

CHAPTER 10
LIST OF FIGURES

10 | LIST OF FIGURES

Figure 1.1	The busy streets of Marabastad, 2015. (unknown)	3
Figure 1.2	Informal vendors occupying the sidewalk, Marabastad (Unknown 2015)	4
Figure 1.3	Informal vendor selling food, Marabastad (Unknown 2015)	7
Figure 1.4	Informal restaurants selling cooked food, Marabastad (Unknown 2015)	9
Figure 1.5	The daily commute to and from the city, Marabastad (Unknown 2015)	11
Figure 1.6	White Mosque in Boom Street an irreplaceable landmark of Marabastad (Unknown 2015)	13
Figure 1.7	Research Methodology diagramme (by Author)	15
Figure 1.8	Informal shops selling goods on the bridge from Belle Ombre train station, Marabastad (Unknown 2015)	17
Figure 2.1	People of Marabastad. 1988. Photos by Richard Winstein	21
Figure 2.2	Top - Photo taken of Marabastad from Daspoort to the southeast. 1905 (Van Der Waal 1998:4)	24
Figure 2.3	Right - Bird's eye view of Aziatic Bazaar. (Naidoo 2007:8)	24
Figure 2.4	Left - One of the First photographs taken of Marabastad dating from 1950 (Good Shepherd)	24
Figure 2.5	Top series - Arial photographs showing Marabastad precinct: 1934,1947, 1965 and 1996 (ARUP, edited by Author). Figure ground series - showing the decline of Marabastad and change in urban fabric grain (Aziz Tayob Partnership, 2002, edited by Author)	27
Figure 2.6	Fight for peace. 2008. Photograph by Sunshinestev on Diviant Art	28
Figure 2.7	People moving through Marabastad on a daily basis. 2015. Photographed and edited by Author	31
Figure 3.1	Arial showing physical barriers isolating Marabastad from Pretoria CBD (Author)	34
Figure 3.2	Arial showing original fine grain of Marabastad in relation to larger retail and transport facilities (Author)	36
Figure 3.3	Arial showing transport nodes (Author)	38
Figure 3.4	Programmatic analysis (Urban Framework Group)	40
Figure 3.5	Spatial analysis (Urban Framework Group)	42
Figure 3.6	Sectional investigation of various streets, showing how space is used and altered to accommodate the needs of the inhabitants of Marabastad (Urban Framework Group)	44
Figure 3.7	Issues identified in our Urban Framework Group addressed in individual design projects (Urban Framework Group)	46
Figure 3.8	Selected sites identified by group members (yellow Author) (Urban Framework Group)	47
Figure 3.9	Individual proposals supporting the existing networks in Marabastad (Urban Framework Group)	47

Figure 3.10	Programmatic vision (Urban Framework Group)	48
Figure 3.11	Spatial vision (Urban Framework Group)	50
Figure 3.12	Arial with mapped conservation area and selected site within its context . 2015. Author	52
Figure 3.13	Density Models (CSIR 2011)	54
Figure 4.1	Segregated and mixed urban models (CSIR 2011)	59
Figure 4.2	Diversity of people including families, students, children, elderly and different activities and social encounters (Author)	61
Figure 4.3	Typical plan of low cost housing (Author)	63
Figure 4.4	Life cycle diagram:showing diversity of housing needs (ADU, 2012, edited by Author)	64
Figure 4.5	Housing opportunities (Author)	66
Figure 4.6	Identified social groups in Marabastad, their temporalities and needs (Author)	71
Figure 5.1	Pedestrian typology (Gehl, 1987, edited by Author)	76
Figure 5.2	Diagramme of discrete defensible spece (Newman, 1973, edited by Author)	79
Figure 5.4	Evolution of house as it extends over time, Renzo Piano(Setie, 2012)	83
Figure 5.3	A support is not a skeleton, by Habraken (Kendall & Teicher, 2000)	83
Figure 6.1	Completed housing unit before occupant alterations (Elemental, 2008)	90
Figure 6.2	Quinta Monroy after occupant alterations (Aravena, 2013)	90
Figure 6.3	Songpa Micro-Housing, Seoul, Korea with flexible floorplans which can accommodate for the changing needs of residents (Park & Hong, 2014)	91
Figure 6.4	Next 21, Osaka, Japan with a permanent infrastructure with the infill having a shortes lifespan is designed to be easily replaced (Kendell & Teicher, 2000)	91
Figure 6.5	Elangeni Gardens, Marshall Town, Johannesburg, a local precedent of open building (CSIR, 2011)	91
Figure 6.6	K206 in Alexandra, Johannesburg, a second local example of open building (CSIR, 2011)	91
Figure 6.7	Plans, section and elevations of Wuinta Monroy (Aravena, 2013)	92
Figure 6.8	Quinta Monroy analytical sketch of funding opportunities (Author)	93
Figure 6.11	Quinta Monroy unit interior before any alterations made by occupant (Aravena, 2013)	93
Figure 6.10	Quinta Monroy modular construction (Urban Think Tank)	93
Figure 6.12	Site plan of Quinta Monroy (Elemental, 2008)	93
Figure 6.9	Quinta Monroy analytical sketch of defensible space principle (Author)	93
Figure 6.13	Street photograph (Author)	95
Figure 6.15	Site plan of Jubilee Centre with all buildings on site, including Potters' House (Munting, 2011)	95
Figure 6.14	Photograph of stairs to upper floors (Munting, 2011)	95

