AFRICAN HERITAGE CONSULTANTS CC

2001/077745/23

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1st Phase

Cultural Heritage Resources Impact Assessment for proposed rapid bus service, Paul Kruger Street, Pretoria, Tshwane.

June 2011

Report compiled by Sidney Miller and Dr. Udo S. Küsel.

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B.Sc (Eng) Civ. M.(Architecture) Conservation. ASAPA MEMBER NO 087

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1. Contact Details and Site Information

Owners contact details: **The section of Paul Kruger Street is owned by the City of Tshwane Metropolitan Municipality.** **Contact Details:** Ms Lungile Mchunu – Acting Strategic Executive Director Department of Transport P.O Box 6338 Pretoria 0001 Tel: 012 358 4091 Cell: 082 909 0299
Developers contact details: **AM Consulting Engineers** **Mr Lloyd Moti** **Block A, 1st Floor** **Central Park** **400 16th Road** **Midrand** **1685** **Tel:011 312 1569** **Cell: 084 422 3544**
Consultants contact details: **SSI Engineers and Environmental Consultants** **Ms Vivienne Vorster** **1st Floor Canon Building** **Quenera Drive** **Quenera Office Park** **Beacon Bay** **East London** **5205**
Type of development (e.g. low cost housing project, mining etc.) **Bus Rapid Transit (BRT) route for the City of Tshwane.**
Whether rezoning and/or subdivision of land is involved: **No rezoning or subdivision is required.**
Full location of Province, Magisterial District/Local Authority, property (e.g. farm, erf name and number: **The project is situated in Gauteng Province, within the jurisdiction of the City of Tshwane Metropolitan Municipality.** **The section of Paul Kruger Street is located on the Farm Pretoria Toan and Toanlands 351-JR Portions 280, 325 and 480.**
Location map must have the polygon of the area to be surveyed on it and full geographical coordinates for all relevant points and where applicable indication of the area to be developed (footprint): **See attached Locality Map.**

2. EXECUTIVE SUMMARY

African Heritage Consultants were tasked to undertake a first phase heritage impact assessment for a proposed rapid transit bus system linking Boom and Scheiding streets along Paul Kruger Street. The brief from the client's engineers was that From Church square to the Station all normal traffic will be excluded and sidewalks will be extended to suit a narrower roadway. From the Zoo to church Square all parking will be disallowed and sidewalks will be upgraded. Around the square normal vehicular traffic will be diverted to Palace and Bank Streets. These actions will have the following cultural historical impacts:-

2.1. As only one terminus is to be built on an island in Skinner Street there will be no physical impact on 'protected' buildings.

2.2. The limiting of vehicular traffic, the improved sidewalks, the new street furniture and improved greening will enhance and improve 'protected' building's profiles and character.

2.3. There are large sections of 'historical' and protected slate paving still in place that will need special design parameters.

2.4. Most of the curbing along Paul Kruger Street are granite blocks and are protected. This will need special design parameters.

2.5. Some portions of the old tramways still remain under the macadamised streets. These are all protected.

2.6. There exist an unknown number of paved water furrows under the macadamised streets. These are all protected.

2.7. The location of the suburb of Pretoria in the City of Tswane is located between the Apies and Bakoven rivulets that are fed by the dolomite system to the south. People have lived on this location during the Stone Age, and the Iron Age. White pioneers settled here in after the Trek and Pretoria was founded in 1855. Therefore the whole central part of the town is an archaeological site. Any planned large scale excavations for the rapid bus system must be cleared by a competent heritage specialist and permission by SAHRA

2.8. During the survey it became clear that there exist some confusion on 'ownership' of sidewalk. (See documentation).

2.9. Some protected building's verandas extend onto the pavement. These are protected and may not be altered without following the proper procedures.

2.10. Elevations and slope of sidewalks differ from point to point. If these are to be lowered then archaeological remains may be impacted upon.

2.11. If the design of the 'new road' implies excavation for new foundation layers then archaeological remains may be impacted upon.

Sidney Miller.

B.Sc (Eng) Civ. M.(Architecture) Conservation. ASAPA MEMBER NO 087

U.S. Küsel

MA Archaeology D.Phil Cultural History ASAPA MEMBER 068

3. DEFINITION

The broad generic term *Cultural Heritage Resources* refers to any physical and spiritual property associated with past and present human use or occupation of the environment, cultural activities and history. The term includes sites, structures, places, natural features and material of palaeontological, archaeological, historical, aesthetic, scientific, architectural, religious, symbolic or traditional importance to specific individuals or groups, traditional systems of cultural practice, belief or social interaction.

3. A. PROTECTED SITES IN TERMS OF THE NATIONAL HERITAGE ACT, Act. NO. 25 OF 1999

The following are the most important sites and objects protected by the **National Heritage Act: (see sections 4.1 and 4.2)**

- **a. Structures or parts of structures older than 60 years**
- **b. Archaeological sites and objects**
- c. Palaeontological sites
- d. Meteorites
- e. Ship wrecks
- f. Burial grounds
- g. Graves of victims of conflict
- **h. Public monuments and memorials**
- **i. Structures, places and objects protected through the publication of notices in the Gazette and Provincial Gazette**
- **j. Any other places or object which are considered to be of interest or of historical or cultural significance**
- k. Geological sites of scientific or cultural importance
- l. Sites of significance relating to the history of slavery in South Africa
- m. Objects to which oral traditions are attached
- n. **Sites of cultural significance or other value to a community or pattern of South African history**

We furthermore specifically also refer to:-

Section 4.1.3 , Heritage Impact Assessment.

Section 4.1.3.a. The construction of a linear development (road wall power line canal etc.) exceeding 300 meter in length.

Section 4.1.3.e. Any other category provided for in the regulations of SAHRA or by a provincial heritage authority.

Section 4.1.5. Archaeology, Palaeontology and Meteorites.

This section states clearly that archaeological material of any form may only **be disturbed** after receiving a permit from SAHRA.

It also states clearly that **to destroy such** a disturbed site a second and separate permit is required.

3. B. PROTECTED SITES IN TERMS OF THE NATIONAL ENVIRONMENTAL MANAGEMENT ACT, 1998 (Act 107 of 1998)

The environmental act requests that …..*'the disturbance of landscapes and sites that constitute a nation's cultural heritage should be avoided as far as possible and where this is not possible the disturbance should be minimized and remedied'…….*

4. METHODOLOGY

4.1. Actions by African Heritage Consultants.

All relevant maps and documents on the site were studied. The site was visited and documented during the week of the 4th to the 9th of May 2012. Interviews were conducted with Dr Kusel and the design team's engineers on site on the 7th May. A short historical background was researched by desktop for contextualisation.

It is important to note that the original brief was to research all the historical material that may be influenced by the rapid bus transport system. During the meeting with the design team's engineers it was pointed out that there will be only one 'bus terminus', and that on an island in Skinner Street, east of Paul Kruger Street. According to the engineers the impact will be on the sidewalks, pavements and excavations in the actual roadway for new street foundations. The above information has placed the focus of the study on the historical paving and the possible archaeological material concealed under the modern materials.

The format of the report consists of executive summary, report parameters, historical background, maps, and field documentation.

4.2. Public participation Process.

Although we generally assume that a timeously public participation day will be scheduled, we specifically refer to the PELSER ***REPORT (2012) for transit line 2.*** In paragraph 5.6 of his report it is clearly stated the SAHRA will need the report on a Public Participation Process. **(P.P.P.) The same will apply for this line.** It is suggested that a **P.P.P** process be initiated as soon as the design can be made public, as it will impact greatly on stakeholders.

4.3. Finalization of design parameters.

During the meeting with the engineers of the design team it was clear that there were still a number of outstanding design decisions. These include the results of density test of the existing road, the sidewalk designs, the traffic circulation around church Square, as well as the terminations at the Pretoria Station and at Boom Street.

4.4. Notes on street names and historical buildings

To all concerned please note the following;- African Heritage Consultants are fully aware of the recent change in street names, and fully support and recognise these changes. To avoid confusion though the names from historical documents were used throughout the documentation in this report.

As the rapid bus system will to a large extent remove all vehicular traffic from Paul Kruger Street, the character and profiles of all buildings will be improved. Therefore the full histories of the buildings are not included in the study. The protected buildings are only referred to as 'historical' or 'protected'. A building that may in

future be included in the 'protected' category is referred to as 'provisionally protected'.

Figure 1. *Area of study indicated by yellow lines.*

5. INTRODUCTION.

African Heritage Consultants were tasked to investigate the impact of a rapid bus transport system in Paul Kruger Street between Boom Street and the Pretoria Railway Station in Scheiding Street. This bus system forms part of a larger network that will also link Hatfield to the East and a number of suburbs to the north. This impact to be investigated was on the cultural heritage resources associated with Paul Kruger Street.

The original brief on what the nature of the transport system will be was not clear. A meeting between African Heritage Consultants, and the client's engineers were held on site on June 7th, 2012.

From this meeting it was understood that the north terminus will possibly be situated on the open ground on the north-western corner of Boom and Paul Kruger Street, while the southern terminus will be at the Station at the southern end of Paul Kruger Street. A central terminus is to be placed in the eastern island of Skinner Street.

Between Boom Street and Vermeulen Street all parking of normal traffic will be prohibited, while around Church Square normal traffic will be diverted to Palace and Bank Streets. From Church Square to the Station, Paul Kruger Street is to be turned into a boulevard allowing access only to pedestrians and busses.

Between Church Square and the Station the roadway will be narrowed, and the sidewalks extended to new positions. It is also proposed that all sidewalks are to be paved or re-paved to modern standards.

From a heritage point of view there are both positive and negative points that have to be considered. On the positive side the drainage of traffic from the southern section of Paul Kruger Street and the Square will be of great benefit to the profiles and characters of all buildings concerned, both protected and provisionally protected. With new paving, street furniture and greening, the pedestrian's experience of the buildings will come to full fruition. Building, pavement, street and pedestrian will now compliment and enhance one another at the slower pace of the perambulator, while the two sides of the street will now unite as one streetscape rather than two halves.

On the negative side the history of paving and paving materials can easily be lost if a homogenous approach in paving materials are to be adapted. In a number of places along the street the original soil surface is still visible. Also one finds the original granite curbing stones and blue slate paving that was the first definition of pedestrian premises 'out of the dust and mud'. Buildings in newly founded towns in the past suffered greatly with dust in the winters and mud in the summers, especially public buildings and businesses that experiences larger volumes of pedestrian traffic. Similarly Pretoria had to adapt and the most important streets and some sidewalks were paved.

In time though water piping, storm water piping, sewer piping, electricity cables, telephone cables etc were placed under the surfaces of streets and sidewalks that continuously demanded lifting and repaving sidewalk surfaces. This mosaic of materials and workmanship then reflects some aspects of our collective history.

6. ECOLOGY.

6.1 Geology. (See McCarthy & Rubidge, 2005, for full description.)
Pretoria, the suburb of Tswane is located on the southern edge of the bushveld igneous complex, with a complex dolomite formation forming its southern border. It is from this dolomite system that emanates one of the strongest fountain water sources known in Southern Africa, traditionally known as 'The Fountains'. These fountains are the source of the Apies River that forms the eastern border of Pretoria, owing to the fact that it was used as the source of water supply to the town.

Pretoria was founded between the two southern ridges of the three ridges that were formed by uplifting owing to the massive magma outpouring to the north. This uplifting brought to the surface the complex geological formations that was formed in the basin of an ancient ocean floor over one billion years ago. The Bushveld igneous complex's impact can be followed from Tswane to Rustenburg, to Steelpoort where a wide variety of minerals such as chrome and platinum are mined. Pretoria's soils consist of decomposed shale and deep red loams that are rather fertile

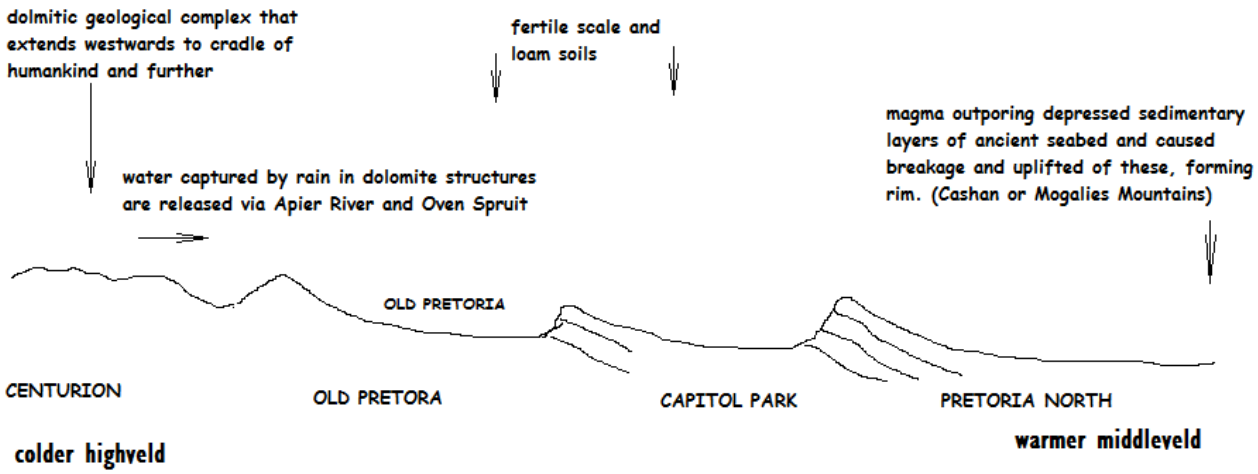


Figure 2. *'Pretoria' has been an ideal geological location for man throughout time owing to its geological underlay.*

6.2 Vegetation. (See Acocks, 1988)[1]

[1] The author is aware of the updated version of Acock's work by Mucina & Rutherford, 2010, but for the purposes of this publication Ackock version is preferred.

According to Acocks one may encounter at least four of his Veld types in and around Tswane. To the north and on the slope of the Mogalies Mountain one encounters what he refers to as type 19, Sourish Mixed Bushveld. This is apparently more clearly defined than the Mixed Bushveld. It occupies the gentle slopes to mountains between the sour types and the mixed types. It is rather more open savanna with ***Acacia caffra***

Figure 3. *This plaque at the source of the fountain describes the dependability of the waters emanating from this source.*

***Figure 4**. Today mainly exotic tree species exist in the fountains, all the indigenous long since cut down for timber.*

the dominant tree species. Other trees and shrubs that occur is the ***Acacias karroo robusta tortilus gerrardii, Rhus gueinzii, Grewia spp, Pelthophorum africanum, Pappea capensis, Dichrostachys cinerea, Dombeya rotundifolia, Combretum zeyheri, Scerocarya birrea, Ziziphus mucronata and Burkea africana.*** *Grass species include* ***Cymbopogon, Themeda, Elionurus, Heteropogon, Aristida, Eragrostis, Brachiaria, Anthephora, aristida and Pannicum.***

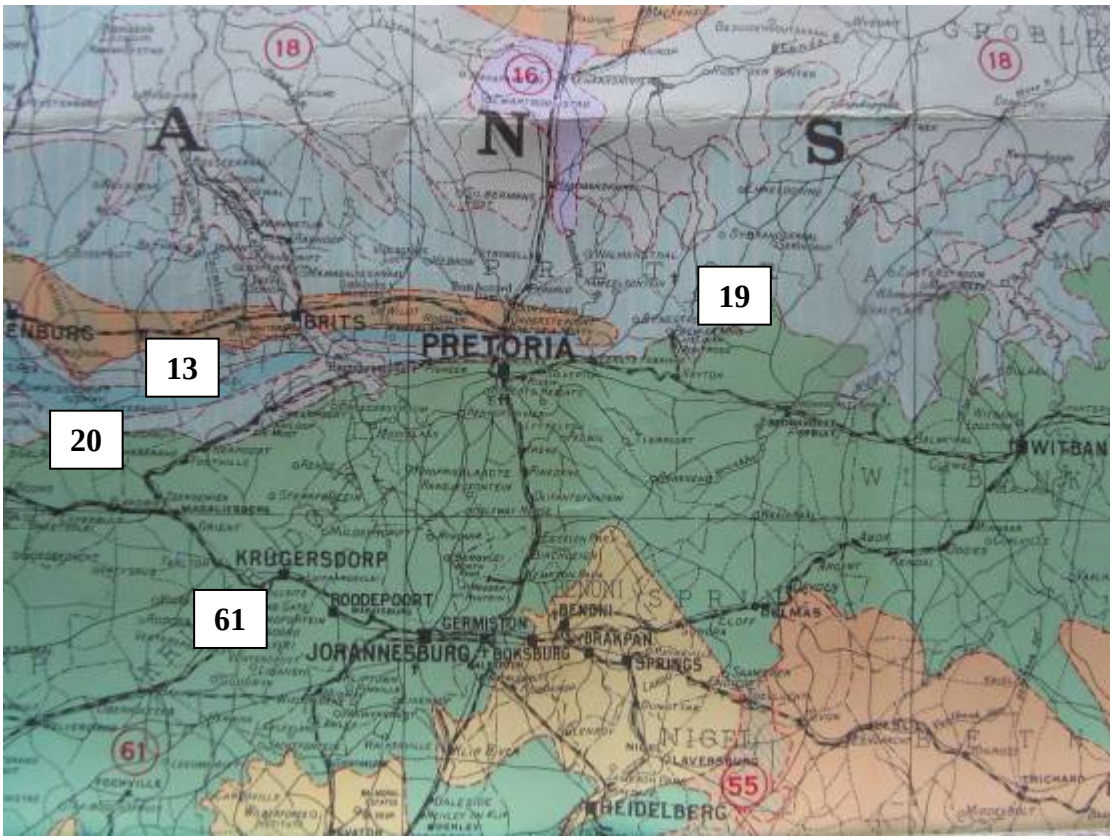
Al of the above are providential for grazing for game and usable for humans in the form of fruit and timber. Inserted in this, is from the west is Acocks veldt type 13, and specifically type 13a, the Norite Black Turfveld. This turf derivative from the lavas of the Bushveld Igneous Complex and is rather rich in minerals and has a clay structure that supports a much larger vegetative family than the previous category. As the Veld Type 13a does not *directly* influence Tswane its plant types are not included. It is mentioned because it had supported a large game population that was a source for the human settlers.

The next veldt type is Type 20, Acocks's Sour Bushveld. He mentions that it occurs in patches on the slopes, on termitaria, and in sheltered kloofs (especially of the Magaliesberg), and in areas of near-forest development. For the full compliment of tree and grass species refer to page 56 in Acocks. Ironically, as Acocks points out, in this group the grasses, although floristically rich, are particularly useless for grazing purposes. Similarly the trees, although varied and proliferous, are not specifically useful to humans.

The final veldt type is Type 61, which consist of three variations, the Eastern, Central and Western categories. In Tshwane's case is Type 61 b that concerns us. Apparently it is possible that this type is a derivative of an ***Acacia caffra*** savanna which it still is in parts. It is a sparse and tall tufted type with the forbs playing an important part, and is extremely sour. It is the veldt type of the Witwatersrand and the high undulating country sloping down to the Mogalies Mountain. The racks are mainly quartzite, shale, dolomite, chert and granite. The soils are poor and acid, either stony or sandy with an altitude of 1450 to 1750 meters above sea level. Rainfall is in the region of 759 mm per annum and the winters are cold and frosty. Combined with continuous burning the veldt is particularly sour and supports wiry grazing, not particularly edible for livestock. At the Riet Vlei research station though, it was shown that the veldt was particularly suitable for intensive farming.

Rocky ridges carry a Bushveld vegetation dominated by ***Protea caffra, Acacia caffra, Celtis africana and sometimes P. welwitschii*** as well as a large number of South Bushveld shrubs in smaller quantity. A typical plant of the hills is ***Xerophyta retinervis.*** In sheltered valleys and sinkholes there are traces of temperate or transitional forest, with such species as ***Celtis africana, Kiggeleria africana, Halleria lucida, Leucosidea sericea, Buddleja salviifolia*** and ***Cassinopsis ilicifolia***, for example in the Fountains valley at Pretoria, which is greatly in contrast with the traces of tropical forest a few miles away in the kloofs of the northern slopes of the Mogalies Mountain. For the extremely long lists of grass species and succulent species see page 114 of Acocks.

As can be seen below, 'Pretoria' was physically located in Type 19, Sourish Mixed



Bushveld, but utilised the variety that the other three types offered.

