DSPACE

https://dspace.org/

Integration of the peripheral community: defining fractured urbanism in Grahamstown

Erasmus, Marius

2014-02-20
http://hdl.handle.net10539/13895

Downloaded from a DSpace repository. https://dspace.org/

CHAPTER

04

This is the way cities were designed in the past ages. The forum like a main hall had a regular form. Its visible open space was designed to produce a desired effect. Irregularities in the plan, on the contrary, were enclosed in built-over areas or hidden in walls, procedures both simple and clever. We follow the opposite course today. (Cannife, 2006, p.9)

Above quote by Camillo Sitte in1889

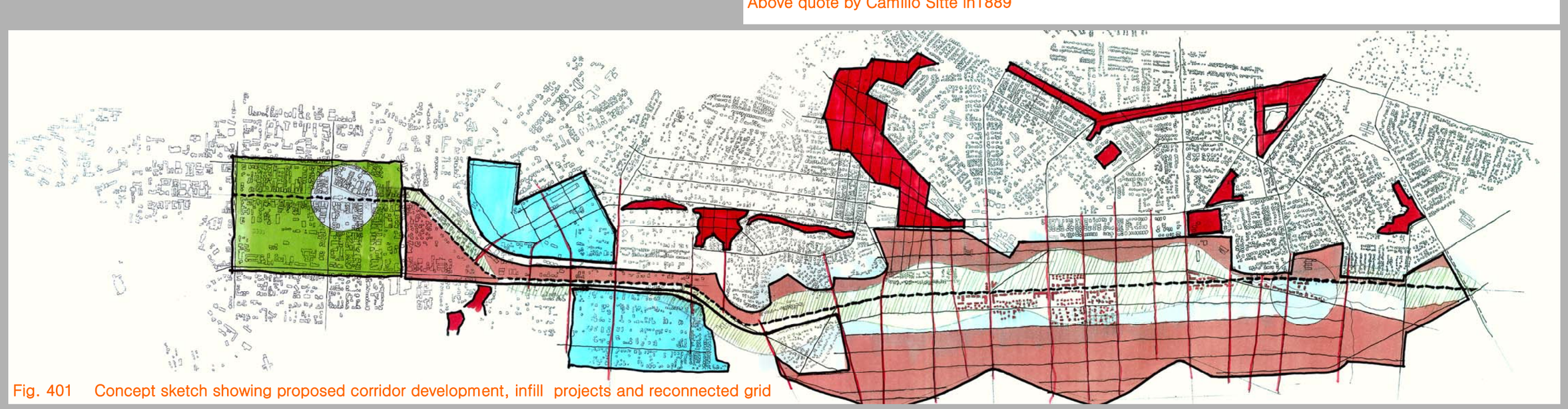


Fig. 401 Concept sketch showing proposed corridor development, infill projects and reconnected grid

Design

Above diagrams by: Author Pencil on tracing paper colour in Copic marker

4.1 DESIGN DEVELOPMENT

The analysis of Grahamstown led to three basic maps.

1. **Basic plan for expansion**, reconnecting the grid in Grahamstown. The main driver for reconnecting the grid was to reconnect isolated land parcels. These land parcels could then be developed as infill development. This also allows for densification within the current footprint of Rini (Grahamstown East) and Grahamstown West (Colonial town). The grid would be connected by extending the existing roads across the corridor on Raglan Road, the old R67. The rhythm of the current road system would be respected, this rhythm would determine the need for collector and pedestrian roads and alley ways. The existing rhythm would also dictate to some extent the size of the blocks.
2. **A preliminary open space plan** was necessary to try and consolidate the open spaces in the township, and move them to areas more suited. The report on PUGS (Shackleton, 2011) was instrumental in the decision to move PUGS (Public Urban Green Spaces) to areas more suited for regular use and maintenance and to use the current space left after moving for infill development.
3. **Preliminary land use and redevelopment plan** for Grahamstown. The existing urban development framework by the Makana municipality, indicated a housing shortage. It also indicated the availability of land for development on the Eastern Commonage. This led to the proposed linkage of High street to Raglan road along Cobden street and out on the existing R67. This corridor lends itself to development in two ways, firstly as a link between Grahamstown East and West, and secondly as a corridor between Rini and the east commonage. By linking across this corridor the east commonage will be drawn in to Rini.

Methods to heal fractures and fissures in the urban fabric

Re-establish the traditional road grid in areas which are isolated

Re-activate vacant land by linkages to nearby roads and services

Limit sprawl by determining an urban development boundary

Terminate with a facility or facilities that clearly form an urban boundary

Infill development rather than new land use on periphery

Re-connect the urban centre with the urban fringe along a clearly defined spine or corridor

Re-organise traffic and transport to facilitate business growth and development within the city spine

Place buildings in positions as to define space rather than in positions to become objects.

Upgrade and redevelop current roads and infrastructure to handle larger loads rather than develop new roads on periphery

Re-develop older areas by densification and upgrading of existing

Densification in areas in the highest need of housing and facilities first.

1. Basic block plan for expansion (reconnect the grid)



Fig. 402 Diagram showing proposed grid

2. Open space plan (based on pugs report)



Fig. 403 Diagram showing proposed open space network

3. Preliminary land use plan (densification and corridor development)



Fig. 404 Diagram showing proposed land-use

Above diagrams by: Author Pencil on tracing paper colour in Copic marker

Cracks and fissures occur in the township social fabric and template as new residential areas engulf older ones and new shack areas sprout up alongside and in-between formal houses. This creates new cracks, splits and seams in an intertwined, but fluid environment. Social fluidity and physical movement, which reshuffle people in confined spaces, is central to fractured urbanism..

Where cracks emerged, social webs of connectivity knit together the torn social fabric. Kinship networks plastered over fissures and cut across residential boundaries and borders, as do social clubs allegiances and other networks. *Leslie J. Banks*



Fig. 405

The existing and proposed Land use was a starting point for the design. It identifies problems within the current urban fabric and tries to respond in a relevant and concise way. It looks at the strategic change or moving of land use to facilitate development in areas lacking investment.

This is a simulated land use plan that proposes facility spread, to ensure an equal distribution within the development boundary of functions and economic opportunity.

The proposed land use plan also aims to provide land for sustainable subsistence farming.

4.2 Existing & Proposed Land use



Fig. 406

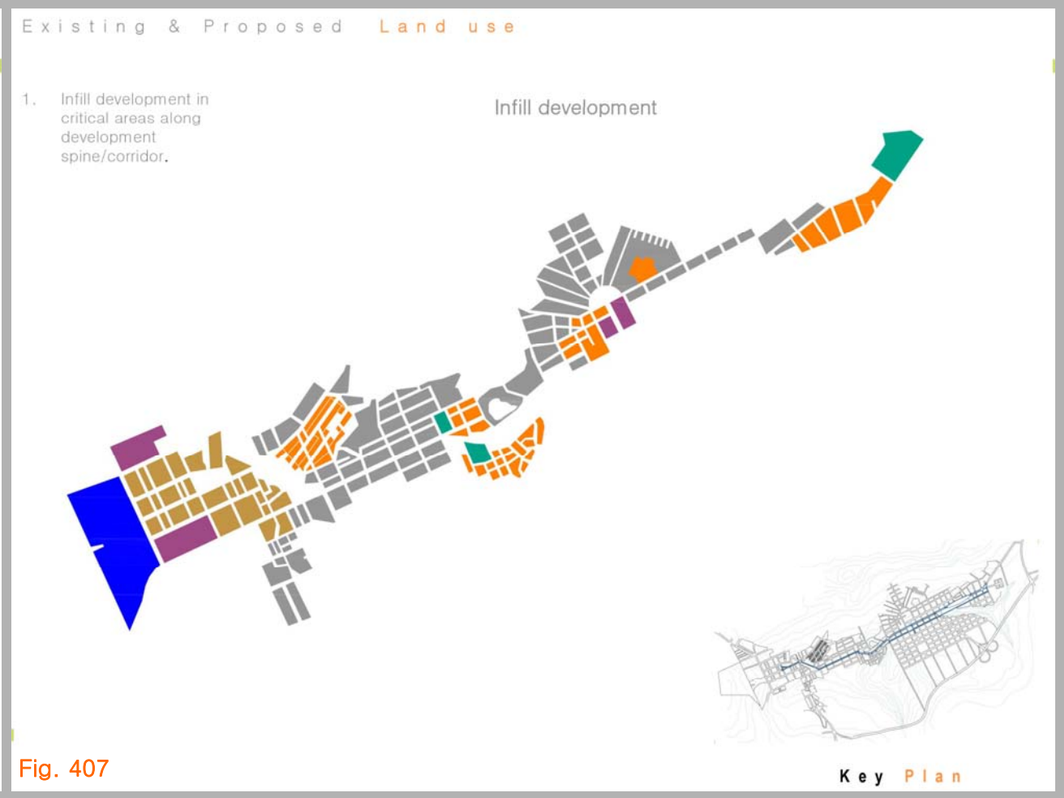


Fig. 407



Fig. 408

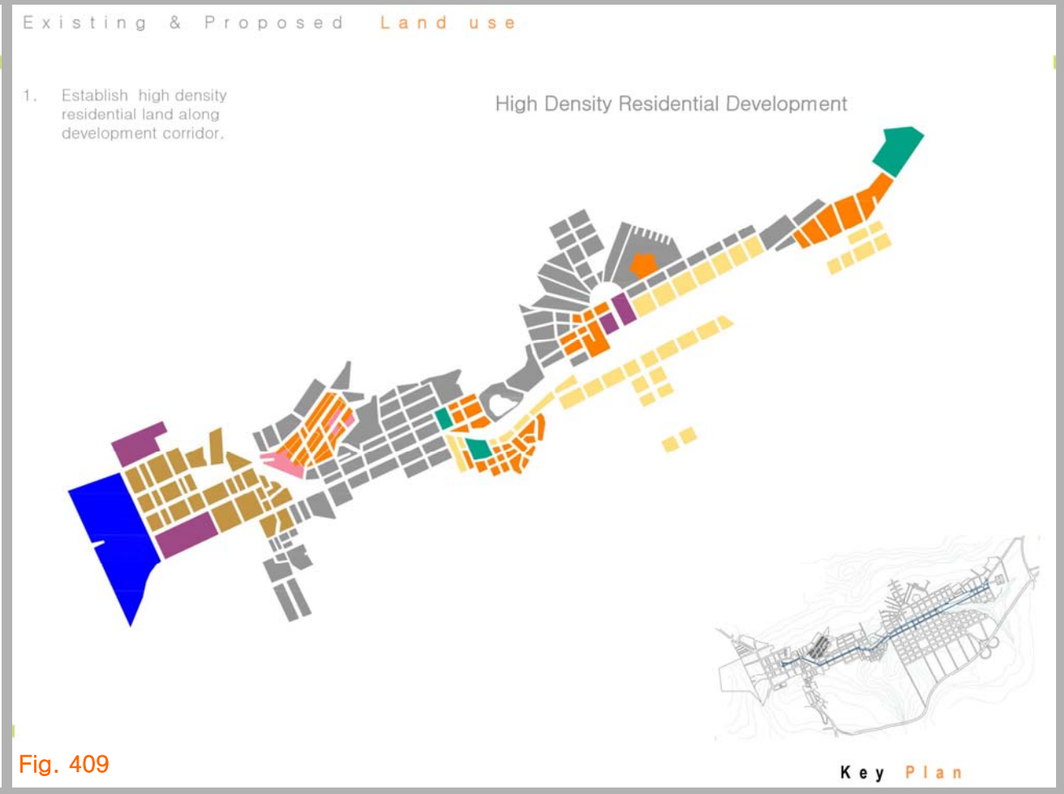


Fig. 409

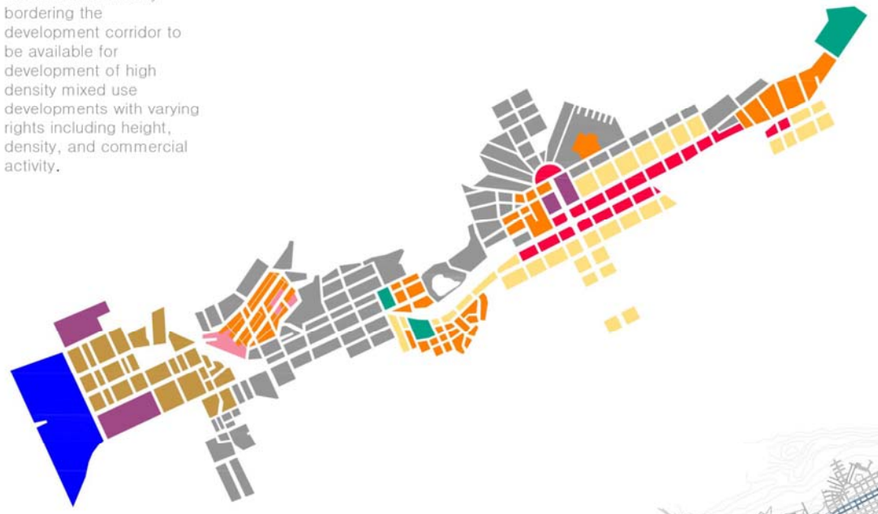
Drawing by Author , Autocad 2011 coloured lines and fill on white background

Existing & Proposed Land use

Fig. 410

1. Once critical mass is reached land directly bordering the development corridor to be available for development of high density mixed use developments with varying rights including height, density, and commercial activity.

