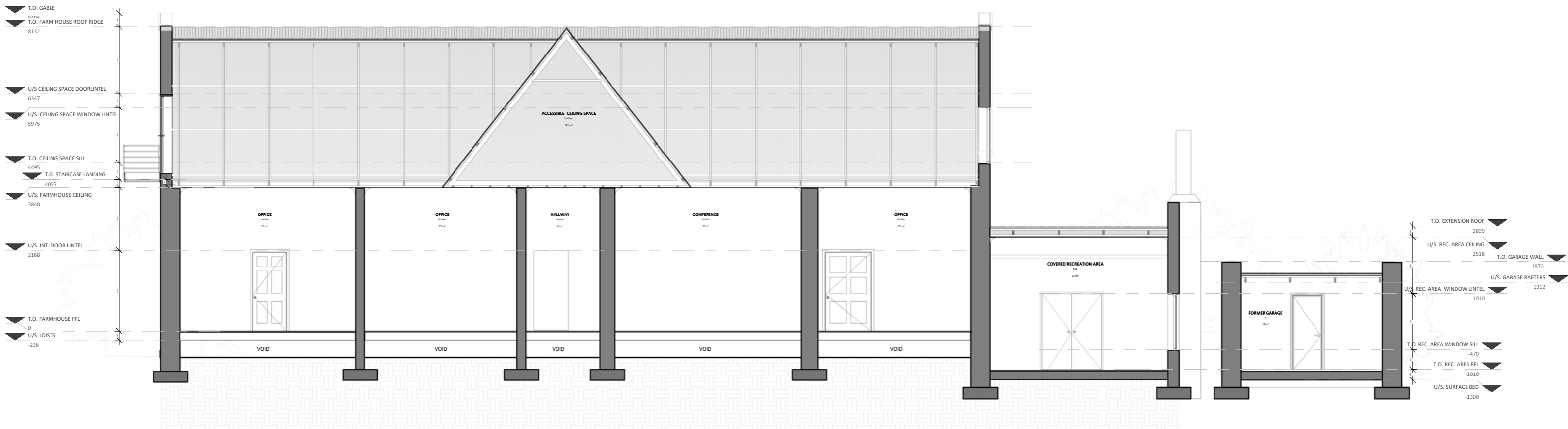
Drawing Title: **FARM HOUSE_ EAST AND WEST ELEVATIONS**

Scale: 1 : 50 on A1 Date: 30/01/23 Drawn by: AM

Drawing No: **2301 W003** Revision: **A**

MAYAT HART
ARCHITECTS
info@mayarthart.com

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Section AA_FARM HOUSE
1 : 50

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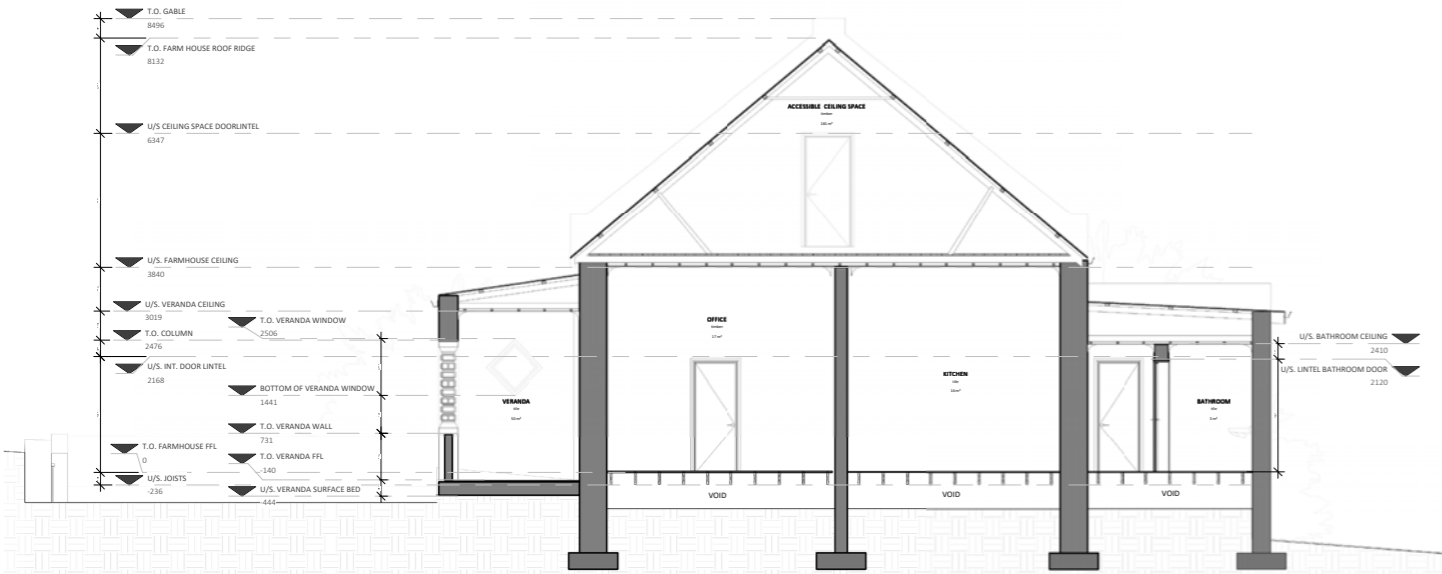
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Project: **SKA Klerefontein**

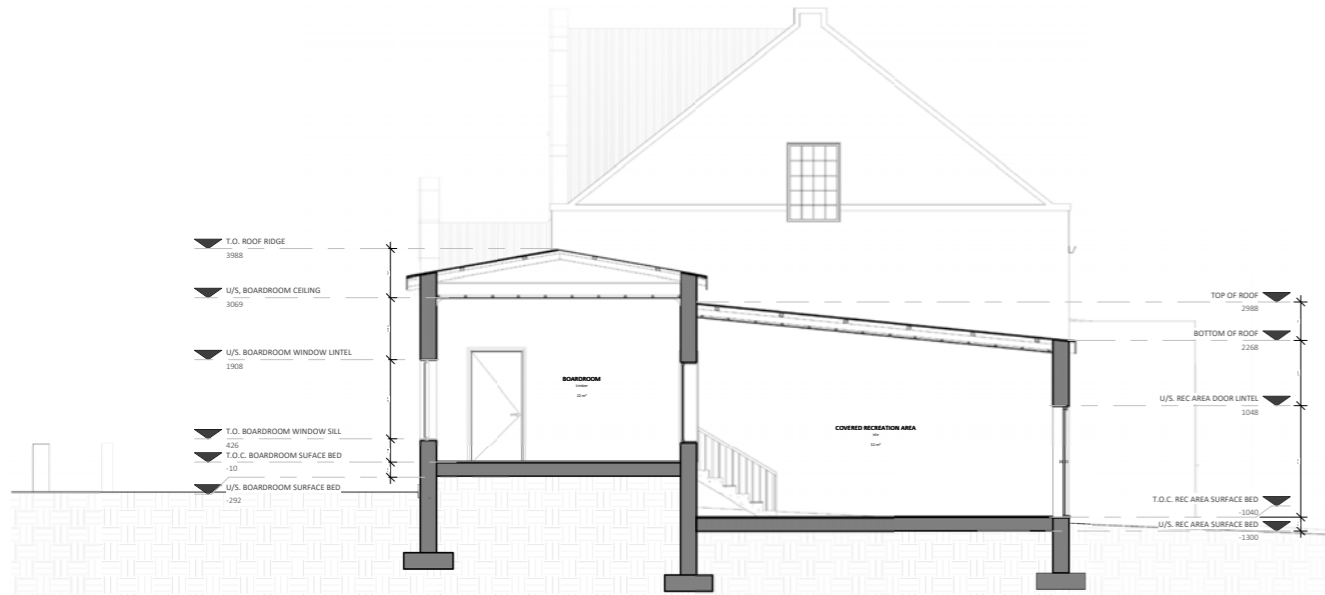
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Scale: 1 : 50 on A1 Date: 30/01/23 Drawn by: AM

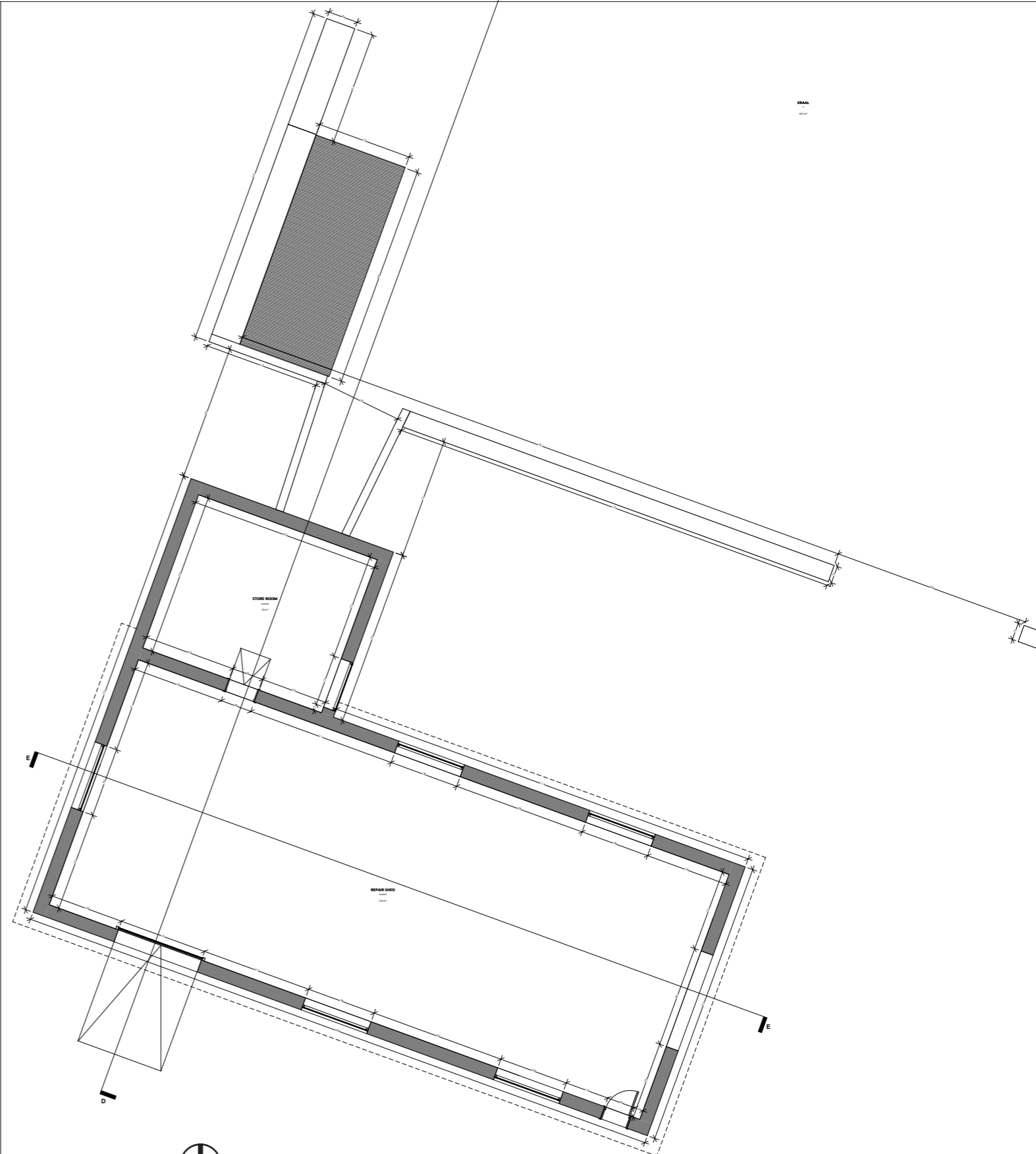
Drawing No: **2301 W004** Revision: **A**



