

4 scenarios

The study will investigate the impact of mining operations, with emphasis on the urban, cultural, social and bio-physical environments. This will be done using a scenario-based design solution; addressing the different possibilities.

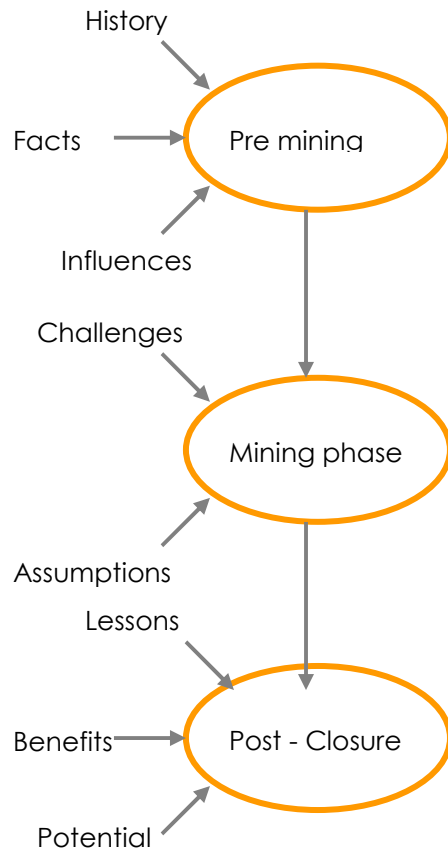


Fig 34: Scenario based approach² (Burger, Le Roux, Tumubwainee, 2006)

Industries like mining can cause havoc on an area. In terms of the people living around it, the issues investigated can broadly be divided into four categories of attention that will need to be focused on:

- Unwanted occupations; as a result of the influx of people into the area. Who would be looking for employment associated with mining activities, that would inevitably lead to sprawl and informal settlement that carries with it a vast number of social evils. For example HIV Aids, prostitution, the social breakdown of family units, poor services and overcrowding.
- Land use; the re-use of the land on which mining has happened is extremely limited, and in most cases does not allow for proper reclamation.
- Pollution; including noise, air, dust and visual pollution.
- Economic dependence of the community on the MINE.

²Burger, LeRoux & Tumubwainee, 2006

Meaning that with the inevitable closure of the MINE, the community is left desolate leading to the creation of ghost towns that were originally dynamic growing urban environments.

With a scenario based approach: there is an attempt to allow for the thoughtful gathering together of what already exists revealing the nature of a place. Something that merely replaces the land with something that is as new and artificial as any building, but which continues the contours or appearance of the land³. Introducing a paradigm shift, in the thinking and approach in the mining industry.

This way of thinking has however been lacking as a result of the unilateral thinking that governs the mining industry. This project in essence aims to plan, from the beginning, a system, a scenario based system that allows for a continual cycle where there is no end and there was no beginning. Merely layers and processes making the proposed mine a temporary state of a particular layer. This concept perpetuates that building with the land in mind is not just the result of ecological concerns. But can be understood as drawing on an ancient tradition of hidden or secret architecture⁴, an argument towards a more sustainable approach to the mining industry.

This thesis attempts to focus on the land, as that which constitutes the very essence of the social, cultural and economic aspect of the area. The source, from which life is born, nurtured and inevitably returns to. The transformation of the land into territory, and the meaning of such assigned space through the most elemental social relationships come from the continual contestation of such space⁵, a representation in the built environment of the layering of spatial assignment to various social practices⁶. A perception of the same as an accumulation of millennia of appropriations and re-appropriations of land cultures traditions and or activities.

What we experience, in other words, is a collection of forms, facades and spaces that are translations of endless negotiations combinations expressed individually but with the same identity in the built environment.

An ideal carried through with a scenario based approach that not only allows for translation and mutation, but also allows for the various forces within each scenario a platform on which it can be played out. An amalgamation of sorts, bringing together the various tensions, differences. A harmonious intersection, within the melody. A combination of one world with another: modernity and the culture traditions that where.

³ Betsky, Land scrappers, 2005:7

⁴ IBID:10

⁵ IBID:10

⁶ IBID:11

Several parameters have been set in the identification of a scenario that will address the problems raised while also continuing in dialogue with other proposed and evolved scenarios. These are:

Access

All urban inhabitants should enjoy relatively easy and equitable access to urban opportunities⁷. In the scenario suggested the need for both visual and physical access is paramount in conceptualizing a space that is multi-lateral in its layout, function and perception. The spatial implication of the concern with ease of access is the primary physical barrier of cost to overcome the friction⁸ created between the built and physical environment.

Promotion of collective activities and contact. The places of greatest interactions in cities and this case the town of Saulspoor, are the places of greatest opportunity⁹. In the case of Saulspoor bearing in mind the cultural dynamics prevalent in the area this would be the gathering spaces and the points of transport interchange.

Needs

These include physical needs; shelter food, social needs; opportunities for interaction, psychological needs; security identity. Sensory needs; visual accessibility textures a sense of place. By investigating a suitable design approach in the town of Saulspoor this thesis attempt to satisfy those needs. In addressing and allowing for qualities that provide a critical base from which urban policies, plans and physical actions can be evaluated¹⁰.

