

THE HILLS ABOVE PIETERMARITZBURG: AN APPRECIATION

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The residents of Pietermaritzburg are well-aware that the hills overlooking the city define Pietermaritzburg in a scenic context, and give it a particular sense of place. The optimum vantage point for viewing these hills is from the southern and eastern parts of the city, looking across the bowl-shaped Msunduzi River Valley.¹ It is rather surprising that not much attention has been paid to the hills of Pietermaritzburg in articles and books about the city.² A partial exception was a chapter in a volume published to commemorate the 150th anniversary of Pietermaritzburg in 1988.³ Specific details regarding the higher-lying land above the city are again sparse in this book, excluding maps showing the general topography, the suburbs and the natural vegetation. The book incorporates some early paintings of the settlement (*circa* the mid-1850s) with various hills in the background. These paintings reveal an appreciation of the terrain which does not appear to have been carried forward to more recent times.⁴ The hills have a special resonance, given the contrasting climates to the north and to the south of Pietermaritzburg. Many of the northern slopes are cool and well-watered with spectacular views and with remnants of verdant indigenous vegetation (although dominated by commercial forests) whereas the southern slopes are hot and dry and have limited ambience. Two commonly-touted names for Pietermaritzburg are the “The City of Choice” and perhaps more appropriately “The Green City”. In keeping with an environmental theme are the names “The City of Flowers” as well as “The Garden City”, and in a different context “The Heritage City”. Other names could include “The City with Imposing Landscapes” and “The City of Two Climates”.

The landscape discussed in this paper is that generally visible from the suburb of Scottsville, extending in a westerly, northerly and easterly direction, and constitutes the skyline of Pietermaritzburg. High terrain overlooking Edendale has been excluded from the analysis. The skyline or escarpment above Pietermaritzburg, besides functioning as the topographic backdrop or canvas to the city, is also the beginning of the KwaZulu-Natal Midlands, which is a beautiful and well-watered landscape.⁵ The escarpment is a few hundred metres above the hollow or basin of Pietermaritzburg (technically defined as a Pliocene basin). The hills considered here range from Signal Hill in the west to Bishopstowe in the east, and form a semi-circle around the city. Readers should note the heights of various trigonometrical stations provided in the text, in terms of a spot height of 697 m for the top of the spire at the Pietermaritzburg City Hall (trigonometrical station No. 267: “Town Hall”). This spot height serves as a means of determining the elevation of a particular locality above the City Hall, which is in the Central Business District.

Signal Hill

This 895 m high hill (trigonometrical station No. 103: “Signal Hill”) was once part of the defences of the nearby Fort Napier, which is situated in the present-day suburb of Napierville. Fort Napier was the site of the British garrison in Pietermaritzburg during the years 1843–1914.⁶ A wide swathe of land towards the south of Pietermaritzburg can be seen from the summit of Signal Hill, which was presumably the reason for the selection of the hill as an observation point. Urgent messages using semaphore flags, heliographs or other pre-arranged methods of communication could be sent to Fort Napier and perhaps Government House (close to the Pietermaritzburg railway station) in the event of an emergency. The last defensive action involving Signal Hill was during the Anglo-Boer War (1899–1902) when trenches were dug, with the Boers expected on a daily basis.⁷ The Governor of Natal, Sir Walter Hely-Hutchinson, refused to leave the city and had “his kit packed” ready to make



*A map of the study area showing the hills overlooking Pietermaritzburg.
A few hills mentioned in the text are not indicated on the map for reasons of scale.*

for the trenches at an hour's notice. The prevailing British sentiment at the time was that the Boers could easily have taken control of Pietermaritzburg. A small hill situated between Signal Hill and Fort Napier was previously known as Hangman's Hill.

Blackridge

Blackridge is an elongated hill and ridge with a spot height of 1 079 m (trigonometrical station No. 231: "Blackridge") and is orientated in an approximately north-south direction. The eastern slopes are part of the suburb of Blackridge which falls under the Msunduzi Municipality (the successor to the Pietermaritzburg Municipality). A less-formal African settlement is found on the western slopes and is known as Mafindo, which in turn, adjoins the formal residential areas of Mpumaza and Caluza towards the south. Blackridge was once known as Swartkopskloof or "Black Hillock Ravine".⁸ It is very likely that the name stems from the days of the Voortrekkers. The Zwaartkop or Swartkop railway station (referred to later in the discussion) probably takes its name from this landscape feature. It seems that the old name of the station was changed to Blackridge at some stage. The white settlement at the Zwaartkop station was apparently regarded as part of Pietermaritzburg around 1911, when the municipal trams ran to within 10 minutes' walk of the village.⁹ Plots in Blackridge, Sweetwaters, Wintarskloof and the "old" Hilton were originally somewhat large, partly reflecting the country environment in these upland areas.¹⁰

Swartkop

Mountain

Swartkop, sometimes referred to as Swartkops, dominates the Pietermaritzburg skyline and has a spot height of 1 451 m (trigonometrical station No. 136: “Zwartkop I”). This dolerite-capped mountain was formerly known as Zwaartkop and Zwart Kop (Dutch) as well as Zwartkop (Afrikaans), or *eMbubu* “The Place of Thatching Grass” in Zulu.¹¹ The grass is possibly Common turpentine-grass (*Cymbopogon excavatus*) which grows in the environs of Swartkop Mountain.¹² The Afrikaans name (“Black Peak” or “Black Mountain”) probably refers to the indigenous forest, remnants of which can still be seen on the slopes and top of the mountain. Almost no wood was available in Pietermaritzburg in the early days for fuel, implements, furniture, wagon-making and building purposes.¹³ This shortage resulted in the exploitation of the indigenous forests in Town Bush Valley and the adjacent areas as well as around Swartkop and further afield. An increasing population in Pietermaritzburg, combined with the removal of wood from indigenous forests by local Africans, resulted in ever-greater demands on the existing timber resources. The first forest conservator in Natal, James Archbell, was appointed to oversee the Swartkop forest in 1867. The indigenous forest in the Swartkop area in the late 1880s was estimated to be in excess of 8 000 acres (3 237 ha).¹⁴ The forest margins and the surrounding grasslands above Pietermaritzburg supported extensive herds of game in the earliest years, although much of the game was soon destroyed. Swartkop Mountain forms a trilogy of hills with Little Swartkop or Little Mbubu and The Knoll (see below) constituting a triangle. Little Mbubu (1 376 m high) is situated about 1.5 km to the north-east of Swartkop Mountain. The Zulu name for Little Mbubu is *Mbuntshane*.¹⁵

Settlement

Swartkop was one of several “native locations” envisaged by the first Lieutenant-Governor of Natal, Martin West, to address the pressing issue of the large numbers of African refugees mainly from Zululand, who had no fixed abode.¹⁶ A Location Commission was established in March 1846 specifically to determine solutions, with Swartkop Location (the first such entity) being proclaimed in November 1846.¹⁷ Swartkop Location was once less accurately known as the Sweetwaters Location. It seems that another name in vogue in the late 19th century was Teteleku’s Location.¹⁸ The name refers to Thetheleku, the (then) chief (*inkosi*) of the Mpumuza or Mphumuza resident in the area. This entire block of land, which incorporates the residential area of Edendale, extends towards Elandskop and overlooks Baynesfield and the Mpophomeni Township near Midmar Dam respectively. The area consists of a mixture of privately owned and state land as well as traditional land tenure, and is settled by Zulu-speaking people.¹⁹ The district is today called *Vulindlela*, which means “To Open the Road” in Zulu. The district formed part of KwaZulu Area No. 9 (the Swartkop-Impendle-Ili Block) in the days of the KwaZulu Government.

Valley

Swartkop Valley is the deep valley separating Sweetwaters and Winterskloof in the west and World’s View in the east. The Dorpspruit drains the valley. Much of the terrain consisted of indigenous forest and grassland before alien tree species were planted. Some early evidence for this state of affairs was provided by an old farm name (De Bors Bush).²⁰ The farm was situated on the eastern fringes of the Swartkop Valley, and is shown on a map drawn by Captain G.B. Fitz Henry of the 7th Hussars in 1897. The map was printed in the United Kingdom in 1907. Alan Paton, at a slightly later stage, confirmed the pristine nature of certain hills above Pietermaritzburg.²¹

A local name for the landscape feature under discussion is Teteleku Valley. According to one report Teteleku’s homestead (*kraal*) was situated “only one mile” from the white village at the Zwaartkop (Swartkop) station, on a hill overlooking the railway line.²² Teteleku’s son Laduma is recorded as

being in possession of the same homestead in 1911. A previous (*circa* 1905) description of Laduma's dwelling referred to a climb up the hill overlooking Swartkop station to the crest.²³ An "amphitheatre of hills" became apparent, with Laduma's residence situated "a few yards" immediately below the ridge in the Edendale Valley. The Fitz Henry map indicates the site or sites of Tateleku's homestead (note spelling) as being slightly to the north-west of the Swartkop railway station. The map also shows a watercourse known as the Tateleku Spruit (today the Mvubukazi Stream) which rises to the west of Blackridge. The Victoria Ridge overlooks this stream further to the west. An adjacent hill to the west again of Victoria Ridge is the Gordon Spur (the site of the Gordon Falls). The name of the stream with this waterfall, according to the above-mentioned map, is the Skinsdale Spruit (currently the Mabane Stream) which drains into the Msunduzi River. Teteleku was also the name of a railway station (no longer in existence) on the eastern slopes of the Swartkop Valley. The Teteleku Nursery which once belonged to the (former) Pietermaritzburg Municipality was situated about 2 km north of the present-day Linpark High School.²⁴ The nursery is now surrounded by commercial plantations. Some of the plants grown at the nursery were left behind when the nursery was closed and have thrived in the interim. A prominent spur with a spot height of 983 m (trigonometrical station No. 266: "Tunnel") overlooks the Swartkop Valley to the east of the Dorpspruit (and to the south-west of the World's View observation point).

Sweetwaters and Winterskloof

White settlement in the Sweetwaters and Winterskloof area^{25,26} stems from the subdivision of three farms (Groenekloof, St Michael's Mount and St George's Mount).²⁷ The two primary properties at St Michael's Mount which later became known as Winterskloof were bought in 1861 by John Lake Crompton and James William Winter. Winter also owned two double-storey houses in Pietermaritzburg, and as far as can be established, never occupied his land at Winterskloof. Winter likewise owned land lower down at Sweetwaters (St George's Mount) which had previously belonged to a Mr Troy. Sweetwaters, in turn, was purchased by Samuel Green in 1879. The original name of the farm was Mooivlakte, with the property being situated near the Sweetwaters railway station. Green sold some of his land over the years to private buyers wishing to live in the countryside. These subdivisions resulted in the white village of Sweetwaters.²⁸ A trigonometrical station (No. 262: "Sweetwaters") is situated just to the south of the residential area of Sweetwaters and has a spot height of 1 044 m. It is said that Winter (or possibly Green) chose the name of Sweetwaters to reflect the purity and sweetness of the water issuing from springs in the area. Sweetwaters (as indicated) is also the name of an African residential area across the ridge in the upper reaches of the Edendale Valley, adjacent to Swartkop Mountain. This could imply, perhaps, that "Sweetwaters" is actually of Zulu origin.

Samuel Green (1852–1924) is believed to have established the first industrial (i.e. western-style) iron ore smelting plant in Natal in the late 1890s.²⁹ Green prospected for iron ore on his property, with some of these excavations still being visible. He found low-grade iron ore deposits and traces of copper in a disused quarry on the farm (implying an earlier mining endeavour). Green built a small iron ore smelter, which was later enlarged, enabling him to process a much greater volume of ore per day. He made his own refractory bricks as well as his own coke (or alternatively obtained supplies of coking coal from the coalfields in northern Natal). Green evidently made a number of improvements to the imported equipment, thus finding more efficient methods of production. A major impediment, however, was the shortage of fluxing agent which resulted in the smelter being closed at some stage. Green had other business interests including the mining of sand, stone and clay for building purposes. It is thought that some of his bricks were used to build the first City Hall which burnt down in July 1898, and which was replaced by the building we know today. A contemporary impression of Green was that he was very keen on engineering and mining matters. A small engineering (manufacturing) works operated on the site in 1967. The quarry by that time was filled with water. Remnants of

Green's smelter were discovered, mainly in the form of a square brick structure with a metal screen, below which was a heap of ash and cinder. An oval iron bar was also found and donated to the Natal Museum. Green's pioneering smelter was acknowledged by the (then) ISCOR in one of its publications. Subsequent users of the site have included a chemicals company, a timber merchant, a pub and a dealer in gemstones. The quarry site was used in the early 1970s, prior to the arrival of the chemicals company, as a trout hatchery.³⁰ The trout were kept in rectangular concrete tanks situated just above the waterline of the quarry itself. Some of the fish escaped into the water in the quarry, and were caught by white youngsters living in the area. The point of environmental significance here is that the water temperature and quality was marginally conducive to the breeding of trout, which in turn, is partly indicative of the upland topography and the low population density. The site is known locally in Sweetwaters as "The Quarry" and should not be confused with the more recent quarry in Hilton.

A controversial resident of Sweetwaters was a German immigrant, August Christian Conrad Beissner (1849–1928) who was a "nature healer".³¹ He started the Natural Healing Sanatorium at 3 Highlands Road in the early 1900s, and began advertising his services. Patients included men and women of various ages who were sometimes seen strolling along the roads near the sanatorium. Beissner's treatment consisted *inter alia* of massages, steam baths, mud baths, sunbathing and strict vegetarian diets. Considerable emphasis was placed on cold water hip baths. "Kuhne bread" made from whole wheat was part of the treatment procedure along with a special kind of butter known as "Palmine". Beissner addressed a variety of medical conditions such as consumption, heart disease and pregnancy. He appeared in court more than once to answer charges of quackery as well as culpable homicide. One such case involved a frail woman who had been advised by her doctor not to become pregnant, and who miscarried and died at the sanatorium. It is thought that desperation drove her to seek Beissner's services. His defence was that he never claimed to be a doctor in his advertisements and letters to patients, and usually referred to himself as the proprietor of the sanatorium. Beissner, on this occasion, was sentenced to three years' imprisonment which was reduced to six months due to his age and good conduct. It is related that the sanatorium, following Beissner's death, became the S.A. Health Hydro and subsequently a health and holiday resort, before eventually becoming an old age home (later known as Seventh Heaven: see below). There is disagreement about this claim. Three local informants are adamant that Beissner operated from a large wood and iron building which has since been demolished, and that the two properties (the health centre and Seventh Heaven) should not be confused with each other.³² The informants state further that the remains of some of the mud baths could still be seen until fairly recently on the premises once used by Beissner. Water for the mud baths was obtained from a tributary of the Dorpspruit. Beissner was buried in a small cemetery in Joseph Chamberlain Road in Sweetwaters. He was an active member of the Seventh Day Adventist Church. It seems that he may have used the sanatorium as a means of propagating his religious beliefs, since he did not believe in doctors. It can be said, however, that some of his patients were beyond medical redemption and were seeking miracle cures.

The British Army, during World War I, investigated several places in the Empire for the rehabilitation of soldiers who had been gassed in France.³³ Strict requirements were applicable in terms of a healthy climate for respiratory cases. One of the sites chosen was Sweetwaters. The convalescence centre opened around 1916 and closed in about 1924 after the last soldiers had been discharged. The British Army handed over the building to a Pietermaritzburg old age charitable organisation. The building was later taken over by another welfare organisation, PADCA (the Pietermaritzburg and District Council for the Care of the Aged), and became the Azalea Park Home for the Aged. PADCA subsequently sold the premises to a private company. The facility is now the Seventh Heaven Old Age Home and is situated at 7 Highlands Road. The mild and cooler conditions in Sweetwaters also served the pupils of an Anglican orphanage in Pietermaritzburg (the St Cross Home for Girls).³⁴ The church owned a

large property in Sweetwaters adjacent to the Union Bible Institute. The house and grounds was used by the girls during school holidays. The Sweetwaters residence was closed in 1966. The “St Cross Orphanage” is of some antiquity and is shown on the Fitz Henry map.

Perhaps not widely known is that two of the three daughters of Bishop John Colenso and his wife, Frances, ended their days in Sweetwaters.³⁵ The Colenso family lived for many years at Bishopstowe to the east of Pietermaritzburg. Agnes Mary Colenso and Harriette Emily Colenso continued to “eke out an existence” at Bishopstowe after their father’s death there in June 1883, a grass fire which destroyed the main house in September 1884, and the death of their mother (also at Bishopstowe) in December 1893. The end came with the passing of the (Natal) Church Properties Act in 1910, when the Bishopstowe estate was broken up. The two sisters first moved to a cottage in Boshoff Street opposite the present-day Selgro Centre (Pietermaritzburg) and later to Joseph Chamberlain Road in Sweetwaters.³⁶ They were cared for in their old age by the Bhengu family (their faithful retainers). The sisters died within weeks of each other in 1932 and were buried next to their mother in the cemetery in Commercial Road. The house in which the Colenso sisters lived has been demolished.