Section BB_FARM HOUSE
1 : 50



Section CC_FARM HOUSE
1 : 50



02 REPAIR SHED
1 : 50

Revision	Date	Description

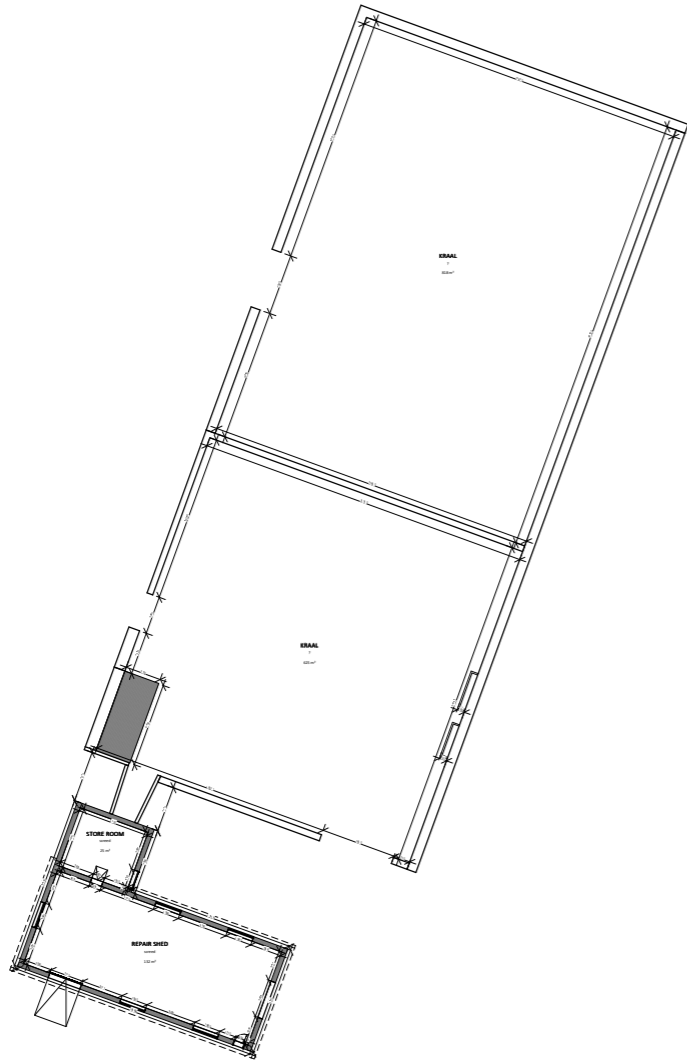
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PART N: GLAZING
 Glazing will comply with the REGULATIONS and the DEEMED TO SATISFY RULES of Part N of the National Building Regulations and SABS Code of Practice 0400.
PART O: LIGHTING AND VENTILATION
 HABITABLE ROOMS to be provided with WINDOWS.
 The total area of any such window is to be not less than 10% of the floor area served by it for NATURAL LIGHT, and such window will be provided with opening sections for NATURAL VENTILATION the total area of which will not be less than 5% of the floor area of the room, or 0.2sqm, whichever is the greater.
PART P: DRAINAGE
 SINGLE STACK and 2 PIPE SYSTEMS as shown complying with Part P of the National Building Regulations and comprising the following:
 100 dia DISCHARGE STACKS, SOIL DISCHARGE PIPES, DRAINS and STACK VENTS of approved material.
 50 dia SOIL DISCHARGE PIPES to urinals.
 40 dia WASTE DISCHARGE PIPES to wash hand basins, showers, baths, sinks discharging to single stacks.
 GULLY to comply with F05.
 All waste fittings to have RESEALING TRAPS and water seals not less than 150mm.
 ACCESS to the drainage installation to be provided by adequately marked and protected and permanently accessible ROOFING EYES at all changes of direction, within 1.5m of the drain connection to the sewer, at the highest point of the drain and at 20m intervals along the line of the drain.
 INSPECTION EYES at all bends and junctions.
PART R: STORMWATER DISPOSAL
 A complete STORMWATER CONTROL and DISPOSAL SYSTEM based on a national design will be articulated on site.
PART T: FIRE PROTECTION
 FIRE PROTECTION PLANS shall be prepared if required.
PART U: REFUSE DISPOSAL
 Storage area for REFUSE CONTAINERS is provided in accordance with the requirements of the Local Authority.
PART W: FIRE INSTALLATION
 Will be provided in accordance with the requirements of the Local Authority.

Project: SKA Klerefontein
 Drawing Title: FARM HOUSE_SECTION BB AND CC
 Scale: 1:50 on A1 Date: 30/01/23 Drawn by: AM
 Drawing No: 2301 W005 Revision: A
MAYAT HART ARCHITECTS
 info@moyarthart.com

Revision	Date	Description

NOTES:
 BASED ON THE NATIONAL BUILDING REGULATIONS AND SABS Code of Practice 0400:
 ALL BUILDING WORK TO COMPLY WITH CURRENT NATIONAL BUILDING REGULATIONS.
PART B: STRUCTURAL NOTES
 The design of the STRUCTURAL ELEMENTS AND COMPONENTS will be carried out by a PROFESSIONAL ENGINEER who has certified that the design complies with the requirements of The National Building Regulations.
PART C: ROOM DIMENSIONS
 HABITABLE ROOMS will have a floor area of not less than 6sqm, a minimum horizontal dimension of not less than 2m and a minimum height of 2.4m.
PART D: PUBLIC SAFETY
 The edge of any CHANGE OF LEVEL more than 1m above any adjacent level is provided with a BALUSTRADE or PARAPET WALL not less than 1m high and such balustrade will not have any openings larger than 100mm.
PART F: SITE OPERATIONS
 All site operations, including protection of the public, will be executed in strict accordance with Part F of The National Building Regulations under the supervision of the ARCHITECT and the ENGINEER.
SOIL POISONING: The ground area prescribed in code of practice SABS 0124 shall be treated in accordance with the recommendations of SABS 0124.
PART G: EXCAVATIONS, PART H: FOUNDATIONS, PART J: FLOORS, PART K: WALLS
 PART G, H, J and K will be designed by a PROFESSIONAL ENGINEER and will be executed in strict accordance with the National Building Regulations and SABS 0400:
 Approved DAMP-PROOF COURSEING (as SABS 248,952 or 298) extending the full thickness of walls to be installed at all WALLS at the level of the TOP of the SURFACE BED at least 150mm above the adjoining ground and at all WINDOW SILLS
 An approved VERTICAL WATERPROOF MEMBRANE to be fitted where a WALL of a room is in contact with the ground.
 Roots to be ANCHORED to walls in compliance with clause KK13 of The National Building Regulations.
PART L: ROOFS
 See sections and roof plans for notes and details.
PART M: STAIRWAYS
 Stairways will comply with the REGULATIONS and the DEEMED TO SATISFY RULES of Part M of the National Building Regulations and SABS Code of Practice 0400.
PART N: GLAZING
 Glazing will comply with the REGULATIONS and the DEEMED TO SATISFY RULES of Part N of the National Building Regulations and SABS Code of Practice 0400.
PART O: LIGHTING AND VENTILATION
 HABITABLE ROOMS to be provided with WINDOWS.
 The total area of any such window is to be not less than 10% of the floor area served by it for NATURAL LIGHT, and such window will be provided with opening sections for NATURAL VENTILATION the total area of which will not be less than 5% of the floor area of the room, or 0.2sqm, whichever is the greater.
PART P: DRAINAGE
 SINGLE STACK and 2 PIPE SYSTEMS as shown complying with Part P of the National Building Regulations and comprising the following:
 100 dia DISCHARGE STACKS, SOIL DISCHARGE PIPES, DRAINS and STACK VENTS of approved material.
 50 dia SOIL DISCHARGE PIPES to urinals.
 40 dia WASTE DISCHARGE PIPES to wash hand basins, showers, baths, sinks discharging to single stacks.
 GULLY to comply with F05.
 All waste fittings to have RESEALING TRAPS and water seals not less than 150mm.
 ACCESS to the drainage installation to be provided by adequately marked and protected and permanently accessible ROOFING EYES at all changes of direction, within 1.5m of the drain connection to the sewer, at the highest point of the drain and at 20m intervals along the line of the drain.
 INSPECTION EYES at all bends and junctions.
PART R: STORMWATER DISPOSAL
 A complete STORMWATER CONTROL and DISPOSAL SYSTEM based on a national design will be articulated on site.
PART T: FIRE PROTECTION
 FIRE PROTECTION PLANS shall be prepared if required.
PART U: REFUSE DISPOSAL
 Storage area for REFUSE CONTAINERS is provided in accordance with the requirements of the Local Authority.
PART W: FIRE INSTALLATION
 Will be provided in accordance with the requirements of the Local Authority.

Project: SKA Klerefontein
 Drawing Title: REPAIR SHED_PLAN
 Scale: 1:50 on A1 Date: 30/01/23 Drawn by: AM
 Drawing No: 2301 W006 Revision: A
MAYAT HART ARCHITECTS
 info@moyarthart.com



02 REPAIR SHED & KRAAL PLAN
1 : 200



NOTES:
BASED ON THE NATIONAL BUILDING REGULATIONS AND SABS Code of Practice 0400.

ALL BUILDING WORK TO COMPLY WITH CURRENT NATIONAL BUILDING REGULATIONS.

PART B: STRUCTURAL NOTES

The design of the STRUCTURAL ELEMENTS AND COMPONENTS will be carried out by a PROFESSIONAL ENGINEER who has certified that the design complies with the requirements of The National Building Regulations.

PART C: ROOM DIMENSIONS

HABITABLE ROOMS will have a floor area of not less than 6sqm, a minimum horizontal dimension of not less than 2m and a minimum height of 2.4m.

PART D: PUBLIC SAFETY

The edge of any CHANGE OF LEVEL more than 1m above any adjacent level is provided with a BALUSTRADE or PARAPET WALL not less than 1m high and such balustrade will not have any openings larger than 100mm.

PART F: SITE OPERATIONS

All site operations, including protection of the public, will be executed in strict accordance with Part F of The National Building Regulations under the supervision of the ARCHITECT and the ENGINEER.

SOL POUNDING: The ground area prescribed in code of practice SABS 0124 shall be treated in accordance with the recommendations of SABS 0124.

PART G: EXCAVATIONS, PART H: FOUNDATIONS, PART J: FLOORS, PART K: WALLS

Parts G, H, J and K will be designed by a PROFESSIONAL ENGINEER and will be executed in strict accordance with the National Building Regulations and SABS 0400.