High Density Mixed Use





Key Plan

Existing & Proposed Land use

1. Establish a second university campus on land towards the north east boundary of the city to act as development boundary and to inject investment into the area.

New University Campus





Key Plan

Fig. 411

Existing & Proposed Land use

Fig. 412

1. Provide land towards the centre of the East commonage for a new school or schools a combined facility for existing schools currently situated on the periphery.

2. This should focus intensity of use for further development of the East commonage

New World Class Educational Facility





Key Plan

Existing & Proposed Land use

1. A strategic move of the city hall and government functions to this position would inject investment into the neglected township area.

2. This move would in theory not cause any harm to the commercial area in the original colonial part of Grahamstown.

Relocate City Hall





Key Plan

Fig. 413

Drawing by Author , Autocad 2011 coloured lines and fill on white background

Existing & Proposed Land use

Fig. 414

1. Research and analysis of Public urban green spaces (PUGS) in Grahamstown by students from Rhodes University indicated that it was expensive to maintain parks in outlying areas have necessitated a moving of parks to areas along the development corridor.

2. Hereby the open space in the township could be used for infill housing development.

Parks





Key Plan

Existing & Proposed Land use

1. The remaining space around the East commonage could be used for future extension to the new development corridor as densities and demand increase.

Future Development





Key Plan

Fig. 415

Existing & Proposed Land use

Fig. 416

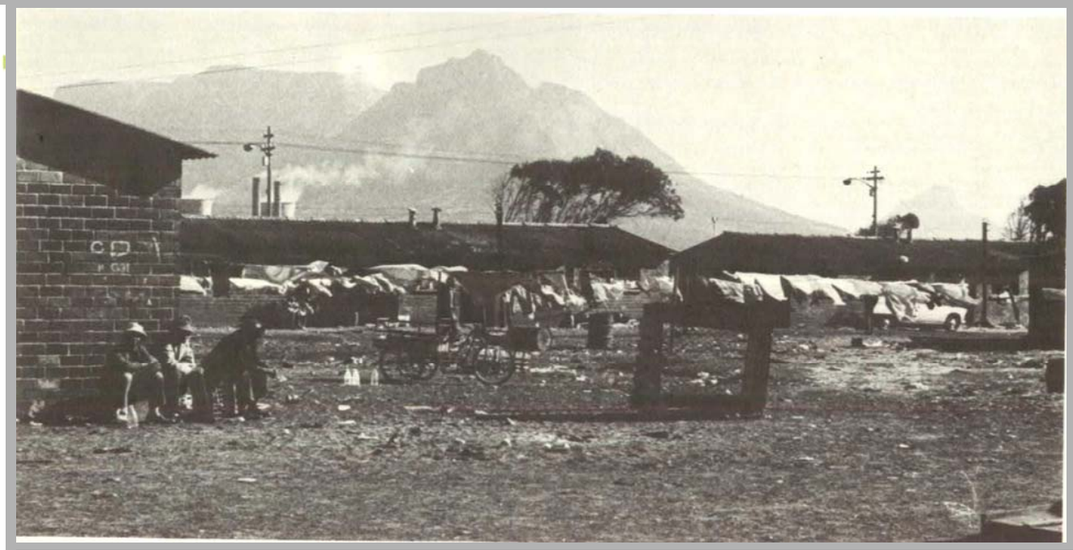
1. The land between the East commonage and the N2 is ideal for small holdings or subsistence farming and should fill the space between future development and the N2.

2. There exist a great need for informal farming land for local people in the township some of this land could be retained for that purpose.

Small Holdings and Farming



Key Plan



Housing for Blacks in urban areas of South Africa has long been a problem which authorities have been unable to overcome. The growth of industrialisation provided a magnet which has attracted an ever increasing proportion of the essentially agrarian Black people to urban areas in search of em-ployment opportunities offered by western civilisation.
(Granelli et el, 1977, p. 9)

Drawing by Author , Autocad 2011 coloured lines and fill on white background

The proposed concept was based on the premise that the urban form and texture in the current colonial town could be analysed, and certain elements that work well could be used to inform new proposals and layouts in the current township of Rini, whilst still respecting the existing urban form. Conceptually Rini needed to be connected to the old colonial town in a linear fashion, and also connected to the N2 in a more efficient way. The concept plan looks at Grahamstown in it's con-stituent parts, but also shows how they integrate along various planes. Linkages, infill, containment and rede-velopment are all key factors to motivate growth within a clearly defined boundary.

Fig. 417



The Major Metropolis in almost every newly-industrialising country is not a single unified city, but, in fact, two quite different cities, physically juxtaposed but architecturally and socially distinct…..These dual cities have usually been a legacy from the colonial past .

Janet Abu-Lughod

4.3 Proposed Concept

Proposed Concept

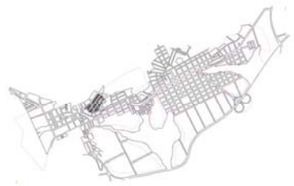
Fig. 418

The Colonial Town

The original colonial design of Grahamstown is still evident in the character of the town today.

The idea is to analyse areas in the colonial town that work well and determine if they can be used as principles for future development in and along the township areas





Key Plan

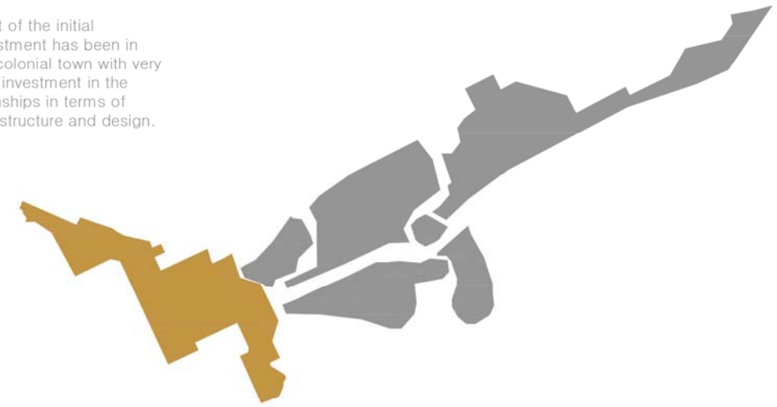
Proposed Concept

Fig. 419

Township

The township developed separate from the historic town and a great division exist between them.

Most of the initial investment has been in the colonial town with very little investment in the townships in terms of infrastructure and design.





Key Plan

Proposed Concept

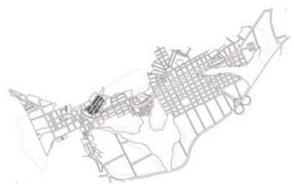
Fig. 420

Development

It is proposed that the East commonage which belongs to local council be earmarked for intense development.

This would inject much needed investment and housing into the township.





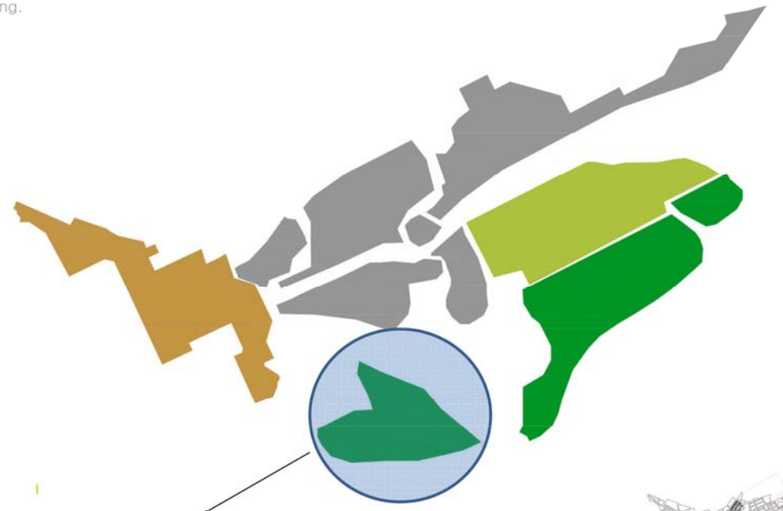
Key Plan

Proposed Concept

Fig. 421

Small Holdings Allotments

The Remainder of the East commonage to become small holdings or area allotments for subsistence farming.





Key Plan

Drawing by: Author , Autocad 2011 coloured lines and fill on white background

Proposed Concept

Fig. 422

Land not fit for Development

The land to either side of the East commonage are characterised by deep recesses with steep embankments and small rivers running through them. These areas should be protected as natural green belts within the confines of the city. Various recreational and research activities could take place there. The flood plains of the river should be protected against erosion.





Key Plan

Proposed Concept

Fig. 423

Development Corridor / Spine

Raglan road will be developed as the main connector between the colonial town centre and the township. Future development along this link will hopefully lead to a stronger link between the two cities, so to speak.

Raglan road will be linked directly to the high street of the colonial town.

Raglan road will be slowed down by making it wider and allowing for mixed use and retail up to its edge. A landscaped Island will be placed in the centre and on street parking will be provided on either side.





Key Plan

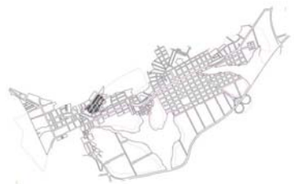
Proposed Concept

Fig. 424

New Link to N2

A new more effective link to the N2 national Highway will be created towards the northern part of the East commonage to allow better transport opportunities to the current township area. This new link will allow a termination of raglan road to the North East of the commonage, which allows a development boundary to the North East of the city.





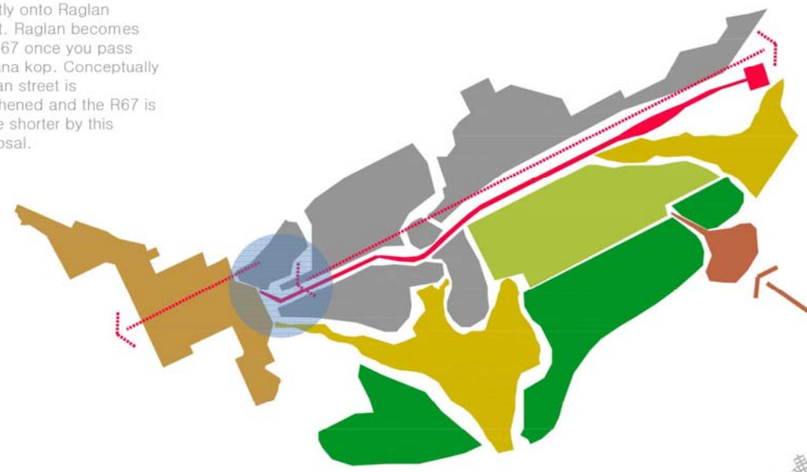
Key Plan

Proposed Concept

Fig. 425

Better link between Colonial and Township areas

The high street of colonial town will be connected to Raglan street by extending Cobden Street to link directly onto Raglan street. Raglan becomes the R67 once you pass Makana kop. Conceptually Raglan street is lengthened and the R67 is made shorter by this proposal.





