- **Subsection 7.2: From the Ntlavukazi Interchange to the Msikaba River Bridge**

Road reserve Subsection 7.2 diverges from the existing road network as a greenfields section, entering the rugged terrain of the Msikaba Sandstone plateau (see Figures 149 and 150) from the Ntlavukazi Interchange towards the site of the approved Msikaba River Bridge. A spot check (labelled SC7.2.1 in the SAS report) on the site of the Ntlavukazi Interchange revealed the dense grass cover typical of the Pondoland-UGU sandstone Coastal Sourveld and shallow, moist soil on Msikaba sandstone (see Figures 148 and 151 to 153). The Msikaba River Bridge will be constructed on the approved construction site across the Msikaba ravine, with no impact on the vegetation and ravine channel (see Figure 154).

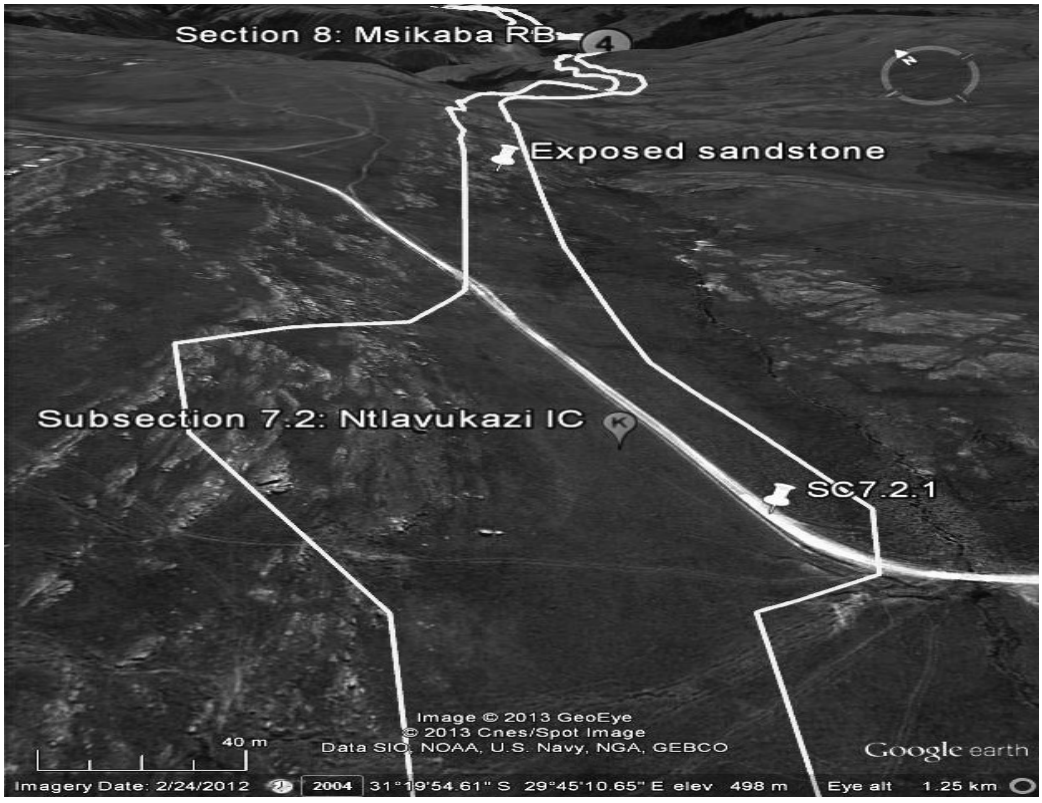

Figure 148. Subsection 7.2: The N2WCTH road reserve alignment from the Ntlavukazi Interchange (K) to the Msikaba River Bridge (4), from whence Section 8 of the road reserve runs north-eastwards up to and including the Mtentu River Bridge. The typical landscape features are open grassveld surrounding exposed Msikaba sandstone. Water seepage fed by underground water tables is visible in deposits of shallow, moist soil overlying the sandstone (see spot check SC7.2.1; Figures 151 to 153). Much of the soil which has not been eroded away is cultivated.

K Ntlavukazi Interchange, 31°19'56.52"S; 29°45'10.82"E.
4 Mzimkaba River Bridge, 31°17'35.09"S; 29°47'52.83"E.

Google Earth imagery date: 2/24/2012; ©2013. Viewed towards the north-east. Scale: 40 m.

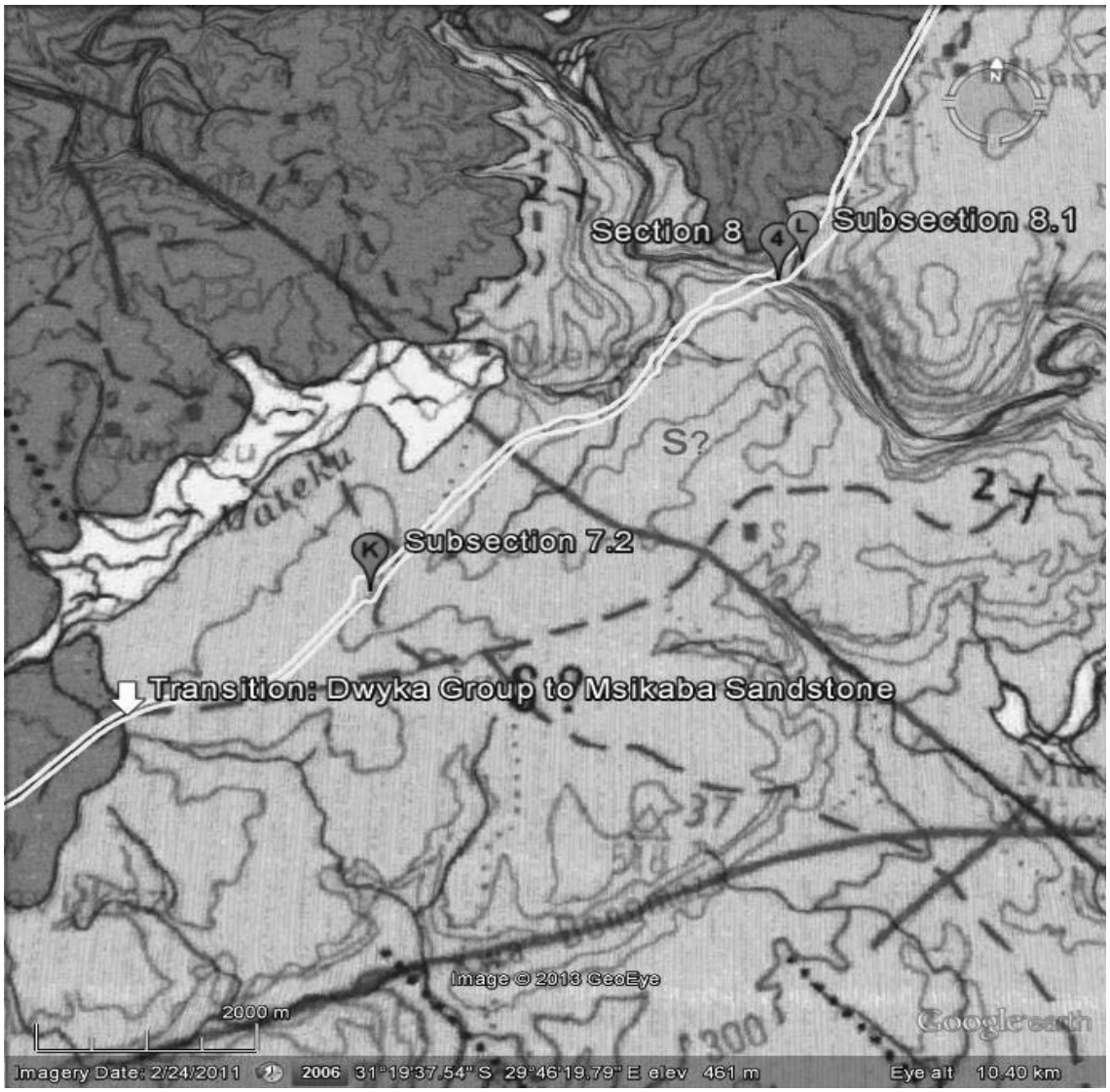

Figure 149. Section 7: The N2WCTH road reserve Subsection 7.1 runs from the Magwa Interchange to the Ntlavukazi Interchange (K). Subsection 7.2 runs from the Ntlavukazi Interchange up to the Msikaba River Bridge (4). According to the geological data, Subsection 7.1 crosses the geological transition between the Dwyka tillite Group and the Msikaba sandstone at approximately 31°20'45.91"S; 29°43'44.52"E. The north-eastern end of Subsection 7.1 and the whole of Subsection 7.2 run over the underlying Msikaba sandstone (also see Figures 150 to 153).

4 Section 8 at the Msikaba River Bridge, 31°17'35.09"S; 29°47'52.83"E.
K Subsection 7.2 at the Ntlavukazi Interchange, 31°19'56.52"S; 29°45'10.82"E.
L Subsection 8.1 at the Msikaba River Bridge, 31°17'27.29"S; 29°47'58.46"E.
Pd Dwyka Group.
S? Msikaba sandstone.
Pale yellow Alluvial soils.

Google Earth imagery date: 2/24/2011; ©2013. Viewed towards the north. Scale: 2 000 m. With geological overlay.

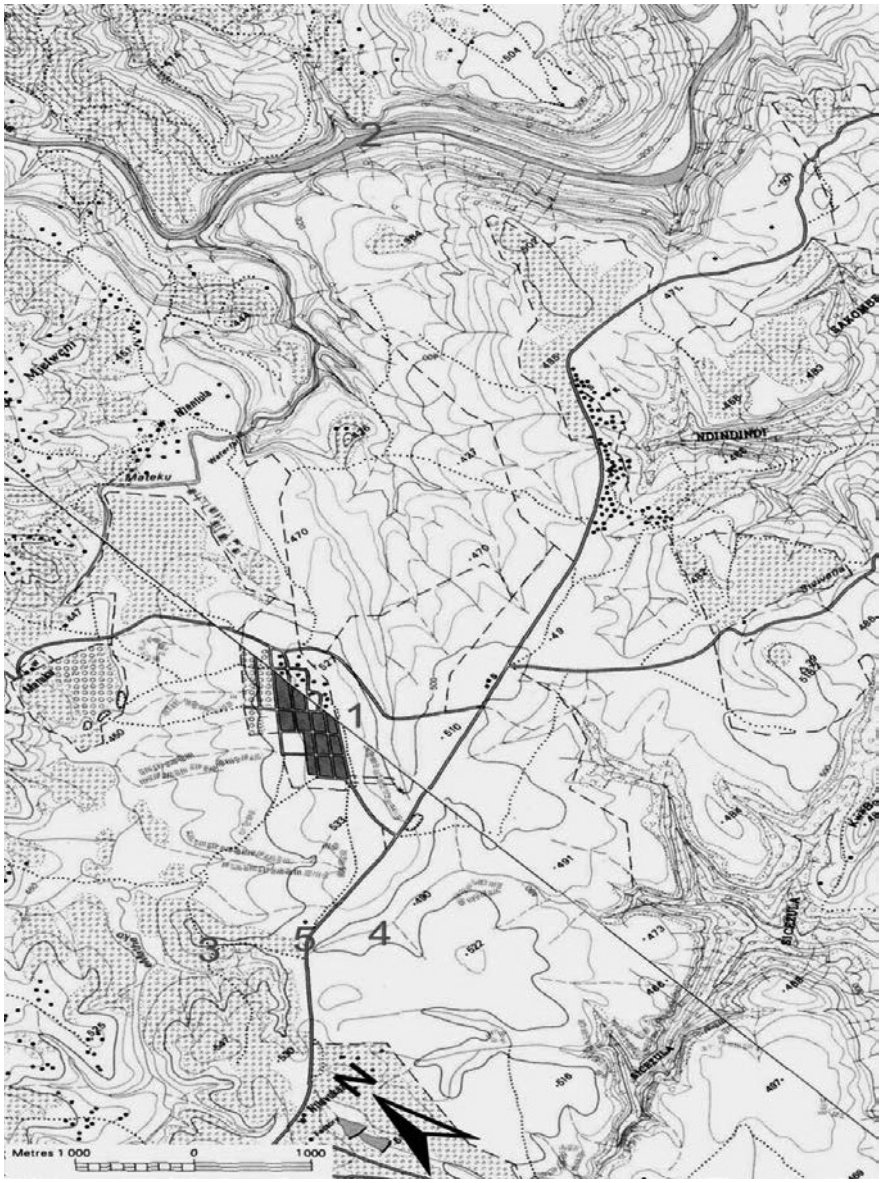

Figure 150. Section 7: The natural and cultural landscape features in the vicinity of the approved Ntlavukazi Interchange and the Mskaba River Bridge.

1 Ntlavukazi Interchange, 31°19'56.52"S; 29°45'10.82"E.
2 Mzikaba River Bridge, 31°17'35.09"S; 29°47'52.83"E.
3 Dwyka tillite.
4 Msikaba sandstone.
5 Transition zone between the Dwyka Group of rocks and the Msikaba sandstone at 31°20'45.91"S; 29°43'44.52"E.

