

# Heritage Statement

**in support of Heritage Western Cape Notification of Intent to Develop (HWC NID  
– Section 38)**

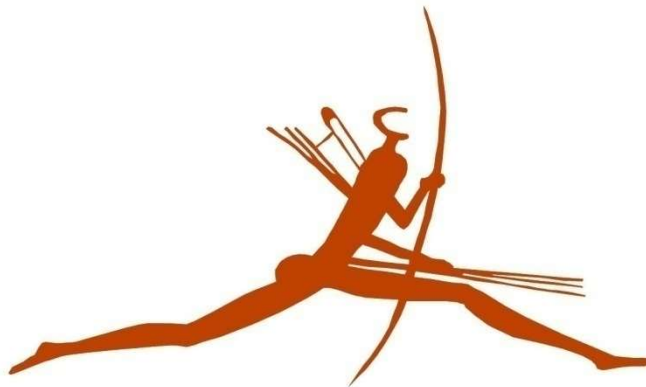
(HWC Case No.: HWC24041004 and DEA&DP Ref. No. 16/3/3/6/7/1/D2/29/0229/23)

## **The Proposed Upgrading of the Herold's Bay Pump Station and Associated Rising Main as well as the Development of New Associated Infrastructure, Herold's Bay, George Municipality, Western Cape Province**

for

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by



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8 October 2023 – Revised 9 April 2024

## Summary - Conclusions & Recommendations

The following conclusions and recommendations are arrived at after reviewing information obtained through:

- previous heritage studies and HWC applications in the vicinity of the development footprint,
- SAHRIS PalaeoSensitivity map,
- previous archaeological and heritage related studies in the surrounding area,
- SG Diagrams,
- historic and Google Earth aerial photographs, and
- a site inspection (archaeological walk-through).

The SAHRIS PalaeoSensitivity map shows that the study area is shaded grey and blue, with grey meaning that palaeontological sensitivity is INSIGNIFICANT/ZERO and that “no palaeontological studies are required”, and with blue meaning that sensitivity is LOW and “no palaeontological studies are required however a protocol for finds is required” (Figure 30). Due to the INSIGNIFICANT/ZERO/LOW palaeontological sensitivity of the study area, a professional palaeontologist was not consulted for this project. In accordance with the SAHRIS PalaeoSensitivity map, it is recommended that a protocol for finds of potential fossil material (and buried artefacts), the Fossil Finds Procedure (FFP), is included in the Environmental Management Plan (EMP) for the Construction Phase of the project.

Links to the HWC FFP are as follows:

[https://www.hwc.org.za/sites/default/files/3\\_11%20Protocol%20Fossil%20Finds%20Final%20June%202016.pdf](https://www.hwc.org.za/sites/default/files/3_11%20Protocol%20Fossil%20Finds%20Final%20June%202016.pdf)

[https://www.hwc.org.za/sites/default/files/3\\_12%20Fossil%20Finds%20Poster.pdf](https://www.hwc.org.za/sites/default/files/3_12%20Fossil%20Finds%20Poster.pdf)

The development footprint is substantially disturbed and previously developed, and no colonial or pre-colonial heritage resources of significance were identified in the study area. If present on or in surface sediments between the WWTW and Spekie Gericke Drive, then Stone Age implements are expected to be of low significance and Not Conservation Worthy. No caves or rock shelters occur in the development footprint. Neither the Provincial Heritage Site shown in Figure 45 nor other heritage resources in the surroundings will be impacted by the proposed activity.

Because there are no significant heritage resources associated with the development footprint, it does not meaningfully contribute to the already altered cultural landscape of the area. For the same reason there will be negligible to no cumulative impact on the heritage value of the area.

Due to the sub-terranean nature of most of the proposed activity, there is no vertical component and hence no visual impact on the aesthetic value of the affected area. The proposed new pump station on Erf 116 will be built within an existing disturbance and will have a negligible visual impact as it will be partially screened by existing vegetation and developments. Nevertheless, on heritage grounds, due to the entire absence of heritage resources or themes in and around Erf 116, the proposed pump station will have negligible to no impact on the visual or aesthetic heritage value of the area.

The positive socio-economic impact, including short-, medium- and long-term jobs as well as the growing need for maintaining and upgrading the bulk services – including sewer –

infrastructure of Herold's Bay outweigh the negligible to zero negative impacts this project may have on heritage resources.

Because of the above, and because there is no reason to believe that significant heritage resources will be impacted by the proposed activity, it is recommended that the proposed activity be approved in full, and that a Heritage Impact Assessment is not warranted for the project.

Nevertheless, it is recommended that Heritage Western Cape consider and/or require that the following be included in the Environmental Authorisation / Environmental Management Program, if the project is approved:

- although not requiring further Palaeontological investigation, in accordance with the SAHRIS PalaeoSensitivity Map, the Fossil Finds Procedure (FFP – see links above), should be included in the Environmental Authorisation / Environmental Management Program (EMPr) for the construction phase of the project,
- due to the disturbed and developed nature of the development footprint, as well as the findings of this and previous archaeological studies, archaeological monitoring is NOT recommended, but,
- if any human remains or significant archaeological materials are exposed during mining activities, then the find should be protected from further disturbance and work in the immediate area should be halted and Heritage Western Cape must be notified immediately. These heritage resources are protected by Section 36(3)(a) and Section 35(4) of the NHRA (Act 25 of 1999) respectively and may not be damaged or disturbed in any way without a permit from the heritage authorities. Any work in mitigation, if deemed appropriate, should be commissioned and completed before construction continues in the affected area and will be at the expense of the developer.

## Table of Contents

Content	Page
Summary – Conclusions & Recommendations _____	2
1. Name, Bio-sketch and Declaration of Specialist _____	5
2. Introduction & Background _____	6
3. Site Location and Development Proposal _____	6
4. Study Area _____	10
5. Background Information, Previous Heritage Studies & Heritage Resources _____	34
6. SG Diagrams, Historic Aerial Photographs and Results of Site Inspection_ _____	37
7. Conclusions & Recommendations _____	49
8. References & Bibliography _____	50
A4 Versions of Selected Figures _____	52

## 1. Name, Bio-sketch and Declaration of Specialist

I, Peter Nilssen (PhD in archaeology, University of Cape Town, 2000), herewith confirm that I am a Professional member - in good standing - of the Association of Southern African Professional Archaeologists (ASAPA), including the Cultural Resource Management section of the same association since 1989 (ASAPA professional member # 097). I am an accredited Principal Investigator for archaeozoology (specialist analysis), coastal, shell midden and Stone Age archaeology; Field Director for Colonial Period archaeology; and Field Supervisor for Iron Age archaeology and Rock Art. I have worked as a professional archaeologist in Cultural Resource Management since 1989 and have completed more than 260 heritage-related impact assessments and mitigation projects as Principal Investigator.

As the appointed independent specialist (archaeologist) for this project hereby declare that I:

- act as an independent specialist in this application,
- regard the information contained in this report as it relates to my specialist input/study to be true and correct,
- do not have and will not have any financial interest in the undertaking of the activity, other than remuneration for work performed in terms of the NEMA, the Environmental Impact Assessment Regulations, 2014 and any specific environmental management Act,
- have and will not have no vested interest in the proposed activity proceeding,
- have disclosed, to the applicant, EAP and competent authority, any material information that have or may have the potential to influence the decision of the competent authority or the objectivity of any report, plan or document required in terms of the NEMA, the Environmental Impact Assessment Regulations, 2014 and any specific environmental management Act,
- am fully aware of and meet the responsibilities in terms of NEMA, the Environmental Impact Assessment Regulations, 2014 (specifically in terms of regulation 13 of GN No. R. 982) and any specific environmental management Act, and that failure to comply with these requirements may constitute and result in disqualification, and
- am aware that a false declaration is an offence in terms of regulation 48 of GN No. R. 982.



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Signature of the specialist:

Date: **9 April 2024**

## **2. Introduction & Background**

Owing to the fast growth of the George Municipal area, the advanced age of existing infrastructure, and pending developments, the George Municipality recognises the need for the rehabilitation and/or upgrade of the sewer infrastructure in Herold's Bay. The environmental application, currently a Basic Assessment process, is being facilitated by Michael Bennet and Carla Swanepoel of Sharples Environmental Services cc (hereafter SES) who compiled a Screening Tool Report and a Site Sensitivity Verification Report for the project (Bennet & Swanepoel 2022 & 2023). Because the proposed development footprint exceeds 300 m in length, Section 38(1)(a) of the National Heritage Resources Act (Act 25 of 1999, NHRA) is triggered, resulting in the requirement for a Notification of Intent to Develop (NID) application to Heritage Western Cape (HWC). Although the proposed activity involves three or more existing erven or subdivisions thereof, the character of the site will not be changed and therefore Section 38(1)(c)(ii) of the NHRA is not triggered. Through SES, the applicant appointed this author to assist with the heritage process and NID application to HWC.

This document is not a Heritage Impact Assessment, but rather, is a scoping report that provides additional information in support of the NID application and motivates the recommendations made therein.

This Heritage Statement and the accompanying NID application form serve to inform HWC about the proposed development activity and to make recommendations regarding the potential impact on heritage resources and the requirement for any further specialist investigations. This report, the NID application form, and accompanying documentation should be read together as information is not always repeated.

The purpose of this Heritage Statement is to report the results of a site inspection and basic review of background information and previous heritage-related studies with the aim to:

- 1) assist HWC in their decision-making process to ensure that potentially significant heritage resources are investigated and not overlooked, and that unnecessary heritage studies are not undertaken, and
- 2) to assist the applicant with the heritage application process, to avoid expenses on unnecessary specialist studies, and to avoid or minimize later delays and costs resulting from the chance discovery of previously undetected and significant heritage resources.

For the above reasons, HWC recommends that NID applications should be prepared with the assistance of suitably qualified and accredited heritage professionals.

Based on information submitted here as well as its own sources and expertise, HWC will decide and advise on the way forward regarding the protection and management of heritage resources in accordance with the NHRA.

## **3. Site Location and Development Proposal**

The linear study area straddles several properties in and west of Herold's Bay and is located south of the R404, along Spekie Gericke Drive, Skimmelkrans Lane and Sandstrand Avenue (labelled Uitspanning St in Google Earth). The site is on the Cape South Coast some 10 km South-West of George and 6 km South of the George Airport in the Western Cape Province with the start (Herold's Bay WWTW), middle and end (Pump Station 1) at 34°03'14.18" S



22°22'46.99" E, 34°03'14.50" S 22°23'13.97" E and 34°03'11.87" S 22°23'34.53" E respectively (WGS 84, see Locality Map and Figures 1 through 4).



Locality Map. General location of the study area (red star) SW of George, Western Cape Province. Courtesy of Google Earth 2023. (A4 version below)

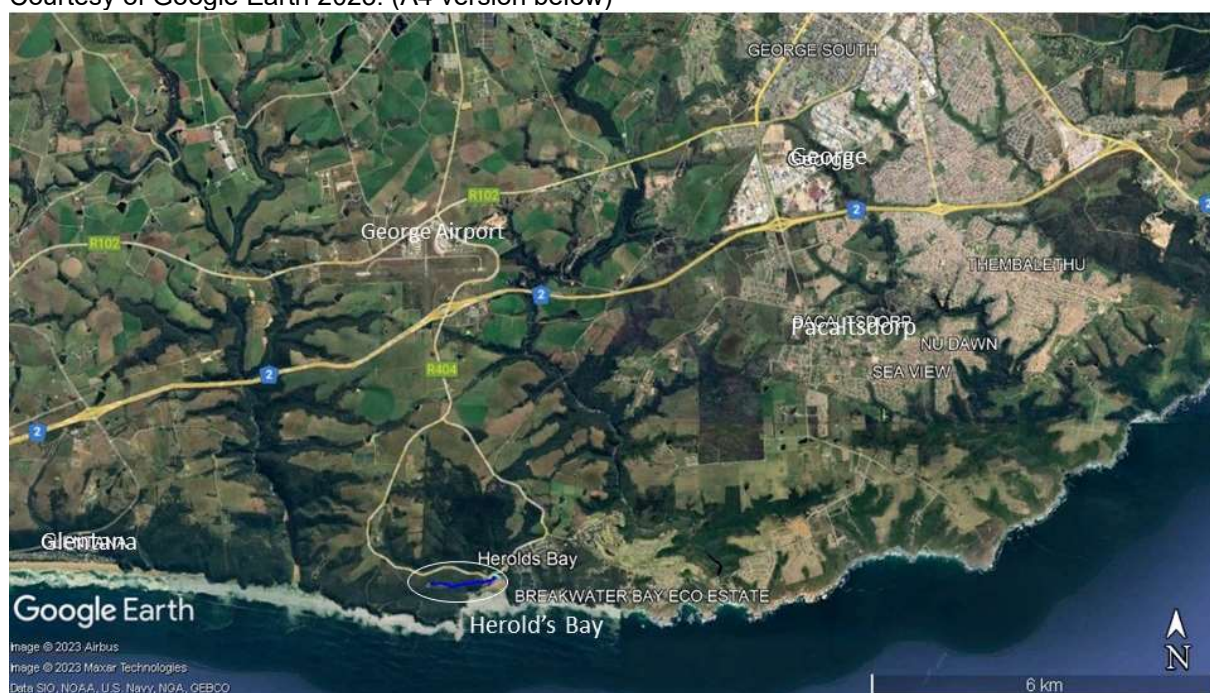


Figure 1. Enlarged from Locality Map showing the linear study area (white ellipse) relative to Herold's Bay, Pacaltsdorp, George Airport and George. Courtesy of Google Earth 2023. (A4 version below)



