

unfuse™

SANCTOREUM

Building **safe habitats** for the **Ikemeleng Miners**

<https://competitions.uni.xyz>



Img 1: An Anglo American Platinum Mine in South Africa. [Source](#)

Premise

The country of South Africa has been renowned worldwide for its mineral wealth, both in diversity and its sheer abundance. Coal, Gold, Diamonds, Chromium, Platinum, Palladium, and Uranium are only some of the resources originating from Africa's mineral fertile soil. Platinum in particular is one of the most utilised metals across the world with a rising demand, primarily for its use in the automobile and the jewellery industry. South Africa provides roughly 80% of the world's supply of the precious metal, contributing to billions in the nation's GDP.

However, the human cost of the mining of platinum over decades at end has been extraordinary, serving as a microcosm of the entirety of the problems associated with the mining industry the world over. The immense social, environmental, physical and inequitable economic costs of these mines in South Africa have drawn international criticism while opening avenues for bringing universal mining conditions under a lens too.



Img 2: A platinum mine shaft outside Rustenburg. [Source](#)

The Platinum Miners

The platinum rich Bushveld Igneous Complex stretching over roughly 60,000 square kilometers accounts for a majority of South Africa's platinum producing mines. The belt comprises of its Northern, Eastern and Western limbs. Among these, the sprawling mining community of Ikemeleng in Kroondal in its western leg forms the nexus of as many as six mining companies.

The region had been a small rural farming village since the 60s that was pillaged with the establishment of mining industries in the region in the 90s. The community of displaced farmers forced into mining for livelihood, and migrant miners looking for opportunities thus made their homes in an informal settlement just across the mines. The overpopulated settlement has grown unchecked since in the face of lack of proper residential provisions and low wages for the mine workers.



[img 3](#): Platinum mines overlooking a day care centre in the Ikemeleng settlement. [Source](#)

Issue

The Ikemeleng informal settlement of miners is at the receiving end of high levels of dust and atmospheric refuse from as many as three mining sites in its immediate vicinity, having a terrible impact on the residents' respiratory health. The sprawling settlement with rows of shacks also lack basic municipal services, and have become flagrant grounds for substance abuse, HIV/Aids and other STDs, rape, underage pregnancy, unemployment and xenophobia. The land around is rendered unfit for agricultural use due to the mining, and a public health crisis within local communities ill-equipped to cope with mining-generated air, land and water pollution is brewing. The miners too seem to be stuck in a vicious cycle, as vast capitalistic conglomerates fail to provide basic working conditions for miners, glossing over mining accidents without proper compensation to the affected. This systematic exploitation of labour has been found to have a disrupting influence on traditional cultural and familial structures.



Img 4: A miner resting outside the Kroondal Mine Hostel [Source](#)

Brief

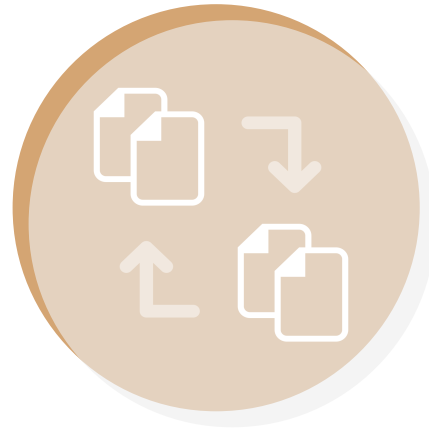
The challenge is to design a neighborhood resettlement model for the mining community of Ikemeleng. For the purpose of the challenge, the size of the community to be relocated would be drastically reduced, and the model so proposed would be intentioned to be replicated to settle the entire mining population in the region.

Following the 2012 Lonmin Strike and its unfortunate aftermath, the government sanctioned some community level facilities like playgrounds, community taps and a primary school. However, the plight of mine workers has continued due to the sheer volume of people to be serviced and erratic supply of provisions. Their desire to lead dignifiable lives remains unmet. This intervention thus takes into account the destructive nature of mining, but also recognises it as the only source of employment for Ikemeleng's community. The challenge doesn't seek to reinvent the process of mining to make it safer for miners, but instead chooses to focus on how those relying on it can thrive in a healthy way.