Approved DAMP-PROOF COURSEING (as SABS 248, 952 or 298) extending the full thickness of walls to be installed at all WALLS at the level of the TOP of the SURFACE BED at least 150mm above the adjoining ground and at all WINDOW SILLS.

An approved VERTICAL WATERPROOF MEMBRANE to be fitted where a WALL of a room is in contact with the ground.

Roofs to be ANCHORED to walls in compliance with clause KK13 of The National Building Regulations.

PART L: ROOFS

See sections and roof plans for notes and details.

PART M: STAIRWAYS

Stairways will comply with the REGULATIONS and the DEEMED TO SATISFY RULES of Part M of the National Building Regulations and SABS Code of Practice 0400.

PART N: GLAZING

Glazing will comply with the REGULATIONS and the DEEMED TO SATISFY RULES of Part N of the National Building Regulations and SABS Code of Practice 0400.

PART O: LIGHTING AND VENTILATION

HABITABLE ROOMS to be provided with WINDOWS.

The total area of any such window is to be not less than 10% of the floor area served by it for NATURAL LIGHT, and such window will be provided with opening sections for NATURAL VENTILATION the total area of which will not be less than 5% of the floor area of the room, or 0.2sqm, whichever is the greater.

PART P: DRAINAGE

SINGLE STACK and 2 PIPE SYSTEMS as shown complying with Part P of the National Regulations and comprising the following:

100 (ø) DISCHARGE STACKS, SOIL DISCHARGE PIPES, DRAINS and STACK VENTS of approved material.

50 dia SOIL DISCHARGE PIPES to urinals.

40 dia WASTE DISCHARGE PIPES to wash hand basins, showers, baths, sinks discharging to single stacks.

GULLY to comply with 705.

All waste fittings to have RESEALING TRAPS and water seals not less than 65mm.

ACCESS to the drainage installation to be provided by adequately marked and protected and permanently accessible ROOMS EYES at all changes of direction, within 1.5m of the drain connection to the sewer, at the highest point of the drain and at 20m intervals along the line of the drain.

INSPECTION EYES at all bends and junctions.

PART R: STORMWATER DISPOSAL

A complete STORMWATER CONTROL and DISPOSAL SYSTEM based on a rational design will be installed on site.

PART T: FIRE PROTECTION

FIRE PROTECTION PLANS shall be prepared if required.

PART U: REFUSE DISPOSAL

Storage area for REFUSE CONTAINERS is provided in accordance with the requirements of the Local Authority.

PART W: FIRE INSTALLATION

Will be provided in accordance with the requirements of the Local Authority.

Revision	Date	Description

All dimensions to be checked on site before any work is put in hand. Refer any discrepancies to the architect.
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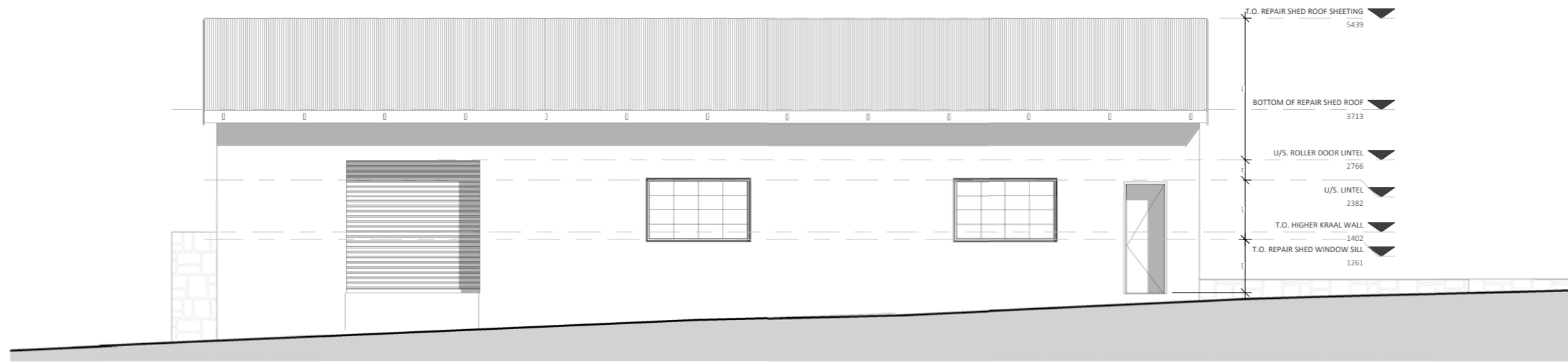
Project: **SKA**
Klerfontein

Drawing Title: **REPAIR SHED AND KRAAL**

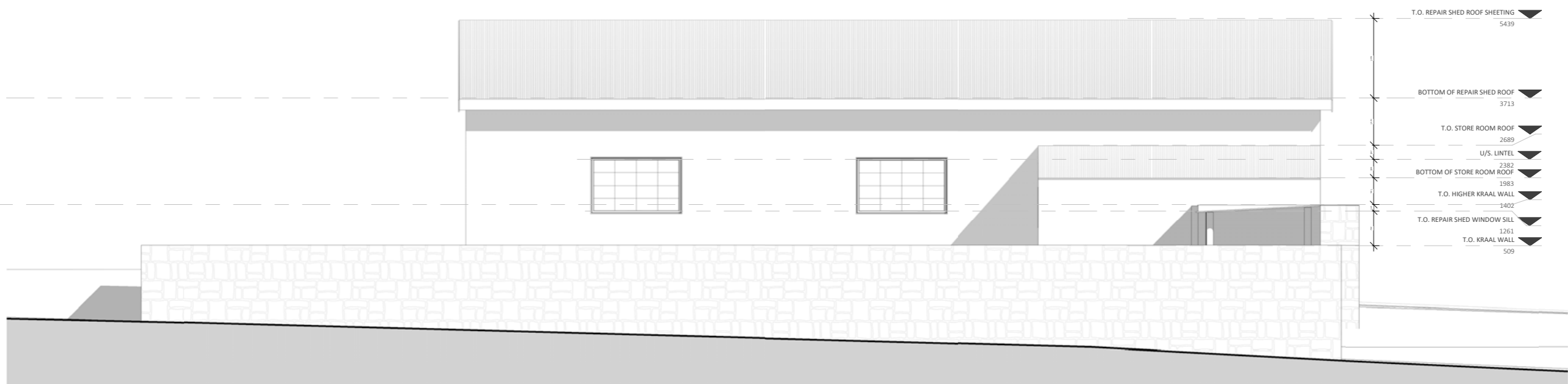
Scale: 1 : 200 on A1 Date: 30/01/23 Drawn by: AM

Drawing No: **2301 W007** Revision: **A**

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ARCHITECTS
info@mayarthart.com



REPAIR SHED_ NORTH-EAST ELEVATION
1 : 50



REPAIR SHED_ SOUTH WEST ELEVATION
1 : 50

NOTES:
BASED ON THE NATIONAL BUILDING REGULATIONS AND SABS Code of Practice 0400.
ALL BUILDING WORK TO COMPLY WITH CURRENT NATIONAL BUILDING REGULATIONS.

PART B: STRUCTURAL NOTES
The design of the STRUCTURAL ELEMENTS AND COMPONENTS will be carried out by a PROFESSIONAL ENGINEER who has certified that the design complies with the requirements of The National Building Regulations.

PART C: ROOM DIMENSIONS
HABITABLE ROOMS will have a floor area of not less than 6sqm, a minimum horizontal dimension of not less than 2m and a minimum height of 2.4m.

PART D: PUBLIC SAFETY
The edge of any CHANGE OF LEVEL more than 1m above any adjacent level is provided with a BALUSTRADE or PARAPET WALL not less than 1m high and such balustrade will not have any openings larger than 100mm.

PART F: SITE OPERATIONS
All site operations, including protection of the public, will be executed in strict accordance with Part F of The National Building Regulations under the supervision of the ARCHITECT and the ENGINEER.

SOIL POISONING: The ground area prescribed in code of practice SABS 0124 shall be treated in accordance with the recommendations of SABS 0124.

PART G: EXCAVATIONS, PART H: FOUNDATIONS, PART J: FLOORS, PART K: WALLS
Parts G, H, J and K will be designed by a PROFESSIONAL ENGINEER and will be executed in strict accordance with the National Building Regulations and SABS 0400. Approved DAMP PROOF COURSE (as SABS 248,952 or 258) extending the full thickness of walls to be installed at all WALLS at the level of the TOP of the SURFACE BED at least 150mm above the adjoining ground and at all WINDOW SILLS

An approved VERTICAL WATERPROOF MEMBRANE to be fitted where a WALL of a room is in contact with the ground. Roofs to be ANCHORED to walls in compliance with clause KK13 of The National Building Regulations.

PART L: ROOFS
See sections and roof plans for notes and details.

PART M: STARWAYS
Starways will comply with the REGULATIONS and the DEEMED TO SATISFY RULES of Part M of the National Building Regulations and SABS Code of Practice 0400.

PART N: GLAZING
Glazing will comply with the REGULATIONS and the DEEMED TO SATISFY RULES of Part N of the National Building Regulations and SABS Code of Practice 0400.

PART O: LIGHTING AND VENTILATION
HABITABLE ROOMS to be provided with WINDOWS.
The total area of any such window is to be not less than 10% of the floor area served by it for NATURAL LIGHT, and such window will be provided with opening sections for NATURAL VENTILATION the total area of which will not be less than 5% of the floor area of the room, or 0.2sqm, whichever is the greater.

PART P: DRAINAGE
SINGLE STACK and 2 PIPE SYSTEMS as shown complying with Part P of the National Regulations and comprising the following:
100 Ø DISCHARGE STACKS, SOIL DISCHARGE PIPES, DRAINS and STACK VENTS of approved material.
50 dia SOIL DISCHARGE PIPES to urinals.
40 dia WASTE DISCHARGE PIPES to wash hand basins, showers, baths, sinks discharging to single stacks.
GULLY to comply with P29.

All waste fittings to have RESEALING TRAPS and water seals not less than 65mm.
ACCESS to the drainage installation to be provided by adequately marked and protected and permanently accessible RODDING EYES at all changes of direction, within 1.5m of the drain connection to the sewer, at the highest point of the drain and at 25m intervals along the line of the drain. INSPECTION EYES at all bends and junctions.

PART R: STORMWATER DISPOSAL
A complete STORMWATER CONTROL and DISPOSAL SYSTEM based on a rational design will be reticulated on site.

PART T: FIRE PROTECTION
FIRE PROTECTION PLANS shall be prepared if required.

PART U: REFUSE DISPOSAL
Storage area for REFUSE CONTAINERS is provided in accordance with the requirements of the Local Authority.

PART W: FIRE INSTALLATION
Will be provided in accordance with the requirements of the Local Authority.