The citizens of Pietermaritzburg, in the late 19th and early 20th centuries, often took the train on the Pietermaritzburg-Howick route to enjoy the cooler air and the views from the Zwaartkop, Sweet Waters, Winter’s Kloof, Boshoffweg (Boshoff’s Road) and Hilton Road stations.³⁷ The Boshoffweg station was named after H.C. Boshoff who constructed a road “over the Zwaartkop” (presumably up the valley) at some stage in the 1800s. Winterskloof station was an important water intake point for steam locomotives labouring up the Swartkop Valley in the 1880s.³⁸ The water was drawn from a tributary of the Dorpspruit. Zwartkop was once the name of a post office in the vicinity, which was closed around 1910 when the Union of South Africa came into being.³⁹ It is probable that the post office was close to the Zwaartkop railway station.

It should be explained that the Swartkop Valley and the adjacent areas have hosted three sets of railway lines with several minor deviations over the years (not discussed here), and has four tunnels.⁴⁰ The Natal main line was built in stages from Durban to Pietermaritzburg. The line reached Pietermaritzburg in 1880, Ladysmith in 1886, Charlestown near the (then) Transvaal border in 1891, and Johannesburg in 1896. The Pietermaritzburg-Howick section (termed Route 1) was completed in 1884, although the line only reached as far as Merrivale. The short extension to Howick proper was finished in 1911. A second line with a relatively more modest gradient (the Town Hill deviation) was opened in 1916 (Route 2). This part of the line ran from Boughton station, with a short link to Route 1, up the Swartkop Valley and eastwards via the Ketelfontein station, on the slopes of the World’s View Spur, to Cedara. The line passed through two tunnels, the first of which was the 90 m long Town Hill tunnel (situated between the Teteleku and Ketelfontein stations). The second 831 m long Hilton Road tunnel was excavated beneath the Hilton-Cedara section of the Route 1 line, and is just to the north of Hilton station. Both routes remained in use for many years, before a new double-track electrified line to Johannesburg came into operation in 1960 (Route 3). There are two parallel 6 023 m long tunnels on this route for “up” and “down” traffic, which enter the hillside close to the old Winterskloof station and emerge near Cedara. The tunnels are known as the Cedara tunnels and were once the longest railway tunnels in South Africa.⁴¹ The Route 3 line resulted in routes 1 and 2 becoming redundant. Both routes 1 and 2 had the disadvantage of somewhat steep gradients which meant that trains could only travel slowly for reasons of safety. Route 2, in addition, was subject to frequent landslides at higher elevations, which often disrupted traffic. The landslides were due to the unstable nature of the underlying rock.⁴² The Route 2 railway line was discontinued around 1960 when the track was removed. Route 1, however, continued to be used for local traffic to Howick for a few years, before the tracks were likewise removed in the 1980s. Only a short section of the Route 1 line remains in the immediate vicinity of Hilton station with a vandalised section leading to the

Cedara station. The Hilton station is now the site of the Natal Railways Museum which is dedicated to saving what little remains of Natal's railway heritage and old rolling stock. The Route 1 track (complete with all the stations) is still shown on the latest (2000) edition of the 1:50 000 topographic map of Pietermaritzburg. Route 3 is also shown on the same map.

The selection of Ketelfontein as a station on Route 2 reaffirmed the role of this site in the transport history of Pietermaritzburg. Ketelfontein (often incorrectly spelt as Kettlefontein) has the present-day Zulu name of *eKhehlelifiantini*.⁴³ The site was the first outspan after leaving Pietermaritzburg on the Old Howick Road route to the interior.⁴⁴ It is believed that this Dutch or Afrikaans name relates to an incident when an ox pulling a wagon inadvertently put its hoof into a large kettle. The second part of the name records the presence of a nearby spring or *fontein*. The property is now owned by Ezemvelo KZN Wildlife, with the old station master's house still in use as a residence.

An impressive view of the 958 m high Natal Table Mountain and the adjacent 816 m high Spitskop, situated to the south-east of the city, can be seen from a number of more elevated vantage points such as Sweetwaters and World's View. The Zulu name of Table Mountain is *eMkhambathini*.⁴⁵ One interpretation is that the name refers to the thorn trees which are common in the area, namely the Paperbark Thorn (*Acacia*: now *Vachellia sieberiana* var. *woodii*).

The heights above Pietermaritzburg were problematic for motorists in the days before tarred roads were the norm. One notorious section of road was the old Sweetwaters Road (now Mbubu Road) which becomes Denis Shepstone Drive.⁴⁶ Motorists were obliged to fit chains to their tyres on the lower reaches of Sweetwaters Road in summer following rain, when heavy red clay made the road impassable. The same situation applied to Old Howick Road. It is probable that similar difficulties were experienced on the Otto's Bluff Road and the Old Greytown Road (currently Dr Chota Motala Road).

The Knoll

The Knoll (at an altitude of 1 263 m) was once referred to as Bloomfield Height⁴⁷ and is indicated on the map drawn by Fitz Henry. The name applied to the topographic feature, the farm and the residence which was built there. The property has had a chequered history and was originally part of Groenekloof before becoming known as Bloomfield Height. This stop-over site or outspan was on the Voortrekker route linking Alleman's Drift at Midmar Dam (via the hills behind Cedara) and Plessislaer in the Edendale Valley.⁴⁸ It is stated that two routes were in use in the days of the Voortrekkers with one leading to Plessislaer and the other over World's View to Pietermaritzburg. The Knoll later served as a trading post and an overnight hotel in the 1850s for transport riders *en route* to the interior.⁴⁷ A different route was pioneered up Howick Road and Old Howick Road in 1857–8 on what was then already known as Town Hill, bypassing World's View.⁴⁹ Some transport riders preferred to venture up the Swartkop Valley, although longer and equally as steep in parts as the alternative routes. A further difficulty was that the land near the National Botanical Gardens became a "swamp" (wetland) in summer. Traces of the old wagon tracks are still visible at the back of The Knoll, while parts of the hotel and a stone barn remain.⁴⁷ A subsequent owner of The Knoll was a renowned wagon-maker and merchant John Ireland (1835–98) who used the house mainly as a country residence. He established a formal garden and planted trees. The house was used for a small private school for boys (St Peters) in the years 1915–18. The name "The Knoll" evidently dates from sometime in the early 1920s. A later owner in 1925 was a Scottish steam locomotive engineer, David Hendrie, who arrived in Natal in 1902 to work for the Natal Government Railways. Hendrie designed a more powerful locomotive for the railways to cater for the steep gradients in Natal as well as a "corridor coach" (apparently coaches with a passage or corridor instead of individual compartments each with a separate entrance).

Several prominent South Africans, including General Jan Christiaan Smuts, visited the property while Hendrie was resident. Three of his children continued to live at The Knoll, later subdividing the property, and building a “typical” Scottish farmhouse which was called Inverknoll (a name which remained current for some years).⁴⁷ The Knoll, again with the old name, is now a guest farm. Hendrie was buried in the cemetery at Mountain Rise, close to the railway line at his request, where “he would be able to hear the sound of the passing trains”.⁵⁰

Folly Hill

Slightly to the north-east of The Knoll is Folly Hill which was previously known as Chudleigh.⁵¹ A change of ownership in the late 1940s resulted in the name of Folly Hill. The property, with a small dam at its base, once had pine trees growing, rather curiously, in a small cluster along the top of the hill near Denis Shepstone Drive. The remainder of the property consisted of grassland. The term “folly” refers to this somewhat odd and isolated concentration of trees in the landscape. The property was a dairy farm until fairly recently, complete with milking shed. An adjacent residential area (slightly to the south of the Hilton Police Station) overlooking the Swartkop Valley and extending to the Crossways Country Pub is known as Berry Hill. The derivation of the name is unclear. It is not impossible that the name of the hill comes from Berry Hill Lane (or *vice versa*). Two households with the surname of Berry (M. and R.K.) are recorded as living in Hilton in the 2002/3 edition of *Brabys*.

Hilton

Hilton and environs was originally the site of two Voortrekker farms: Groenekloof, and a less majestic, Ongegund.⁵² British settlers began to move into the area following the departure of many Voortrekkers across the KwaZulu-Natal Drakensberg, when Britain gained control of Natal in 1843. Natal was then administered as a district of the Cape Colony. One of the settlers was Joseph Henderson who bought part of Ongegund in 1860. He named the property Hilton, after Hilton Park in Staffordshire where his wife had found enjoyment walking the lands of the estate as a young girl. Hilton Road became known simply as Hilton in 1962. A trigonometrical station (No. 246) with a spot height of 1 171 m is situated slightly to the south of the quarry at Hilton. The name of the trigonometrical station (“Kettlefontein” actually Ketelfontein) is the same as the old railway station mentioned earlier in the discussion. This would tend to suggest that there was once a farm or block of land with this name which stretched from the vicinity of the railway station to the upper reaches of Hilton. The view from Hilton (depending on one’s vantage point) extends to the KwaZulu-Natal Drakensberg towards the west, the hills of Cedara and Howick to the north, Otto’s Bluff in the east and the hills beyond Pietermaritzburg to the south.

Swirling mists in spring, summer and to some extent in autumn are typical of the elevated terrain above part of Pietermaritzburg, especially in the Hilton area. This climatic and topographic characteristic encompasses the southern and more central parts of the KwaZulu-Natal Midlands (as well as elsewhere in KwaZulu-Natal) giving rise to the term KwaZulu-Natal Mistbelt or simply the Mistbelt. Extended periods of mist are not uncommon in certain localities such as Hilton.⁵³ Mist can also be of a temporary nature, present for only a short while in the early morning.⁵⁴ It is claimed that Hilton residents judge the severity of the mist by the number of cats’ eyes which are visible on the roads. In thick mist, only a few cats’ eyes can be seen ahead of the vehicle. The citizens of Pietermaritzburg know that drizzly conditions are likely in Hilton when Swartkop and World’s View are obscured by mist. Also part of the climatic regime of the study area is periodic snow.⁵⁵ Snow has been recorded in Sweetwaters, Winterskloof, Hilton, on Swartkop Mountain, on the high hills overlooking the Edendale Valley, and on the hills adjacent to Bishopstowe. Most snowfalls, at least in more current times, are light and melt within a day or two. Snow can fall during the months of May–October, although seldom more than once in any given year. Snow in May and October, however, is extremely rare.

Hilton was regarded as an excellent site for a sanatorium around the turn of the 19th century,⁵⁶ which may have played a role in the selection of Sweetwaters as a recovery centre by the British Army. The air temperature in the hills overlooking Pietermaritzburg is discernibly cooler than in the city itself. It is not surprising that a number of prominent people in the late 19th and early 20th centuries built or bought houses, particularly in Hilton, to escape the heat and dust of Pietermaritzburg summers.⁵⁷ It can be said that the high-lying terrain above the city served as some sort of “Indian hill station” or retreat from the heat, albeit in a South African setting. The northern side of Pietermaritzburg also experiences a higher annual rainfall, which together with the cooler conditions, enables gardeners to successfully grow plants which would not be possible on the hotter, southern side of the city.⁵⁸ Hilton and the neighbouring areas are known for their plant nurseries and show gardens. Hilton, possibly because of the milder climate and the picturesque views, is a noted educational centre with some long-established schools. These are Cowan House Preparatory School, Laddsworth Primary School, Hilton College and St Anne’s Diocesan College. A subsequent addition is Grace College. The heat of Pietermaritzburg was one of the primary reasons for St Anne’s moving from the city to the present site in Hilton, with building of the new premises commencing in 1903.⁵⁹ The Hilton Hotel (now the Protea Hilton Hotel) was similarly a refuge from the heat, mainly for visitors from an even-hotter Durban, in the 1930s. A sports pub at the hotel was once known as the “Mist and Drizzle”.

Some local place names in the Hilton environs reflect the nature of the terrain and the climate. These include Groenekloof and Mountain Home(s). Street names are likewise indicative of the surroundings. Examples are: Bergview, Fairview, Hillside, Kloofsig, Misty, Mountain View, Panorama, Ridge, Summit and Valley roads. Many of the names of the original properties in Hilton also reflect the topography and the cooler conditions. There is a Highland Road and a road known as The Ridge in Sweetwaters, with a Highfield Road as well as an Uplands Road lower down in Blackridge.

A fairly recent comment on the summer heat in Pietermaritzburg⁶⁰ consists of an extract from a poem written by a Scottsville-based novelist and writer George Candy:

Sleepy Hollow?

We love thy humid summer warmth –
 no need for stove or sauna –
 when roaches pry and flea and fly
 augment the local fauna,
 when termites to the nearest lamp
 on fluttering wings are drawn,
 and skeeters’ hum keeps sleepers glum
 and wide awake till morn,

 when tempers in the torrid heat
 approach an all-time high,
 as ‘neath the hills the city grills
 like boer’wors at a braai.
 Aware of these insomnious traits,
 we find it hard to follow
 why carping clowns from other towns
 should call thee ‘Sleepy Hollow’.

The poem neatly encapsulates the sentiments of Pietermaritzburg residents in summer.

World's View

The residential area of World's View fell under the Pietermaritzburg Municipality in previous times, and later became part of the uMngeni Municipality (the successor to the Howick Municipality).⁶¹ The minimum allowable plot size was originally 0.15 ha, although plots of 0.2–0.3 ha were not uncommon.⁶² The reason for this restriction was the absence of waterborne sewerage (still the case) as previously explained. An observation point on the spur known as World's View was erected by the Pietermaritzburg Municipality, the National Monuments Council and the Natal Voortrekker Monuments Committee, seemingly around 1968. The World's View observation point directs visitors to a number of prominent sites in the city and beyond. The structure, sadly, has been vandalised over the years, with trees now partly obscuring the view. The locality is the site of two Provincial Heritage Landmarks which were proclaimed in 1968.⁶³ One of the landmarks is based on natural criteria (the scenic value) of World's View and the surrounding terrain, and includes the observation point. The second landmark refers to historical criteria in terms of the old Voortrekker road in the immediate environs of the observation point. The road was used by Voortrekker columns in January 1839 (according to historical convention) and was the link between the interior of Natal and the more low-lying land stretching to the coast. The second landmark covers an area of approximately 0.4 ha and incorporates some 200 m of a well-preserved section of the Voortrekker road. The road, as we have seen, was also used by later pioneers and transport riders. World's View itself was known to the Voortrekkers as Boesmansrand, as per general sentiment. The upland terrain of World's View provides a suitable elevation for the SABC transmitting mast, which is situated near the observation point. The spot height of the trigonometrical station at World's View (No. 265: "Town Hill") is 1 058 m. Another trigonometrical station (No. 232: "Bluff") is situated slightly to the north of the first station, and has a virtually identical spot height of 1 059 m. The Bluff is favoured by mountain climbers as a readily accessible climb in the Pietermaritzburg environs. Mist is common in the vicinity of the observation point, which together with the closely-spaced trees, often results in a rather eerie atmosphere.

The western half of the study area has now been examined. The remainder of the discussion concentrates on the eastern part of the study area, across the N3 freeway, after which issues of a general nature relating to the study area are explored.

Town Bush Valley Heights

An unnamed hill with a spot height of 995 m (trigonometrical station No. 264: "Town Bush") overlooks the north-western part of Town Bush Valley. The residential suburb of Oak Park, with an extension known as Ferncliffe, is found in upland terrain in this valley. Oak Park adjoins the slightly lower-lying suburb of Montrose. Oak Park is of fairly recent origin and dates from the 1970s, while Ferncliffe is a more recent addition. Oak Park, Ferncliffe and Chase Valley further to the east are elongated, somewhat remote from the rest of Pietermaritzburg, and are situated in cul-de-sac valleys topped by commercial forests on the ridge. The elevated and isolated nature of Oak Park is indicated by two appropriately-named roads (Crowned Eagle Way and Highlevel Place). The minimum plot size in Town Bush Valley and Chase Valley was 0.15 ha, which was partly due to the topography and partly indicative of the higher income housing planned for both valleys.⁶⁴

Reference has already been made to the marked demand for wood in the early days which was obtained from the hills above Pietermaritzburg. By 1861 concern was expressed at the cutting down and waste of the "town's bush".⁶⁵ It was recorded in 1863 that "thousands of loads have been removed from Town Bush", resulting in the appointment of an African constable in an attempt to stem uncontrolled felling. In 1865 it was decided to prosecute anyone found cutting down trees on the town lands. The African constable was later reinforced by a "Curator of the Town Bush". Municipal concern for the

dwindling indigenous forests also extended to the Swartkop Valley, once a water supply was piped from reservoirs in the valley to the residents of Pietermaritzburg (described below). The “Caretaker of the Reservoirs” was given additional duties, and was appointed as the “Curator of the Swartkop Bush” in 1887.