Key Plan

Drawing by: Author , Autocad 2011 coloured lines and fill on white background

Proposed Concept

Fig. 426

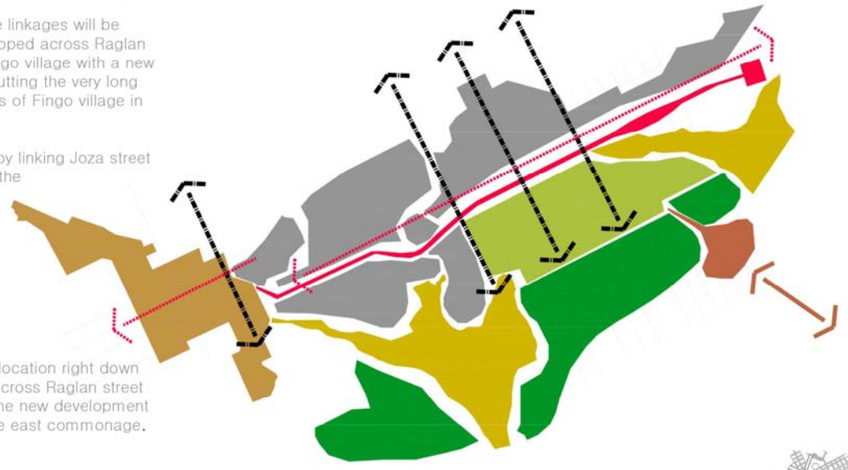
Developing linkages across Raglan road corridor

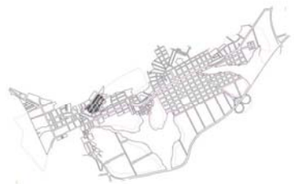
It is proposed that various linkage across Raglan road is developed linking deep into the township.

These linkages will be developed across Raglan at Fingo village with a new link cutting the very long blocks of Fingo village in half.

Also by linking Joza street from the

Joza location right down and across Raglan street into the new development on the east commonage.





Key Plan

Proposed Concept

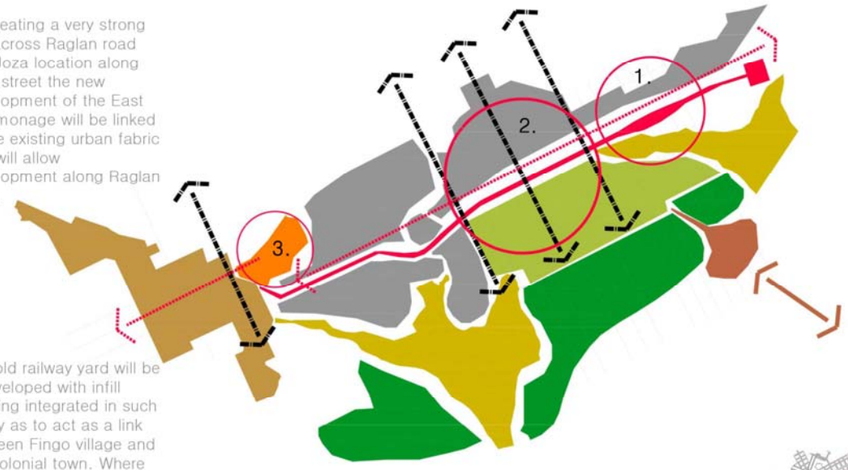
Fig. 427

Key Investment in new areas

1. By moving city hall from the existing colonial town centre investment will be injected in this area.

2. By creating a very strong link across Raglan road into Joza location along Joza street the new development of the East commonage will be linked to the existing urban fabric and will allow development along Raglan road.

3. The old railway yard will be redeveloped with infill housing integrated in such a way as to act as a link between Fingo village and the colonial town. Where the railway use to act as a dividing line between these communities it will now knit the broken fabric together





Key Plan

Proposed Concept

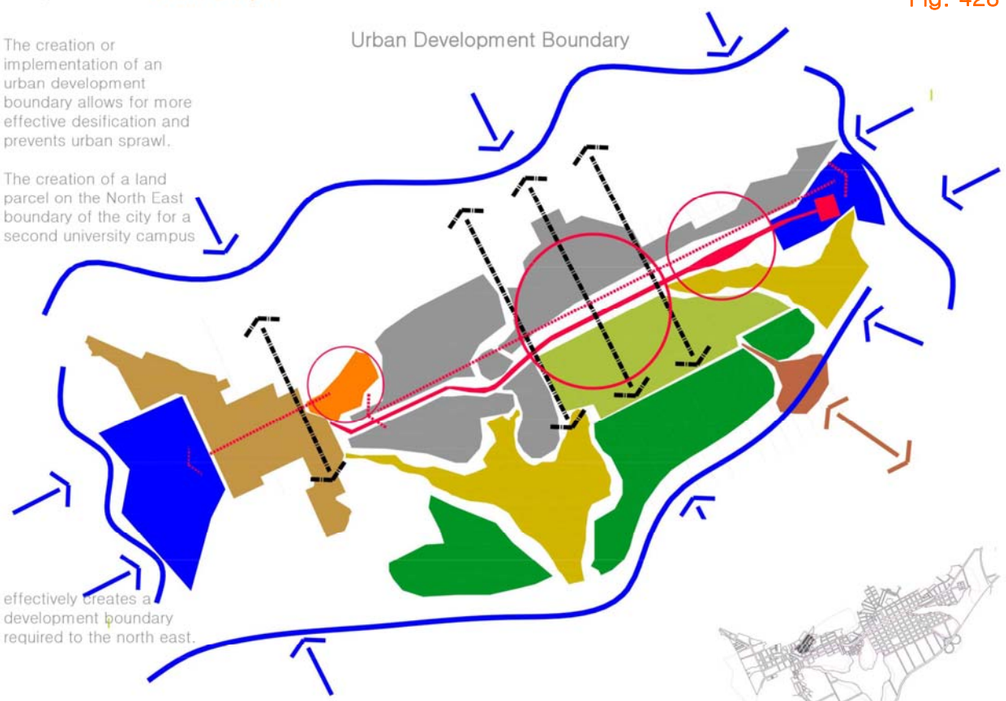
Fig. 428

Urban Development Boundary

The creation or implementation of an urban development boundary allows for more effective desification and prevents urban sprawl.

The creation of a land parcel on the North East boundary of the city for a second university campus

effectively creates a development boundary required to the north east.



Key Plan

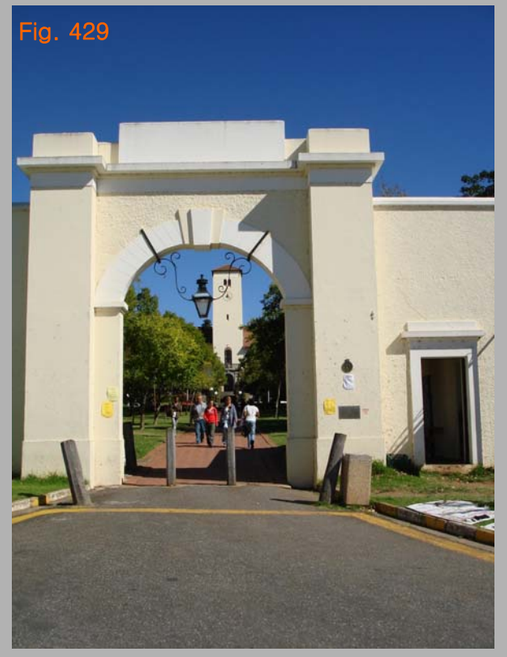
Drawing by: Author , Autocad 2011 coloured lines and fill on white background

All the research points to Grahamstown as growing at an astonishing rate. This growth rate has led to amongst others, a shortage of housing, under investment in new townships, in terms of infrastructure and economic opportunity. It has also led to urban sprawl on the fringe of the city. Future food security is also a problem. This proposed framework looks at a possible path along which development might proceed, and shows proposals for housing along a defined development corridor. The framework looks at proposed investment within and along the development corridor, the main proposal would be the development of a second campus to Rhodes University on the North East Periphery. The framework although showing development in its entirety, is proposed incrementally.

According to King, most Post Colonial cities have common characteristics:

- They are all products of culture contact situations between an industrialising or industrialised European colonial power and a traditional , agrarian or craft based economy.
- They all manifest certain comparable spatial characteristics , both in terms of the relationship between different cultural settlements and, within each settlement area, between its component parts.
- The cities today are characterised by cultural pluralism.
- Despite the fact that they were deliberately planned promote residential segregation, they are now required to promote processes of integration, at the national cultural, social, economic and ethic levels.
- In comparison with urban centres in industrial societies and, in many cases, according to their own administrators, these cities all have problems of housing, a shortage of economic resources, under-developed communications systems and a lack of the institutional infrastructure required to deal with social, administrative and political needs.

Fig. 429



4.4 Urban Framework

Urban Framework

Fig. 430

Existing Built Form

1. Rhodes University

2. Colonial town centre 2–3 storey mixed use.

3. Existing housing 1 storey mostly township



Urban Framework

Fig. 431

Soft Buildings to be Demolished and Replaced



Urban Framework

Fig. 432

New High Density Residential and Infill Residential

1. Establish high density residential land along development corridor.



Urban Framework

Fig. 433

Key Investment in new areas

1. By moving city hall from the existing colonial town centre investment will be injected in this area.

2. The creation of a second University campus

3. Building of a new Community School



Drawing by: Author , Autocad 2011 coloured lines and fill on white background

Urban Framework

Fig. 434

1. Once critical mass is reached land directly bordering the development corridor to be available for development of high density mixed use developments with varying rights including height, density, and commercial activity.

High Density Mixed Use



Urban Framework

Fig. 435

Parks



Parks to be moved to areas close to the development corridor for ease of maintenance and for more effective use.

Open park areas within the township could be utilised for infill development.

Urban Framework

Fig. 436

Small Holdings and Farming



The land between the N2 and the East Commonage to be developed as small Holdings for subsistence farming

Urban Framework

Fig. 437

Plant Trees to Define New Links



Trees planted along the corridor to define space. The advantage of tree lined streets is that the township Becomes green along all the new links.

Drawing by: Author , Autocad 2011 coloured lines and fill on white background

Due to the fact that funds are not available for a full implementation of a proposed framework, it is necessary to phase development over a number of years. The often means implementing proposed structures incrementally. The idea would be to create impetus for future development by creating opportunity through infrastructure and services. Therefore a small investment now, might have far reaching effect in the future. The simple action of linking a road, could have a significant im-

Results of possible Infill areas, road linkages and redevelopment of existing

Percentage saved on road surface by linkage rather than roads in new township 50%

Infill development on available land as ratio to overall existing development 35%