Balance

Balance; balance between society and the cosmos concerning matters like traditions culture and the prevailing social dynamics. The design of an expression of wholeness; recognition, celebration of the natural, cultural and historical uniqueness of different places and times.

The second is the balance between society and nature. Allowing people to be part of the totality of the place in which they live.

The third is the concept of balance in the relationship between people as expressed through urban activities. By the creation of spaces that serve as a platform on which activity can occur¹¹.

Arguably the urban environment is made up of created activity and not just a platform. Where the activity is part of the design before the spaces created are planned around their planned

⁷ Dewar, South African Cities: A Manifesto for Change, 1991: pg 16

⁸ IBID: pg 16

⁹ IBID: pg 17

¹⁰ IBID: pg 18

¹¹ IBID: pg 16

activities. A place therefore designed around the activity is much more than just a place that is designed waiting for spontaneous commotion¹².

Intensity, diversity and necessary complexity

A variety of overlapping conditions and activities provides for the spontaneous and unexpected to occur. Here again suggested with the multi-lateral use and function of the proposed spaces.

Integration

Communities can benefit from a greater range of opportunities and facilities than can be generated by their operating in isolation. Again as stated previously spaces and buildings should be multifunctional¹³

Community

In essence community relates to creating a sense of identity and belonging. This is largely dependant on interaction and communication and cannot be artificially forced. Identity is largely dependant on an assortment of complex forms of social organization and institutions operating over many different scales¹⁴.

Idea context and program

Idea identifies spatial relationships, which contribute to the meeting of need: it has form but not yet design¹⁵.

Context is the application of idea to place: it gives reality to the idea and is the design response to the particularities of place

The design process is not a linear process but a cyclical one: understandings gained in one stage feed back into and lead to adjustments in the others¹⁶.

Program develops out of need. It establishes some of the constraints within which the idea must be developed and reflects an expression of the nature of environments within which urban life must be lived¹⁷.

¹²Gooding, Song of the Earth, 2002: pg16-21

¹³Dewar, South African Cities: A Manifesto for Change, 1991: pg 20

¹⁴IBID: pg 21

¹⁵IBID: pg 14

¹⁶IBID: pg 14

¹⁷IBID: pg 15

SCENARIO 1

Linear development; in this scenario the option whereby urban settlement, and development happens along the road that connects the proposed Kriundfontein Mine Project to the town of Saulspoort is investigated. The introduction of various interventions along this route is the focus of the study, allowing and planning for a linear development. This would deal with the possible settlement from the influx of peoples into the area with the MINE set up, tapping into this human resource to create an urban environment that allows for a platform for growth and development within a proposed framework.

Why?

- The proximity of the intervention from the mining operations, allowing this to draw from the energies that are associated with the MINE.
- There is an element of privacy, retained by the MINE from the proposed development area.
- The linear development allows for the implementation of retail and social facilities for the community
- Within this scenario, lies the possibility for new housing initiatives along the main road connecting the town to the MINE.
- There is an allowance for the preservation of the current socio-cultural dynamics within the town of Saulspoort.
- The Client brief to provide for an intervention that is not directly connected to the MINE is met.
- There is an opportunity for some of the moveable elements of the MINE to be integrated into the proposed linear development along the road.
- The proposed intervention is within a 10km radius that eases the transport issue for the workers to and from the MINE.
- The proposed linear development is also within close proximity of the neighboring settlements, and can act as a catalyst that starts to link these settlements together to create a more coherent urban fabric.
- This proposed intervention could play an important role in the development of an entrance gate for the proposed Heritage Park

Why not?

- The issue of the visual impact as a result of the MINE is not addressed within this scenario.
- The opportunity to upgrade town facilities will be lost
- Uncontrolled this intervention could lead to unwanted urban sprawl, and/or uncontrolled development
- The MINE would have to put up additional services and infrastructure. This would have huge financial implications, which are not in line with the agenda of the MINE.

- An opportunity to utilize and upgrade the existing infrastructure within Saulspoort would be lost with this proposed intervention.