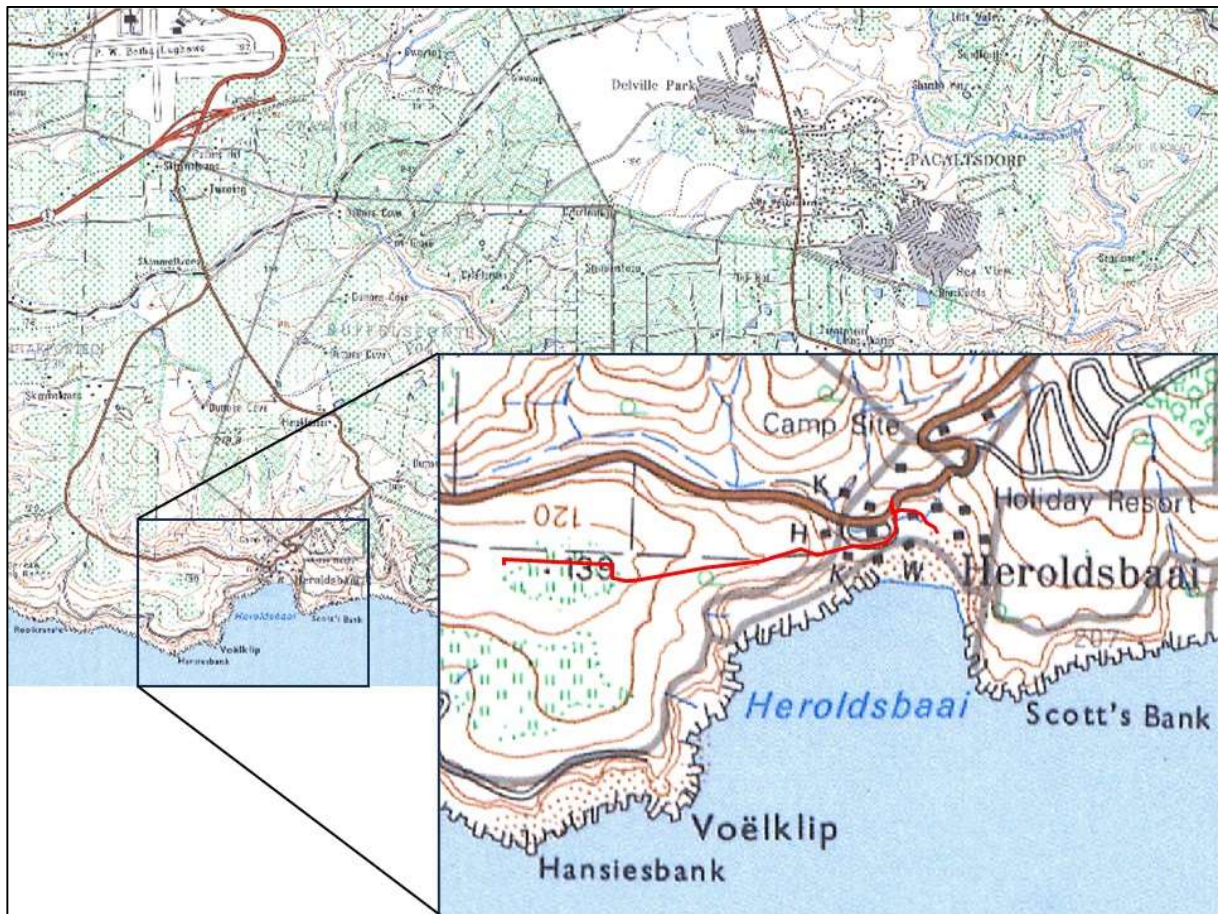


Figure 2. Enlarged portion of 1:50 000 topographic map 3422 AB 1982 Pacaltsdorp showing Herold's Bay and study area (red line in inset). Courtesy of the Chief Directorate Surveys and Mapping, Mowbray and Google Earth 2023. (A4 version below)

Properties traversed by the activity include Farm 37/236 Brakfontein, Farm 35/236 Brakfontein, RE Farm 236 Brakfontein, Farm 10/236 Brakfontein, RE Farm 237, Erf 110, Spekie Gericke Drive, Erf 116, Erf RE/95 on Sandstrand Avenue, and Erf 113 (Figures 3 & 4 and see labelled markers in Figure 3 in Section D of the accompanying HWC NID application form).

The linear extent of the study area is 1230 m, and the affected area is a maximum of 2460 m<sup>2</sup> in extent. The entire study area is already developed with sewer, traffic and bulk services infrastructure, and is registered to and managed by the George Municipality represented by Mr Johannes Franciscus Koegelenberg (ID 7906085048081, SG Diagrams – Herold's Bay General Plan 4178 Sheets 1 (A) and 1 (B) and Sheet 2, from SG Diagram 6005/1927).

Apart from the proposed new pump station on the already transformed Erf 116, the proposed activity is sub-terranean, does not have a vertical component and will therefore have no impact on the aesthetic value of the area.





Figure 3. Area enlarged from Figure 1 showing study area (coloured lines), properties and developments. Courtesy of Cape Farm Mapper and Google Earth 2023. (A4 version below)



Figure 4. Area enlarged from Figure 3 the study area (coloured lines), properties and developments. Courtesy of Cape Farm Mapper and Google Earth 2023. (A4 version below)

A detailed description of the development proposal is given in Section D of the accompanying HWC NID application form (Bennet & Swanepoel 2023a).

“The project includes the following:

1. The upgrading of the existing Pump Station No. 1 (location 1 on figure 5)

2. Construction of a new pump station 4 including degritting and screening equipment (location 2 on figure 5)
3. Construction of a new 250mm diameter rising main parallel to the existing rising main from the new Pump Station 4 to the Herold's Bay WWTW's (orange line, see item 3 on figure 5)
4. Construction of a new rising main from the Herold's Bay Pump Station No. 1 to the new Herolds Bay pump station 4 (yellow line, see item 4 on figure 5)" (Bennet & Swanepoel 2023b, Pg 1 & 2).

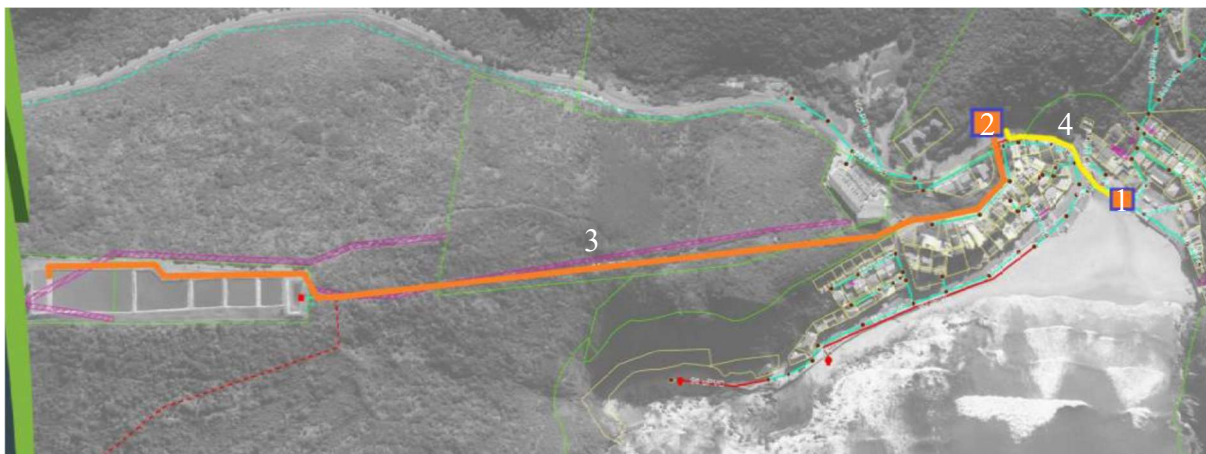


Figure 5: A conceptual layout plan of the proposed project. (after Bennet & Swanepoel 2023b, Pg 2, Figure 2)

#### 4. Study Area

The proposed activity is within a previously developed and disturbed area that involves seven properties with different zoning as shown in the table below (Bennet & Swanepoel 2023b).

Farm 37/236 & Farm 35/236	Wastewater Treatment Works Site	Utility Zone
RE Farm 236 & Farm 10/236	New Rising Main crosses	Agricultural Zone I
RE Farm 237 / Erf 110	New Rising Main Crosses	Transport Zone II
Erf 116	New screening and de-gritting pump station	Transport Zone II
Erf RE/95	Existing Pump Station to be upgraded	Open Space I Utility Zone (Draft Zoning Scheme 2023)
Erf 113	New Rising Main crosses	Transport Zone II

Figures 3 & 4 above show the affected properties and existing developments along the route. Starting at the Herold's Bay WWTW, the linear route falls within the previously disturbed portions of 37/236, 35/236, RE236 and 10/236. Apart from the WWTW, overhead transmission line and a vehicle track leading to a telecommunications mast, this part of the site is heavily overgrown with a mixture of indigenous and exotic vegetation. The route follows the existing sewer pipeline down the steep slope from the telecommunications mast to the top of Spekie Gericke Drive on RE/237 and Erf 110. From here, the route follows existing roads and sewer infrastructure along Spekie Gericke Drive, Skimmelkrans Lane and Sandstrand Avenue where it ends at the existing pump station on Erf RE/95. The new pump station will be built on Erf 116, which is currently an undeveloped erf already transformed and used as an informal car park.



Examples of the study area and affected environment are shown in Figures 6 through 28. Further locational and contextual information is shown in Figures 3 & 4. Directions of views are indicated on photographs with abbreviated compass bearing names such as E = East, W = West, WNW = West-North-West, SE = South-East, and so on.



Figure 6. Western start point - Herold's Bay Wastewater Treatment Works (WWTW).



Figure 7. Herold's Bay WWTW and vehicle track. Note existing developments and dense vegetation & ground cover. High lying parts of Herold's Bay visible in background (top).





Figure 8. Previously developed area in the immediate surroundings of the Herold's Bay WWTW. Note existing developments and dense vegetation & ground cover. Vehicle track to telecommunications mast and the High lying parts of Herold's Bay visible in background (top).





Figure 9. Previously developed area in the immediate surroundings of the Herold's Bay WWTW. Note existing developments and dense vegetation & ground cover.





Figure 10. Area immediately east of the Herold's Bay WWTW showing dense vegetation cover and vehicle track to telecommunications maps. High lying parts of Herold's Bay visible in background.





Figure 11. Overgrown stretch between the Herold's Bay WWTW and telecommunications mast. Patches of exposed dune sands are visible (bottom). High lying parts of Herold's Bay/Dutton's Cove visible in background (top).





Figure 12. Exposed surfaces along vehicle track leading to the telecommunications mast showing imported gravels (bottom) and aeolian dune sands (top).





Figure 13. Exposed surfaces along vehicle track leading to the telecommunications mast showing sterile aeolian dune sands.





Figure 14. Exposed surfaces along vehicle track at the telecommunications mast (top) and showing concrete slab supporting structure/container for telecommunications equipment.





Figure 15. Concrete bases for telecommunications/other masts with the base of the current mast shown in bottom image. Area is densely overgrown.





Figure 16. Concrete base of telecommunications structure/container (top) and dense vegetation on downslope to Spekie Gericke Drive (bottom). Eastern part of Herold's Bay visible in background (bottom).





Figure 17. Looking down on Herold's Bay and along the pipeline route with Spekie Gericke Drive and Skimmelkrans Lane visible on the right and left respectively (Top). Looking up along the pipeline route towards the telecommunications mast (top ellipse) with the manhole (bottom ellipse) at the end or top of Spekie Gericke Drive (bottom). Note dense vegetation on steep slope.



Figure 18. Top end of Spekie Gericke Drive showing manhole and telecommunications mast (white ellipses) and existing developments along sewer pipeline route.





Figure 19. Looking down (top) and up (bottom) Spekie Gericke Drive and along the existing sewer pipeline route. Note existing developments and bulk services infrastructure including a manhole (ellipse, bottom).





Figure 20. Intersection of Spekie Gericke Drive and Skimmelkrans Lane where the pipeline route turns to the east. Note existing developments and pipeline route (manholes in ellipses). The site for the new pump station on Erf 116 is north of Skimmelkrans Lane (top, see Figures 21 & 22).





Figure 21. Panoramic views along Skimmelkrans Lane at the intersection with Spekie Gericke Drive. Erf 116 (site for new pump station – see Figure 22) is located in the middle of the top image and the bottom of Spekie Gericke Drive is in the middle of the bottom image. The sewer pipeline route turns right (top) and left (bottom) onto Skimmelkrans Lane towards Sandstrand Avenue.





Figure 22. Proposed site for new pump station on Erf 116, Herold's Bay (after Bennet & Swanepoel 2023b, Pg. 8 & 9, Figures 9, 10 & 11). Note transformed state of property and existing developments and infrastructure.





Figure 23. Views along Skimmelkrans Lane and existing sewer pipeline route. Note stream on left, existing developments and Sandstrand Avenue with existing pump station as well as Herold's Bay beach visible in the distance (bottom).





Figure 24. Views along Skimmelkrans Lane, Sandstrand Avenue and existing sewer pipeline route with pump station in white ellipse.