Figure 6.16	Courtyard space (Munting, 2011)	96
Figure 6.17	Unit plan (Munting, 2011)	97
Figure 6.19	Photographs of architectural elements: stairs and roof overhangs, steps defining threshold between inside and outside and different finishing material to contributing to aesthetics of building (Munting, 2011)	97
Figure 6.18	Ground floor plan (bottom) and first floor plan(top) with possible flexibility in plan as per Open Building theory (Munting, 2011)	97
Figure 6.20	Walmer Link, a housing scheme divided into two developments: Social Rental and Affordable Housing to also provide for the gap market. The project is financed by the Finance Linked Individual Subsidy Projects (FILPS) (GM South Africa Foundation)	98
Figure 6.21	N2 Gateway Project is located in Joe Slovo (Langa, Cape Town) demonstrating new ways of developing human settlements with social and economic amenities along with housing units (Tonkin, 2008)	98
Figure 6.22	Pelip Housing, Red Location, Port Elizabeth. Despite the political situation and initial conflict with local communities against the unconventional housing project, the project set out to challenge the government approach - that is to provide a free-standing house for every family in South Africa (Noero 1999:29)	98
Figure 6.23	From top, Site location, Site plan, Section and Unit plan (Tonkin, 2008)	99
Figure 6.26	Units with laundry space in backyard (Wolff)	100
Figure 6.24	Stairway to front door (Wolff)	100
Figure 6.25	Combined shared space and vehicular road (Wolff)	100
Figure 6.27	resultant space between units (Wolff)	100
Figure 6.28	Former Rocks Police Station with a new steel and glass to accommodated its new use as a café (Acorn 2014)	102
Figure 6.29	Rotermann's old and new storage is an adaptive re-use project of a historically-valuable limestone building (Grossschmidt, hayashi & Azukawa 2013)	102
Figure 6.30	Kings Cross - Western Transit shed illustrates an extension of the exiting building using vertical and horizontal rhythms (Williams 2013)	102
Figure 6.31	Before intervention (Sheffield 2012)	103
Figure 6.32	After completion (Sheffield 2012)	103
Figure 6.33	Pedestrian street at the back (Derschatta 2012)	103
Figure 6.35	Definition between old and new (Derschatta 2012)	103
Figure 6.34	Side of building (Sheffield 2012)	103
Figure 7.1	Arial of Marabastad illustrating selected site location (Author)	107
Figure 7.2	Site analysis images (Author)	109
Figure 7.3	Northern street elevation of site (Author)	110
Figure 7.5	Southern street elevation of site (Author)	110
Figure 7.4	Selected site with identified heritage structures (Author)	110
Figure 7.6	Sketch of delapidated building (Author)	113