Resilience

The model neighbourhood must look to be a safe haven for the miners, especially from the environmental hazards stated



Scalability

The design of the model neighbourhood must be scalable to be applied to the whole region



A Beacon

The design must aspire to be a beacon for mining colonies everywhere with subpar living conditions

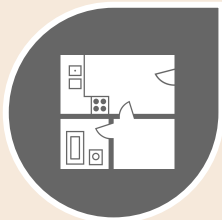


Dignity

The design of the unit and neighborhood must look to restore normalcy of life and dignity for the mining community

Objectives

The above objectives can be a point of beginning to conceive this design. The design requirement (no. of units) and demographic is to be conferred from the programmatic outline.



Individual Family Accommodation

- **75 dwelling units** for families within the mining community
- 4 member demographic
- 50-75 m² in area
- Individual toilets and services shared only among the family



Shared Accommodation

- **Shared accommodations for 150 Miners/Migrant Workers**
- Mixed Demographic: **100 Males and 50 Females** to be housed separately
- Dorm arrangement or bunk bed arrangement
- Common/shared toilets and other services



Community Facilities

- Day Care/Primary School
- Neighbourhood Clinic/Nursing Home
- Small Community Hall/Centre
- Community Library/Kitchen etc

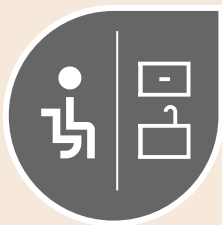
**List is only indicative and not exhaustive. Provisions need to be earmarked only. No detailing required.*



Recreational Facilities

- Park/Playing Pit/Jungle Gym/Sports Pitch
- Neighbourhood Screening Facility
- Cyber Cafes/Computer Centres
- Small Convenience Market for local sellers

