

CHAPTER 9_ Client_Funding_Development_Management_Costing

9.1_

THE CLIENT

The clients:

University of Pretoria
Government of South Africa, Department of Trade and industry on behalf of other departments.
Non Government Organisations
Citizens of South Africa

The secondary clients:

Mamelodi and Pretoria business fraternity
Hewlett Packard Inc.
Tswane tourism authority

The development shareholders:

University of Pretoria
Government of South Africa, Public works department on behalf of other departments.

The social shareholders:

Mamelodi community
Pretoria East community
Non Government Organisations

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FUNDING

University of Pretoria:

Proposal includes the leasing or shareholding of property rights for the required area of property by the University of Pretoria, hence rezoning required.
Funding by the University for the development of the new University offices and public e-library.

Government of South Africa, Department of trade and industry.

Proposal includes 85% funding of facility development.

Non Government Organisations

Proposal includes 15% funding of facility development.

The project proposal includes:

Development value: Land value + estimate development value at date of completion and estimation.

University of Pretoria maintaining property ownership and % development share value thereof (development value - estimate development value.)

Government of South Africa, DTI:

Maintain 85% development share value thereof (development value - land value.)

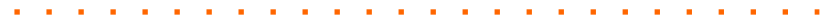
Non Government Organisations

Maintain 15% share value thereof (development value - land value.) Renting of prescribed areas: The conference centres, HP i-centre, and business hot desk facility income after maintenance reduction and community overhead funding are divided according to percentage share value into a shared fund, available to the Department of Trade and industry for the sole use of funding for Mamelodi community development and upliftment.

Hence the noted % share adds to relative owners community development requirement per year.

To note: This development is a civic development and not a economic venture; with community interest at hand, thus funding is issued for community projects and development. The purpose of the facility is to accommodate civic amenities and community amenities, with limited income generation.

However design intent with regards to sustainable developing does allow for future change of function to a viable economic venture, note: this is not the sole intent and or vision for this dissertation.



DEVELOPMENT PROPOSAL

An amalgamation of ownership thus the facility will be governed as a Section 21 non-profit organisation, run by members of the community, guided by government. With application for a code 200 BBEEE full function organisation, as set out by the DTI.

If a development does propose development of rural developing black areas, and areas of past segregation it complies the BBEEE code for funding. Full government_ DTI. funding will be issued to the development if development does show and or propose upliftment. As there is a major need for civic and community service and 99% of the community are black developing citizens a full grant will be issued. To note: this grant will consist of Government funding and NGO, funding.

The proposal envisions that the NGO organisation receives its % share ownership, as this allows for additional future funding by those organisations. Providing a sustenance of income. Hence an engaged development of mutual benefit and constant future developing benefit.

This engagement with regards to the University of Pretoria will benefit future their future investment and development as it will allow the University to be full BBE compliant. Hence opening doors for additional Government funding and thus additional community projects. The start of mutual benefactor developments within South Africa and Tswane

BBEEE requirement funding notes:

“ Policy objectives of BEE:

Increased ownerships of land and other productive assets, improved asset to infrastructure, increased acquisition of skills and increased participation in productive economic activities in under-developed areas (Mamelodi) including the 13 nodal areas identified in the Urban renewal program and integrated sustainable rural development program”

“Policy instruments to achieve BEE:

The specific mechanisms to be used to achieve BEE targets including financing instruments, skills development, and employment equity”

“Finance for BEE

Intensifying economic transformation: This means that we increase the levels of employment and participation in the economy and that economic benefits are shared more equitable across the geographic dimension and by all social groups. This means more access to all forms of social service, and infrastructure to all citizens”

IDC:” Continue the role of facilitating and financing empowerment projects in disadvantage rural areas.”

“ Definitions of Black empowerment entities:

A community or broad based enterprise has an empowerment shareholder who represents broad base of members, such as a local community, shared are held via direct equity, non profit organisations and trusts.

Benefits from the shareholding should in a measurable sense be directed towards the uplifting the community through job creation, welfare, skills development, entrepreneurship and human rights. At the same time directors and management of groups should significantly comprise black persons.

These arrangements are appropriate in situation where the activities or operations of an enterprise or industry directly impact on a community or are located in a community, or may benefit a



University of Pretoria



MAMELODI COMMUNITY



9.4_

FACILITY MANAGEMENT PROPOSAL

As noted: ownership on share value basis within a section 21 company. However the proposal is to appoint a local company that employs local community members that facilitates the management and maintenance of the facility. This not only allows for efficient and effective control over the state of the facility but also creates Jobs for the community.

The management will fulfill all financial and organisation requirements of the facility, as well as all delivery and service related requirements. An in-house printing facility is proposed that serve as printers for the larger Government departments etc. This is also the responsibility of the management company. Any and all site and building maintenance are to be done by the facilitating company.

In-house washrooms and common room have been provided for the employed company workers.

Public maintenance on the square however is the responsibility of the Mamelodi municipal services. Also included is the taxi area, with the caretaker employed by the municipal council of Mamelodi East.