1:50 000 topo-cadastral maps WGS3129BC Lusikisiki (1982) and 3129BD Mkambati (1982).

The cultural landscapes depicted in Figure 150 are the following:

- Numerous agricultural fields on the slopes of hills and homesteads on the summits towards the north and east of the Ntlavukazi Interchange (where the underlying rock formation is Dwyka tillite) (see Figure 149).
- Limited agricultural fields and sparse settlement from the sites of the Ntlavukazi Interchange and the Msikaba River Bridge towards the north-west, where the underlying rock formation is Msikaba sandstone (also see Figures 149, and 151 to 153).

Figure 151. Subsection 7.2: Spot check (labelled SC7.2.1 in the SAS report) on the site of the Ntlavukazi Interchange and on the existing gravel road, close to a road cutting (also see Figures 152 and 153). No evidence was observed of archaeological sites or artefacts.

Photo: SAS DSC00205, October 2011. Viewed towards the south-west. Photographed at 31˚19'58.9"S; 29˚45'11.6"E.

Figure 152. Subsection 7.2: Spot check, labelled SC7.2.1, at the road cutting on the site of the Ntlavukazi Interchange, showing the shallow soil and the dense grassveld, which is used as grazing for cattle and goats (also see Figure 153).

Photo: SAS DSC00202, October 2011. Viewed towards the south-west. Photographed at 31˚19'58.5"S; 29˚45'11.3"E.

Figure153. Subsection 7.2: Spot check, labelled SC7.2.1, at the road cutting on the site of the Ntlavukazi Interchange, showing typical shallow soil with some water seepage on the Msikaba sandstone in a roadside gully.

Photo: SAS DSC00211, October 2011. Viewed towards the south-west. Photographed at 31˚19'59.2"S; 29˚45'11.0"E.

Figure 154. Subsection 7.2: The site of the approved Msikaba River Bridge is dominated by the grass-covered sandstone plateau flanking the deeply eroded ravine of the Msikaba River. For long stretches it is impossible to access the river from the top of the cliffs. The bridge and its support structure will be constructed across the ravine with no impact on the slopes and vegetation in the ravine. The yellow line indicates the approximate position of the future bridge. No evidence of human occupation is visible on the site.

Photo: SANRAL Heli IMG_4406. Viewed towards the north-west.

3.4.2.4 Section 8: From the Msikaba River Bridge up to and including the Mtentu River Bridge

Section 8 of the N2WCTH road reserve runs from the Msikaba River Bridge up to the Mtentu River Bridge across natural and cultural landscapes which range from built-up rural environments and extensively cultivated agricultural farmland on Dwyka tillite to sparsely populated grassland on largely exposed Msikaba sandstone (see Figures 154 to 162).

- **Archaeological surveys of Section 8**

  (a) Survey by Binneman (2002b)

  Binneman (2002a, 2002b) conducted several spot checks at the proposed crossings such as the Mtentu River, but found no sites of archaeological interest in this section of the road alignment. This is probably because the area is largely uninhabited, due to the poor soil in these valleys. Binneman considers it unlikely that the road will have an impact on this section, as no sites of archaeological interest were found, and no heritage-related sites are anticipated in this area.

  (b) Survey by eThembeni (2008a, 2008b)

  eThembeni recorded no evidence of heritage sites or artefacts along this section.

  (c) Supplementary Archaeological Field Survey of Section 5

  For the purposes of the SAS report, Section 8 is subdivided into two subsections (see Figures 155, 158 and 162), as follows:
  - Subsection 8.1: From the Msikaba River Bridge up to the Kwadlambu River Bridge.
  - Subsection 8.2: From the Kwadlambu River Bridge up to the Mtentu River Bridge.

  Satellite and aerial photo surveys, driven observation and spot checks revealed no archaeological evidence.

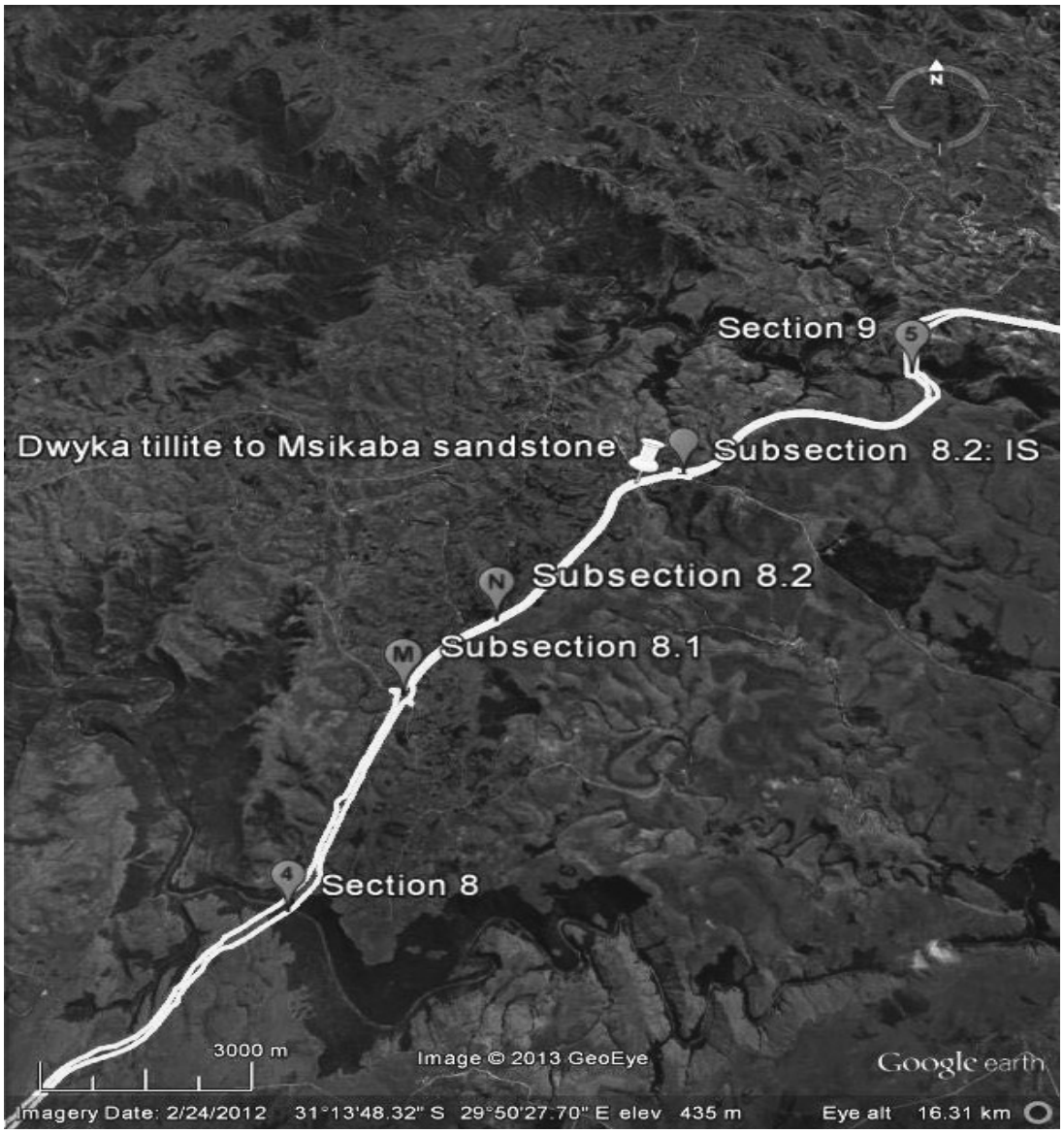

Figure 155. Section 8, Subsections 8.1 to 8.2: Alignment of Section 8 of the N2WCTH road reserve. The eroded surface of the Msikaba sandstone slopes in the ravine runs downwards in an easterly direction towards the coast, causing run-off towards the ocean.

4 Section 8 at the Msikaba River Bridge: 31°17'35.09"S; 29°47'52.83"E.
M Subsection 8.1 at the Mkamela Interchange: 31°15'21.14"S; 29°49'0.16"E.
N Subsection 8.2 at the Kwadlambu River Bridge: 31°14'28.56"S; 29°50'1.32"E.
5 Section 9 at the Mtentu River Bridge: 31°10'43.59"S; 29°55'42.67"E.
Transition from Dwyka tillite to Msikaba sandstone around 31°12'38.40"S; 29°51'45.53"E (see Figures 156 and 157 below).

Google Earth imagery date 2/24/2012; ©2013. Viewed towards the north. Scale: 3000 m.

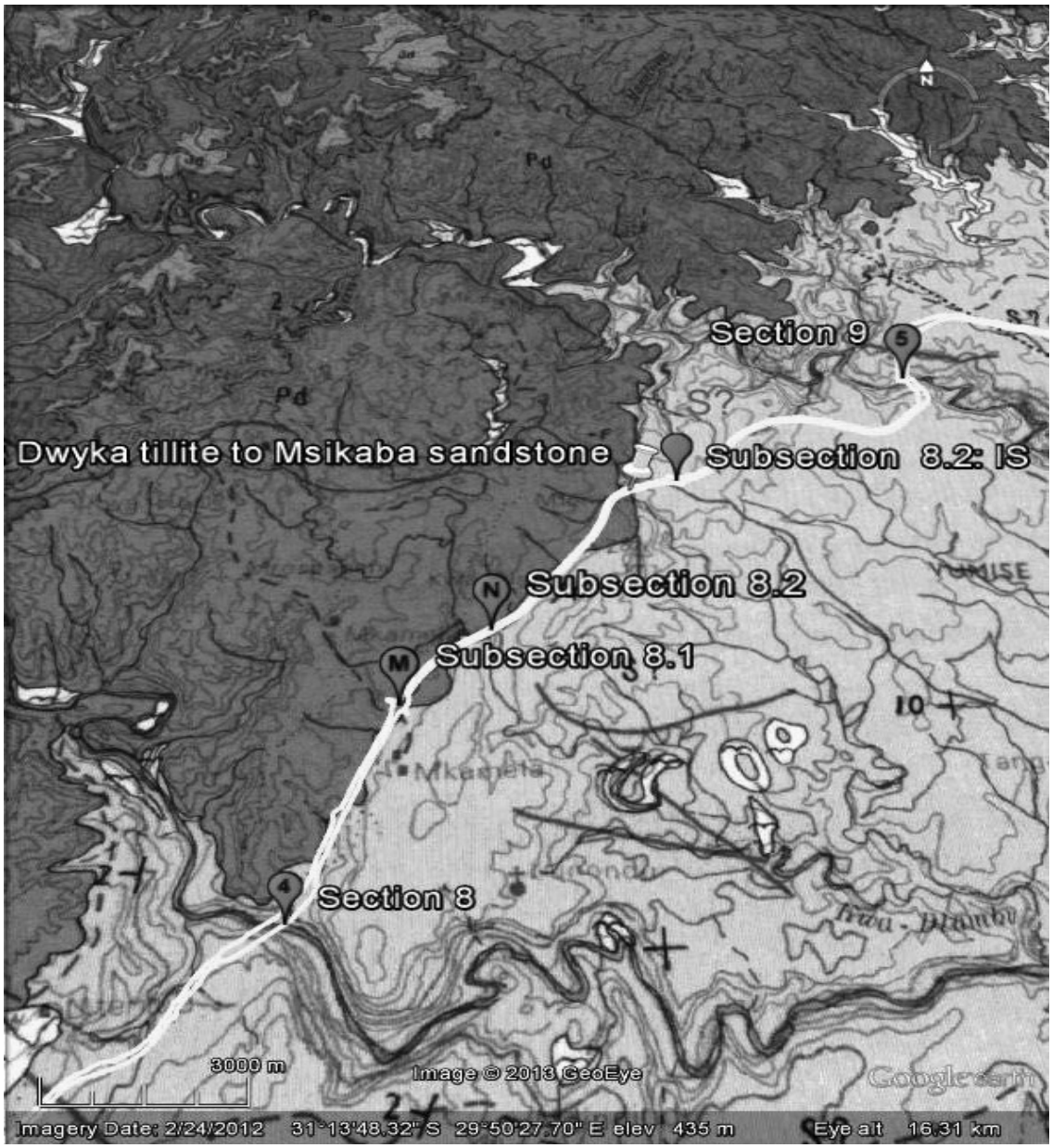

Figure 156. Section 8: The N2 WCTH road reserve alignment across the geological landscape. Where the road reserve mostly follows the transition line between the Dwyka tillite and the Msikaba sandstone between the Msikaba River Bridge (4), Mkamela (M), and the Kwadlambu River Bridge (N), the rural landscape is more densely populated than the Msikaba sandstone landscape around the Mtentu River Bridge (5) (also see Figure 157, below).

4 Section 8: Msikaba River Bridge, 31°17'35.09"S; 29°47'52.83"E.
M Subsection 8.1: Mkamela Interchange, 31°15'21.14"S; 29°49'0.16"E.
N Subsection 8.2: Kwadlambu River Bridge, 31°14'28.56"S; 29°50'1.32"E.
5 Section 9: Mtentu River Bridge, 31°10'43.59"S; 29°55'42.67"E.
- Transition from Dwyka tillite to Msikaba sandstone, around 31°12'38.40"S; 29°51'45.53"E.