Quarrying and the mining of construction material has a long history in Town Bush Valley and to some extent in Chase Valley. A prominent Pietermaritzburg resident was Jesse Smith (1825–1900) who arrived in Durban with his wife (Agnes) on 9 May 1850.⁶⁶ Smith was a statuary and stonemason who came to Natal from Tunbridge Wells in the United Kingdom. Smith constructed a few mills (evidently water mills) in the KwaZulu-Natal Midlands, including one at Karkloof and another at Mooi River. He then settled in Pietermaritzburg. Smith first lived at 1 Boom Street, before buying about 16 ha of land “on the Hogsback” in the present-day Ferncliffe Nature Reserve. The sale apparently took place in the mid-1850s, or alternatively in the period 1867–80. Smith began farming and investigated a number of sandstone cliffs in the reserve as sources of quarried stone for sale in Pietermaritzburg. Smith built himself a sandstone cottage (Ferncliffe Cottage) complete with outbuildings consisting of a storage room and stable for horses. The since-renovated Ferncliffe Cottage is now used as an environmental education centre. Smith’s quarrying operations involved the drilling of a series of holes in the sandstone cliffs, with wooden stakes being forced into the holes. The stakes were thoroughly doused with water, resulting in the swelling of the wood which split the rock along the bedding planes. Other methods of extraction included chiselling and blasting the rock. The latter technique was used when Smith was dissatisfied with the friability of the rock and concentrated on the harder sandstone (seemingly a common occurrence). Smith transported the dressed stone by ox-wagon from the work site, down a track near Warwick Road, to his masonry works (later known as Jesse Smith and Sons) at the corner of Commercial (now Chief Albert Luthuli) Road and Loop (now Jabu Ndlovu) Street. A different version is that the stone was taken to Chase Valley by ox-wagon and then dressed to form building blocks, before being dispatched to Smith’s works in the city.

In about 1885 Smith was involved in an industrial accident when his foot was crushed. This event apparently resulted in Smith selling Ferncliffe in 1887 to Richard Mason. Smith moved to his stonemasonry works and subsequent home on the corner of Commercial Road and Loop Street. Smith’s son William took over the masonry business following the sale of Ferncliffe. By 1898 Jesse Smith had established branches of the firm in Durban and Johannesburg. The Durban branch was managed by another son (Frederick). The company trades today as the Doves Group (Pty) Ltd., and has offices in many towns across South Africa.

Richard Mason was one of three brothers, with one brother being the miller at Mason’s Mill in the Edendale Valley. The second brother became the mayor of Pietermaritzburg. Richard Mason quarried for some years while evidently living at Ferncliffe and probably supplied Jesse Smith and Sons, before returning to town. Ferncliffe Cottage was used by the Mason family as a weekend and holiday retreat for a considerable period of time. Sowersby Joseph Mason, the son of Richard Mason, inherited Ferncliffe following the death of his father. The farm was auctioned after S.J. Mason died and was bought by the (then) Pietermaritzburg Municipality in 1936 or 1938. The grasslands surrounding Ferncliffe were planted to gum and pine by the municipality in 1954. About eight small dams were constructed by the municipality in the Ferncliffe Nature Reserve for forest fire-fighting purposes.

Several stonemasons quarried sandstone in the Ferncliffe area in the early days, although Smith’s name lived on seemingly because of the excellence of his technical skills and products as well as his financial acumen. Smith’s many commissions in Pietermaritzburg included the foundation and base of the original City Hall, the old Grey’s Hospital, the Colonial Buildings, St Peter’s Cathedral, the Pietermaritzburg Post Office, some of the buildings at Fort Napier, the statue of Queen Victoria and

the Anglo-Zulu War Memorial.⁶⁶ Smith also supplied cut stone to the Pietermaritzburg Municipality for use as kerbing in the central streets of the city.⁶⁷ Other contracts were the lower level of the old Durban railway station as well as bridges and tunnels in the KwaZulu-Natal Midlands.⁶⁶ Smith's obituary was published in the *Natal Witness* and the *Times of Natal* on 12 November 1900. This was a singular honour indicative of a man who had had such an influence in Pietermaritzburg and elsewhere. Smith was buried in the Wesleyan section of the cemetery in Commercial Road. Another early stonemason in Pietermaritzburg was Gabriel Eaglestone.¹³

The Borough Engineer of Pietermaritzburg (J.J. Niven) opened a shale quarry in Town Bush Valley in 1915.⁶⁸ Residents used their own oxen and carts to collect stone from the quarry, in order to improve the poor roads in the area. Staff employed by the borough "spread and rolled the stone". A prominent landmark overlooking Town Bush Valley is a large property known as Monzali's Castle. It is stated that G.R. Monzali was awarded the contract in 1925 to operate the (since re-opened) Ohrtmann (more correctly Ortmann) quarry, situated to the east of the city, for the purposes of supplying stone to the borough and also private buyers. The contract was renewed in 1938, once again in favour of Monzali.

Town Bush Valley was the scene of a personal loss suffered by Alan Paton.⁶⁹ His father (James) went for a walk in Town Bush Valley on 1 May 1930 and failed to return. Extensive searches were undertaken by many volunteers in an area extending to Claridge, but which were greatly hampered by the extensive gum, pine and wattle plantations in the hills. The body was found on 17 June 1930 "lying half immersed" in a pool in a stream in Town Bush Valley. Paton notes that his family never discovered what had happened, although the police ruled out murder.

Chase Valley Heights

Chase Valley adjoins Town Bush Valley. A trigonometrical station (No. 263: "The Chase") with a spot height of 988 m is situated on an elevated vantage point between the residential areas of Ferncliffe and Chase Valley. The valley up to the late 1960s consisted of citrus orchards, before plots of land were sold for residential purposes. Level land in Chase Valley (*circa* 1893) was the site for a rifle range used by the military authorities.⁷⁰ It was necessary to have a long distance range (over 900 m) in Pietermaritzburg, with no other suitable place being available in the city. The disposal of municipal refuse in Pietermaritzburg was problematic in the early 1900s. The (then) disused Ohrtmann quarry (the only legal refuse site) was declared to be unsuitable in 1910 following a successful court action launched by a neighbouring householder. The municipal landfill was moved to the "Messrs. Oliff and Armitage's disused clay pits" in Chase Valley. There is an old borrow pit on a hillside in the lower reaches of Chase Valley which was once used as a source of shale. The pit is at the forest margin in Parker Road.

The upper levels of Chase Valley Road traverse Muswell Hill.⁷¹ An old house ("The Chase") is to be found at the end of the road on forestry land owned by the Msunduzi Municipality. Various items of equipment used to dress quarried stone were stored in the house about 20 years ago.⁷² The Chase is believed to have had local equestrian connotations in the early days in the form of a chase or hunt. A chase, in South Africa, consists of riders with hounds following a trail laid by the hunt-master.⁷³ The bait is an animal skin soaked in small-predator urine. It is thought that farmers from Claridge or thereabouts went on a hunt or chase about once or twice a year which extended to the lower valleys.⁷⁴ The Chase may have served as a halfway point. The hunt ended at Nonsuch farm in Town Bush Valley which was owned by the Todd family. A smallholding known as Tourgar is situated in the hills above Chase Valley. The property was bought by Thomas Goodwill in 1875, with the (subsequently enlarged) house still currently being used as a residence.⁷⁵ Both The Chase and Tourgar appear on the topographic map of Pietermaritzburg.

Hogsback

Hogsback (a local place name) is shown on the Pietermaritzburg topographic map next to trigonometrical station No. 243 (“Hoekemoer”) which has a spot height of 1 149 m. The trigonometrical station is situated on the skyline approximately halfway between the N3 freeway and Claridge, and overlooks Town Bush Valley and Chase Valley. It is possible that the name “Hogsback” once referred to a large block of land or a farm which stretched from the ridge down the slope to the general environs of the Ferncliffe Nature Reserve, and perhaps even beyond this point. A different perspective is that the ridge which extends some distance from the D.V. Harris Waterworks past the Ferncliffe Nature Reserve and towards the east was previously known as Hogsback Ridge. A third option is that the Hogsback is the elongated hill and spur below trigonometrical station No. 263, and which is just to the west of the suburb of Chase Valley. Almost 2 km to the east of Hoekemoer is another trigonometrical station with a spot height of 1 103 m (No. 8: “Belfort”).

Claridge

The settlement of Claridge owes its origin to the Hardingsdale (original spelling) or Hardings Dale farm which was once owned by John Phillip Symons (1) who was a post-1820 settler from Grahamstown.⁷⁶ It is said that Symons bought the land from the Voortrekker Andries Pretorius in 1852. John Phillip Symons (1) had only one child, John Phillip Symons (2). John Phillip Symons (2) in turn had four children: Lee (son), Roden (son), Ruth (daughter), Bryan (son) and Lawrence (son) in that order. Lawrence sold part of Hardingsdale in the early 1900s, which was subdivided into several smallholdings (the Claridge of today). The sale was made by Lawrence to placate his brother Bryan in an inheritance dispute. Peter Symons, the son of Lawrence, sold the remainder of Hardingsdale, which was subdivided into three smaller farms. The land was alienated in stages, possibly commencing in the 1970s. Claridge House, which is slightly to the east of the settlement, was built by John Phillip Symons (1) and is today known as the Claridge Mission or Bible House. The mission is a satellite or branch of the KwaSizabantu Mission with headquarters near Kranskop.

It is thought that the name “Claridge” is derived from the Dutch *Clare* Ridge meaning Fair Ridge, and which has been anglicised as Claridge.⁷⁷ Claridge is situated close to the Pietermaritzburg-Greytown railway line, which was constructed in 1900.⁷⁸ The railway line, in climbing the steep heights from Pietermaritzburg, doubles back on itself in a loop which resembles a balloon, before reaching Claridge station. The City View railway station is on the lower part of the loop. The Claridge skyline can be seen from Scottsville, although most of Claridge is hidden by the high hills.

It should be explained that John Phillip Symons (1) had a second farm known as Claridge which extended down Chase Valley to as far as the (new) Grey’s Hospital and the adjacent Town Hill Hospital.⁷⁶ Mattison’s farm (see below) constituted the eastern boundary of the property. John Phillip Symons (1) before his death gave the Claridge farm to his son John Phillip Symons (2). John Phillip Symons (2) built a cottage which is situated next to the main buildings of the Town Hill Hospital so that *his* sons could attend school in Pietermaritzburg. John Phillip Symons (2) was later appointed as the Surveyor-General of Natal. The Symons family name lives on in the form of Symons Street (between Church and Pietermaritz streets).

Claridge is a small-scale agricultural and equestrian centre, with several orchards (predominantly avocado pear) and became part of the uMshwathi Municipality (based in New Hanover and Wartburg) in 2004.⁷⁷ The settlement, for 40 years prior to incorporation, was administered under the auspices of the Claridge Property Owners and Residents Association. The residents themselves assumed responsibility for a number of services including road-making, the cutting of road verges, refuse removal and disposal, and the control of alien vegetation. (This situation, despite incorporation,

remains the case today.) No state intervention or subsidy was ever desired or requested by the people of Claridge for local government purposes. Electricity is supplied by the Msunduzi Municipality. Most householders obtain water from boreholes and rainwater tanks, although a few residents make use of an Umgeni Water pipeline which passes through the area. There is no waterborne sewerage with all households reliant on septic tanks. The minimum plot size of the smallholdings is about 2 ha. Mist occurs in spring, summer and early autumn, although the frequency and intensity thereof is considerably less than in Hilton. Claridge is part of an established wildlife migratory route or corridor linking Table Mountain, Bayne's Drift (in the Pietermaritzburg basin) and the KwaZulu-Natal Midlands. The residents of Claridge are supportive of wildlife conservation. Poaching by outsiders, unfortunately, has become rife and certain species are being decimated.

An interesting theory holds that the main body of Voortrekkers did not come over World's View and down the "Old Dutch Road" in 1839.⁷⁹ According to this perspective (that of P. Otto at Otto's Bluff) the majority of Voortrekkers took their wagons over the hills near Otto's Bluff and descended the "Bushmansrand" (Boesmansrand) following the route of the current Otto's Bluff Road linking Pietermaritzburg, via Claridge, with Cramond. The direct implication here is that the name Boesmansrand does not apply to World's View, and that World's View is erroneously regarded as the primary entry point of the Voortrekkers into Pietermaritzburg itself. Whatever the truth of the matter, it is clear that the descent to Pietermaritzburg was a major obstacle for the Voortrekkers. It is also believed that the old Voortrekker trail or "road" through Claridge extended to Weenen.⁸⁰ The road passed to the east of Otto's Bluff and continued to Morton's Drift on the uMgeni River, before reaching the present-day Shooters Hill farm and then Karkloof. Further afield was Rietvlei and Weenen. Traces of the old road can still be seen in the vicinity of Morton's Drift, including wagon wheel grooves in certain rocks. Some stone wall ruins are evident near Shooters Hill, which are thought to be old Voortrekker (or Boer) cattle enclosures.

Claridge is the site of the Governor's (or Gov'nor's) Hunting Lodge, and is also referred to as "The Huts".⁷⁷ The lodge was evidently used by a previous Governor of Natal, Sir Walter Hely-Hutchinson, whose term of office was from 1893 until 1901. The original buildings consisted of an oddly shaped red-brick house and six stables. The house resembles two tennis balls (huts) joined to each other by a rectangular bridging structure. The actual time of construction is unclear, although the first title deed is said to date to 1856. The property is currently used as a livery with a number of paddocks available for the horses. Hely-Hutchinson apparently sought game in an area stretching from Claridge, past Otto's Bluff, and down into the uMgeni River Valley. Game was prolific at the time (a scenario which prevailed until fairly recently).

A property known as "The Kloofs" (shown on the Pietermaritzburg topographic map) is situated in the lower part of Claridge, near a water reservoir. It is related that Kenneth and Agnes Hathorn bought the land which they named The Kloofs.⁸¹ The name was inspired by the adjacent kloof with a stream and patches of indigenous forest which grew on the slopes. The Hathorns, with three small boys, wished to escape from the heat of Pietermaritzburg summers. They built a small house and stable on the property and were in residence by 1891. The land had previously belonged to Mrs J. Foster (née Blaikie) who was Mrs Hathorn's aunt. The 120 acre (48.6 ha) property bordered Belfort and the Hardingsdale farm. Mrs Hathorn died in 1894 with the property being retained for visits during school holidays. The Kloofs was sold in about 2005 to a Turkish-based organisation (the Universal Islamic and Cultural Trust) and is now called the Nansindlela Socio-Eco Park.⁸² Forestry land owned by the Msunduzi Municipality and situated along the skyline of Pietermaritzburg does not extend beyond The Kloofs/Nansindlela.

The eastern hills

Three residential areas are of interest in the densely settled (predominantly Indian) suburbs of Northdale and Raisethorpe in north-eastern Pietermaritzburg. These are Mysore Ridge,⁸³ Bombay Heights and Bakerville Heights respectively. The upper limits of the three areas adjoin the Pietermaritzburg skyline. The elevated nature of the terrain is acknowledged by the names of three roads (Crest Place, Fairbreeze Road and Knoll Place). The names of some schools likewise reflect the topography. Examples include the Green Hill, Ridge View and Suncrest primary schools as well as the Silver Heights Secondary School. A trigonometrical station (No. 286: “Mattison”) with a spot height of 940 m overlooks Bombay Heights. The Bakerville Heights are situated about 0.5 km to the east of the trigonometrical station. It is possible that the name “Bakerville Heights” was derived from one of several small farms which were once in existence in this locality.⁸⁴ A downslope suburb is that of Mountain Rise, which incorporates a primary school, a cemetery and a railway station with the same name.

There are two individual spot heights of 930 m and 934 m to the east of trigonometrical station No. 286. Somewhat to the south of the second spot height is another trigonometrical station (No. 34: “Glen Lynn”) which has a height of 938 m. Further to the south again is Bishopstowe, which was the homestead of Bishop John Colenso, his wife and their three daughters.⁸⁵ A mission station known as Ekukanyeni or the “Home of Light” was built next to the Colenso residence. The general site is indicated on the topographic map of Pietermaritzburg as the “Colenso Mission Station 1854”. Some of the old buildings are still standing and are used today as a private residence. The Colenso family played a significant role in various events in Pietermaritzburg and Natal in the mid-to-late 19th century, although the Colenso name has now faded from everyday memory.

Readers should note the generally decreasing altitude along the mid-range of the hills overlooking Pietermaritzburg, with progression towards the east. There is a high point of 1 149 m (trigonometrical station No. 243) with a lower altitude of 1 103 m at trigonometrical station No. 8. The elevation declines to around 940 m at trigonometrical station No. 286 and environs. An individual spot height of 708 m is given on the Pietermaritzburg topographic map for a hill about 600 m to the north of the Colenso Mission Station.

Hydrological drainage in the study area and early water supplies

The hills of Pietermaritzburg, as an escarpment, are the source of several streams which flow into the valleys below. The Dorpspruit rises from primary springs in the Winterskloof, Sweetwaters and World’s View areas.⁸⁶ A grouping of springs is evident lower down, below the World’s View observation point, which together constitute a tributary of the Dorpspruit. Further tributaries rise in Blackridge and Prestbury and join the Dorpspruit near the Botanical Gardens. A different tributary rises in Wembley. The World’s View Spur separates the Dorpspruit catchment from the adjacent Town Bush Valley catchment. The Dorpspruit later joins the Msunduzi River close to the suburb of Manor.