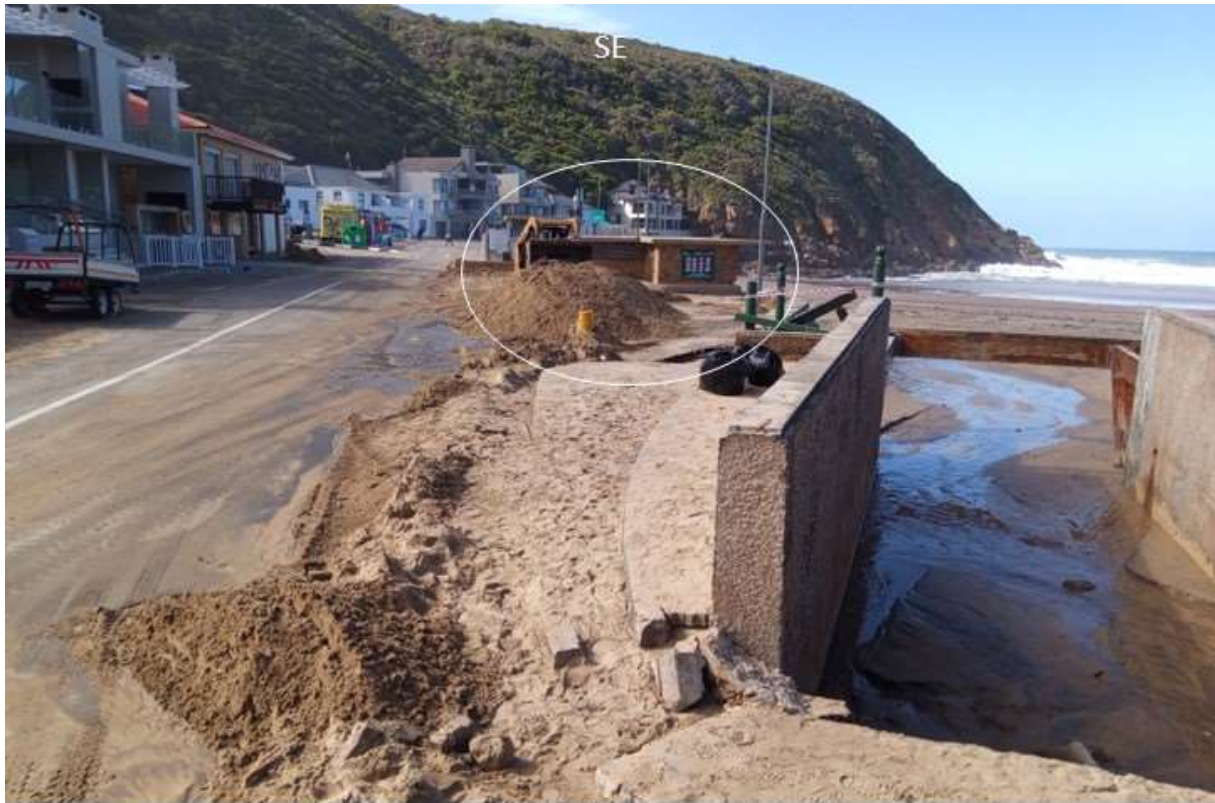


Figure 25. Eastern endpoint at existing pump station SW of Sandstrand Avenue. Existing pipeline route joins Skimmelkrans Lane, visible at right in bottom image. Note clean-up in process after storm & ocean surges on 16 & 17 September 2023.





Figure 26. Intersection of Skimmelkrans Lane and Sandstrand Avenue along the existing sewer pipeline route (top). Pipeline route along Skimmelkrans Lane with manhole (bottom).





Figure 27. Pipeline route along Skimmelkrans Lane with manholes visible, and the location of Erf 116 – site for new pump station – is indicated with the top black ellipse (bottom image).



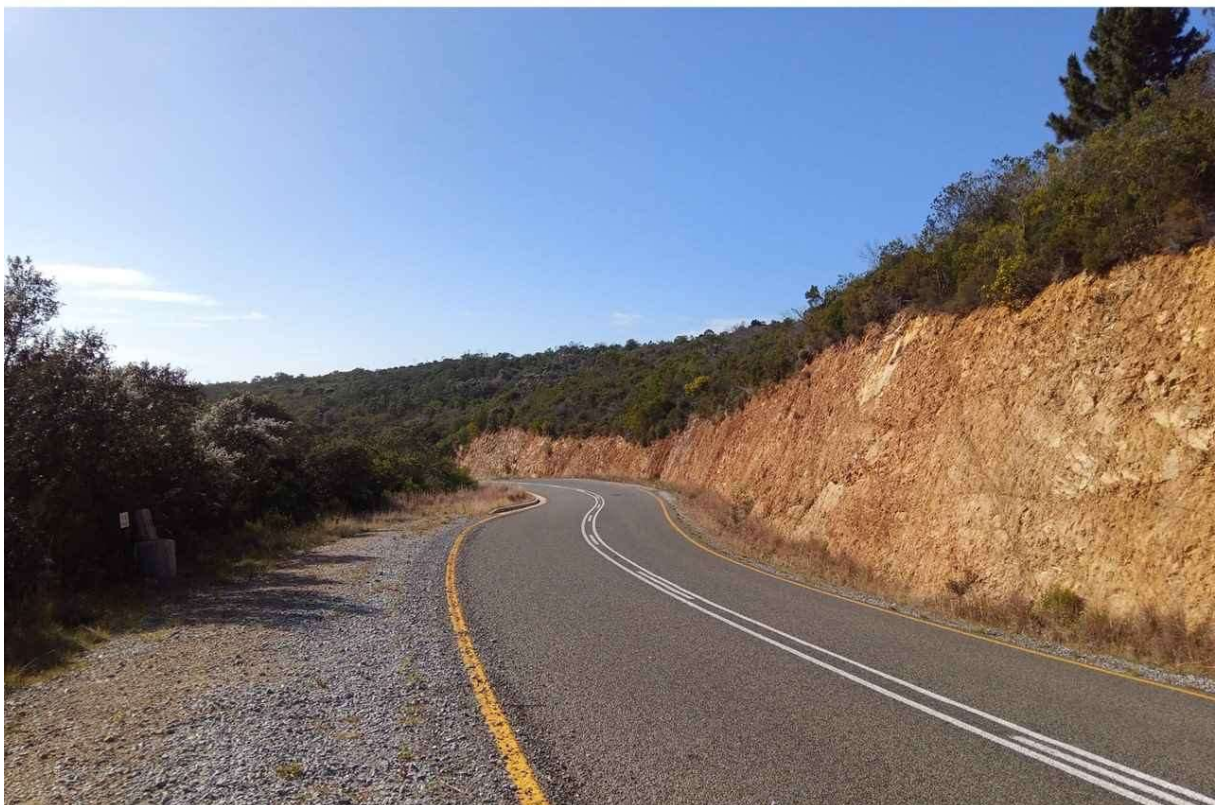


Figure 28. South-Easterly views from the R404 towards the pipeline route running along the top and seaward side of the ridge. Note that the Herold's Bay WWTW is visible from further west along the R404, but that all new additions to the sewer infrastructure in this area will be sub-surface and not visible. The high lying part of Herold's Bay / Dutton's Cove is visible on the left in top image.

5. Background Information, Previous Heritage Studies & Heritage Resources

Palaeontology

A DFFE screening tool report was obtained by SES as part of the initial stages of the environmental application process (Bennet & Swanepoel 2022). The screening tool map shown in Figure 29 indicates that part of the study area is shaded green and thus attributed with a LOW palaeontological sensitivity in the tables.

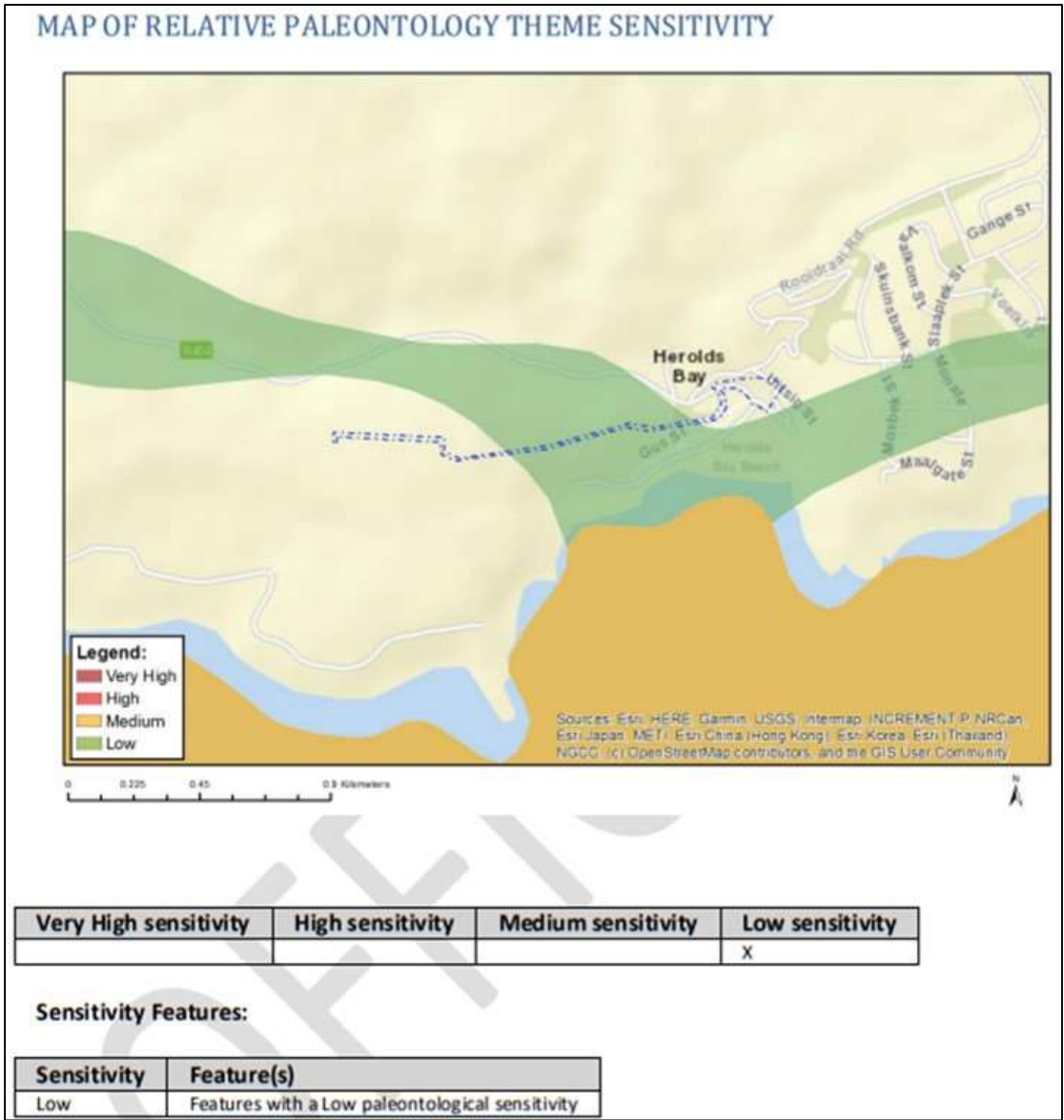


Figure 29. Map of relative palaeontology theme sensitivity from the DFFE screening tool report (Bennet & Swanepoel 2022). The development footprint is represented by the dashed blue lines.

The SAHRIS PalaeoSensitivity map shows that the study area is shaded grey and blue, with grey meaning that palaeontological sensitivity is INSIGNIFICANT/ZERO and that “no palaeontological studies are required”, and with blue meaning that sensitivity is LOW and “no palaeontological studies are required however a protocol for finds is required” (Figure 30). Due to the INSIGNIFICANT/ZERO/LOW palaeontological sensitivity attributed to the study area, a professional palaeontologist was not consulted for inputs.



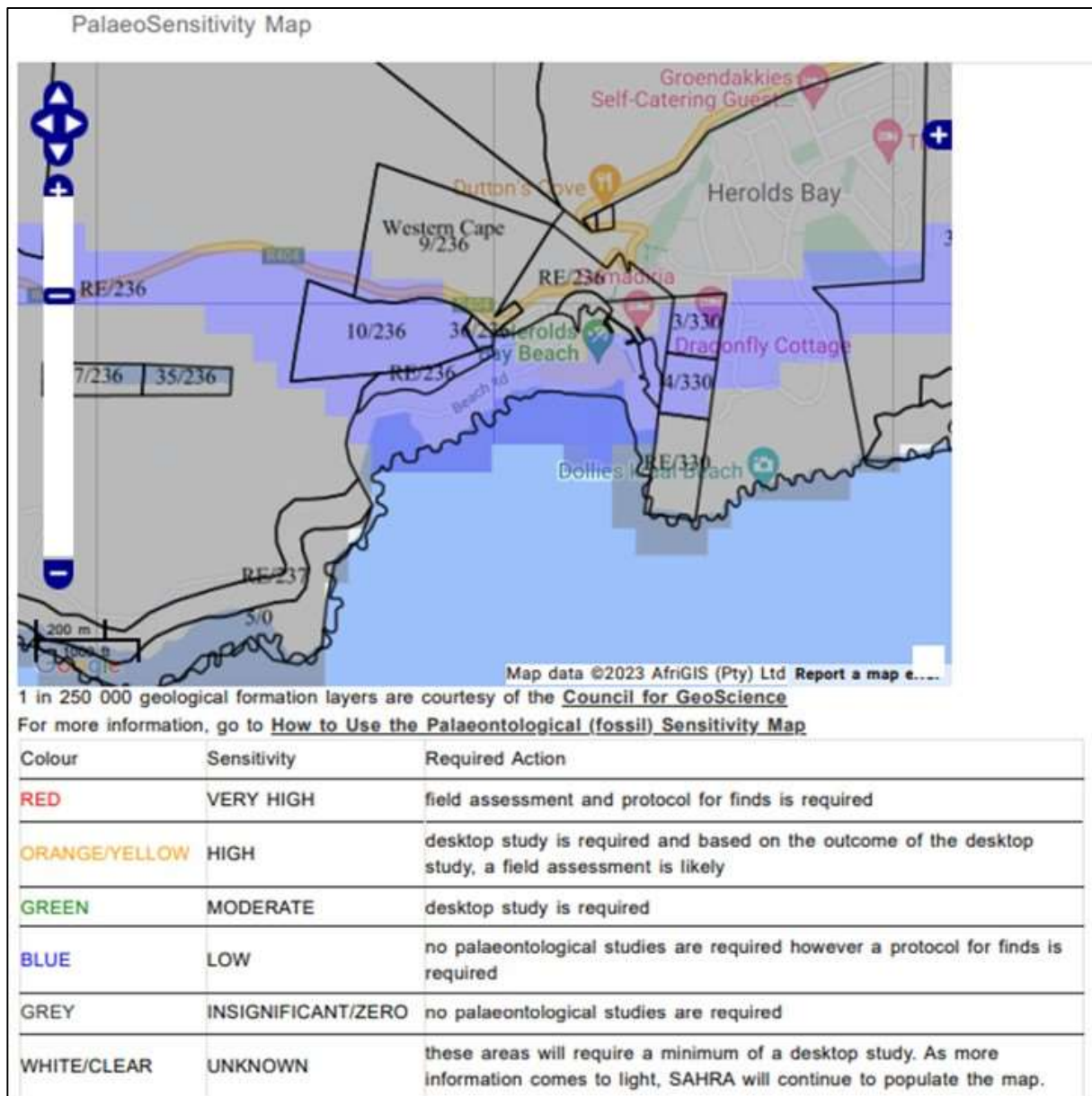


Figure 30. SAHRIS PalaeoSensitivity Map shows that the study area is shaded in both grey and blue (<http://www.sahra.org.za/>).