Revision	Date	Description

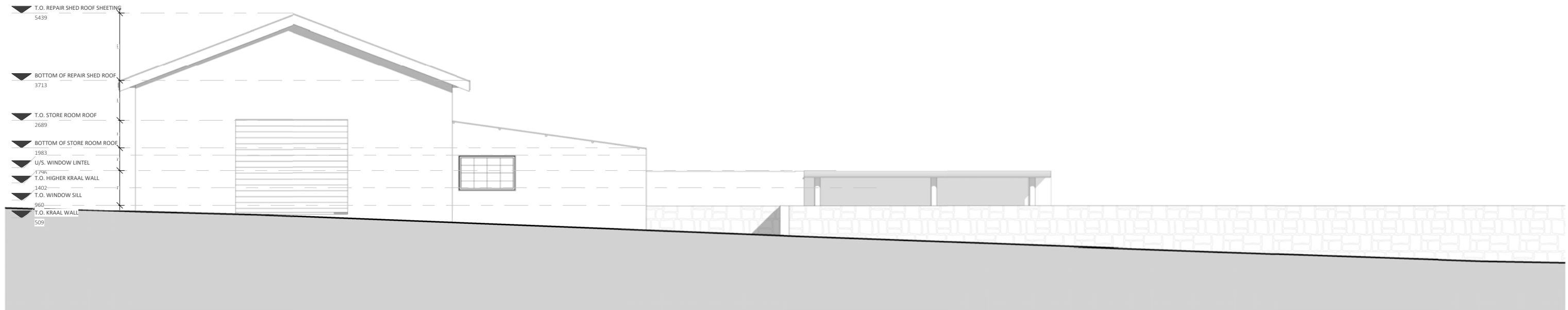
All dimensions to be checked on site before any work is put in hand. Refer any discrepancies to the architect.
Drawings remain the copyright of Mayat Hart Architects

Project: **SKA Klerefontein**

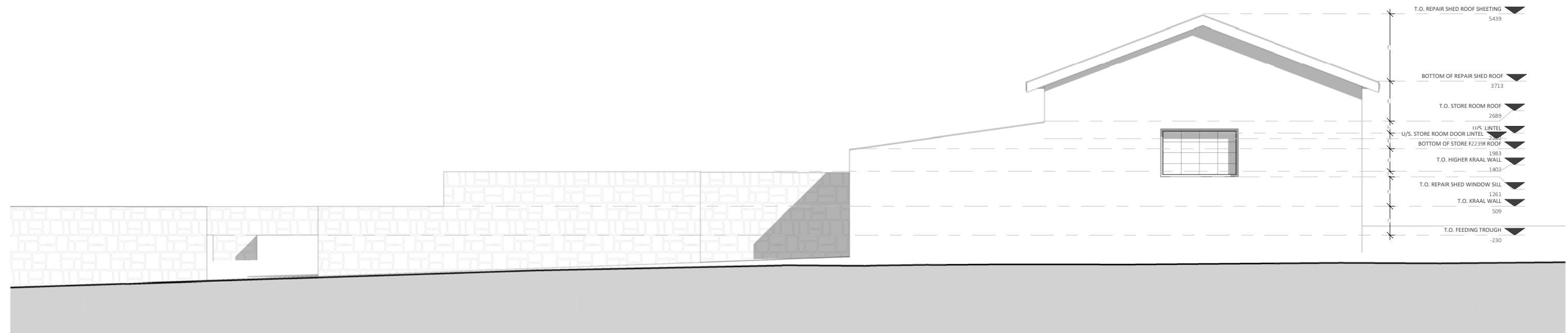
Drawing Title: **REPAIR SHED_NE AND SW ELEVATIONS**

Scale: 1 : 50 on A1 Date: 30/01/23 Drawn by: AM

Drawing No: 2301 W008 Revision: A



REPAIR SHED_NORTH-WEST ELEVATION
1 : 50



REPAIR SHED_SOUTH-EAST ELEVATION
1 : 50

NOTES:
BASED ON THE NATIONAL BUILDING REGULATIONS AND SABS Code of Practice 0400.
ALL BUILDING WORK TO COMPLY WITH CURRENT NATIONAL BUILDING REGULATIONS.

PART B. STRUCTURAL NOTES
The design of the STRUCTURAL ELEMENTS AND COMPONENTS will be carried out by a PROFESSIONAL ENGINEER who has certified that the design complies with the requirements of The National Building Regulations.

PART C. ROOM DIMENSIONS
HABITABLE ROOMS will have a floor area of not less than 6sqm, a minimum horizontal dimension of not less than 2m and a minimum height of 2.4m.

PART D. PUBLIC SAFETY
The edge of any CHANGE OF LEVEL more than 1m above any adjacent level is provided with a BALUSTRADE or PARAPET WALL not less than 1m high and such balustrade will not have any openings larger than 100mm.

PART F. SITE OPERATIONS
All site operations, including protection of the public, will be executed in strict accordance with Part F of The National Building Regulations under the supervision of the ARCHITECT and the ENGINEER.
SOIL POISONING: The ground area prescribed in code of practice SABS 0124 shall be treated in accordance with the recommendations of SABS 0124.

PART G. EXCAVATIONS, PART H. FOUNDATIONS, PART J. FLOORS, PART K. WALLS
Parts G, H, J and K will be designed by a PROFESSIONAL ENGINEER and will be executed in strict accordance with the National Building Regulations and SABS 0400.
Approved DAMP-PROOF COURSING (as SABS 248,952 or 256) extending the full thickness of walls to be installed at all WALLS at the level of the TOP of the SURFACE BED at least 150mm above the adjoining ground and at all WINDOW SILLS.

An approved VERTICAL WATERPROOF MEMBRANE to be fitted where a WALL of a room is in contact with the ground.
Roofs to be ANCHORED to walls in compliance with clause KK13 of The National Building Regulations.

PART L. ROOFS
See sections and roof plans for notes and details.

PART M. STAIRWAYS
Stairways will comply with the REGULATIONS and the DEEMED TO SATISFY RULES of Part M of the National Building Regulations and SABS Code of Practice 0400.

PART N. GLAZING
Glazing will comply with the REGULATIONS and the DEEMED TO SATISFY RULES of Part N of the National Building Regulations and SABS Code of Practice 0400.

PART O. LIGHTING AND VENTILATION
HABITABLE ROOMS to be provided with WINDOWS.
The total area of any such window is to be not less than 10% of the floor area served by it for NATURAL LIGHT, and such window will be provided with opening sections for NATURAL VENTILATION the total area of which will not be less than 5% of the floor area of the room, or 0.2sqm, whichever is the greater.

PART P. DRAINAGE
SINGLE STACK and 2 PIPE SYSTEMS as shown complying with Part P of the National Regulations and comprising the following:
100 Ø DISCHARGE STACKS, SOIL DISCHARGE PIPES, DRAINS and STACK VENTS of approved material.
50 dia. SOIL DISCHARGE PIPES to urinals.
40 dia. WASTE DISCHARGE PIPES to wash hand basins, showers, baths, sinks discharging to single stacks.
GULLY to comply with P29.

All waste fittings to have RESEALING TRAPS and water seals not less than 65mm.
ACCESS to the drainage installation to be provided by adequately marked and protected and permanently accessible RODDING EYES at all changes of direction, within 1.5m of the drain connection to the sewer, at the highest point of the drain and at 25m intervals along the line of the drain.
INSPECTION EYES at all bends and junctions.

PART R. STORMWATER DISPOSAL
A complete STORMWATER CONTROL and DISPOSAL SYSTEM based on a rational design will be reticulated on site.

PART T. FIRE PROTECTION
FIRE PROTECTION PLANS shall be prepared if required.

PART U. REFUSE DISPOSAL
Storage area for REFUSE CONTAINERS is provided in accordance with the requirements of the Local Authority.

PART W. FIRE INSTALLATION
Will be provided in accordance with the requirements of the Local Authority.

Revision	Date	Description

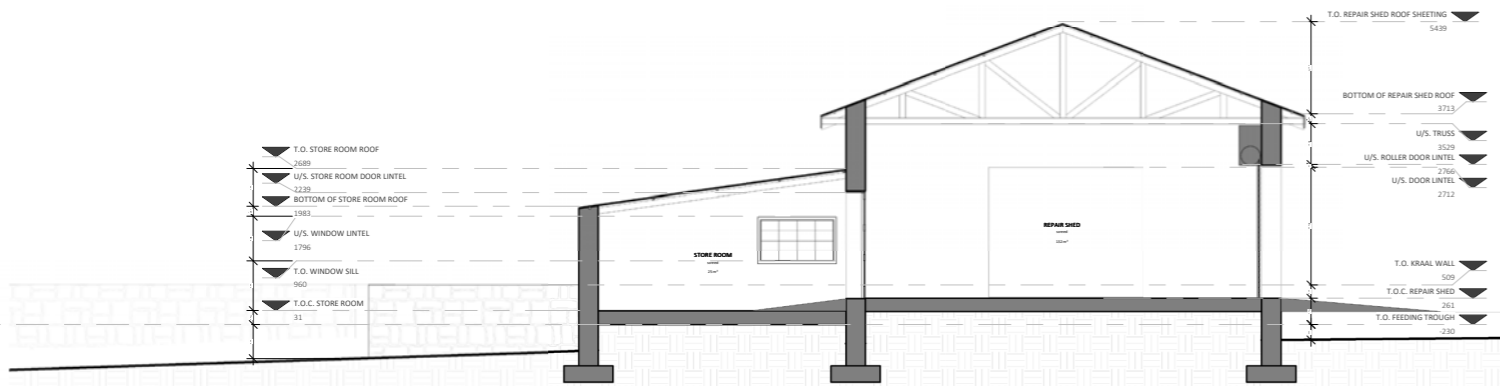
Project: **SKA Klerefontein**

Drawing Title: **REPAIR SHED_NW AND SE ELEVATIONS**

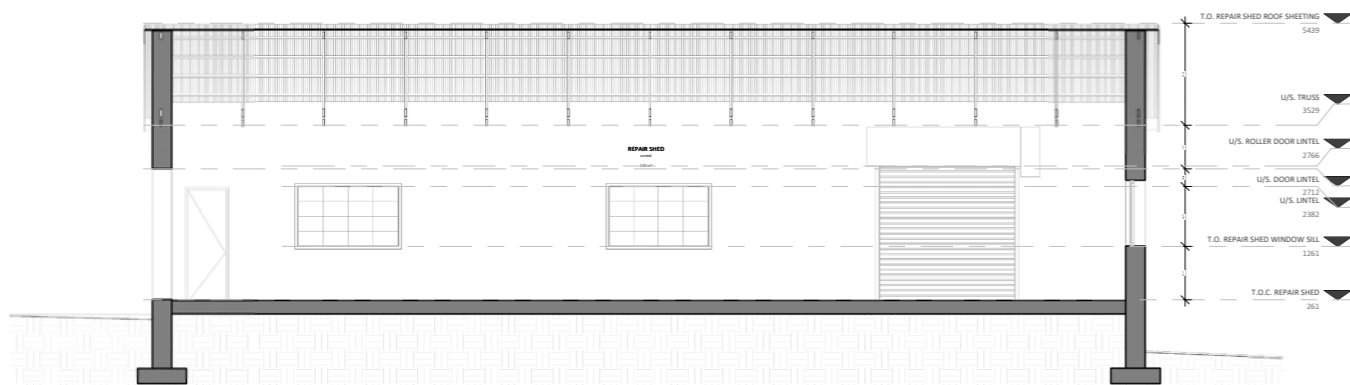
Scale: 1 : 50 on A1 Date: 30/01/23 Drawn by: AM