**List is only indicative and not exhaustive. Provisions need to be earmarked only. No detailing required.*



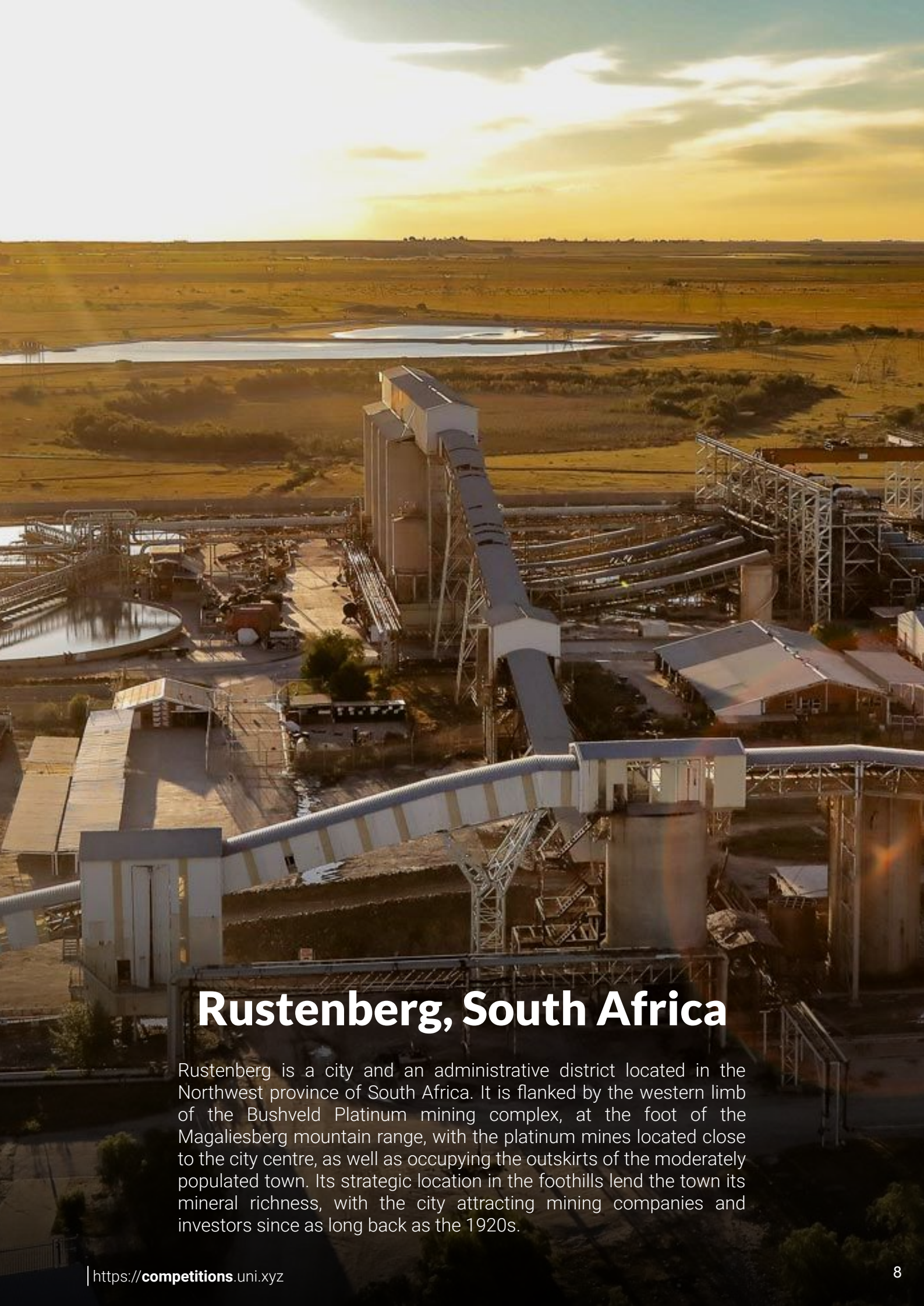
Services

- Municipal level provision for electricity, water and sewage to be assumed

Provisions need to be earmarked only. No detailing required.

Programmatic Outline

The above functional requirements state the provisions that would constitute a functional neighborhood with community welfare as its objective. As stated, the list is not exhaustive, and only indicative. Participants might alter the program if it benefits the design, but these may be used as check marks to conceive the design in finality.