The Town Bush Stream rises to the east of the N3 freeway above the suburb of Oak Park, with the Cascade(s) Falls situated upstream of the Queen Elizabeth Park Nature Reserve. The falls were a favourite picnic site in earlier times in Pietermaritzburg. A separate tributary of the Town Bush Stream rises slightly to the east in the nearby residential area of Ferncliffe. Another tributary rises in Montrose in the vicinity of Neden Road. A set of springs more to the east is the source of the Chase Valley Spruit, which merges with the Town Bush Stream near the Cascades shopping centre. The combined stream drains into the Dorpspruit to the east of the Royal Show Grounds. The Bayne’s Spruit, in the east of the study area, rises in the residential areas of Mysore Ridge, Bombay Heights and Bakerville Heights. Tributaries of the spruit also originate in the residential area of Orient Heights

and in the environs of Copesville. The spruit passes through the industrial area of Willowton (receiving industrial contaminants in the process) and then flows eastwards to join the Msunduzi River near Sobantu Village and the suburb of Glenwood. There are some small impoundments (dams) in Hilton, Winterskloof, at Claridge, below Copesville and in the Bishopstowe area.

Water from the middle reaches of the Dorpspruit in the Swartkop Valley was appreciated by the Voortrekkers as a source of supply, via street furrows, for the houses in the new settlement.⁸⁷ Pietermaritzburg was laid out on gently sloping ground for this purpose. The approximately 2.6 km long main furrow or *sluit*, from an intake in the vicinity of the Botanical Gardens, was led to the higher-lying western perimeter of the settlement (near the present-day Government House). This *sluit* remained the primary source of water for Pietermaritzburg for the next 40 years. The later (elevated) encampment at Fort Napier could not be supplied in the same way. A second furrow was therefore excavated to take water from streams in the upper Prestbury area to the camp.

It became apparent over time that the old Voortrekker furrow system would soon be inadequate to provide water to Pietermaritzburg. The city authorities, as early as 1865, desired a filtered water supply from a reservoir to be erected in the Swartkop Valley, with water being conveyed to the town by means of cast-iron piping. These hopes were only realised in later years. Some householders in Pietermaritzburg, in the interim, dug wells for potable purposes in their yards. The first public well with a hand-pump was installed on the market square in 1868, although the supply proved inadequate to meet demand.⁸⁸ The much-discussed and debated piped water supply scheme was only completed in September 1881. The abstraction point was from the Dorpspruit above the Botanical Gardens as well as a tributary thereof (the “clear stream”). The scheme involved storage reservoirs, a trunk main, and supply mains in the original street grid of Pietermaritzburg and some other streets.⁸⁹ In 1881, and for a few years thereafter, householders, businessmen and shopkeepers in the city had the option of drawing water by hand from the old furrows adjacent to their properties, or obtaining mains water from the nearest hydrant (which could be some distance away). Water supply problems were experienced in October 1889, following the continued expansion of Pietermaritzburg, when restrictions were imposed. Water restrictions were again implemented towards the end of winter 1896. The need for a second source of supply for Pietermaritzburg was evident, especially for the town lands beyond the city itself. It was decided to divide Pietermaritzburg into two categories (a high level supply zone and a low level supply zone) with a separate supply main to each zone. Adding weight to the proposal was the growing need for a waterborne sewerage and wastewater removal system. Further water restrictions were applied in 1898.

Two schemes were put forward in 1898, the first of which involved a costly plan to abstract water from the Edendale Valley. The second short-term proposal was to draw water from the Town Bush Valley and Chase Valley area. Constant complaints regarding the water supply had potentially serious repercussions when the military authorities at the much-expanded Fort Napier threatened to withdraw all the troops from Pietermaritzburg unless matters were “greatly improved”. Such a threat, if carried out, would have had dire social, economic and political consequences for Pietermaritzburg. The fort had for some time been supplied from the town reticulation network, although at a much reduced pressure, necessitating the use of pumps and storage tanks. An independent supply was installed *circa* 1898 involving a new intake high up on the previously-mentioned clear stream tributary, with water being conveyed via a cast-iron main directly to Fort Napier. The water situation in the city became critical in the winter of 1900 when the population of Pietermaritzburg rapidly increased as a result of the Anglo-Boer War. The Chase Valley Water Works scheme, as an emergency option, was put into effect. The water intake was just below the junction of the Town Bush Stream and the Chase Valley Spruit. Sand for the filter beds was obtained from a pit in the hills overlooking the Town Bush Stream. The sand was transported in suspension from the pit to the required site by pipeline, due to

the rugged nature of the terrain. It was hoped that the scheme would be completed during the winter of 1901. A desperate shortage of water was once again evident in Pietermaritzburg in the winter of 1903. A pump was installed on the banks of the Msunduzi River below the old prison, with water being pumped directly to the two biggest consumers in Pietermaritzburg (the railway yards and the power station). Use was also made of the partly-constructed Edendale aqueduct scheme, which was finally completed in 1906. Water for the aqueduct system, as then designed, was obtained from three “mountain streams” which are all tributaries of the Msunduzi River (the Inkwaleni, Umsindusaan and Tenjaan streams). The Chase Valley scheme was phased out in 1912 once the supply of water from the Edendale aqueduct was assured. The filters were converted into service reservoirs for the water from Edendale. It would seem that the site was later known as the Fisheries or the Hatcheries, and is today a park.

A temporary dam, to alleviate a further severe water shortage in Pietermaritzburg, was built on the Umsindusaan Stream in 1924. The dam was breached by extensive floods in December that year, resulting in downstream damage to property. Subsequent (and major) developments included the construction of the “proper” Umsindusaan Dam in 1927, followed by the building of the adjacent Henley Dam scheme which commenced in 1939. The two dams, in turn, became inadequate for the requirements of Pietermaritzburg. The large Midmar Dam near Howick was completed in 1964. The dam supplies water to Durban, Pietermaritzburg and towns in the southern Midlands.

It can be said in essence that the hills above Pietermaritzburg and environs are generally conducive (in terms of gravity flow) for the supply of water to several parts of the city. This applies to water obtained from the old Swartkop Valley scheme, the later Edendale Valley system, and subsequently from Midmar Dam. It is evident that the Dorpspruit could only function as the first source of supply for Pietermaritzburg because of the uninterrupted stream flow and the limited population. Difficulties, nevertheless, were experienced in winter.

A vexing debate: alien tree species or housing?

Part of the attraction of the hills overlooking Pietermaritzburg, rather paradoxically, is the belt of alien vegetation in the form of wattle, gum (eucalyptus) and pine plantations which stretch from west to east. These trees give Pietermaritzburg the “aura” of a green city. Commercial forestry in the study area is of some antiquity, and partly dates from the 1890s when the Town Hill Wattle Company was established in Hilton.⁹⁰ The Borough of Pietermaritzburg was another early and enthusiastic proponent of the cultivation of exotic timber species.⁹¹ Most of the forestry land is owned by the Msunduzi Municipality, with a small portion belonging to the uMngeni Municipality.⁹² The total area under forestry has remained virtually the same for the last seven or eight years. (It appears that there is no privately-owned forestry land of any significance in the study area, with the primary exception of wattle and some gum on the Bloemendal farm adjacent to Copesville.) The land, in terms of a long-standing agreement, is managed by NCT Forestry Co-operative Ltd., with part of the profit (minus expenses) accruing to the Msunduzi Municipality. All monies are currently paid to the Msunduzi Municipality, although the uMngeni Municipality may seek a similar arrangement with NCT in the future. It is unlikely, given the view from these valuable upland sites, that the original grassland and indigenous forest would have remained untouched for long, in the absence of commercial forests, before clamorous property developers moved in. A previous mayor of Pietermaritzburg, R. Haswell, believes that the returns to the city from land managed by NCT are minimal, and that housing construction would have reduced the burden on the ratepayers of Pietermaritzburg.⁹³ Haswell argues that the failure to undertake urban development in certain elevated localities has resulted in the expansion of Hilton (and perhaps Howick) to the financial detriment of Pietermaritzburg. It is a moot point, however, whether alien vegetation or housing is more pleasing to the eye. Complicating

factors in terms of housing in the upland areas are the considerable cost of delivering bulk services in such terrain as well as geotechnical issues involving slope instability in parts.⁹² A minor excision of forestry land for housing purposes is under consideration by the Msunduzi Municipality. This refers to a 40 ha portion of land on the slopes of Signal Hill. Another site near Warwick Road off Town Bush Road is also being examined. An important point is that the Msunduzi Municipality prefers to allocate additional land for housing in forested areas, which by definition are no longer in a natural state, rather than to target the remaining undisturbed grassland and indigenous forest in the hills above Pietermaritzburg.

Also pertinent to the discussion is the somewhat sterile environment found in commercial plantations. Certain species nevertheless make use of this unnatural landscape which provides shelter, nesting sites for birds and feeding grounds for terrestrial animals. The plantations as well as the remnant indigenous forest and grassland provide a “natural space” for recreation by the citizens of Pietermaritzburg (see below). This would not be the case if extensive housing replaced the forests. The exotic trees in particular (given their dominance) trap air pollutants derived from the city and elsewhere in the vicinity. Large-scale urbanisation in the hills above Pietermaritzburg, if this ever occurred, would remove this vegetative filter, probably adding to the store of air contaminants (especially those derived from vehicles). Water pollution in streams and the displacement of wildlife, to a greater or lesser extent, would follow. The overall land use *status quo* in part of the study area, therefore, is largely sustained by the presence of alien vegetation, albeit of the commercial variety. The debate regarding commercial forestry is by no means clear-cut, and depends on the weight assigned to a particular viewpoint (not addressed here). Likewise of relevance is that the plantations form part of the envisaged Green Belt of Pietermaritzburg.⁹⁴

A hydrological issue which generated a great deal of vigorous debate in South Africa in the recent past concerns the consumption of water by commercial forests. Various restrictions on the extent of plantations in many hydrological catchments are now applicable, to ensure sufficient water for downstream users. There is no doubt that the commercial forests above Pietermaritzburg use considerable volumes of water resulting in sharply reduced stream flows, for example in the Dorpspruit. This situation does not threaten water supplies for households and industries in the city, as previously described. It is also true that housing reduces localised percolation into the sub-soil layers (thereby negatively affecting local springs and wetlands) where rainwater from hardened roads and roofs is channelled into stormwater drains, which discharge into downslope watercourses.

Conservation areas in the hills

There are a number of conservation areas in the elevated terrain above Pietermaritzburg, extending from west to east. These include the Doreen Clark Nature Reserve,⁹⁵ the Winterskloof Conservancy,⁹⁶ the World’s View Conservancy⁹⁷ and the Ferncliffe Catchment Conservancy.⁹⁸ The three conservancies partly adjoin each other, and incorporate formally proclaimed conserved land within their boundaries (explained in the relevant footnotes below). A further conservancy, possibly to be known as the Blackridge-Boughton Conservancy, is presently being considered.⁹⁹ This conservancy, if it eventuates, will constitute the southern boundary of the World’s View Conservancy. Several instances of poaching have been recorded in the conservancies, while littering (especially building rubble) is an ongoing problem particularly in the readily-accessible World’s View Conservancy. Noise pollution and the disturbance of wildlife as well as soil erosion is likewise problematic in the conservancies, due to teenagers and others riding their off-road scrambler bikes and quad bikes over weekends and during school holidays. Biodiversity in the conservancies themselves and in the remnant grasslands is threatened by invasive alien plant species as well as by the illegal removal of the bulbs, bark and seeds of indigenous plants.

Another excerpt from the poem (Sleepy Hollow?) written by George Candy⁶⁰ is appropriate here:

We love thy parks where on the green
young lovers kiss and cuddle,
and gentle 'Duzi winds its oozy
way through pool and puddle.
We love thy forest trails which give
a thrill to rural ramblers,
when forced to flee down scarp and scree
to 'scape the wheels of scramblers.

The Msunduzi Municipality (Environmental Management Unit: Sustainable Development and City Enterprises Department) provides environmental guidance and management expertise to two conservancies in the study area.⁹² These are the World's View Conservancy (in terms of the lower half of the conservancy situated within the municipal boundary) as well as the Ferncliffe Catchment Conservancy. The Unit maintains hiking trails in the conservancies, controls the spread of invasive alien vegetation, and supplies game guards. Similar services are provided for other conserved land owned by the municipality in Pietermaritzburg.

It is important to bear in mind that a number of public-spirited people have "adopted" certain areas or stretches of river in Pietermaritzburg and environs which they try to maintain in good order. One example is the Dorpspruit River and Community Regeneration Project which focuses on the middle reaches of the Dorpspruit adjoining the Botanical Gardens and the neighbouring Prestbury area.¹⁰⁰ This initiative concentrates on the removal of litter and the planting of indigenous vegetation as well as other environmental activities. A 1 km section of the riparian zone of the Dorpspruit has been restored to a natural condition by the project. Wetlands as well as riparian zones play an important role in water recharge and purification, and moderate the severity of floods.

The hills above Pietermaritzburg have been used by generations of city residents for recreational purposes (picnicking, bird-watching, hiking and more recently mountain biking).¹⁰¹ A well-known Pietermaritzburg hiking organisation, the long-standing Rambler's Club, organises day hikes in and around the city. There are several established hiking routes such as the Voortrekker Wagon Trail culminating at the World's View observation point. A more strenuous and lengthy route branches off from this trail and descends into the Swartkop Valley. The second trail proceeds towards Winterskloof, loops back on itself, and ends at the downslope Forest Lodge. Other routes involve the commercial plantations between Hilton and the hills overlooking Cedara. Popular destinations in the east of the study area are Breakfast Rock and Sunset Rock in the Ferncliffe Nature Reserve. Trails in the hills above Chase Valley are also used for recreation. Most of the trails in the upland terrain overlooking Pietermaritzburg consist of forest roads with some intervening paths and open spaces. The vast majority of the trails are situated on municipal land, although a few traverse private property.

Reference is now briefly made to the concept of *bioresource groups*, *sub-groups* and *units* which are a scientific means of classifying the landscape using four primary parameters.¹⁰² These are the climate, the topography, the indigenous vegetation and the soils which are all characteristic of a specific bioresource group (a large block of land which is found in one or more geographical localities). Bioresource sub-groups and bioresource units likewise have relatively homogenous features in terms of the four stated parameters, although at a smaller and more localised level. The last two categories are not discussed in this paper.

The bioresource groups relevant to the hills above Pietermaritzburg are Bioresource Group 3 (Moist Ngongoni Veld) and 5 (Moist Midlands Mistbelt). Group 3 encompasses Signal Hill and Blackridge in the east of the study area. Group 5, again in the east, refers to the higher-lying Sweetwaters, Winterskloof, World's View and Hilton. Group 5 is encountered once more across the N3 freeway on the Town Bush Valley Heights and the Chase Valley Heights. Claridge is a transitional zone between Group 5 and Group 3. Land in the uppermost reaches of Northdale, Raisethorpe and Copesville as well as in Bishopstowe itself forms part of Bioresource Group 3. Natural vegetation typical of Group 5 consists of open grassland with patches of indigenous evergreen forest found mainly on the moist and cooler south-facing slopes which are protected from fire. There are a number of indicator species which can be said to define any bioresource group in terms of the natural vegetation. Grasslands in Group 5 are dominated by the indicator grassland species known as Ngongoni bristlegrass (*Aristida junciformis*). This grass is a hardy, unpalatable pioneer species which has a limited value for livestock production. The grasslands of Group 5, if in a pristine state, would largely be dominated by Redgrass (*Themeda triandra*). Few relic areas of *Themeda triandra* remain, however, given that poor management practises have virtually destroyed such grasslands. The primary indicator species in the forests of Group 5 are the yellowwoods (*Podocarpus* spp.) although other indicator species are also relevant. Most of the forests were extensively exploited with the yellowwoods in particular being felled. Group 3 is also an upland phenomenon where the grasslands are again dominated by *Aristida junciformis*. Remnants of indigenous forests are evident on rocky and steep slopes as well as on cliff faces, and are thus protected from fire. Forest indicator species for Group 3 include *Albizia adianthifolia* (Flat-crown), *Rauvolfia caffra* (Quinine Tree) and *Syzygium cordatum* (Water Berry or Umdoni).

An iconic plant in the Hilton environs is the Hilton Daisy (*Gerbera aurantiaca*).¹⁰³ This daisy species is endemic to the Mistbelt grasslands of KwaZulu-Natal and is currently known to occur in about nine localities, ranging from the Hella-Hella Pass near Richmond in the south to Babanango in the north. These areas experience very cold winters with snow in parts. The plant takes its common name from Hilton where they were once prolific. The daisies typically grow in rocky grasslands at altitudes varying from 900–1 500 m, and are found on warm slopes in well-drained and shallow soils associated with dolerite. The petals frequently have a striking crimson colour on the upper surface but may be orange, pink or yellow, with a coppery colour underneath the petal. The plants usually die back in winter and flower in spring (September–November). Most of the areas in which the plants grow are burnt on an annual basis. The species is endangered due to habitat fragmentation and urbanisation.