Drawing No: **2301 W009** Revision: **A**

All dimensions to be checked on site before any work is put in hand. Refer any discrepancies to the architect.
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Section DD_ REPAIR SHED
1 : 50



Section EE_ REPAIR SHED
1 : 50

NOTES:
BASED ON THE NATIONAL BUILDING REGULATIONS AND SABS Code of Practice 0400:
ALL BUILDING WORK TO COMPLY WITH CURRENT NATIONAL BUILDING REGULATIONS.
PART B: STRUCTURAL NOTES
The design of the STRUCTURAL ELEMENTS AND COMPONENTS will be carried out by a PROFESSIONAL ENGINEER who has certified that the design complies with the requirements of The National Building Regulations.
PART C: ROOM DIMENSIONS
HABITABLE ROOMS will have a floor area of not less than 6sqm, a minimum horizontal dimension of not less than 2m and a minimum height of 2.4m.
PART D: PUBLIC SAFETY
The edge of any CHANGE OF LEVEL more than 1m above any adjacent level is provided with a BALUSTRADE or PARAPET WALL not less than 1m high and such balustrade will not have any openings larger than 100mm.
PART F: SITE OPERATIONS
All site operations, including protection of the public, will be executed in strict accordance with Part F of The National Building Regulations under the supervision of the ARCHITECT and the ENGINEER.
SOIL POISONING: The ground area prescribed in code of practice SABS 0124 shall be treated in accordance with the recommendations of SABS 0124.
PART G: EXCAVATIONS, PART H: FOUNDATIONS, PART J: FLOORS, PART K: WALLS

PART G, H, J and K: will be designed by a PROFESSIONAL ENGINEER and will be executed in strict accordance with the National Building Regulations and SABS 0400.
Approved DAMP-PROOF COURSEING (as SABS 248,952 or 298) extending the full thickness of walls to be installed at all WALLS at the level of the TOP of the SURFACE BED at least 150mm above the adjoining ground and at all WINDOW SILLS.
An approved VERTICAL WATERPROOF MEMBRANE to be fitted where a WALL of a room is in contact with the ground.
Roots to be ANCHORED to walls in compliance with clause K013 of The National Building Regulations.
PART L: ROOFS
See sections and roof plans for notes and details.
PART M: STAIRWAYS
Stairways will comply with the REGULATIONS and the DEEMED TO SATISFY RULES of Part M of the National Building Regulations and SABS Code of Practice 0400.
PART N: GLAZING
Glazing will comply with the REGULATIONS and the DEEMED TO SATISFY RULES of Part N of the National Building Regulations and SABS Code of Practice 0400.
PART O: LIGHTING AND VENTILATION
HABITABLE ROOMS to be provided with WINDOWS.
The total area of any such window is to be not less than 10% of the floor area served by it for NATURAL LIGHT, and such window will be provided with opening sections for NATURAL VENTILATION the total area of which will not be less than 5% of the floor area of the room, or 0.2sqm, whichever is the greater.

Revision	Date	Description

PART P: DRAINAGE
SINGLE STACK and 2 PIPE SYSTEMS as shown complying with Part P of the National Regulations and comprising the following:
100 Ø DISCHARGE STACKS, SOL DISCHARGE PIPES, DRAINS and STACK VENTS of approved material.
50 dia SOL DISCHARGE PIPES to urinals.
40 dia WASTE DISCHARGE PIPES to wash hand basins, showers, baths, sinks discharging to single stacks.
GULLY to comply with F05.
All waste fittings to have RESEALING TRAPS and water seals not less than 65mm.
ACCESS to the drainage installation to be provided by adequately marked and protected and permanently accessible ROOFS EYES at all changes of direction, within 1.5m of the drain connection to the sewer, at the highest point of the drain and at 20m intervals along the line of the drain.
INSPECTION EYES at all bends and junctions.
PART R: STORMWATER DISPOSAL
A complete STORMWATER CONTROL and DISPOSAL SYSTEM based on a national design will be utilised on site.
PART T: FIRE PROTECTION
FIRE PROTECTION PLANS shall be prepared if required.
PART U: REFUSE DISPOSAL
Storage area for REFUSE CONTAINERS is provided in accordance with the requirements of the Local Authority.
PART W: FIRE INSTALLATION
Will be provided in accordance with the requirements of the Local Authority.

All dimensions to be checked on site before any work is put in hand. Refer any discrepancies to the architect.
Drawings remain the copyright of Mayat Hart Architects

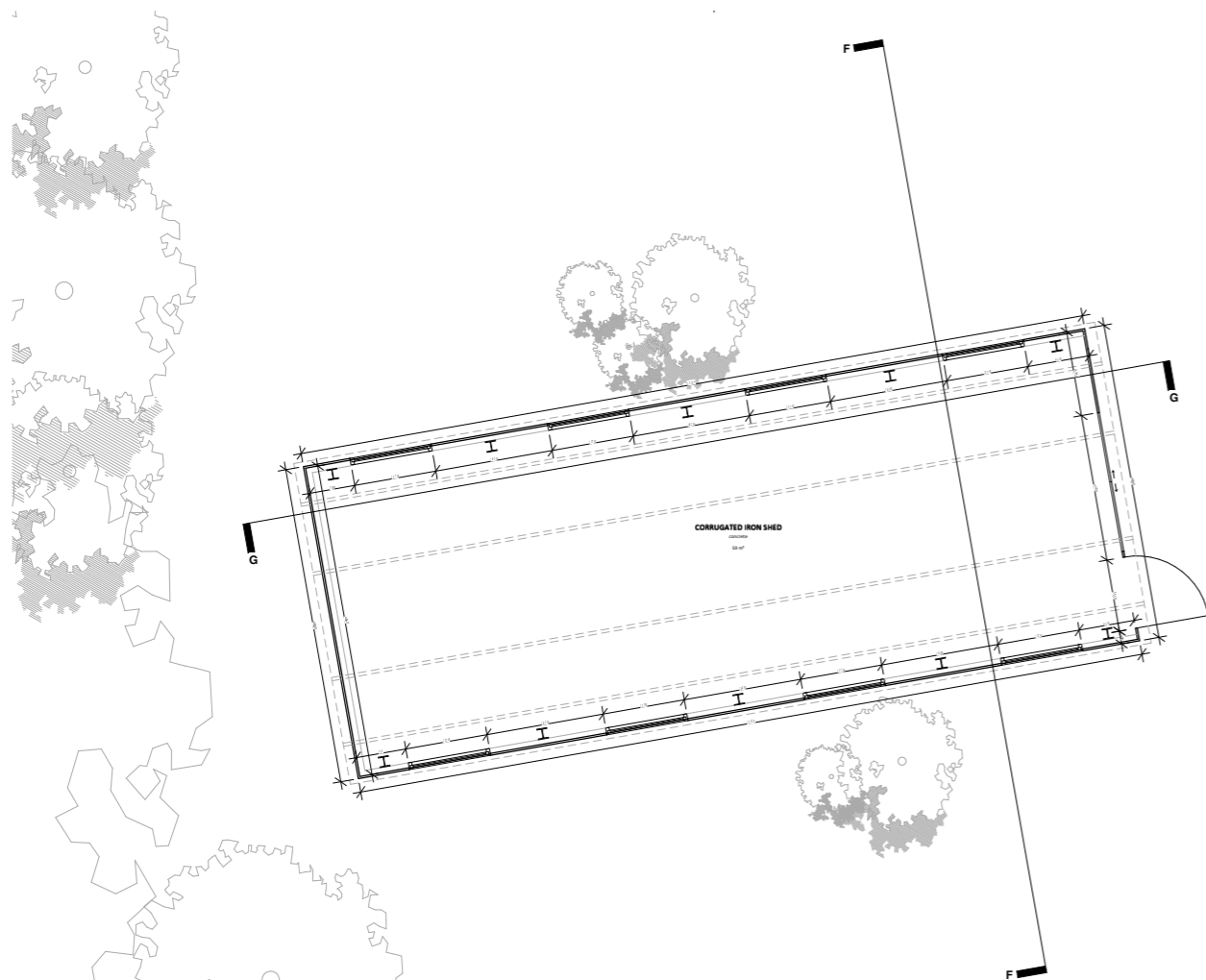
Project: SKA
Klerfontein

Drawing Title: REPAIR SHED_SECTION DD AND EE

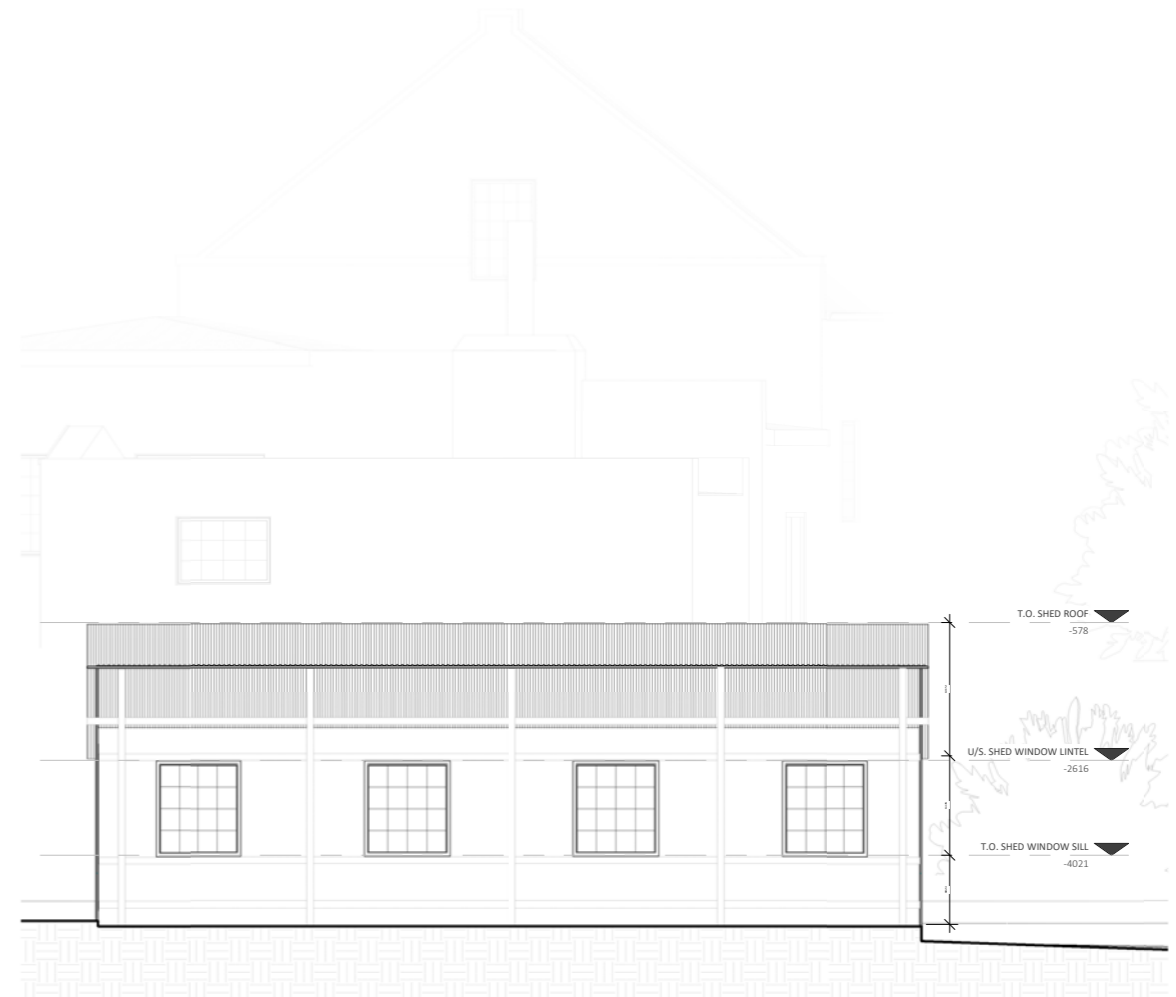
Scale: 1:50 on A1 Date: 30/01/23 Drawn by: AM

