

THABONG INDUSTRIAL DEVELOPMENT ON CONSTANTIA ROAD WEST

Phase 1 report

Prepared for

Harmony and Matjhabeng Municipality



by the LSB Group Team

THABONG INDUSTRIAL DEVELOPMENT ON CONSTANTIA ROAD WEST: PHASE 1 REPORT

1 Background

This Project report must be read in conjunction with the following documents:

- 1.1 *Thabong Industrial Development Proposal*
- 1.2 *Status Quo Report*

The deliverables for the first Phase is in accordance with par 2.2 of the **Thabong Industrial Development Proposal**:

- a. Concept township design.
- b. Concept Infrastructure requirements, based on the accepted National Norms and Standards, covering the both the Bulk or external as well as the internal reticulation layouts concerning:
 - i. Water
 - ii. Sewer
 - iii. Roads and Storm water
 - iv. Electricity
- c. Concept design of Super Structure to be erected on the erf.
- d. Cost estimate for (a), (b) and (c).

The ENACTUS Students from the CUT assisted in both the Status Quo and the Phase 1 data surveys. A workshop between the Professional team and the ENACTUS Students were held on 1 March 2014 at the offices of the Architect Mr. J Helm. The workshop was fruitful with information and ideas freely flowing.

2 Concept Township design

The concept design evolved over a number of layouts.

The aim was to accommodate the needs and preferences of the beneficiaries as far as possible, but due to the range of requirements as well as the constraints of storm water drains the allocation of erf sizes had to be had to be amended in order to get the most economical layout possible.

Additional erven were created to accommodate the recycling and the area where training and management can be implemented. See Annexure A for the Layout.

Issues to be addressed: reduce the service lane to a one-way service lane from east to west.

3 Concept Infrastructure Design

3.1 Water

It is estimated that a 160mm – 200mm uPVC pipe Class 9 will be suitable for the development.

Water connections (50 - 75mm) to all the stands have to be provided based on the survey.

It is proposed that Fire Hydrants be spaced throughout the development. Hydrants to be connected on minimum size 75 mm pipes.

3.2 Sewer

Concept: Install waterborne sanitation system to each stand connected to existing sewer system

Existing sewer line located in Constantia 250mm uPVC line. Information from municipality indicated that the line has enough capacity for the new development.

Sewer flows from business sited are not taken into account in the design of neighbourhoods, as the flow are minor compared to the residential flow in the area, and the industrial flow peaks at a different time than the residential flow.

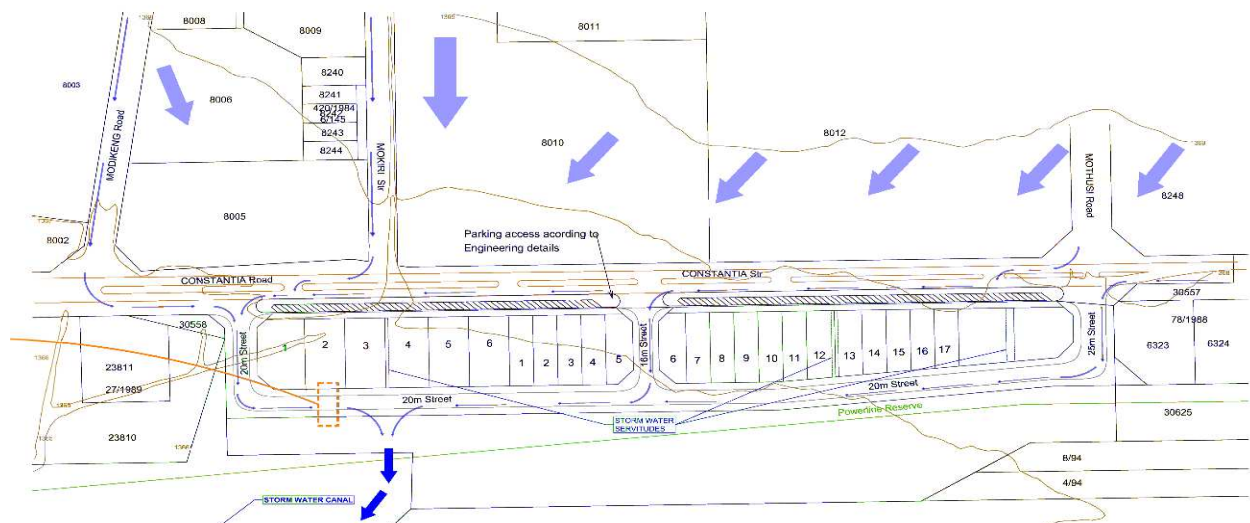
Physical design of stands:

- Provide connection point for each stand (manhole or junction)
- Stands that have contaminated waste water should be provided with specialised waste trap to prevent paint/oils to discharge into network.

This will prevent pollution and blockages downstream.

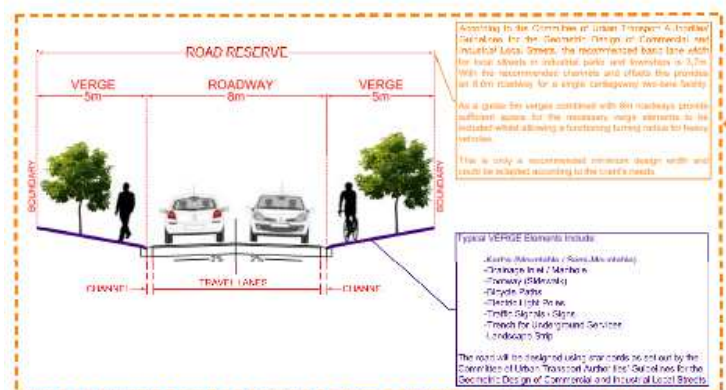
3.3 Storm water

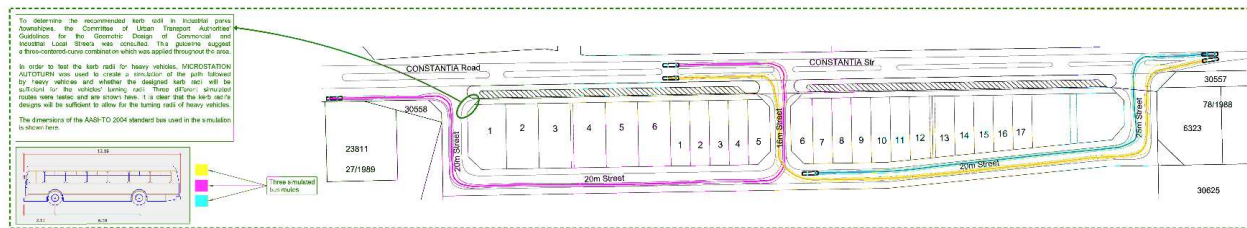
- Existing flow
- Possible flow
- Possible “kill factors”



3.4 Roads

- Road widths
- Parking
- Radii
- Walkway widths
- Possible “kill factors”