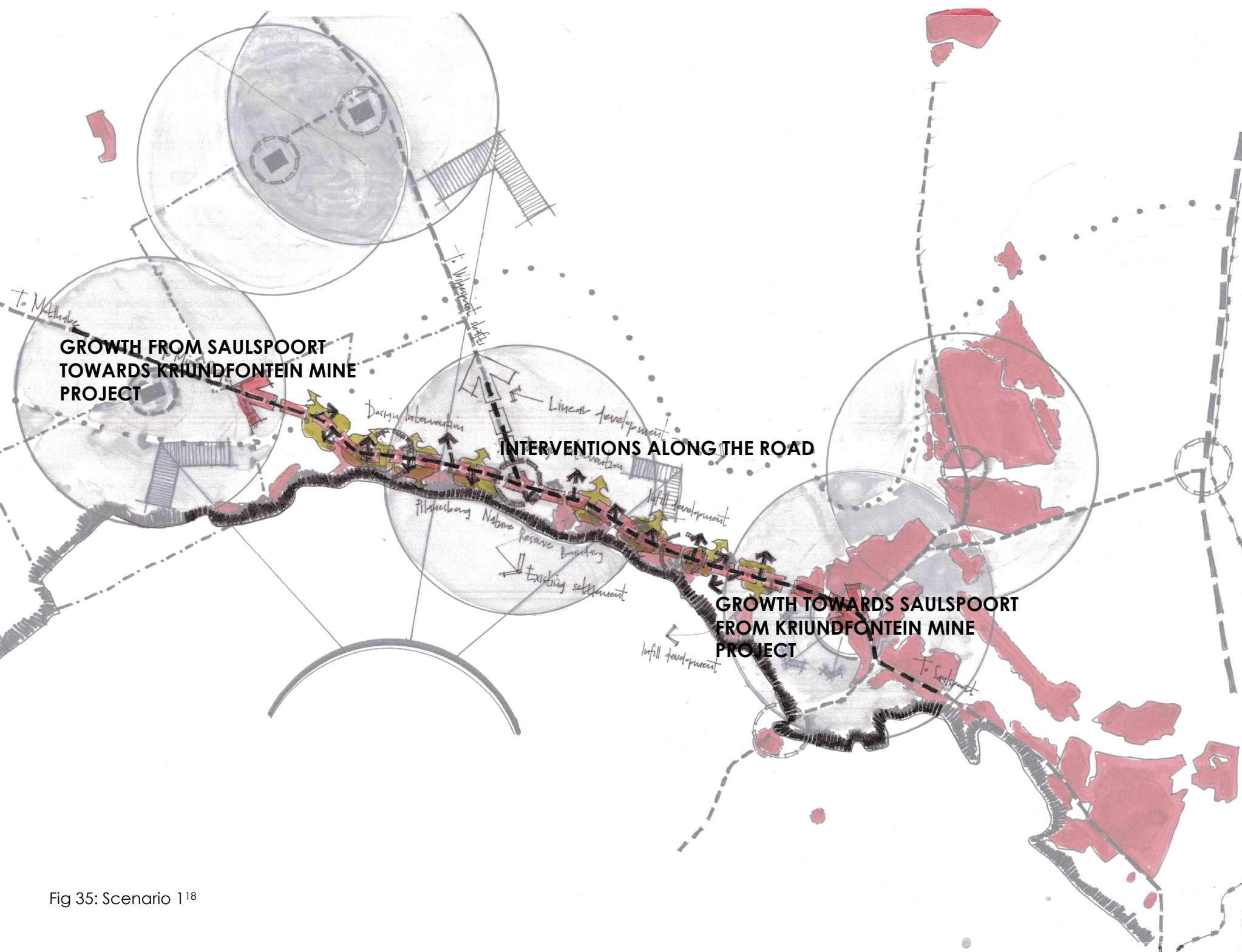


Fig 35: Scenario 1¹⁸

¹⁸ Burger, LeRoux & Tumubweinee, 2006

SCENARIO 2

Development around the proposed Kruidfontein Mining Project; this scenario addresses the development in and around the MINE location. This implies that the MINE acts as a catalyst for development. Within this scenario the possibility of the MINE as a nucleus that holds the proposed urban development is investigated. With emphasis on a more systemic design for both the MINE and its operation in relation to the built and urban environment created around it.

Why?

- Walking distance from any point of the intervention to the MINE location.
- The possibility of a creative transport alternative e.g. a tram railway route is allowed for.
- This scenario allows for the creation of a "mining town" that would be able to feed off the infrastructure set up for the function of the MINE.
- There is an element of privacy retained by the MINE as the proposed development would not be within the MINE but around it.
- Typically informal settlements do tend to occur around the MINE site, this scenario allows for more formalized approach to this. This in turn would allow for the addressing of the socio-cultural issues associated with these informal settlements.
- With the introduction of a secondary industry post-closure; this proposed point of intervention allows an established urban fabric that would be able to support and endow much needed skills and being into this.
- The emphasis of the design on the area directly surrounding the MINE site, allows for a solidification of the intervention on the landscape. In turn reducing the visual impact that would have been caused as a result of the mining process.

Why not?

- The proposed Kruidfontein Mining Project lies at the foot of the Pilanesberg National Park. This approach to problem solving would further escalate the visual, noise and dust pollution, directly affecting the Pilanesberg National Park and the proposed heritage corridor in this area. Having a negative effect on what is fast growing tourism industry in the area.
- An opportunity to utilize and upgrade the existing infrastructure within Saulspoor would be lost with this proposed intervention.
- The cultural values and sacraments within Saulspoor would be watered down and possibly even lost. As a result of the creation of a parallel culture around the MINE site.
- An increment in the distance from mining infrastructure in relation to the town. The separation of the two would further be increased denying an opportunity for the

integration of both the MINE and the community in Saulspoor.

- With an intervention around the MINE, there would a drawing of the urban energies out of the town of Saulspoor. Leading to a decline in the already fragile urban coherence within Saulspoor.
- The proposed intervention is not within walking distance of the existing social and retail services. Denying the existing small industries a chance to draw on the spin offs that are related to a MINE set up.
- The scenario lends itself to possible urban sprawl and over development and around the MINE site.
- There is a level for which you can densify, to before the urban fabric becomes a barrier to animal and plant species. This intervention makes no allowance for this. Implying a possible loss of the natural landscape to urban and built environments.