### Archaeology

The DFFE screening tool map and table for the archaeological and cultural heritage theme sensitivity shown in Figure 31 indicates that the proposed development footprint falls within an area of VERY HIGH sensitivity (Bennet & Swanepoel 2022). The VERY HIGH sensitivity is attributed because the study area is within 2 km of a Grade II heritage site and within 100 m of an ungraded heritage site (Figure 31). The reverse is correct. The study area is within 100 m of the Grade II Provincial Heritage Site (PHS) of Herold's Bay Cave (Brink & Deacon 1982, De Kock 2016, Harris *et al* in prep. and Nilssen 2019) and within 2 km of Stone Age and Colonial period archaeological resources identified to the south, east and north-east (De Kock 2016 and Kaplan 2001, 2004 & 2007). Nevertheless, the study area is already transformed and developed, and the proposed activity will not have any impact on the above-mentioned Grade II heritage site or heritage resources within 2 km that were reported in previous studies

### MAP OF RELATIVE ARCHAEOLOGICAL AND CULTURAL HERITAGE THEME SENSITIVITY

**Legend:**

- Very High
- High
- Medium
- Low

Scale: 0 0.225 0.45 0.9 Kilometers

North Arrow

Very High sensitivity	High sensitivity	Medium sensitivity	Low sensitivity
X			

Sensitivity Features:

Sensitivity	Feature(s)
Very High	Within 2km of a Grade II Heritage site
Very High	Within 100m of an Ungraded Heritage site

In addition to the Stone Age rock shelter with Middle Stone Age deposits - the PHS of Herold's Bay Cave - some 50 m south of Spekie Gericke Drive (Brink & Deacon 1982, Harris et al in prep. and Nilssen 2019), previous heritage-related studies for properties in the surroundings have identified a mixture of colonial and pre-colonial / Stone Age heritage resources (e.g., De



Kock 2016, Kaplan, 2001, 2004, 2005 & 2007, Nilssen 2007, 2008 & 2010). The eastern, shoreline section of the development footprint, from the top of Spekie Gericke Drive to the pump station on Erf RE/95 is already transformed and developed. Stone Age and pastoralist shell middens commonly occur in such settings (Kaplan 2001). In locations with spatial, topographic and sedimentary environments like that between the Herold's Bay WWTW and the top of Spekie Gericke Drive, archaeological resources are either absent (Nilssen 2007) or consist of isolated, temporally mixed Stone Age implements that lack associated cultural or organic remains and that are of low significance or Not Conservation Worthy (Kaplan, 2001, 2004, 2005 & 2007 and Nilssen 2008 & 2010).

A detailed desktop study and literature review is beyond the scope of this report but given the nature of the archaeological record described above and the disturbed nature of the development footprint, it is anticipated that the most likely archaeological resources to occur would be in the area between the Herold's Bay WWTW and the top of Spekie Gericke Drive. If present, these are likely to include isolated Stone Age implements, or at best, low to medium density scatters of the same materials (Kaplan 2001, 2004, 2005 and 2007 and Nilssen 2007, 2008 & 2010). Due to low densities, temporal mixing, the complete absence of associated cultural and organic remains, and in this case previously disturbed context, such finds are of low to no archaeological value and hence attributed Grade IIIC or Not Conservation Worthy status.

As mentioned above, however, the proposed development footprint is already transformed and developed with sewer, water, storm water and transport infrastructure, and consequently, the study area is not expected to be sensitive from an archaeological and cultural heritage standpoint.

## **6. SG Diagrams, Historic Aerial Photographs and Results of Site Inspection**

In addition to Google Earth "historic" imagery, all available SG Diagrams and high resolution historic aerial photographs were obtained and carefully examined for indications and traces of heritage resources such as built structures, roads, features and evidence for ploughing and human-related impacts. A detailed history of ownership and subdivision of the original Farms Brakfontein 236 and Brakfontein Coast 237 is beyond the scope of this basic investigation, but a previous study in the immediate surroundings provides some detail (De Kock 2016).

"The township is registered in George Quitrents 15 folio 18. According to S.G. Office records the largest (western) portion of Herold's Bay was established on a portion of the loan farm Brakfontein 236, surveyed and granted to F. Botha in 1817 – thus six years after proclamation of George as a formal drostdy district. The "Township of Herold's Bay" was formally established in 1928 on two portions of land:

- A portion of the farm Brakfontein, which was re-surveyed for amended title in 1902 and regranted in undivided shares to Messrs DM Lamprecht, JC Lamprecht, JS Gericke, FC Gericke and DA McIntyre on 5th July 1904;
- A portion of the farm Brakfontein Coast No. 1 granted to CFM Gericke on 24th November 1927" (De Kock 2016, Pg. 5).

"The first cottage (in Herold's Bay) was erected in 1895 and by 1920 several others became established, which gave rise to formalisation of the village in 1928" (De Kock 2016, Pg. 5).

The earliest SG Diagram obtained for Brakfontein dates to 1817 and likely relates to the original survey and granting to F. Botha as described above (Figure 32). Structures and features are

indicated on the diagram, but these are well north of the current study area. This diagram was replaced by SG Diagram 24/1904 (Figure 33). The portion referred to above as “Brakfontein Coast No. 1” is drawn in SG Diagram B1131/1926 (Figure 35). Portion 10 Brakfontein 236 is shown in SG Diagram 8930/57 (Figure 37) while the remaining subdivisions and affected properties including Erf 116 and Erf RE/95 are shown in SG Diagram 6005/1927 or General Plan 4178 (Figure 38). Further diagrams were examined and include existing servitudes, but these are not included here and are available from this author on request.

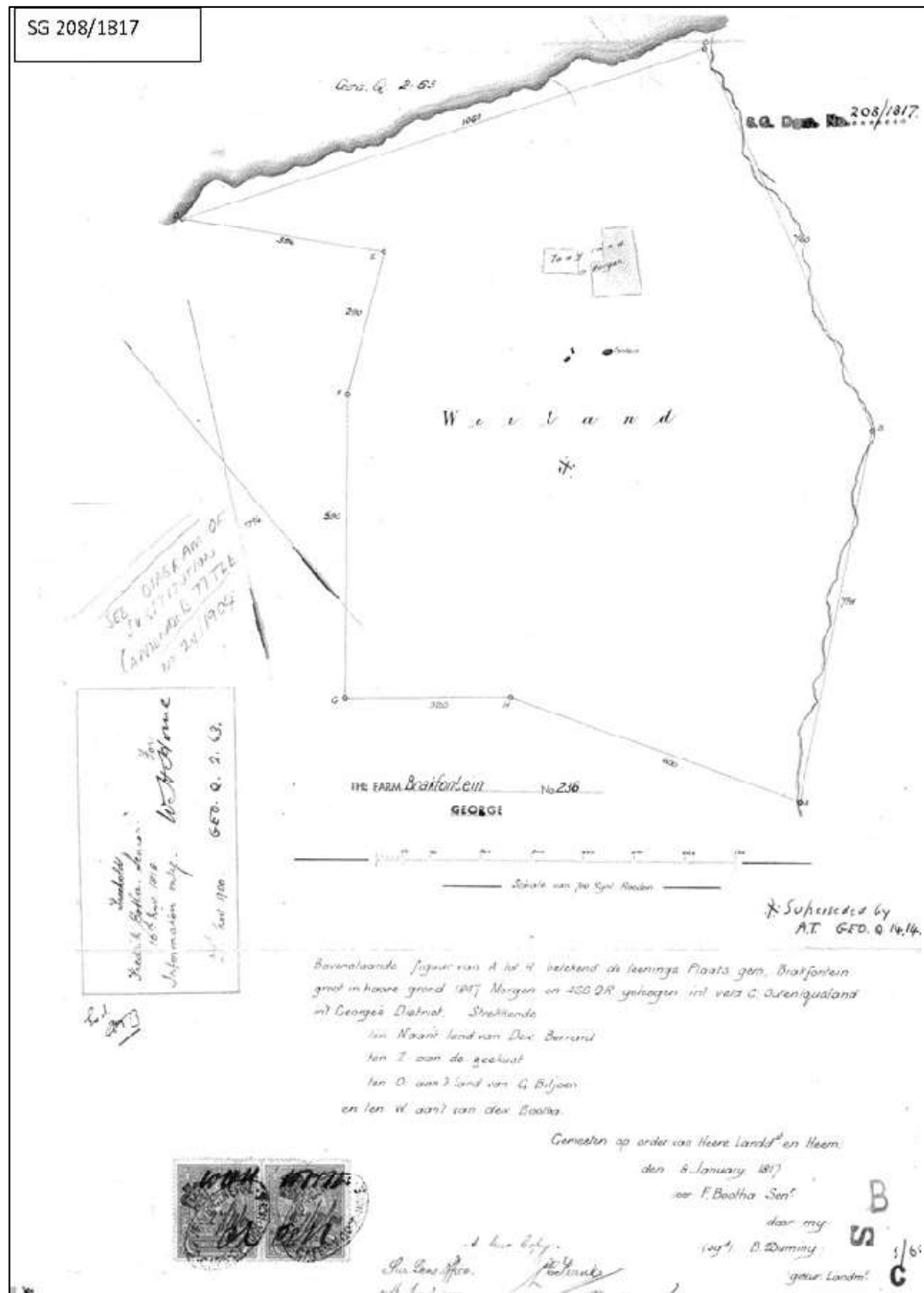


Figure 32. SG Diagram 208/1817 showing the original extent of Brakfontein 236. Note that North is down. Note that this diagram could not be reliably overlaid using Google Earth imagery.



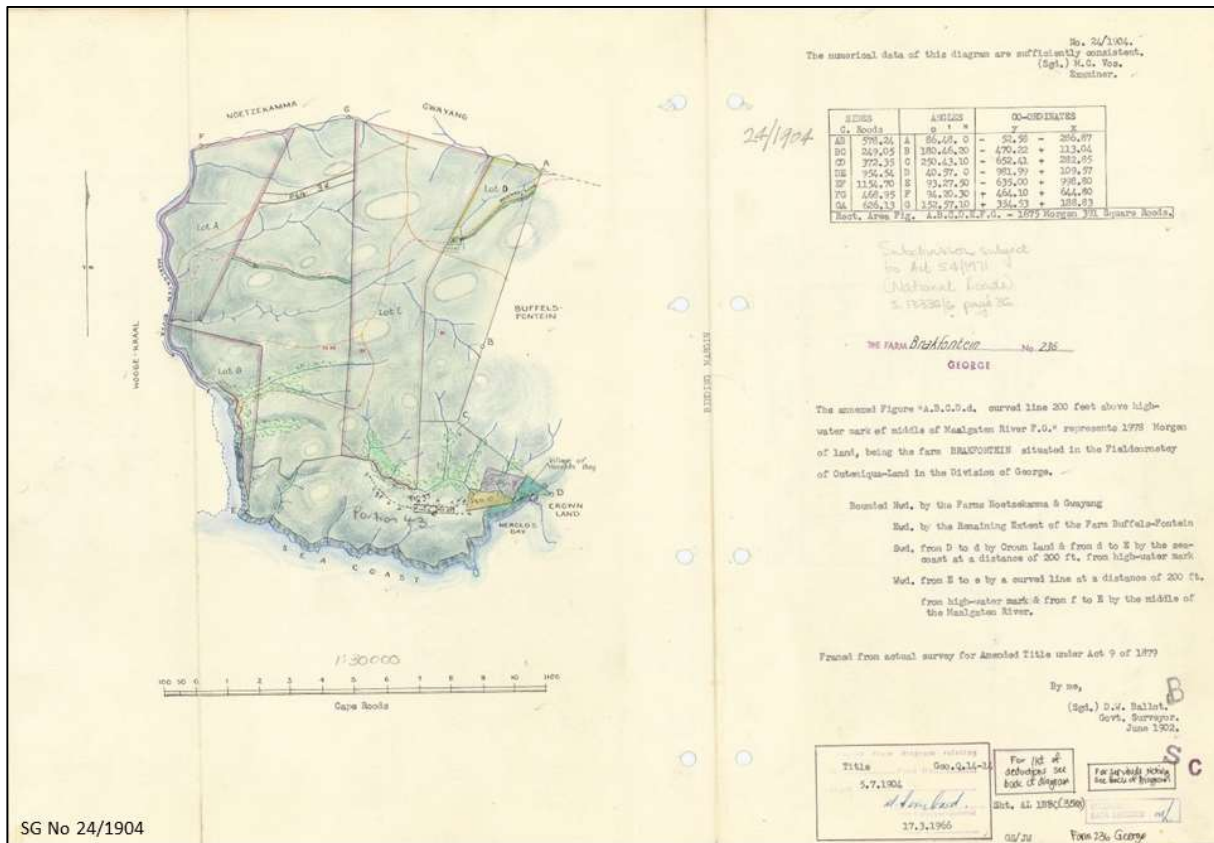


Figure 33. SG Diagram 24/1904 replaced SG 208/1817 and shows the original extent and various subdivisions of Brakfontein 236.