Google Earth Imagery date 2/24/2012; ©2013. Viewed towards the north. Scale: 3000 m. With geological overlay.

Figure 157. Section 8: Landscape features and human settlement density between the approved Msikaba River Bridge and Mtentu River Bridge (also see Figures 149, 150 and 156 above).

1 Msikaba River Bridge, 31°17'35.09"S; 29°47'52.83"E.
2 Mkamela, 31°16'12.01"S; 29°49'2.99"E.
3 Mtentu River Bridge, 31°10'43.59"S; 29°55'42.67"E.
4 Dwyka tillite.
5 Msikaba sandstone.

1:50 000 topo-cadastral map WGS3129BD Mkambati (1982) and 3129BB Kanyayo (1980).

- **Subsection 8.1: From the Msikaba River Bridge up to and including the Kwadlambu River Bridge**

Subsection 8.1 of the road reserve runs between the Msikaba River Bridge, Mkamela and the Kwadlambu River Bridge, more or less along a transition between the Dwyka tillite to the north-west and the Msikaba sandstone to the north-east of the road reserve (see Figures 155 and 156). A notable feature of the landscape is the fairly dense human settlement and intensive agriculture on the Dwyka tillite soil deposits, for example, on the site of the interchange near Mkamela and in the vicinity of the Kwadlambu River Bridge (see Figures 156 to 159).

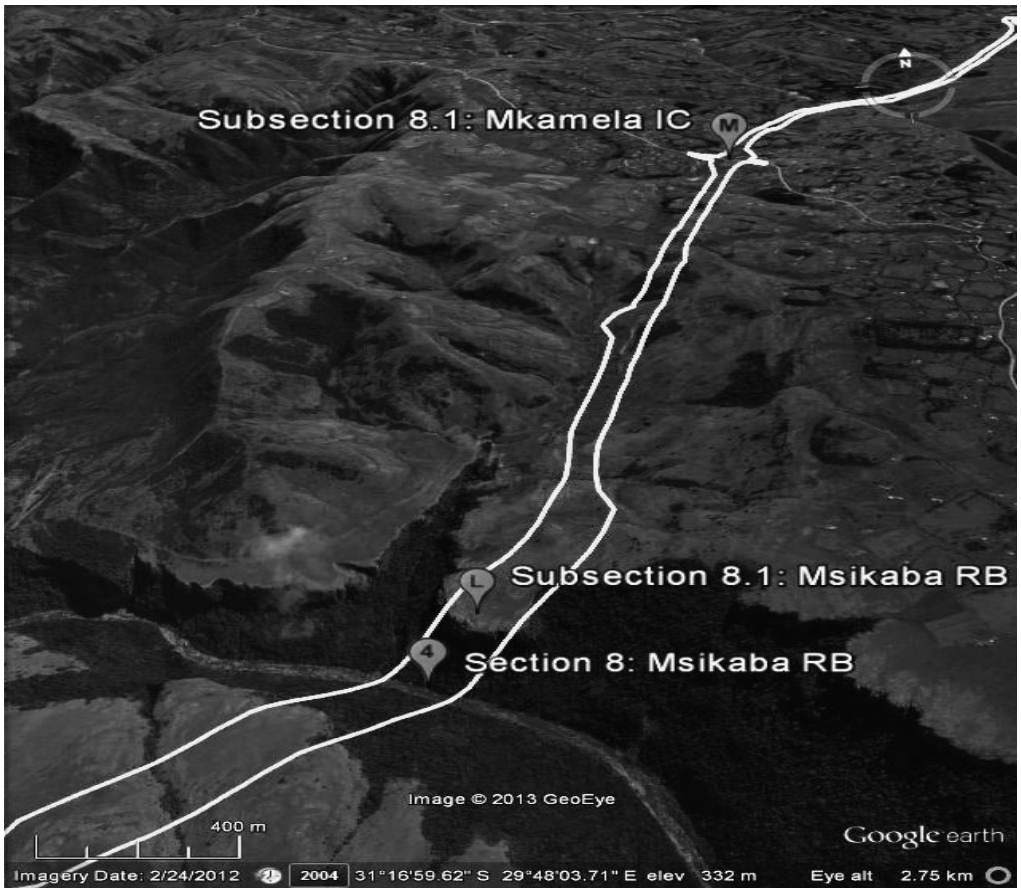

Figure 158. Subsections 7.2 and 8.1: The road reserve on largely exposed Msikaba sandstone through the Msikaba River Bridge area up to the interchange at Mkamela and the Kwadlambu River Bridge. The intensive agricultural use of available soil deposits is clearly a result of the relatively moist coastal climatic conditions.

4 Section 8 at the Msikaba River Bridge, 31°17'35.09"S; 29°47'52.83"E.
M Subsection 8.1 at the Mkamela Interchange, 31°15'21.14"S; 29°49'0.16"E.
N Subsection 8.2 at the Kwadlambu River Bridge, 31°14'28.56"S; 29°50'1.32"E.

Google Earth imagery date: 2/24/2012; ©2013. Viewed towards the north. Scale: 400 m.

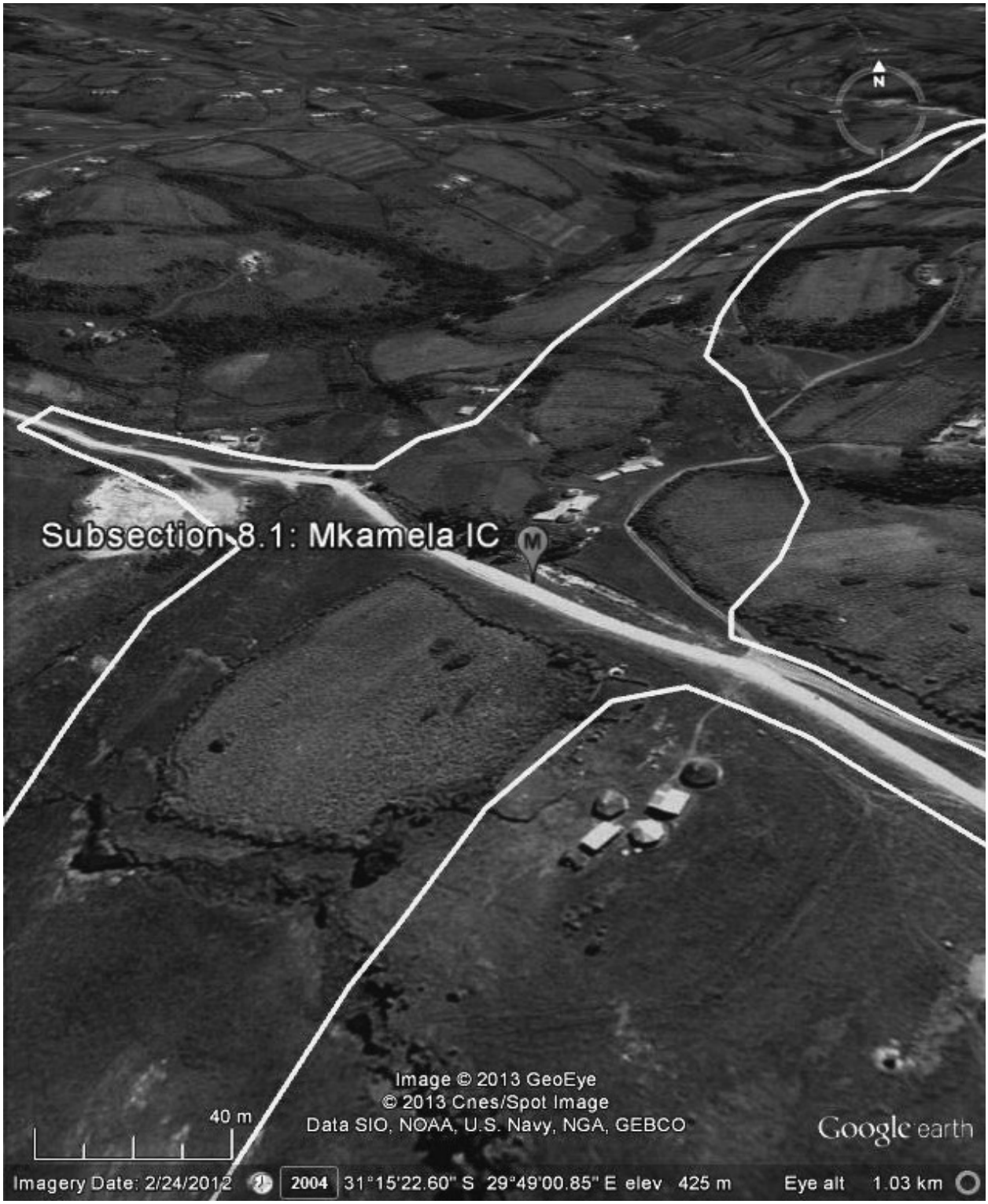

Figure 159. Subsection 8.1: **The N2WCTH road reserve interchange near Mkamela.**

M Subsection 8.1: The Mkamela Interchange, 31°15'21.14"S; 29°49'0.16"E.

Google Earth imagery date: 2/24/2012; ©2013. Viewed towards the north. Scale: 40 m.

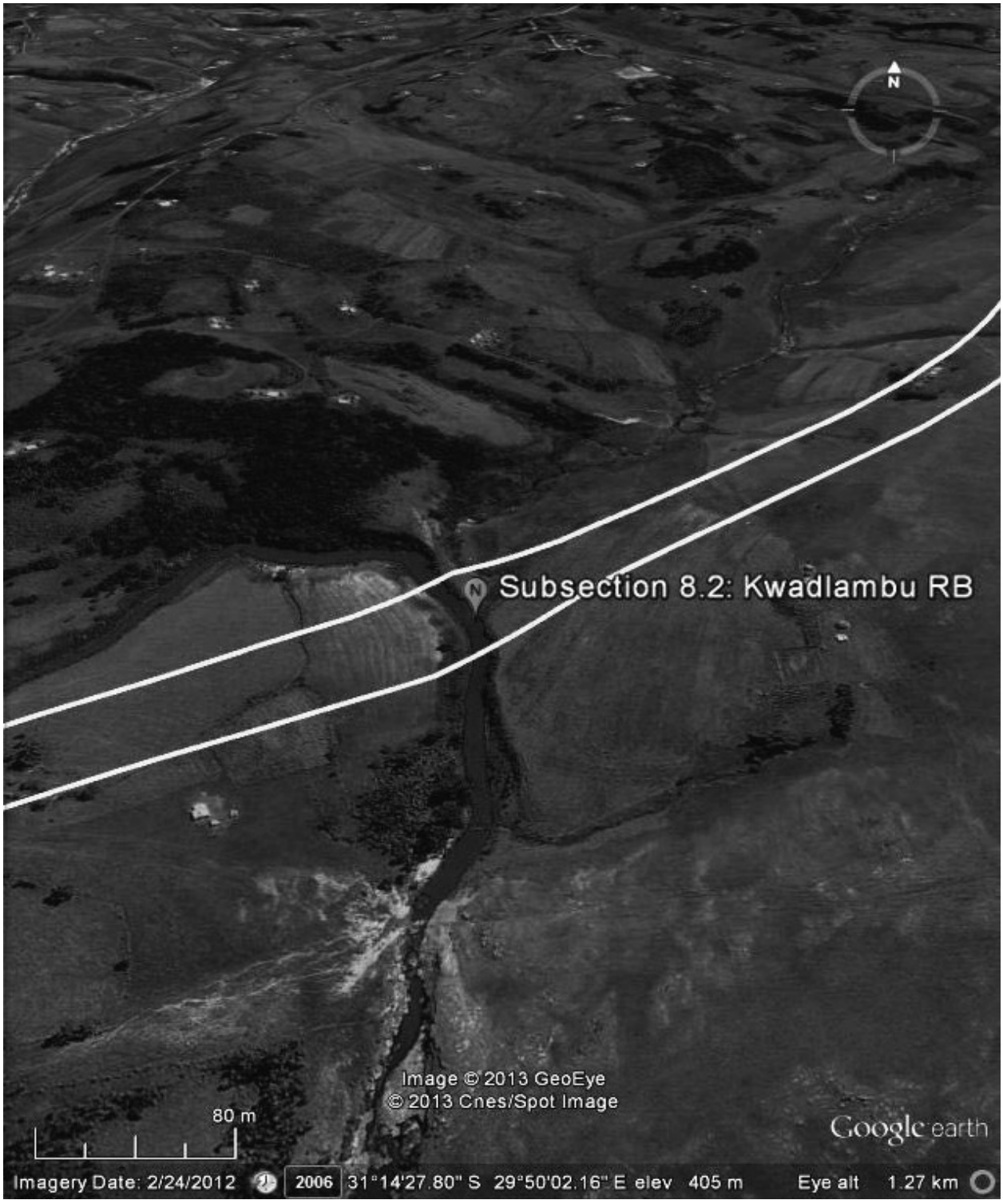

Figure 160. Subsection 8.1: The Kwadlambu River Bridge site.

Google Earth imagery date: 2/24/2012; ©2013. Viewed towards the north. Scale: 80 m.