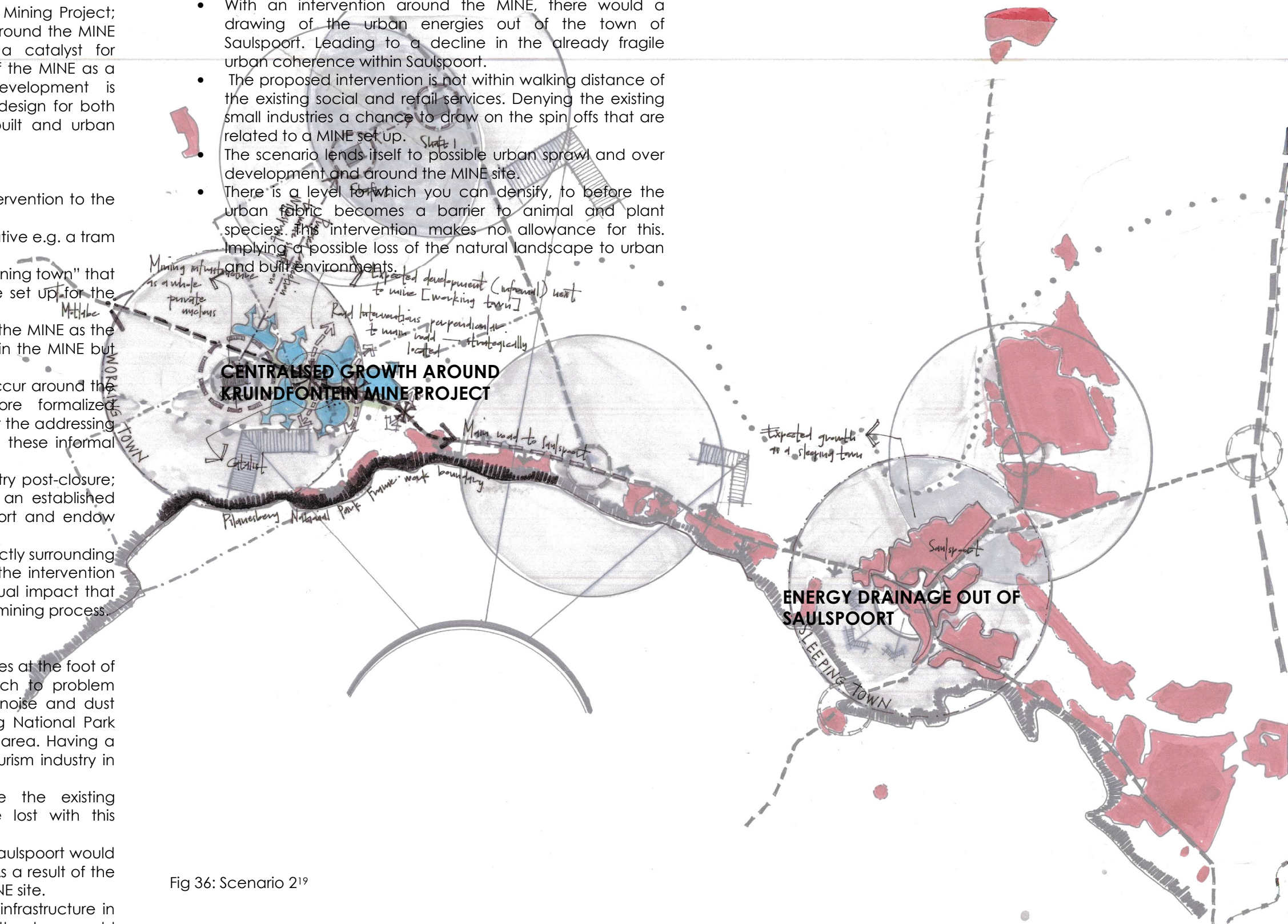


Fig 36: Scenario 2¹⁹

¹⁹Burger, LeRoux & Tumubweinee, 2006

SCENARIO 3

This scenario investigates the introduction of catalytic interventions, at all the major intersections between the proposed Kruidfontein Mining Project site and the town of Saulspoot.

Why?

- There is an element of privacy retained by the MINE as the proposed development would not be within the MINE but around it.
- With the introduction of a secondary industry post-closure; this proposed point of intervention allows an established urban fabric that would be able to support and endow much needed skills and being into this.
- This proposed intervention could play an important role in the development of an entrance gate for the proposed Heritage Park
- There is an allowance for the preservation of the current socio-cultural dynamics within the town of Saulspoot.
- The Client brief to provide for an intervention that is not directly connected to the MINE is met.
- The possibility to introduce mine infrastructure into the intervention
- Within this scenario, lies the possibility for new housing initiatives along the main road connecting the town to the MINE.
- Adjacent farms also demarcated for mining, will be able to reuse some of the mining infrastructure introduced in the intervention
- This scenario provides an opportunity for the integration of the moveable elements of the MINE into the community.
- This scenario makes use of the existing link between the Bakgatla Gate Resort to the proposed Kruidfontein Mining Project. Allowing for further growth in the tourism industry, while allowing for some sort of connection between the community and the MINE.

Why not?