Some of the larger wildlife species observed in the north-western hills above Pietermaritzburg and extending to Claridge include Caracal (*Felis caracal*); Bushpig (previously *Potamochoerus porcus*, now: *P. larvatus*); the Vervet Monkey (*Cercopithecus aethiops*), the Large Grey Mongoose (*Herpestes ichneumon*) and the Porcupine (*Hystrix africaeaustralis*).^{77,104} Several antelope species are likewise present in these environs such as Bushbuck (*Tragelaphus scriptus*), Reedbuck (*Redunca arundinum*) and the Common Duiker (*Sylvicapra grimmia*). It is thought that the north-western forests could be the domain of one or two leopards. Nyala (*Tragelaphus angasii*) are found in Claridge and further east. Oribi (*Ourebia ourebi*) were previously noted in the same area, although it is unclear if this antelope is still in existence in Claridge itself, as a result of poaching. There are many bird species in the northern hills, again incorporating Claridge. Examples are the previously-mentioned Burchell's Coucal (*Centropus burchellii*) and the Purple-crested Turaco (*Gallirex porphyreolophus*) as well as the African Crowned Eagle (*Stephanoaetus coronatus*), the Brown-hooded Kingfisher (*Halcyon albiventris*) and the Narina Trogon (*Apaloderma narina*).¹⁰⁵

Winds and air pollution

Two winds are of local significance in Pietermaritzburg, with both winds being influenced by the specific topography of the city and the surrounding hills.¹⁰⁶ A daytime (anabatic) wind blows mainly from the east or south-east *up* the Msunduzi River Valley and its tributaries. The south-easterly wind over Pietermaritzburg is more frequent in summer than in winter, and has a greater speed (on average) in summer. The direction of the wind changes at night and is primarily from the west or north-west, blowing *down* the valleys into the valley bottom of Pietermaritzburg (a katabatic wind). The landscape of the city, with a deep bowl and high hills, leads to the formation of valley fog and also smog (“smoke”) derived from vehicles, industries and household fires. A major source of the latter was, and to some extent still is, the Edendale Valley. This situation applies particularly in winter evenings when cold air starts to drain into the valley bottom from the hills overlooking the city. Ideal conditions are a stable, calm atmosphere and clear skies. The bottom layer of cold air is trapped by a warmer layer immediately above, resulting in what is described as a temperature inversion. Any pollutants released into the cold air dam remain trapped until mixing of the layers (fumigation) occurs after the sun has risen the next morning. It is at this stage that air pollutant concentrations markedly increase close to the ground in the Pietermaritzburg basin. It is not unknown for the stable conditions to persist for much of the day, although in a weakened state. It is unclear to what extent the reduced visibility in Pietermaritzburg in winter is due to natural valley fog and man-induced pollutants. Periodic large-scale weather systems (such as north-westerly Berg winds and the subsequent cold fronts) ameliorate air pollutant concentrations in Pietermaritzburg in winter. Air pollution, including invisible contaminants, became a contentious issue in the city in the 1960s and remains a concern for those with respiratory illnesses, notwithstanding a general improvement in visual air quality. The elevated Sweetwaters, Winterskloof, Hilton and World’s View areas probably have the best quality of air in the immediate vicinity of Pietermaritzburg.

George Candy⁶⁰ in his poem (Sleepy Hollow?) comments on the air pollution in Pietermaritzburg, and specifically the role of the wind in dispersing smog from the city bowl:

O little town of Maritzburg,
how snugly dost thou lie –
a hazy mile of tar and tile
beneath the bright blue sky;
though sometimes when the wind forgets
to stir itself and jog
the air on high, the bright blue sky
is blotted out by smog.

We have now completed our tour of the westerly, northerly and easterly hills surrounding the city. Pietermaritzburg clearly has different identities depending on one’s place of work and residence. The hills remain constant, however. Additional information could have been included in this paper, although space constraints preclude a more extensive discussion. Further perspectives on the study area could involve a detailed botanical, pedological (soils), hydrological, topographical and land use analysis, all of which are beyond the scope of the present submission. A second paper could be written on the southern hills above Pietermaritzburg, again using what could be termed a “histo-geographical” approach. It would likewise be interesting to track the growth and evolution of Pietermaritzburg and the surrounding areas at 50-year intervals (or thereabouts) using the old maps and other data.

NOTES

- 1 The Voortrekkers established the *hoofdplaats* (primary settlement) or *dorp* (small town) of Pieter Mauritz Burg or Pieter Maritz Burg in 1838 (Haswell, R. "Chapter Three: The Making of the City – Pieter Mauritz Burg: The Genesis of a Voortrekker *Hoofdplaats*", in Laband, J. and R. Haswell (eds). *Pietermaritzburg 1838–1988: a New Portrait of an African City*, Pietermaritzburg, University of Natal Press and Shuter and Shooter, 1988, pp. 24–8). This volume discusses many aspects of life in the city, and should be consulted by those with an interest in Pietermaritzburg. It sad to record that most of the contributors to the book are now retired, have moved away, or are dead. A great deal of local expertise and knowledge is simply no longer available: a deficit which is sometimes apparent in this paper. A valid point, of course, is to what extent success would have been achieved had this account been written, say 20 years hence. A tongue-in-cheek name for Pietermaritzburg is "Sleepy Hollow", which stems from the days when nothing much of interest seemed to happen in the city. Pietermaritzburg, also referred to as Maritzburg, was then a sober-minded administrative, educational, business and health services centre with some local industries. The Zulu name for Pietermaritzburg is *uMgungundlovu* which has been spelt in different ways and with various interpretations. The meaning now commonly accepted is "Place of the Elephant" (Koopman, A. *Zulu Names*, Pietermaritzburg, University of Natal Press, 2002, pp. 163–71). There are two other less well-known Zulu names for the city: *eThawini* ("Town") and *KwaNdongazibomvu*. The second name refers to "The Place of the Red Walls", which is an apt description of the red-brick Victorian buildings, but which was also the praise name (effectively: "Walls Red with Blood") of the main settlement of King Dingana or Dingane further to the north in Zululand. Both *uMgungundlovu* and *KwaNdongazibomvu*, historically, relate to the name of this settlement, and have been "transferred" to Pietermaritzburg. Two contemporary mapping sources are relevant for the study area. These are the 1:50 000 2930CB Pietermaritzburg topographic map, fourth edition: 2000 (29°30'S to 29°45'S and 30°15'E to 30°30'E) as well as maps contained in the *Brabys Pietermaritzburg Directory 2002/3* or a similar edition. See also the Pietermaritzburg wall map (<http://www.brabys.com/maps>). The following may likewise be of interest: Merrett, C.E. *A Selected Bibliography of Natal Maps, 1800–1977* (Boston, G.K. Hall, 1979) 226 pp. (Pages 147–60 deal with maps of Pietermaritzburg.) Many of the old maps of Pietermaritzburg and adjacent areas have been removed from the Surveyor-General's office and deposited in the Pietermaritzburg Archives Repository. Use was made of an undated 1:50 000 survey map (possibly relating to the 1920s) which gives the names and heights of trigonometrical stations in the Pietermaritzburg area. Trigonometrical stations are shown, but not identified, on the 2930CB Pietermaritzburg topographic map. The older map is entitled "Pietermaritzburg townlands beacons", and was kindly made available by Messrs Tarboton Holder Ross and Partners of Pietermaritzburg. Readers with access to Google Earth can view the study area using the Internet and their personal computers. A comprehensive bibliography concerning the city and environs is Kühn, R. *A Guide to the Literature on Pietermaritzburg and Surrounds*, Publication Series No. 9 (Pietermaritzburg, University of Natal Library, 1994) 70 pp. Msunduzi rather than Msunduze (as in river, valley and municipality) is the currently preferred spelling of the name.
- 2 Some examples are Forsyth Ingram, J. *The Colony of Natal: an Official Illustrated Handbook and Railway Guide* (London, Sir Joseph Causton and Sons, 1895) 273 pp as well as Forsyth Ingram, J. *The Story of an African City* (Pietermaritzburg, C. Coester, 1898) 196 pp. In similar vein, and in some respects a repeat of first-mentioned guide, see Francis Harrison, C.W. (ed). *Natal: an Illustrated Official Railway Guide and Handbook of General Information* (London, Payne Jennings, 1903) 300 pp. A later publication was Tatlow, A.H. (ed). *Natal Province: Descriptive Guide and Official Hand-book* (Durban, South African Railways, 1911) 574 pp. See also Hattersley, A.F. *Pietermaritzburg Panorama: a Survey of One Hundred Years of an African City* (Pietermaritzburg, Shuter and Shooter, 1938) 126 pp and Hattersley, A.F. *Portrait of a City* (Pietermaritzburg, Shuter and Shooter, 1951) 124 pp. An index to the latter book is given in Baudert, H.M. "Index to Prof. A.F. Hattersley's Portrait of a City", *Natalia*, 5, 1975, pp. 53–8. The first four books can be read on the Internet. Examine <http://archive.org/details/colonyofnataloff00ingr> and <https://archive.org/details/storyofafrican00ingr> as well as <https://archive.org/details/natalillustrated00harr> plus <https://archive.org/details/natalprovincedes00tatl>.
- 3 Brett, M. "Chapter One: The Setting – The Living Environment", in Laband and Haswell, *Pietermaritzburg 1838–1988*, pp. 2–5 as well as McGee, O. "Chapter One: The Setting – The Physical Environment", in Laband and Haswell, *Pietermaritzburg 1838–1988*, pp. 6–11.

- 4 It seems that there is no known “poet laureate” painter of Pietermaritzburg landscapes, as opposed perhaps to the Victorian architecture of the city. An interesting point is to what extent the hills above the city have inspired the writing of poetry. At least one poet was resident in the study area for a time. Ethel Margaret Campbell (1886–1954) lived in a house which she named Cardonagh, in Hilton, from 1937 until her death (Lake, C. and M. and Hoëpfl, J. *The Story of Hilton*, third edition, [Hilton], published by the authors, 2010, p. 67). Ethel Campbell wrote a number of poems, some of which were published in anthologies, while others were in the form of pamphlets, which she issued from time-to-time. Two “pamphlet” poems dealing with the study area are: “Storm over Winterskloof” (1933) and “Go out and follow the Old Road” (1937). The second poem is a general reference to the old Voortrekker road from Pietermaritzburg to Hilton and beyond. Both poems are in the possession of C. and M. Lake of Hilton. Ethel was a member of the well-known Campbell family and her relatives included her brother Roy Campbell (the acclaimed poet) and Killie Campbell, her first cousin, who started the Killie Campbell Africana Library, now part of the University of KwaZulu-Natal, in Durban. Ethel had a great affection for Australian soldiers in World War I (while living in Durban) and came to be regarded as something of a national heroine in that country. She was awarded an MBE in 1919 for her war work. She often entertained the next generation of Australian soldiers at her home in Hilton during World War II. Her literary works range from the Voortrekkers and Natal, to a considerable emphasis on Australian soldiers, warships and cricketers (personal communication: Mrs G. Tatham née Campbell, 31 December 2013). One brief Australian tribute to Ethel can be read at http://gtozs.blogspot.com/p/blog-page_24.html (accessed on 31 December 2013). Anthony Trollope (1815–82) was a prolific and successful Victorian novelist who travelled to South Africa in 1877. He visited “Pieter Maritzburg” as he called it and stated that: “The town is surrounded by hills, and is therefore, necessarily, pretty” (Trollope, A. *South Africa, VOL I*, London, Chapman and Hall, 1878, p. 285). See <https://archive.org/details/southafrica01trolgoog>. A more contemporary writer who was inspired by the hills of Pietermaritzburg was Alan Paton (1903–88). He wrote: “But for three things I am grateful—the opportunity to walk the hills of Pietermaritzburg, to know the stories and noble passages of the Bible, and to enter the world of words and books” (Paton, A. *Towards the Mountain: an Autobiography*, Harmondsworth, Penguin, 1986, p. 27). It is not impossible that Paton, with his great love for Pietermaritzburg and its hills, invoked the word “Mountain” as part of the title of his autobiography. There were clearly also other reasons for his choice, however. A current perspective was provided by an industrialist with premises in Edendale, who observed that many of his international visitors comment on the “beautiful setting” of Pietermaritzburg (*The Witness*, 17 January 2014).
- 5 The escarpment above Pietermaritzburg extends to the west and east of the city. A non-technical discussion of the geology and landscape of KwaZulu-Natal can be found in King, L. *The Natal Monocline: Explaining the Origin and Scenery of Natal, South Africa*, second revised edition (Pietermaritzburg, University of Natal Press, 1982) 134 pp. + map.
- 6 See Benyon, J. “Chapter Six: Capital City – Colonial Capital”, in Laband and Haswell, *Pietermaritzburg 1838–1988*, pp. 86–9 as well as Dominy, G. and H. Paterson. “Chapter Seven: Maritzburg and the Military – Fort Napier: The Imperial Base That Shaped the City”, in Laband and Haswell, *Pietermaritzburg 1838–1988*, pp. 102–9. Also of interest is Coghlan, M. and H. Paterson. “Chapter Seven: Maritzburg and the Military – The Natal Carbineers and Pietermaritzburg”, in Laband and Haswell, *Pietermaritzburg 1838–1988*, pp. 114–18.
- 7 Churchill, W.S. *The Boer War: London to Ladysmith via Pretoria and Ian Hamilton’s March* (London, Bloomsbury, 2013) p. 206.
- 8 Raper, P.E. *New Dictionary of South African Place Names* (Johannesburg, Jonathan Ball, 2004) p. 28.
- 9 Tatlow, *Natal Province*, p. 147.
- 10 Properties in the north-western hills above Pietermaritzburg in earlier times tended to be large. This becomes readily apparent if one examines the minimum permissible plot sizes previously stipulated. The primary determinant of plot size in the north-western hills was the lack of waterborne sewerage (necessitating the use of septic tanks) and the rugged topography. The minimum permissible plot size in Blackridge was originally about 0.15 ha, which was later reduced to 0.1 ha (personal communication: I. Parker, 9 January 2014). Many plots in the past in Blackridge were closer to 0.2–0.3 ha in extent or more. Bigger properties were likewise once the norm in the “old” parts of Hilton (personal communication: R. North and P. Wessels, 6 January 2014; Mrs F. Joubert, 7 January 2014). The minimum land subdivision in the old Hilton was once 0.4 ha and later 0.2 ha, while the minimum plot size in Sweetwaters was originally 0.4 ha. A slightly

different situation applied in Winterskloof, where the minimum permissible land subdivision was 0.8 ha on the eastern side of Denis Shepstone Drive and 2 ha to the west of Denis Shepstone Drive looking towards Cedara. Some plots in all four areas are still considerably in excess of the minimum permissible size. A municipal waterborne sewerage system was installed in Blackridge (excluding a few properties) in the 1970s (personal communication: H. Bron, 20 February 2014). More modern cluster housing as well as schools, office blocks and shopping centres in Hilton are required to have their own in-house wastewater purification systems. Concern has been expressed in Winterskloof that future housing densification in that area could result in the seepage of partly-treated effluent from poorly designed or maintained septic tanks into the groundwater and local watercourses (personal communication: Ms J. Bell, 19 February 2014). This situation is potentially acute in deeply incised terrain with steep slopes. A general discussion of the possibility of groundwater pollution in Pietermaritzburg can be read in Zwiers, A.S. and M. Demlie. "A groundwater vulnerability assessment of the Greater Pietermaritzburg region using DRASTIC in a GIS environment", pp. 1–9. Google the title of the paper (accessed on 21 February 2014).