- **Subsection 8.2: From the Kwadlambu River Bridge up to and including the Mtentu River Bridge**

  Subsection 8.2 of the road reserve runs between the Kwadlambu River Bridge and the Mtentu River Bridge across a natural landscape which varies from Dwyka tillite to Msikaba sandstone (see Figures 155 and 156). The human settlements are typically rural subsistence farming homesteads surrounded by agricultural fields (see Figures 160 to 165). Aerial photographs and spot checks labelled SC8.2 and SC8.2.1 in the SAS report revealed no evidence of archaeological sites or artefacts (see Figures 162, 166 and 167). Two graves have been recorded in the LAC team's Grave Audit List - both are situated inside the road reserve (see Figure 167).

Figure 161. Subsection 8.1: Farmland near the Kwadlambu River Bridge site.

Foto: Heli IMG_4417.

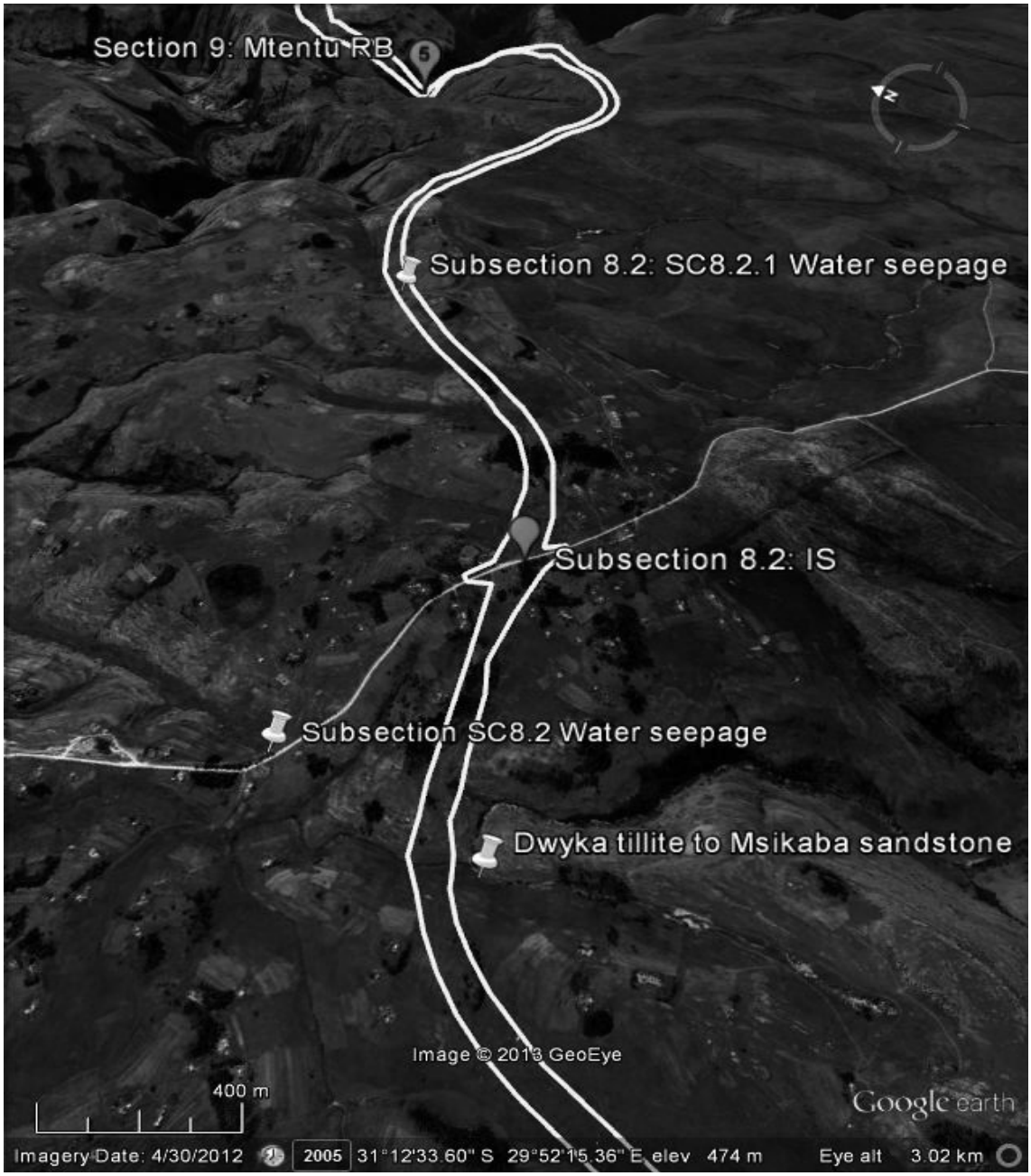

Figure 162. Subsection 8.2: The road reserve alignment across the Msikaba sandstone plateau landscape to the south-west of the Mtentu River Bridge. Spot checks SC8.2 and SC8.2.1 on local access roads or tracks revealed no evidence of archaeological sites (see Figure 166).

- Subsection 8.2 IS: N2WCTH/Holy Cross-Mkambati Road Intersection at 31°12'32.47"S; 29°52'20.28"E.
- Subsection 8.2: Spot check SC8.2 at 31°12'21.50"S; 29°51'45.10"E.
- Subsection 8.2: Spot check SC8.2. at 31°11'52.8"S; 29°53'11.6"E.
- **5** Section 9: Mtentu River Bridge at 31°10'43.59"S; 29°55'42.67"E.

Google Earth imagery date 4/30/2012; ©2013. Viewed towards the north-east. Scale: 400 m.

Figure 163. Subsection 8.2: Homesteads within and outside the N2WCTH /Holy Cross-Mkambati Road Intersection are surrounded by agricultural farmland.

Subsection 8.2: N2WCTH/Holy Cross-Mkambati Road Intersection at 31°12'32.47"S; 29°52'20.28"E.

Google Earth imagery date 4/30/2012; ©2013. Viewed towards the north-east. Scale: 20 m.

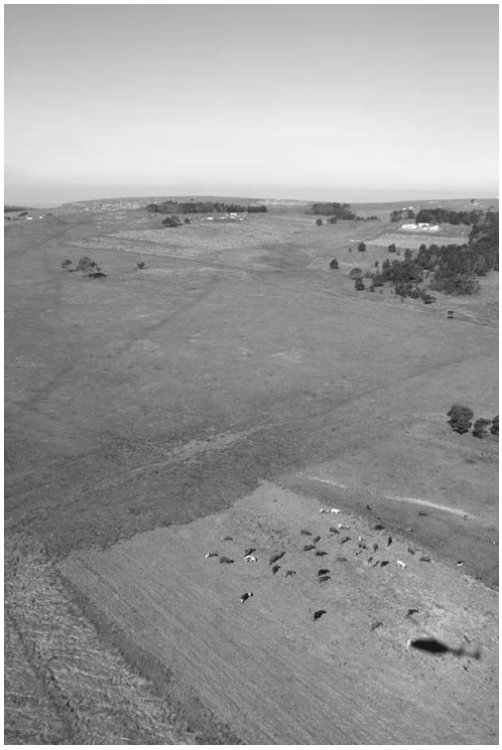

Figure164. Subsection 8.2: Farmland with cattle grazing in an agricultural field.

Photo: Heli IMG_4420.

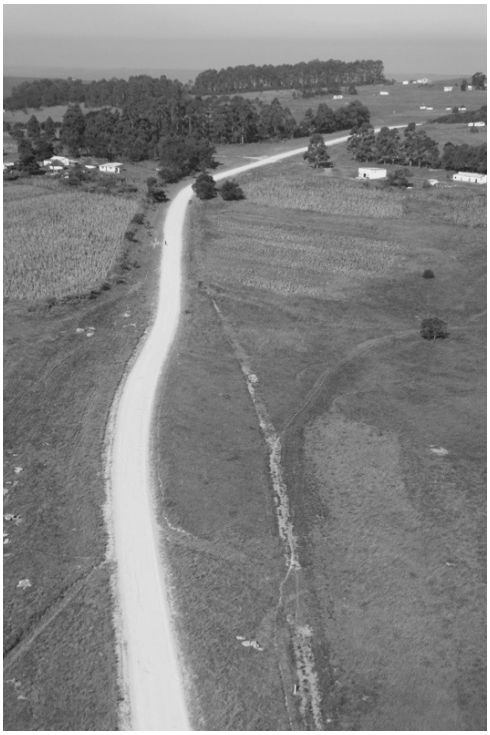

Figure165. Subsection 8.2: Typical farmland near the N2WCTH /Holy Cross-Mkambati Road Intersection.

Photo: Heli IMG_4421.

Figure 166: Subsection 8.2: Spot check, labelled SC8.2.1, on a vehicle track across an area covered with dense grassveld (see Figure 162).

Photo: SAS DSC00152. Viewed towards the south-west. Photographed from 31˚11'52.8"S; 29˚53'11.6"E.

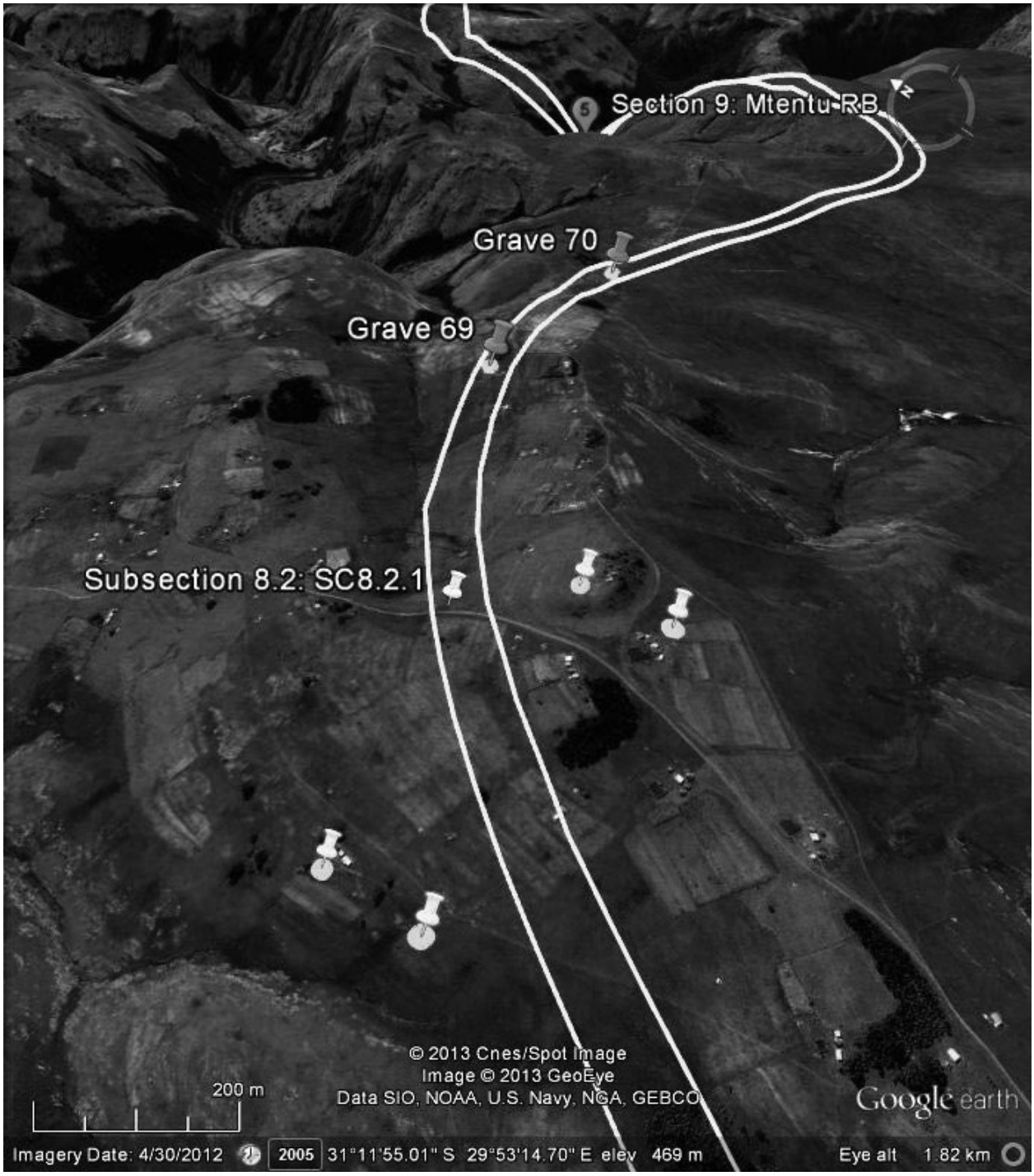

Figure 167. Subsection 8.2: The relatively thinly populated Msikaba sandstone landscape to the south of the Mtentu River Bridge. The typical cultural landscape is characterised by individual homesteads with associated kraals for domestic stock and cultivated fields. Graves 69 and 70, which are recorded in the Grave Audit List, are located within the road reserve.

Google Earth imagery date: 4/30/2012; ©2013. Viewed towards the north-east. Scale: 200 m.