Percentage higher density achieved by redevelopment in existing suburb 25%



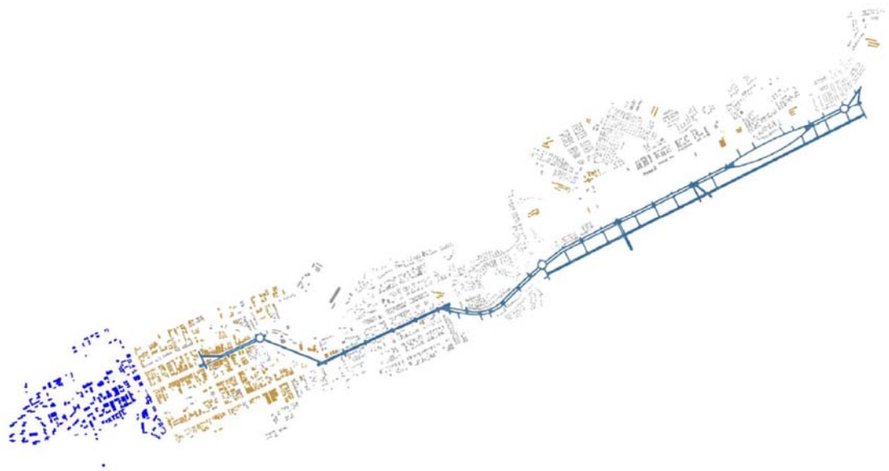
Fig. 438

4.5 Proposed Phasing

Proposed Phasing

Fig. 439

Linking High street with Raglan road

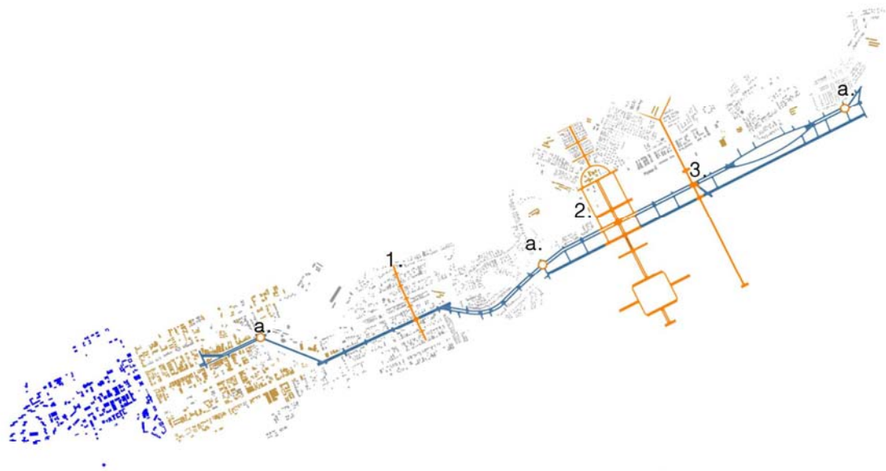


1. Upgrade road along the R67
2. Terminate R67

Proposed Phasing

Fig. 440

a. Build three new traffic circles to ease traffic flow



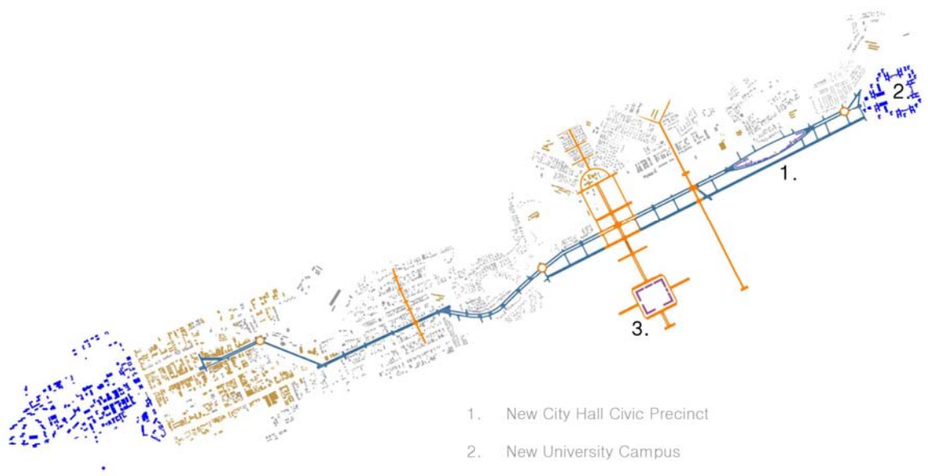
b. Create three new links across Raglan road

1. Into Fingo village
2. Into Joza location
3. Into Nceme Street

Proposed Phasing

Fig. 441

Move Key Investment into New Area

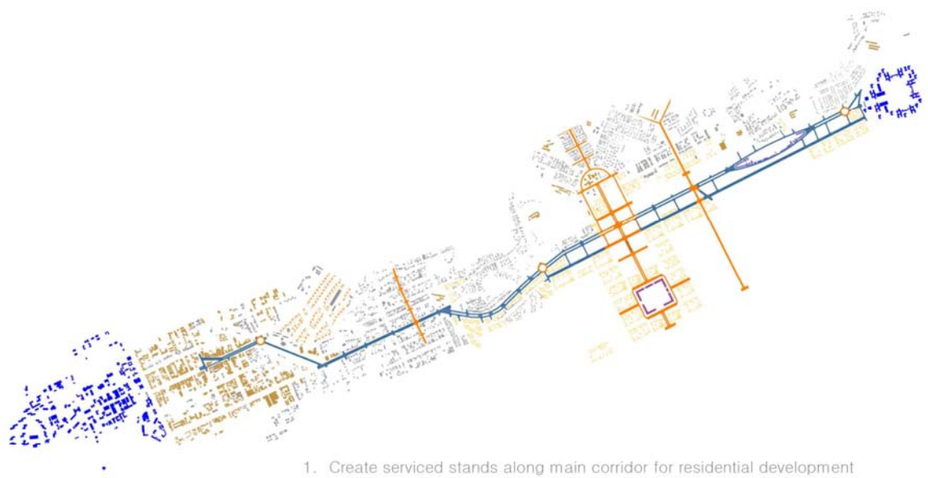


1. New City Hall Civic Precinct
2. New University Campus
3. New World Class Community School

Proposed Phasing

Fig. 442

High Density Residential Development



1. Create serviced stands along main corridor for residential development

Drawing by: Author , Autocad 2011 coloured lines and fill on white background

Proposed Phasing

Fig. 443

High Density Mixed Use



1. Once critical mass is achieved mixed use land should be in high demand
2. These stands will border on the new main corridor
3. The stands along the border of the new links across the corridor will also have the same rights.

Proposed Phasing

Fig. 444

Parks to be constructed



1. Parks to be set out
2. Parks to be serviced
3. Parks to be maintained

Proposed Phasing

Fig. 445

Future Development



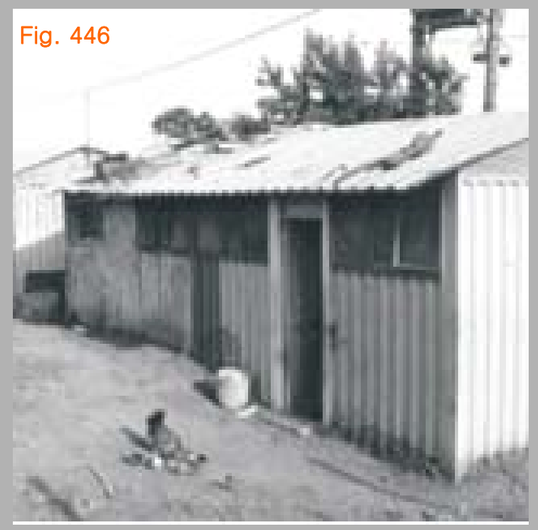
1. The basic grid for future development to be determined
2. The township should be proclaimed
3. Land should be made available to developers as the need arises
4. Stands closest to the core should be serviced first.

Drawing by: Author , Autocad 2011 coloured lines and fill on white background

The Initial design proposal was based on the full installation of the entire design concept in a limited area. The design principles and concept is tested and simulated in the initial design proposal. The full extent of the design is realised in this proposal although in a reduced study area and along the full length of the proposed development corridor.

The initial design proposal assumes that the entire development would take place incrementally over a limited period of time. The proposal is not open ended. The full cooperation and funding of local and provincial government is assumed. Community buy-in is not guaranteed and the design proposal although flexible in some respects is not fully adaptable once realised. It does however give opportunity for critical analysis and critical re-evaluation.

Fig. 446

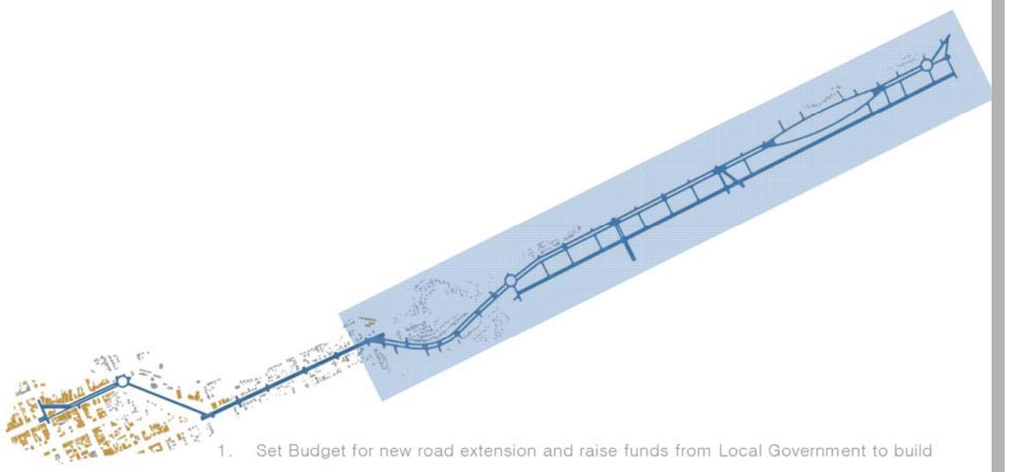


4.6 Initial Design Proposal

Design

Fig. 447

Set out and build New Extension to Raglan Road along centre line of R67



1. Set Budget for new road extension and raise funds from Local Government to build

Design

Fig. 448

Move Functions to New Position as Investment



1. Create second campus for Rhodes University to act as development boundary
2. Move City Hall

Design

Fig. 449

Set out and Service Land for High Density Residential Development



1. Set out Land for development
2. Service land
3. Sell land to Developers
4. Set land use around rights for High density Low Income Parameters

Design

Fig. 450

Parks to be constructed



1. Parks to be set out
2. Parks to be serviced
3. Parks to be maintained

Drawing by: Author , Autocad 2011 coloured lines and fill on white background

Design

Fig. 451

1. Once critical mass is reached land directly bordering the development corridor to be available for development of high density mixed use developments with varying rights including height, density, and commercial activity.

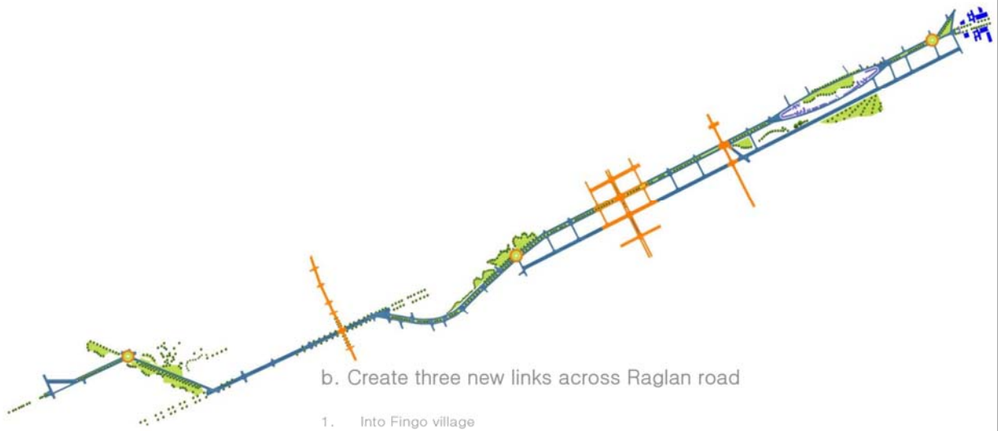
High Density Mixed Use



Design

Fig. 452

a. Build three new traffic circles to ease traffic flow

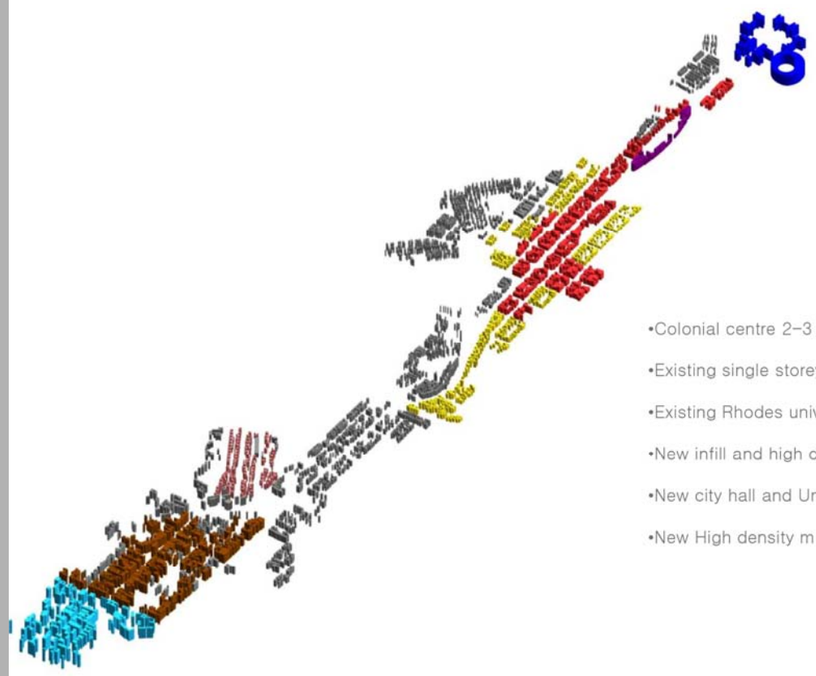


b. Create three new links across Raglan road

1. Into Fingo village
2. Into Joza location
3. Into Nceme Street

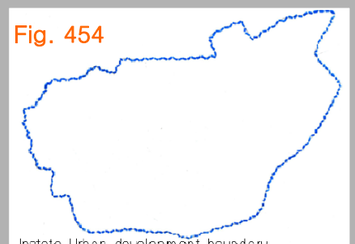
3D VIEW

Fig. 453



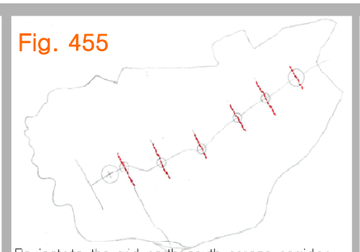
- Colonial centre 2-3 storey buildings
- Existing single storey housing Township
- Existing Rhodes university
- New infill and high density housing
- New city hall and University campus
- New High density mixed use development