- 11 Bulpin, T.V. *Natal and the Zulu Country*, third edition (Cape Town, T.V. Bulpin Publications, 1977) p. 14.
- 12 Personal communication: K. Camp, 11 January 2014. The Zulu names for this species are *iMbubu* and *iMbanjane* (Tainton, N.M., D.I. Bransby and P. deV. Booysen. *Common Veld and Pasture Grasses of Natal*, Pietermaritzburg, Shuter and Shooter, 1979, p. 176). Bryant gives the meaning of the term as a type of soft long grass which is used for thatching huts (Bryant, A.T. *A Zulu-English Dictionary with Notes on Pronunciation, a Revised Orthography and Derivations and Cognate Words from Many Languages; Including Also a Vocabulary of Hlonipa Words, Tribal-Names, etc., a Synopsis of Zulu Grammar and a Concise History of the Zulu People from the Most Ancient Times*, Pinetown, Mariannhill Mission Press, 1905, p. 50). See <http://www.archive.org/details/zuluenglishdicti00brya>.
- 13 Ellis, B. "Chapter Three: The Making of the City – Pietermaritzburg and its Environs: The Early Decades of White Settlement", in Laband and Haswell, *Pietermaritzburg 1838–1988*, pp. 29–32.
- 14 McCracken, D.P. "The indigenous forests of colonial Natal and Zululand", *Natalia*, 16, 1986, pp. 19–38. A map showing the distribution of indigenous forests in Natal in 1889 can be found in the paper. See also Hayter, C.S. "Tree-growing in the Zwaartkop Native Location", *Natal Agricultural Journal*, 15 (4), 1910, pp. 460–8 and Taylor, G.C. "A report on Nxamalala Forest", *Forestry in South Africa*, 2, 1963, pp. 29–51. Two state forests were proclaimed in the Vulindlela district in 1950. These were the Mzunge Forest (30 ha) and the Nxamalala Forest (1 339 ha). Both forests were proclaimed in terms of Government Notice (GN) 488/50 (Alcock, P.G. *A Water Resources and Sanitation Systems Source Book with Special Reference to KwaZulu-Natal: Part 2*, WRC Report No. 384/2/99, Pretoria, Water Research Commission, 1999, p. 150).
- 15 Personal communication: G. Beggs, 15 January 2014.
- 16 Wright, J.B. *Bushman Raiders of the Drakensberg, 1840–1870: a Study of Their Conflict with Stock-keeping Peoples in Natal* (Pietermaritzburg, University of Natal, 1971) pp. 48; 54.
- 17 Brookes, E.H. and N. Hurwitz. *The Native Reserves of Natal*, Natal Regional Survey, VOL 7 (Cape Town, Oxford University Press, 1957) p. 4.
- 18 Forsyth Ingram, *The Colony of Natal*, p. 217.
- 19 An overview of Pietermaritzburg in the Iron Age can be found in Maggs, T. "Chapter Two: Before White Settlement – Pietermaritzburg: The First 2 000 000 Years", in Laband and Haswell, *Pietermaritzburg 1838–1988*, pp. 14 – 17. For an historical synopsis of Zulu settlement *inter alia* in the study area see Wright, J. "Chapter Two: Before White Settlement – Before Mgungundlovu: The Upper Mngeni-Upper Mkhomazi Region in the Early Nineteenth Century", in Laband and Haswell, *Pietermaritzburg 1838–1988*, pp. 18 – 21. Some details of San or Bushman incursions in the Swartkop Location (Vulindlela) and closer to Pietermaritzburg in the early days can be read in Wright, *Bushman Raiders of the Drakensberg*, pp. 42; 63–4; 68–9; 100; 102; 107. A useful source of fairly recent information on the Vulindlela district is the following: Bromberger, N. and J.D. Lea (eds). *Rural Studies in KwaZulu: Proceedings of a Symposium held at the University of Natal, Pietermaritzburg on 14 September 1981* (Pietermaritzburg, University of Natal, 1982) 166 pp. Another source is Bromberger, N. "Chapter Five: The Inner and Outer City – Vulindlela", in Laband and Haswell, *Pietermaritzburg 1838–1988*, pp. 71–4. Brief data on Vulindlela are also available in Thorrington-Smith, Rosenberg and McCrystal. *Towards a Plan for KwaZulu: a Preliminary Development Plan – Volume 1, The Written Report* (Ulundi, KwaZulu Government, 1978) p. 271. Some information on Edendale can be found in Meintjes, S. "Chapter Five: The Inner and Outer City – Edendale 1851–1930: Farmers to Townspeople, Market to Labour Reserve", in Laband and Haswell,

- Pietermaritzburg 1838–1988*, pp. 66–9. An account of the tragic death of a Hilton College schoolboy at the Gordon Falls in the Edendale Valley in 1922 may be of interest to readers. See Conyngham, J. “A boy and a waterfall”, *Natalia*, 32, 2002, pp. 43–7.
- 20 The map referred to is entitled: “Natal: Map of the country around Pietermaritzburg from a sketch by Captain G.B. Fitz Henry”. The map was printed by the Ordnance Survey in Southampton in 1907 (officially released by the War Office in London) and has the serial number GSGS 1294 (personal communication: C.E. Merrett, 24 February 2014). The scale is 1 inch to 1 mile. The map is in the possession of Dr S. Spencer of Pietermaritzburg. Another copy is available in the Msunduzi Municipal Library (the Bessie Head Library).
 - 21 Alan Paton gives a vivid description of the northern hills overlooking Pietermaritzburg (evidently the Swartkop Valley and adjacent slopes) as he experienced them in his youth (Paton, *Towards the Mountain*, pp. 4–5). The upland terrain consisted of grassland with patches of indigenous forest (referred to as “bush”) in the many south-facing kloofs. Small streams (derived from springs) were common in the kloofs, with the streams descending rapidly, sometimes over little waterfalls. Ferns and wild flowers were abundant in the kloofs. Paton goes on to discuss some of the bird species present in the northern hills, including the Burchell’s Coucal (*Centropus burchellii*) whose “liquid” call is popularly believed to foretell rain. Another bird of significance was the Purple-crested Lourie: now the Purple-crested Turaco (*Gallirex porphyreolophus*). An examination of the beliefs surrounding rain birds as well as the adaptations of South African birds to the weather and climate in general can be found in Alcock, P.G. *Rainbows in the Mist: Indigenous Weather Knowledge, Beliefs and Folklore in South Africa* (Pretoria, South African Weather Service, 2010) pp. 416–38.
 - 22 Tatlow, *Natal Province*, p. 147.
 - 23 Thetheleku died in June 1899 (Bulpin, *Natal and the Zulu Country*, p. 238). Also of historical relevance are two reports of a Zulu wedding in the Henley Dam area and a visit to Laduma in the Swartkop Location, who was known as the “son of Teteleku, son of Nobanda”. The name Laduma means “It Thunders” (Sidney Hartland, E. “Travel notes in South Africa”, *Folk-lore: a Quarterly Review of Myth, Tradition, Institution, & Custom*, 17, 1906, pp. 472–84). The reports evidently date to 1905. Refer to <http://www.archive.org/details/Folklore17folklooft> (accessed on 13 January 2014). An earlier visit to Thetheleku was discussed by Von Hübner, Baron. *Through the British Empire, VOL 1 with a Map* (London, John Murray, 1886) pp. 113–16. See https://archive.org/details/cihm_26451 (accessed on 4 February 2014). The description of the locality of the homestead appears to accord with that of the *circa* 1905 visit. Sidney Hartland suggests that Thetheleku was buried at Laduma’s homestead in the Edendale Valley, and not at his dwelling near the Swartkop station. This implies that Thetheleku, for reasons unknown, left the latter site at some stage, while seemingly retaining ownership thereof. The geographic descriptions of Thetheleku’s place of residence, however, are unclear. C. Lake has identified Thetheleku’s grave in the Edendale Valley. It would appear that Thetheleku wished to be buried amongst his own people, if he did indeed live across the ridge in the Swartkop Valley for some time.
 - 24 Personal communication: P. Welch, 5 February 2014.
 - 25 An older spelling of both names is Sweet Waters and Winter’s Kloof, although Sweetwaters and Winterskloof have generally been used in this paper. Sweet Waters and Winterskloof is the preferred spelling and is used, for example, on the 1:50 000 topographic map of Pietermaritzburg. A gorge or kloof is a rugged and deep ravine or valley, whereas a spur is a topographic projection or elongated hill (the opposite of a valley) sloping down to a lower point. Another word for a spur is a salient, a term much favoured in World War I. A knoll is a low, detached hill. A bluff is a headland or cliff with a broad, perpendicular face. A hogsback can be defined as a long and narrow ridge of rock which dips steeply on both sides, thus exposing the rock strata which have been greatly tilted to the extent that the original horizontal beds are almost vertical (Goudie, A. (ed). *The Encyclopedic Dictionary of Physical Geography*, second edition, Oxford, Basil Blackwell, 1994, p. 255). The ridge resembles the bristles on the back of a hog (pig). A well-known example is the village and landform of Hogsback in the Amatole, Amatola or Amathole Mountains in the Eastern Cape.
 - 26 Two earlier reports on the history of the Swartkop Valley are given here. The first concerns the Swartkop Valley Women’s Institute. It should be explained that a previous Administrator of Natal encouraged the women’s institutes in the province to compile annals relating to their specific areas. The Swartkop Valley annals were produced around 1970 (apparently independently) whereas the Ridge Women’s Institute

- (Scottsville) annals appeared in 1984. Both annals can be found in the library of the University of KwaZulu-Natal, Pietermaritzburg. See Pietermaritzburg-Swartkop Valley Women's Institute. Pietermaritzburg-Swartkop Valley WI Area Annals ([Pietermaritzburg], Pietermaritzburg-Swartkop Valley Women's Institute, [1970]), 38 pp. The second report is Taylor, M. *The Story of Sweetwaters* ([Pietermaritzburg], published by the author, [1979]) 24 pp. A copy is available in the library of the Natal Inland Family History Society in Pietermaritzburg.
- 27 Lake, C. and M. *The Story of Sweetwaters & Winterskloof*, second edition ([Hilton], published by the authors, [2012]), pp. 5–6; 8–9; 51; 57–8. The page numbers are according to those printed out from an electronic copy of the publication. The publication contains sketch maps showing Sweetwaters and Winterskloof at different stages of development over time. Material was also drawn from Anonymous, 2012. "Sweetwaters", *G.N.U.S. – Quarterly Newsletter of the Natal Inland Family History Society*, 1, 2012, pp. 5–7.
 - 28 Sweetwaters and Winterskloof were previously administered by health committees (personal communication: R. North and P. Wessels, 6 January 2014; Mrs F. Joubert, 7 January 2014). The two health committees were amalgamated in 1973 under the umbrella of the Mount Michael Health Committee (named after the old farm). This administrative area became part of the Hilton Town Board in 1990. Hilton (Road) itself was under the jurisdiction of a health committee which was established in 1954, with the Hilton Town Board assuming office in 1984. Sweetwaters, Winterskloof and Hilton now fall under the uMngeni Municipality. The health committees and the Hilton Town Board consisted of volunteers who functioned in terms of their specific expertise, together with a small paid staff. See also the Lakes, *The Story of Sweetwaters & Winterskloof*, p. 44–5 as well as the Lakes and Hoëpfl, *The Story of Hilton*, p. 30.
 - 29 Comrie, M. "Sweetwaters iron mine", *Natalia*, 43, 2013, pp. 138–9 as well as the Lakes, *The Story of Sweetwaters & Winterskloof*, pp. 57–8 and Anonymous, "Sweetwaters", pp. 5–6. See likewise the *Natal Witness*, 12 July 1967. It is recorded that Green's ironworks were still in existence in 1911 (Tatlow, *Natal Province*, pp. 147–8). Tatlow remarked that "pig iron of good quality" had been produced at the ironworks. The presence of thin seams of coal at the quarry in Sweetwaters is a confirmed fact (King, *The Natal Monocline*, p. 113).
 - 30 Personal communication: G. Wessels, 25 January 2014. Trout were introduced into South African waters from overseas in the 1890s. There are two species: the Brown Trout (*Salmo trutta*) and the Rainbow Trout (*Oncorhynchus mykiss*). Both species are now regarded as an ecological anomaly. The breeding of trout by official conservation agencies has ceased, although private breeders continue to stock dams and some rivers.
 - 31 Anonymous, "Sweetwaters", pp. 6–7 and the Lakes, *The Story of Sweetwaters & Winterskloof*, pp. 69–70. An additional source of data is a member of the Natal Inland Family History Society (E. von Fintel) who has extensive records on German immigrants to Natal. I am indebted to him for the following brief items of information regarding Beissner and his religious beliefs: *The South African Missionary*, 9 (22) 1910; 9 (24) 1910; 9 (25) 1910; 9 (44) 1910; 9 (45) 1910; 10 (30) 1911 and 14 (42) 1915. An insert in the *South African Medical Record*, 14 (8), 1916, p. 251 describes a court case involving Beissner (the woman who miscarried and a young girl who also died at the sanatorium). His establishment, at one time with 11 staff members, was variously known as the Healing Home, the Health Institute, the Home of Health, the Natural Healing Sanatorium and the Sweetwaters Sanatorium. Further details can be found in Parle, J. *States of Mind: Searching for Mental Health in Natal and Zululand, 1868–1918* (Pietermaritzburg, UKZN Press, 2007) pp. 185–7; 193. Parle notes that yet another name for Beissner's facility was the Sweetwaters International Establishment of the New Science of Healing. A different perspective is that Beissner referred to himself as "Professor".
 - 32 Personal communication: P. Wessels and G. Hoets, 28 December 2013; Mrs J. Younghusband, 16 January 2014.
 - 33 Personal communication: P. Wessels and G. Hoets, 28 December 2013.
 - 34 The Lakes, *The Story of Sweetwaters & Winterskloof*, p. 66.
 - 35 Rees, W. *Colenso Letters from Natal* (Pietermaritzburg, Shuter and Shooter, 1958) p. 376–7.
 - 36 Personal communication: Dr S. Spencer, 9 January 2014. Harriette died on 2 June 1932 and Agnes on 23 June the same year.
 - 37 Forsyth Ingram, *The Colony of Natal*, pp. 217–9.

- 38 The Lakes, *The Story of Sweetwaters & Winterskloof*, p. 49. Winterskloof station was still the preferred watering point for steam locomotives on the climb up the Swartkop Valley in 1911 (Tatlow, *Natal Province*, p. 148).
- 39 Stayt, D. *Where on Earth? A Guide to the Place Names of Natal and Zululand* (Durban, The Daily News, 1971) no pagination.
- 40 Martin, B. "Chapter Eight: Economic Hub of the Midlands – The Coming of the Railway to Pietermaritzburg", in Laband and Haswell, *Pietermaritzburg 1838–1988*, pp. 135–7. Refer likewise to the Lakes and Hoëpfl, *The Story of Hilton*, pp. 27–9, which includes a sketch map showing the two railway lines (routes 1 and 2) in the Swartkop Valley and surrounds. Recourse was also made to an undated one page document written by B. Martin and entitled "Railway construction north of Pietermaritzburg" (in the possession of C. Lake). Some historical background on Route 1 is given in Bizley, W.H. "All aboard for Howick!", *Natalia*, 7, 1977, pp. 24–7. See also Bizley, W. "Chapter Eight: Economic Hub of the Midlands – Pietermaritzburg and the Railway", in Laband and Haswell, *Pietermaritzburg 1838–1988*, pp. 139–41. Further sources of data include the following: Martin, B. "The opening of the railway between Durban and Pietermaritzburg – 100 years ago", *Natalia*, 10, 1980, pp. 34–40 as well as Campbell, E.D. *The Birth and Development of the Natal Railways* (Pietermaritzburg, Shuter and Shooter, 1951) 170 pp. Another source is Heydenrych, H. and B. Martin. *The Natal Main Line Story* (Pretoria, HSRC, 1992) 176 pp. Additional information derived from Mrs J. Pinnell (20 January 2014) is that two elderly Afrikaans-speaking employees of the railways manned the gates where the line crossed the (then) Sweetwaters Road, just below the Sweetwaters station (Route 1) and also where the line crossed Old Howick Road (Route 2). Each employee closed the gates when the train approached the relevant crossing. The trains in the earlier days did not run at night. This system operated in the 1930s and until the gates were automated sometime in the 1950s.
- 41 The longest railway tunnel in South Africa is currently the Hex River tunnel which was built in the mid-1980s, and is over 16 km in length (personal communication: H. Richardson, 23 January 2014).
- 42 Slope instability in the northern hills overlooking Pietermaritzburg is briefly examined in King, *The Natal Monocline*, pp. 30–1; 113. King states that "porous and sometimes waterlogged Middle Ecca Sandstones overlie slippery shales" and that the sandstone beds "laden and lubricated" by considerable volumes of groundwater in the "not very distant geologic past" slid down the steep slopes in a series of landslides or landslips. The process remains intermittently active today at some sites in the area. A more technical discussion of this geological phenomenon can be found in Richards, N.P., G.A. Botha, P. Schoeman, B.M. Clarke, M.W. Kota and F.N. Ngcobo. "Engineering geological mapping in Pietermaritzburg, South Africa: constraints on development", IAEG2006 Paper No. 407, 2006, pp. 1–11. Refer to: iaeg2006.geolsoc.org.uk/cd/papers/iaeg_407.pdf (accessed on 1 February 2014). See also Maurenbrecher, P.M. and A.R. Booth. "Some slope instability problems in soils derived from the Ecca Shales of Natal, South Africa", *Engineering Geology*, 9 (2), 1975, pp. 99–121. A geological map (2930CB Pietermaritzburg) is available at a scale of 1:50 000. The map, part of the Geological Map Series, was published in 2002 by the Council for Geoscience in Pretoria. An explanation of this map is likewise available. See Botha, R.C.N. and G.A. Botha. *Geological Description of Sheet 2930CB: Pietermaritzburg* (Pretoria, Council for Geoscience, 2002) 39 pp. + map.
- 43 Koopman, *Zulu Names*, pp. 170–1. The author states that Ketelfontein has been "Zuluised" as *eKhehlelifiantini*.
- 44 Bulpin, *Natal and the Zulu Country*, p. 239 as well as the Lakes and Hoëpfl, *The Story of Hilton*, p. 69.
- 45 Koopman, *Zulu Names*, pp. 140–1.
- 46 Personal communication: Mrs J. Pinnell, 20 January 2014.
- 47 The Lakes, *The Story of Sweetwaters & Winterskloof*, pp. 15–16.
- 48 The Lakes and Hoëpfl, *The Story of Hilton*, pp. 5–6. A resident of Hilton (G. Beggs) has walked part of the route and has information on that section of the track.
- 49 Meineke, E.N. and G.M. Summers. *Municipal Engineering in Pietermaritzburg: the First Hundred Years* (Pietermaritzburg, City Engineer's Department, 1983) pp. 68–9. Place names along the road which left Pietermaritzburg at the foot of Chapel Street and led to the Drakensberg can be found on an old map of Natal which was compiled and lithographed in 1855 by J. Alfred Watts ("Map of the Colony of Natal, South Africa"). The scale is 1 inch to 6 miles (Hattersley, *Pietermaritzburg Panorama*, p. 27; personal communication: F. Marais, 17 February 2014 and C.E. Merrett, 24 February 2014).
- 50 Personal communication: R. North, 27 December 2013.