Figure 5. *'Pretoria' is located on the intersection of four different veldt type zones as illustrated above. It offered good summer grazing for cattle on the Highveld, good winter grazing and game to the north and a variety of usable trees in its direct vicinity. With the soils and water available it made for an ideal place to build a town in 1955.*

7. ARCHAEOLOGY.

7.1. Stone Age

Although there is no well know type site located on or around the suburb of 'Pretoria' there is evidence of the use of the area during the formative years of humankind in the Fountains valley. The environment has not changed markedly during the last three million years and therefore the limestone formations around the Fountains area captured evidence of early hominin activity, similar to the sites in the Cradle of Humankind.

In the suburb of Wonder Boom South, next to the large water reservoir adjacent to 'Voortrekkers Road' the young Edwin Hanish discovered a large deposit of Early Stone Age Tools. To archaeologists this demonstrated the prolonged use of the region.

During the nineteen sixties and nineteen seventies, a well know photographer Mr Dotman Pretorius collected several thousand stone artefacts along the drainage lines, in the City of Pretoria area from that time. Apart from the examples from the earlier tools from Wonderboom Nek he also found tools relating to the Middle Stone Age in the form of smaller hand axes, blades and points. As he was an amateur archaeologist, he did not systematically document the findings, so the collection was not described in publications. After his death early in the twenty first century, this collection was donated to the National Cultural History Museum where it was used as a hands-on exhibition for school groups.[2]

Regarding the Later Stone Age there does not appear to be much evidence of the hunter gatherers utilising the area, except at caves at the fountains and at Wonderboom. To the west, around Hekpoort and Skeerpoort there occur many petroglyphs that does shows the warmer areas around the Crocodile (Oorie) River were utilised during the last 10 000 years.

Regarding the Rapid Bus Service upgrading, Stone Age remains may be found, but possibly in very small quantities.

7.2. Iron Age

7.2.1. Early Iron Age remains.

The only Early Iron Age remains known in the greater region is the Broederstroom village site, and the Melville Koppies Smelting sites excavated by Professor Mason from the Department of Archaeology of WITS. As these sites are extremely rare, it is rather unlikely that material from the same period will be found inn the present study area.

[2] The authors own observations.

7.2.2. Later Iron Age remains.

From the fifteenth century onwards we find a diverse population on and to the north of the southern rim of the Bushveld Igneous Complex. Towards the west one finds first the ancestors of the Sotho/Tswana language groups and to the east the ancestors of Nguni/ Ndebele Speakers. From the eighteenth century onwards stone walled villages arise and cultural materials developed that distinguished the language groups from another. Owing to population pressure in the human landscape we also then find shared landscapes that may have been through either civil or belligerent interaction. In the second and third decades of the nineteenth century the appearance of Mzilikazi in the landscape brings an abrupt halt to normal African life.

Many hundreds of remains from this period can be seen in non urbanised areas between Rustenburg and Middleburg showing the intense occupation of the southern rim of the Bushveld Igneous Complex. Where Tshwane is located today is no exception. Even today the remains of circular Ndebele villages can be observed north of Atteridgeville, and in the Bronberg. The 'Ou Klipmuur Weg' is the name of a roadway that refers to the stone walls that were destroyed with the construction of 'The Willows' suburb. Similarly many stone ruins can still be observed to the east and west (and under) the very affluent Silver Lakes suburb.

Regarding the Rapid Bus Service upgrading, Iron Age remains may be found, but possibly in very small quantities.

8. EUROPEAN SETTLEMENT

The Great Trek is rather incorrectly named, as no more than between five percent and twenty percent of the Cape population in fact left British Authority, over a period of three to four years. With the split between the Maritz Group and the Pretorius group and the fragmentary nature of the 'Northern Group' there was little coherence in their 'settlement plan', and many were originally simply killed by indigenous people such as the Van Rensburg Trek, or by the rigorous and dangerous nature of Africa such as the Louis Trichardt Trek. Some prematurely settled in 'towns' such as De Clercq and only over a period of ten years were Potchefstroom, Lydenburg, Ohrigstad and Schoemansdal born.

During and shortly after the Great Trek a number of families settled in, on and around the fountains area. The remains of the Bronkhorst farm house are possibly the beast known, still protected in the Fountains valley recreational area.

Figure 6. *'Pretoria' as documented in 1899 by Jeppe shows even then only a few 'farms' located around the Capitol of the Z. A. R.*

Figure 7. *Between the pillars in the front and the wall in the back is located the ruins of the original farm house of Bronkhorst.*

Pretoria.

The European history, of the Z. A .R. as well as their interaction with the indigenous people of the area north of the Vaal River and south of the Vembe or Limpopo River during the last eight decades of the nineteenth century, although tragic, can only be described as rather 'colourful'. The antics of the Commandant Generals, Potgieter and Pretorius, Potgieter and Schoeman, Schoeman and Kruger, the Magistrates the Military and the Religious leaders totally disorganised their community.

By 1850 the four to five thousand *burgers, male female and children,* were spread out over the Marico, Potchefstroom, Rustenburg, Pretoria, Heidelberg, Wakkerstroom, Lydenburg, Ohrigstad and Zoutpansberg farming districts, with only two proper towns in the form of Potchefstroom and Zoutpansbergdorp. They had still not

managed to find access to their own harbour on the East Coast, and were still dependent on the British traders from Durban and Grahamstown.

With the two towns separated by nearly six hundred kilometres administration was a nightmare, not taking in account the personal idiosyncrasies of the Transvalers, their individual approaches to slavery, their difference in protestant religious flavours and their economic activity. The supply routes for trade goods from Natal and Eastern Cape had to cross several mountain ranges and large and small rivers that wagons had to traverse and it became clear to the 'authorities' that a new town was necessary. This paved the way for the founding of Pretoria, Named after A. H Pretorius, by M. W, Pretorius. The town was officially surveyed in 1859 by A. F. Du Toit. For the next eighty odd years the town would grow. Earlier buildings were demolished, amongst others three different churches on church square. All household refuse was deposited on Erven, in water furrows and in the streets. All of this material is now covered under the modern 'city'.

By the end of the nineteenth century a large number of the water furrows were paved with slate that were to serve the population's water supply, until the installation of piped water after the arrival of British administration. Most of these furrows were in fact used to hold the pipes for the new system and most of then still exist under the surface of 'Pretoria's' paved surfaces. It was also in this period that road dimensions were defined with granite curbing, the planting of Jacaranda Trees and the paving of areas of importance with slate flagstones.

The arrival of electricity in the form of the Pretoria West power station also initiated a 'rapid bus transport system' in the form of trams. These were laid on the surface of Pretoria's roads, but were rather inconvenient owing to the obstruction it caused for animal drawn traffic and the modern invention of motorised transport.

After the Second World War trams were replaced by busses and large sections of the tramlines were covered in the macadam surfaces.

Regarding the Rapid Bus Service upgrading, there will be a lot of early 'Pretoria' remains, including the slate water furrows, slate paving and the tram lines.

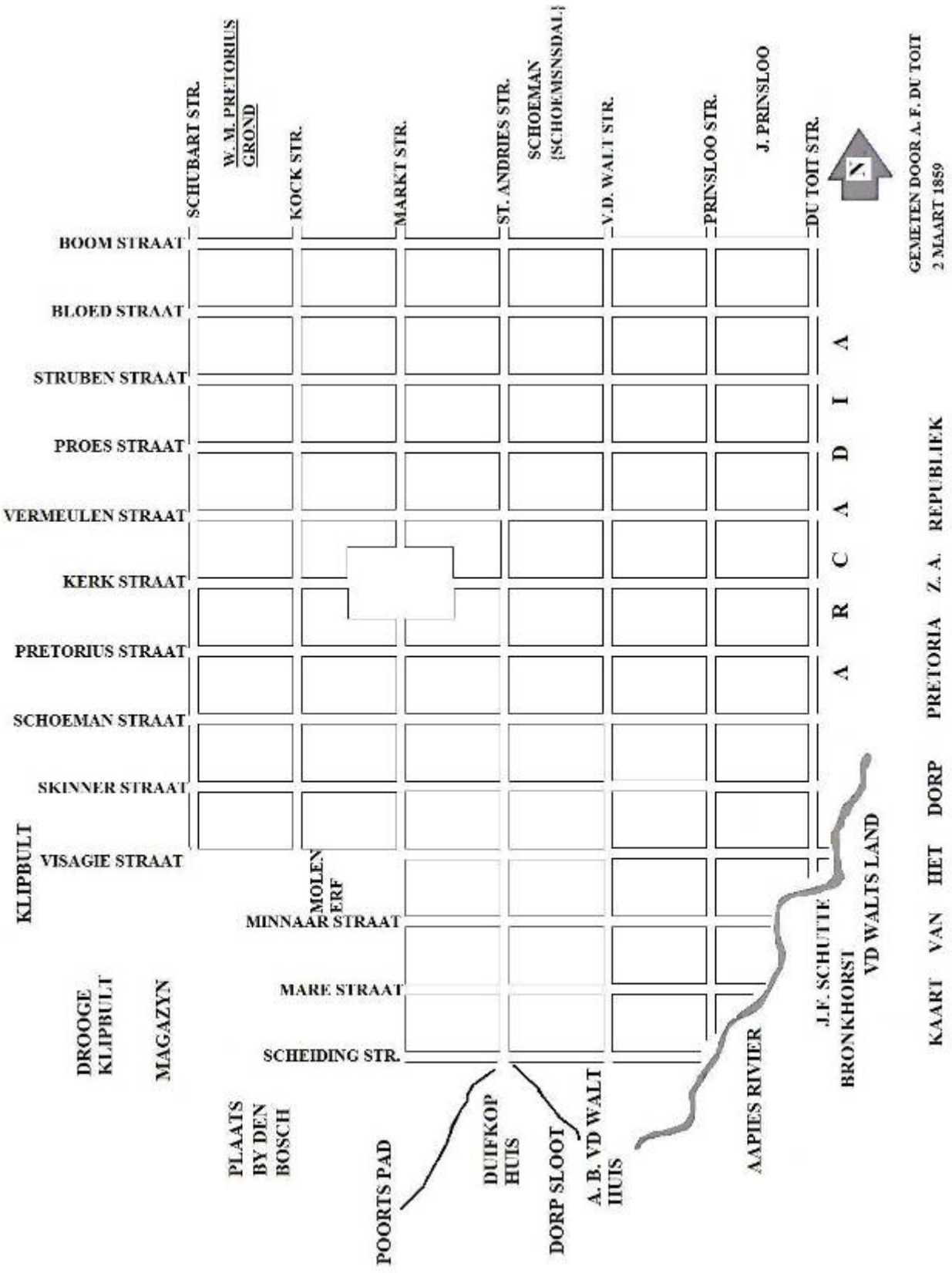


Figure 8. *Documentation of Pretoria in 1859 by Du Toit.*

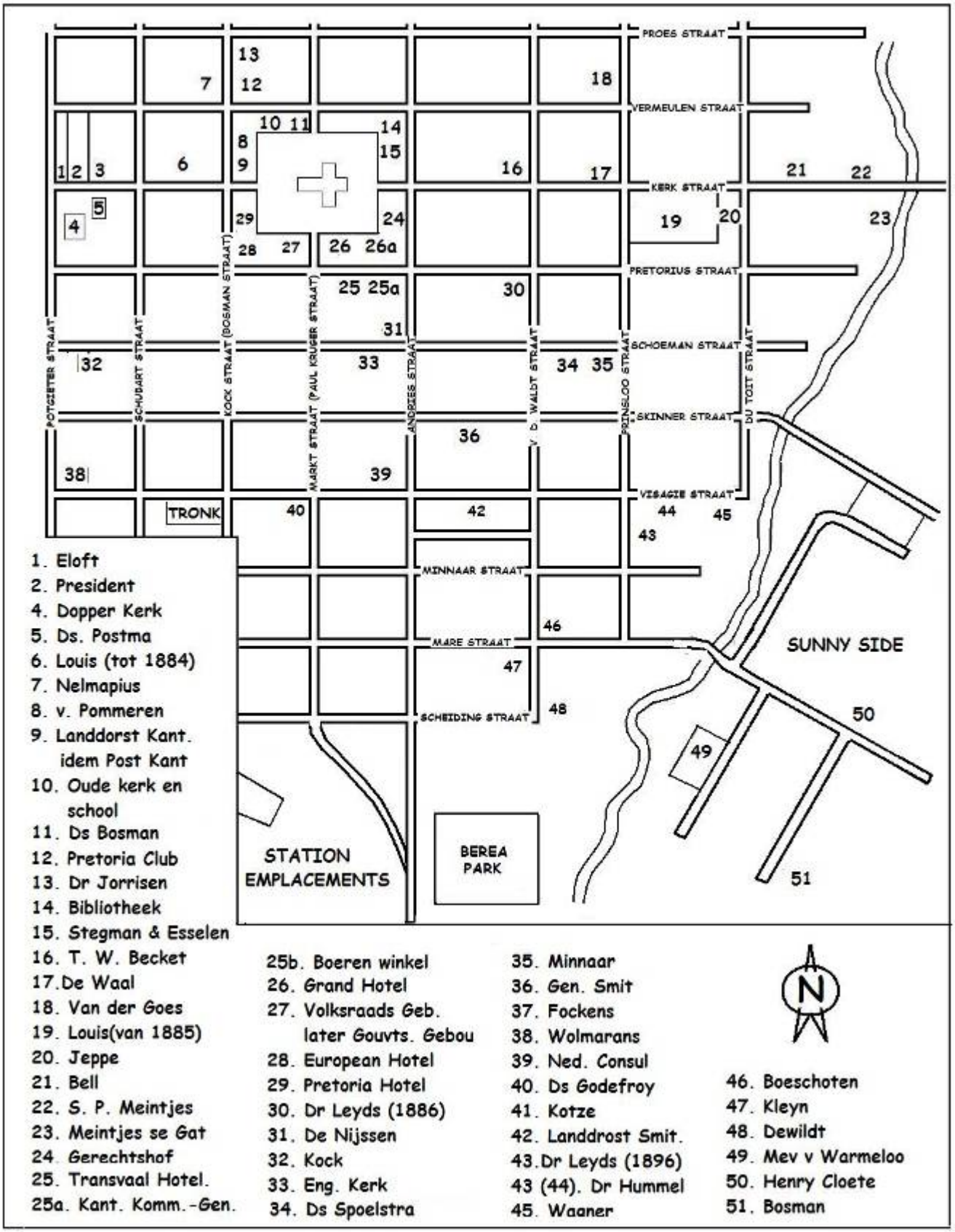


Figure 9. *Map of Pretoria in 1890. Surveyor unknown.*

Figure 10. *Church square circa 1888. The return of the British expedition to Sekhukhune. Second church on square.*

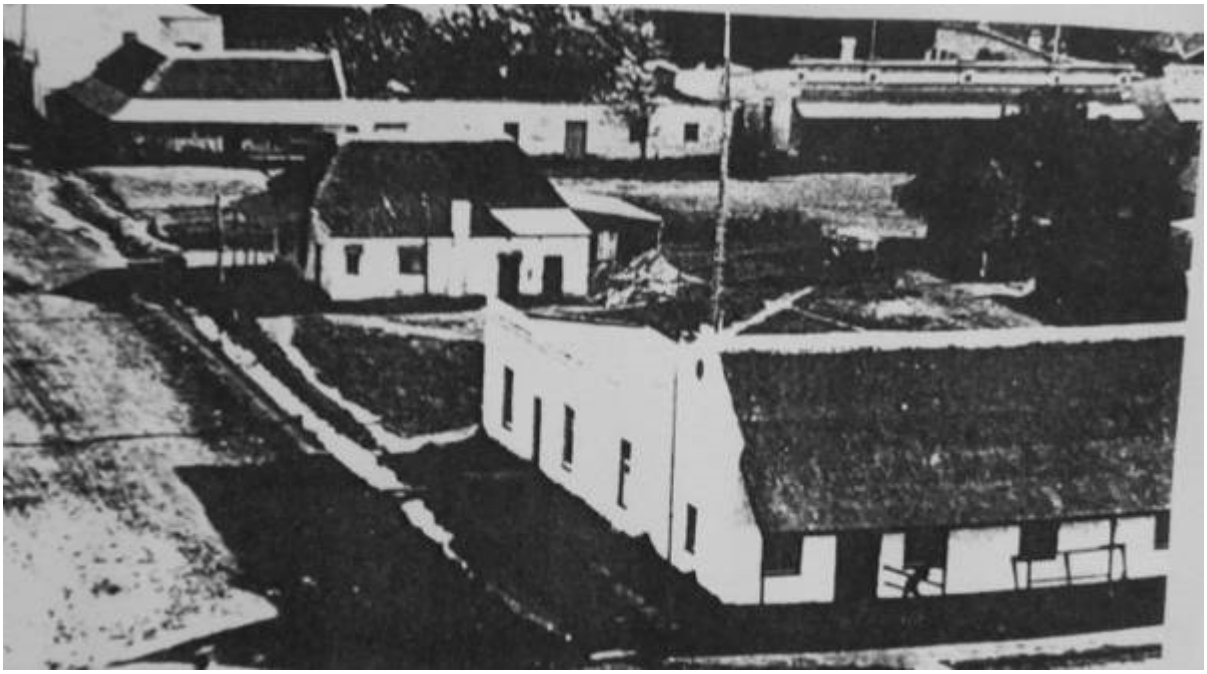


Figure 11. *Landrost office. See figure 10 number 9. Note conditions of road, water furrow (s), and paving*

Figure 12. *Northwest corner of Square circa 1890. Note water furrows are now paved with slate, but sidewalks are still dirt.*

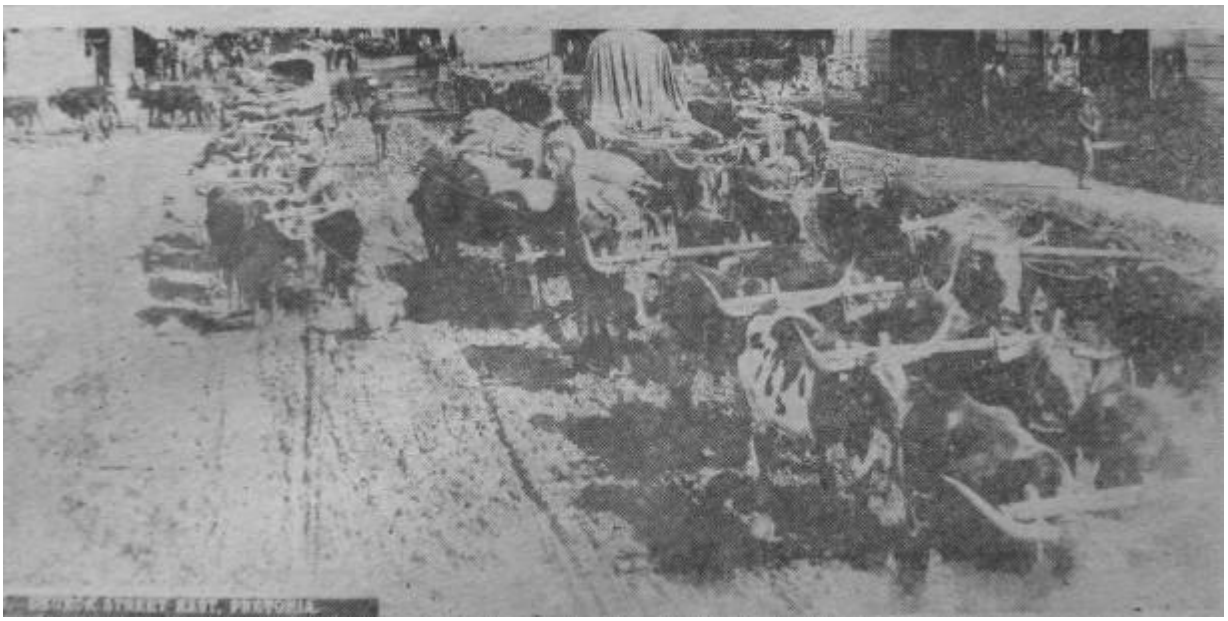


Figure 13. *Church Street 1885. (Slow moving traffic.(Compare traffic1952 below.)*

Figure 14. *Excavations of a water furrow in Schoemansdal. The town existed only for nineteen years between 1848 and 1867. Over three hundred items were retrieved from these four blocks. It is expected that Paul Kruger Street will yield the same.*

Figure 15. *Church street in 1906, with tram line in dirt road, looking towards Church square. (Between V. D. Walt and Andries Str.)*