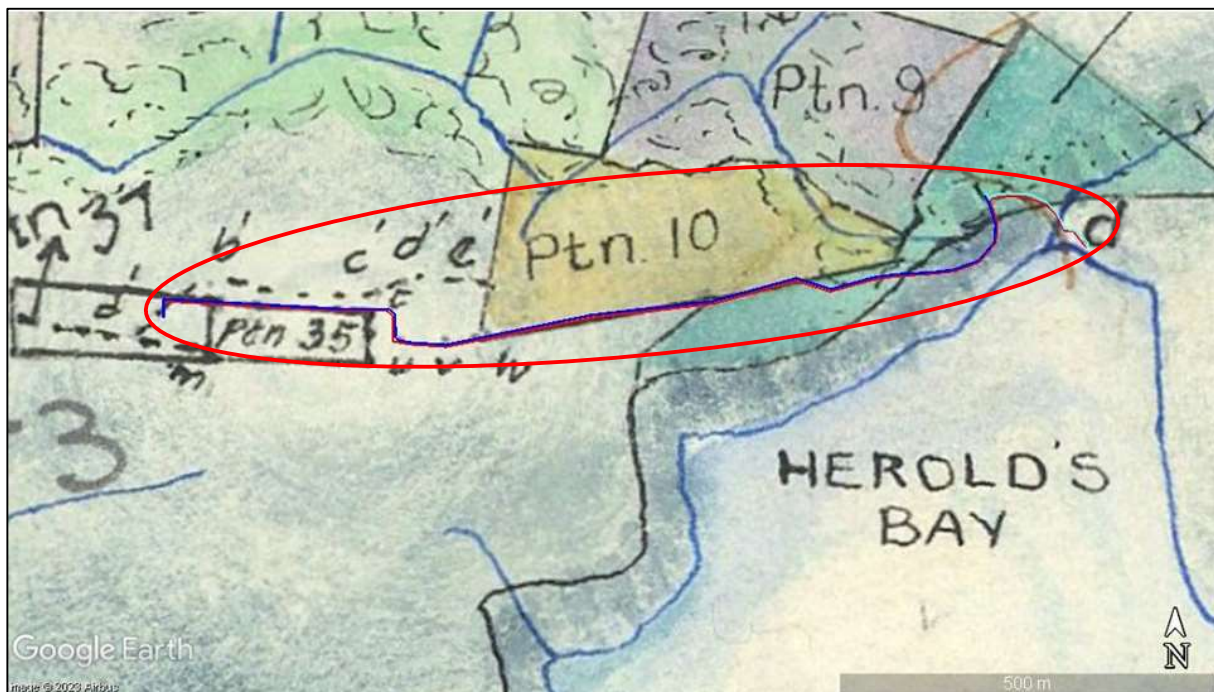


Figure 34. Enlarged, annotated portion of SG Diagram 24/1904 showing location of proposed development (coloured lines in red ellipse). Also note servitudes for road and sewer indicated with small letters through, above and east of portions 37 and 35.

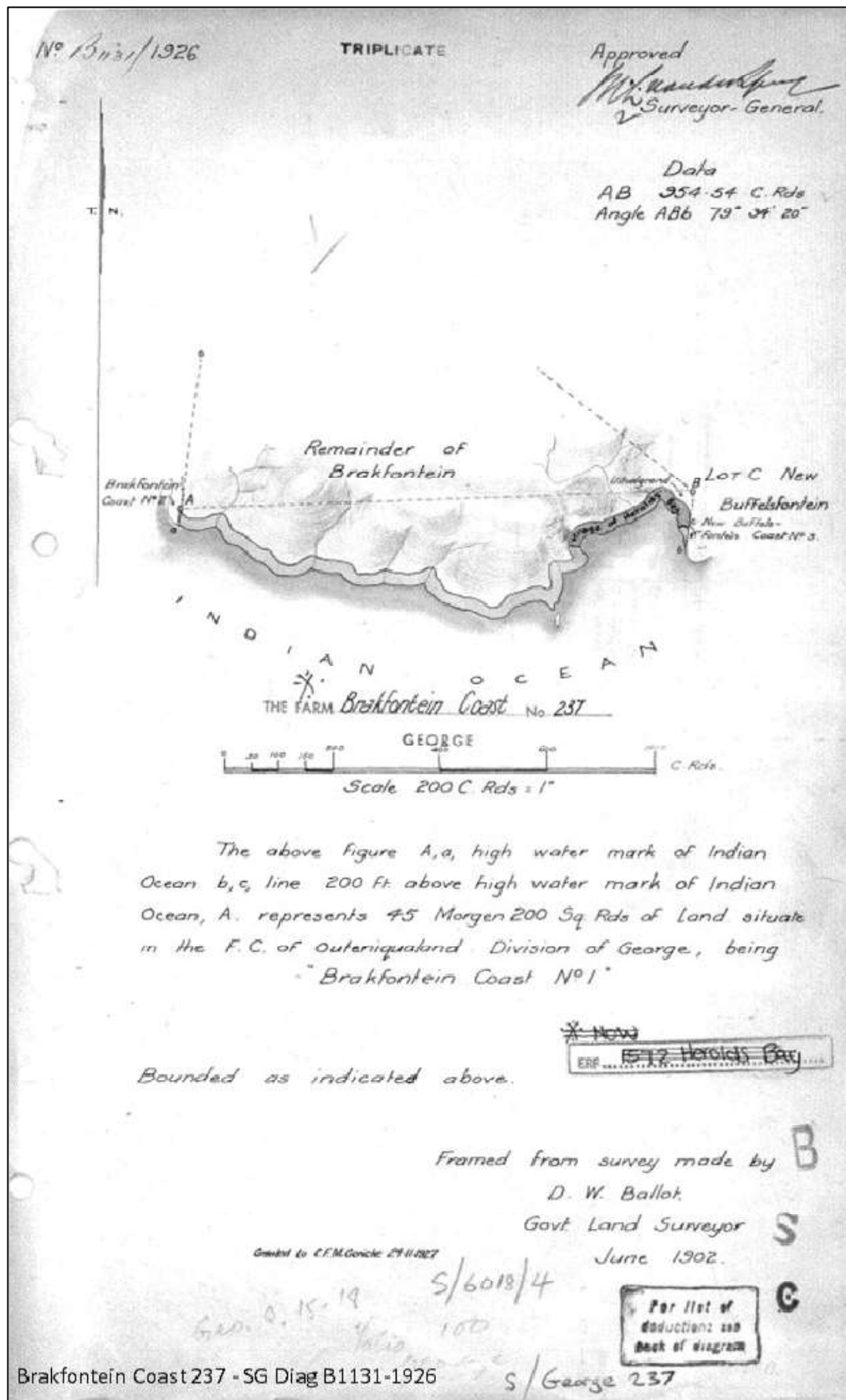


Figure 35. SG Diagram B1131/1926 shows reduction of Brakfontein Coast 237 or Brakfontein Coast No 1 and the village of Herold's Bay.



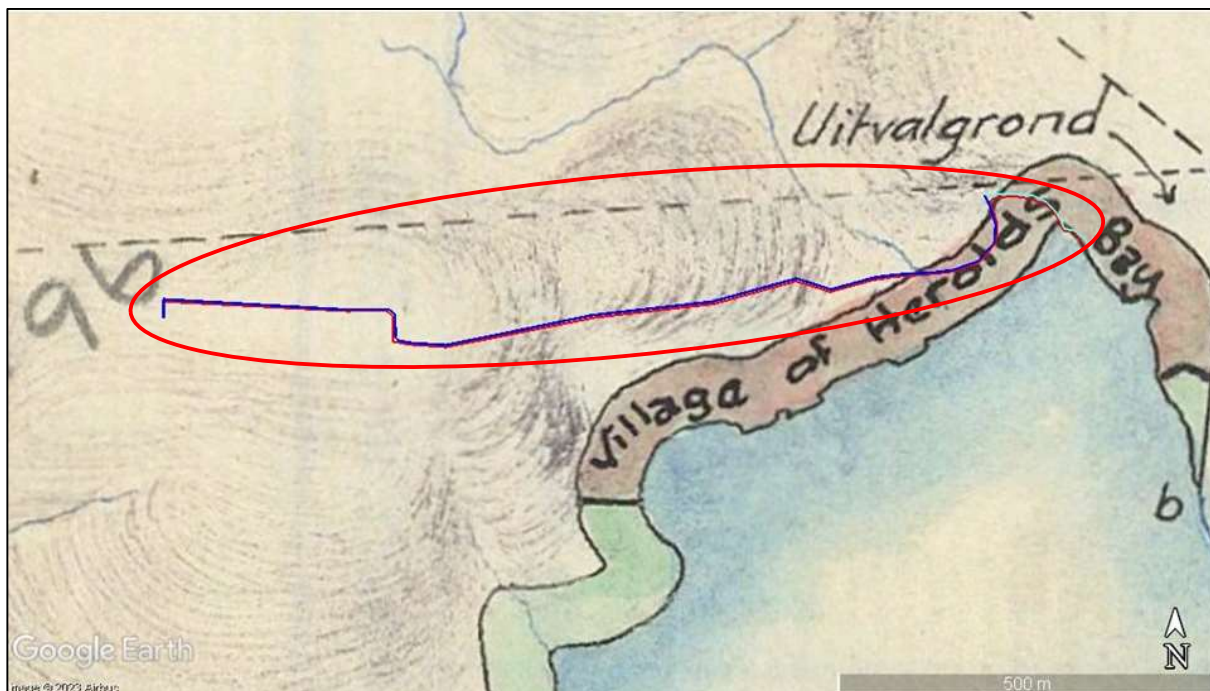


Figure 36. Enlarged, annotated portion of SG Diagram B1131/1926 showing location of proposed development (coloured lines in red ellipse).

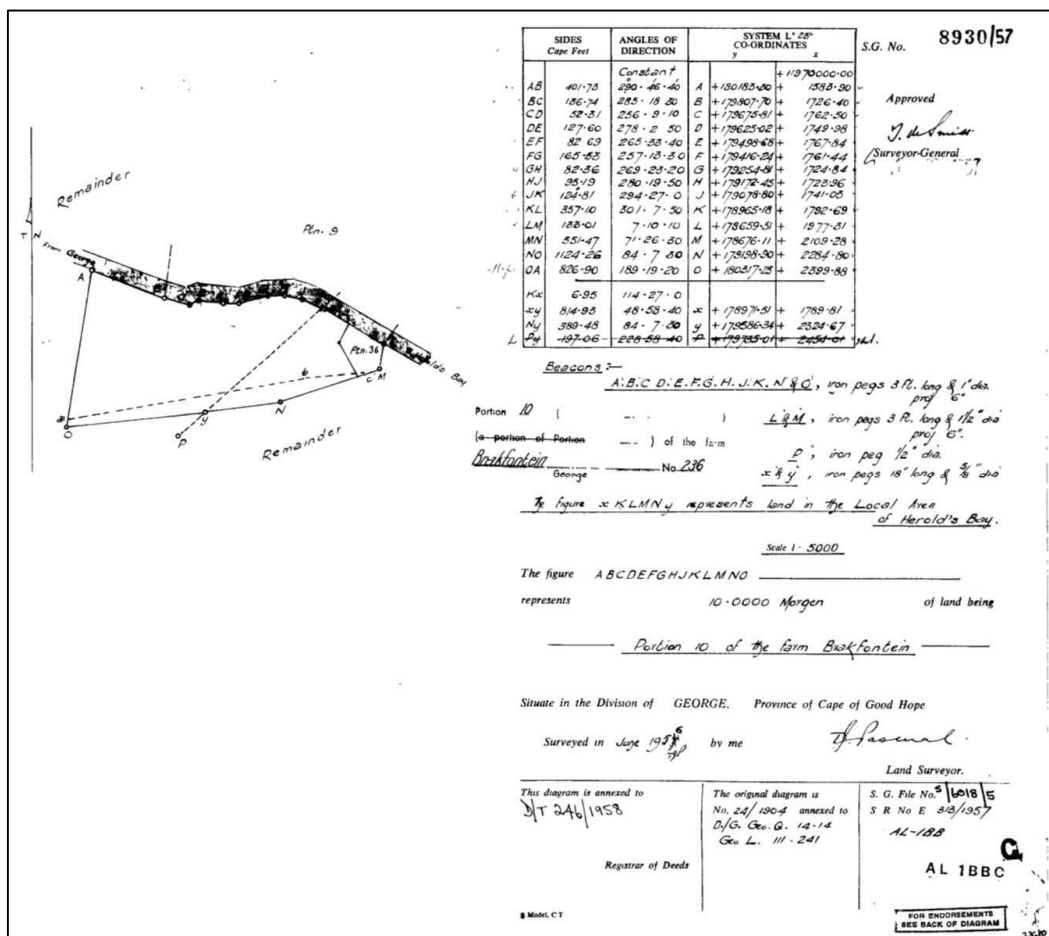


Figure 37. SG Diagram 8930/57 shows Portion 10 of Brakfontein 236.