Figure 7.7	Scale of heritage response approaches (Barker, 2015, edited by Author)	115
Figure 7.8	Sketch of activity on street, pedestrians and informal trader (Author)	116
Figure 7.9	Sketches of conservation approaches (Author)	118
Figure 7.10	Analytical sketches and relevant photographs (Author)	121
Figure 7.11	Analytical sketches and relevant photographs (Author)	123
Figure 7.13	Elevational composition (Author)	125
Figure 7.12	Photographs showing materiality of Marabastad (Author)	125
Figure 7.14	Sectional analysis scetch illustrating thresholds and transition from the public to the private realm (Author)	127
Figure 7.15	Sketch of the White Mosque located on the selected site (Author)	128
Figure 8.1	Design development process from research to design	133
Figure 8.2	Arial Photo of selected site. 2015. Edited by Author	134
Figure 8.3	Design 01 section	136
Figure 8.4	Design 01 diagrammatic plan	136
Figure 8.6	The edge concept	137
Figure 8.5	Design 01 birds eye view	137
Figure 8.7	Design 02 plan	138
Figure 8.8	Design 02 sections	139
Figure 8.9	Grouping of circulation, services, units and shared space	139
Figure 8.10	Threshold series from street (public) to the variety of unit types (private)	139
Figure 8.11	Public space - food court with restaurants/ bars framing a the public space	140
Figure 8.12	Semi - public space - student housing spilling out onto outdoor seating	140
Figure 8.13	Semi- public space - inner courtyard space that becomes the shared space and playground for the family units	140
Figure 8.15	New public space concept	141
Figure 8.14	Re-appropriated Market stalls, low intimate covered walkway	141
Figure 8.16	Layers of design iterations developed from Design 02	142
Figure 8.17	Shophouses on street edge should respond to heritage character of the site	143
Figure 8.18	Progress work layers of plan iterations and model	143
Figure 8.20	Diagramme illustrating exploration of the formal and informal trade	143
Figure 8.21	Site diagramme with binal building positioning, public and private space	143
Figure 8.19	Diagrammatic plan showing placement of buildings and movement through site	143
Figure 8.22	Womans Skills Development Centre from the south	144
Figure 8.23	Roof exploration and resultant space relationship to building scale	144
Figure 8.24	Model of entire site showing massing of the proposal from southern side	144
Figure 8.25	Model of entire site showing massing of the proposal from nothern side	145
Figure 8.27	Negotiated Space Concept	145
Figure 8.26	Perspective from courtyard space	145
Figure 8.28	Three design issues	146
Figure 8.30	Concept	147

Figure 8.29	Existing condition	147
Figure 8.31	Final design plan.....	148
Figure 8.32	Model perspective from south east corner	149
Figure 8.33	Model top view	149
Figure 8.34	Model perspective from north west corner	150
Figure 8.35	Model perspective from semi-private courtyard space	150
Figure 8.38	Model perspective of markets next to Womens Centre	151
Figure 8.36	Section AA.....	151
Figure 8.37	Section BB.....	151
Figure 8.39	Model perspective from north east corner.....	151
Figure 8.40	Process work of unit design.....	152
Figure 8.41	Diversity concept.....	153
Figure 8.42	Open Building unit design with base unit and open space for user infill.	153
Figure 8.43	Site Plan with different Levels of Open Building applicable on the different housing opportunities.....	155
Figure 8.44	The Base family unit of 42m ² (controlled by the architect).....	157
Figure 8.45	The Family unit with additions (additions made by the occupant)	157

Figure 9.1	Technical concept (Author).....	160
Figure 9.2	Sketch highlighting that representing the existing (Author).	162
Figure 9.3	Materials used to representing the existing (Author).....	162
Figure 9.4	Sketch highlighting that representing the new (Author).	163
Figure 9.5	Materials used to representing the new (Author).	163
Figure 9.6	Structural system (Author).....	164
Figure 9.7	Grouping of services on plan (left) and water pipe system as space heating (right) (Author).....	167
Figure 9.9	Diagramme illustrating greywater system (Author).....	169
Figure 9.8	Typical household water usage.....	169
Figure 9.10	Water services and rainwater system illustrated in building section (Author).	169
Figure 9.11	Rainwater harvesting calculations (Author).	170
Figure 9.12	Diagramme illustrating rainwater harvesting FIRST CALCULATIONS (Author).	171
Figure 9.13	Diagramme illustrating rainwater harvesting with a REVISED CALCULATIONS with a 33m ² top-up (Author).	171
Figure 9.14	Required lux levels (Author).....	173
Figure 9.15	Live project of a light shaft/guide in a country house, Switzerland (Limitless (2015), edited by Author).....	173
Figure 9.16	Light analysis of housing units at different floor levels during different sectional development stages (Author).....	175
Figure 9.17	Technical process sketches (Author).....	177
Figure 9.18	Site plan (Author).....	178
Figure 9.19	Site section (Author).	181

Figure 9.20	1:20 Section version 5 (Author).....	182
Figure 9.21	Gutter detail (Author).....	184
Figure 9.22	Balcony detail (Author).....	185
Figure 9.23	Column seating detail (Author).	186
Figure 9.24	Perspective of Mogul street (Author).	187
Figure 9.25	Ground floor plan (Author).	188
Figure 9.26	First floor plan (Author).	190
Figure 9.27	Perspective of Food court (Author).	193
Figure 9.28	Perspective of Student square (Author).....	195
Figure 9.29	Perspective of Inner courtyard (Author).	197
Figure 9.30	Perspective of Market square (Author).	198
Figure 9.31	Final model from Womens centre (Author).	200
Figure 9.32	Final model Mogul street elevation at night (Author).....	204
Figure 9.33	Final model from 7th street at night (Author).	206