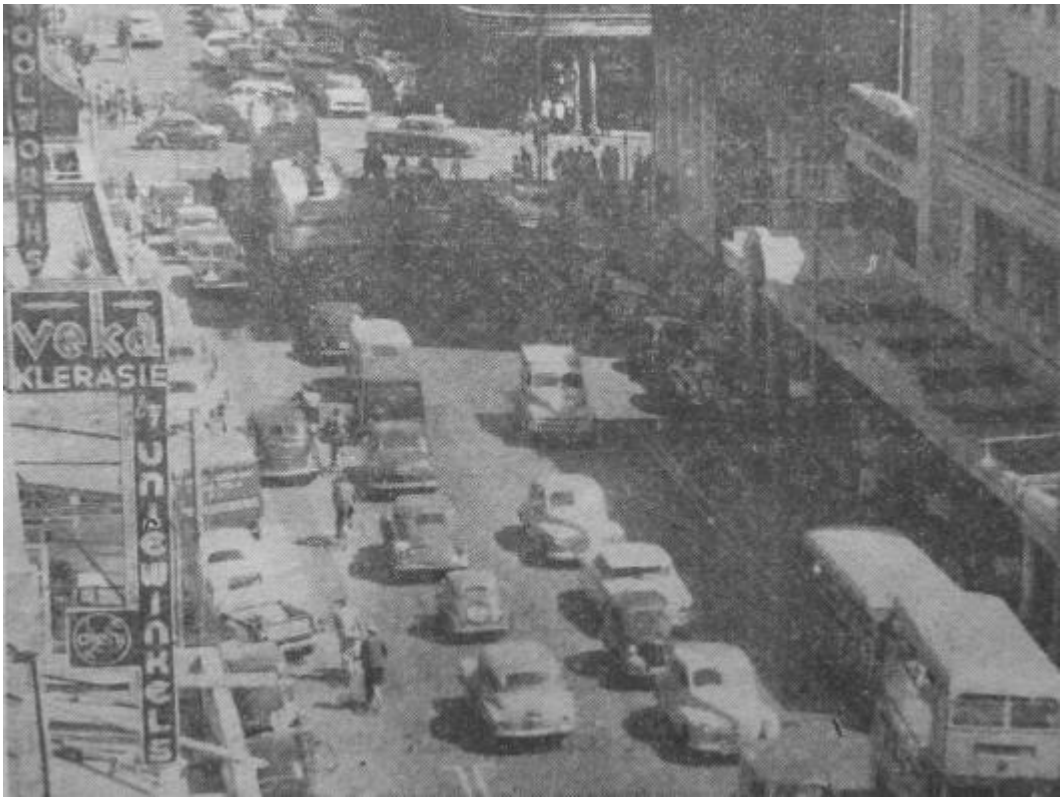


Figure 16. *Church Street, 1955. Tar road, canopied sidewalks and large buildings. The travelling speed is the same, as with ox wagons,* ***(Figure 14a)*** *but all archaeological material that was deposited in previous hundred's of years is now sealed.*

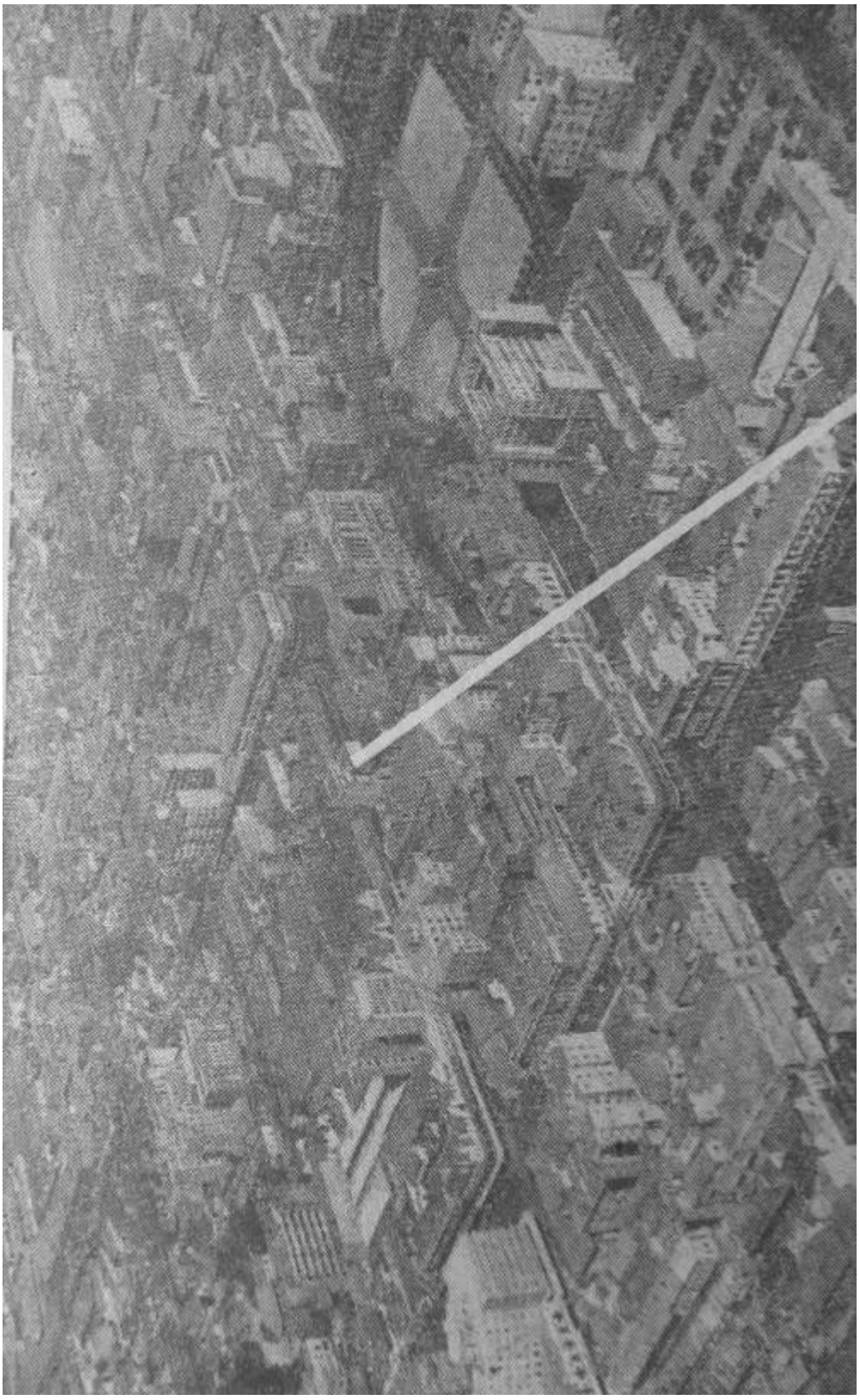


Figure 17. Paul Kruger street south of Church Square in 1955.

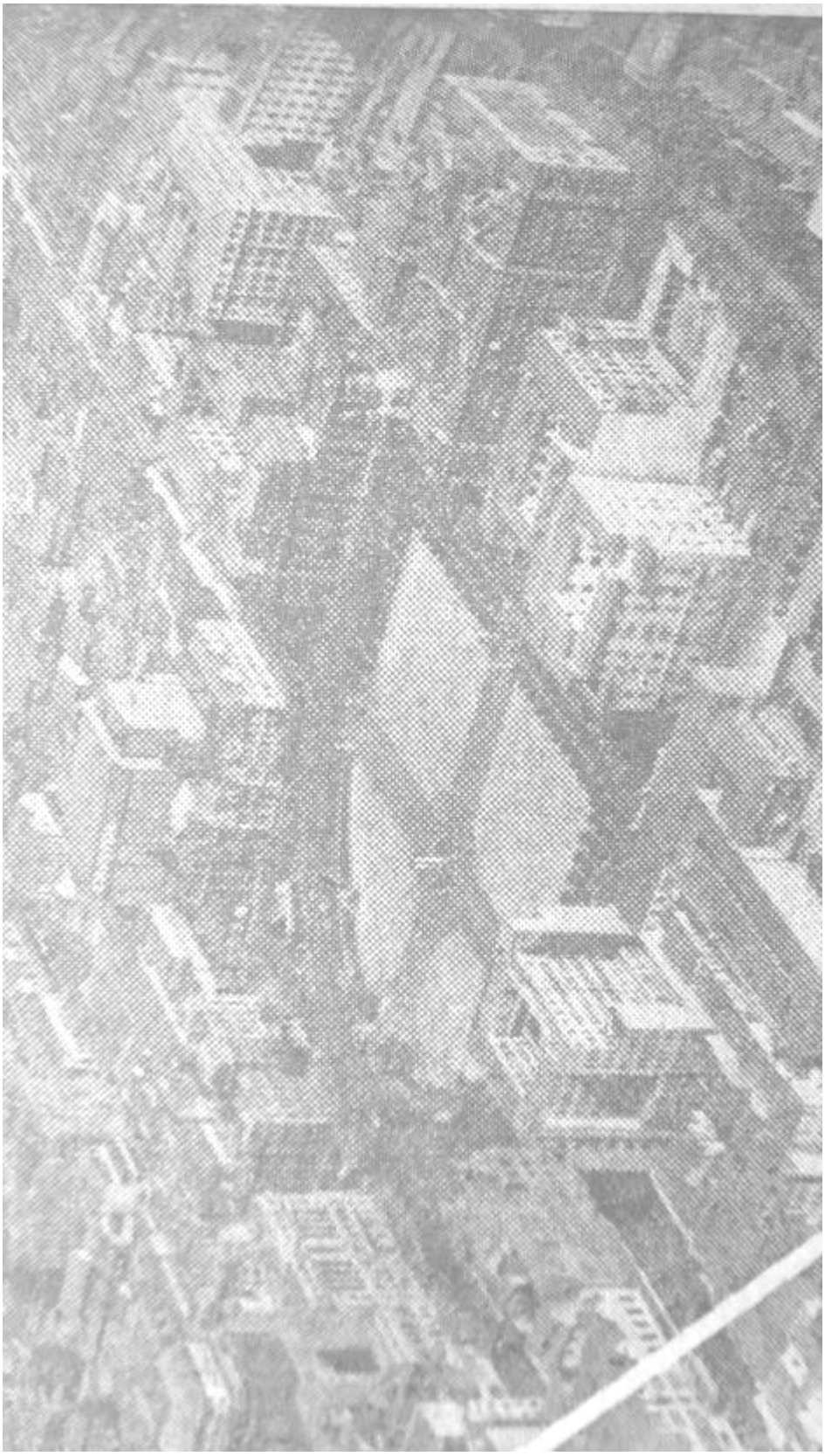


Figure 18. *Church square in 1955. Note Sammy Marks fountain still on Square.*

Figure 19. *Aerial view of Paul Kruger Street south of Church Square. during 1955. Note general absence of any high rise above seven floors.*

9. ENGINEERING DETAILS.

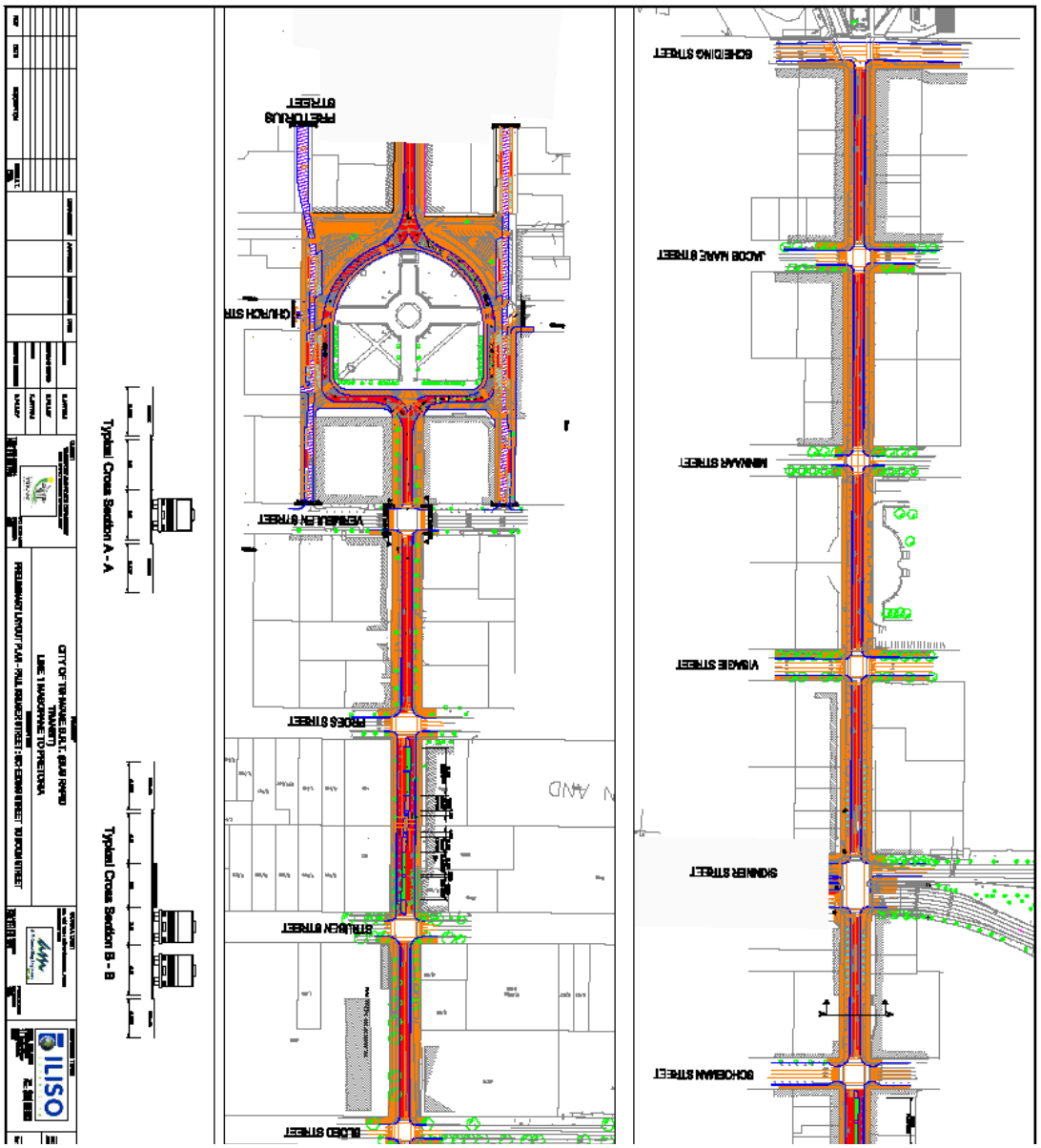


Figure 20. *Development plan as presented by the client's engineers. This plan only indicates vertical impact and no potential archaeological impact.*

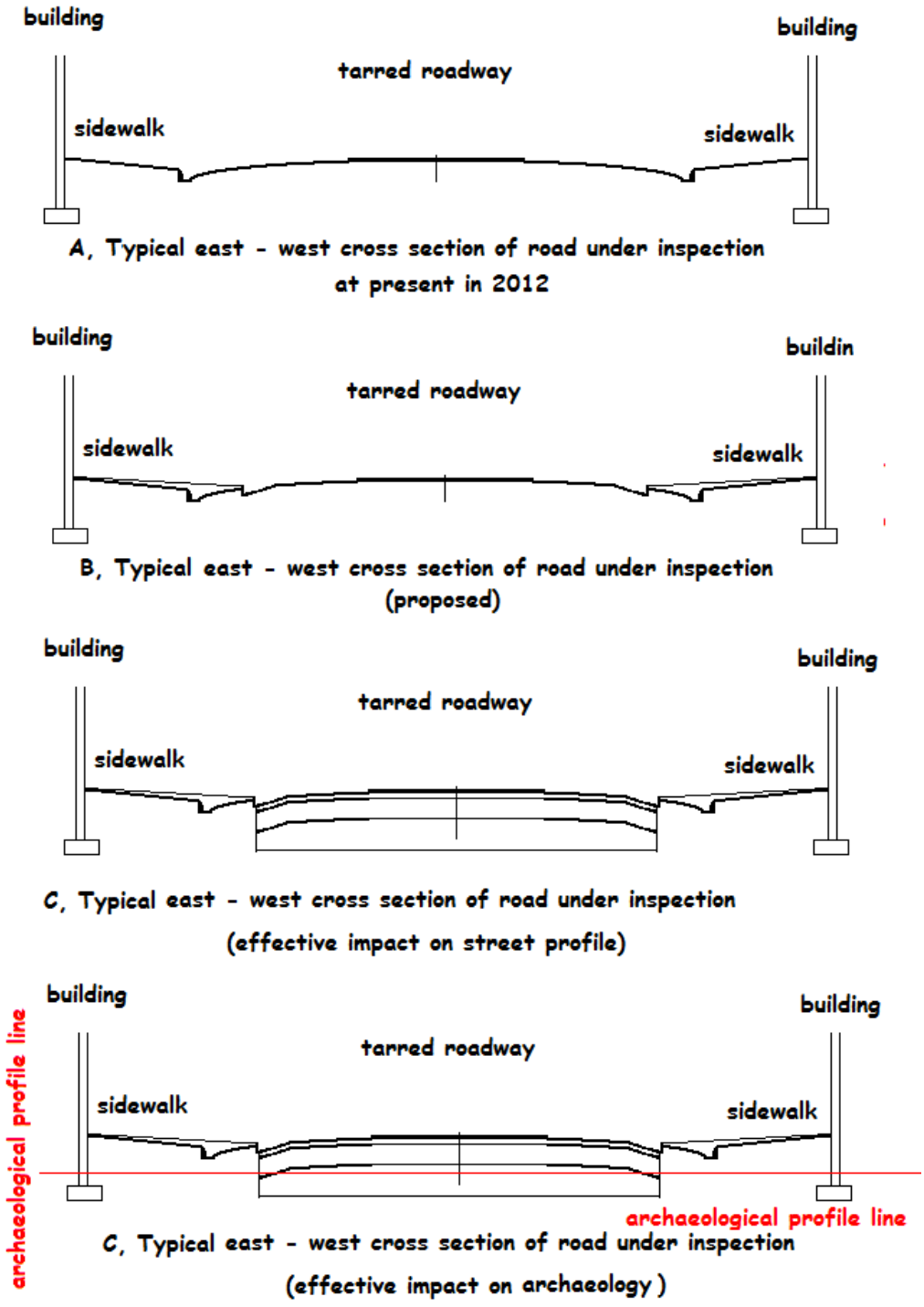


Figure 20a.This is a non- official presentation of the proposal of the client's engineer's intentions of development. This was verbally presented during negotiations on the 7th on June 2012 at a site meeting.

10. PHOTOGRAPHIC RECORDING OF FIRST PHASE SURVEY

10.1. Block 1. Boom Street to Bloed Street

Figure 21. *Google Earth image of block 1 with 'protected buildings' highlighted.*

SUMMARY BLOCK 1

1. Contains historic building at north east end.
2. Contains section of historic paving at north east end.
3. Contains granite curbing on eastern side of street.
4. Contains hidden historic building on north western corner.
5. Contains hidden historic building on south western corner.
6. Lost trees on western side of street.
7. Needs 'facelift' for historic building on north eastern corner.
8. Contains potential terminus at historic building if car sales premises is vacated.
9. Contains potential Taxi terminus at south eastern corner.
10. Reptile Park, Zoo and old museum complex has a century of history and resulted also in the 'Transvaal Museum' fronting 'City Hall'
11. The existence of paved slate water furrows must be considered
12. The existence of archaeological material below 'ground level' must be considered
13. Note position of pillars in the 'middle of the sidewalk'. This was the original definition of road dimensions before macadamizing.