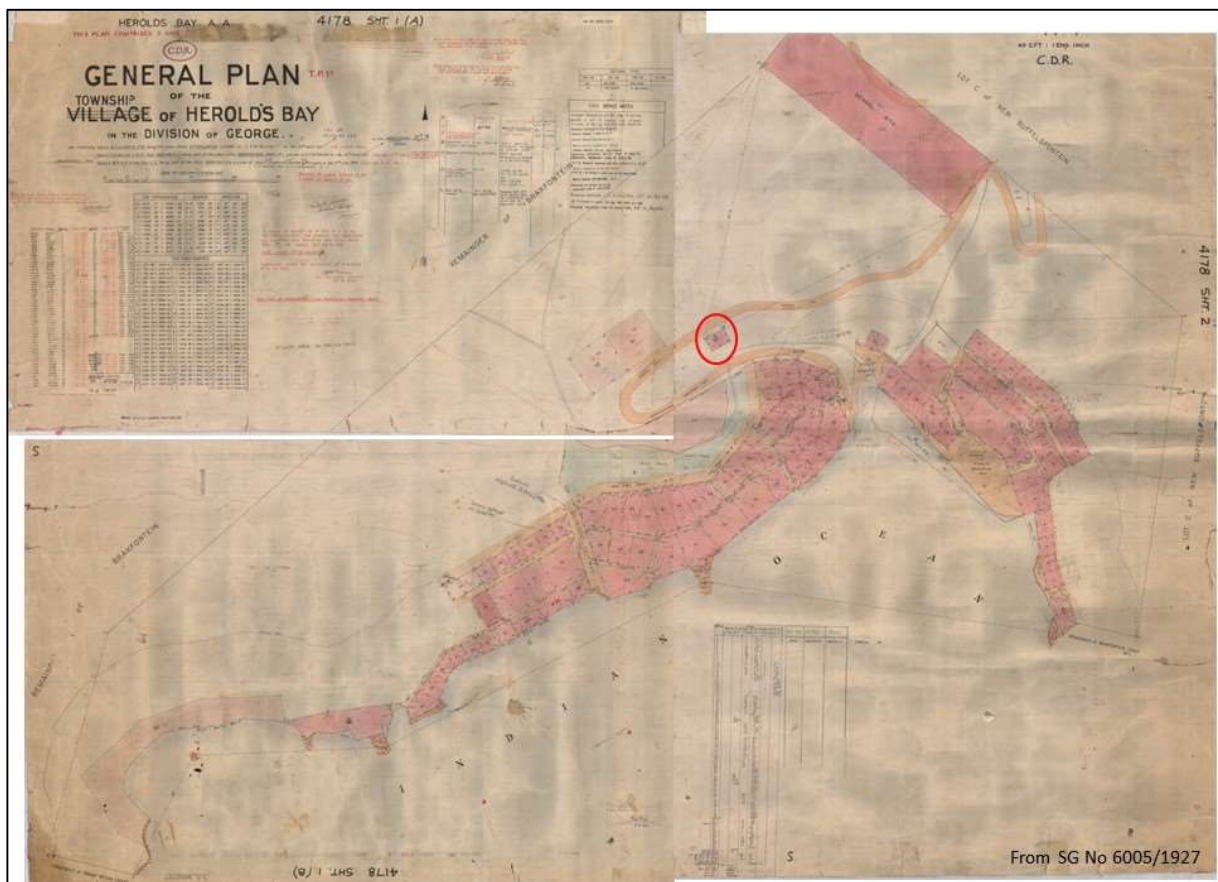


Figure 38. Imperfectly joined sheets of SG Diagram 6005/1927 or GP 4178 showing latest subdivisions of Brakfontein and layout of Herold's Bay. Erf 116 in red ellipse. (A4 version below)



Figure 39. Affected area with SG Diagram 6005/1927 or GP 4178 showing location of proposed development footprint (coloured lines).



The affected properties are owned and/or managed by the George Municipality, represented in this application by Mr Jannie Koegelenberg because they house bulk services and transport infrastructure that is managed and maintained by the George Municipality.

After careful examination of all SG Diagrams, no early colonial period structures or features were identified in the development footprint or within its immediate surroundings. Again, existing developments show that the affected parts of properties are already transformed, and no further impact is anticipated from the proposed activity.

Unfortunately, the 1936 and 1939 flight/aerial surveys do not cover the study area or Herold's Bay coastline. Aerial photographs shown in Figures 40 through 44 reveal that colonial period impacts and developments are already evident by 1957 – actually begins in late 1800s and early 1900s (De Kock 2016) - and that further developments including the Herold's Bay WWTW and associated sewer pipelines to and along the roads in town are in place by at least 1980 (Figure 42). Although colonial period structures such as the Stella Maris Chapel are older than 60 years and are protected by the NHRA (De Kock 2016), no structures are threatened or will be impacted by the proposed development activities.

Aerial imagery shows that the WWTW is enlarged sometime between 1985 and 2003 and that some works are done along the pipeline route around 2006. Clearly the entire length of the pipeline route was impacted by previous developments and there are no anticipated additional impacts from the proposed upgrade of sewer infrastructure.

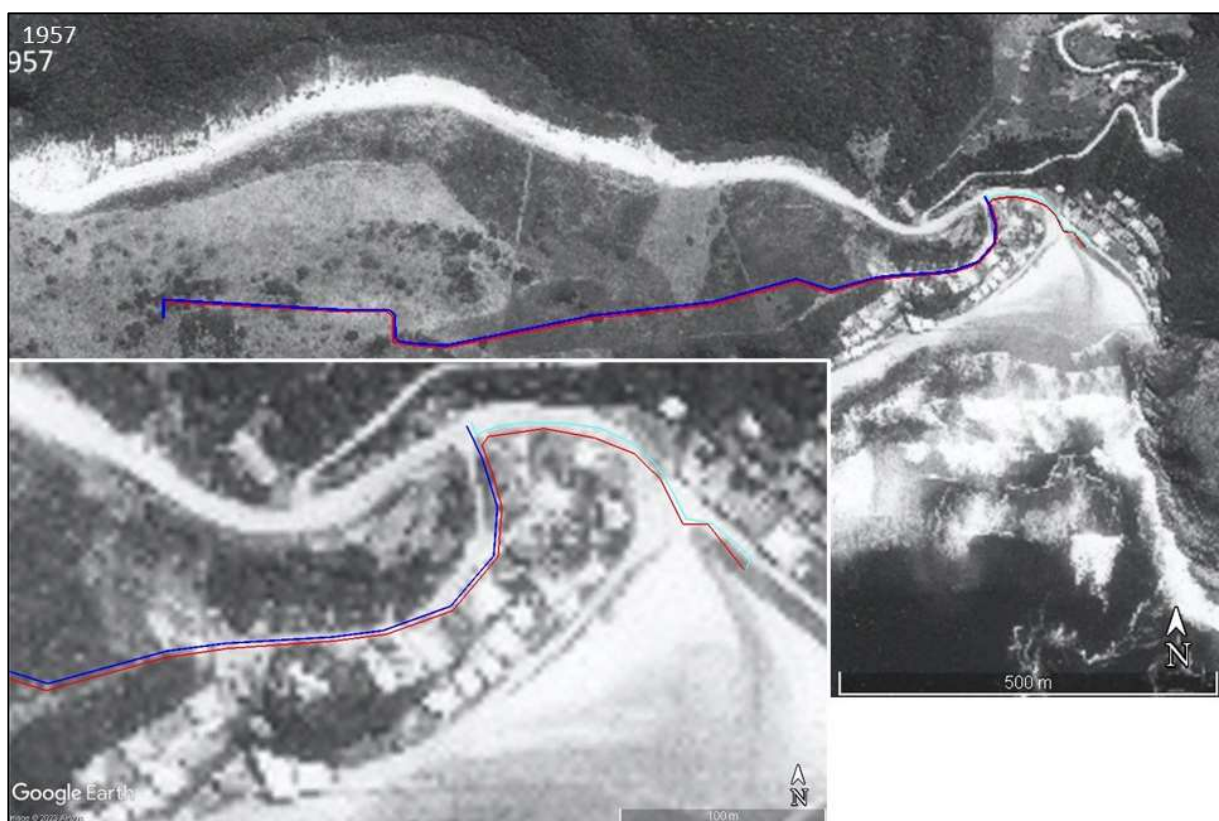


Figure 40. Historical aerial photograph of 1957 overlaid on the proposed development footprint (coloured lines) using Google Earth imagery. Inset enlarged to show more detail in Herold's Bay. Note existing developments (roads & structures) in Herold's Bay and vegetation clearing in the surroundings of current WWTW site.

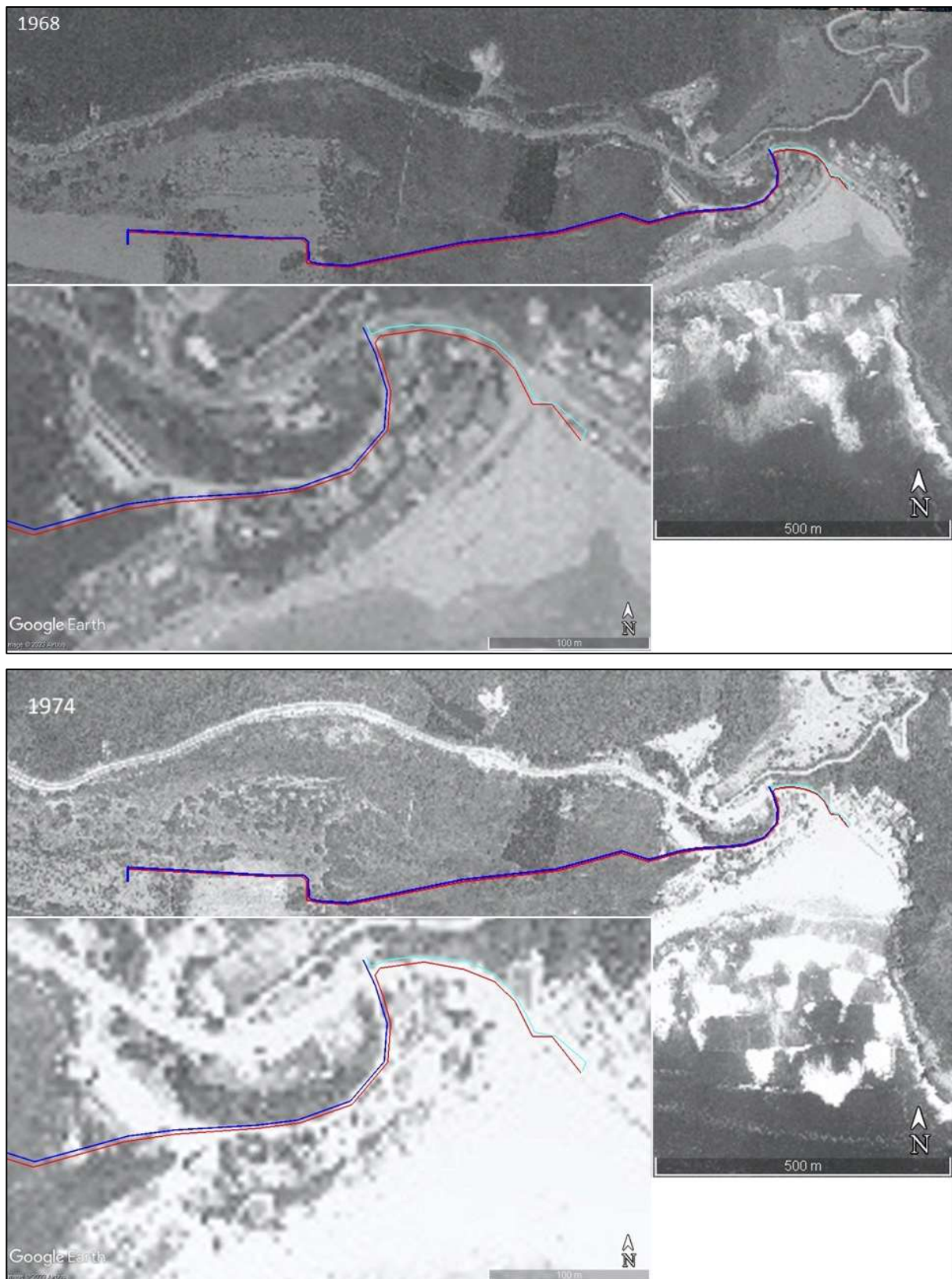


Figure 41. Historical aerial photographs of 1968 (top) and 1974 (bottom) overlaid on the proposed development footprint (coloured lines) using Google Earth imagery. Insets enlarged to show more detail in Herold's Bay.