- An opportunity to utilize and upgrade the existing infrastructure within Saulspoot would be lost with this proposed intervention.
- The scenario lends itself to possible urban sprawl and over development and around the MINE site.
- An increment in the distance from mining infrastructure in relation to the town. The separation of the two would further be increased denying an opportunity for the integration of both the MINE and the community in Saulspoot.
- The cultural values and sacraments within Saulspoot would be watered down and possibly even lost. As a result of the creation of a parallel culture around the MINE site.

- The MINE would have to put up additional services and infrastructure. This would have huge financial implications, which are not in line with the agenda of the MINE.
- This intervention makes no allowance for over-development in the built environment. Implying a possible loss of the natural landscape to urban and built environments.

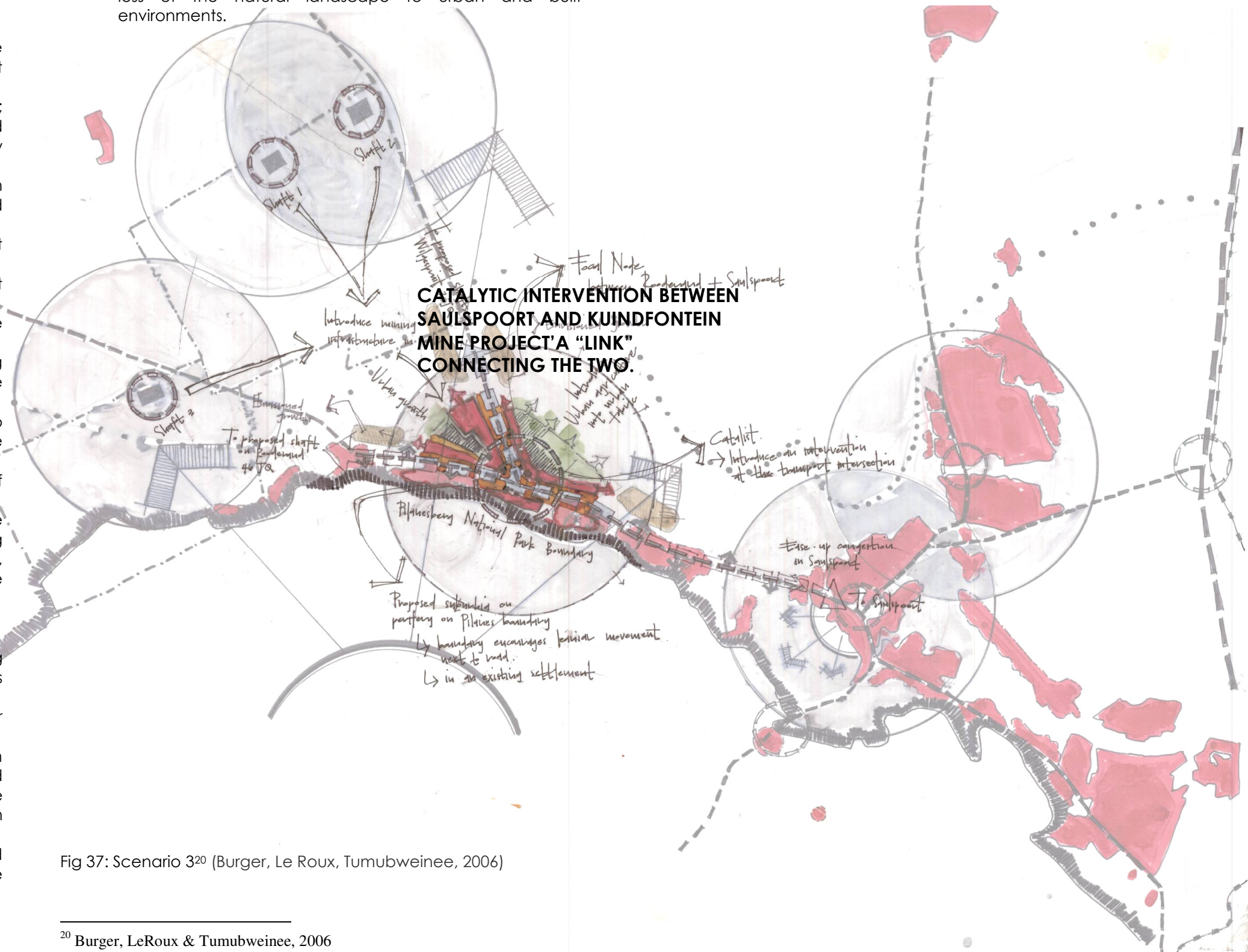


Fig 37: Scenario 3²⁰ (Burger, Le Roux, Tumubweinee, 2006)

²⁰ Burger, LeRoux & Tumubweinee, 2006

SCENARIO 4

In this scenario an intervention is proposed in the town of Saulspoor.

Why?