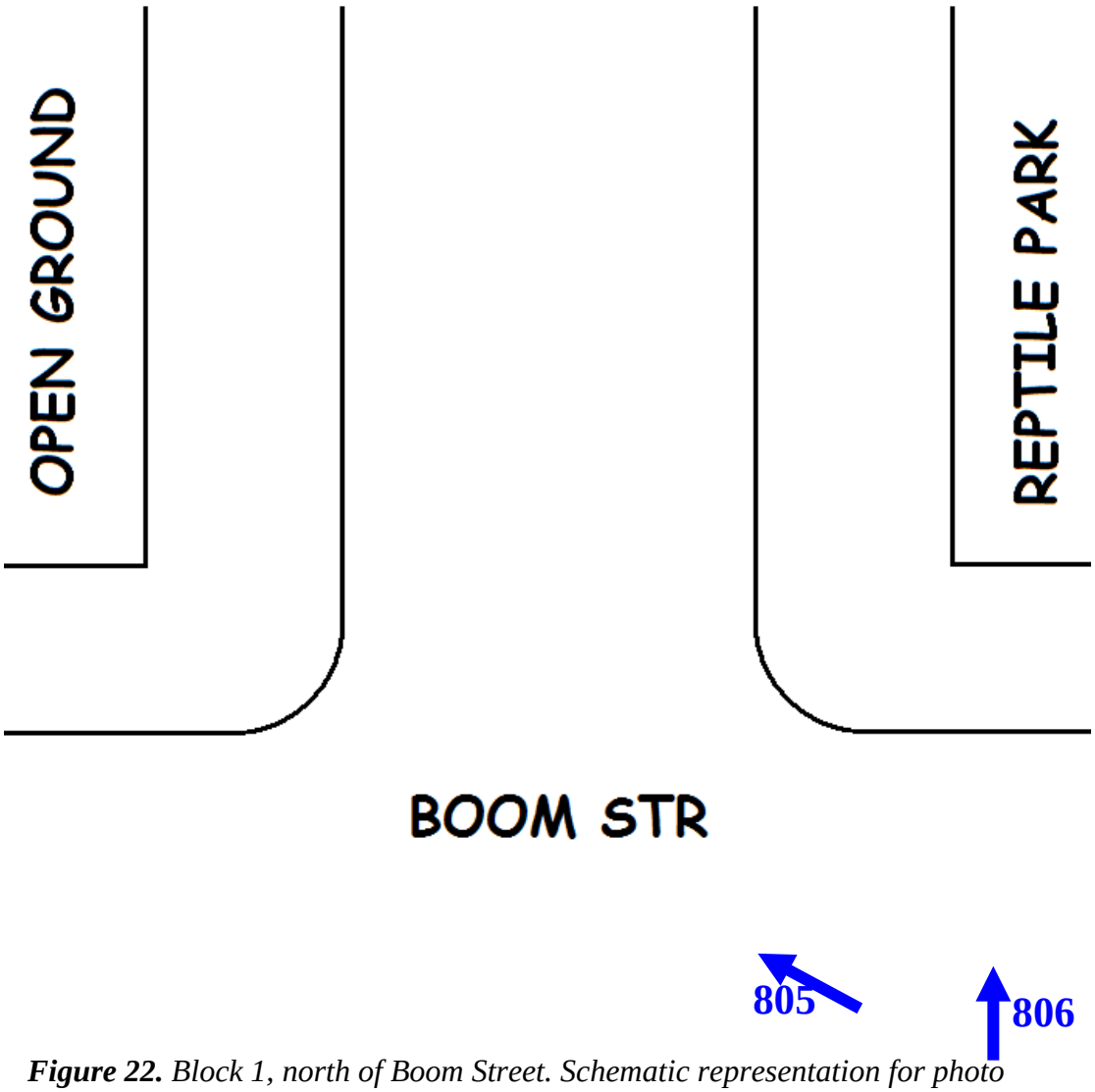


Figure 22. *Block 1, north of Boom Street. Schematic representation for photo documentation.*

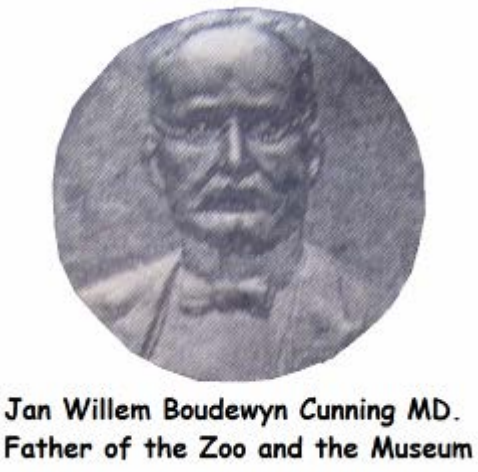


Figure 23. *It may be a helpful design parameter to commemorate heritage aspects in the landscaping design by placing designs in the paving. For instance the above as the founder of the zoo and museum.*

Figure 24. *Open land on northwest corner of Boom and Paul Kruger Street. (P805)*

Figure 25. *View towards northeast corner of Boom and Paul Kruger Street, the reptile park and Zoological gardens. (P806)*

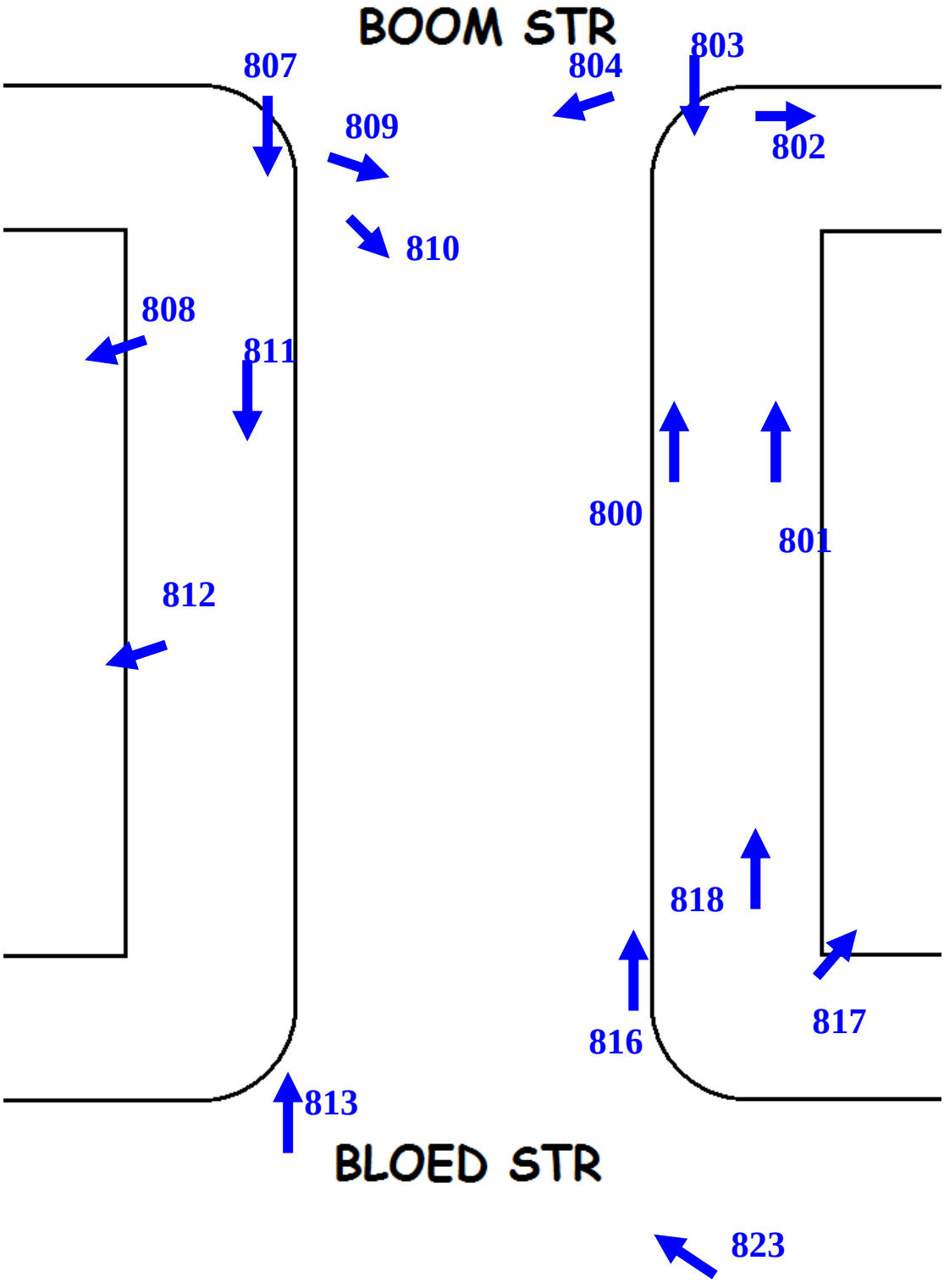


Figure 26. *Block 1, schematic representation for photo documentation.*

Figures 27 and 28. *Historical slate sidewalk in front of 'protected building'. Granite curb stone and pillars. (P800, P801)*

Figure 29. *Historical slate sidewalk in front of 'protected building'. Granite curb stones, and pillars. (P802) Note services access.*

Figure 30. *Historical slate sidewalk in front of 'protected building'. Granite curb stones, and pillars. Note absence of greening. (P803).*

Note position of pillars in the 'middle of the sidewalk'. Compared with properties further along the street it may well be that this was the original definition of road dimensions before macadamizing and that roads were purposefully narrowed to be more cost effective. This is also echoed by the position of the Jacaranda trees.

Figure 31. *'Protected building' behind car sales advertising headband. Possible 'station' terminus for busses in front of and including historic building. (P804). Note absence of greening.*

Figure 32. *'Protected building' (P809). Note absence of greening.*

Figure 33. *'Protected building'. (P810). Note demolition through neglect. Total pressed steel ceiling collapse is imminent. No shop front, windows or doors.*

Figure 34. *'Protected building'. (P808)*

Figure 35. *Modern sidewalk in front of 'protected building'. (P807)*

Figure 36. *Modern sidewalk in front of 'protected building' (P811). As a 'portal' to the city this is most unsatisfactory.*

Figure 37. *Modern use. (P812)*

Figure 38. *Modern sidewalk and curbing. (P813)*

Figure 39. *Original granite curbing. (P816)*

Figure 40. *|Unused land. Possible Taxi terminus as before**.** (P817)*

Figure 41. *Modern sidewalk. Services issue apparent**.** (P818)*

Figure 42. *'Protected building' in background although blanked out by car dealer advertising headboard.* ***NOTE LACK OF TREES.*** *(P823) Note line of taxis even early on a Sunday morning.*

Figure 43. *'Protected building' in background although blanked out by car dealer advertising headboard. (P824)*

10.2. Block 2. Bloed Street to Struben Street

Figure 44. *Google Earth image of block 2 with 'protected building' highlighted.*

SUMMARY BLOCK 2

1. Contains no historic building of note, only 'protected': - centre west side of street.
2. Contains section of historic slate paving at north east end.
3. Contains granite curbing on eastern side of street.
4. Contains granite curbing on 50 % of south western side of street.
5. Lost trees on 50 % of north western side of street.
6. The existence of paved slate water furrows must be considered
7. The existence of archaeological material below 'ground level' must be considered
8. Good example of modern cost effective paving on south western corner.
9. Important modern landscaping on east side of street.
10. Note position of pillars in the 'middle of the sidewalk'. This was the original definition of road dimensions before macadamizing.

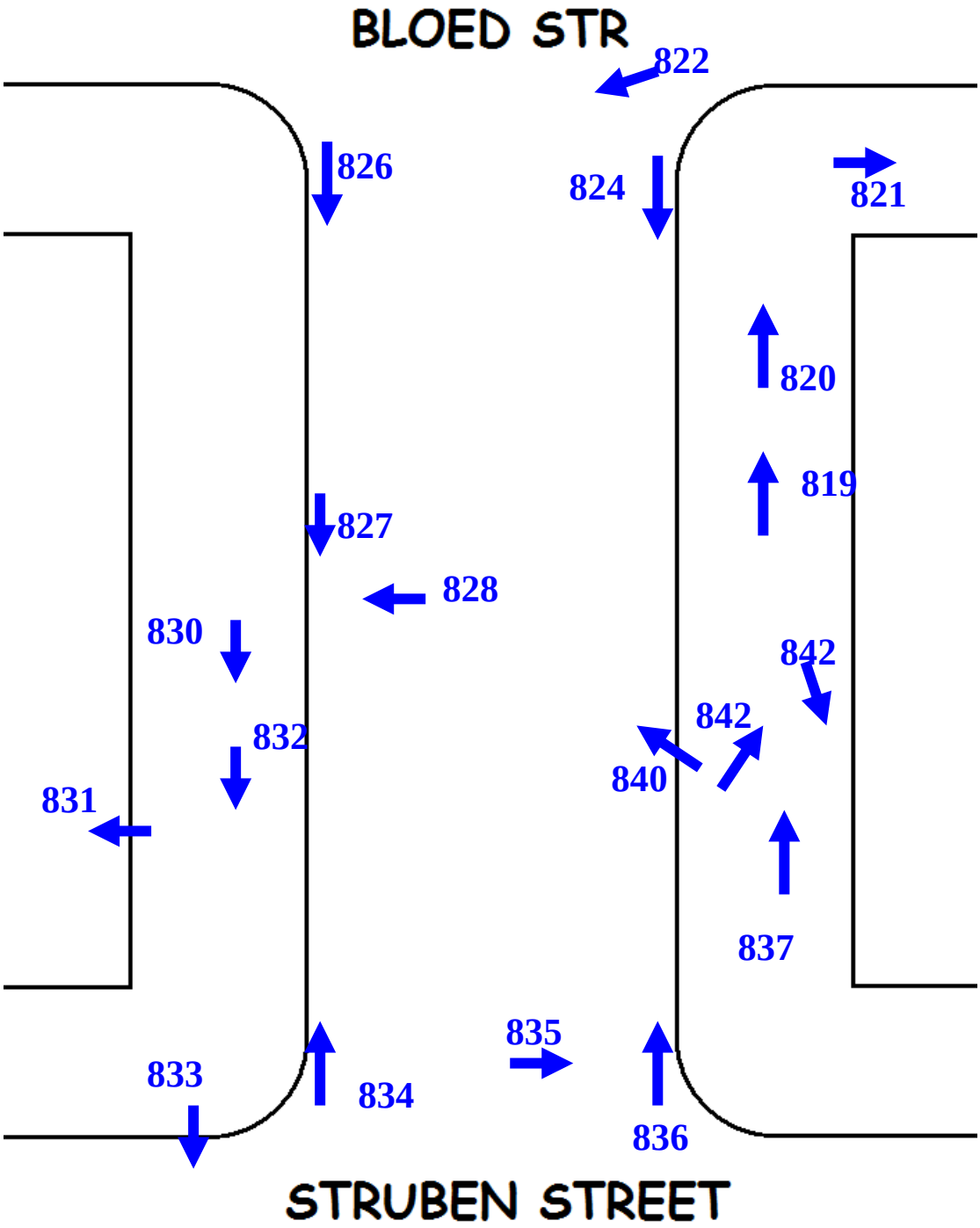


Figure 45. *Block 2, schematic representation for photo documentation.*

Figure 46. *Historical slate paving. Protected building as noted in 1991 replaced by modern building to the right behind fencing. (P819)*

Figure 47. *Historical slate paving. Protected building as noted in 1991 replaced by modern building to the right behind fencing. (P820)*

Figure 48. *Historical slate paving. Protected building as noted in 1991 replaced by modern building to the right behind fencing. (P821)*

Figure 49. *Modern addition to Pretoria Architecture. What an example of our modern taste in Urban Environment!!!! (P822). (The building is well described in the advertisement on the robot)*

Figure 50. *A concerned citizen overlooks the granite curbing stones along Paul Kruger Street. (P824). The image also captures the 'protected building' behind the taxi in the centre of the image. Also notice absence of trees along western side of Paul Kruger Street*

Figures 51 and 52. *Curbing along the first, and middle to end section of the western sidewalk in block 2. A section of the sidewalk was sacrificed for parking. (P826 and P 827).*

Figure 53. *All that remains of the 'face' of this protected building. (P 828)*

Figure 54. *Inadequate paving and sorrowful street furniture. In other countries around the world garbage is removed from the container. Here the container is removed without the garbage. (P 830)*

Figure 55. *Yet another second hand car dealer. Although it is understood that we live in a commercially diverse society, all with specific needs, why is there nothing more sorrowful than an abandoned car sales floor? (P 831)*

Figure 56. *Modern interlocking paving blocks. These pavers are commercially attractive, they rest satisfactory on the eye, may be used in design patterns with other pavers and in other colours, are easily lifted for access to the services below, are easily reproduced and is a product that reflects the modern (twenty first century) world. (P 832)*

Figure 57. *'Protected building'**, (**the Panagos shop) that has been around for one and a quarter century. Sadly the system of demolition through gutting, and neglect of maintenance, is a cancer that is destroying the historical buildings of Pretoria in Tshwane (P 833)*

Figures 58 and 59. *Granite curbing. The exposed and uplifting roots of the Jacaranda trees may pose some design challenges for the paving application. (P834 and P 836).*

Figure 60. *Granite curbing can and was adapted at street corners to accommodate disadvantaged people. (P 835)*

Figure 61. *Modern strip concrete paving bordered with bare earth. Granite curbing still demarcates original dimensions. The modern building to the right has a well defined green landscape that is a feature that may be incorporated in the new design. (P 837)*

Figure 62. *'Protected building' flanked by modern structures. (P 840)*

Figure 63. *Modern building that replaced 'protected building' on north eastern corner. This is an acceptable addition to the streetscape especially with its set-back from the sidewalk and pleasant greening. (P 842)*

Figure 64. *Modern building that replaced 'protected building'. This is an acceptable addition to the streetscape especially with its set-back from the sidewalk and pleasant greening. Note the use of indigenous vegetation (P 843)*

10.3. Block 3. Struben Street to Proes Street.

Figure 65. *Google Earth image of block 3 with 'protected buildings' highlighted.*

SUMMARY BLOCK 3

1. Contains historic building at north west end.
2. Contains historic building at centre east side.
3. Contains potential 'protected' building on south west side.
4. Contains section of historic paving at north east end.
3. Contains granite curbing on eastern side of street.
6. Lost trees on south western side of street.
7. Needs 'facelift' for historic building on centre east side.
8. Contains partial historic paving at north east corner.
11. The existence of paved slate water furrows must be considered
12. The existence of archaeological material below 'ground level' must be considered
13. Note position of pillars in the 'middle of the sidewalk'. This was the original definition of road dimensions before macadamizing.