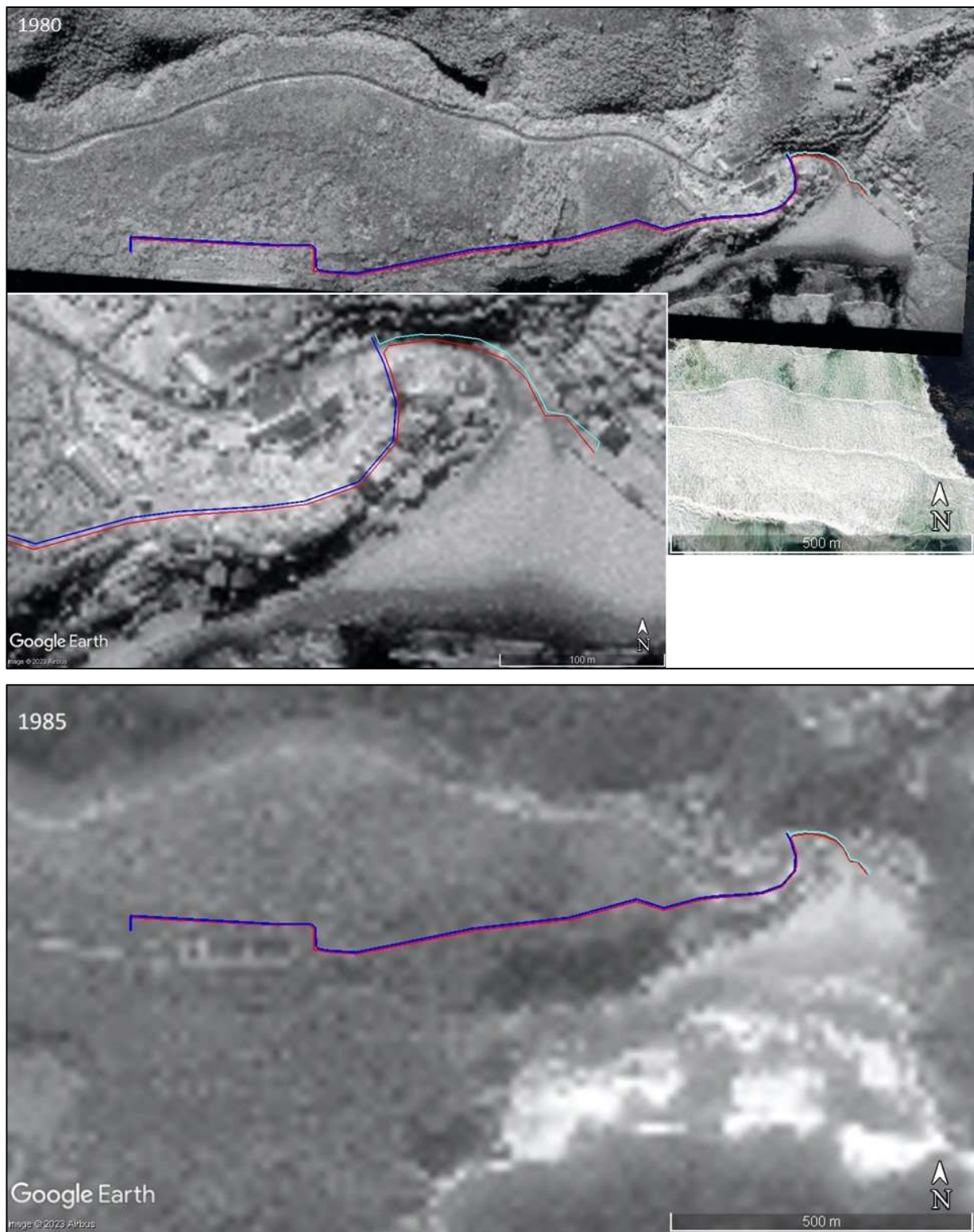


Figure 42. Historical aerial photographs of 1980 (top) and 1985 (bottom) overlaid on the proposed development footprint (coloured lines) using Google Earth imagery. Inset enlarged to show more detail in Herold's Bay. Quality of 1985 image too poor to enlarge. WWTW appears in place by 1980 – black is actual edge of 1980 aerial photograph - and certainly present by 1985.

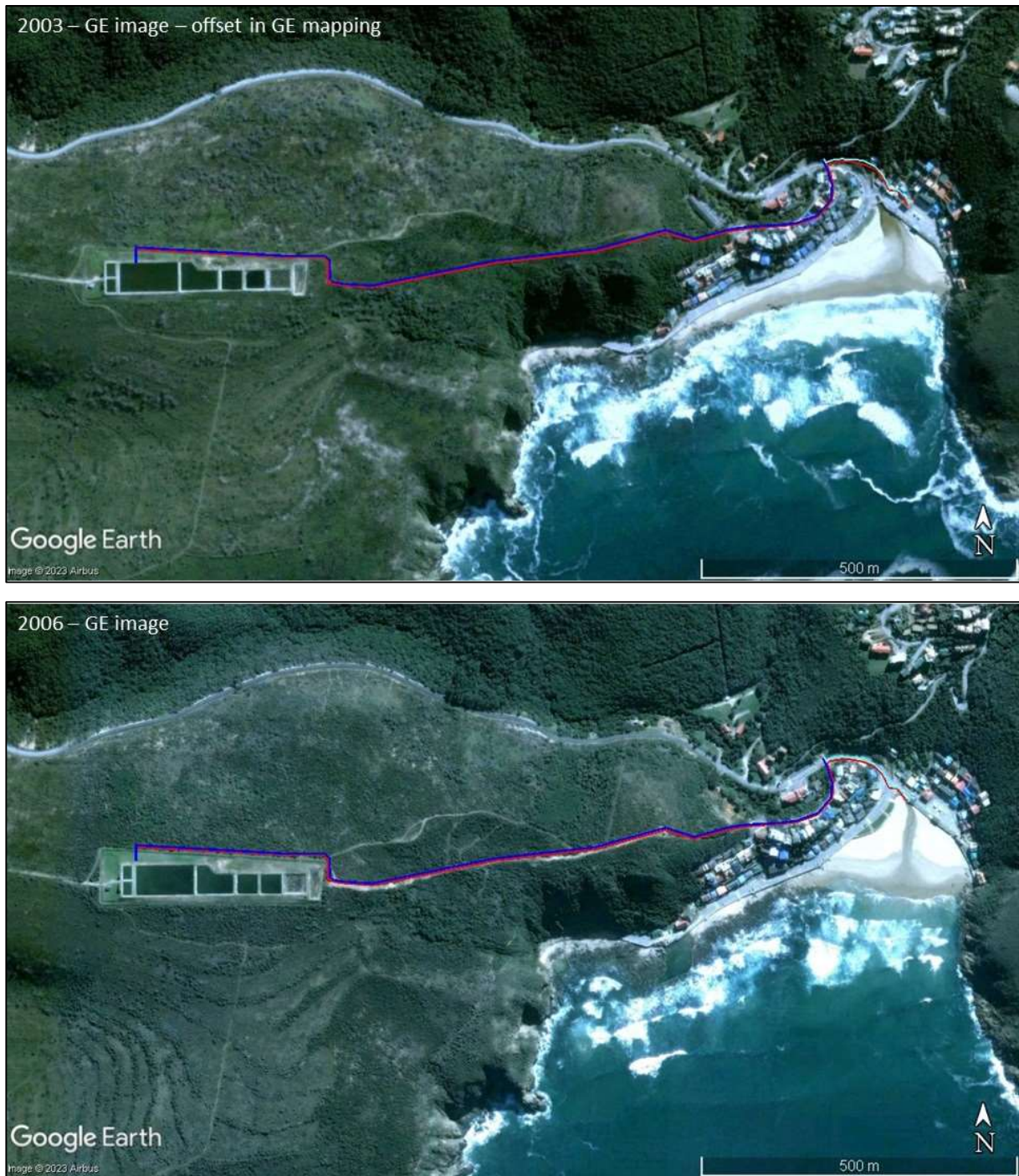


Figure 43. Due to poor quality of historical aerial photographs, the 2003 (top) and 2006 (bottom) are Google Earth images with proposed development footprint (coloured lines). The offset and alignment error seen in 2003 is a Google Earth mapping error. Note “fresh looking” disturbance and exposed ground along sewer pipeline route in 2006.





Figure 44. 2023 Google Earth image with proposed development footprint (coloured lines).

After clearing potential access issues and requirements with SES, an independent site inspection of the affected properties was conducted on 20 September 2023 by means of a foot survey (archaeological walk-through) that covered most of the affected area. Due to dense vegetation cover along the pipeline route between the WWTW and the top of Spekie Gericke Drive, the foot survey followed a vehicle track leading to a communications mast. Only a short stretch of about 120 m between the telecommunications mast and Spekie Gericke Drive could not be covered. Nevertheless, a representative sample of this area was covered and inspected along and adjacent to the vehicle track. Archaeological visibility was adequate for the purpose of this baseline assessment. Examples of the studied area are shown above in Figures 6 through 28.

Survey tracks and observations were fixed with a handheld Garmin Etrex 30x GPS to record the investigated area (Figure 45). A high quality, comprehensive digital photographic record was made with a DooGee S86 mobile phone, including location data for photographs. All GPS and photographic data are available on request.

The property was examined with a focus on the potential impact of the proposed development on heritage related resources of both colonial and pre-colonial origin. Heritage resources listed in Section E of the NID application form were considered but are not listed here unless they are present on or in the immediate vicinity of the development footprint, or if they are anticipated to occur on or in the immediate vicinity of the property.

Due to a significant amount of development and modern disturbance of the area by previous and ongoing human-related activities as well as inspection of the development footprint and exposed surfaces, adequate observations and information is available for input to the HWC NID application process.

Notwithstanding the substantially transformed status of the development footprint, the approach was:

- to walk and inspect the development footprint to gain an understanding of its archaeological content and context by accessing a representative portion of the affected area,
- and the site inspection was completed with an evaluation of the visual / aesthetic sensitivity of Erf 116 from the surrounding roads.



Figure 45: Study area with GPS-fixed survey tracks (red lines). Note stretches along the pipeline route that could not be accessed due to impenetrable vegetation. Inset enlarged to show more detail in Herold's Bay. The Provincial Heritage Site of Herold's Bay Cave on Erf 51 is indicated with the labelled yellow marker. (A4 version below)

No archaeological or heritage resources of colonial or pre-colonial origin were identified within the studied area or in its immediate vicinity.

Due to the sub-terranean nature of most of the proposed activity, there is no vertical component and hence no visual impact on the aesthetic value of the affected area. The proposed new pump station on Erf 116 will be built within an existing disturbance and will have a negligible visual impact as it will be partially screened by existing vegetation and developments. Nevertheless, on heritage grounds, due to the entire absence of heritage resources or themes in and around Erf 116, the proposed pump station will have negligible to no impact on the visual or aesthetic heritage value of the area. The former coastal landscape is already transformed into a holiday / recreational and residential cultural landscape with associated infrastructure. Consequently, the proposed pump station on Erf 166 will have negligible to zero visual impact on the aesthetic value of the area.



Given the transformed context of the area and the absence of heritage and archaeological resources along the previously disturbed development footprint, the impact of the proposed activity will have negligible to no impact on the heritage value of the area.

Furthermore, since there are no significant heritage resources or features associated with the development footprint, the proposed activity will have no impact on the existing and already altered cultural landscape of the area. For the same reason there will be negligible to no cumulative impact on the heritage value of the area.

## **7. Conclusions and Recommendations**

The following conclusions and recommendations are arrived at after reviewing information obtained through:

- previous heritage studies and HWC applications in the vicinity of the development footprint,
- SAHRIS PalaeoSensitivity map,
- previous archaeological and heritage related studies in the surrounding area,
- SG Diagrams,
- historic and Google Earth aerial photographs, and
- a site inspection (archaeological walk-through).

The SAHRIS PalaeoSensitivity map shows that the study area is shaded grey and blue, with grey meaning that palaeontological sensitivity is INSIGNIFICANT/ZERO and that “no palaeontological studies are required”, and with blue meaning that sensitivity is LOW and “no palaeontological studies are required however a protocol for finds is required” (Figure 30). Due to the INSIGNIFICANT/ZERO/LOW palaeontological sensitivity of the study area, a professional palaeontologist was not consulted for this project. In accordance with the SAHRIS PalaeoSensitivity map, it is recommended that a protocol for finds of potential fossil material (and buried artefacts), the Fossil Finds Procedure (FFP), is included in the Environmental Management Program (EMPr) for the construction phase of the project.

Links to the HWC FFP are as follows:

[https://www.hwc.org.za/sites/default/files/3\\_11%20Protocol%20Fossil%20Finds%20Final%20June%202016.pdf](https://www.hwc.org.za/sites/default/files/3_11%20Protocol%20Fossil%20Finds%20Final%20June%202016.pdf)

[https://www.hwc.org.za/sites/default/files/3\\_12%20Fossil%20Finds%20Poster.pdf](https://www.hwc.org.za/sites/default/files/3_12%20Fossil%20Finds%20Poster.pdf)

The development footprint is substantially disturbed and previously developed, and no colonial or pre-colonial heritage resources of significance were identified in the study area. If present on or in surface sediments between the WWTW and Spekie Gericke Drive, then Stone Age implements are expected to be of low significance and Not Conservation Worthy. No caves or rock shelters occur in the development footprint. Neither the Provincial Heritage Site shown in Figure 45 nor other heritage resources in the surroundings will be impacted by the proposed activity.

Because there are no significant heritage resources associated with the development footprint, it does not meaningfully contribute to the already altered cultural landscape of the area. For the same reason there will be negligible to no cumulative impact on the heritage value of the area.

Due to the sub-terranean nature of most of the proposed activity, there is no vertical component and hence no visual impact on the aesthetic value of the affected area. The proposed new pump station on Erf 116 will be built within an existing disturbance and will have a negligible visual impact as it will be partially screened by existing vegetation and developments. Nevertheless, on heritage grounds, due to the entire absence of heritage resources or themes in and around Erf 116, the proposed pump station will have negligible to no impact on the visual or aesthetic heritage value of the area.

The positive socio-economic impact, including short-, medium- and long-term jobs as well as the growing need for maintaining and upgrading the bulk services – including sewer – infrastructure of Herold's Bay outweigh the negligible to zero negative impacts this project may have on heritage resources.

Because of the above, and because there is no reason to believe that significant heritage resources will be impacted by the proposed activity, it is recommended that the proposed activity be approved in full, and that a Heritage Impact Assessment is not warranted for the project.

Nevertheless, it is recommended that Heritage Western Cape consider and/or require that the following be included in the Environmental Authorisation / Environmental Management Program, if the project is approved:

- although not requiring further Palaeontological investigation, in accordance with the SAHRIS PalaeoSensitivity Map, the Fossil Finds Procedure (FFP – see links above), should be included in the Environmental Authorisation / Environmental Management Program (EMPr) for the construction phase of the project,
- due to the disturbed and developed nature of the development footprint, as well as the findings of this and previous archaeological studies, archaeological monitoring is NOT recommended, but,
- if any human remains or significant archaeological materials are exposed during mining activities, then the find should be protected from further disturbance and work in the immediate area should be halted and Heritage Western Cape must be notified immediately. These heritage resources are protected by Section 36(3)(a) and Section 35(4) of the NHRA (Act 25 of 1999) respectively and may not be damaged or disturbed in any way without a permit from the heritage authorities. Any work in mitigation, if deemed appropriate, should be commissioned and completed before construction continues in the affected area and will be at the expense of the developer.

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Bennet, M. & C. Swanepoel. 2023a. Notice of Intent for the Proposed Upgrade of the Herold's Bay Pump Station and Construction of Additional Infrastructure, George Municipality, Western Cape.