- 51 Personal communication: Miss E. Roberts, 17 January 2014. Folly Hill was originally part of Groenekloof. Further information is that there were about nine tall trees in total, which were planted in close proximity to each other (personal communication: Mrs J. Pinnell, 20 January 2014). This unfenced chapel-shaped cluster of trees was a picnic spot in the 1930s and for several years thereafter.
- 52 Bulpin, *Natal and the Zulu Country*, p. 239 and Hattersley, A.F. *Hilton Portrait: South African Public School, 1872–1945* (Pietermaritzburg, Shuter and Shooter, 1945) pp. 8–10. See also Hattersley, *Pietermaritzburg Panorama*, p. 29. Some information on the earliest settlers in Hilton can be found in the Lakes and Hoëpfl, *The Story of Hilton*, pp. 1–10; 38–40. Groenekloof can be translated as “Green Valley” and Ongegund roughly as “Begrudged” – relating to envy in terms of success.
- 53 The Lakes and Hoëpfl, *The Story of Hilton*, p. 46. Personal communication: D. Hull, 9 February 2014 and P. Walker, 20 February 2014.
- 54 It is unclear to what extent heavy mist (fog) contributes to the mean annual precipitation in the study area. Factors to consider are the extent to which moisture is intercepted and absorbed by the leaves of trees and other vegetation, and how much of the intercepted moisture actually reaches the ground surface as “condensation drip”. Mistbelt fog was investigated as an additional source of household water, together with rainwater-harvesters (manufactured or constructed catchment runoff surfaces) in the late 1980s in the Inadi Ward of the Vulindlela district. The ward is situated several kilometres to the west of the present study area (Alcock, P.G. and E. Verster. “Investigation into unconventional sources of water for a peri-urban/rural district of KwaZulu”, *South African Journal of Science*, 83 (6), 1987, pp. 348–52). The mist was trapped by circular fog interceptors consisting of shade cloth and a metal framework, with the water being stored in small tanks. It was determined, however, that mist should be left to enter the hydrological cycle naturally, which together with rainfall (the primary component of groundwater) later emerges as springs and streams.
- 55 Alcock, P.G. Snow in, or on the outskirts of, Pietermaritzburg (1851–2013), *Natalia*, 43, 2013, pp. 73–83.
- 56 Forsyth Ingram, *The Colony of Natal*, p. 219.
- 57 The Lakes and Hoëpfl, *The Story of Hilton*, p. 2. A lady traveller who arrived in Pietermaritzburg in August 1864 commented that: “Your eyes are dazzled by the heat in the air, and stung by the sharp red dust that is whirled along in sudden clouds along the unpaved roadways” (Hattersley, *Pietermaritzburg Panorama*, p. 48).
- 58 There are no South African Weather Service (SAWS) stations in the study area, although certain householders keep rainfall and other weather records for their own interest. The nearest SAWS stations are the Botanical Gardens, Allerton Provincial Veterinary Laboratory, Cedara and Nagle Dam. There is a steady increase in the mean (average) annual rainfall across Pietermaritzburg from less than 800 mm in the drier south-eastern parts of the city, to more than 1 100 mm on the wetter north-western slopes (McGee, “Chapter One: The Setting – The Physical Environment”, pp. 8–9). Considerable variations in mean annual rainfall are not uncommon. McGee gives the example of the weather station at the Botanical Gardens where 575 mm was recorded in 1941 and 1 533 mm in 1917. A comparison of rainfall data for the Umgeni Water gauges at the Darvill Wastewater Works in Willowton and the D.V. Harris Waterworks in Town Bush Valley reveals that the mean annual rainfall at the latter is somewhat greater than for Darvill. Confirmation (up to a point) of the higher mean annual rainfall in the hills above Pietermaritzburg was obtained from rain gauge data recorded by a number of householders in Blackridge, Sweetwaters, Winterskloof and World’s View. Much depends on the terrain and the location of rain gauges with regard to the direction of the main rain-bearing winds as well as obstructions in the form of trees and buildings which can reduce rainfall receipt by gauges due to a rain-shadow effect. Trees and buildings can also inflate rainfall figures where previously intercepted rainfall is blown into gauges by strong winds. Household rain gauges may thus not conform to the South African Weather Service requirements for the recording of rainfall. Most of the data, unfortunately, was of short-term duration. Mean annual rainfall in the listed areas, given these constraints, varies from a minimum of 1 100 mm to about 1 300 mm and slightly more in a few instances. It is possible that mean annual rainfall in the specified areas exceeds the mean annual rainfall in southern Hilton (close to the Swartkop Valley) judging by data from one longer-term record in that locality. This supposition requires investigation. An interesting comment is that bowls matches in Hilton are sometimes washed out by rain on a given day, which is not the case in Pietermaritzburg on the same day (personal communication: D. Hull, 9 February 2014). The converse is occasionally applicable. A higher mean annual rainfall than in the city itself and in the southern suburbs is similarly apparent in the hills to the

east of the N3 freeway. Data, however, are sparse. Mean annual rainfall is again high (exceeding 1 300 mm) although declining to just less than 1 000 mm in Claridge. The Bloemendal farm just to the east of Copesville has a mean annual rainfall of 897 mm (personal communication: Ms. K. Nixon, 26 March 2014). A map showing mean annual rainfall in Natal can be found in the following publication, which also illustrates the increasing mean annual rainfall with altitude in the hills above Pietermaritzburg. See Schulze, R.E. *Agrohydrology and Climatology of Natal*, Agricultural Catchments Research Unit Report No. 14 (Pietermaritzburg, Department of Agricultural Engineering, University of Natal, 1982) p. 13. Maps of mean monthly rainfall in Natal are given on pages 19–30. Likewise relevant is that mean temperatures decline with greater elevation in the hills overlooking Pietermaritzburg. Refer to pages 53–65 of the report for maps of mean monthly and mean annual temperature in Natal. More historic weather information for Pietermaritzburg is available in Bayer, A.W. and J.R.H. Coutts. “Morning and midday relative humidities at Pietermaritzburg, South Africa”, *South African Journal of Science*, 35, 1938, pp. 154–7 as well as in Coutts, J.R.H. and R.F. Lawrence. “Meteorological observations at Pietermaritzburg, Natal: rainfall intensity and atmometry”, *Transactions of the Royal Society of South Africa*, 32 (3), 1949, pp. 315–9.

- 59 The Lakes and Hoëpfl, *The Story of Hilton*, pp. 48; 59.
- 60 Ferguson, L. “Chapter Thirteen: Arts and Entertainment – The Tatham Art Gallery”, in Laband and Haswell, *Pietermaritzburg 1838–1988*, pp. 231–4.
- 61 Personal communication: Mrs F. Joubert, 7 January 2014.
- 62 Personal communication: I. Parker, 9 January 2014.
- 63 Personal communication: J. van Vuuren, 9 January 2014. Heritage sites in KwaZulu-Natal are listed on the website of Amafa/Heritage KwaZulu Natali which is the provincial heritage conservation agency for KwaZulu-Natal. See <http://www.heritagekzn.co.za>.
- 64 Personal communication: I. Parker, 25 February 2014.
- 65 Meineke and Summers, *Municipal Engineering in Pietermaritzburg*, p. 88.
- 66 Data drawn from unpublished documents in the possession of the Environmental Management Unit of the Msunduzi Municipality, which were examined on 26 February 2014. The documents are contradictory in parts. The summation in this paper therefore constitutes a “best fit”. Brief information was also derived from <http://www.artefacts.co.za> (accessed on 14 March 2014). Ferncliffe was referred to as Smith’s Quarry on the 1897 Fitz Henry map. It seems that Smith’s stonemasonry firm (as opposed to the quarrying business) was established in 1883. This date probably refers to the Pietermaritzburg office. See <http://www.doves.co.za> (accessed on 14 March 2014). Part of Smith’s premises may still be standing at 251 Jabu Ndlovu Street in Pietermaritzburg, where a double-storey or perhaps originally single-storey house is evident, with flaking sandstone blocks visible from the road. An old wall behind the building adjoins Witness Lane. It is feasible that the front of the yard on the corner of Chief Albert Luthuli Road and Jabu Ndlovu Street was used for commercial activities, with Smith living at the rear of the property.
- 67 Meineke and Summers, *Municipal Engineering in Pietermaritzburg*, p. 70.
- 68 *Ibid*, pp. 74–6.
- 69 Paton, *Towards the Mountain*, pp. 122–3.
- 70 Meineke and Summers, *Municipal Engineering in Pietermaritzburg*, pp. 72; 110.
- 71 Muswell Hill was the name of a citrus farm complete with a farmhouse constructed of sandstone which was owned by R.L. English. English Road in Chase Valley is named after him (personal communication: N. Warr, 16 March 2014).
- 72 Personal communication: C. Metherell, 26 February 2014. The Chase was evidently a smallholding at one time and consisted of a small corrugated iron house and a sandstone stable (both of which are still standing) (personal communication: Mrs R. Morcom, 1 March 2014). Remnants of stone-working implements have been found in the vicinity by the Morcom family. The available evidence suggests that quarrying operations may have been undertaken in the hills above Chase Valley, although it is unclear by whom. Possible candidates are Smith, Mason, the builder of The Chase, or subsequent individuals such as R.L. English.
- 73 Personal communication: G. Pascoe, 11 March 2014.
- 74 Personal communication: N. Warr, 16 March 2014, referring to information given to him in the early 1960s by R.L. English. Nonsuch Road in Town Bush Valley is presumably where the farm was situated.
- 75 Personal communication: Mrs K. Mack, 24 February 2014.
- 76 Personal communication: A. Symons and Mrs R. Symons, 10 March 2014. A. Symons recalls attending the

100th anniversary celebrations of white ownership of Hardingsdale in 1952. A brief history of the Grey's and Town Hill hospitals can be read in Rose, A. "Chapter Eleven: Health in the City – Grey's Hospital", in Laband and Haswell, *Pietermaritzburg 1838–1988*, pp. 182–5 as well as Fouché, G. "Chapter Eleven: Health in the City – Mental Health in Colonial Pietermaritzburg", in Laband and Haswell, *Pietermaritzburg 1838–1988*, pp. 186–8.

- 77 Personal communication: J. Arnot, 5 March 2014.
- 78 Francis Harrison, *Natal: an Illustrated Official Railway Guide*, p. 205.
- 79 Hattersley, *Pietermaritzburg Panorama*, p. 27. P.A.R. Otto was apparently the first registered landowner at Otto's Bluff. The landscape feature is named after him.
- 80 Personal communication: R. Otto and G. Solomon, 15 February 2014.
- 81 Young, A.H. *Blaikie of Aberdeen* (Pietermaritzburg, published by the author, 1971) pp. 122–3. I am most grateful to Ms. F. Rosetta for bringing this book to my attention.
- 82 Personal communication: S. Hoosen, 8 March 2014.
- 83 The name "Mysore Ridge" was approved by the Minister of National Education in Pretoria at some stage during the years 1977–88 (Jenkins, E. "Exotic yet often colourless: the imported place names of KwaZulu-Natal", *Natalia*, 28, 1998, pp. 14–22).
- 84 Personal communication: I. Parker, 25 February 2014. The minimum plot size in the suburb of Northdale was of the order of 350 m². Northdale was incorporated and developed in stages as a housing scheme for Indians by the (then) Pietermaritzburg Municipality from the 1960s onwards. The municipality was the implementation agency for the central government. The houses, some of them semi-detached, were initially built for rental purposes and were later offered for sale with the existing tenants being given first option to purchase. The land roughly between Bombay Road and Bakerville Heights was previously a farm owned by a Mr Potterill, whose name lives on in the form of Potterill Road. Potterill sold the land in the early 1960s. Raisethorpe consisted of privately owned plots which became part of Pietermaritzburg in the early 1950s. A plot size of about 500 m² was the minimum land subdivision in Raisethorpe. There is a trigonometrical station in Copesville (No. 233: "Copes") which is not shown on the 1:50 000 topographic map of Pietermaritzburg. The spot height, as per the Messrs Tarboton Holder Ross and Partners map, is 807 m.
- 85 The history of Bishop Colenso and his family has been recorded in several published sources, and will not be discussed here. A good primary text is Rees, *Colenso Letters from Natal*, 440 pp. See also Nicholls, B. (ed). "Alice Werner and 'Kisimus' at Bishopstowe", *Natalia*, 26, 1997, pp. 12–16.
- 86 A resident of Winterskloof has observed that a spring and stream above her house, complete with a small waterfall, has never dried up in all the years that her family has been living there (1969–2013) (personal communication: Mrs E. Rasmussen, 15 January 2014). The spring feeds into the Dorpspruit. Springs, boreholes, wells and rainwater tanks served as sources of household water in Sweetwaters, Winterskloof and Hilton in previous times. A few Sweetwaters residents installed hydraulic ram pumps in the upper reaches of the Dorpspruit or its tributaries in the early 1900s and subsequently: a situation which lasted until around the late 1940s (personal communication: P. Wessels, 17 January 2014). This was when commercial tree species (gum and wattle) were planted in the catchment, markedly reducing the stream flow of the Dorpspruit. Taking one example, Sweetwaters, as a health committee area, only received reticulated water for the first time in the early 1970s, just prior to the amalgamation of the Sweetwaters and Winterskloof health committees. The water was purchased from the (former) Pietermaritzburg Municipality. A long-standing resident of Sweetwaters has stated that the original title deed to his property gives him the legal right to obtain water from springs across the ridge in the upper Edendale Valley. This provision clearly refers to an extreme drought scenario. The present author, in the 1980s, undertook an extensive survey of springs in the lower (eastern) reaches of the Vulindlela district. Many of the springs were associated with sandstone as well as dolerite dykes and sills which are common in the area. Sandstone and dolerite, likewise, probably give rise to springs in Sweetwaters and Winterskloof. The overall spring density in the Vulindlela district, as surveyed, was of the order of 18.5 springs km⁻² (Alcock, P.G. and J.D. Lea. *Springwater Resources as a Supply Option in the Peri-urban/Rural Vulindlela District, KwaZulu* (Pietermaritzburg, Department of Crop Science, University of Natal, 1986) p. 9. A further hydrological point is that Copesville in the eastern part of Pietermaritzburg is named after Judge H. Cope who bought a farm there sometime in the mid-late 1800s, without first checking to see that water was available on the property (personal communication: Dr S. Spencer, 14 February 2014). This grievous oversight resulted

in the area being named “Cope’s Folly”. The residential area of Copesville incorporates some of the land under discussion.