- In proposing an intervention in the town of Saulspoor, this scenario reduces on the noise, visual and dust pollution. This would be as a result of densification of Saulspoor and the condensation of the MINE; as its moveable elements could then be located in an already existing urban fabric.
- Saulspoor being the closest town to the proposed MINE site would be the most affected. This scenario allows for the opportunity where the MINE can start a community partnership and being to erase the stigma's that dog the mining industry.
- The opportunity to anticipate and design for the rapid urban sprawl that will result from the Mine implementation
- Saulspoor has as its interface with the Pilanesberg National Park the Bakgatla Gate Resort. This fact coupled with an investment of the MINE into the community would increase the traffic both vehicular and human within the town. Allowing for a platform on which various other activities be they social, cultural and/or economic a chance to grow and play themselves out. A key issue in the attempt to create a paradigm shift in the effects and approach to mining in rural communities.
- An opportunity to utilize and upgrade the existing infrastructure within Saulspoor is created with this scenario. This would allow for an economic investment into the community.
- This proposed intervention could play an important role in the development of an entrance gate for the proposed Heritage Park
- This scenario provides an opportunity for the integration of the moveable elements of the MINE into the community.
- By proposing for an intervention in Saulspoor, the issue of appropriation post-closure is addressed. As a result of proximity of the intervention to the community.

Why not?

- The cultural values and sacraments within Saulspoor would be watered down and possibly even lost. As a result of the creation of a parallel culture around the MINE site.
- An increment in the distance from mining infrastructure in relation to the town. The separation of the two would further be increased denying an opportunity for the integration of both the MINE and the community in Saulspoor.
- The built environment proposed as a result of this scenario may not be a true reflection of the context of the town.
- Only a limited number of mining and/or activities that one can integrate into an existing urban fabric.

- The scenario opens the privacy of the MINE up to exposure and abuse.
- Less attention to the closure plan will be given since the Plant will not be used for other purposes after operation ceases.

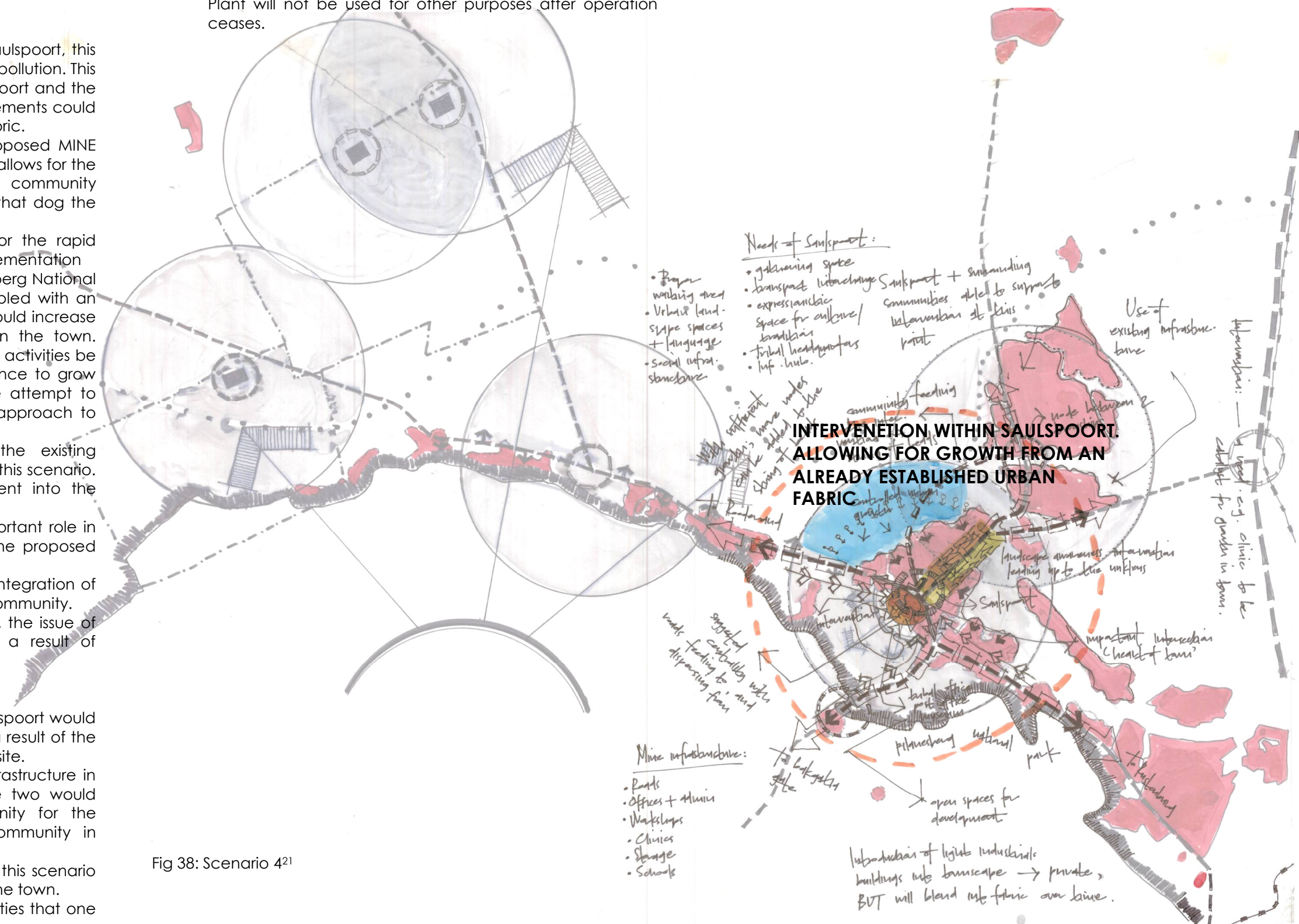


Fig 38: Scenario 4²¹

²¹Burger, LeRoux & Tumubwaine, 2006

Scenario 4A

Identified at the main cross roads, the location in relation to the rest of the town lends this scenario to a more commercial based intervention.