Bennet, M. & C. Swanepoel. 2023b. Site Sensitivity Verification Report, for the Proposed Upgrade of the Herold's Bay Pump Station and Construction of Additional Infrastructure, George Municipality, Western Cape.



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Nilssen, P.J. 2008. Archaeological Heritage Impact Assessment Final Report Remainder Portion 54 of the Farm Hooge Kraal 238, Magisterial District George, Western Cape Province: Proposed Development of a Small, "Eco Friendly" and Environmentally Sustainable Health Spa. An unpublished report by CARM on file at SAHRA as: 2008-SAHRA-0283.

Nilssen, P. 2019. Archaeological Inspection and Investigation in Terms of Item 10.1.1 in Heritage Western Cape's Draft APM Minutes of 3 December 2018, Provincial Heritage Site, Rock Shelter on Erf 51, and Construction on Erf 52, Herold's Bay, George District, Western Cape Province.



Locality Map. General location of the study area (red star) SW of George, Western Cape Province. Courtesy of Google Earth 2023.



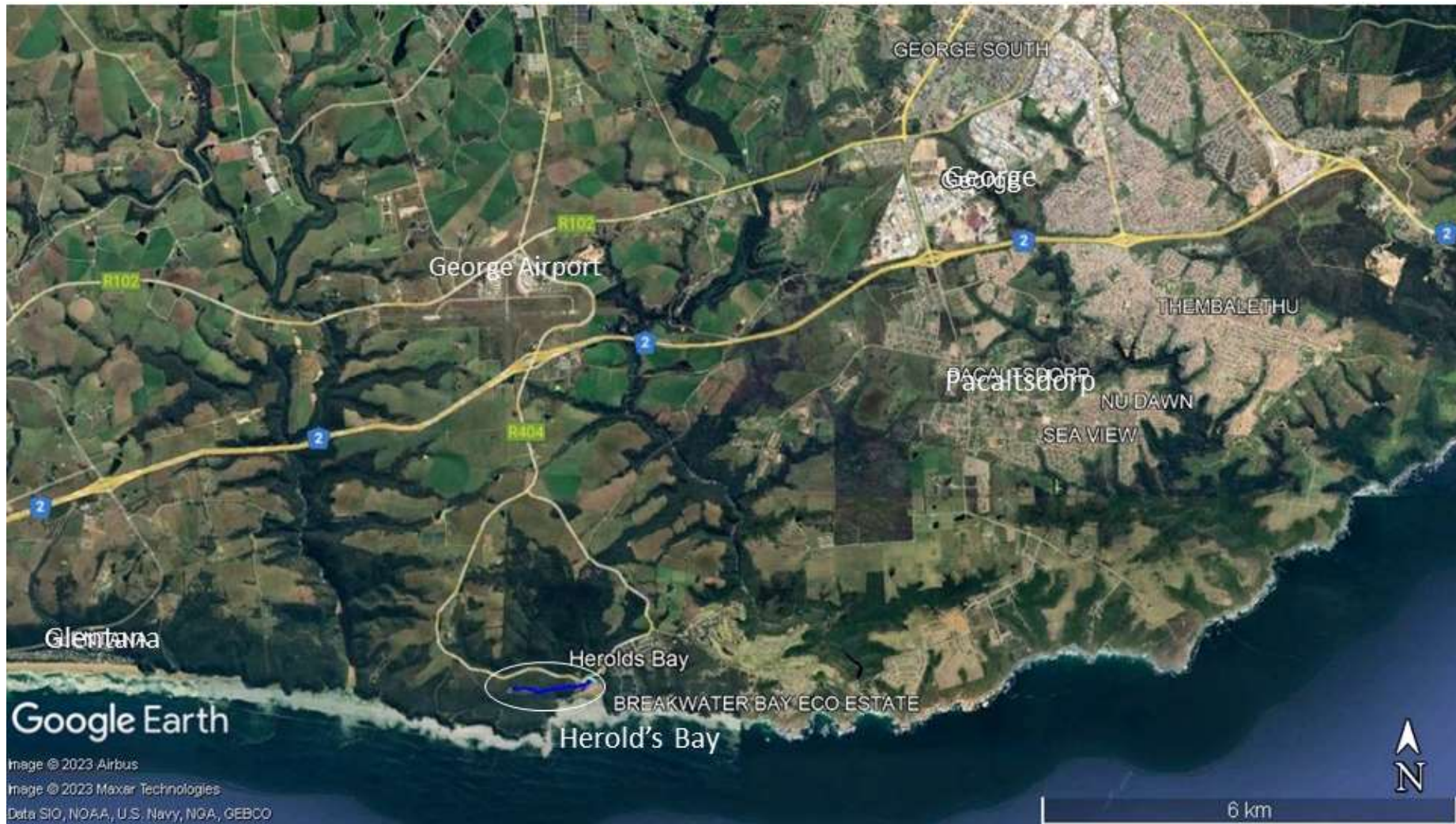


Figure 1. Enlarged from Locality Map showing the linear study area (white ellipse) relative to Herold's Bay, Pacaltsdorp, George Airport and George. Courtesy of Google Earth 2023.



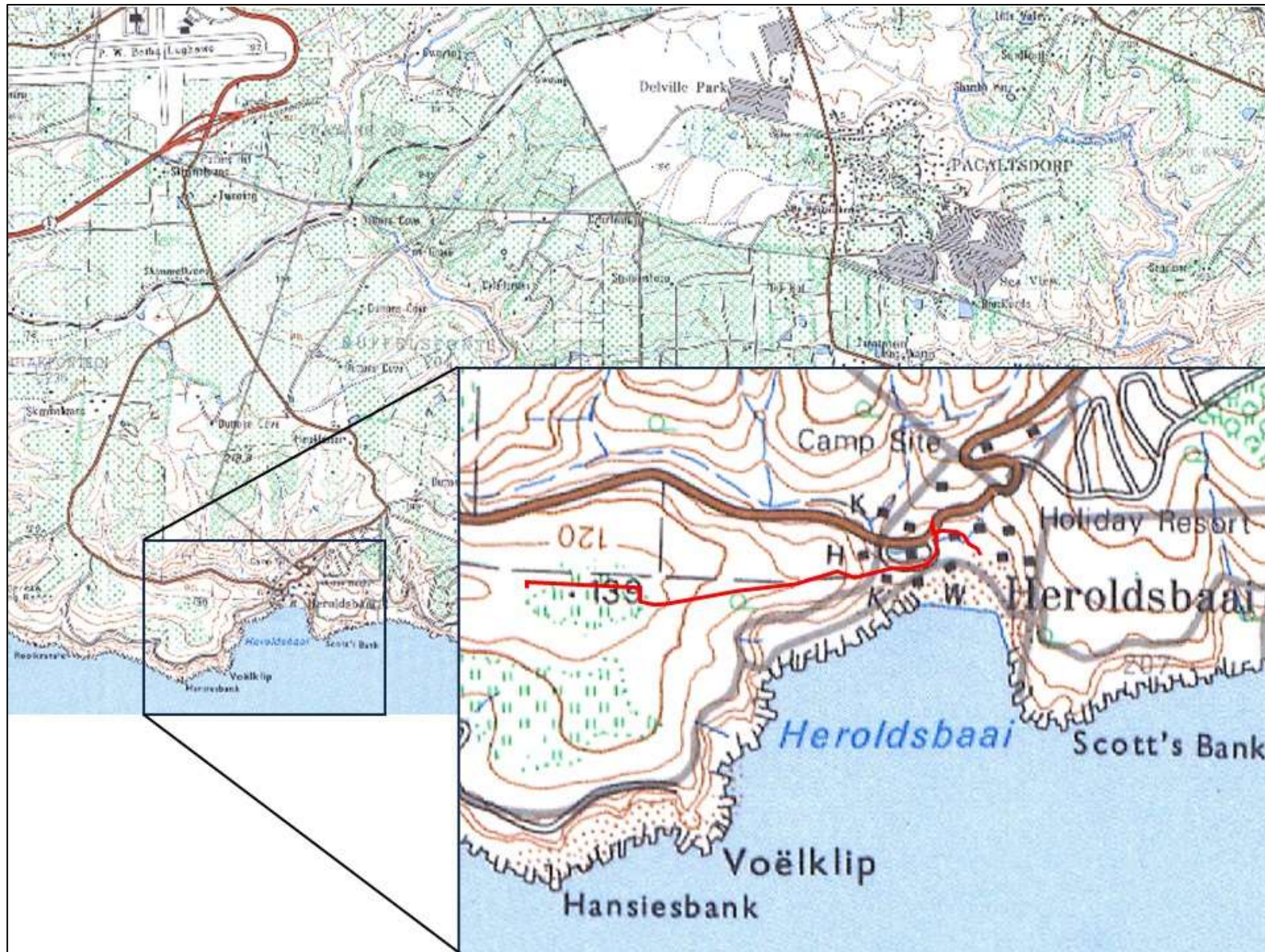


Figure 2. Enlarged portion of 1:50 000 topographic map 3422 AB 1982 Pacaltsdorp showing Herold's Bay and study area (red line in inset). Courtesy of the Chief Directorate Surveys and Mapping, Mowbray and Google Earth 2023.





Figure 3. Area enlarged from Figure 1 showing study area (coloured lines), properties and developments. Courtesy of Cape Farm Mapper and Google Earth 2023.





Figure 4. Area enlarged from Figure 3 the study area (coloured lines), properties and developments. Courtesy of Cape Farm Mapper and Google Earth 2023.



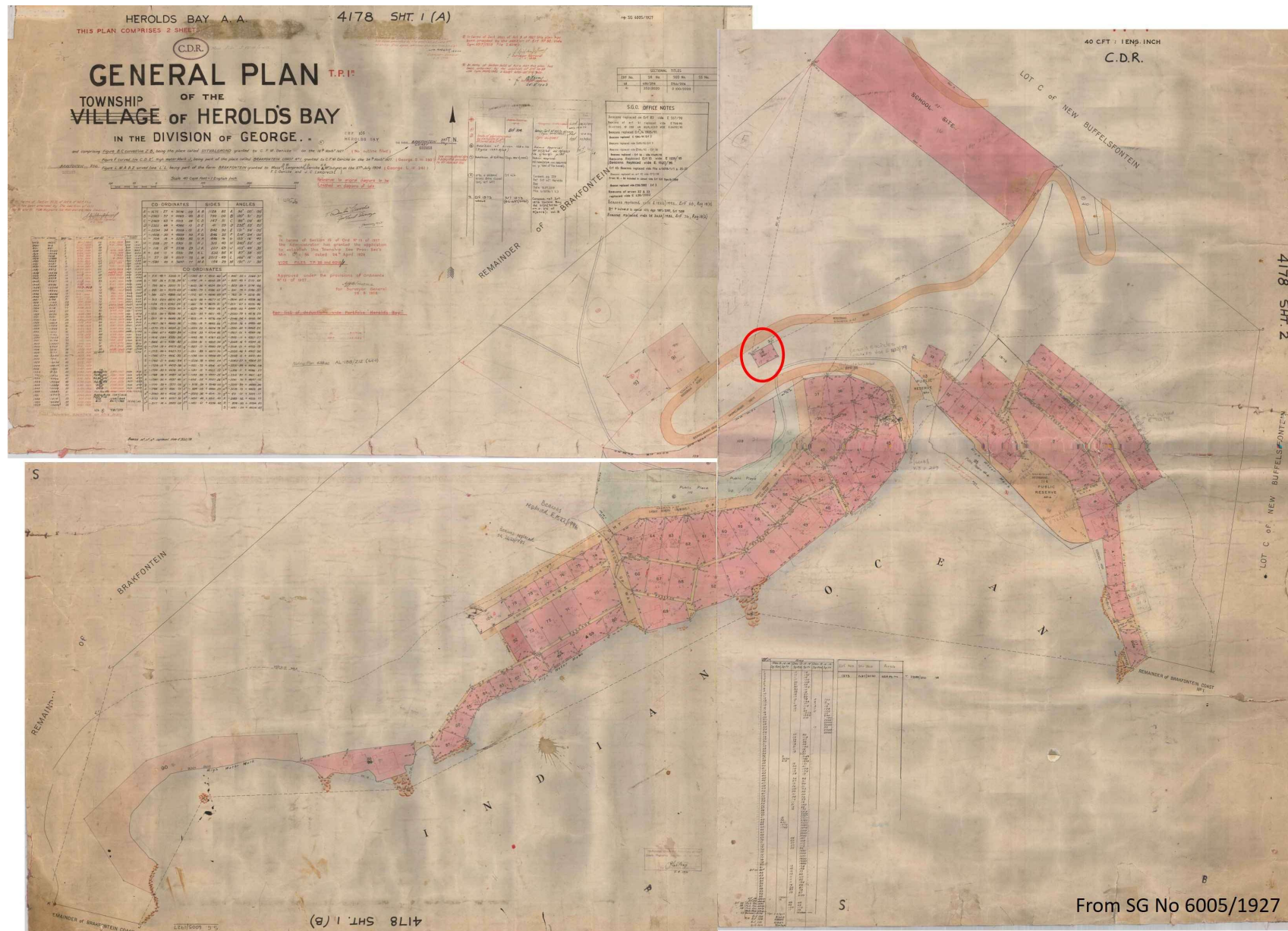


Figure 38. Imperfectly joined sheets of SG Diagram 6005/1927 or GP 4178 showing latest subdivisions of Brakfontein and layout of Herold's Bay. Erf 116 in red ellipse.





Figure 45: Study area with GPS-fixed survey tracks (red lines). Note stretches along the pipeline route that could not be accessed due to impenetrable vegetation. Inset enlarged to show more detail in Herold's Bay. The Provincial Heritage Site of Herold's Bay Cave on Erf 51 is indicated with the labelled yellow marker.