Drawing No: 2301 W010 Revision: A

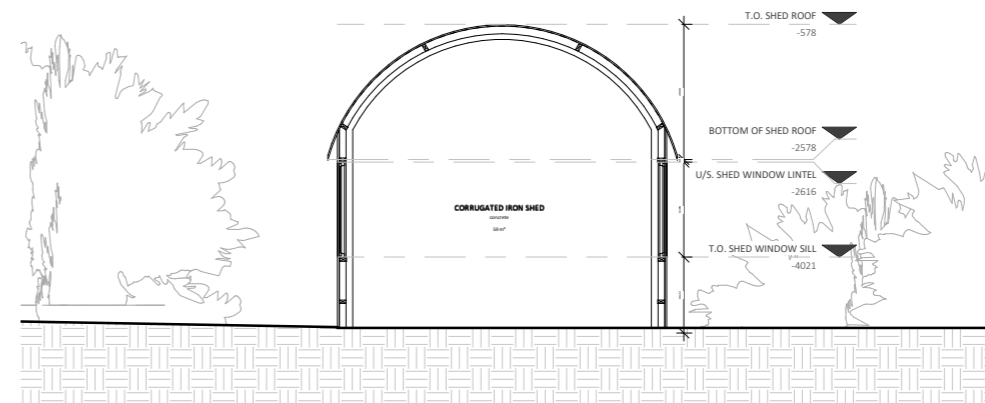
MAYAT HART
ARCHITECTS
info@mayarthart.com



03 CORRUGATED IRON SHED_GROUND FLOOR PLAN
1 : 50



Section GG_CORRUGATED IRON SHED
1 : 50



Section FF_CORRUGATED IRON SHED
1 : 50

NOTES:
BASED ON THE NATIONAL BUILDING REGULATIONS AND SABS Code of Practice 0400.
ALL BUILDING WORK TO COMPLY WITH CURRENT NATIONAL BUILDING REGULATIONS.

PART B: STRUCTURAL NOTES
The design of the STRUCTURAL ELEMENTS AND COMPONENTS will be carried out by a PROFESSIONAL ENGINEER who has certified that the design complies with the requirements of The National Building Regulations.

PART C: ROOM DIMENSIONS
HABITABLE ROOMS will have a floor area of not less than 6sqm, a minimum horizontal dimension of not less than 2m and a minimum height of 2.4m.

PART D: PUBLIC SAFETY
The edge of any CHANGE OF LEVEL more than 1m above any adjacent level is provided with a BALUSTRADE or PARAPET WALL not less than 1m high and such balustrade will not have any openings larger than 100mm.

PART F: SITE OPERATIONS
All site operations, including protection of the public, will be executed in strict accordance with Part F of The National Building Regulations under the supervision of the ARCHITECT and the ENGINEER.

SOIL POSINGING: The ground area prescribed in code of practice SABS 0124 shall be treated in accordance with the recommendations of SABS 0124.

PART G: EXCAVATIONS, PART H: FOUNDATIONS, PART J: FLOORS, PART K: WALLS
Parts G, H, J and K will be designed by a PROFESSIONAL ENGINEER and will be executed in strict accordance with the National Building Regulations and SABS 0400.
Approved DAMP PROOF COLOURING (as SABS 248:BS2 or 208) rendering the full thickness of walls to be installed at all WALLS at the level of the TOP of the SURFACE BED at least 150mm above the adjoining ground and at all WINDOW SILLS.

An approved VERTICAL WATERPROOF MEMBRANE to be fixed where a WALL of a room is in contact with the ground.
Roots to be ANCHORED to walls in compliance with clause KR13 of The National Building Regulations.

PART R: ROOFS
See sections and roof plans for notes and details.

PART M: STAIRWAYS
Stairways will comply with the REGULATIONS and the DEEMED TO SATISFY RULES of Part M of the National Building Regulations and SABS Code of Practice 0400.

PART N: GLAZING
Glazing will comply with the REGULATIONS and the DEEMED TO SATISFY RULES of Part N of the National Building Regulations and SABS Code of Practice 0400.

PART O: LIGHTING AND VENTILATION
HABITABLE ROOMS to be provided with WINDOWS.
The total area of any such window is to be not less than 10% of the floor area served by it for NATURAL LIGHT, and such window will be provided with opening sections for NATURAL VENTILATION the total area of which will not be less than 5% of the floor area of the room, or 0.2sqm, whichever is the greater.

PART P: DRAINAGE
SINGLE STACK and 2 PIPE SYSTEMS as shown: complying with Part P of the National Regulations and comprising the following:
150mm DISCHARGE STACKS; 100mm DISCHARGE PIPES; GRABBS and STACK VENTS of approved material.
50 mm SOIL DISCHARGE PIPES to urinals.
40 mm WASTIC DISCHARGE PIPES to wash hand basins, showers, baths, sinks discharging to single stacks.
GULLY to comply with P29.

All waste fittings to have RESEALING TRAPS and water seals not less than 65mm.
ACCESS to the drainage installation to be provided by adequately marked and protected and permanently accessible ROODING EYES at all changes of direction, within 1.5m of the drain connection to the sewer, at the highest point of the drain and at 20m intervals along the line of the drain.
INSPECTION EYES at all bends and junctions.

PART R: STORMWATER DISPOSAL
A complete STORMWATER CONTROL and DISPOSAL SYSTEM based on a rational design will be relocated on site.

PART T: FIRE PROTECTION
FIRE PROTECTION PLANS shall be prepared if required.

PART U: REFUSE DISPOSAL
Storage area for REFUSE CONTAINERS is provided in accordance with the requirements of the Local Authority.

PART W: FIRE INSTALLATION
Will be provided in accordance with the requirements of the Local Authority.

Revision	Date	Description

All dimensions to be checked on site before any work is put in hand. Refer any discrepancies to the architect.
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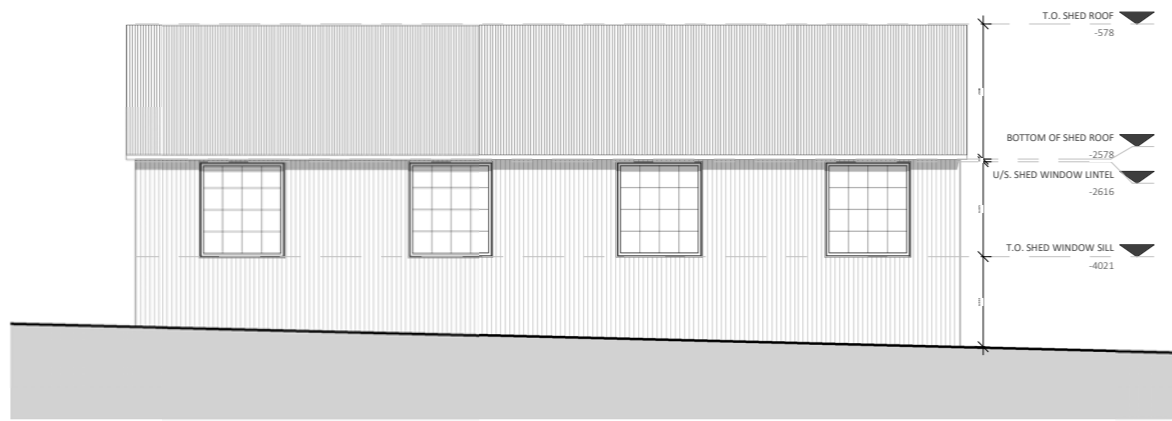
Project: SKA
Klerfontein

Drawing Title: CORRUGATED IRON SHED_GROUND FLOOR PLAN AND SECTION FF + GG

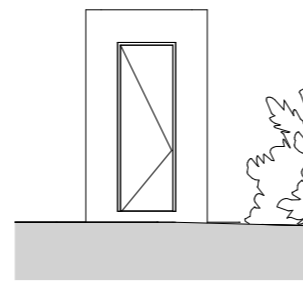
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Drawing No: 2301 W011 Revision: A

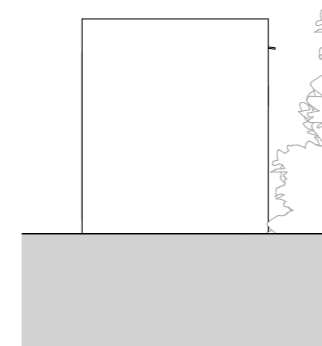
MAYAT HART
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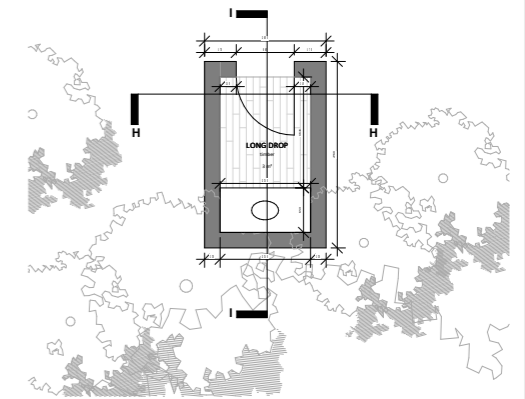
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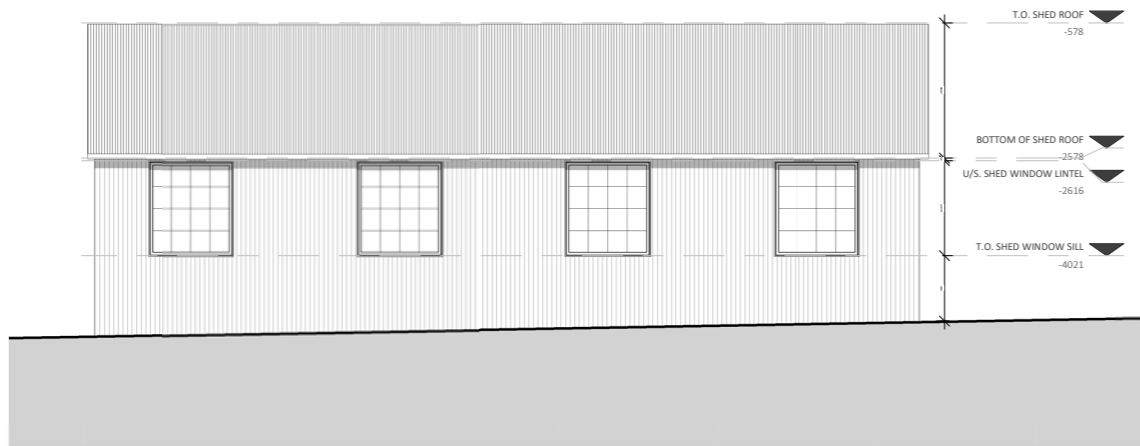
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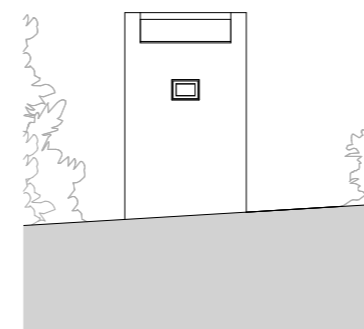
LONG DROP_EAST ELEVATION
1 : 50