The public park on the Southern edge of the facility site, is maintained by Municipal parks, as well as the storm water green belt area.

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FACILITY BRIEF COSTING PROPOSAL

A costing analysis was done on the most effective structural system to use, based on a series of trials of structure, in simplification of built form, and to reduce cost and construction simplification.

Concrete m ³ :		Steel m ³ :
Labour	R.300-00m ³	R. 11500- 00 (steel/ton)
Steel	R1200-00m ³	
Concrete	R1000-00m ³	
Shuttering	R500-00m ³	
Total	R 3000 - 00m ³	

MAIN STRUCTURAL SYSTEM COSTING COMPARISON

See section z-z for structural area of calculation

1. SOLID CONCRETE SLAB SINGLE SPAN
 (calculated in structural module 10550mm x 5300 of which for section z_z their are 4 modules and 4 slabs.)
 SPAN: 10550mm x 5300mm
 REINFORCED L/D FACTOR: 22 - 32
 CALC FOR BEAM REQUIRED 10550 / 26 = 405.77mm thick slab, THUS
 22.65m³ concrete per module
 COST estimate: labour= R.300-00m³, steel= R1200-00m³, concrete= R1000-00m³, shuttering= R500-00m³
 1m³ CONCRETE CAST = R. 3000 - 00
 22.65m³ x R. 3000 - 00 = **R.67 936 - 00**

1. SOLID TWO WAY CONCRETE SLAB ON STEEL BEAM TO REDUCE SLAB THICKNESS
 (calculated in structural module 10550mm x 5300 of which for section z_z their are 4 modules and 4 slabs.)
 EFFECTIVE CONCRETE SLAB SPAN: 5300mm
 REINFORCED L/D FACTOR: 28 - 35
 CALC FOR SLAB THICKNESS: 5300 / 30 = 176.67 mm
 DEEP ROLLED STEEL BEAM SPAN: 10550mm
 REINFORCED L/D FACTOR: 18 - 26
 CALC FOR STEEL BEAM DEPTH: 10550 / 23 = 458.70 mm
 COST estimate slab: 5300mm x 10550 x 176.67 =
 9.84m³ x R. 3000 - 00 = R.29 523 - 12
 COST estimate steel beam: 458.70mm x 250mm x 250mm x 8mm x 10550mm
 = 0.04m³ x 8500 = 2053.56 kg of steel
 2.05356 x R. 11500- 00 (steel/ton) = R.23 615 - 91 X 2BEAMS = R.47 231 - 82
 TOTAL R.23 615-91 + R 47 231 - 82 = **R. 70 847.73**



3. SOLID TWO WAY CONCRETE SLAB ON CONCRETE T or L BEAMS - chosen system -
(calculated in structural module 10550mm x 5300 of which for section z_z their are 4 modules and 4 slabs.)
EFFECTIVE CONCRETE SLAB SPAN: 5300mm
REINFORCED L/D FACTOR: 28 - 35
CALC FOR SLAB THICKNESS: $5300 / 30 = 176.67$ mm
CONCRETE BEAM SPAN: 10550mm
PRESTRESSED L/D FACTOR: 20 - 30 (TO REDUCE THICKNESS)
CALC FOR BEAM DEPTH: $10550\text{mm} / 26 = 390.74\text{mm}$ (includes slab depth for construction purposes)

COST estimate slab: $5300\text{mm} \times 10550 \times 176.67 = 9.84\text{m}^3 \times \text{R. } 3000 - 00 = \text{R.}29\ 523 - 12$
COST estimate beam: $10550\text{mm} \times 390.74\text{mm} \times 390.74\text{mm} = 1.6\text{m}^3 \times \text{R. } 3000 - 00 = \text{R.}4791 - 15 \times 2 = \text{R. } 9582 - 30$
TOTAL R. 29 523 - 12 + R 9 582 - 30 = **R. 39 105 - 30**

Thus the modular cost comparison clearly shows that the most economical structural system for the required design intent is number 3: the solid two way concrete slab on concrete T or L beams, in addition the system reduces beam thickness.

Thus the comparison clearly shows, for the core structure excluding the steel walkways that the proposed construction will be the best choice and decision. An estimate of 20 modules will be required excluding the parking garage structure, thus in larger quantities this system becomes more effective.

IN CONCLUSION

It is believed that the proposed design and vision has achieved in part a baseline for further development in the field of community and service amenity delivery.

In the level of engagement achieved in creating public spaces that allow for interaction and revitalises a campus.

In reintegrating a unused space and past segregated facility to a workable public square and dearly needed social and civic amenities.

In providing a community space for interaction and guidance while providing amenities for a serviceless community.

By taking the first step in creating a multi disciplinary environment fully focused on the community and its people, a proposed vision for other segregated areas with fragmented communities and amenities, to be housed and delivered by a single functioning complex.

Thus creating the catalysts for a new nodal centre in a peri-rural, peri-urban area.