Opportunities:

- The site is at a cross road that allows for easy access onto and off it. It is also located next to the taxi rank in Saulspoor allowing it to draw from the energies associated with transport interchanges.
- There is a sense of visual security from the site into the town centre and towards the MINE
- An intervention further out of the town centre allows for a balance between the old and the new.
- The introduction of a more commercial industrial hub would diversify the activities within the town of Saulspoor, creating more economic opportunities and allow for growth.
- The site is adjacent to a residential area, allowing for an incorporation of the same into it. Creating the opportunity for a multi-lateral multi-functional space and intervention.
- This intervention allows for the possible expansion and upgrade of the existing commerce happening on it.
- This scenario would function as the gateway to and from the MINE. A point at which the town and the MINE are integrated and/ or linked together. A connection point from which they both draw reference.

Scenario 4B

Situated at the heart of Saulspoor, this scenario covers the site on which the Mpehobatho Place-Dome Museum, the Tribal and Municipal Offices, the Dental Surgery, a primary school, the NG Kerk Church and the Post Box sit.

Opportunities:

- There is a sense of visual security from the site into and from the town centre.
- An intervention in the centre of Saulspoor allows for maximum exposure of the MINE to the community.
- The integration of some of the MINE elements into the heart of Saulspoor allows for the MINE to align itself to the administrative and cultural authorities. Allowing for a more favorable response from the community.
- This intervention allows for the possible expansion and upgrade of the existing infrastructure happening on it.
- The issue of later appropriation by the community is resolved, as the set up infrastructure would be integrated into the Saulspoor urban fabric.
- The intervention would be able to draw on the already existing energies of gathering and movement (as a result of the location of the Tribal Offices) associated with the site.

- The Museum as a link to the Arts & Crafts in the area would serve to bring into this intervention a multi-lateral component that would allow for the diversity in functionality of this development.
- The proposed site is adjacent to the main road in Saulspoor, allowing for easy access onto and off the site.

Scenario 4C

The area covered by this intervention incorporates the cross roads that form the gateway into Saulspoor from Johannesburg and Pretoria. Also included is the site on which the Tribal and Municipal offices sit.

Opportunities:

- There is a sense of visual security from the site into and from the town centre.
- An intervention in the town of Saulspoor allows for maximum exposure of the MINE to the community.
- The integration of some of the MINE elements into the heart of Saulspoor allows for the MINE to align itself to the administrative and cultural authorities. Allowing for a more favorable response from the community.
- This intervention allows for the possible expansion and upgrade of the existing infrastructure happening on it.
- The issue of later appropriation by the community is resolved, as the set up infrastructure would be integrated into the Saulspoor urban fabric.
- The intervention would be able to draw on the already existing energies of gathering and movement (as a result of the location of the Tribal Offices) associated with the site.
- The proposed site has two major routes crossing through it, allowing for easy access onto and off the site.
- The site is adjacent to a residential area, allowing for an incorporation of the same into it. Creating the opportunity for a multi-lateral multi-functional space and intervention.
- The available land for development.

Scenario 4D

This scenario is located at the George Stegman Hospital, and a secondary school. Situated further out of Saulspoor, the site is located enroute to the Bakgathla Gate Resort.

Opportunities:

- An intervention further out of the town centre allows for a balance between the old and the new, while allowing for the privacy required by the MINE.
- This intervention allows for the possible expansion and upgrade of the existing infrastructure happening on it. Namely the George Stegman Hospital.
- The intervention would be able to draw on the already existing energies of gathering and movement (as a result of

the location of the George Stegman Hospital) associated with the site.

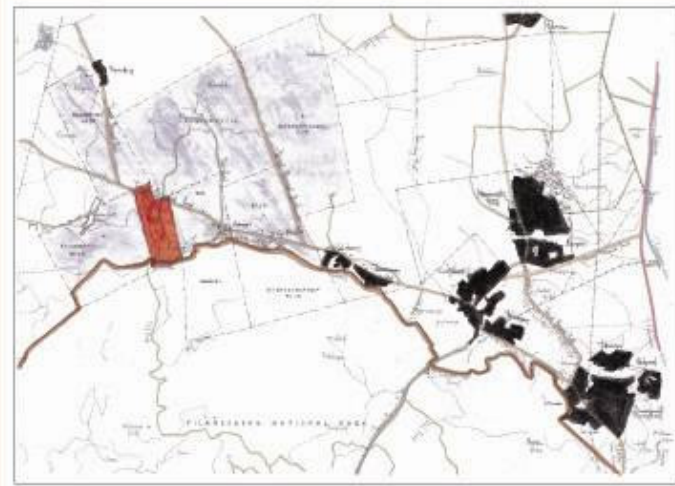
- The proposed site has a major route crossing through it, allowing for easy access onto and off the site.
- The site is adjacent to a residential area, allowing for an incorporation of the same into it. Creating the opportunity for a multi-lateral multi-functional space and intervention.
- The site is on route to the Bakgathla Gate Resort. Giving the intervention a chance to tap into the Tourism element of Saulspoor. This would also allow for the diversification in the functions that could be accommodated within this development.
- Development as centre of learning, and training.