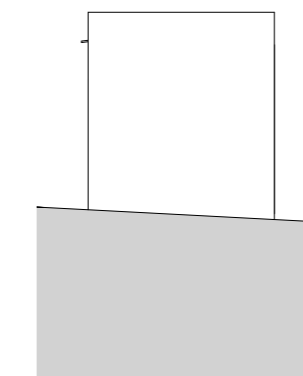
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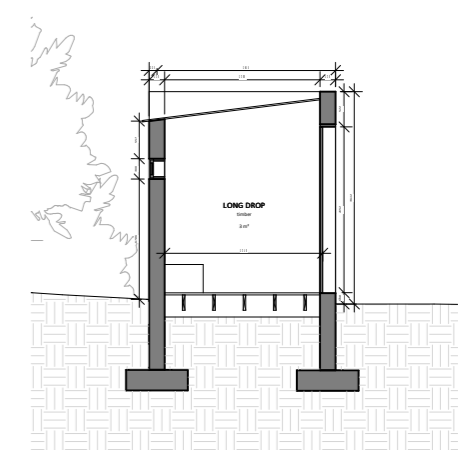
CORRUGATED IRON SHED_SOUTH-EAST ELEVATION
1 : 50



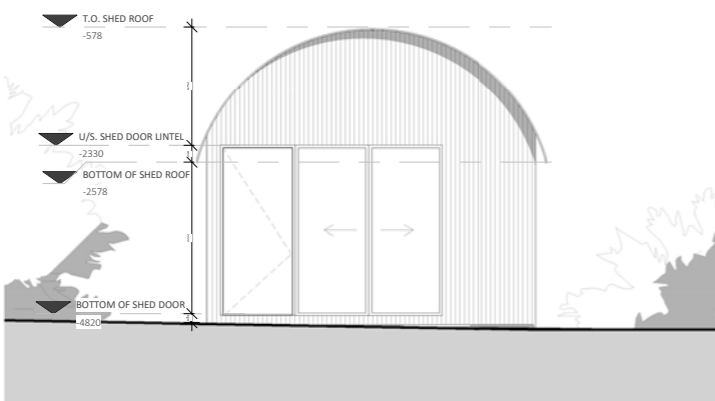
LONG DROP_SOUTH ELEVATION
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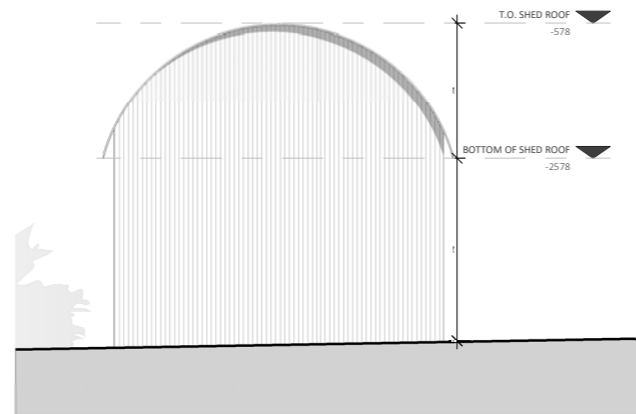
LONG DROP_WEST ELEVATION
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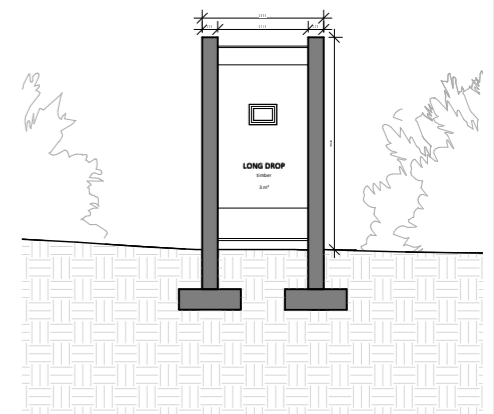
Section II_LONG DROP
1 : 50



CORRUGATED IRON SHED_SOUTH-WEST ELEVATION
1 : 50



CORRUGATED IRON SHED_NORTH-EAST ELEVATION
1 : 50



Section HH_LONG DROP
1 : 50

NOTES:
BASED ON THE NATIONAL BUILDING REGULATIONS AND SABS Code of Practice 0400.
ALL BUILDING WORK TO COMPLY WITH CURRENT NATIONAL BUILDING REGULATIONS.
PART B: STRUCTURAL NOTES
The design of the STRUCTURAL ELEMENTS AND COMPONENTS will be carried out by a PROFESSIONAL ENGINEER who has certified that the design complies with the requirements of the National Building Regulations.
PART C: ROOM DIMENSIONS
HABITABLE ROOMS will have a floor area of not less than 6sqm, a minimum horizontal dimension of not less than 2m and a minimum height of 2.4m.
PART D: PUBLIC SAFETY
The edge of any CHANGE OF LEVEL more than 1m above any adjacent level is provided with a BALUSTRADE or PARAPET WALL not less than 1m high and such balustrade will not have any openings larger than 100mm.
PART F: SITE OPERATIONS
All site operations, including protection of the public, will be executed in strict accordance with Part F of the National Building Regulations under the supervision of the ARCHITECT and the ENGINEER.
SOIL POSITIONING: The ground area prescribed in code of practice SABS 0124 shall be treated in accordance with the recommendations of SABS 0124.
PART H: EXCAVATIONS, PART I: FOUNDATIONS, PART J: FLOORS, PART K: WALLS
Parts G, H, J and K will be designed by a PROFESSIONAL ENGINEER and will be executed in strict accordance with the National Building Regulations and SABS 0400.
Approved DAMP PROOF COLOURING as SABS 248:02 to 2008 rendering the full thickness of walls to be rendered at all WALLS at the level of the TOP OF THE SURFACE BED at least 150mm above the adjacent ground and at all WINDOW SILLS.

An approved VERTICAL WATERPROOF MEMBRANE to be fixed where a WALL of a room is in contact with the ground.
Roots to be ANCHORED to walls in compliance with clause KX13 of The National Building Regulations.
PART L: ROOFS
See sections and roof plans for notes and details.
PART M: STAIRWAYS
Stairways will comply with the REGULATIONS and the DEEMED TO SATISFY RULES of Part M of the National Building Regulations and SABS Code of Practice 0400.
PART N: GLAZING
Glazing will comply with the REGULATIONS and the DEEMED TO SATISFY RULES of Part N of the National Building Regulations and SABS Code of Practice 0400.
PART O: LIGHTING AND VENTILATION
HABITABLE ROOMS to be provided with WINDOWS.
The total area of any such window is to be not less than 10% of the floor area served by it for NATURAL LIGHT, and such window will be provided with opening sections for NATURAL VENTILATION the total area of which will not be less than 5% of the floor area of the room, or 0.2sqm, whichever is the greater.
PART P: DRAINAGE
SINGLE STACK and 2 PIPE SYSTEMS as shown comply with Part P of the National Regulations and comprising the following:
1500mm DISCHARGE STACKS, SOIL DISCHARGE PIPES, DRAINS and STACK VENTS of approved material.
50 dia SOIL DISCHARGE PIPES to urinals.
40 dia WASTIC DISCHARGE PIPES to wash hand basins, showers, baths, sinks discharging to single stacks.
GULLYS to comply with P29.

All waste fittings to have RESEALING TRAPS and water seals not less than 150mm.
ACCESS to the drainage installation to be provided by adequately marked and protected and permanently accessible ROODING EYES at all changes of direction, within 1.5m of the drain connection to the sewer, at the highest point of the drain and at 20m intervals along the line of the drain.
INSPECTION EYES at all bends and junctions.
PART R: STORMWATER DISPOSAL
A complete STORMWATER CONTROL and DISPOSAL SYSTEM based on a rational design will be relocated on site.
PART T: FIRE PROTECTION
FIRE PROTECTION PLANS shall be prepared if required.
PART U: REFUSE DISPOSAL
Storage area for REFUSE CONTAINERS is provided in accordance with the requirements of the Local Authority.
PART W: FIRE INSTALLATION
Will be provided in accordance with the requirements of the Local Authority.

Revision	Date	Description

Project: SKA
Klerfontein

Drawing Title:
SHED ELEVATIONS AND LONG DROP

Scale: 1 : 50 on A1 Date: 30/01/23 Drawn by: AM

Drawing No: 2301 W012 Revision: A

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All dimensions to be checked on site before any work is put in hand. Refer any discrepancies to the architect.
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NOTES:
 BASED ON THE NATIONAL BUILDING REGULATIONS AND SABS Code of Practice 0400.
 ALL BUILDING WORK TO COMPLY WITH CURRENT NATIONAL BUILDING REGULATIONS.

PART B: STRUCTURAL NOTES
 The design of the STRUCTURAL ELEMENTS AND COMPONENTS will be carried out by a PROFESSIONAL ENGINEER who has certified that the design complies with the requirements of The National Building Regulations.

PART C: ROOM DIMENSIONS
 HABITABLE ROOMS will have a floor area of not less than 6sqm, a minimum horizontal dimension of not less than 2m and a minimum height of 2.4m.

PART D: PUBLIC SAFETY
 The edge of any CHANGE OF LEVEL more than 1m above any adjacent level is provided with a BALUSTRADE or PARAPET WALL not less than 1m high and such balustrade will not have any openings larger than 100mm.

PART F: SITE OPERATIONS
 All site operations, including protection of the public, will be executed in strict accordance with Part F of The National Building Regulations under the supervision of the ARCHITECT and the ENGINEER.
 SOIL POISONING: The ground area prescribed in code of practice SABS 0124 shall be treated in accordance with the recommendations of SABS 0124.

PART G: EXCAVATIONS, PART H: FOUNDATIONS, PART J: FLOORS, PART K: WALLS
 Parts G, H, J and K will be designed by a PROFESSIONAL ENGINEER and will be executed in strict accordance with the National Building Regulations and SABS 0400.
 Approved DAMP-PROOF COURSING (as SABS 248,952 or 298) extending the full thickness of walls to be installed at all WALLS at the level at the TOP of the SURFACE BED at least 150mm above the adjoining ground and at all WINDOW SILLS.

An approved VERTICAL WATERPROOF MEMBRANE to be fitted where a WALL of a room is in contact with the ground.
 Roots to be ANCHORED to walls in compliance with clause KK13 of The National Building Regulations.