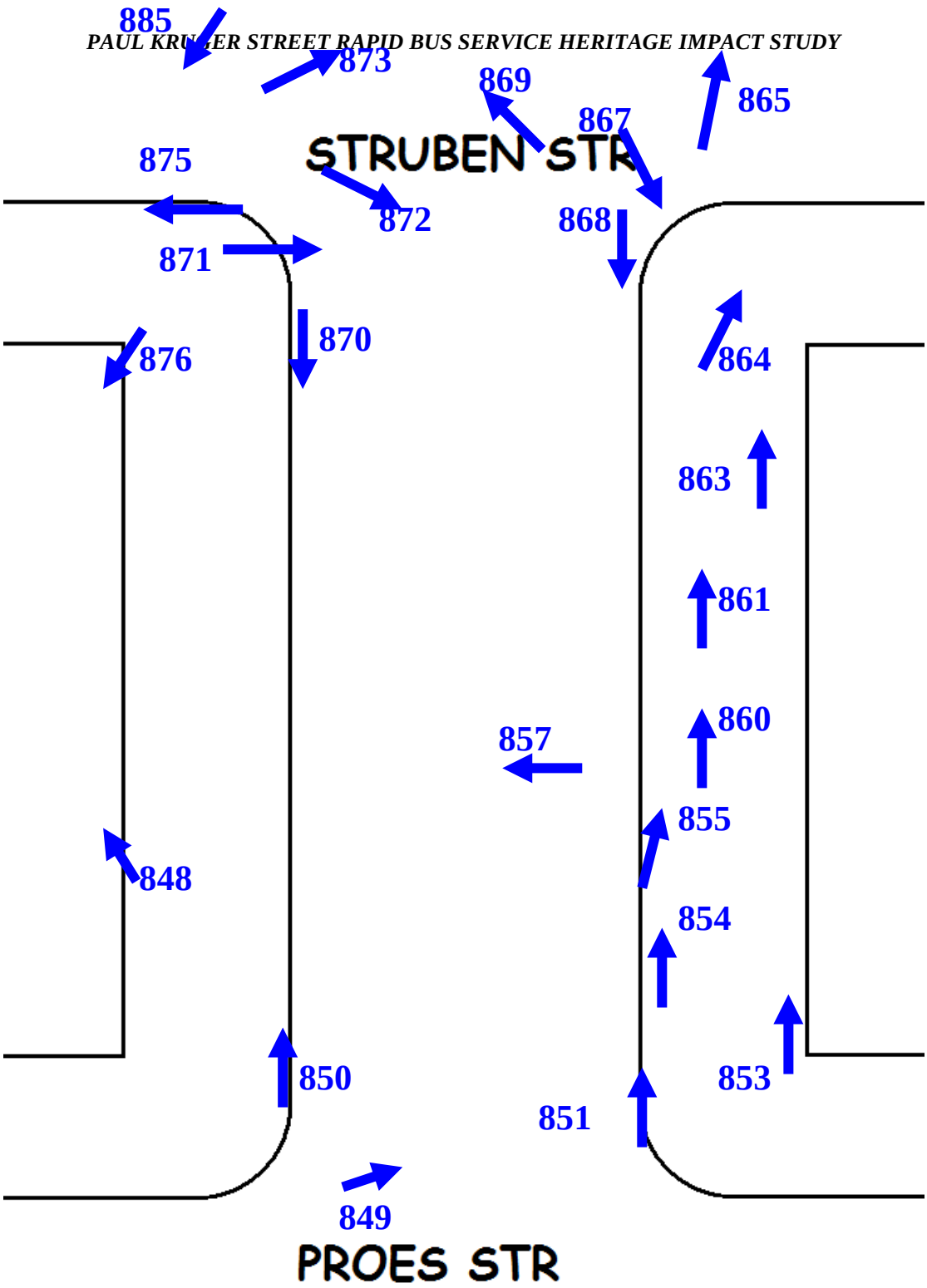


Figure 66. *Block 3, schematic representation for photo documentation.*

Figure 67. *'Protected building' flanked by open spaces. (P 848)*

Figure 68. *'Protected building'. (P 849)*

Figures 69 and 70. *Granite curbing defining old roadway dimensions both on north eastern and north western sidewalks. Concrete strips are the main paving agent but offers little practical access to services. The exposed and uplifting roots of the Jacaranda trees may pose some design challenges for the paving application. (P850 and P 851).*

Figure 71. *'Protected building'. Note definition of original sidewalk by cantilevered canopy. (P 853)*

Figure 72. *'Granite curbing'. (P 854)*

Figure 73. *Concrete paving. (P 855)*

Figure 74. *'Historic building'. Nelson Mandela trial. (P 857).*

Figure 75. *'Provisionally protected building'. Strip concrete and bare earth sidewalk. (P 860).*

Figure 76. *'. Strip concrete and bare earth sidewalk. Street furniture is endangered by illegal parking on sidewalks. Note fresh tire tracks on earth section. Note the extra set- off of this 'modern' building, widening an already wide sidewalk. (P 861).*

Figure 77. *Strip concrete and bare earth sidewalk complemented with mid to later twentieth century square paving blocks. These paving blocks are practical and may be successfully re-applied in other areas. (P 863)*

Figure 78. *A rather unsightly jumble of street furniture signage and services access points. The incessant occurrence of illegal and vulgar advertisements on street furniture do not enhance the stature of Tshwane's Capital. (P 864)*

Figure 79. *Modern 'Provisionally protected building'. Although structurally protected by law the need for unsightly devils-fork fencing on the sidewalk tells another story. (P 865).*

Figures 80 and 81. *Granite curbing defining old roadway. This access for disabled people shows that this practice will have to be continued throughout the design. (P867and P 868)*

Figure 82. *'Protected building'. (P 869.*

Figures 83 and 84. *Granite curbing defining old roadway. (P870 and P875).*

Figure 86. *'Parking?'. (P 876).*

Figures 87 and 88. '*Provisionally protected buildings'. Note loss of greening in first figure. (P872 and P 873).*

Figure 89. *Typical intersection, showing complex format of levels for road continuity and water drainage. (P 865).*

Figure 90. *The issue related to the 60 year rule for 'Protected buildings' is again demonstrated by this 1960's complex. Although a good example of the period it is not protected against demolition. . (P 877).*

Figure 91. *'Parking'. (P 885).*

10.4. Block 4. Proes Street to Vermeulen Street

Figure 93. *Google Earth image of block 4 with 'protected buildings' highlighted.*

SUMMARY BLOCK 4

1. Contains historic building at north east end.
2. Contains 'provisionally protected buildings in rest of block.
3. Contains granite curbing on both sides of street.
4. Needs 'facelift' for historic building on north eastern corner.
5. The existence of paved slate water furrows must be considered
6. The existence of archaeological material below 'ground level' must be considered
13. The original definition of road dimensions before macadamizing must be determined as it appears as if size may have changed.

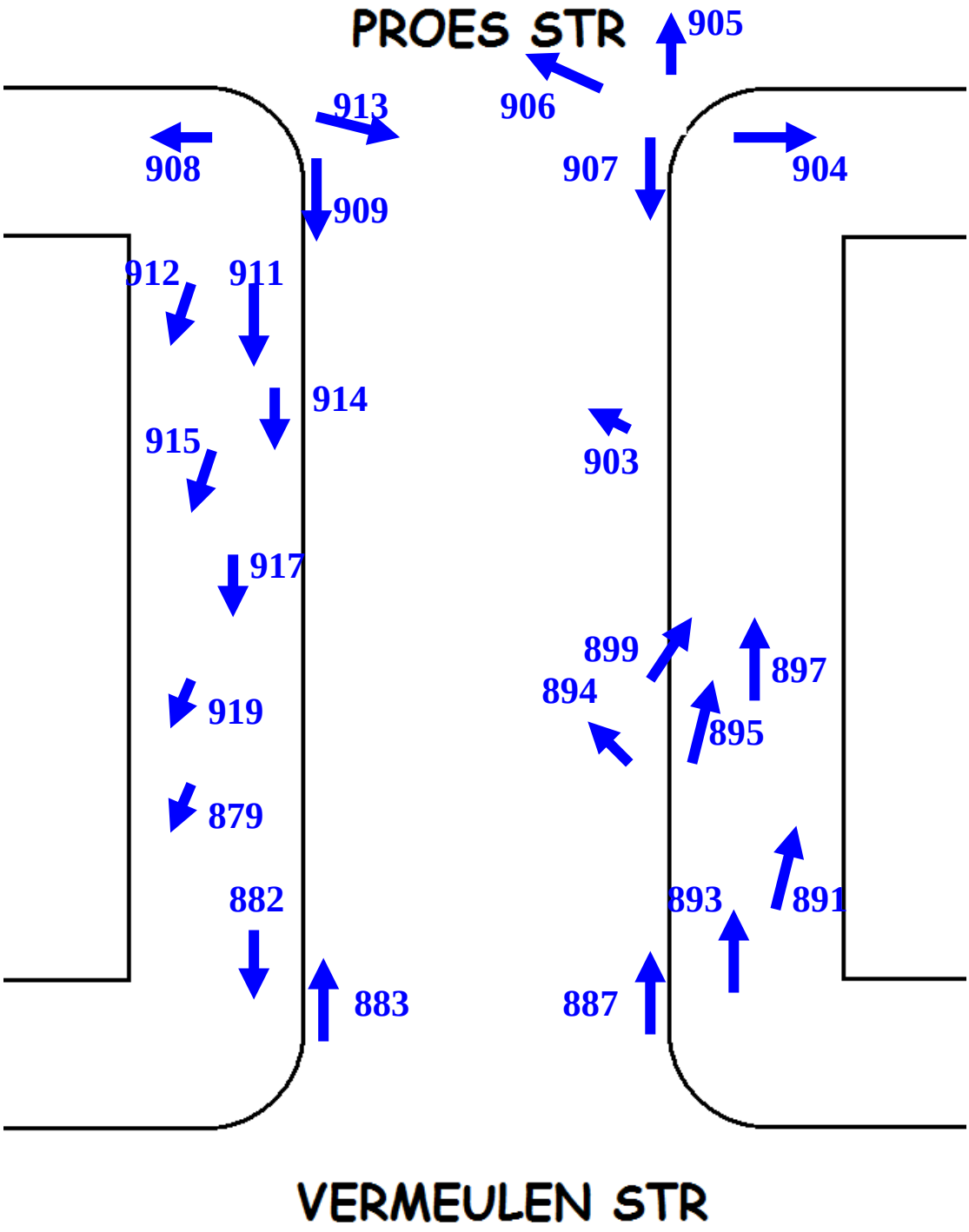


Figure 94. *Block 4, schematic representation for photo documentation.*

Figure 95. *'Protected building'. (P 879).*

Figure 96. *'Protected building'. (P 882).*

Figures 97 and 98. *Granite curbing defining old roadway. (P883 and P 887).*

Figure 99. *'Protected building'. (P 893).*

Figure 100. *Protected building'. (P 891).*

Figure 101.'*Provisionally protected 1960's flats and 'modern' skyscraper'. (P 894).*

Figure 102. *'Provisionally protected buildings'. (P 895).*

Figure 103. *A modern adaptation of the classic 'cement block'. (P 897).*

Figure 104. *'Provisionally protected building'. (P 899).*

Figure 105. *Modern paving. (P 904).*

Figures 106 and 107. *'Provisionally protected and historical buildings. (P903 and P 905).*

Figure 108. *'Protected building'. (P 906).*

Figures 109 and 110. *Granite curbing defining old roadway. (P907 and P 909).*

Figure 111. *'Services and access to services will determine much about the character of new paving. (P 908).*

Figure 112. *'The concrete block here demonstrates its adaptability to accommodate services. In the long term it will be preferred if the blocks are standardized (P 911).*

Figure 113. *The issue of land ownership and council ownership is illustrated by this 'new' paving with a 'modern' building.' Provisionally protected building'. (P 912).*

Figure 114. *'Provisionally protected building'. (P 913).*

Figures 115 and 116. *Granite curbing defining old roadway and cement block paving. . (P914 and P 919).*

Figure 117. *'Provisionally protected building'. (P 915).*

Figure 118. *'Concrete strip interruption in cement block paving. (P 917).*

10.5. Block 5. Vermeulen Street to Church square.

Figure 119. *Google Earth image of block 5 with 'protected buildings' highlighted.*

SUMMARY BLOCK 5

1. Contains historic building at both sides of street..
2. Contains large section of historic paving at both sides of street..
3. Contains granite curbing on both sides of street.
4. Contains historic bus shelters on western side of street.
11. The existence of paved slate water furrows must be considered
12. The existence of archaeological material below 'ground level' must be considered

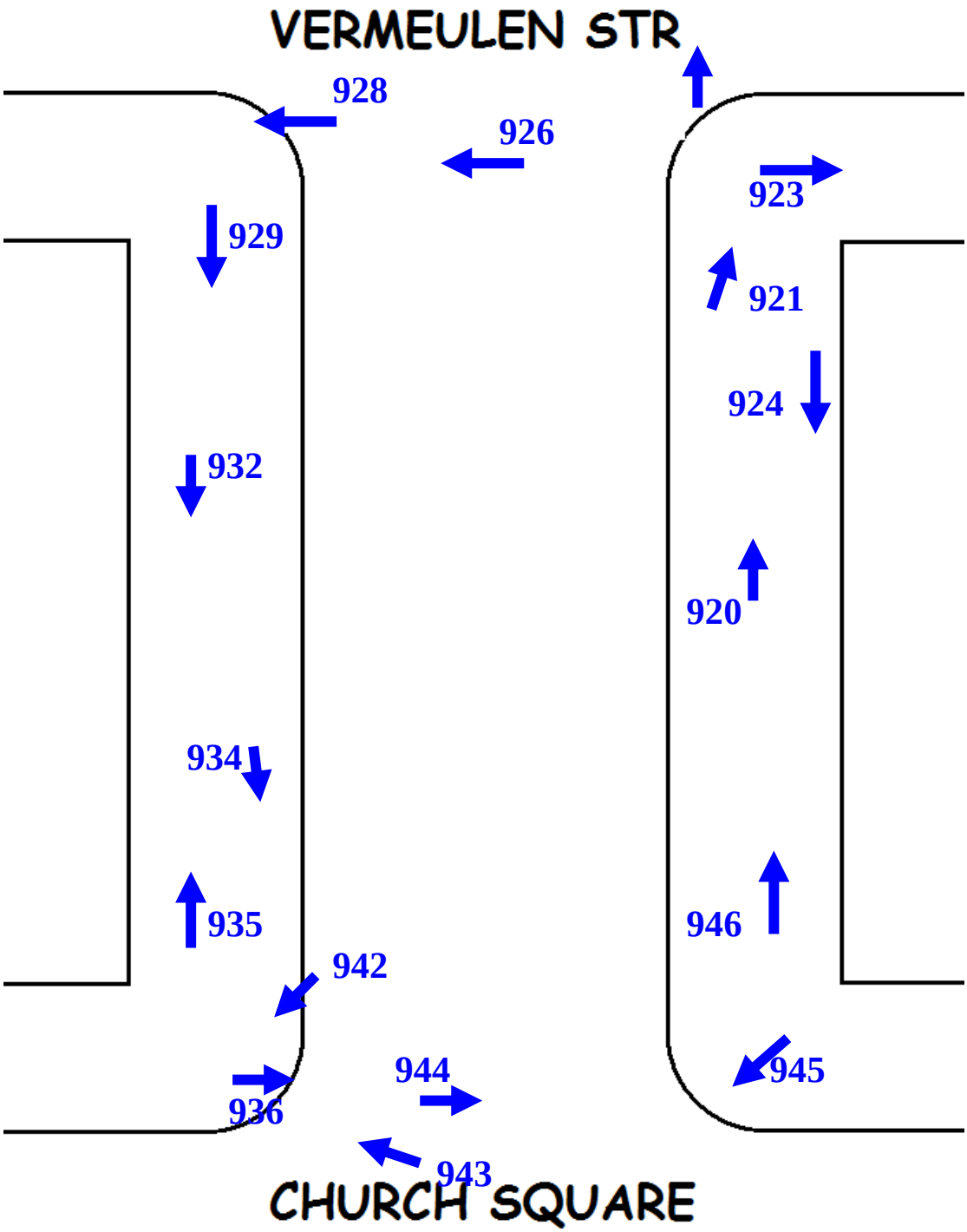


Figure 120. *Block 5, schematic representation for photo documentation.*

Figure 121. *Historical slate paving adjacent to historical building. (P 920).*

Figure 122. *Historical slate paving adjacent to historical building. Note discontinuation owing to services and unsafe surface. (P 921).*

Figure 123. *Discontinuation and interrupted occurrence of historical slate paving along foundations of historical buildings. (P 923).*

Figure 124. *Historical slate paving adjacent to historical building. (P 924).*

Figure 125. *Protected historic bus shelters in need of repair. (P 925).*

Figure 126. *Historic building. (P 926).*

Figure 127. *Protected historic bus shelters in need of repair. (P 927).*

Figure 128. *Concrete interruption in historic slate paving. (P 928).*

Figure 129. *Concrete interruption in historic slate paving. (P 929).*

Figure 130. *Concrete interruption in historic slate paving. (P 932).*

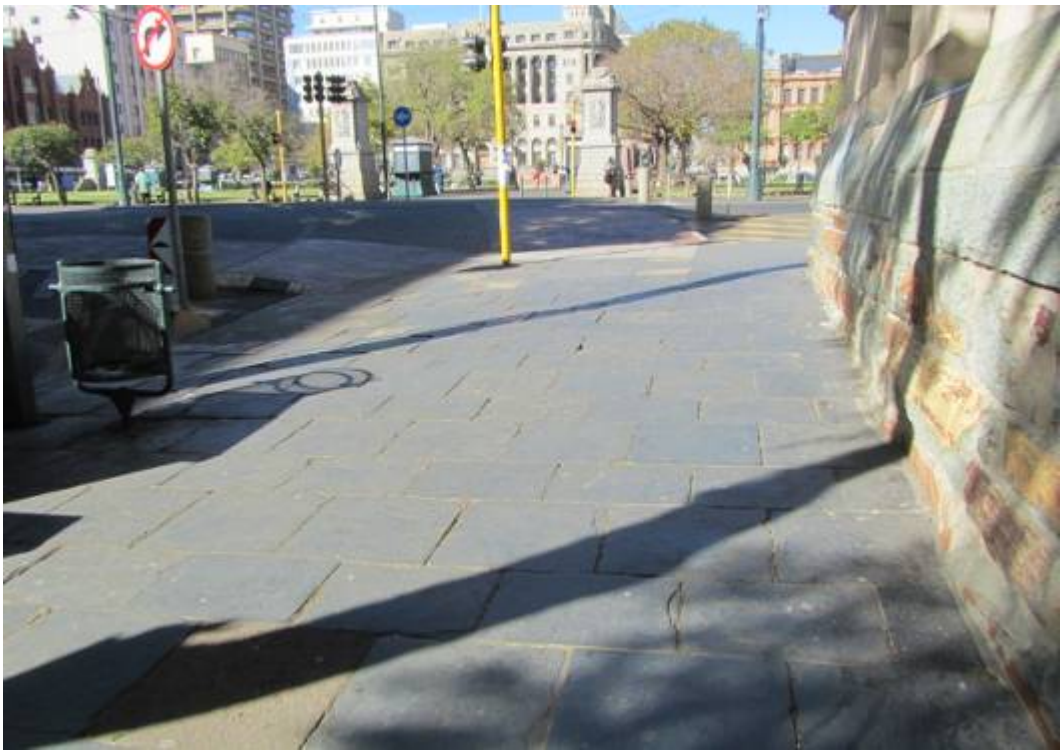


Figure 131. *Historical slate paving adjacent to historical building. (P 934).*

Figure 132. *Historical slate paving adjacent to historical building. (P 935).*

Figure 133. *Modern traffic calming structure. (P 936).*

Figure 134. *Historical slate paving adjacent to historical building. Note roadway definition with steps of historical building. (P 942).*

Figure 135. *Historical building. (P 943).*

Figure 136. *Historical slate paving adjacent to historical building. (P 944).*

Figure 137. *Modern traffic calming structure. Note immense build-up of road surface This may be attributed to the tram lines that is suspected to be still in place. (P 945).*

Figure 138. *Historical slate paving adjacent to historical building. (P 946).*

10.6. Block 5a. Church Square.

Figure 139. *Google Earth image of block 5a. The whole of this area is protected.*

SUMMARY BLOCK 5a

1. Contains historic building all round.
2. Contains sections of historic paving al round.
3. Contains granite curbing all round.
4. Greening needs attention.
5. Needs ‘facelift’ for toilet facilities.
6. Contains potential for rapid bus terminus.
7. The existence of paved slate water furrows must be considered
8. The existence of archaeological material below ‘ground level’ must be considered.
9. The existence of tram lines below macadamising must be considered
10. The original definition of road dimensions before macadamizing must be considered.