Fig. 454



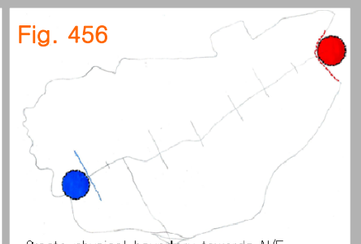
Instate Urban development boundary

Fig. 455



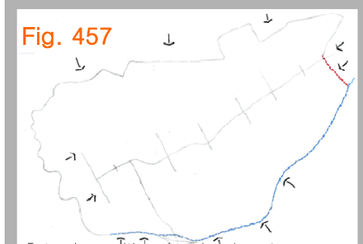
Re-instate the grid north south across corridor

Fig. 456



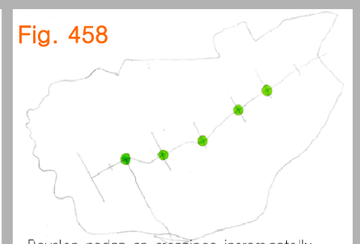
Create physical boundary towards N/E

Fig. 457



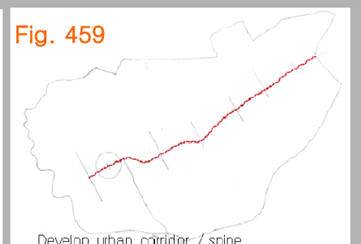
Determine positions for urban boundary

Fig. 458



Develop nodes on crossings incrementally

Fig. 459



Develop urban corridor / spine

Fig. 460

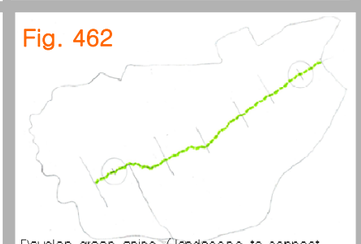


What happens to land on urban periphery?

Fig. 461



Fig. 462



Develop green spine / landscape to connect

Drawing by: Author , Autocad 2011 coloured lines and fill on white background

I think that I shall never see
A poem lovely as a tree.
A tree whose hungry mouth is pressed
Against the earth's sweet flow-ing breast
A tree that looks at God all day
And lifts her leafy arms to pray
A tree that may in Summer wear
A nest of robins in her hair
Upon whose bosom snow has lain
Who intimately lives with rain.
Poems are made by fools like me
But only God can make a tree.
Joyce Kilmer, "Trees," 1914

After wrestling with the design proposal and considering many changes, I came to the conclusion that many urban design proposals that I have seen over the years have been over ambitious, especially in a developing country such as South Africa. The initial base problem is forgotten once the design picks up momentum, aesthet-ics and shape take over. Flexibility and manoeuvrability is sacrificed for bricks and mortar and development profit. This proposal hypothesises that, if the problem is understood, the intervention could be very small, and will still be successful in guiding future development to solve the problems and issues initially identified. This “less is more” approach is flexible and can easily adapt to new challenges.


Fig. 463


Fig. 464

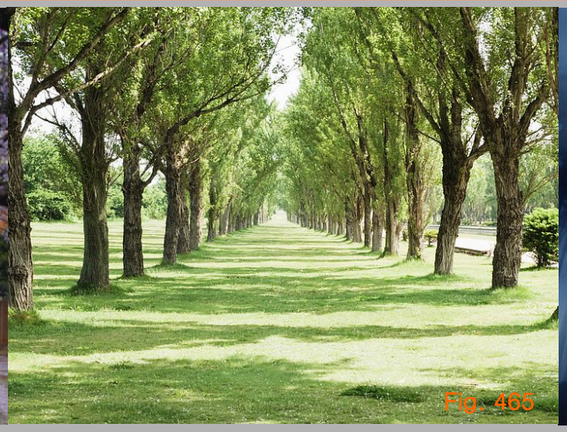

Fig. 465

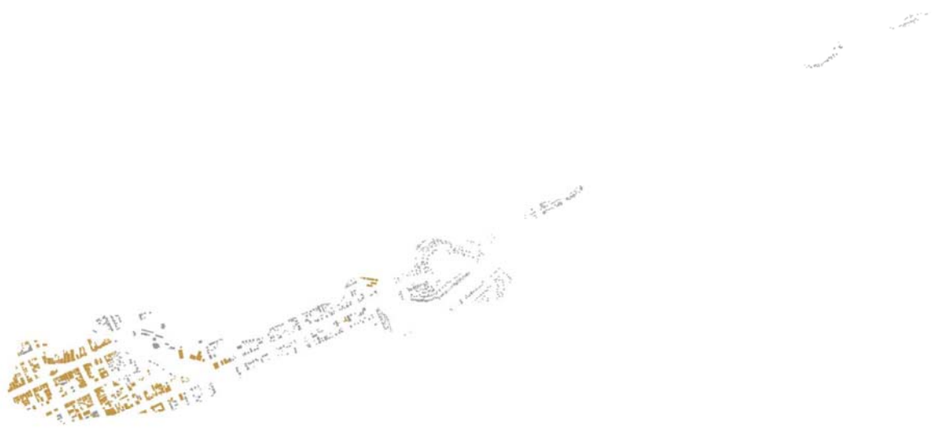

Fig. 466

4.7 Final Design Proposal

Intervention

Fig. 467

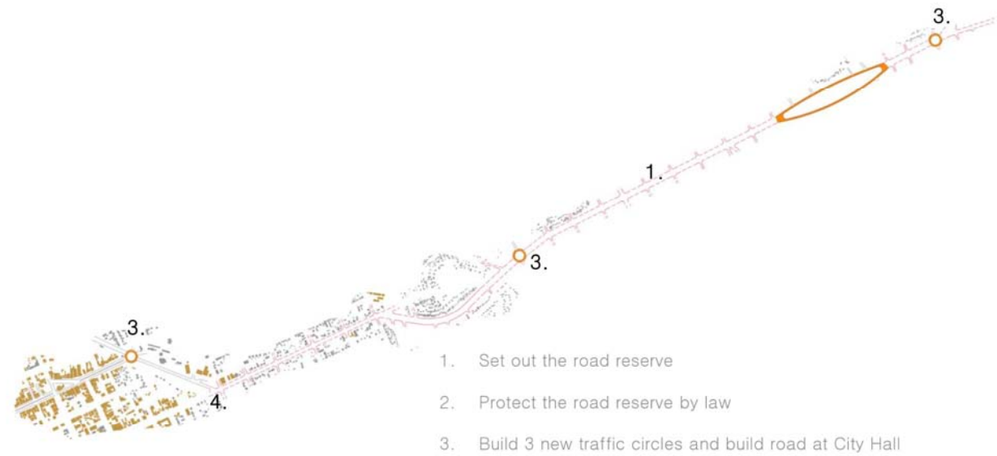
Existing Footprint of Study Area



Intervention

Fig. 468

Determine Road Reserve along Corridor



1. Set out the road reserve
2. Protect the road reserve by law
3. Build 3 new traffic circles and build road at City Hall
4. Link High street to Raglan Road via Cobden

Intervention

Fig. 469

Set out Public Urban Green Spaces (PUGS)



1. Set out parks and maintain them

Intervention

Fig. 470

Plant trees to define road reserve



1. Plant trees and protect them

Drawing by: Author , Autocad 2011 coloured lines and fill on white background

Fig. 471

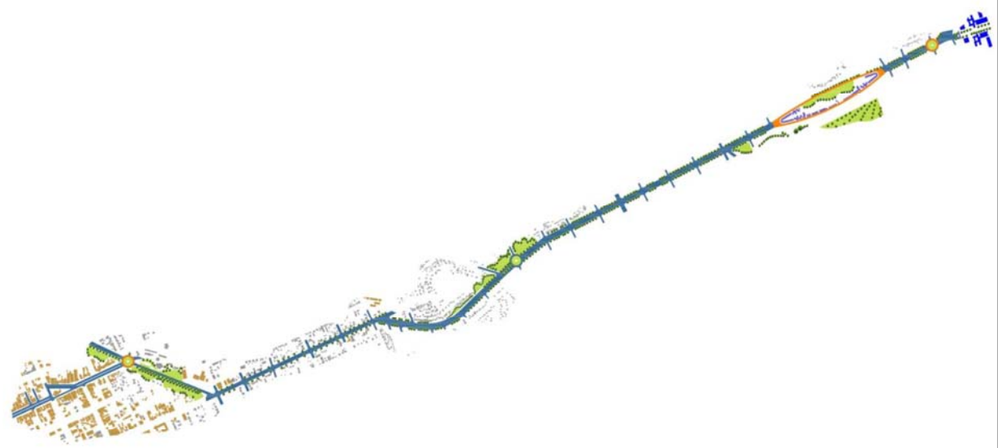
Move Functions to New Position as Investment

