

FUTURE DEVELOPMENT AREAS (FDA)

| Future Development Name | Description            | Anticipated Landuse    | Density (Units/ha) | Gross Area (ha) | No. of Units (base year : 2011) |             |              |       | UWD (inc. UAW) (l/d) | UWD (inc. UAW) (kl/ha) | AADD (inc. UAW) (kl/d) |
|-------------------------|------------------------|------------------------|--------------------|-----------------|---------------------------------|-------------|--------------|-------|----------------------|------------------------|------------------------|
|                         |                        |                        |                    |                 | Next 5 yr's                     | 5 - 10 yr's | 10 - 20 yr's | Total |                      |                        |                        |
| McGregor                |                        |                        |                    |                 |                                 |             |              |       |                      |                        |                        |
| Mc01                    | Parks and sportsfields | Recreation             | 1                  | 3.2             |                                 |             | 3            | 3     |                      | 15                     | 48                     |
| Mc02                    | Cluster                | Group housing 40 to 60 | 67                 | 9.0             | 600                             |             |              | 600   | 400                  |                        | 240                    |
| Mc03                    | High density           | Single residential 500 | 35                 | 3.1             |                                 | 109         |              | 109   | 600                  |                        | 65                     |
| Mc04                    | High density           | Single residential 500 | 37                 | 1.5             |                                 | 55          |              | 55    | 600                  |                        | 33                     |
| Mc05                    | High density           | Single residential 500 | 42                 | 1.4             |                                 | 57          |              | 57    | 600                  |                        | 34                     |
| Sub-Total McGregor      |                        |                        |                    |                 |                                 |             |              |       |                      | 824                    | 421                    |

COST ESTIMATES AND PHASING OF THE REQUIRED WORKS

| Item No.                  | MP item Type | Description                                                  | Estimated cost * (R-yr 2011 value) | Time Related Phasing | Comments                                                            | Project no.  |
|---------------------------|--------------|--------------------------------------------------------------|------------------------------------|----------------------|---------------------------------------------------------------------|--------------|
| McGregor                  |              |                                                              |                                    |                      |                                                                     |              |
| Distribution System Items |              |                                                              |                                    |                      |                                                                     |              |
| LMcS1.01                  | FM           | 1647 m x 160 mm Ø New Gravity                                | 1 431 400                          | 2014                 | Required for existing unserved erven                                | PRJ-LMCS-001 |
| LMcS1.02                  | FM           | 2432 m x 160 mm Ø New Gravity                                | 2 101 100                          | 2016                 | Required for existing unserved erven                                | PRJ-LMCS-001 |
| LMcS1.03                  | FM           | 3723 m x 160 mm Ø New Gravity                                | 3 201 100                          | 2018                 | Required for existing unserved erven                                | PRJ-LMCS-001 |
| LMcS1.04                  | FM           | 238 m x 160 mm Ø New Gravity                                 | 230 200                            | 2018                 | Required for existing unserved erven                                | PRJ-LMCS-001 |
| LMcS2.01                  | MP           | 344 m x 250 mm Ø Upgrade existing Gravity                    | 414 900                            | 2020                 | When overflow problems occur                                        | PRJ-LMCS-002 |
| LMcS2.02                  | MP           | 73 m x 200 mm Ø Upgrade existing Gravity                     | 98 100                             | 2020                 | When overflow problems occur                                        | PRJ-LMCS-002 |
| LMcS2.03                  | MP           | 289 m x 160 mm Ø Upgrade existing Gravity                    | 273 200                            | 2020                 | When overflow problems occur                                        | PRJ-LMCS-002 |
| LMcS2.04                  | MPI          | 63 m x 160 mm Ø Upgrade existing Gravity (Investigate first) | 83 800                             | 2020                 | When overflow problems occur. Modelled on 110 mm Ø at minimum slope | PRJ-LMCS-002 |
| LMcS3.01                  | FM           | New Pump Station                                             | 342 200                            | 2023                 | New 5 l/s pumping station                                           | PRJ-LMCS-003 |
| LMcS3.02                  | FM           | 209 m x 90 mm Ø New Rising                                   | 73 600                             | 2023                 | New 90 mm Ø rising main. With item LMcS3.01                         | PRJ-LMCS-003 |
| TOTALS                    |              |                                                              | 8 249 600                          |                      |                                                                     |              |

\* Costs include P&G's, Contingencies & Fees, but exclude EIA studies, registration of servitudes and/or land acquisition, protection, monitoring and VAT.

Note :  
FM = Future main - New gravity outfall sewer, rising main, pump station, diversion structure or WWTP  
MP = Master Plan items which reinforce the existing system  
MPa = Master Plan items which are abandoned  
MPI = Master Plan investigate - Upgrades for existing facilities, where there is uncertainty over e.g. actual diameters, actual slopes or actual pump capacities. The existing facilities must be investigated first, prior to implementing the master plan item  
MPs = Master Plan items where only investigation is required

LEGEND

- Existing <= 110mm diameter pipes
- Existing > 110 <= 160mm diameter pipes
- Existing > 160 <= 225mm diameter pipes
- Existng > 225 <= 315mm diameter pipes
- Existing > 315 <= 400mm diameter pipes
- Existing > 400mm diameter pipes
- Existing rising mains
- Schematic network pipes
- Existing manholes
- Existing pumping station
- Existing Wastewater Treatment Plant (WWTP)
- Existing diversion structure
- Master plan item
- New sewer system
- Future rising mains
- Future pumping station
- Future Wastewater Treatment Plant (WWTP)
- Future diversion structure
- Future network pipes (schematic)
- Abandoned pumping station
- Cadastral boundaries
- Railway line
- River

Future Development Areas

Affordable housing

Business/Commercial

Group housing 40 to 60

Industrial

Parks & sportfields

Res 500

Res 1000

Res >2000

March 2012

Sewer Master Plan  
Langeberg Municipality

100 200 400 800 meters  
Scale 1:10000



Figure LBS 6.4c  
Future required works -  
McGregor