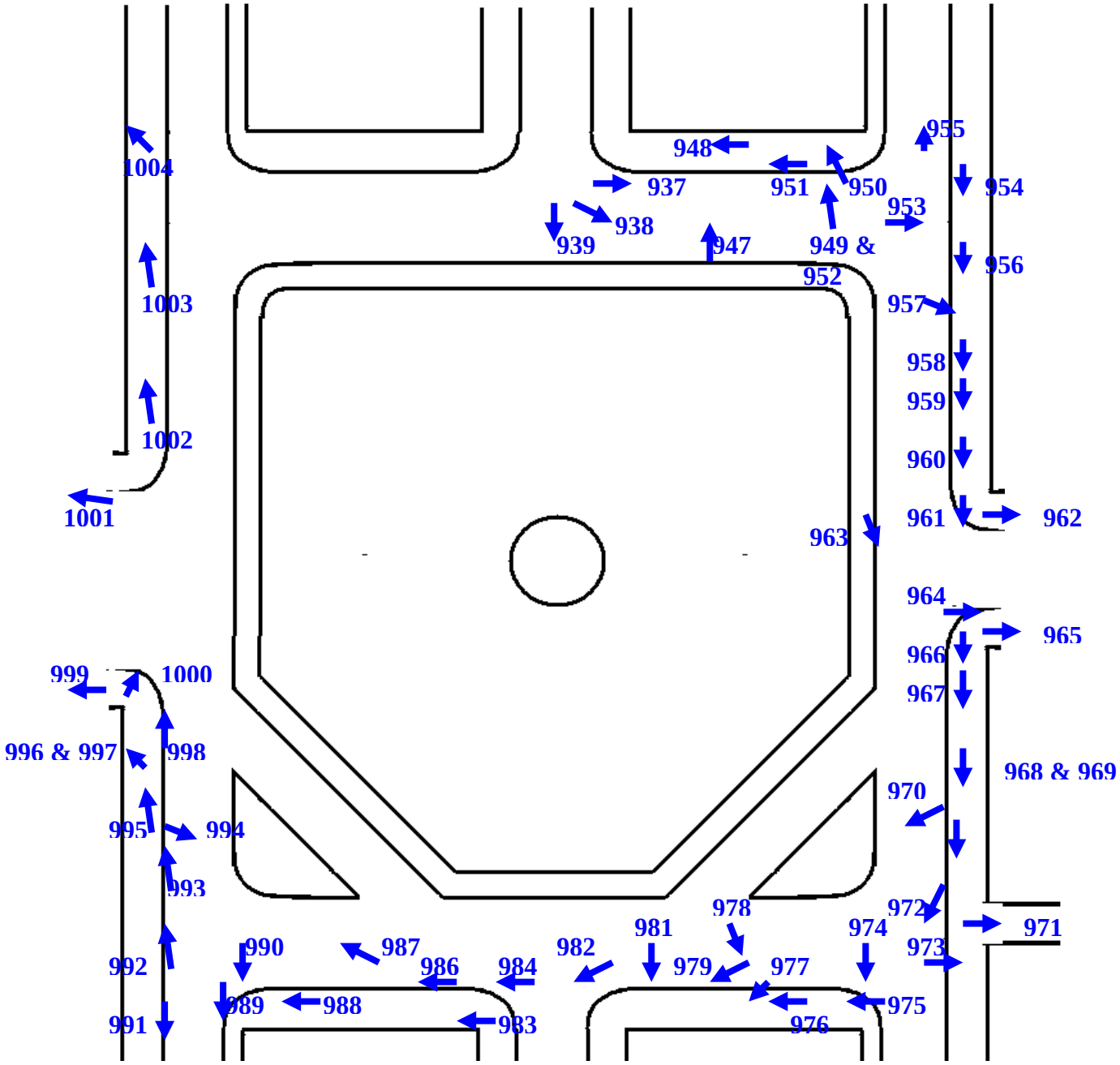


Figure 140. *Block 5a. Schematic representation for photo documentation.*

Figure 141. *Historical buildings. (P 937).*

Figure 142. *Historical buildings. (P 938).*

Figure 143. *Historical buildings. (P 938).*

Figure 144. *Historical building. (P 947).*

Figure 145. *Original slate paving adjacent to historical building. (P 948).*

Figure 146. *Historical building. (P 949).*

Figure 147. *Construction work at historical building. (P 950).*

Figure 148. *Original slate paving adjacent to historical building Construction in progress without protection. (P 951).*

Figure 149. *Historical building. (P 952).*

Figure 150. *Historical building. (P 953).*

Figure 151. *Cement block paving adjacent to historical building. (P 954).*

Figure 152. *Construction work in historical street* ***.*** *(P 955).*

Figure 153. *Pristine slate paving in front of historical building**.** (P 956).*

Figure 154. *Historical building. (P 957).*

Figure 155. C*ement paving adjacent to historical building****.*** *(P 958).*

Figure 156. *Well preserved slate paving in front of historical building. (P 959).*

Figure 157. *Mixed old and new paving at Church Street pedestrian boulevard. Note marked difference in rod level. (P 960).*

Figure 158. *Mixed new paving at Church Street pedestrian boulevard. Note marked difference in rode level. Service access- covers well blended as features rather than eye-sore. . (P 961)*

Figure 159. *The refurbished paving in the Church Street Boulevard is excellent and may well become the type pattern for the present project. (P 962).*

Figure 160. *Historical building. (P 963).*

Figure 161. *The refurbished paving in the Church Street Boulevard is excellent. Note the retention of the original granite curbing stones as the 'memory' from the past. (P 964).*

Figure 162. *The refurbished paving in the Church Street Boulevard is excellent. Note the fact that the Sidewalk and roadway now interface on the same level forming a far better aesthetical design. (P 965).*

Figure 163. *The paving adjacent to this historical building is a dog's breakfast of cement and concrete. The main problem with large areas of concrete is always unsightly cracking. With blocks or paving bricks this can easily be remedied. (P 966).*

Figure 164. *As mentioned in earlier documentation blocks, historical building's columns to support the canopy were mostly located on the street line as demonstrated here. (P 967).*

Figure 165. *Well preserved historical slate paving adjacent to historical building. (P 968).*

Figure 166. *Historical building. (P 969).*

Figure 167. *Historical building. (P 970).*

Figure 168. *Refurbished boulevarde intersecting historical buildings. (P 971).*

Figure 169. *Historical building. (P 972).*

Figure 170. *Modern use of historical building. (P 973).*

Figure 171. *Although some historical slate survives the general condition of this section is not satisfactory. (P 974).*

Figure 172. *Well preserved slate paving in front of historical building. (P 975).*

Figure 173. *Slate paving in front of historical building being lifted. (P 976).*

Figure 174. *Slate paving in front of historical building being lifted. (P 977).*

Figure 175. *Historical bus shelter badly in need of repair. . (P 978).*

Figure 176. *Slate paving in front of historical building being lifted. (P 979).*

Figure 177. *Slate paving in front of historical building being lifted. (P 980).*

Figure 178. *Slate paving in front of historical building being lifted. (P 981).*

Figure 179. *Historical building. (P 982).*

Figure 180. *Well preserved slate paving in front of historical building.(P 983).*

Figure 181. *An array of paving materials in front of a historical building. (P 984).*

Figure 182. *Modern cobblestone paving in historical building's reception.. (P 986).*

Figure 183. *Historical building. (P 987).*

Figure 184. *An array of paving materials in front of a historical building. (P 988).*

Figure 185. *Historical slate paving adjacent to historical building. (P 989).*


Figures 186 and 187. *Historical slate paving adjacent to historical buildings. Granite curbing defining old roadway. (P990 and P 991).*


Figures 188 and 190. *Historical slate paving adjacent to historical building. Granite curbing defining old roadway. (992 and P 993).*

Figure 191. *Historical building. (P 994).*

Figure 192. *Large cement blocks as paving adjacent to historical building. (P 995).*

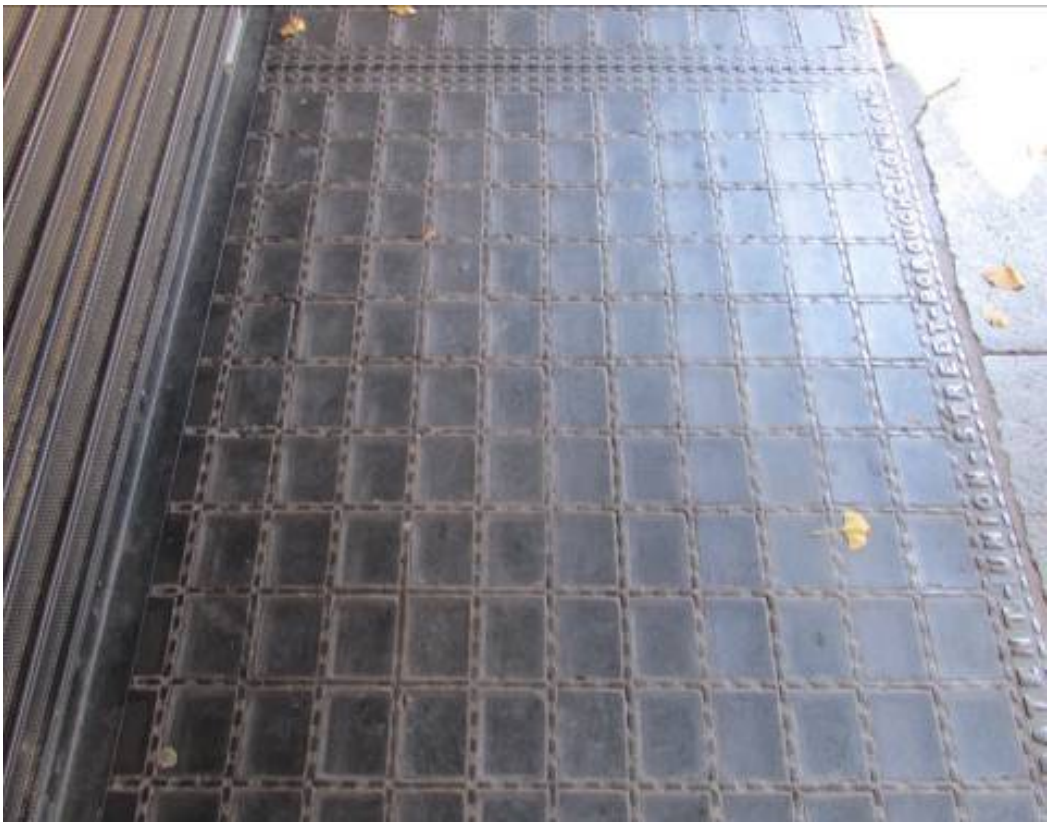


Figure 193. *Historical cellar window for historical building. (P 969).*

Figure 194. *Manufacturer of cellar window for historical building. (P 997).*

See information on Hayward Brothers at end of Bibliography in Addendum.

Figure 195. *Large cement blocks as paving adjacent to historical building. Pillars defining sidewalk limit. (P 998).*

Figure 196. *Large cement blocks as paving adjacent to historical building. Pillars defining sidewalk limit. (P 999).*

Figure 197. *Although a number of different paving materials were used we find that the original curb stones are still in place. (P 1000).*

Figure 198. *Although understated the mid nineteenth century cement block retains some of the architectural language of the time, and can easily be married, even with early period buildings. (P 1001).*

Figure 199. *Large cement blocks as paving adjacent to historical building. Granite curbing stones defines sidewalk limit. (P 1002).*

Figure 200. *Large cement blocks as paving adjacent to historical building. Granite curbing stones defines sidewalk limit. If paving is used to retain character then the buildings should be investigated to define paving. (P 1003).*

Figure 201. *Historical building. (P 1004).*

10.7. Block 5b. Church Square to Pretorius Street

Figure 202. *Google Earth image of block b.* *The whole of this area is protected.*

SUMMARY BLOCK 5a

1. Contains historic building all round.
2. Contains sections of historic paving al round.
3. Contains granite curbing all round.
4. Greening needs attention.
5. Present work on historical paving must be investigated.
7. The existence of paved slate water furrows must be considered
8. The existence of archaeological material below 'ground level' must be considered.
9. The existence of tram lines below macadamising must be considered
10. The original definition of road dimensions before macadamizing must be considered.

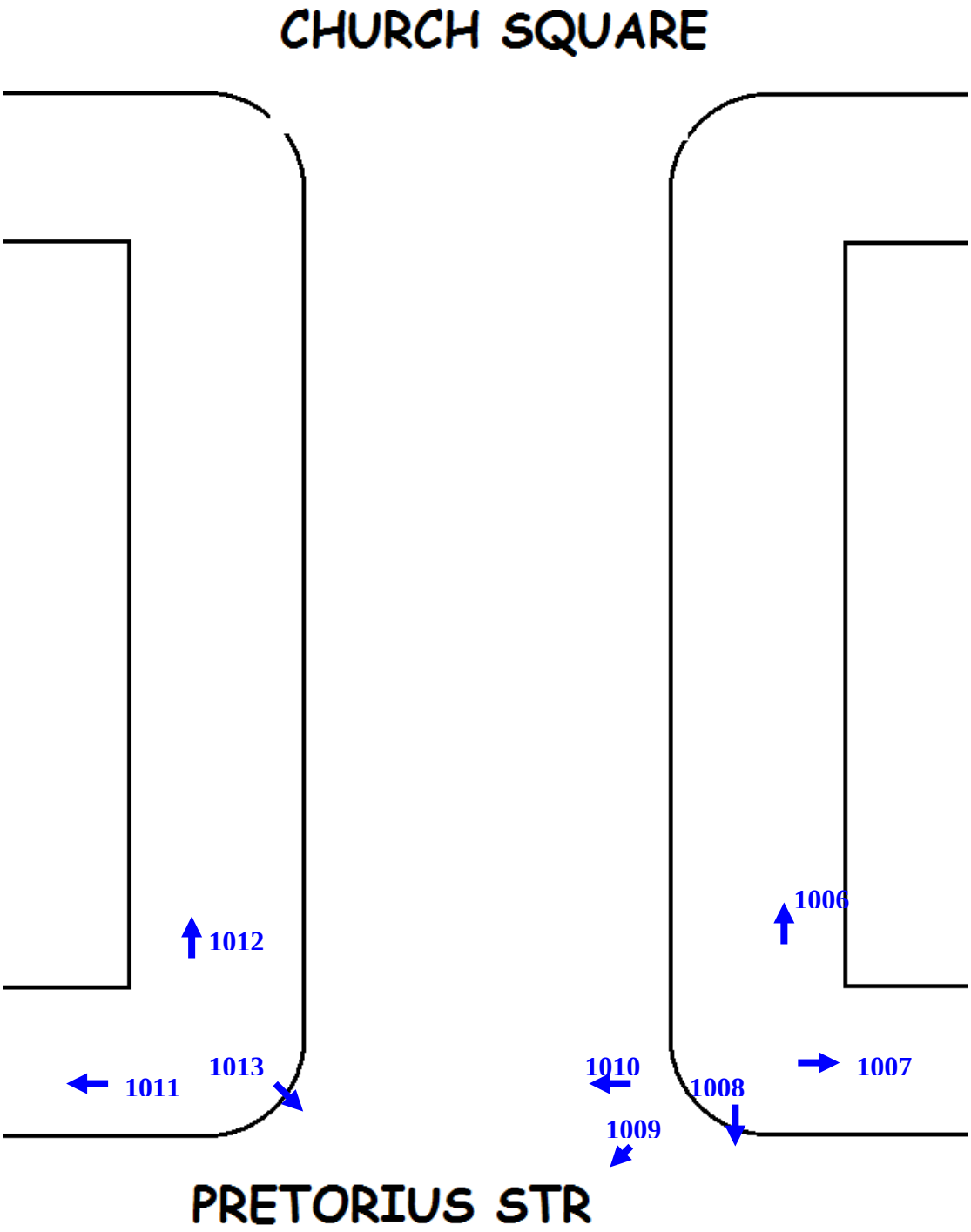


Figure 203. *Block 5b. Schematic representation for photo documentation.*

Figure 204. *Historical slate paving being lifted adjacent to historical building. Note that no excavations were undertaken to alter paving level. (P 1006).*

Figure 205. *Historical (?) paving r- instated. whether this is the old slate that was re-sized in unknown.. NOTE:- Matter to be investigated. (P 1007).*

Figure 206. *Provisional historical building. (P 1008).*

Figure 207. *Provisional historical building. (P 1009).*

Figure 208. *Historical building. (P 1010).*

Figure 209. *Historical slate paving adjacent to historical building. (P 1011).*

Figure 210. *Historical slate paving adjacent to historical building. (P 1012).*

Figure 211. *Provisional historical building and streetscape. . (P 1013).*

10.8. Block 6. Pretorius Street to Schoeman Street

Figure 212. *Google Earth image of block 6. Al buildings, either 'protected' or 'provisionally protected' are highlighted.*

SUMMARY BLOCK 6

1. Contains historic building at both sides of the street.
2. Contains sections of historic paving at both side of the street.
3. Contains granite curbing on both sides of the street.
4. No greening on either side of street.
5. The existence of paved slate water furrows must be considered
6. The existence of archaeological material below 'ground level' must be considered
7. Note position of pillars in the 'middle of the sidewalk'. This was the original definition of road dimensions before macadamizing.

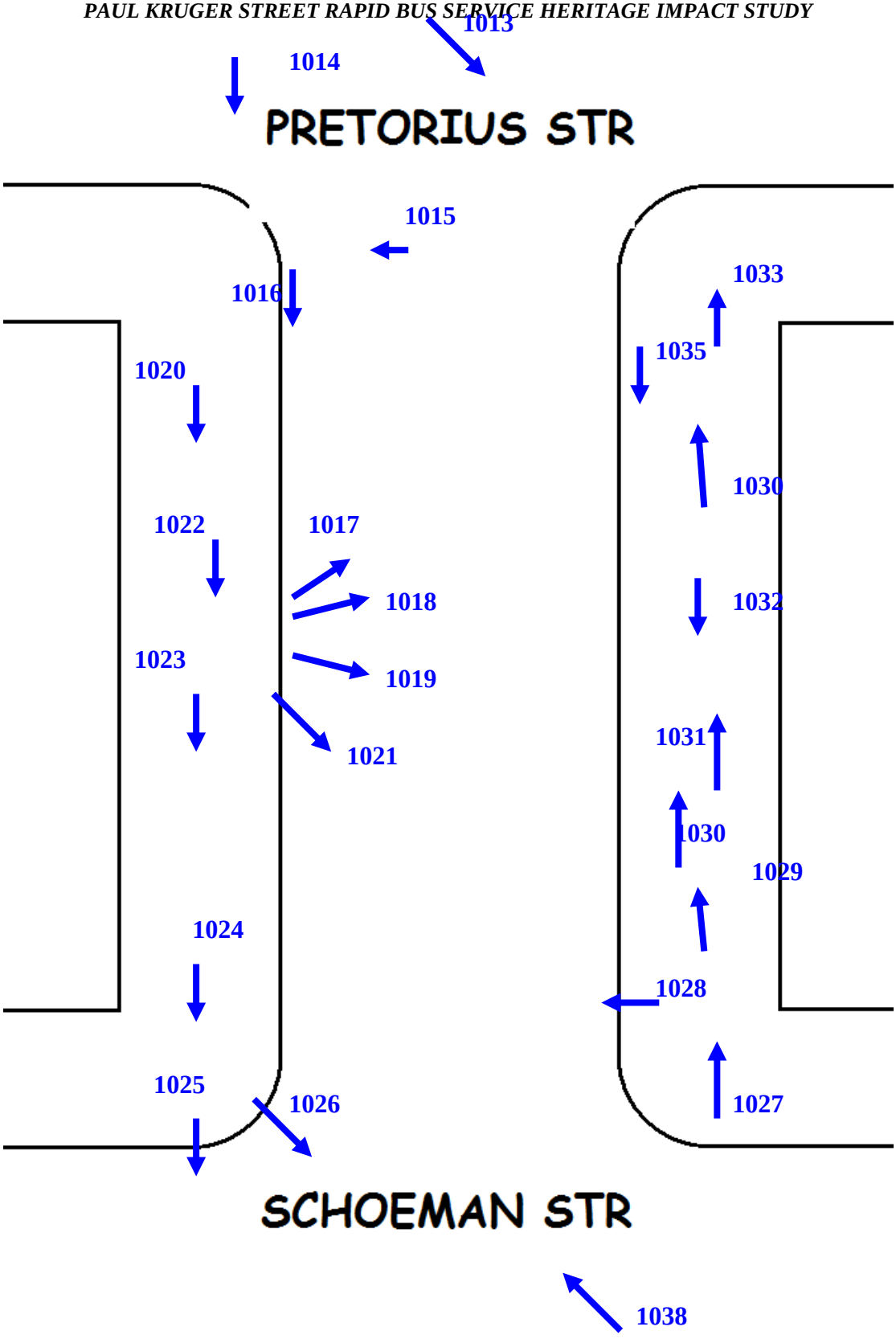


Figure 213. *Block 6, schematic representation for photo documentation.*

Figure 214. *Provisional historical building and streetscape. . (P 1014).*

Figure 215. *Provisional historical building and streetscape. . (P 1015).*

Figures 216 and 217. *Cement block paving and granite curbing defining old roadway. (P 1016 and P 1020).*

Figure 218. *Provisionally protected and protected buildings. (P 1017)*

Figure 219. *Protected buildings. (P 1018)*

Figure 220. *Provisionally protected buildings. (P 1019)*

Figure 221. *Provisionally protected buildings. (P 1021)*

Figure 222. *Cement block paving, remnants of historical slate paving and granite curbing defining old roadway. (P 1022)*

Figure 223. *Remnants of historical slate paving and granite curbing defining old roadway. (P 1023)*

Figure 224. *Cement block paving, remnants of historical slate paving and granite curbing defining old roadway. (P 1024)*

Figure 225. *Provisionally protected buildings. (P 1025)*

Figure 226. *Protected buildings. (P 1026)*

Figure 227. *Cement block paving and granite curbing defining old roadway. (P 1027)*

Figure 228. *Provisionally protected building. (P 1028)*

Figure 229. *Provisionally protected building. (P 1038)*

Figure 230. *Variety of paving material and historical pillar footprint. (P 1029)*

Figure 231. *Variety of paving material and historical pillar footprint. (P 1030)*

Figure 232. *Cement block paving, remnants of historical slate paving and granite curbing defining old roadway. (P 1031)*

Figure 233. *Cement block paving, remnants of historical slate paving and granite curbing defining old roadway. (P 1032)*

Figure 234. *Variety of paving material and historical pillar footprint. Note Granite curbing. (P 1034)*

Figure 235. S*ervices covers are historical pieces and must be preserved. (P 1033)*

Figure 236. *Variety of paving material and historical pillar footprint. Note Granite curbing. (P 1035)*

10.9. Block 7. Schoeman Street to Skinner Street

Figure 237. *Google Earth image of block 7. Al buildings, either 'protected' or 'provisionally protected' are highlighted.*

SUMMARY BLOCK 7

1. Contains historic building at both sides of the street.
2. Contains section of historic paving at west side of street.
3. Contains small remnant of historic paving at east side of street.
4. Contains granite curbing on both sides of street but altered at Skinner Street.
4. No greening on either side of street.
5. The existence of paved slate water furrows must be considered
6. The existence of archaeological material below 'ground level' must be considered
7. Note position of pillars in the 'middle of the sidewalk'. This was the original definition of road dimensions before macadamizing.