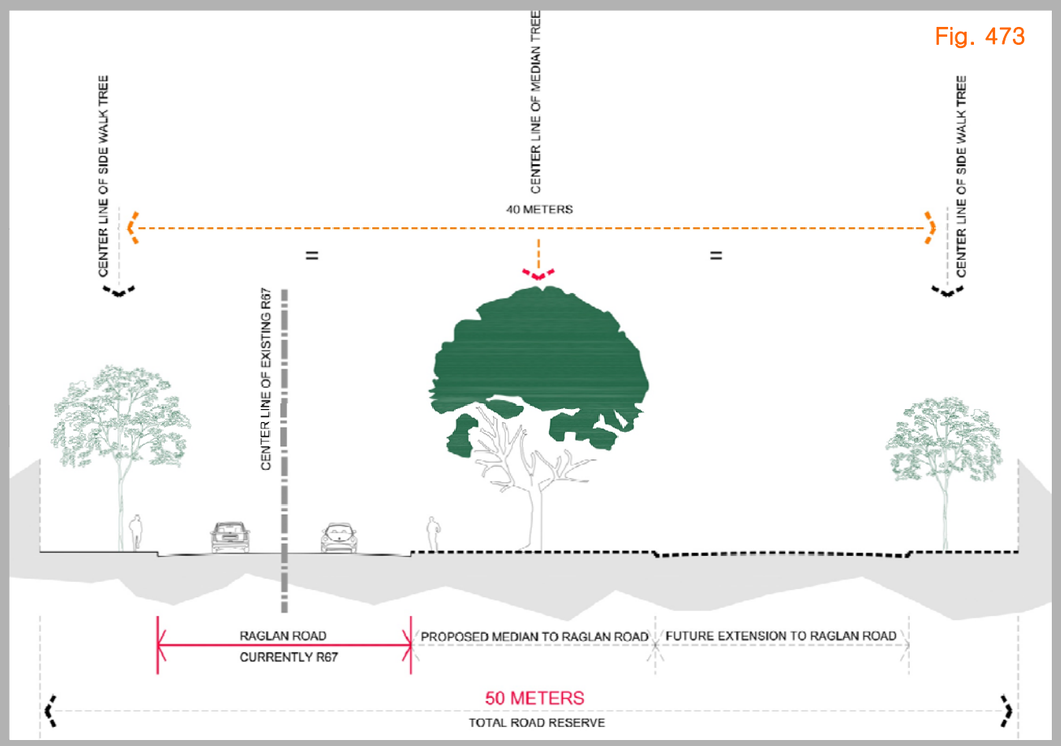


1. Create second campus for Rhodes University to act as development boundary
2. Move City Hall

Fig. 472

Build Roads Incrementally as money becomes available





Drawings by: Author , Autocad 2011 coloured lines and fill on white background



Fig. 474

Drawing by: Author , Autocad 2011 coloured lines and fill on white background

Fig. 475



Fig. 476

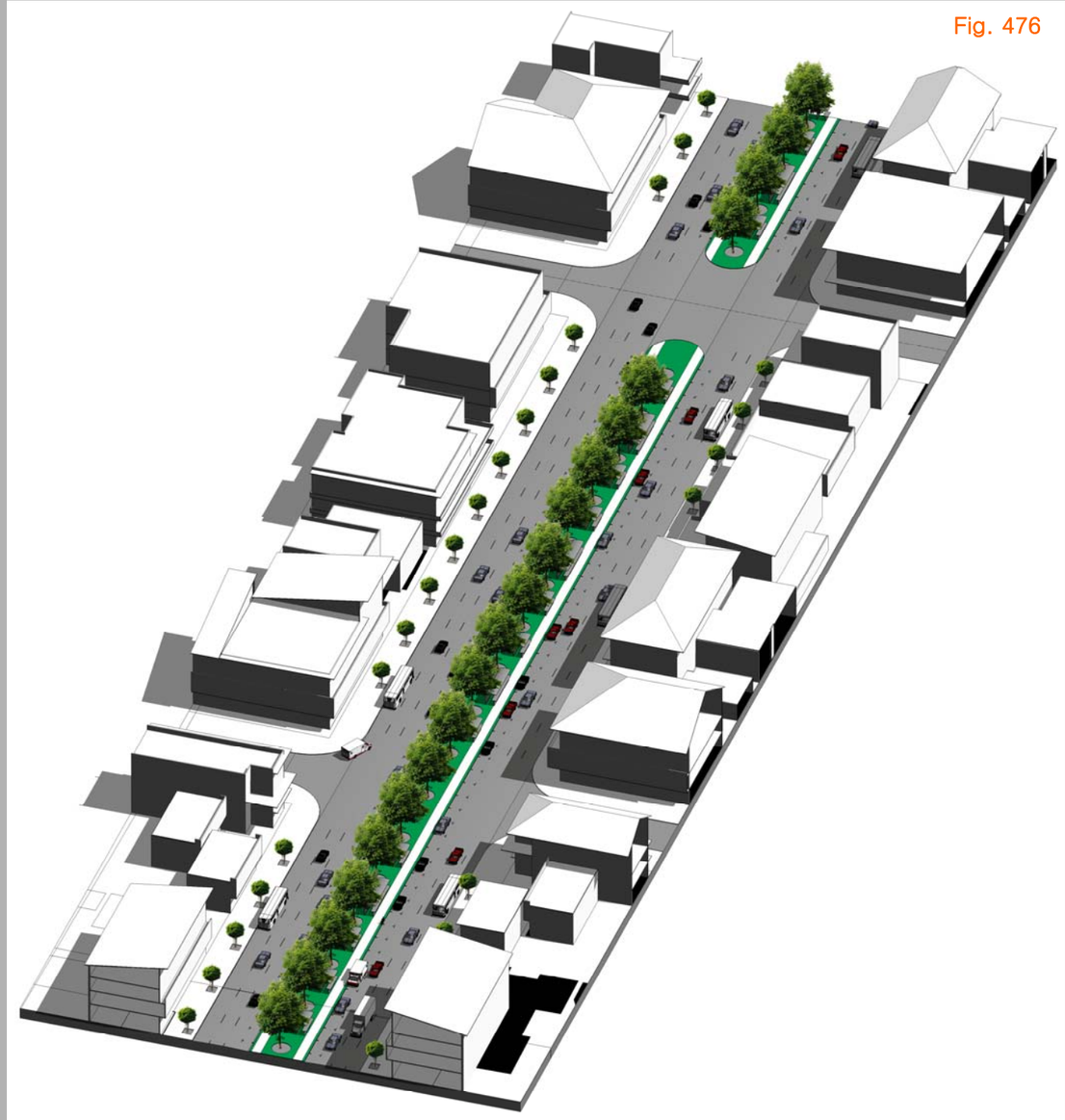


Fig. 477

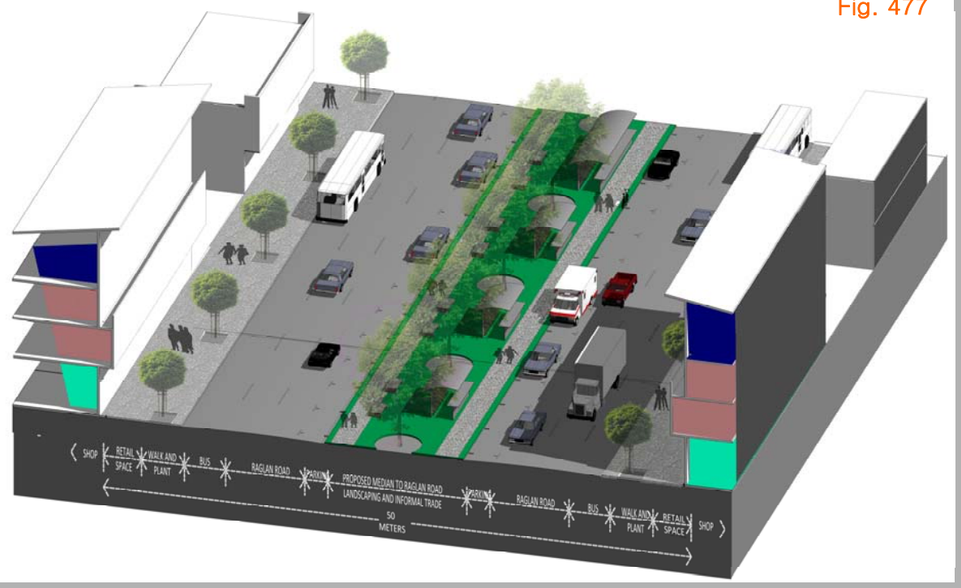


Fig. 478

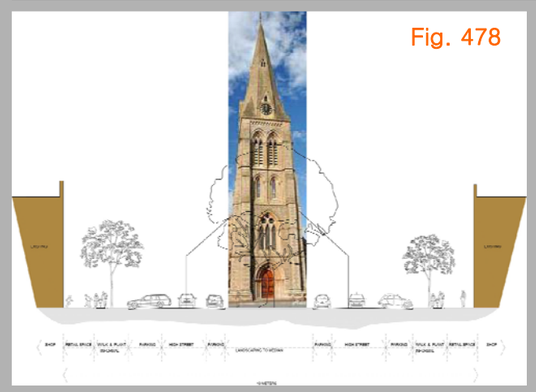


Fig. 479

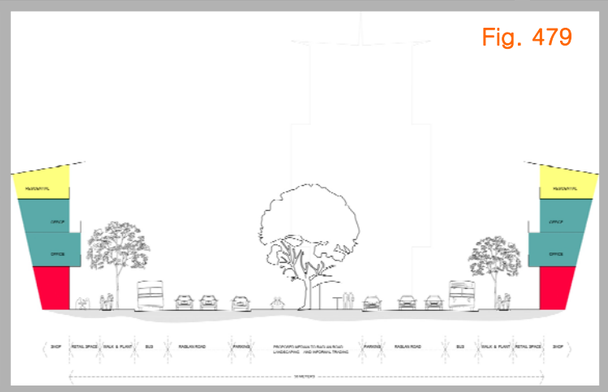
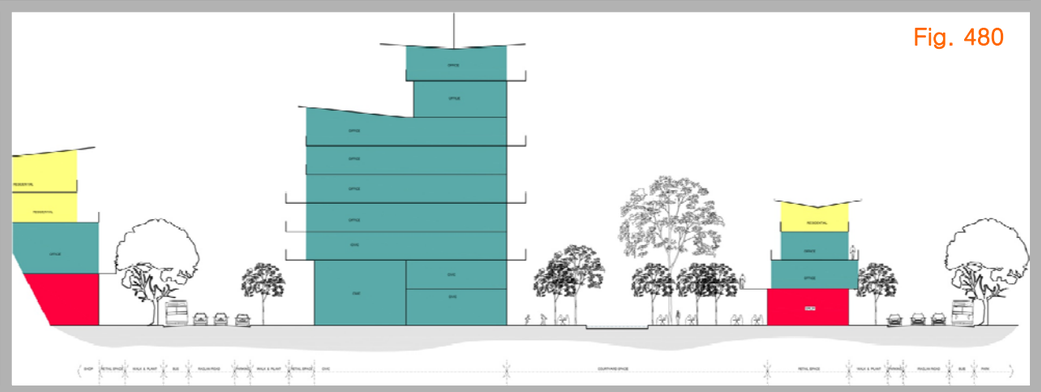


Fig. 480



Drawing by: Author , Autocad 2011 coloured lines and fill on white background photograph imported

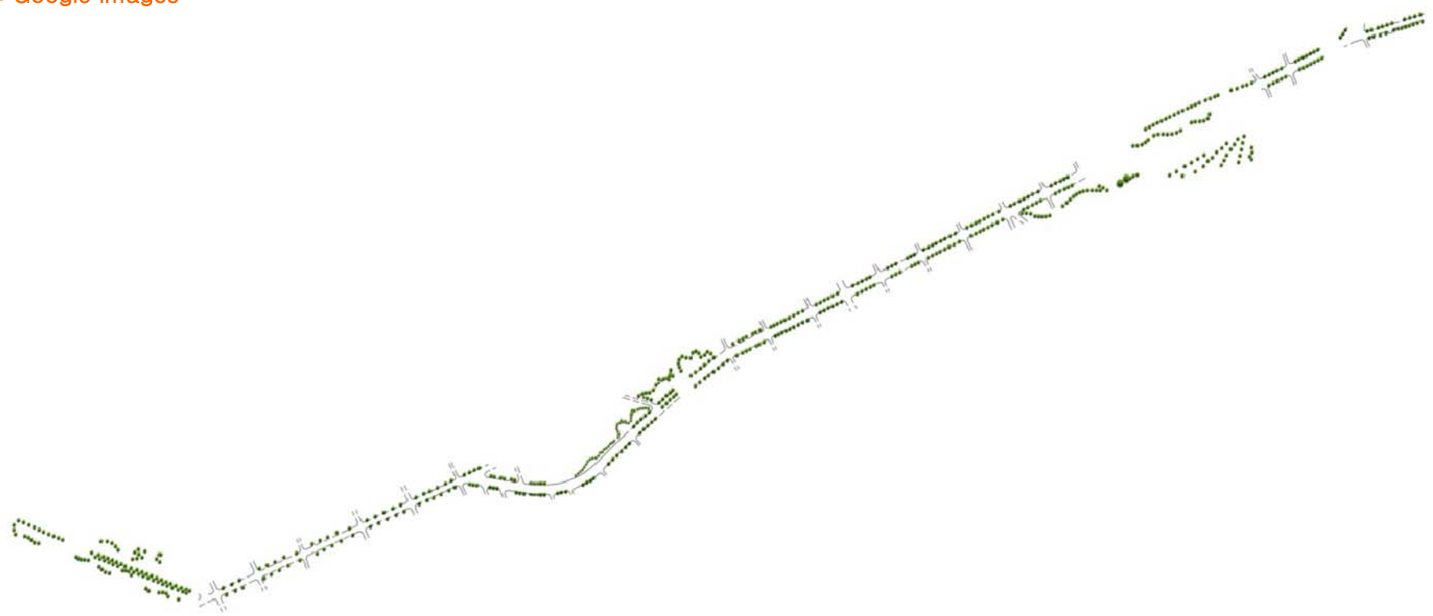

Fig. 481


Fig. 482


Fig. 483


Fig. 484

Above Photos by: Google Images


Fig. 485

Trees

1. Set out position for trees
2. Determine indigenous trees that will require minimal maintenance
3. Setting out of trees will have to be considered carefully
4. Only trees that do well in the specific climate will be considered

Drawing by: Author , Autocad 2011 coloured lines and fill on white background

The trees that will grow well and are indigenous to the area:

White Stinkwood (Celtis africana)

Wild Current (Rhus chirendensis), fast growing pioneer species that will attract wildlife and biodiversity back into the area

Jacket Plum (Pappea capensis) which is a very pretty tree and 2011 tree of the year

Sneezewood (Ptaeroxylon obliquum), which is generally popular among younger men as it is used extensively in Xhosa initiation ceremonies

Yellowwood (Podocarpus falcatus and latifolios), which is of course South Africa's National Tree