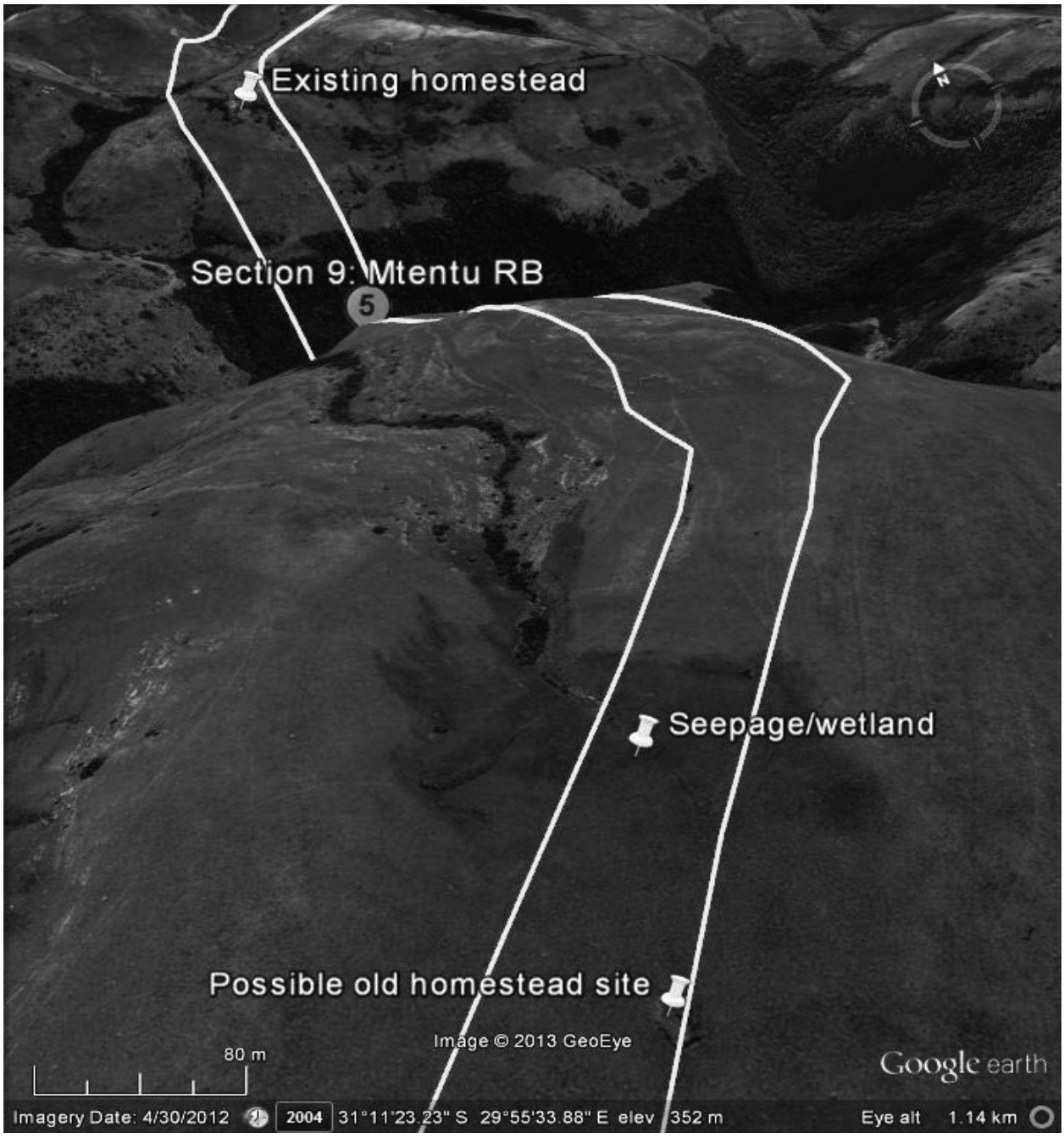

Figure 168. Subsection 8.2: The Mtentu River Bridge area, including a possible former homestead location adjacent to a wetland or water source, and the river ravine which is deeply incised into Msikaba sandstone.

Google Earth imagery date: 4/30/2012; ©2013. Viewed towards the north-east. Scale: 80 m.

Figure 169. Subsection 8.2: Aerial view of the southern abutment site of the Mtentu River Bridge. No evidence of human occupation was found.

Photo: Heli IMG_4430.

Figure 170. Subsection 8.2: SANRAL markers on the Mtentu River Bridge site (see detail in Figure 171).

Photo: SAS DSC00157, October 2011. Photographed at31˚11'05.1"S; 29˚55'45.6"E.

Figure 171. Subsection 8.2: Detail of the Mtentu River Bridge marker MTSA 1-C.

Photo: SAS DSC00163, October 2011. Photographed at 31˚11'04.9"S; 29˚55'45.6"E.

3.4.2.5 Section 9: From the Mtentu River Bridge up to and including the Mtamvuna River Bridge

Section 9 of the N2WCTH road reserve runs from the Mtentu River Bridge north-westwards up to the Mtamvuna River Bridge, which is located on the coastline just south of Port Edward. This road reserve section includes the construction sites of six large bridges, most of which will cross deep river ravines (see Figure 172).

Data from the AIA surveys and the SAS, including a study of satellite imagery, 1:50 000 topo-cadastral maps, aerial and on-site photography, spot checks and auger soil tests, indicate that the rugged terrain along this section of the road reserve typically consists of the following:

- Evidence of archaeological sites was discovered in the vicinity of two of the bridge sites, the Mnyameni River Bridge and the Mpahlane River Bridge (see Figures 177, 178, 182, 199 and 200).
- Natural landscape elements include eroded and largely exposed Msikaba sandstone overlaid by shallow soils, deeply eroded river ravines, open grassveld, and scarp forest on the slopes of the river ravines (see Figures 173, 178, 180, 182, 185, 190, 209, 210, 212 and 223).
- Cultural landscape features along this section of the road reserve are mainly typical rural homesteads, surrounded by agricultural fields (see Figures 174 to 181, 193, 197, 199 to 202, 211).
- There are also remains of what may be Pleistocene red dune elements in the vicinity of the Mtamvuna River Bridge where Stone Age artefacts could be expected (see Figures 215, 217, 220 and 224).
- The LAC team's Grave Audit List indicates the locations of graves along this section of the road reserve (see Figure 214).

- **Archaeological surveys of Section 9**

  The AIA surveys and SAS can be summarized as follows:

  (a) Survey by Binneman (2002a, 2002b)

  The survey by Binneman (2002a, 2002b) of this section extended from what is described as the Mnyameni River to the west bank of the Mpahlane River, and further to the east bank of the Mzamba River. Large sections of the survey were conducted on foot. Several spot checks were done along the steep sides of the Mnyameni River and its tributary, a few hundred metres above the waterfall. A number of caves and shelters were found, four of which contained small quantities of archaeological deposits, one of which containing a small number of rock paintings (Binneman 2002a, 2002b).

  The approved alignment of the N2WCTH road reserve bypasses the rock shelters and caves. According to Binneman 2002a, 2002b), this effectively prevents any potential impact on these archaeological sites. Some protection of these sites may be requested in the long term.

  (b) Survey by eThembeni (2008b)

  No further evidence was uncovered in this area during eThembini's survey.

  (c) Supplementary Archaeological Field Survey of Section 5

For the purposes of the SAS, road reserve Section 9 is subdivided into the following subsections (see Figures 172, 173 and 213):

- Subsection 9.1: From the Mtentu River Bridge up to and including the Mnyameni River Bridge.
- Subsection 9.2: From the Mnyameni River Bridge up to and including to the Kulumbe River Bridge.
- Subsection 9.3: From the Kulumbe River Bridge up to and including the Mpahlane River Bridge.
- Subsection 9.4: From the Mpahlane River Bridge up to and including the Mzamba River Bridge.
- Subsection 9.5: From the Mzamba River Bridge to up to but excluding the Casino Interchange.
- Subsection 9.6: From the Casino Interchange up to and including the Mtamvuna River Bridge.

The proclaimed N2WCTH road reserve alignment bypasses all the known archaeological sites and features recorded in this area during the two AIA surveys. These are the rock shelters and caves near the site of the Mnyameni River Bridge, some of which contain Stone Age artefacts and rock art (see Figures 177, 178, 182 and 187), and the locations of the previously reported stone mounds near the site of the approved Mpahlane River Bridge (see Figures 199, 200 and 203). During the SAS, four additional stone mounds were located and photographed in the vicinity of the Mpahlane River Bridge site (see Figures 200, 203, 207 and 208).

Figure 172. Section 9: Subsections 9.1 to 9.6, from the Mtentu River Bridge up to the Mtamvuna River Bridge. A noteworthy feature is the surface of the terrain and the sharply edged coastline of Msikaba sandstone.

5 Section 9: Mtentu River Bridge at 31°10'43.59"S; 29°55'42.67"E.
O Subsection 9.1: Mtentu River Bridge at 31°10'25.71"S; 29°55'39.90"E.
P Subsection 9.2: Mnyameni River Bridge at 31°8'42.53"S; 30°3'33.13"E.
Q Subsection 9.3: Kulumbe River Bridge at 31°7'52.17"S; 30°4'1.46"E.
R Subsection 9.4: Mpahlane River Bridge at 31°6'21.49"S; 30°8'19.61"E.
S Subsection 9.5: Mzamba River Bridge at 31° 5'35.97"S; 30°9'23.73"E.
T Subsection 9.6: Casino Interchange at 31°4'33.90"S; 30°11'0.16"E.
U Subsection 9.6: Ntamvuna River Bridge at 31°4'31.53"S; 30°11'33.41"E.

Google Earth imagery date 4/30/2012; ©2013. Viewed towards the north-east. Scale: 4.00 km.

- **Subsection 9.1: From the Mtentu River Bridge up to and including the Mnyameni River Bridge**

  Subsection 9.1 of the N2WCTH road reserve runs from the Mtentu River Bridge up to the Mnyameni River Bridge across a landscape characterized by exposed Msikaba sandstone and patches of shallow soil. The terrain is inhabited and cultivated by families practising some form of subsistence farming (see Figures 176, 177, 179 to 181).

  The typical rural settlement pattern in the area consists of homesteads comprised of traditional rondavel type buildings, rectangular buildings and what appear to be kraals for livestock, typically in a circular homestead arrangement, in the vicinity of garden patches, small plantations of blue gum trees or other trees, agricultural fields and springs or small wetlands, for example, the homesteads labelled HS9.1.1 to HS9.1.5 in the SAS report (see Figures 175 to 181).

  A feature of particular importance has been recorded at the confluence of the Mnyamani River and the Kulumbi River, namely rock shelters and caves, some of which contain archaeological material. The numerous caves and rock shelters provided shelter to small bands of Stone Age hunter-gatherers (see Figures 182 and 185 to 187). Another important observation recorded in the AIAs was potsherds found in an agricultural field close by, on the southern side of the Mnyameni River Bridge site, above the waterfall (Binneman 2002a, 2002b; eThembeni 2008a, 2008b) (see Figure 182). The rock shelters and caves, and the site where the potsherds were found are all located outside the approved road reserve (see Figures 178 and 182). The slopes of the Mnyameni River are not very steep, and the river as a water course is easily accessible.

  The impact of the approved Mnyameni River Bridge on this sensitive natural and cultural river gorge landscape will be abutments which will rest on naturally exposed Msikaba sandstone high up along the sides of the gorge (see Figures 182 and 183).