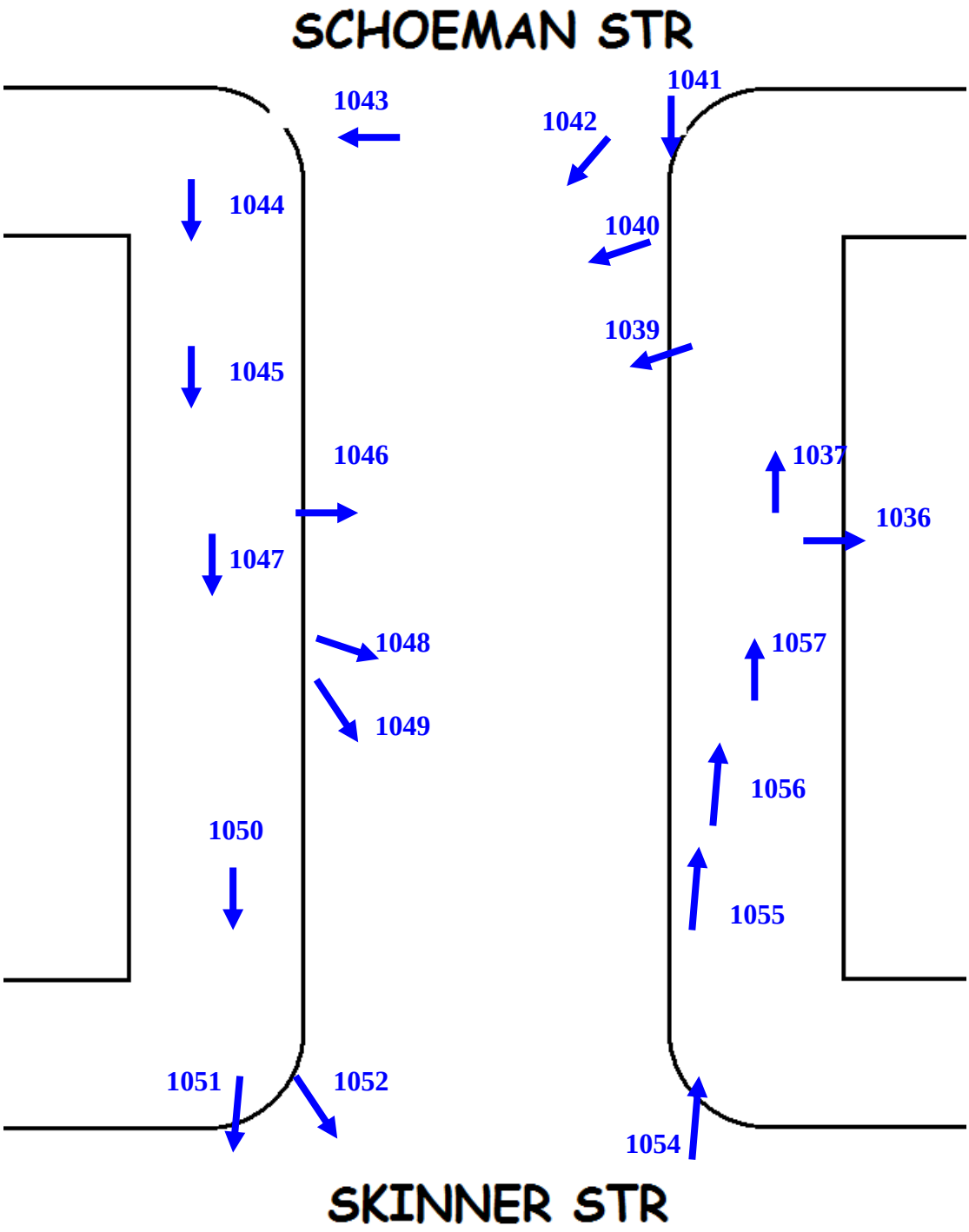
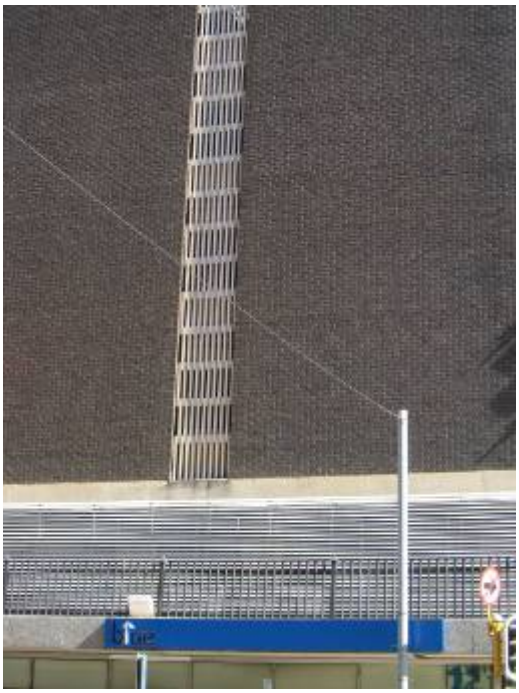


Figure 238. *Block 7, schematic representation for photo documentation.*

Figure 239. *Protected building. (P 1036)*

Figure 240. *Cement block paving material. (P 1037)*

Figure 241. *Provisionally protected building. (P 1039)*



Figures 242 and 243. *Provisionally protected building, and cement block paving and granite curbing defining old roadway. (P 1040 and P 1041).*

Figure 244. *Provisionally protected building. (P 1042)*

Figure 245. *Variety of paving material and granite curbing. (P 1043)*

Figure 246. *Variety of paving material. This 'glossy' cement blocks appears to be of an earlier application. (P 1044)*

Figure 247. *This 'glossy' cement blocks appears to be of an earlier application. (P 1045)*

Figure 248. *Protected building. (P 1046)*

Figure 249. *Variety of paving material with remnant of slate paving. (P 1047)*

Figure 250. *Protected building. (P 1048)*

Figure 251. *Provisionally protected building. (P 1049)*

Figure 252. *Modern brick paving possibly associated with widening of Skinner Street.. (P 1050)*

Figure 253. *Provisionally protected building. (P 1051)*

Figure 254. *Provisionally protected building (P 1052)*

Figure 255. *Modern paving and curbing possibly associated with widening of Skinner Street. (P 1054)*

Figure 256. *Variety of paving material and Note granite curbing. (P 1055)*

Figure 257. *Variety of paving material. Note granite curbing. (P 1056)*

Figure 258. *Variety of paving material. Note granite curbing. (P 1057)*

10.10. Block 8. Skinner Street to Visagie Street

Figure 259. *Google Earth image of block 8. Al buildings, either 'protected' or 'provisionally protected' are highlighted.*

SUMMARY BLOCK 8

1. Contains historic building at both sides of the street.
2. Contains section of historic paving at west side of street.
3. Contains granite curbing on both sides of the street.
4. No greening on either side of street.
5. The existence of paved slate water furrows must be considered
6. The existence of archaeological material below 'ground level' must be considered
7. Note definition of road, sidewalk and 'private' dimensions.

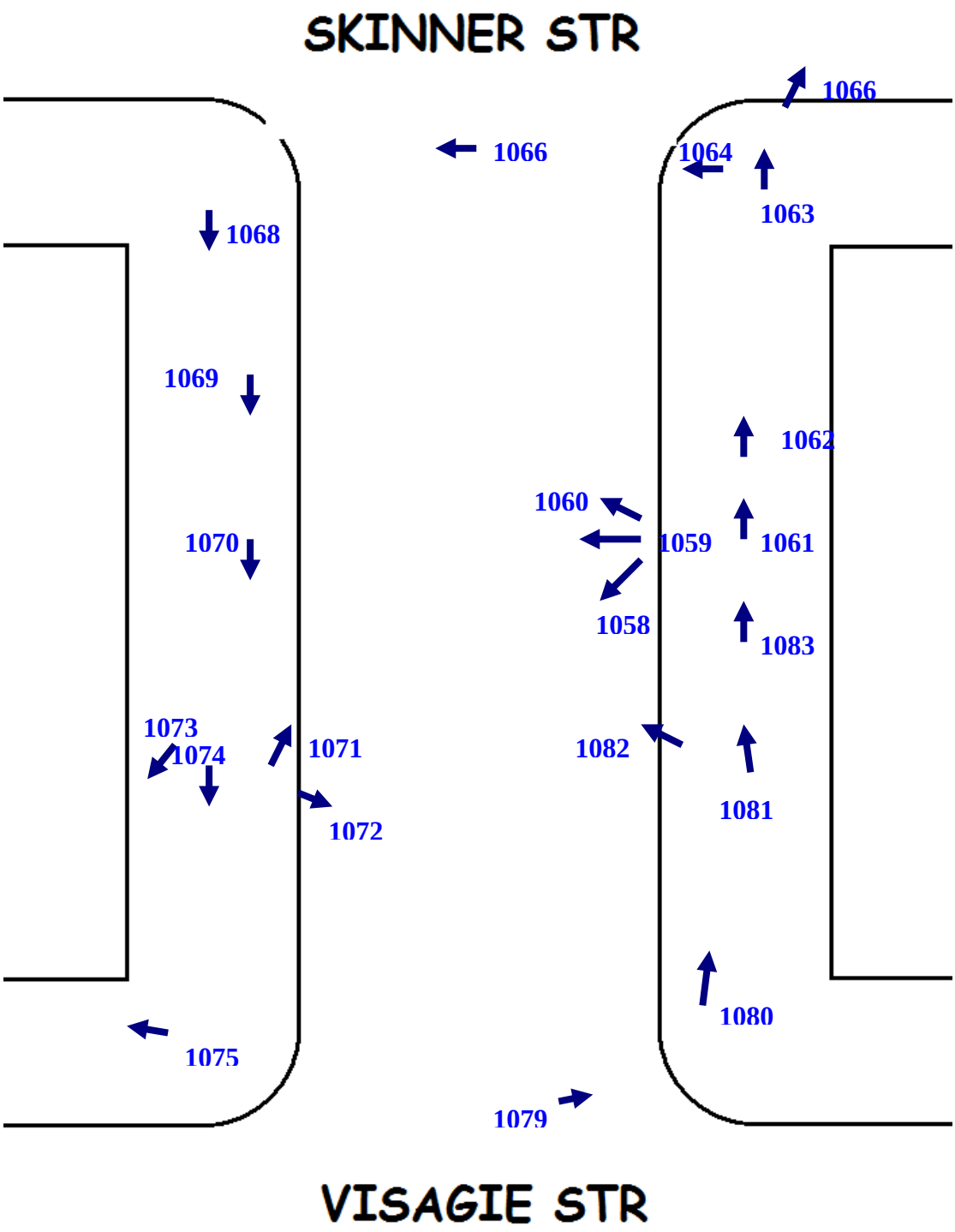


Figure 260. *Block 8, schematic representation for photo documentation.*

Figure 261. *Provisionally protected and protected buildings (P 1058)*

Figure 262. *Protected buildings. (P 1059)*

Figure 263. *Provisionally protected building. (P 1060)*

Figure 264. *Variety of paving materials. Note that the cement blocks also date from different eras. (P 1061)*

Figure 265. *Variety of paving materials. Note that some worker in the past tried to make the strip concrete match the paving blocks. (P 1062)*

Figure 266. *Variety of paving material.. (P 1063)*

Figure 267. *Variety of paving material. Note Granite curbing. (P 1064)*

Figure 268. *These trees will have to make way for the bus terminus. (P 1066)*

Figure 269. *Variety of paving and curbing material. (P 1067)*

Figure 270. *Apart from this small section of concrete, the whole of this side of the street is paved with historical slate. (P 1068)*

Figure 271. *As mentioned before there is a distinct difference in private and public domain as illustrated here. Note that chain fence disappeared, as all things metal do in modern Tshwane. (P 1069)*

Figure 272. *Difference in private and public domain Extreme measure to counter Tshwane criminals. (P 1070)*

Figure 273. *Note extreme variation in height between sidewalk and roadway. Note Granite curbing. (P 1071)*

Figure 274. *Provisionally protected building. (P 1072)*

Figure 275. *Maintenance and repair is the responsibility of Tshwane. Why do this happen? (P 1073)*

Figure 276. *All street furniture has impact on paving. This now disused parking meter shows how not to implement and retire street furniture. (P 1074)*

Figure 277. *It is important to design lateral termination of paving. (P 1075)*

Figure 278. *Variety of paving material and service hatches. (P 1079)*

Figures 279 and 280. *This earlier type of cement block pavers can be attractive if uniformly laid to a design. There should be a 'repair policy for paving after service trenching and reinstatement. (P 1080 and (P 1081).*

Figure 281. *Harmony between historic building, paving and safety. A touch of greenery may have made this image the ideal way to approach streetscape management. (P 1082)*

Figure 282. *There is a variation and variety of pavement angle throughout the street from the Zoo to the station. There is also a tendency to 'faceless shops' like these owing to increasing burglary. (P 1083)*

10.11. Block 9. Visagie Street to Minnaar Street

Figure 282. *Google Earth image of block 9 with 'protected buildings' highlighted.*

SUMMARY BLOCK 9

1. Contains historic building at both sides of the street.
2. Contains section of historic paving at west side.
3. Contains granite curbing on both sides of street.
4. No greening on either side of street.
5. The existence of paved slate water furrows must be considered
6. The existence of archaeological material below 'ground level' must be considered
7. This block is important owing to historical nature and museum as visiting point. Bus access must be considered.

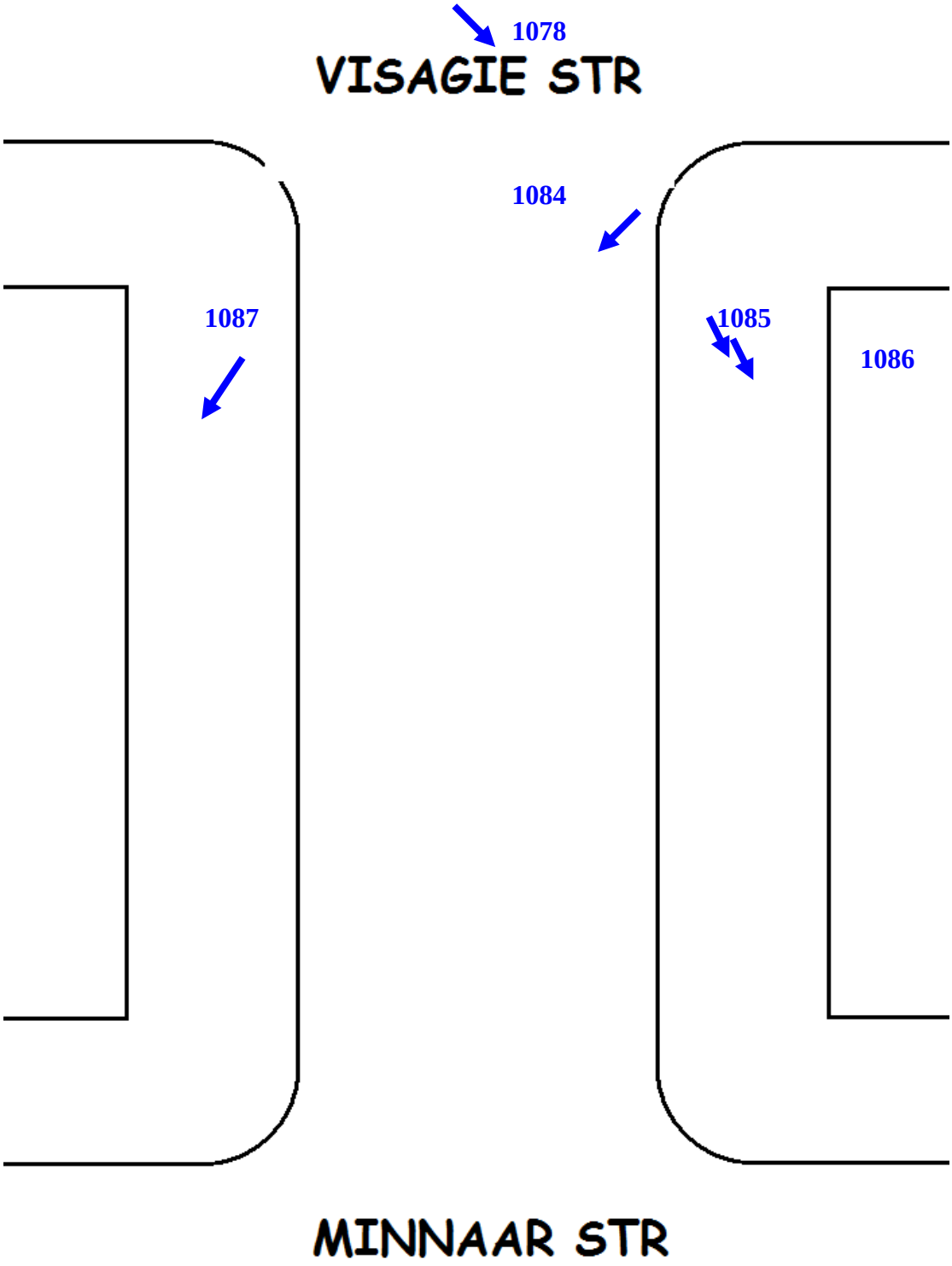


Figure 284. *Block 9, schematic representation for photo documentation.*

Figure 285. *Protected building. This block poses the greatest design challenge for the proposed alteration of Paul Kruger Street. (P 1078)*

Figure 286. *Harmony between historic building, and paving. The importance of well designed street furniture and greening is important so as not to detract from or disturb the profile and character of the historic building. (P 1084)*

Figure 287. *With the renewal of the building some years ago the original paving was removed and replaced. Although attractive and well placed, it is the last option where original paving exist. (P 1085)*

Figure 289. *Protected building. As documented throughout the area of investigation security becomes more and more a necessity. Unfortunately it detracts from the temperament of the building and rather reflects on the character of the city's inhabitants. (P 1086)*

Figure 290. *Protected paving. Repair only where public safety requires. (P 1087)*

10.12. Block 10. Minnaar Street to Mare Street

Figure 291. *Google Earth image of block 10. Al buildings, either 'protected' or 'provisionally protected' are highlighted.*

SUMMARY BLOCK 10

1. Contains historic building at both sides of the street.
2. Contains provisionally protected buildings at both sides of the street.
2. Contains section of historic paving at south west side of street. .
3. Contains granite curbing on both side of the street.
4. No greening on east side of street and limited greening on west side .
5. The existence of paved slate water furrows must be considered
6. The existence of archaeological material below 'ground level' must be considered
7. Note position of public and official domain.

