

## TABLE OF CONTENTS

|   |    |
|---|----|
| LIST OF REPORTS .....   | i  |
| PREFACE .....   | ii |
| 1. INTRODUCTION .....   | 1  |
| 1.1 Scope .....   | 1  |
| 1.2 Objectives .....  | 1  |
| 1.3 Data limitations .....                                    | 2  |
| 1.4 An investment - tariff model .....                        | 2  |
| 1.5 Externalities and other considerations .....              | 2  |
| 2. METHODOLOGY .....  | 3  |
| 2.1 Approach to demographics .....                            | 3  |
| 2.2 Disaggregation of data .....                              | 4  |
| 2.3 Focus on low-income households .....                      | 5  |
| 2.4 Quantification of existing backlog .....                  | 6  |
| 2.5 Quantification of future demand .....                     | 6  |
| 2.6 Cost estimates .....                                      | 7  |
| a) Bulk and internal services .....                           | 7  |
| b) Upgrading costs .....                                      | 7  |
| c) Note on World Bank data .....                              | 7  |
| 2.7 Presentation of results .....                             | 7  |
| 3. DEMOGRAPHICS .....   | 8  |
| 4. EXISTING BACKLOG .....                                     | 9  |
| 4.1 Definitions .....   | 9  |
| 4.2 Existing levels of service (total urban population) ..... | 10 |
| 4.3 Upgrading requirements .....                              | 11 |
| 5. NEW DEMAND .....   | 13 |
| 6. UNIT CAPITAL COSTS .....                                   | 14 |
| 6.1 Internal services costs .....                             | 14 |
| a) New development .....                                      | 14 |
| b) Upgrading costs .....                                      | 14 |
| 6.2 Bulk and connector costs .....                            | 15 |
| a) New development .....                                      | 15 |
| b) Upgrading .....  | 15 |

|   |    |
|---|----|
| 7. TOTAL CAPITAL COSTS .....                  | 16 |
| 7.1 Water .....                               | 16 |
| 7.2 Sanitation .....                          | 17 |
| 7.3 Water and sanitation .....                | 18 |
| 7.4 Discussion .....                          | 18 |
| 8. COMPARISON WITH OTHER STUDIES .....        | 20 |
| 8.1 Water and Sanitation 2000 .....           | 20 |
| 8.2 Development Bank of Southern Africa ..... | 20 |
| 9. CLOSURE .....                              | 21 |
| 10. REFERENCES .....                          | 22 |

#### **APPENDICES**

|   |  |
|---|--|
| 1. CAPITAL COST SUMMARY   |  |
| 2. DEMAND AND COSTS OF WATER AND SANITATION SERVICES                    |  |
| 3. UNIT CAPITAL COSTS   |  |
| 4. ACCESS TO WATER AND SANITATION IN SOUTH AFRICAN URBAN AREAS          |  |
| 5. WITWATERSRAND METROPOLITAN REGION - Demand for and cost of services  |  |
| 6. DURBAN FUNCTIONAL REGION - Demand for and cost of services           |  |
| 7. PORT ELIZABETH METROPOLITAN REGION - Demand for and cost of services |  |