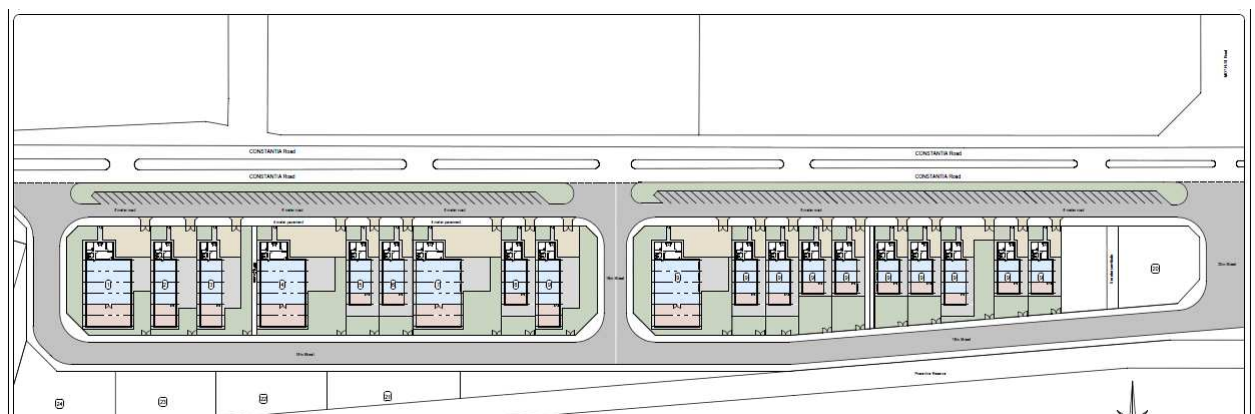


4 Concept Super Structure Design

Based on the needs and requirements as determined in the Phase 1 Data Survey, four types of super structures were designed.



The different types could be built on the different stands as indicated below.



5 Cost estimates

The cost estimate summary for the project and its phases 2 and 3 are:

		Phase 2 Cost Estimates (Detailed Designs)	Phase 3 Cost estimates Construction of Civil services
	Activities		
	Project Administration fees	32544.39502	210249.04
	Management Model		
	Literature & Best Practise research	R 144 160.00	R -
	Survey beneficiaries	R 152 640.00	R -
	Training Model	R 220 480.00	R -
	Travelling	R 26 500.00	R -
	Implementation of the Management Model: to be determined at the end of phase 3		
	Property Rights		
	Contour Plan	R 18 550.00	R -
	Town planning	R -	R -
	Finalise Township layout	R 55 314.19	R -
	Application	R 55 314.19	R -
	Cadastral Survey	R -	R -
	Demarcation of erven	R 29 361.89	R -
	Approval of General Plan	R -	R -
	Opening of township register	R -	R -
	Transfer of Erven to Beneficiaries		
	Engineering		
	Professional Fees	R 462 804.48	R 191 224.00
	Water	R -	R -
	Bulk	R -	R 1 325 000.00
	Internal	R -	R 583 000.00
	Roads & Storm water	R -	R -
	Bulk	R -	R 14 204 000.00
	Internal	R -	R -
	Paving of Sidewalks	R -	R -
	Sewer	R -	R -
	Bulk	R -	R 682 640.00
	Internal	R -	R 89 040.00
	Electricity	R -	R -
	Professional Fees	R 147 000.00	R -
	Reticulation excluding buildings	R -	R 3 950 000.00
	Top structure		
	Architect	R 1 208 728.18	R -
	Quantity Surveyor	R 733 586.57	R -
	Subtotal	R 3 286 983.90	R 21 235 153.04
	VAT 14%	R 460 177.75	R 2 972 921.43
	Total Phase 2	R 3 747 161.64	
	Total Phase 3		R 24 208 074.47

6 Municipal Contribution to the Project

The Matjhabeng Municipality is the land owner and will donate the land as part of their contribution to the project. The land is prime commercial land and is located on one of the main access routes between Thabong and Welkom. The development is 4,7ha of usable land. Similar land was sold in Thabong (Erf 36165) for commercial use at R22.8million for 4,5 ha. Even if the dissimilar form of the land is taken into account and only 50% of the value is used the value can be estimated at least R12million.

7 Harmony Contribution to the Project.

Harmony has confirmed its continued commitment to phase 2 of the project via E-mail on 12/05/2016 from Me. E Cilliers stating: "I can confirm that Harmony will contribute to phase 2 with R 3,5 m, dependent on confirmation of funding of phase 3 from DTI and other sources through the municipality"

8 Constraints Identified

Eskom will only allow electrical connections where approved General Plans with erven exist. Thus it is critical to commence the Township establishment process as soon as possible.

9 Process Amendments

The following amendments are proposed to the project deliverables:

- a. That the research into the management system starts in phase 2.
- b. That the Town Planning application process starts in phase 2.

10 Summary

The phase 1 process has been successfully concluded and the cost estimates for the project are realistic. The acquisition of funding for phase 2 as well as the physical infrastructure of phase 3 is critical.



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