Drawing by: Author , Autocad 2011 coloured lines and fill on white background

Fig. 491

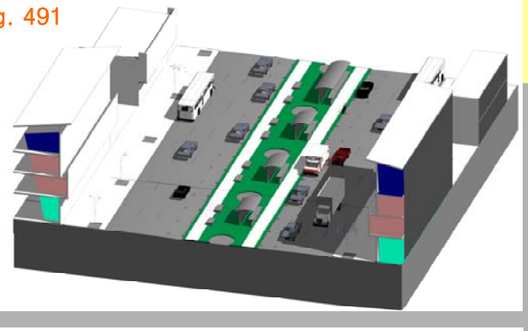


Fig. 492

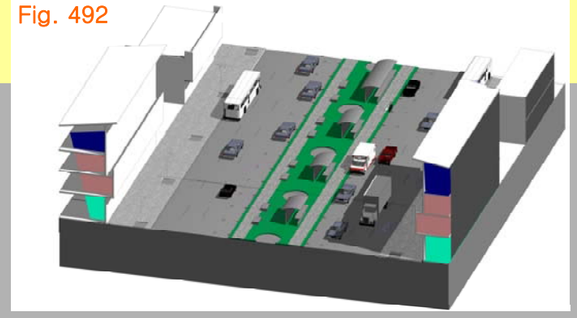


Fig. 493

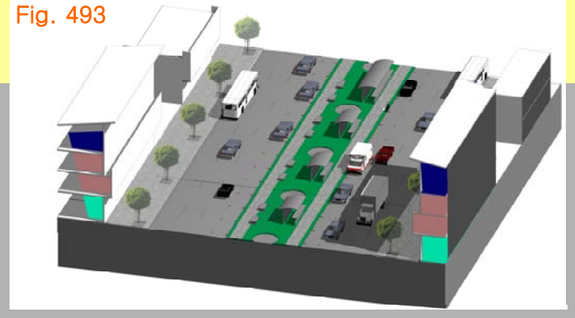


Fig. 494

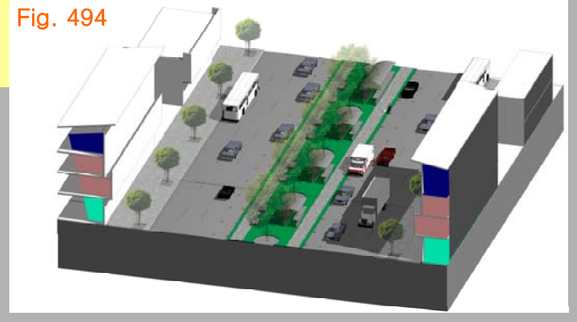


Fig. 495

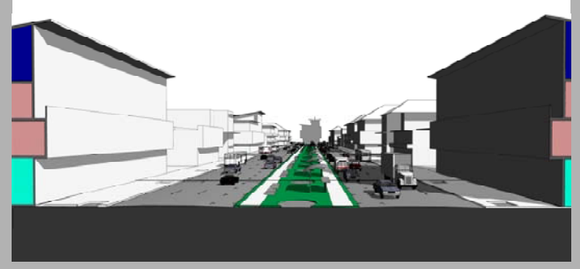


Fig. 496

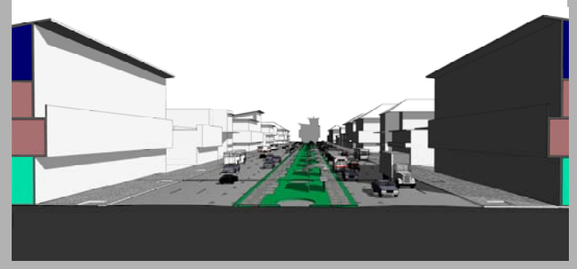


Fig. 497



Fig. 498



Fig. 486



Fig. 487



Fig. 488



Fig. 489

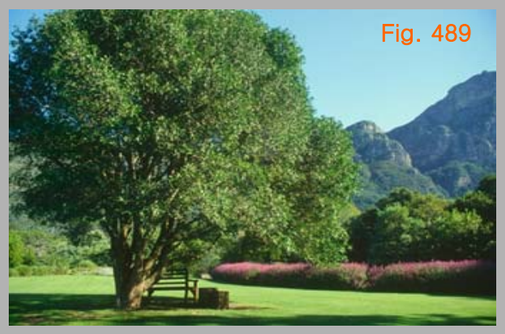


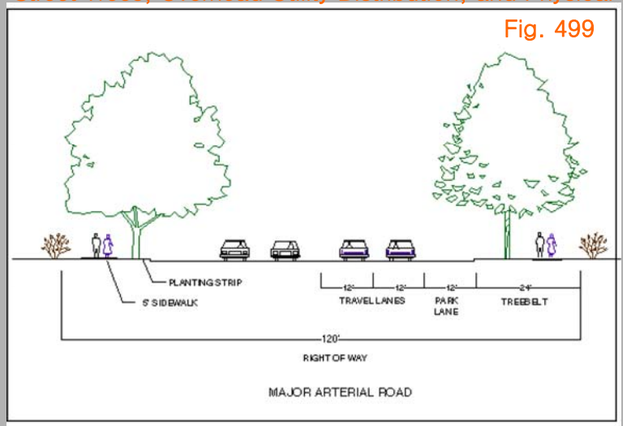
Fig. 490



Photos by: Google Images

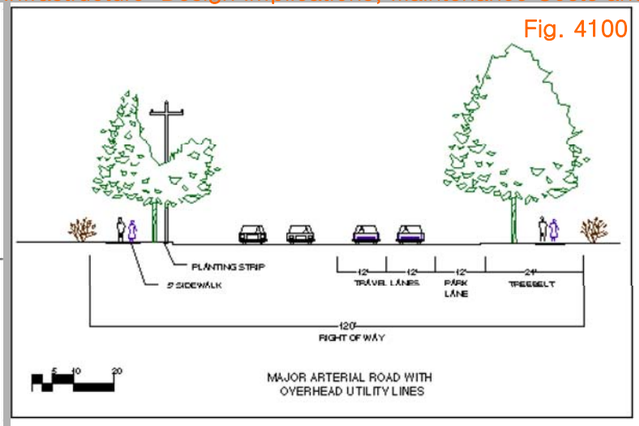
Major Arterials

Fig. 499



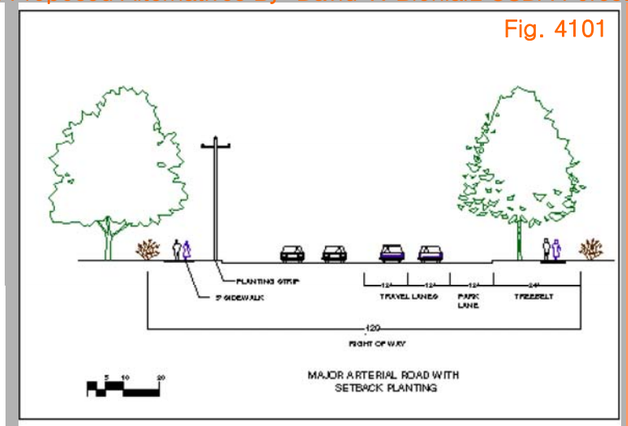
MAJOR ARTERIAL ROAD

Fig. 4100



MAJOR ARTERIAL ROAD WITH OVERHEAD UTILITY LINES

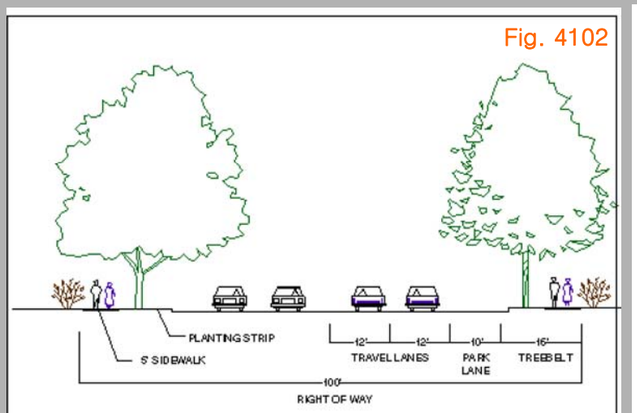
Fig. 4101



MAJOR ARTERIAL ROAD WITH SETBACK PLANTING

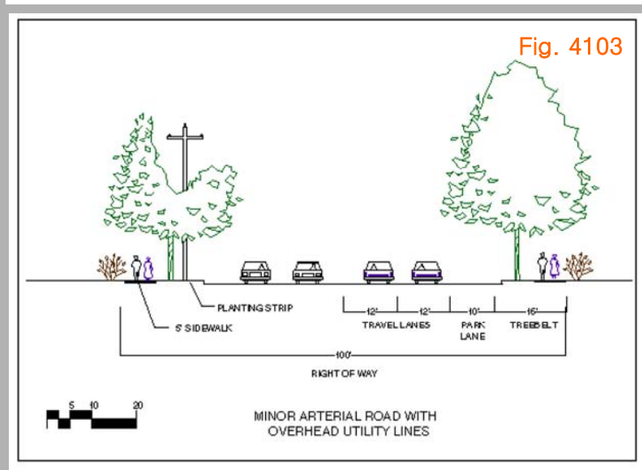
Minor Arterials

Fig. 4102



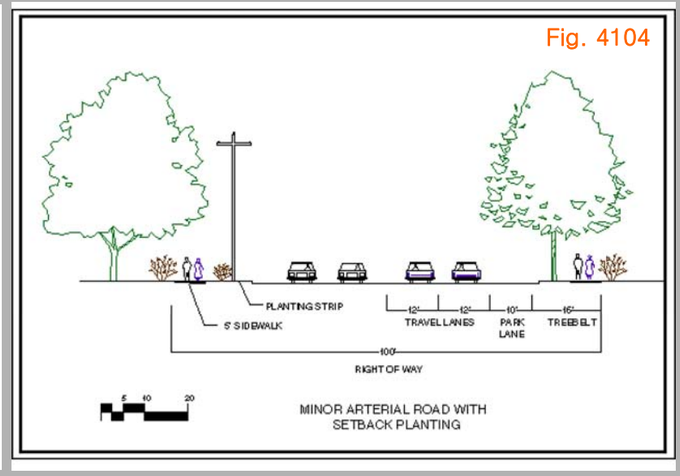
MINOR ARTERIAL ROAD

Fig. 4103



MINOR ARTERIAL ROAD WITH OVERHEAD UTILITY LINES

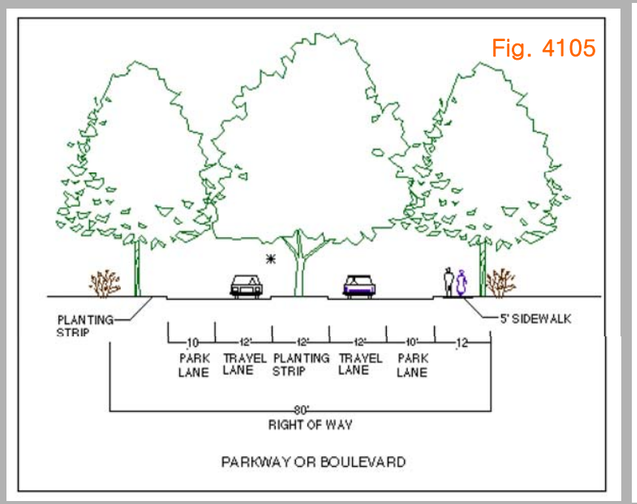
Fig. 4104



MINOR ARTERIAL ROAD WITH SETBACK PLANTING

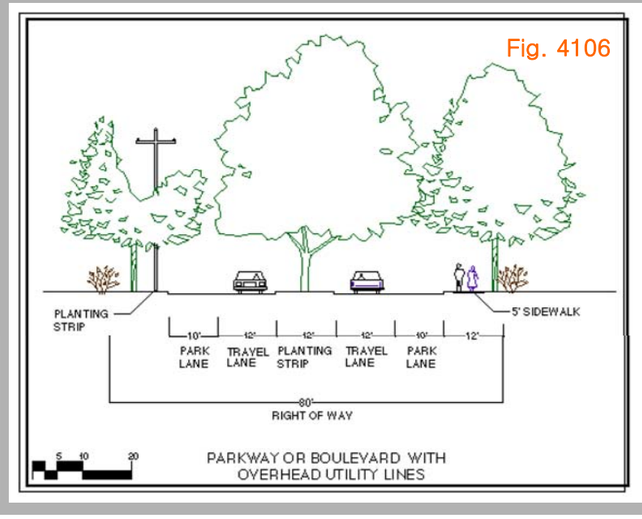
Minor Arterials

Fig. 4105



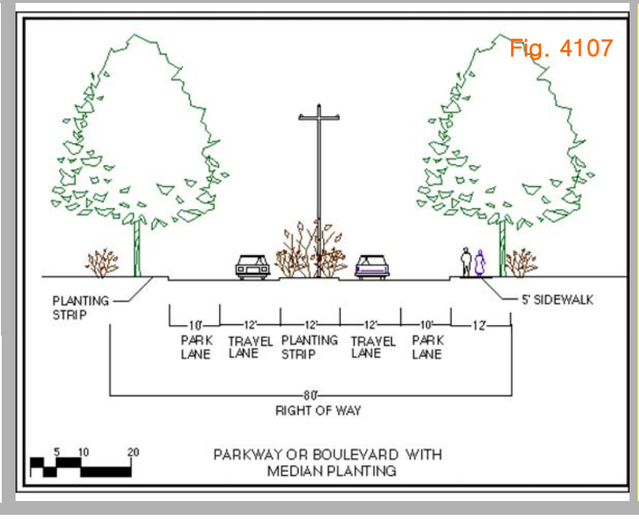
PARKWAY OR BOULEVARD

Fig. 4106



PARKWAY OR BOULEVARD WITH OVERHEAD UTILITY LINES

Fig. 4107



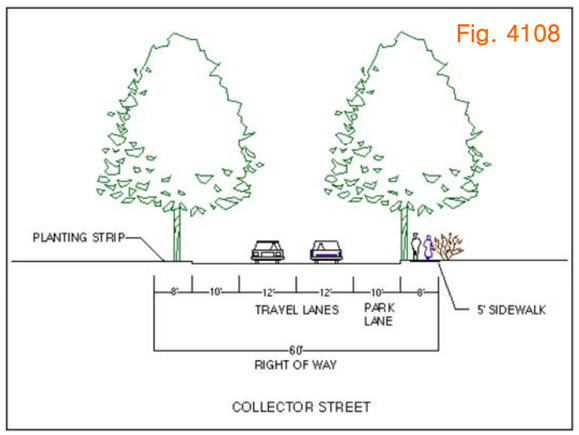
PARKWAY OR BOULEVARD WITH MEDIAN PLANTING

Boulevards

Due to the fact that the trees will be the first element in the design to be realised, it is important to plan for other services that will come in future. Trees are affected by road widths and setbacks, overhead services and underground services. Tress are also affected by surface treatment such as pavement road surface, driveways and kerbs. With proper forward planning the trees can be placed taking all of the above services into account. Above and on the next page are examples of 5 types of streets and various scenarios to avoid clashes.