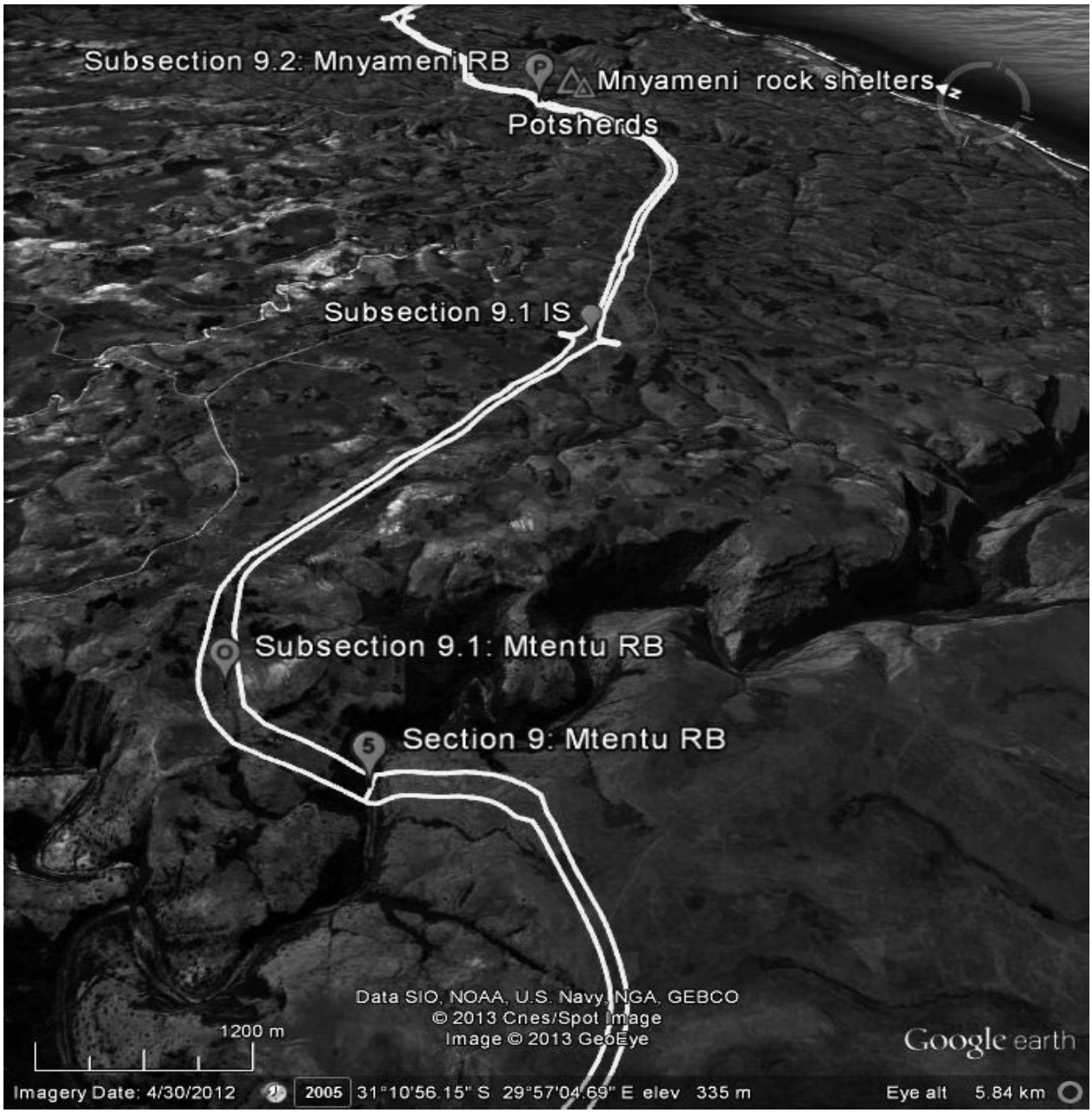

Figure 173. Subsection 9.1: Alignment of the road reserve across the Msikaba sandstone landscape and cultural landscape between the Mtentu River Bridge and the Mnyameni River Bridge. Particular landscape features include the following:

- Farming homesteads at the (Baleni) Intersection at 31°10'31.71"S; 29°59'2.54"E (see Figure 174).
- Farming homesteads south of the Mnyameni River Bridge (see Figures 175 to 181).
- Mnyameni River rock shelters (see Figures 177, 178, 182 and 185 to 187).

Google Earth imagery date 4/30/2012; ©2013. Viewed towards the north-east. Scale: 1200 m.

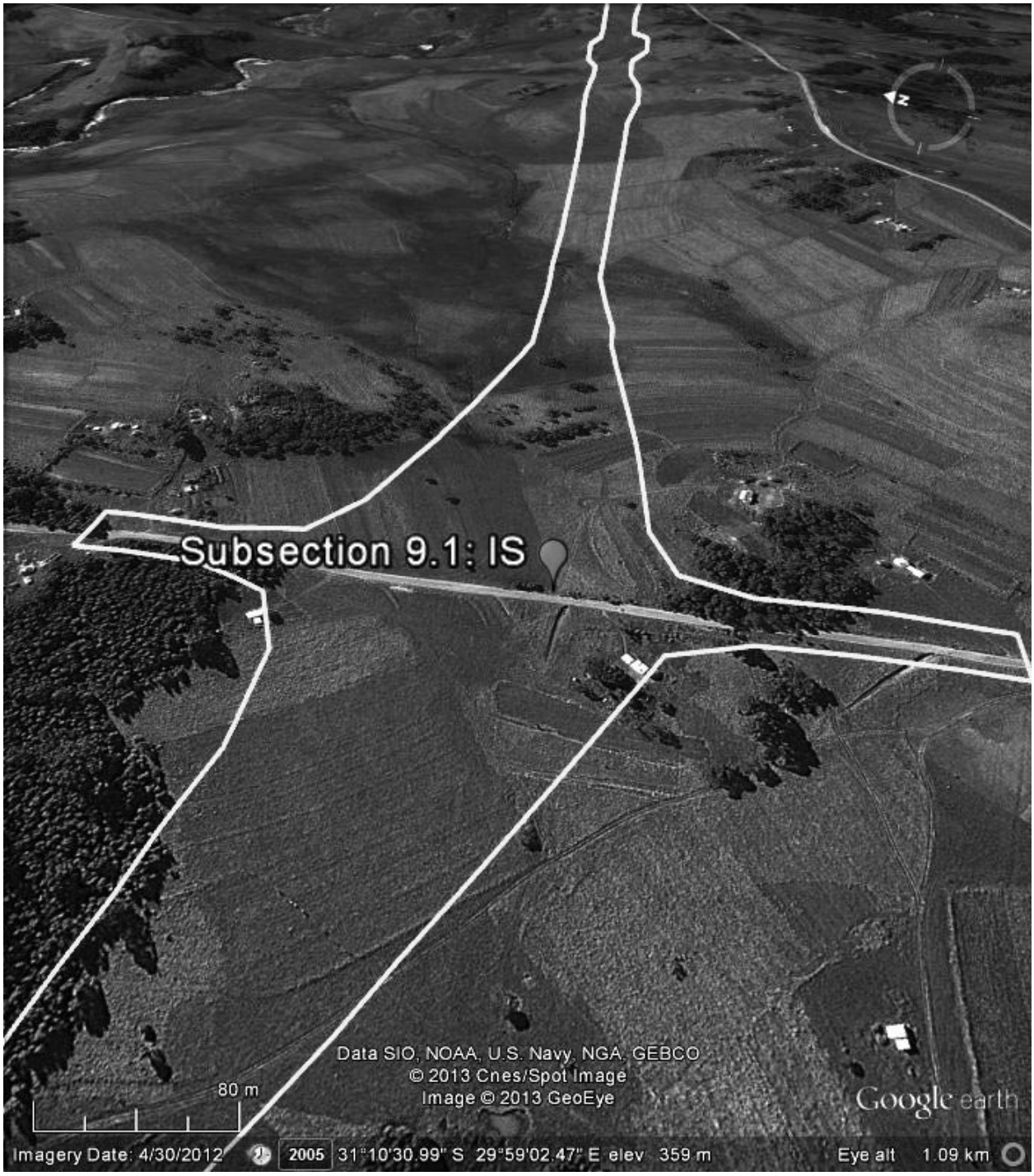

Figure 174. Subsection 9.1: A typical rural homestead and agricultural landscape on and around the site of this intersection.

- Subsection 9.1: Intersection near Baleni at 31°10'31.71"S; 29°59'2.54"E

Google Earth imagery date 4/30/2012; ©2013. Viewed towards the north-east. Scale: 80 m.

Figure 175. Subsection 9.1: Typical homestead surrounded by a plantation and farmland to the north of the Mtentu River.

Photo: SANRAL Heli IMG_4448.

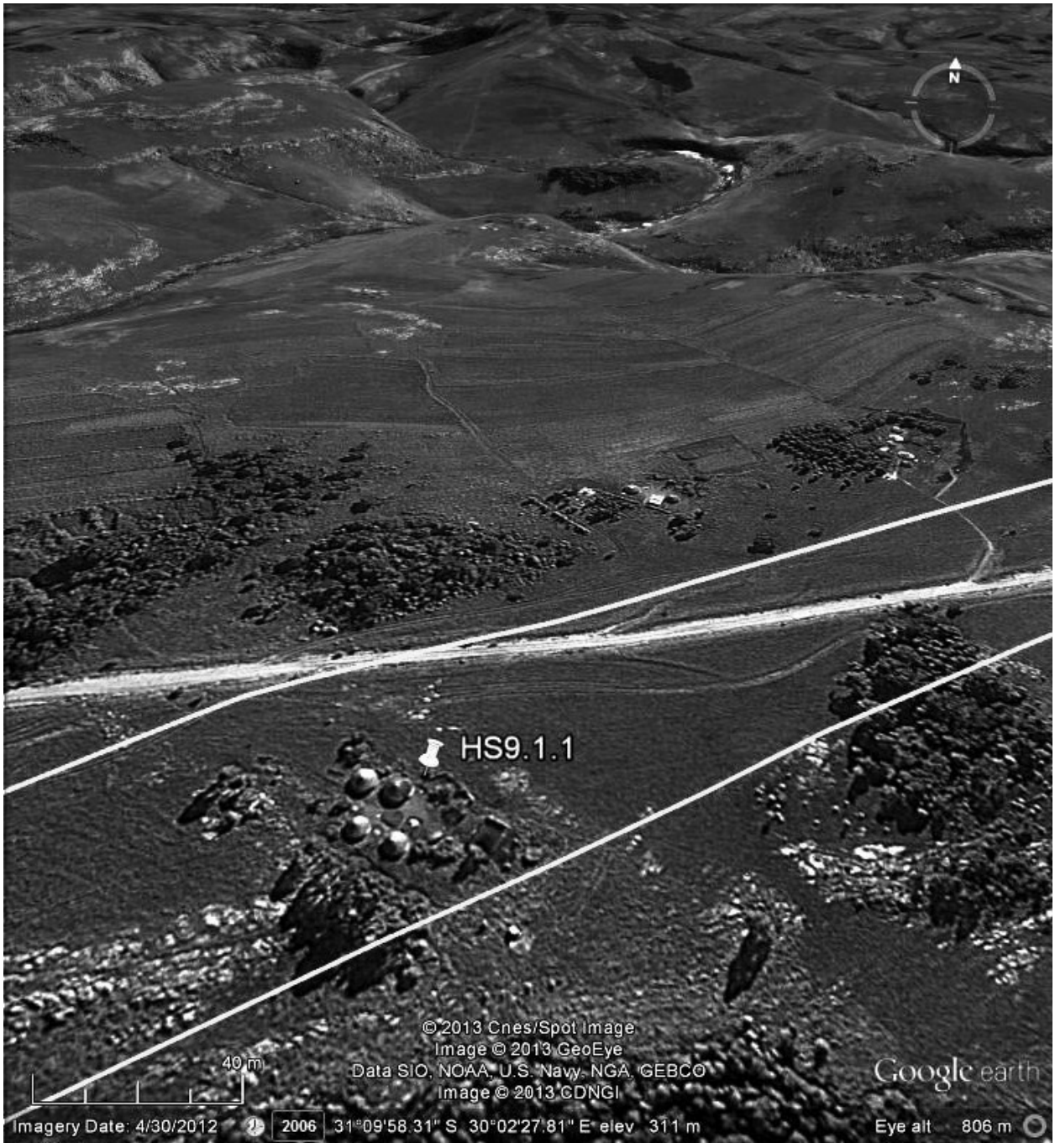

Figure 176. Subsection 9.1: Typical small family homesteads scattered across the landscape, surrounded by agricultural fields on shallow soil and exposed sandstone surfaces. Homestead labelled HS9.1.1 in the SAS report is located inside the road reserve at 31°10'1.57"S; 30° 2'26.94"E.

Google Earth Imagery date 4/30/2012; ©2012. Viewed towards the north. Scale: 40 m.

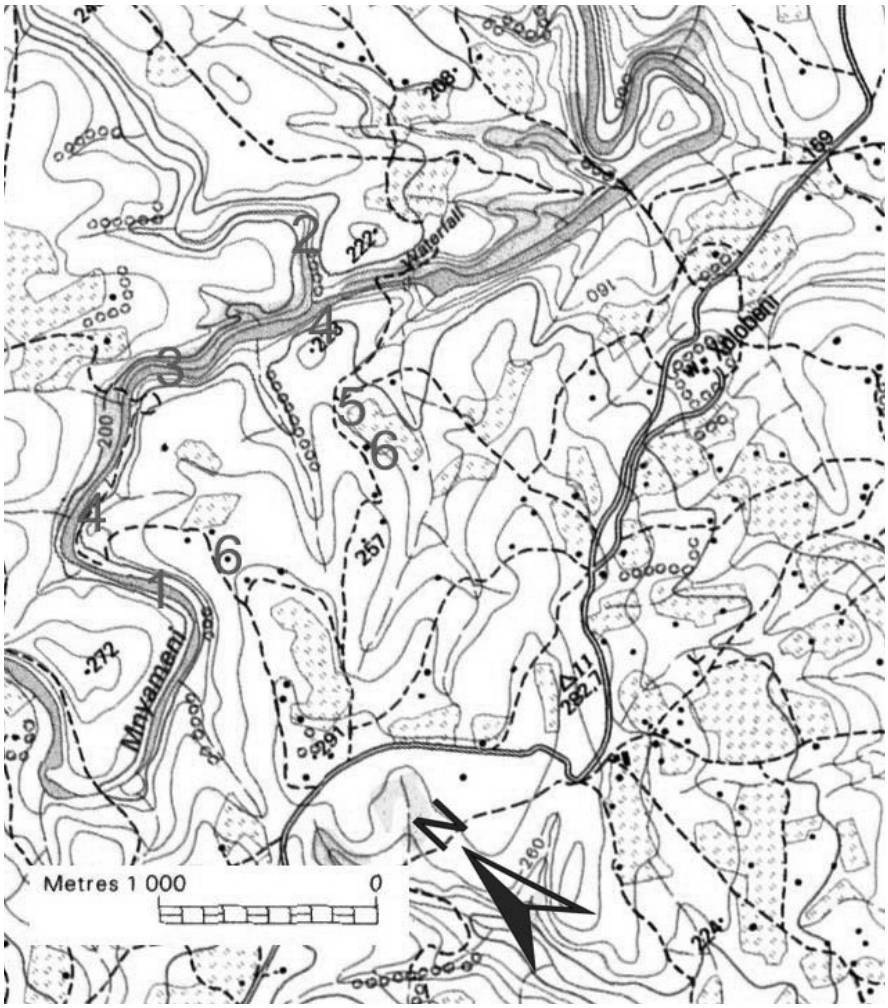

Figure177. Subsection 9.1: Archaeological sites and local settlement pattern in the confluence area of the Mnyameni River and the Kulumbe River.