Rustenberg, South Africa

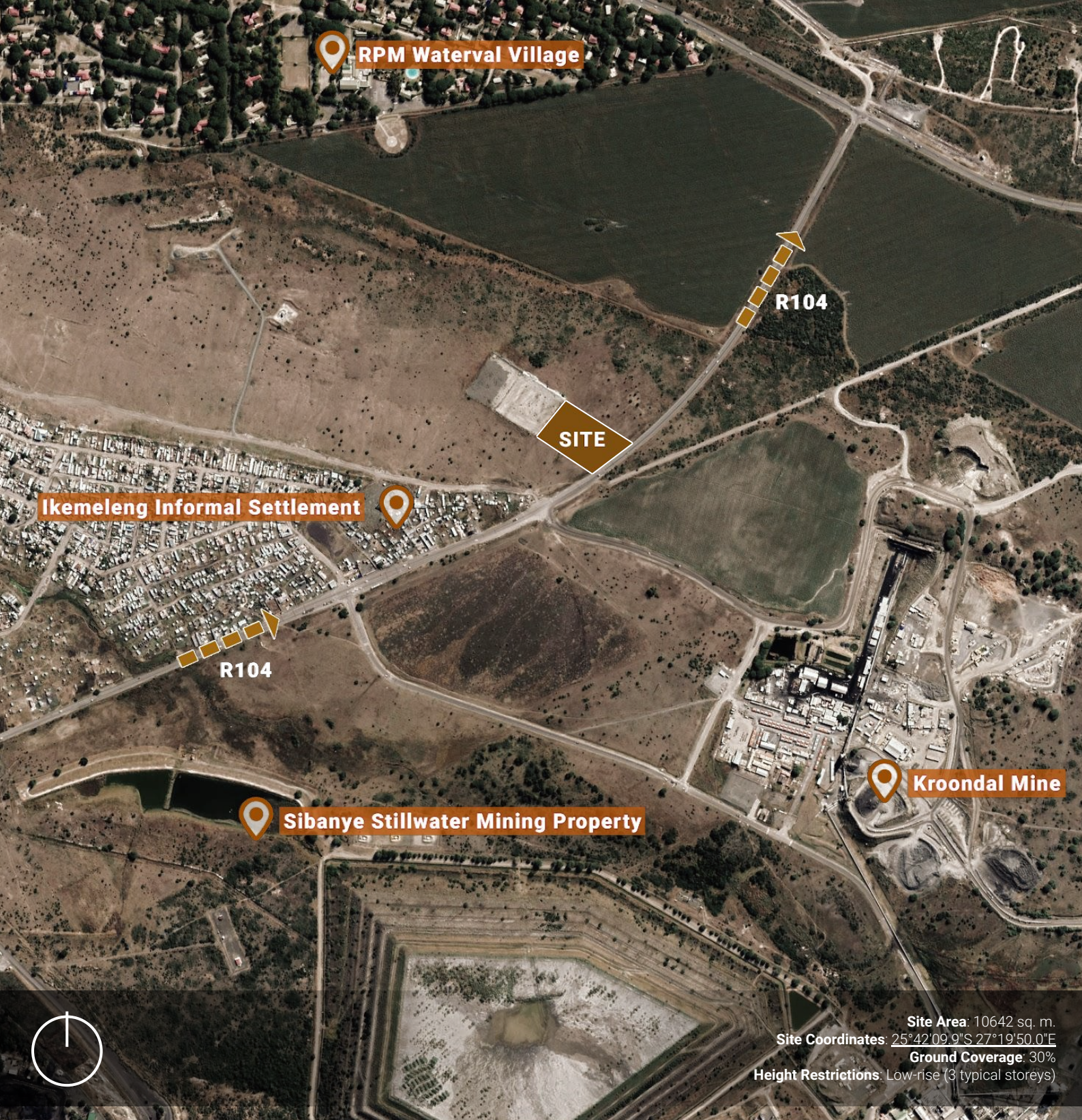
Rustenberg is a city and an administrative district located in the Northwest province of South Africa. It is flanked by the western limb of the Bushveld Platinum mining complex, at the foot of the Magaliesberg mountain range, with the platinum mines located close to the city centre, as well as occupying the outskirts of the moderately populated town. Its strategic location in the foothills lend the town its mineral richness, with the city attracting mining companies and investors since as long back as the 1920s.



[img 5:](#) The informal mining settlement in Ikemeleng, east of Rustenberg, South Africa. [Source](#)

Ikemeleng and the Kroondal Mines

Also called Matebeleng, the sprawling overpopulated community has three companies operating within close proximity, namely Sibanye Stillwater (formally Anglo platinum and Aquarius platinum), Xtrata and Samacor. All these major dig sites are just across the R104 road which separates the informal settlement and the mines. Decades after the community first sprang up and continued growing, Ikemeleng has been a beacon for people seeking employment in the mining industry, many journeying from all over Africa in search of better opportunities. However, the miners here too have been caught in a mosh pit, with years altogether between pay raises, poor working and living conditions. Naturally, the workers still cannot afford renting a place in the town of Rustenberg and have settled in shacks next to the mines themselves, with many replacing those with permanent buildings when their financial position allowed.



[img 6](#): Aerial View of the Site.

Site Plan

The site for the design of the model neighbourhood has been proposed right next to the existing informal miners' settlement of Ikemeleng. As can be inferred from the aerial view of the site, most of the major mining conglomerates and mining pits for Platinum are located in close proximity, contributing to the poor health conditions of the miners. The site has been chosen so as to keep a requisite distance from the mines, while still maintaining the factor of walkability for miners to their workplaces and dig sites.

Guidelines

You have to deliver an architectural outcome on the following site, based on the given outlines.