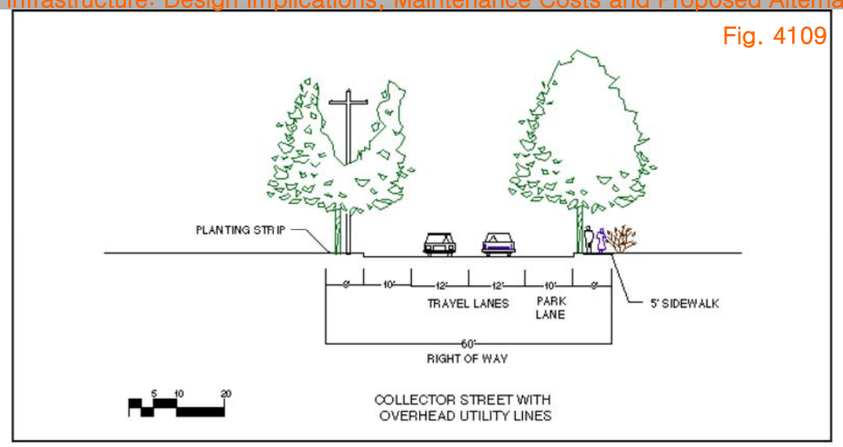
Collector Streets

Fig. 4108



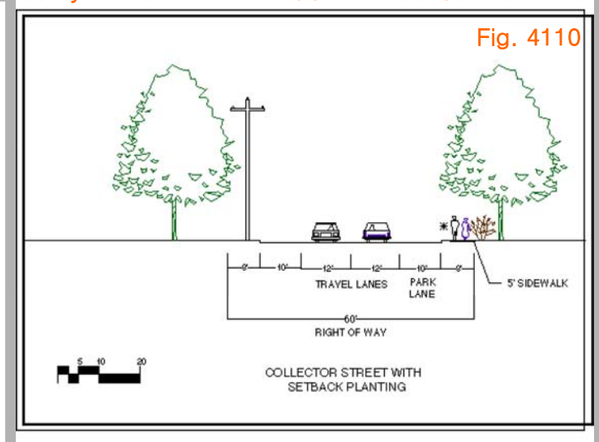
COLLECTOR STREET

Fig. 4109



COLLECTOR STREET WITH OVERHEAD UTILITY LINES

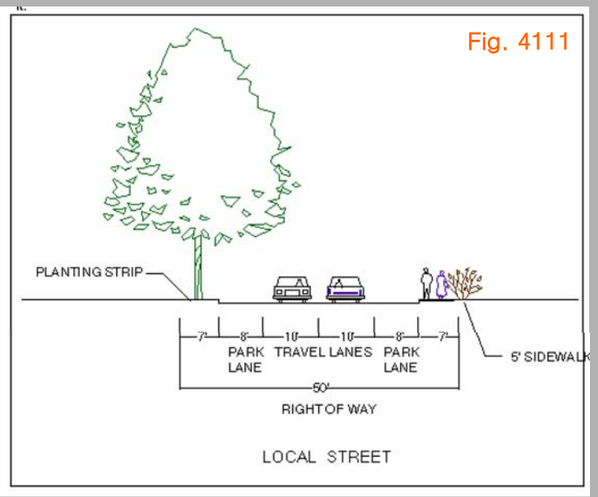
Fig. 4110



COLLECTOR STREET WITH SETBACK PLANTING

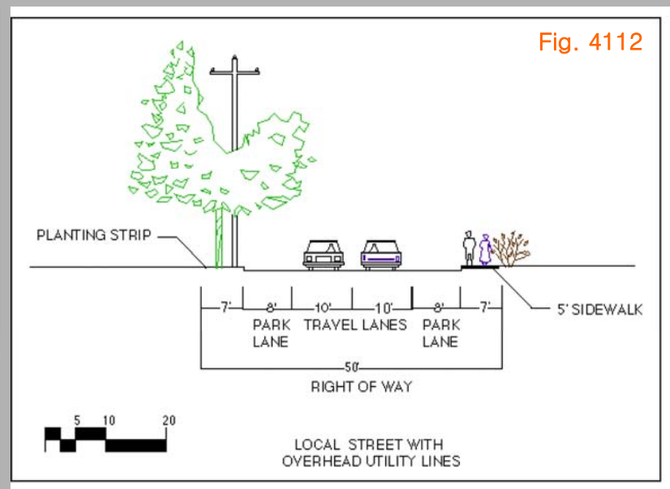
Local Streets

Fig. 4111



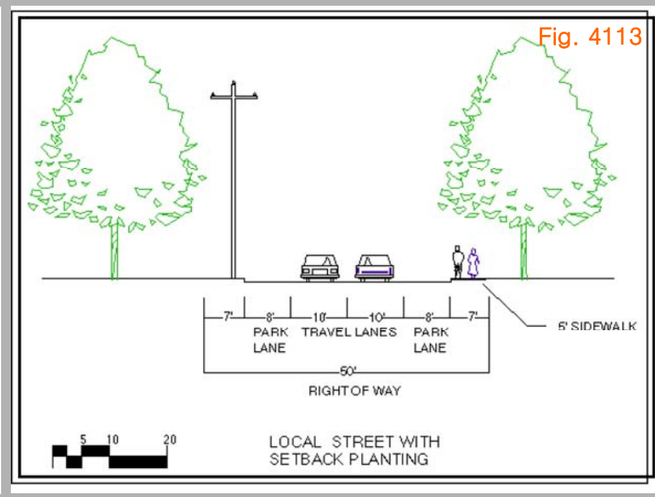
LOCAL STREET

Fig. 4112



LOCAL STREET WITH OVERHEAD UTILITY LINES

Fig. 4113



LOCAL STREET WITH SETBACK PLANTING

Roots and Paving

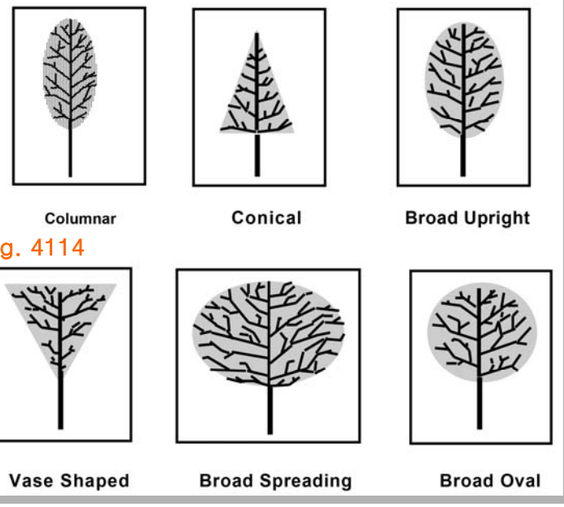
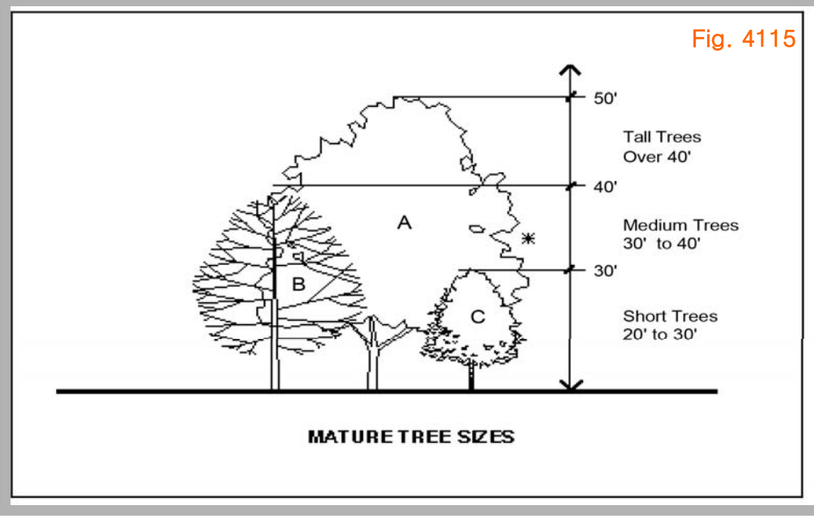


Fig. 4114

Fig. 4115



MATURE TREE SIZES

Fig. 4116

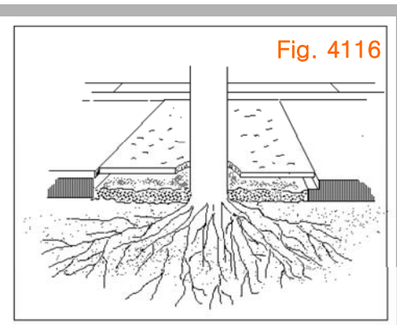


FIGURE 90 - Planting well with cover allowing for deeper rooting. *Source Valuation of Landscape Trees, Shrubs, and Toher Plants*

Fig. 4117

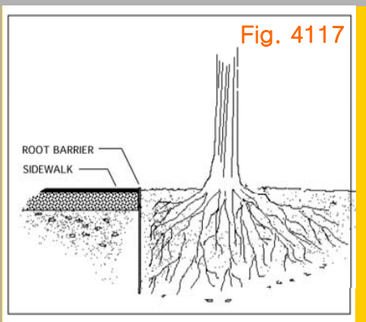


FIGURE 91 - Root barrier used to direct root growth downward away from physical infrastructure.

Fig. 4118

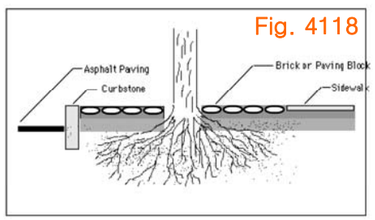


FIGURE 92 - Brick or pavers used to reduce potential damage to surrounding paving and allowing for improved permeability.

The various tree shapes shown above have to be considered in advance to ensure the trees chosen are correctly shaped for the positions they are placed in. The ultimate size of the fully grown tree is also important. A smaller tree should be planted where very high overhead service utilities are planned and larger trees can be planted when they are away from utilities. Trees routes play a large part in how suc-cessful the tree is. If the routes are not controlled, it could cause problems with paving and road surfaces.

Fig. 4119



Above diagram by: Author Pencil on tracing paper

Base Map Grahamstown

Fig. 4120



Above diagram by: Author Pencil on tracing paper

Base Map Grahamstown