- 87 See Haswell, “Chapter Three: The Making of the City – Pieter Mauritz Burg: The Genesis of a Voortrekker *Hoofdplaats*”, p. 24 as well as Hattersley, *Pietermaritzburg Panorama*, pp. 32–3; 100. Most of the information in this section was extracted from Meineke and Summers, *Municipal Engineering in Pietermaritzburg*, pp. 13; 39–54. A map of Pietermaritzburg compiled in 1854 shows the main furrow (*sluit*) and the furrow to Fort Napier. A third furrow is also indicated which branched off from the main furrow and supplied water to the more central parts of the town (Ellis, “Chapter Three: The Making of the City – Pietermaritzburg and its Environs: The Early Decades of White Settlement”, p. 30).
- 88 The Msunduzi Municipal Library has an electric pump running 24 hours a day to prevent intrusive groundwater from entering the basement of the building (personal communication: P. McKenzie, 10 February 2014). This could have been the site for the old hand-pump well. There is evidence of the same groundwater table slightly further up in Church Street. Groundwater is also problematic in the basement of Government House (personal communication: T.B. Frost, 24 March 2014). The origin of the groundwater is unknown, but may stem from elevated terrain on the old western perimeter of Pietermaritzburg, part of which was once a wetland. This wetland was known as the “western vlei” and was situated beyond the (then) Baum (Boom) Street (Hattersley, *Pietermaritzburg Panorama*, p. 25).
- 89 It would appear that the reservoirs (or some of them) were situated adjacent to Furlough Place (on the Botanical Gardens side) and overlooking the Dorpspruit. Three semi-submerged rectangular reservoirs once stood at the site (personal communication: N. Mayne, 10 February 2014). The open reservoirs were built of stone, lined with cement, and were filled with rubble and soil in 1998. Each reservoir was 25 m long, 10 m wide and 6 m deep, and had a storage capacity of 1 500 m³ or 1 500 000 litres (personal communication: D. Todd, 25 February 2014). The total storage volume for all three reservoirs was thus 4 500 m³. The “clear stream” is evidently the tributary which joins the Dorpspruit slightly above the reservoirs. The tributary rises somewhat below World’s View. It can be surmised that there was a weir at the junction of the two streams. An open canal constructed of cement-lined stone led from the weir to the reservoirs. The remains of part of the canal can still be seen today. The 19th century water reticulation network of Pietermaritzburg included a large cement-lined semi-submerged reservoir in the lower part of town, complete with internal arches and two small manholes (*Natal Witness*, 1 and 2 August 1972). The reservoir, since covered with soil, was discovered beneath the parking lot of Westmore Park in 1972. The park is bordered by Howard Road, Pine Street and Mayors Walk. Water from the Dorpspruit was channelled into the reservoir by gravity flow, and was used to supply neighbouring areas. The reservoir was decommissioned in about 1914, when a new 5 million gallon (approximately 22 730 m³) reservoir was built at Mason’s Mill.
- 90 Sherry, S.P. “History of the wattle industry in Natal”, *Natalia*, 3, 1973, pp. 40–4. See also the Lakes and Hoëpfl, *The Story of Hilton*, pp. 2; 10–13. A pioneering silviculturist and agronomist in past times in Natal was James Hunt Holley (1873–1957) who had the family nickname of “Boom”, but who was known to his friends as Hunt or Hunt Holley. See Holley, J. and J. Tren. *Boom: an Appreciation of the Life of Hunt Holley and Some of His Pioneer Friends and Relations* (Wartburg, published by the authors, 2002) 232 pp.
- 91 The Borough of Pietermaritzburg, as indicated, was also involved in the early development of commercial plantations (Meineke and Summers, *Municipal Engineering in Pietermaritzburg*, p. 90). Councillor T.W. Woodhouse became the champion of the concept of planting exotic timber species on the unalienated town lands of Pietermaritzburg. In 1899 he proposed that a special committee be appointed to investigate this project. Woodhouse again proposed a similar motion in 1901. A small municipal plantation was then established in the “vlei land” near the Cremorne Hotel (on the Old Greytown Road) in 1905, which was managed by the Superintendent of Parks. In 1910 the City Council decided to undertake the planting of wattle on a considerable scale. The intention was to establish wattle plantations on about 5 000 acres (2 023 ha) of the town lands. A new department, known as the Wattles Department, was established for this purpose, with a steam plough being used to prepare the ground. Wattle was not the only tree favoured, with the first gum plantations being established by the Wattles Department at Cremorne in 1912.
- 92 Personal communication: R. Bartholomew, 8 January 2014.
- 93 Personal communication: R. Haswell, 7 January 2014.
- 94 An innovative project was started in Pietermaritzburg in the early 1980s. The project addressed the feasibility of a “Green Belt” or “green ring” around the city as well as open public spaces (parks) forming “green

lungs” within the city itself (personal communication: R. Porter, 22 February 2014). The primary concept was that of a “green wagon wheel” around Pietermaritzburg, complete with “spokes”. The spokes were to consist of riverine environments along the streams draining into the city bowl, and which would link up with urban parks. The area under consideration was the pre-1994 boundary of Pietermaritzburg, extending from the northern hills to Fox Hill as well as Mkondeni or Mkhondeni and Ashburton in the south. The eastern parts of Pietermaritzburg (mainly the Indian and coloured residential areas) were problematic in the sense that open space was limited in these high density suburbs. The Green Belt initiative was partly motivated by a desire to preserve the heritage of Pietermaritzburg as an historic city, and also to prevent unrestrained residential and industrial development from destroying the existing ambience of Pietermaritzburg. Other motivating factors included the problems of alien invasive vegetation especially in the northern hills above the city, and the poor planning and management of logging operations in forested land owned by the (previous) Pietermaritzburg Municipality, again in the northern hills. The felling of timber in such areas was undertaken by contracted timber companies with little regard for the environment. Likewise of concern in the Green Belt initiative was the environmental impact of droughts and floods on Pietermaritzburg. An additional component involved urban tourism whereby tourists would walk the streets of the inner city viewing historic buildings, before proceeding up one or more of the riverine spokes. The City Council of Pietermaritzburg was assisted in this matter by the (then) Natal Parks Board (more correctly known as the Natal Parks, Game and Fish Preservation Board) and the (then) Natal Town and Regional Planning Commission (of the former Natal Provincial Administration). The planning mechanism to be employed was the Town Planning Scheme of the Pietermaritzburg Municipality, combined with moral suasion. The Natal Parks Board was involved in terms of a programme known as the Sites of Conservation Significance. Such areas consisted of smaller portions of land, usually privately owned, but also including municipal nature reserves (in part or in full). It could be argued that the Green Belt scheme, while of considerable value, ignored some of the harsher realities facing the residents of the Greater Pietermaritzburg area, in terms of employment opportunities and other pressing “bread and butter” issues. Opinions will vary in this regard, depending on individual perspectives. It seems that the Green Belt project, in current times, has lost much of its former impetus. An unsuccessful attempt was made in the late 1980s and in subsequent years to establish an (environmental) Metropolitan Open Space System (MOSS) in Pietermaritzburg, based on a similar endeavour in Durban. See: Natal Town and Regional Planning Commission. *Pietermaritzburg Metropolitan Open Space System: the Proceedings of a Seminar, June 1988*, Supplementary Report, VOL 34 (Pietermaritzburg, Natal Town and Regional Planning Commission, 1989) 34 pp. The (municipal) Green Belt initiative preceded the (provincially-inspired) MOSS concept. It was envisaged, nevertheless, that the Green Belt areas would form part of the overall MOSS system in Pietermaritzburg and environs.

- 95 The Doreen Clark Nature Reserve is a small “island” reserve in Winterskloof and is bounded by St Michaels Road, Budleigh Road and Devonshire Lane. The reserve resulted from the generosity of Doreen Clark who bequeathed the land on her death to the Natal Parks Board in the late 1940s (personal communication: D. van Ryneveld, 10 January 2014). The land consisted of Lot 53 (9.1182 acres) and Lot 57 (4 acres) of the Winterskloof Township, totalling 5.3 ha. The reserve was proclaimed/amended on 24 February 1969 by Administrator’s Proclamation (AP) 23/69 in terms of the since repealed Natal Parks, Game and Fish Preservation Ordinance No. 35 of 1947 and AP 47/78 in terms of the since repealed (Natal) Nature Conservation Ordinance No. 15 of 1974 (Alcock, *A Water Resources and Sanitation Systems Source Book*, p. 90). The reserve is now owned and administered by Ezemvelo KZN Wildlife, the successor to the Natal Parks Board. The reserve consists of indigenous forest, a mixed section of indigenous and alien tree species and some grassland. A minor tributary of the Dorpspruit constitutes the northern boundary of the reserve. An agreement was reached in 2012 whereby the KwaZulu-Natal Midlands Branch of WESSA (the Wildlife and Environment Society of South Africa) will assist with the general management of the reserve. A sketch map of the reserve can be found in the Lakes, *The Story of Sweetwaters & Winterskloof*, p. 20.
- 96 The roughly pear-shaped Winterskloof Conservancy was started in 2003, and was revived in 2010 (personal communication: Ms J. Bell, 19 February 2014). The conservancy covers an area of about 770 ha in the upper reaches of the Dorpspruit, and consists of commercial plantations and some indigenous forest as well as private residential properties and remnant grassland. The Doreen Clark Nature Reserve and avocado orchards form part of the conservancy. The border of the conservancy extends from the Crossways Country Pub in the north-east and along Denis Shepstone Drive towards the west and south, but includes The Knoll and Page Place beyond Denis Shepstone Drive. Crompton Road (off Denis Shepstone Drive)

and Dalry Road (off Crompton Road) constitute the southern boundary of the conservancy. The eastern boundary below the Crossways Country Pub is demarcated by Celtis Road (although with some land to the east of this road), and continues down past Sutton Road to link up with Dalry Road. Inappropriate urban development consisting of housing densification is of concern to the Winterskloof Conservancy. Densification would not only change the peri-urban texture of Winterskloof, thereby negatively affecting the conservancy, but could also have public health implications in terms of sanitation (as previously indicated).

- 97 The World's View Conservancy was established in 2010. The conservancy is approximately 1 086 ha in extent and is roughly triangular in shape (personal communication: H. Temple, 2 January 2014). The western boundary follows Celtis Road southwards and then the Route 3 railway line (from the entrance to the two Cedara tunnels down to the road bridge over the line in Mbubu Road). The southern boundary consists of the outer (upper) limits of the suburbs of Sunnyside, Boughton, Prestbury, Clarendon and Wembley. The eastern boundary is the Old Howick Road, stretching from Ashbourne Grove in the south to Celtis Road in the north. The intersection of Celtis and Old Howick roads constitutes the northern border of the conservancy. Most of the conservancy consists of commercial forestry plantations and residential properties, although there are significant pockets of undisturbed grassland and indigenous forest. See <http://groupspaces.com/WorldsViewConservancy> (accessed on 2 January 2014). It appears that the conservancy was preceded by the 31.7 ha World's View Conservation Area, which was zoned as such by the Pietermaritzburg City Council in 1995, in terms of the Town Planning Scheme (Gumbi, S., L. Moore, J. Loubser, G. Robbins and Y. Coovadia. *Draft Technical Note: Environment – Central Area and CBD Extension Node Local Area Plan, Draft Version 1*, Pietermaritzburg, Royal HaskoningDHV in association with Concepts Urban Design, 2013, p. 8). World's View was one of the Sites of Conservation Significance in Natal in 1993 (Site No. 27) and had an area of 350 ha at that stage (Alcock, *A Water Resources and Sanitation Systems Source Book*, p. 116).
- 98 The Ferncliffe Catchment Conservancy includes two nature reserves, the first of which is the approximately 147.6 ha Ferncliffe Nature Reserve (Gumbi, et al., *Draft Technical Note: Environment*, p. 8). This somewhat rectangular reserve consisting mainly of indigenous forest with two small patches of grassland is owned and administered by the Msunduzi Municipality. The second reserve, at a lower elevation, is the 89.9 ha Queen Elizabeth Park Nature Reserve (personal communication: R. Bartholomew and K. Camp, 28 January 2014). The Pietermaritzburg City Council resolved on 15 March 1984 to set aside the Ferncliffe Forest as a nature area, which was subsequently zoned as a nature reserve in terms of the Town Planning Scheme. The Queen Elizabeth Park Nature Reserve, in turn, is the provincial headquarters of Ezemvelo KZN Wildlife, and is situated on land rented in terms of a 99-year lease from the Msunduzi Municipality. The Queen Elizabeth Park Nature Reserve was proclaimed in terms of AP 31/60 by virtue of the since repealed Natal Parks, Game and Fish Preservation Ordinance No. 35 of 1947 (Alcock, *A Water Resources and Sanitation Systems Source Book*, p. 94). The south-western boundary of the Ferncliffe Catchment Conservancy is in the vicinity of the Royal Show Grounds and includes part of the suburb of Athlone as well as Montrose. The western border is the Old Howick Road (incorporating Ketelfontein) and continuing to the environs of the quarry at Hilton. The conservancy stretches across the N3 freeway along the Pietermaritzburg skyline to the Ferncliffe Nature Reserve. The conservancy encompasses Town Bush Valley and the Town Bush Stream as well as Chase Valley and the Chase Valley Spruit, extending to the Otto's Bluff Road, and down to the Liberty Midlands Mall in the south-east. The conservancy includes patches of indigenous forest, commercial plantations, undisturbed grassland, riverine systems (hence the name of the conservancy) and residential land. The conservancy extends over an area of some 2 900 ha with a slight overlap with the World's View Conservancy. The Ferncliffe Nature Reserve was one of the Sites of Conservation Significance in Natal in 1993 (Site No. 26). The site at that time had an extent of 250 ha (Alcock, *A Water Resources and Sanitation Systems Source Book*, p. 116). One example of invasive exotic vegetation, in this case in Ferncliffe, is that of ferns from nearby household gardens (Crouch, N. "The weedy ferns of Ferncliffe", *Veld and Flora*, September 1994, pp. 88–90). The Environmental Management Unit of the Msunduzi Municipality has data and documentation on all conserved land owned by the municipality.
- 99 The envisaged Blackridge-Boughton Conservancy may encompass the entire suburb of Blackridge and part of Boughton (personal communication: C. Metherell and H. Bron, 25 January 2014). This area will include Albany Park and commercial plantations owned by the Msunduzi Municipality as well as private

residential land. The land on which Albany Park is situated was donated to the municipality by a local resident, specifically for use as a public park. This stipulation is recorded in the title deed for the property. A key component of the proposed conservancy is a stand of *Gerbera aurantiaca* (the Hilton Daisy) together with the surrounding natural grassland in Highfield Road. This approximately 0.4 ha area is a Site of Conservation Significance which came into being on 28 February 1997 (Site No. 166). Two portions of land belonging to Spoornet (known as the “railway reserve”) may also be incorporated in the conservancy. The first portion of the railway reserve is some 3–4 ha in extent, and is entirely enclosed within the “loop” of the railway line to the north of the Boughton station. The second and larger piece of land (about 10–12 ha) is situated slightly to the south, and is again fully enclosed within another railway loop. Both sets of railway reserve land consist of relatively undisturbed grassland. It is by no means certain that the conservancy will come to pass, at least in the near future.

- 100 Personal communication: R. Clacey, 17 February 2014.
- 101 Refer to City Council of Pietermaritzburg and the Natal Town and Regional Planning Commission. *Trails In and Around Pietermaritzburg: a Symposium held at the City Hall, Pietermaritzburg, on Wednesday and Thursday 8th and 9th March 1978* (Pietermaritzburg, City Council of Pietermaritzburg and the Natal Town and Regional Planning Commission, 1978) 162 pp. Also of interest are Nichols, G. and M. Fairall. *Day Walks In and Around Durban and Pietermaritzburg* (Cape Town, Struik, 1992) 128 pp as well as Anderson, I.G. and G.D. Anderson. *Ferncliffe Trail, Trees on Trails*, 3, second edition (Pietermaritzburg, Wildlife Society of Southern Africa, [1994]) 48 pp. Some information can likewise be found in Levy, J. *Complete Guide to Walks & Trails in Southern Africa*, third edition (Cape Town, Struik, 1993) pp. 172–3. Another source is Olivier, W. and S. *Staproetes in Suid-Afrika* (Cape Town, Struik, 2003) pp. 158–60.
- 102 The concept of bioresource groups and units is explained in Camp, K.G.T., A.D. Manson, J.M.B. Smith, R.M. Guy and D.J. Milborrow. *The Bioresource Units of KwaZulu-Natal*, Cedara Report No. N/A/95/32 (Cedara, KwaZulu-Natal Department of Agriculture, 1995) 10 pp. + app. I am greatly indebted to K. Camp for bioresource data concerning the hills above Pietermaritzburg (forwarded on 18 March 2014).
- 103 See <http://www.plantzafrica.com/plantefg/gerberaurant.htm> (accessed on 20 January 2014).
- 104 Personal communication: H. Temple, 2 January 2014.
- 105 Some published information is available on the birds of Winterskloof. See Oatley, T.B. *The Birds of Winterskloof, Natal*, South African Avifauna Series, 58 (Cape Town, Percy FitzPatrick Institute of African Ornithology, 1968) 20 pp.
- 106 McGee, “Chapter One: The Setting – The Physical Environment”, p. 10. Further data can be found in Simpson, A.J. and O.S. McGee. “Air pollution over Pietermaritzburg during the passage of cold fronts”, *South African Journal of Science*, 92 (1), 1996, pp. 45–6. Examine likewise Simpson, A.J. and O.S. McGee. “Analysis of the fumigation effect on pollutants over Pietermaritzburg”, *South African Geographical Journal*, 78 (1), 1996, pp. 41–6. A technical description of air pollution climatology and associated issues, with some examples from Pietermaritzburg, can be read in Preston-Whyte, R.A. and P.D. Tyson. *The Atmosphere and Weather of Southern Africa* (Cape Town, Oxford University Press, 1988) pp. 294–305. See also Tyson, P.D. “Some physical characteristics of katabatic flow into the Pietermaritzburg hollow”, *South African Journal of Science*, 60 (11), 1964, pp. 341–6 as well as Tyson, P.D. “Air pollution fumigation conditions associated with the dissipation of the mountain wind and onset of the valley wind over Pietermaritzburg”, *South African Geographical Journal*, 51 (1), 1969, pp. 99–105. Tyson in the second paper refers to mountain and valley winds. A *mountain wind* is a night-time downslope wind, whereas a *valley wind* blows upslope during the day. A discussion of mountain and valley winds, again with examples from Pietermaritzburg, is available in Preston-Whyte and Tyson, *The Atmosphere and Weather of Southern Africa*, pp. 305–18. Additional information is given in the following: Tyson, P.D. “Southeasterly winds over Natal”, *Journal for Geography*, 3 (3), 1968, pp. 237–46 as well as Tyson, P.D. and R.A. Preston-Whyte. “Observations of regional topographically-induced wind systems in Natal”, *Journal of Applied Meteorology and Climatology*, 11 (4), 1972, pp. 643–50.

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