Scenario 4E

Located furthest from the centre of Saulspoor, this scenario includes a Mechanic workshop, Local Government offices and is adjacent to two schools.

Opportunities:

- An intervention further out of the town centre allows for a balance between the old and the new, while allowing for the privacy required by the MINE.
- This intervention allows for the possible expansion and upgrade of the existing infrastructure happening on it. Namely the schools adjacent to it.
- The proposed site has a major route crossing through it, allowing for easy access onto and off the site.
- The site is adjacent to a residential area, allowing for an incorporation of the same into it. Creating the opportunity for a multi-lateral multi-functional space and intervention.
- Located in an under-developed part of Saulspoor, this intervention allows for a bigger development opportunity.
- The Town Tavern directly opposite this site brings a social aspect into the scenario. Creating the opportunity for a multi-functional space and development.
- With vehicular and pedestrian routes crossing this site, the MINE's exposure to the community is further enhanced.
- Its location lends itself to being a link between Saulspoor and the surrounding communities.
- The adjacent football field allows for a recreational aspect in the developme



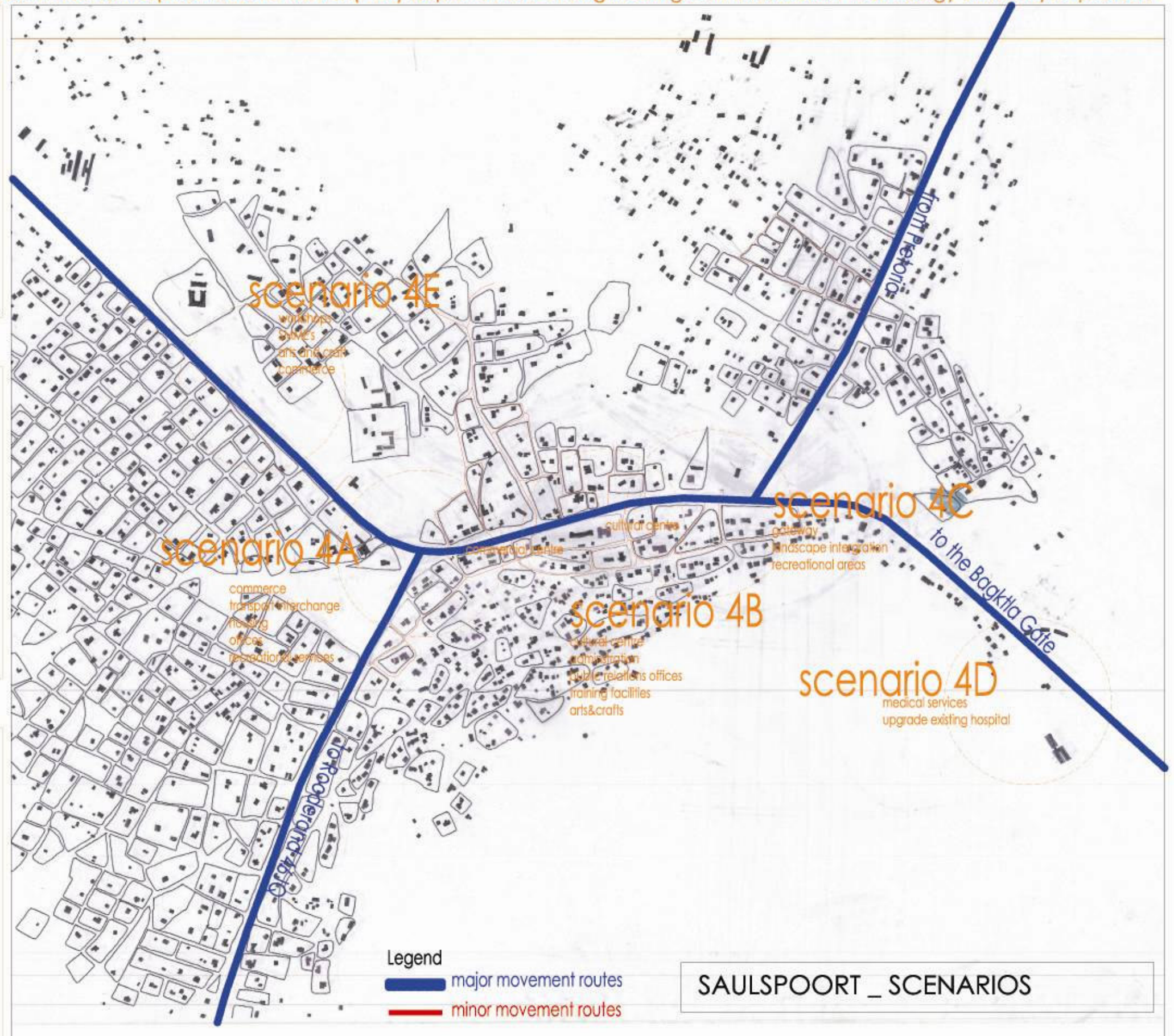
moses kokane municipality urban fabric



moses kokane municipality bio-physical analysis



aerial view_SAUSSPOORT TOWN



Legend
major movement routes
minor movement routes

SAULSPOORT _ SCENARIOS