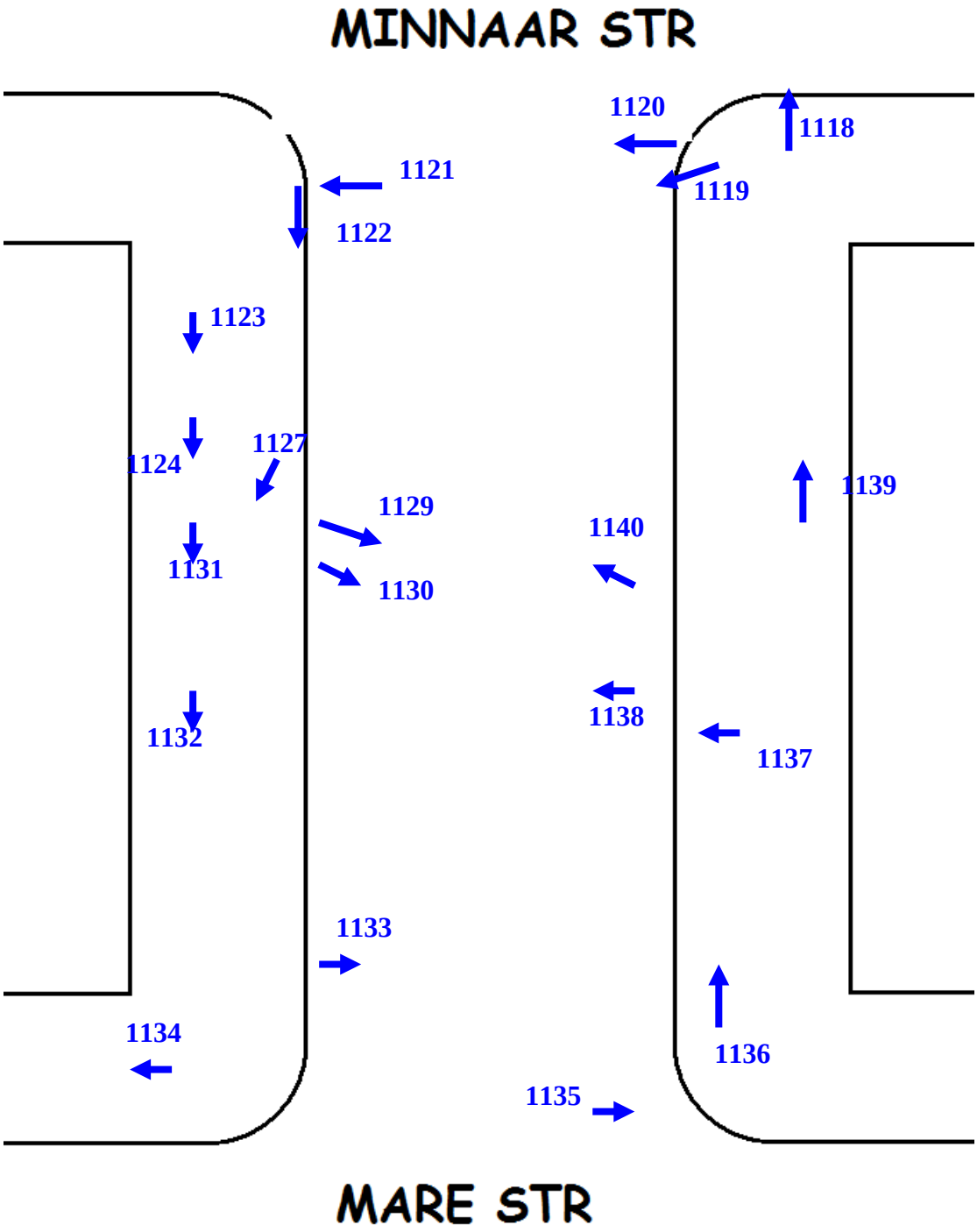


Figure 292. *Block 10, schematic representation for photo documentation.*

Figure 293. *New road paving as part of 'Museum walk' renovation several years ago. Paving in view not repaired. (P 1118)*

Figure 294. *Protected building. Note again the separation of private and public domain regarding 'sidewalk'. (P 1119)*

Figure 295. *New road paving as part of 'Museum walk' renovation. (P 1120)*

Figure 296. *Granite curbing and unsightly paving. (P 1121)*

Figure 297. *Granite curbing nearly covered by continuous re-surfacing. (P 1122)*

Figure 298. *Cement block paving. (P 1123)*

Figure 299. *Granite curbing and unsightly paving. (P 1124)*

Figure 300. *Protected building with wrought iron fence and stone pillars for definition of private domain. (P 1127)*

Figure 301. *Provisionally protected building. (P 1129)*

Figure 302. *Protected building. (P 1130)*

Figure 303. *Protected paving. Repair necessary. (P 1131)*

Figure 304. *Protected paving. Repair necessary. (P 1132)*

Figure 305. *Protected building. (P 1133)*

Figure 306. *Services will be a continuous issue as will paving. The transition though from historic building to streetscape aught to be better than this. (P 1134)*

Figure 307. Paving, services and wheelchair access in combat. *(P 1135)*

Figure 308. *Another combination of paving surfaces. (P 1136)*

Figure 309. *These cement blacks are attractive but should be placed in a safe manner. (P 1137)*

Figure 310. *Protected building. (P 1138)*

Figure 311. *Cement block paving. (P 1139)*

Figure 312. *Protected building. (P 1140)*

10.13. Block 11. Mare Street to Scheiding Street

Figure 313. *Google Earth image of block 11 Al buildings, either 'protected' or 'provisionally protected' are highlighted.*

SUMMARY BLOCK 11

1. Contains historic and provisionally protected building at both sides of the street.
2. Contains section of historic paving at middle of west side of street.
3. Contains granite curbing on both sides of the street.
4. No greening on either side of street.
5. The existence of paved slate water furrows must be considered
6. The existence of archaeological material below 'ground level' must be considered
7. Note position of pillars in the 'middle of the sidewalk'. This was the original definition of road dimensions before macadamizing.

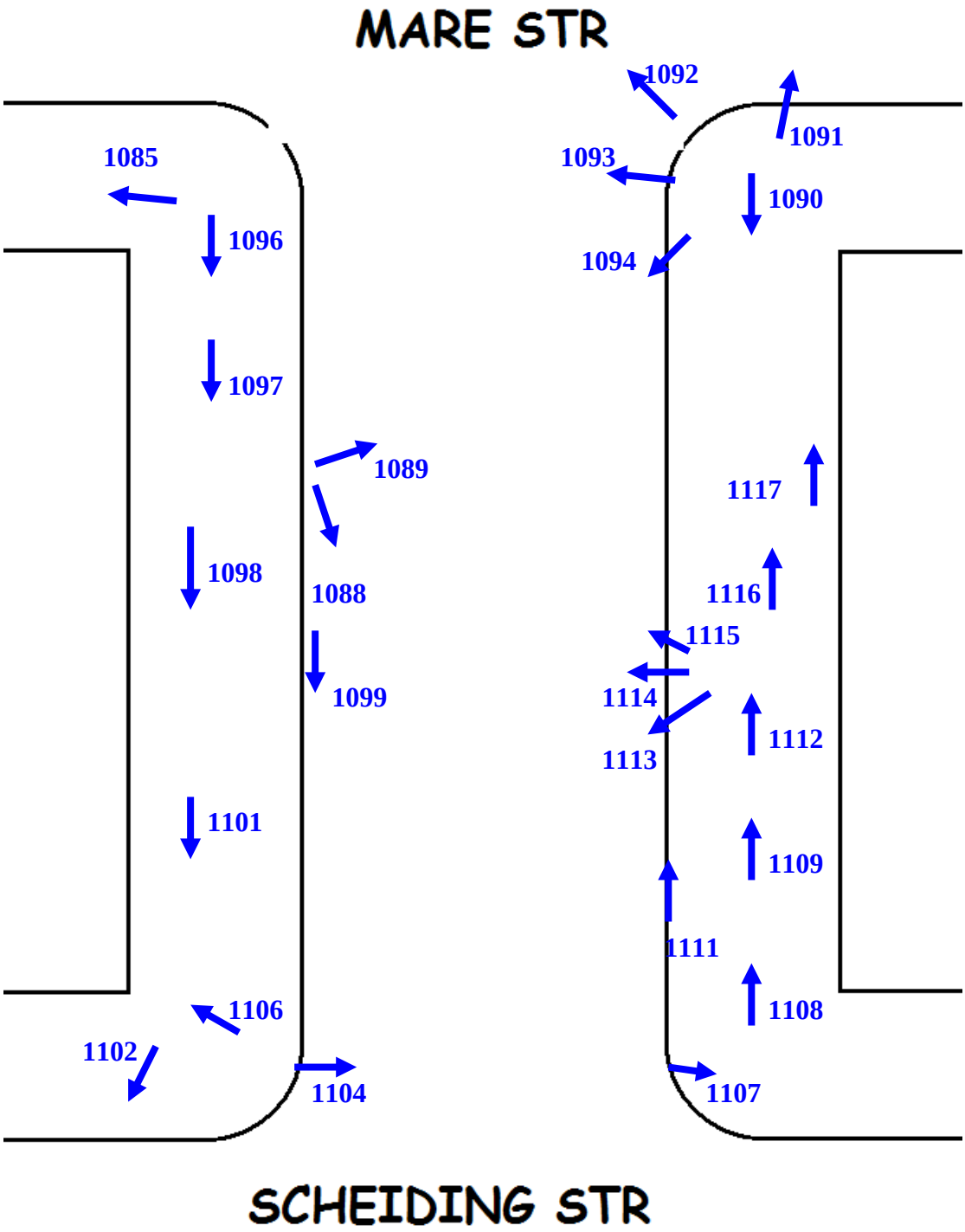


Figure 314. *Block 11, schematic representation for photo documentation.*

Figure 315. *Provisionally protected building. (P 1088)*

Figure 316. *Provisionally protected building. (P 1089)*

Figure 317. *Cement block paving. (P 1090)*

Figure 318. *Provisionally protected building. (P 1091)*

Figure 319. *Protected building. (P 1092)*

Figure 320. *Provisionally protected building. (P 1093)*

Figure 321. *Provisionally protected building. (P 1094)*

Figure 322. *Paving along Mare Street. Note trees.* ***(P 1095)***

Figure 323. *Cement block paving. (P 1096)*

Figure 324. *Remnants of protected slate paving. (P 1097)*

Figure 325. *Remnants of protected slate paving. (P 1098)*

Figure 326. *Canopy support columns indicate definition of street and paving limits. (P 1099)*

Figure 327. *These ferro-granolite concrete panels may be indicative of historic paving. Similar panels were found in earlier blocks. Unfortunately they were also damaged and badly repaired over time. (P 1100)*

Figure 328. *Detail of ferro-granolite panes and repairs. (P 1101)*

Figure 329. *Roadway, sidewalk level irregularities. (P 1102)*

Figure 330. *Provisionally protected building. (P 1104)*

Figure 331. *Protected building. It is worrisome that a large number of historic buildings are not in proper use. Why is this hotel, so ideally located at the station not open for business? (P 1106)*

Figure 332. *Granite curbing and a variety of 'modern' paving.* ***(P 1107)***

Figure 333*. 'Modern' paving and service hatches, one 'old'.* ***(P 1108)***

Figure 334. *Cement block paving. (P 1109)*

Figure 335. *Protected building. (P 1113)*

Figure 336. *This may be indicative of another older 'stone paving' that was used in the past.* ***(P 1111)***

Figure 337. *Cement block paving. (P 1112)*

Figure 338. *Provisionally protected building (P 1114)*

Figure 339. *Provisionally protected building. (P 1115)*

Figure 340. *Cement block paving. (P 1116)*

Figure 341. *Variety of cement paving. (P 1117)*

10.14. Block 12. Scheiding Street to Station.

Figure 342. *Google Earth image of block 12 with 'protected buildings' highlighted.*

SUMMARY BLOCK 12

1. Contains historic building al round.
2. Limited greening.
5. The existence of paved slate water furrows must be considered
6. The existence of archaeological material below 'ground level' must be considered

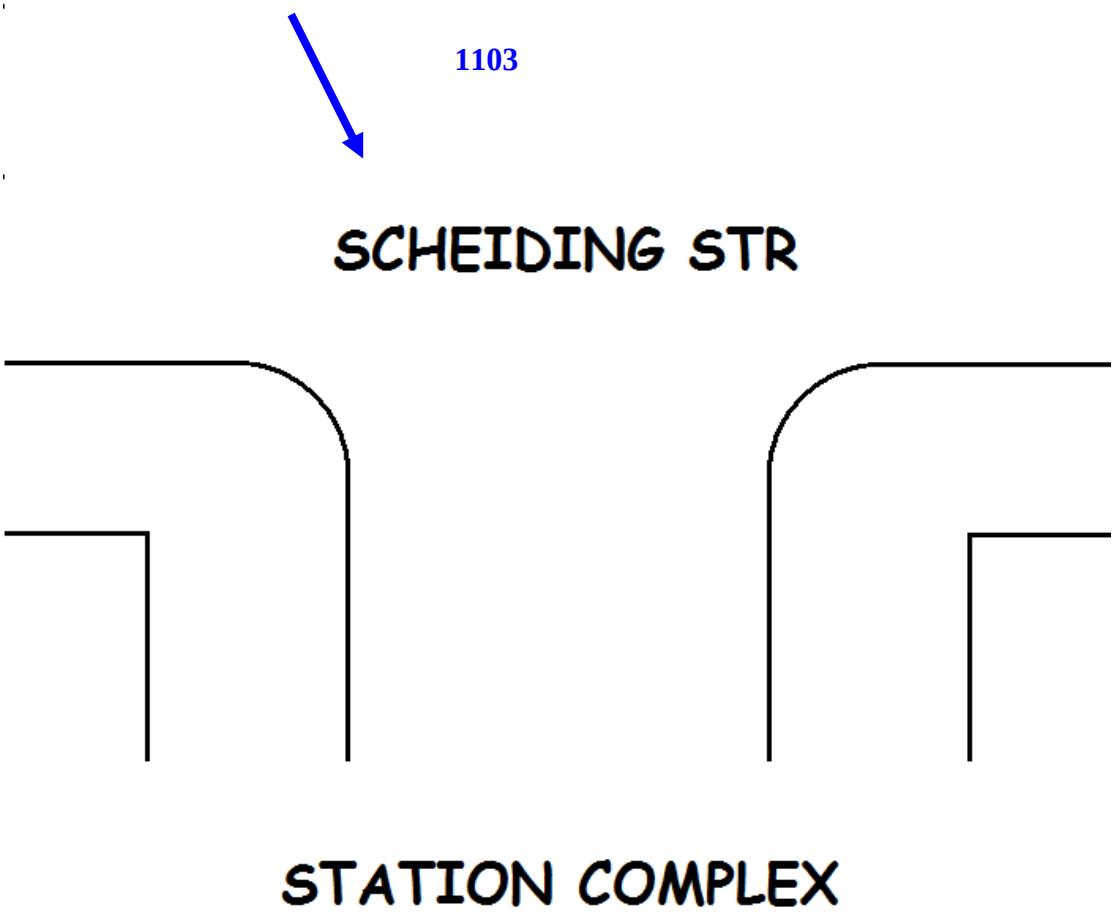


Figure 343. *Block 12, schematic representation for photo documentation.*

Figure 344. *Protected building. (P 1103)*

11. CONCLUSION

African Heritage Consultants were tasked to undertake a first phase heritage impact assessment for a proposed rapid transit bus system linking Boom and Scheiding streets along Paul Kruger Street. The brief from the client's engineers was that From Church square to the Station all normal traffic will be excluded and sidewalks will be extended to suit a narrower roadway. From the Zoo to church Square all parking will be disallowed and sidewalks will be upgraded. Around the square normal vehicular traffic will be diverted to Palace and Bank Streets. These actions will have the following cultural historical impacts:-

11.1. As only one terminus is to be built on an island in Skinner Street there will be no physical impact on 'protected' buildings.

11.2. The limiting of vehicular traffic, the improved sidewalks, the new street furniture and improved greening will enhance and improve 'protected' building's profiles and character.

11.3. There are large sections of 'historical' and protected slate paving still in place that will need special design parameters.

11.4. Most of the curbing along Paul Kruger Street are granite blocks and are protected. This will need special design parameters.

11.5. Some portions of the old tramways still remain under the macadamised streets. These are all protected.

11.6. There exist an unknown number of paved water furrows under the macadamised streets. These are all protected.

11.7. The location of the suburb of Pretoria in the City of Tswane is located between the Apies and Bakoven rivulets that are fed by the dolomite system to the south. People have lived on this location during the Stone Age, and the Iron Age. White pioneers settled here in after the Trek and Pretoria was founded in 1855. Therefore the whole central part of the town is an archaeological site. Any planned large scale excavations for the rapid bus system must be cleared by a competent archaeologist and permission by SAHRA

11.9. Some protected building's verandas extend onto the pavement. These are protected and may not be altered without following the proper procedures.

11.10. Elevations and slope of sidewalks differ from point to point. If these are to be lowered then archaeological remains may be impacted upon.

11.11. If the design of the 'new road' implies excavation for new foundation layers then archaeological remains may be impacted upon.

12. FIELD RATING AND STATEMENT OF SIGNIFICANCE

THIS EVALUATION REFERS TO SECTIONS 7.1.J AND 7.1.G OF THE MINIMUM STANDARDS FORMAT FOR PHASE 1 HERITAGE IMPACT ASESSEMENTS AS PRESCRIBED BY SAHR APPROVED BY THEIR COUNCIL IN MARCH 2006 AND EDITED IN AUGUST 2007

Section 7.1.J. Field Rating.

e. 'General' Protection A. (Field rating IV A): This site should be mitigated before destruction.

Section 7.1.K. Statement of Significance. (heritage value)

c. its potential to yield information thatwill contribute to an understanding of South Africa's natural of cultural heritage.

g. its strong or special association with a particular community or cultural group for social, cultural or spiritual reasons

13 RECOMMENDATIONS

13.1. In principal the upgrading of Paul Kruger Street will be a major impact from a heritage point of view if the new design takes the heritage remains into account and is guided by the heritage value of buildings.

13.2. The final design of the streetscape and pavements must be approved by SAHRA'S building committee before execution can proceed.

13.3 All, or most of the historical curbing and paving, must be retained or replaced in-situ.

13.4. Paved water furrows and tram lines must be identified, retained if possible, or application must be made for demolition at the heritage authorities.

13.5 All excavations and their effective depths must be declared by the designers, and such excavations must be sanctioned by SAHRA.

13.6. A heritage specialist must supervise excavations as necessary.

13.7. If during construction any heritage remains are uncovered all work in that section of the project must stopped until the site has been evaluated and, if necessary, documented and mitigated by a heritage specialist.

13.8. Where the verandas of historic buildings extend onto the pavement a phase 2 heritage impact survey must be done with recommendations as to how the veranda's paving should be repaired, restored or replaced.

13.9 The construction and excavation of sidewalks and the street surfaces must be done under supervision of a heritage specialist.

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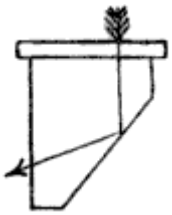
ADDENDUM



H A Y W A R D B R O T H E R S '

PATENT

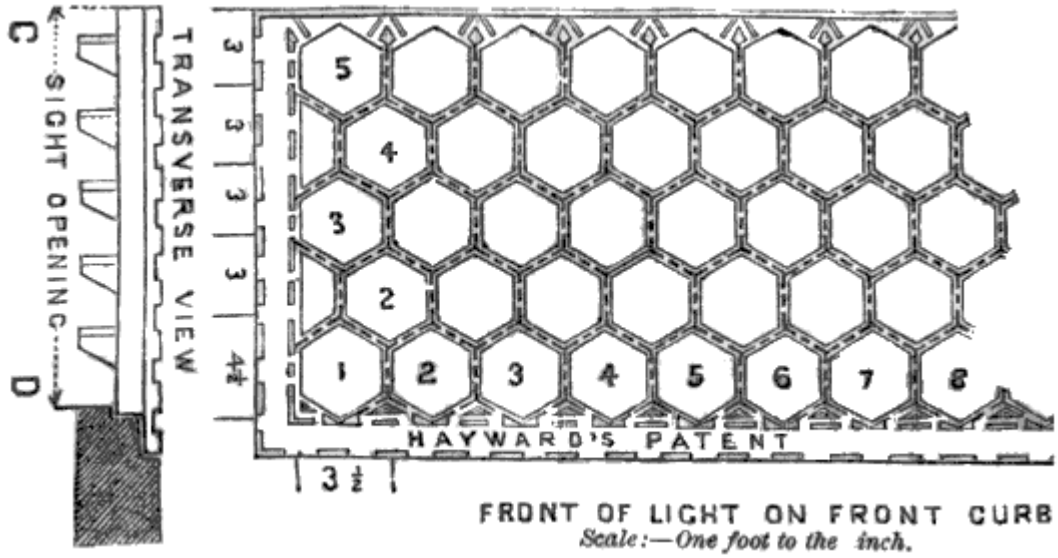
PAVEMENT LIGHTS,

WITH HEXAGONAL AND RECTANGULAR

SEMI-PRISMATIC REFLECTING LENSES.

The light is reflected through the lens from the sloping back of it in the direction shown by the arrow, and the reflecting face is at such an angle as to send the rays of

light into the basement in a direct line *from* the front. The light from all other descriptions is only perpendicular. Hence the advantage of using Hayward's Patent Semi-Prismatic Radiating and Reflecting Lenses.



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SAFETY COAL PLATES,

Solid—Ventilating—Illuminating—or partly Ventilating and Illuminating.

HAYWARD'S SHERINGHAM VENTILATOR,

For the admission of fresh air day and night without a draught.

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IMPROVED CIRCULAR AND OTHER ORNAMENTAL IRON STAIRCASES.

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