- Recommended number of sheets/presentation images/boards:

5 (Five) of size [**2362px x 3544px**] or [**400mm x 600mm in 150 dpi**] in portrait digital format (**JPEG only**).

Minimum 3 (Three) & No maximum sheet limit. Each image should be less than **15MB**. (Do not submit PNG format)

Minimum requisite submission are sheets/boards + Cover image containing:

- Site plan (Compulsory)
- Key conceptual sections x 1 (Minimum)
- 3D views x 4
- Cover image / Thumbnail of size 2000px x 1000px or larger in aspect ratio 2:1.
- Answering 6 FAQs #
- This is the link for new file sizes, [here](#).

#The FAQ's have to be answered as instructed in the FAQ document in the 'additional resources folder'.

Deadlines

Discover the competition schedule and deadlines on the competitions page or on this link - [Schedule](#).

Resources

This competition contains additional resources that contains a set of files useful to complete the competition submission. This folder is made available on your profile dashboard automatically as soon as you register.

This additional resources folder of this competition contains: Submission Format files in PSD | AI | InDD, FAQs, High Res maps, High Res Site Images, and CAD file of the site plan.

Rules

- + The competitions is open for **students and professionals** from all the disciplines of design.
- + The team limit for this competition is **4 members maximum per team**.
- + You can register more than one team but they have to be registered separately.
- + Ensure that the final sheets submitted **do not include your name or any other mark of identification**. Your submission is linked to your user account which stands as your identification.
- + This is a design **ideas challenge only**. There is no built commission/realization associated with the problem.
- + In case of publication in yearbook we will reach out separately for selected entries.

Pro-Tips

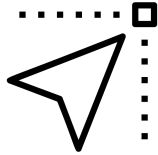
- + Use exploded views to discuss multi levelled conceptual models better.
- + Mention sheet number on corner of every sheet.
- + Plagiarism of any idea / form / design / image will be disqualified with a notice.
- + All the sheets or images will be viewed on a digital device. **e.g.** Laptop screen or projector. Uploaded sheets or images will not be physically printed for evaluation. The submission hence should be prepared for digital viewing only.
- + Submit JPEG images only. (PNG will not function)
- + Learn



Awards

Grants of up to a total of **24,000\$** can be won on this challenge. Learn more about the full conditions on the competition page [here](https://competitions.uni.xyz).

The entries will be judged by an international jury of the competition on the following criterions:



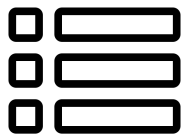
Presentation

The fundamental to a good entry is a good presentation.



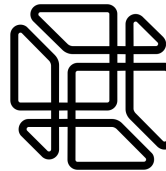
Concept/Idea

Quality of thought and intent in pre-design phase.



Spaces/Programme

How the spaces are calculated and ordered.



Design Outcome

The final architectural outcome of the solution.

Judging Criteria

The judging panel can also add other criterions based on their internal discussions - which will be in line with the problem statement. Participants are advised to fulfil above given criterions first in their design.

About

unfuse™

Unfuse serves as a unit for **Uni** in the field of Architecture. It intends to break the fusion of traditional design barriers and methodologies by making it a platform for experimentation and conceptual exchange of ideas in architecture, urbanism, society, culture and ecology. It is a research initiative dedicated to providing opportunities for designers from all domains to explore ideas that go beyond the boundaries of architectural discipline and enrich our built environment; thereby opening up possibilities for promotion of architectural thought at a global level.

Queries: support@uni.xyz

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Discover FAQ's about this competition on our help forum here: <https://help.uni.xyz/>

The background of the entire advertisement is a photograph of a coastal or estuarine landscape. The sky is filled with heavy, dark, grey clouds, suggesting an approaching storm or late afternoon light. Below the horizon, a body of water stretches across the middle ground. In the distance, a long pier or breakwater structure is visible, composed of many vertical wooden or metal posts. The foreground shows a dark, muddy or silty shore with patches of water reflecting the light from the sky. The overall mood is somber and atmospheric.

unfuse™

Building a **beacon** for **miners'**
habitats the world over.

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