1 Mnyameni River
2 Kulumbe River
3 Mnyameni River Bridge
4 Rock shelters
5 Potsherds
6 Family homesteads

1:50 000 topo-cadastral map WGS3130AA & AB Port Edward (1993).

The only rock shelters (4) containing any evidence of late Stone Age occupation in the area are located on the southern bank of the Mnyameni River (1) at its confluence with the Kulumbe River (2) in the vicinity of the Mnyameni River Bridge (3).

Another testimony of human settlement is the occurrence of a few thin-walled potsherds (5), probably of Late Iron Age origin, in a ploughed field on the slope above the river valley. The potsherds show that there was once a Late Iron Age settlement in the area, but no other remains or features were found which could provide more information.

None of these remains are affected by the N2WCTH road reserve (see Figures 178 and 182).

To the south of these sites, there are several existing traditional family homesteads (6) some of which are inside the road reserve (also see Figures 178 to 181).

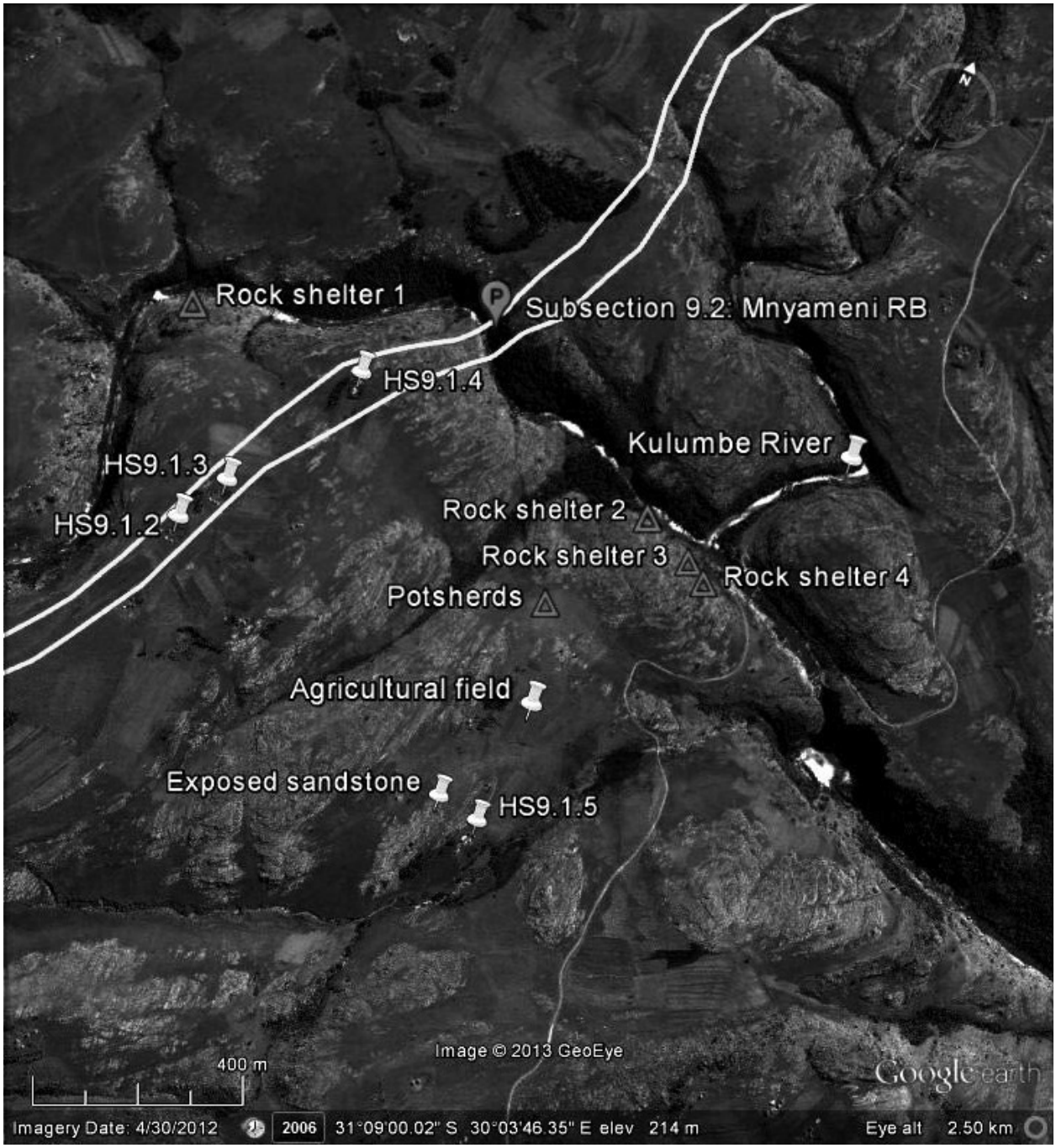

Figure 178. Subsection 9.1: Cultural landscape features around the site of the Mnyameni River Bridge include rock shelters and caves which were inhabited by Late Stone Age hunter-gatherers. These features were all are outside the road reserve. Moreover, the occupied homesteads of subsistence farming family units can be seen on thin patches of soil deposits on the largely exposed Msikaba sandstone. Some of these homesteads are located inside the road reserve.

Google Earth imagery date 4/30/2012; ©2013. Viewed towards the north-west. Scale: 400 m.

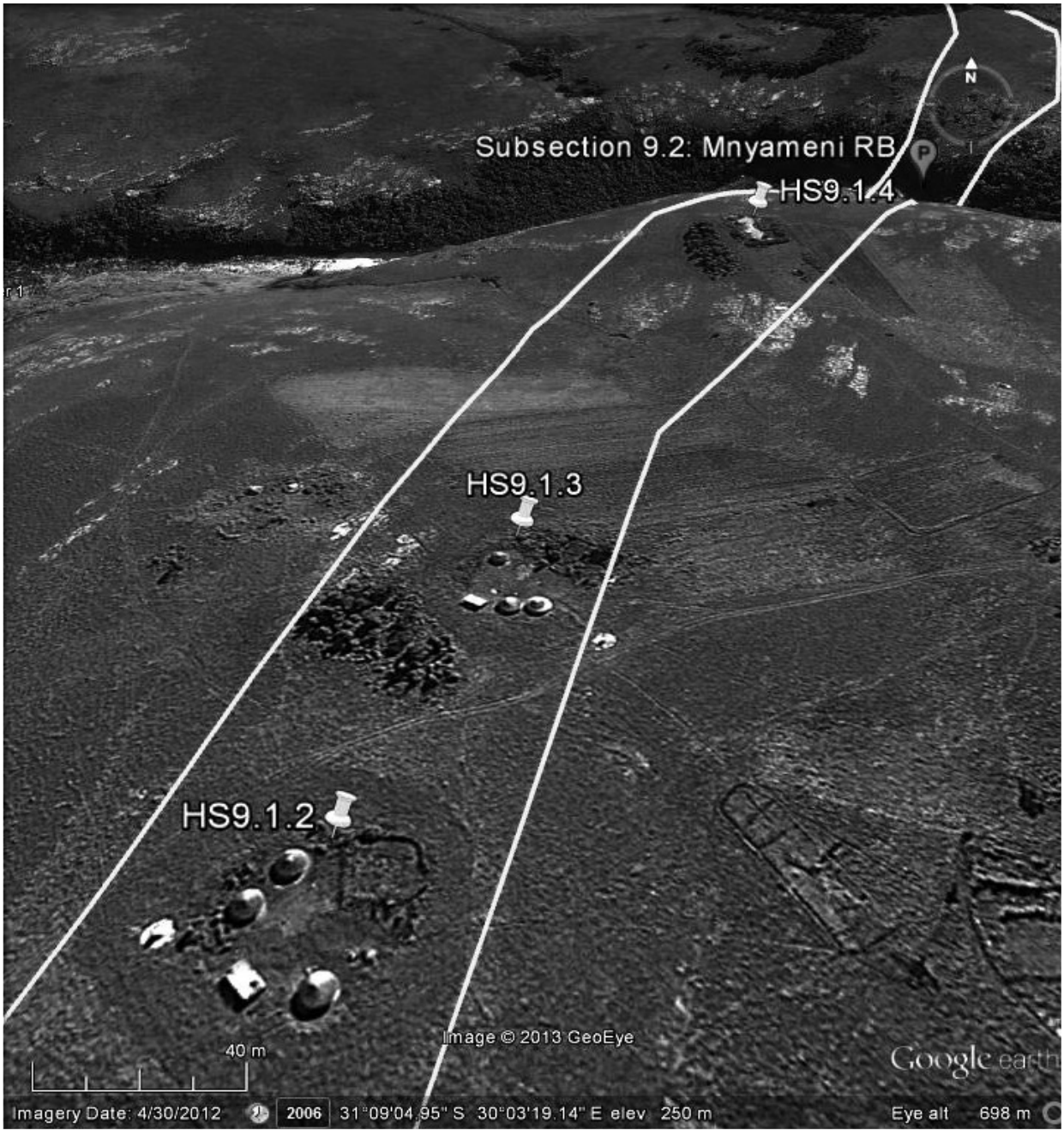

Figure 179. Subsection 9.1: Three existing homestead sites, typical of the area, inside the road reserve as follows:

- Homestead HS9.1.2 at 31° 9'8.49"S; 30° 3'17.33"E.
- Homestead HS9.1.3 at 31° 9'4.40"S; 30° 3'18.85"E.
- Homestead HS9.1.4 at 31° 8'51.62"S; 30° 3'24.68"E (also see Figures 180 and 181).

Google Earth Imagery date 4/30/2012; ©2013. Orientation: Viewed towards the north. Scale: 40 m.

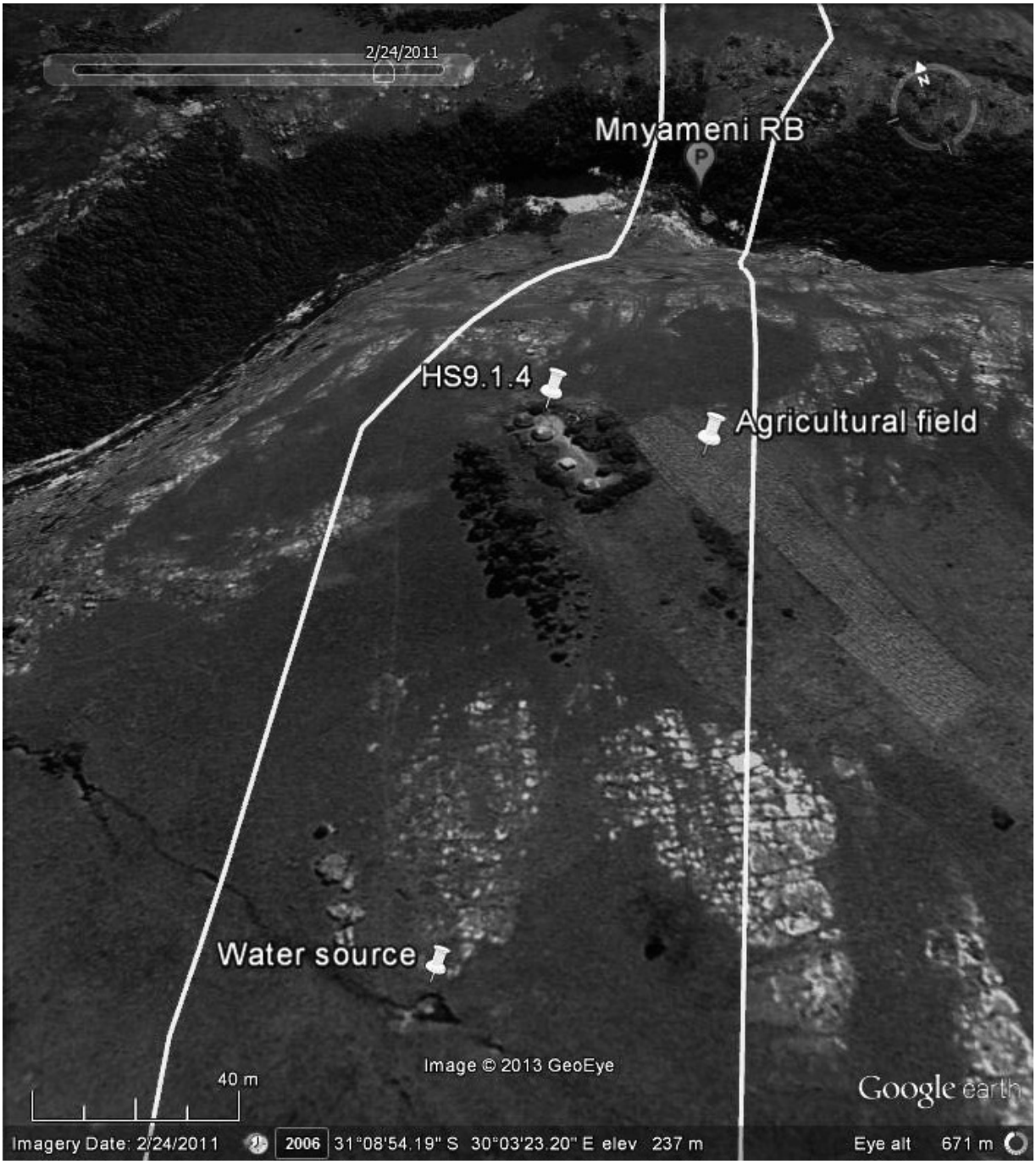

Figure180. Subsection 9.1: Homestead HS 9.1.4, which is typical of the area, located inside the road reserve near the Mnyameni River Bridge (also see Figure 181).