PART L: ROOFS
 See sections and roof plans for notes and details.

PART M: STAIRWAYS
 Stairways will comply with the REGULATIONS and the DEEMED TO SATISFY RULES of Part M of the National Building Regulations and SABS Code of Practice 0400.

PART N: GLAZING
 Glazing will comply with the REGULATIONS and the DEEMED TO SATISFY RULES of Part N of the National Building Regulations and SABS Code of Practice 0400.

PART O: LIGHTING AND VENTILATION
 HABITABLE ROOMS to be provided with WINDOWS.
 The total area of any such window is to be not less than 10% of the floor area served by it for NATURAL LIGHT, and such window will be provided with opening sections for NATURAL VENTILATION the total area of which will not be less than 5% of the floor area of the room, or 0.2sqm, whichever is the greater.

PART P: DRAINAGE
 SINGLE STACK and 2 PIPE SYSTEMS as shown complying with Part P of the National Regulations and comprising the following:-
 100Ø DISCHARGE STACKS, SOIL DISCHARGE PIPES, DRAINS and STACK VENTS of approved material.
 50 dia SOIL DISCHARGE PIPES to urinals.
 40 dia WASTE DISCHARGE PIPES to wash hand basins, showers, baths, sinks discharging to single stacks.
 GULLY to comply with P29.
 All waste fittings to have RESEALING TRAPS and water seals not less than 65mm.
 ACCESS to the drainage installation to be provided by adequately marked and protected and permanently accessible RODDING EYES at all changes of direction, within 1.5m of the drain connection to the sewer, at the highest point of the drain and at 25m intervals along the line of the drain.
 INSPECTION EYES at all bends and junctions.

PART R: STORMWATER DISPOSAL
 A complete STORMWATER CONTROL and DISPOSAL SYSTEM based on a rational design will be reticulated on site.

PART T: FIRE PROTECTION
 FIRE PROTECTION PLANS shall be prepared if required.

PART U: REFUSE DISPOSAL
 Storage area for REFUSE CONTAINERS is provided in accordance with the requirements of the Local Authority.

PART W: FIRE INSTALLATION
 Will be provided in accordance with the requirements of the Local Authority.

All dimensions to be checked on site before any work is put in hand. Refer any discrepancies to the architect.
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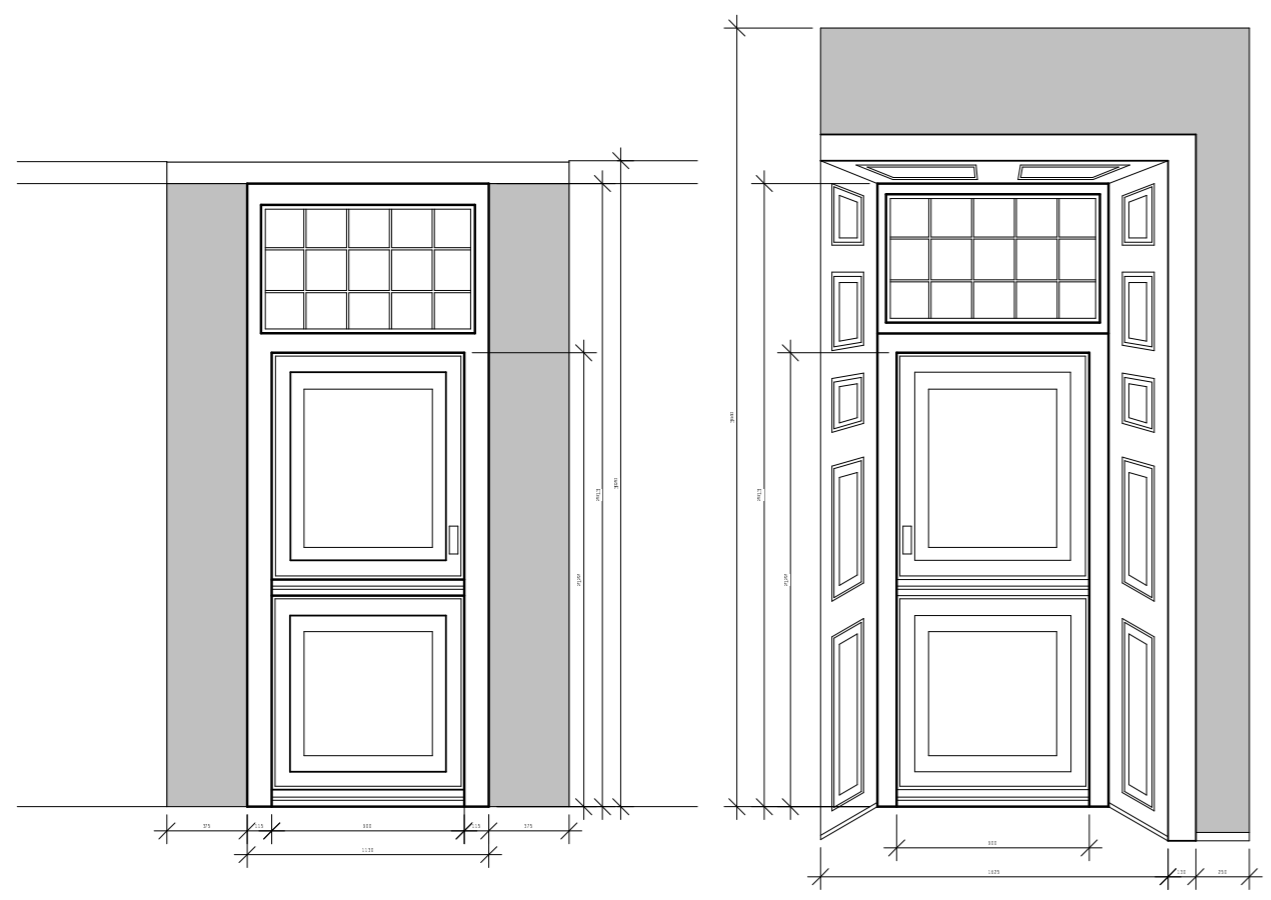
Engineer		
Architect		
Revision	Date	Description

Project: **SKA Klerefontein**

Drawing Title: **FRONT DOOR AND WINDOW DETAIL**

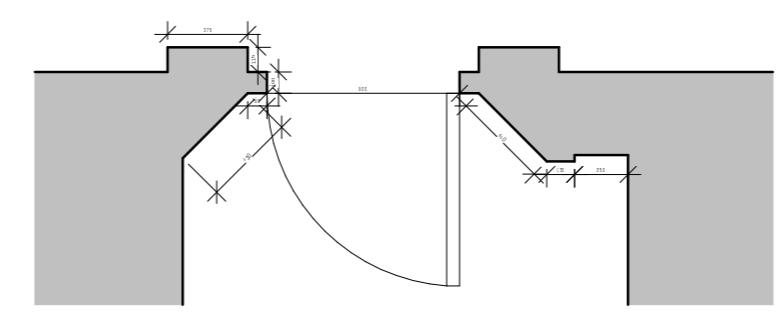
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Drawing No: **2301 W013** Revision: **A**



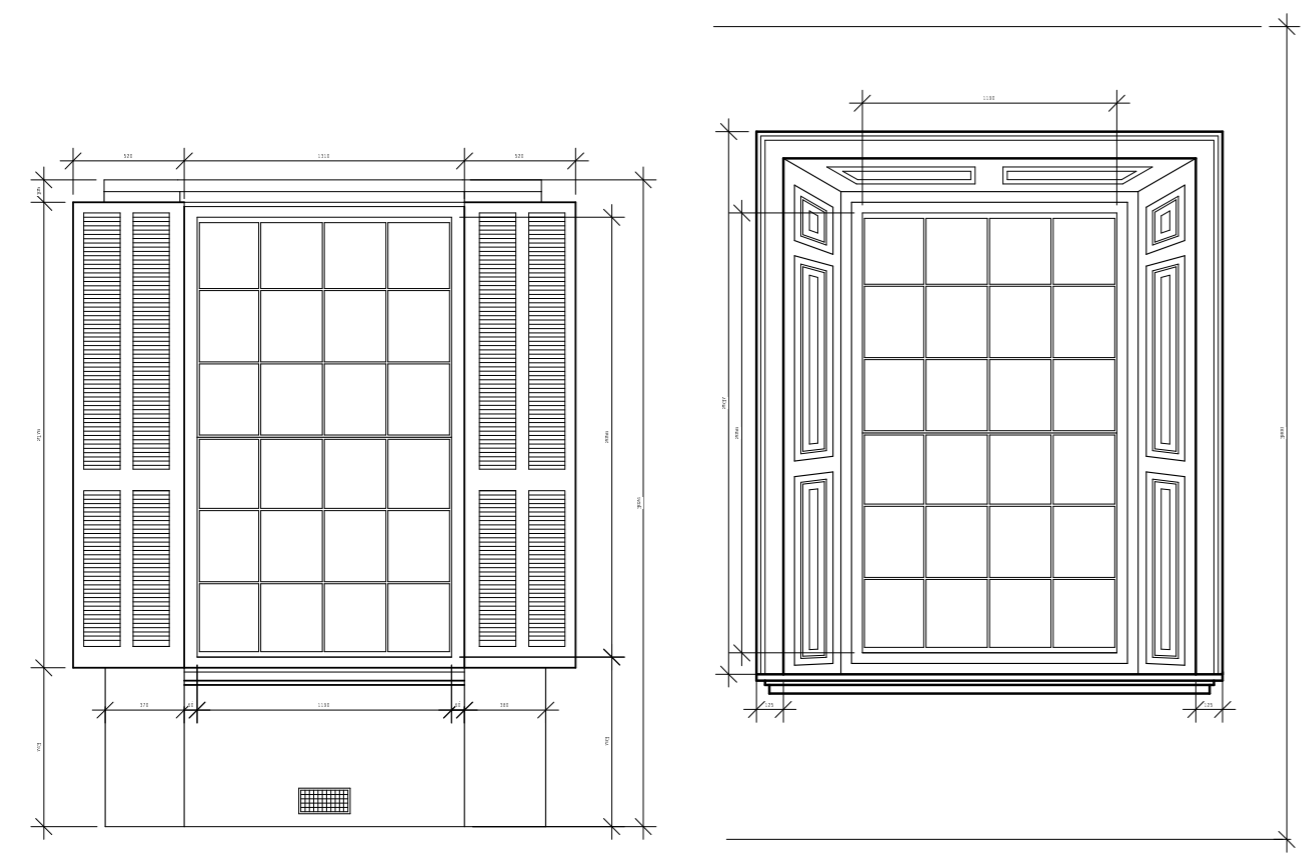
EXTERIOR ELEVATION

INTERIOR ELEVATION



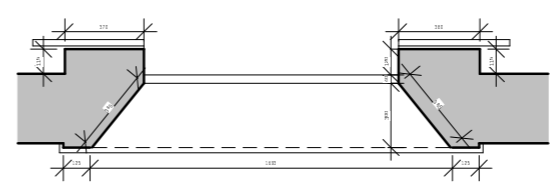
PLAN

Front Door Detail
 1 : 25



EXTERIOR ELEVATION

INTERIOR ELEVATION



PLAN

Window Detail
 1 : 25