Google Earth Imagery date 2/24/2011; ©2013. Orientation: Viewed towards the north-east. Scale: 40 m.

Figure 181. Subsection 9.1: Homestead HS9.1.4 inside the road reserve near the Mnyameni River Bridge site. The walls of the rondavel type buildings seem to be constructed of "modern" materials.

Photo: SAS DSC00130, October 2011. Photographed at 31˚08'50.96"; 30˚03'24.65".

The archaeological sites near the Mnyameni River Bridge

These sites are recorded as follows:

(a) Survey by Binneman (2002b)

During a visit on foot, Binneman (2002b:4, 5) discovered a number of rock shelters and caves as follows (see Table 4; Figures 178 and 182):

- Site 2: A small shelter. Archaeological remains include black shale stone tools scattered on the floor and along the drip line, and some marine shell, which include the mussels *Patella miniata,* and *Dinoplax gigas.* The only rock paintings found during the survey were situated in this shelter. Located at 31°8'51.00"S; 30°3'5.00"E. (See Figure 182: Rock shelter 1).

- Site 3: A fairly large cave situated. A large number of stone tools (many utilised and retouched) manufactured of black shale and occasionally chalcedony, along with some red ochre fragments, were visible on the floor of the cave and along the drip line. A few thin walled potsherds were also found, but it is not known whether these are Stone Age pastoralists (Khoi) or Late Iron Age (late farming communities) in origin. Large quantities of marine shell were present on the floor.). Located at 31°8'52.00"S; 30°3'54.00"E. (See Figure 182: Rock shelter 2).

- Site 4: A fairly large rock shelter situated some 25 m above the channel of the Mnyameni River. The archaeological material was visible at the entrance of the shelter and consisted of a few stone tools manufactured of black shale and fragmented marine shell. Located at 31°8'54.00"S; 30°3'59.00"E. (See Figure 182: Rock shelter 3).

- Site 5: A large semi-circular cave. Large quantities of stone tools (utilised, retouched and small scrapers) manufactured of black shale and occasional chalcedony were visible on the floor and exposed in the drip holes. A number of thick walled potsherds (none decorated), and probably of Late Iron Age origin were also found on the site. The marine shell remains were similar to the species found at the other sites. Located at 31° 8'55.00"S; 30°4'1.00"E. (See Figure 182: Rock shelter 4).

- Binneman (2002b: 5) also describes Site 6 as an occurrence on the slope above the river valley of a few thin-walled potsherds, probably of Late Iron Age origin, in a ploughed field. The potsherds suggest that there was a Late Iron Age settlement in the vicinity, but no other remains or features were found which could provide more information. Located at 31°9'2.00"S; 30°3'49.00"E. (See Figures 178 and 182: Potsherds).

(b) Survey by eThembeni 2008

The eThembeni survey added no new findings.

(c) SAS of Section 9.1

Satellite and GPS navigation indicate that the sites reported by Binneman are all safely outside the final N2WCTH alignment.

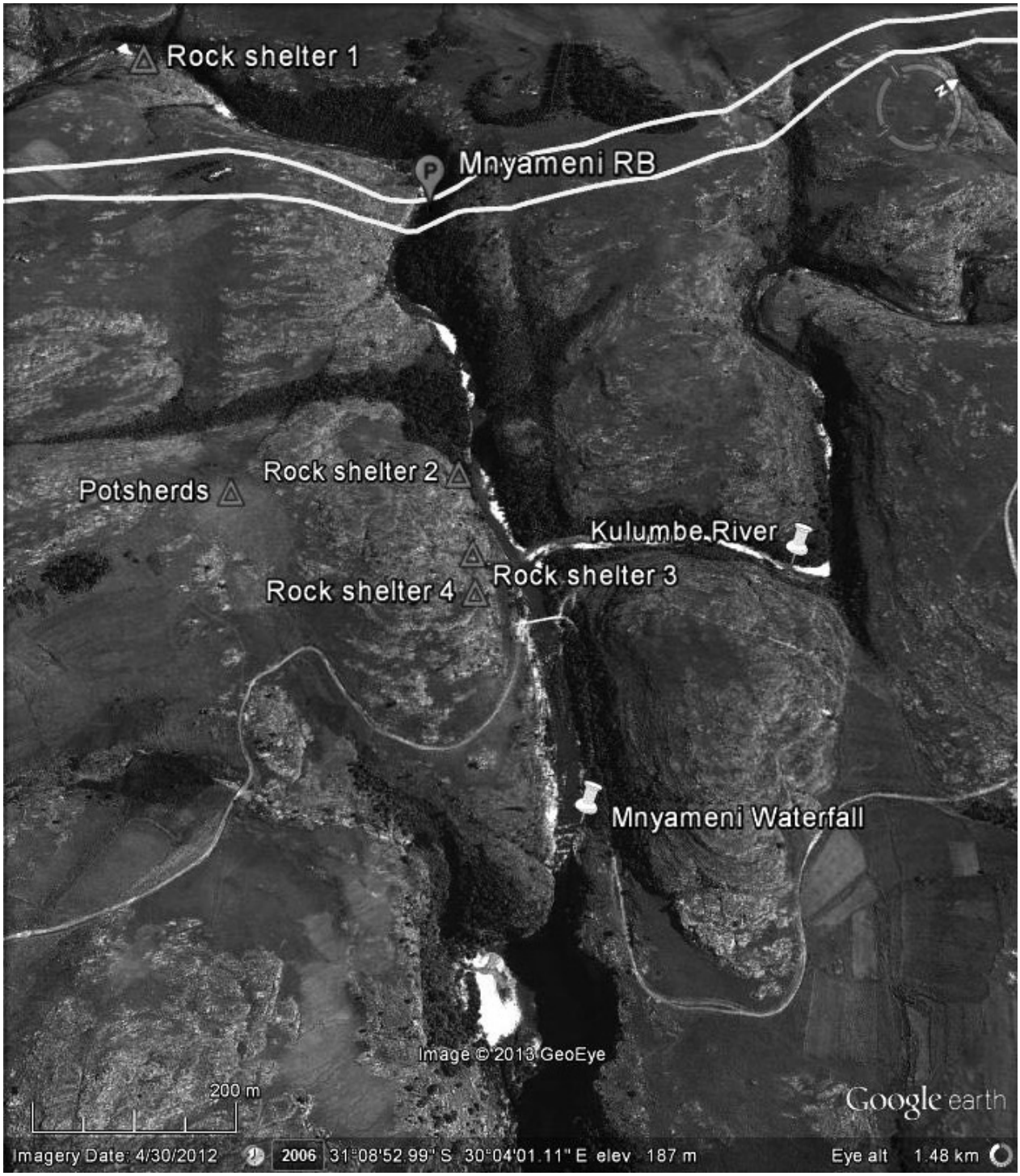

Figure 182. Subsection 9.1: Satellite images and GPS navigation indicate that these rock shelters and the potsherd site reported by Binneman (2002a, 2002b) are all safely outside the final N2WCTH road reserve and Mnyameni River Bridge site (also see Figure 178).

Google Earth imagery date 4/30/2012; ©2013. Viewed towards the north-west. Scale: 200 m.

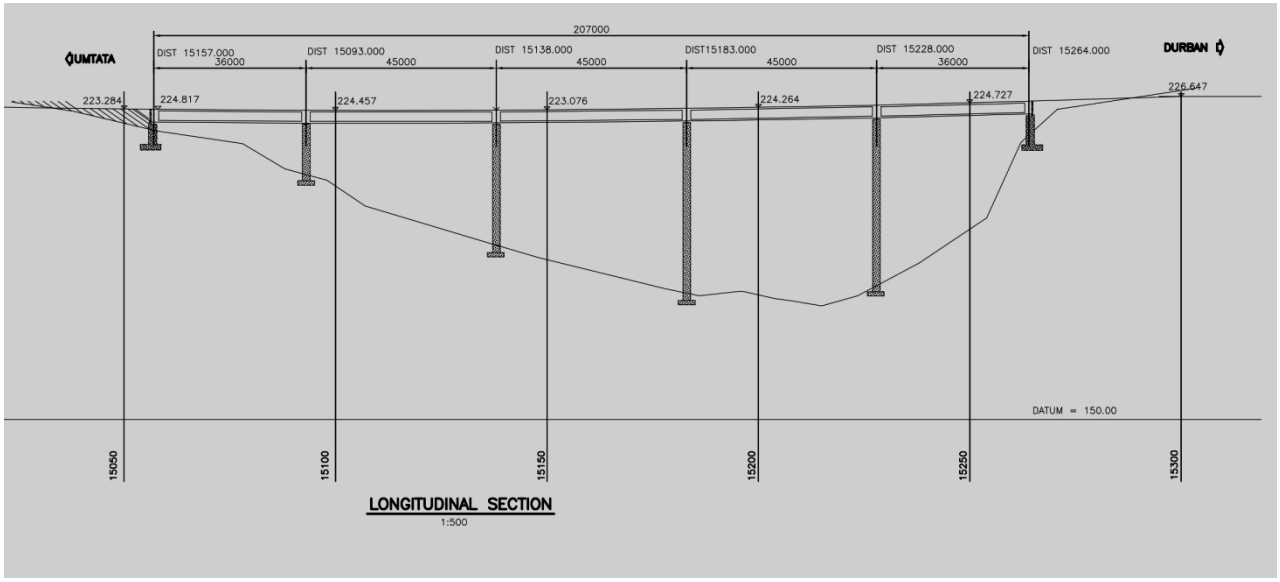

Figure 183. Longitudinal section of the Mnyameni River Bridge; the southern end is to the left and the northern end to the right.
Diagram by SANRAL.

Figure 184. Subsection 9.1: The Mnyameni River Bridge area, characterized by sparsely populated grassland on largely exposed Msikaba sandstone, adjacent to the existing District Road. The Mnyameni Bridge site is situated in the background, to the left.

Photo: SANRAL Heli IMG_4457.

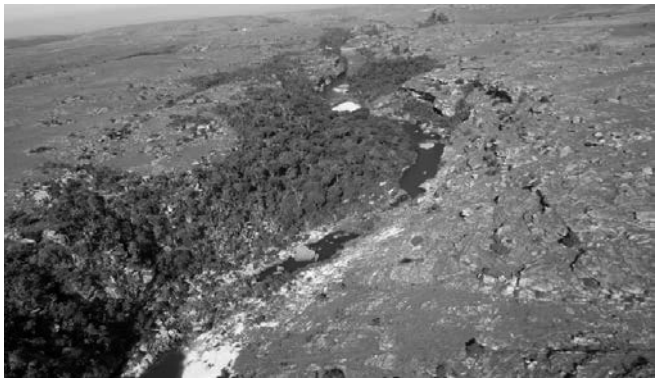

Figure185. Subsection 9.1: The Mnyameni River Bridge site.

Photo: SANRAL Heli IMG_4461.

Figure 186. Subsection 9.1: Rock shelters on the southern bank of the Kulumbe River, seen from the north at the confluence of the Kulumbe River and the Mnyameni River.

Photo: SAS DSC00106, October 2011. Photographed at 31°8'36.63"S; 30°4'10.89"E.

Figure 187. Subsection 9.1: An AIA report photograph showing the caves and shelters above the

southern bank in the Mnyameni River valley, viewed from the north (Binneman 2002b: Plate 6.1).

Figure 188. Subsection 9.1: The site for the Mnyameni River Bridge and SANRAL marker BH MNY 3.

Photo: SAS DSC00121, October 2011. Photographed at 31°8'46.52"S; 30°3'30.14"E.

Figure 189. Subsection 9.1: Mnyameni River Bridge marker detail: BH MNY 3.

Photo: SAS DSC00124, October 2011. Photographed at 31°8'46.45"S; 30°3'30.18"E.

- **Subsection 9.2: From the Mnyameni River Bridge up to and including the Kulumbe River Bridge**

  Subsection 9.2 of the N2WCTH road reserve runs from the Mnyameni River Bridge to the Kulumbe River Bridge around the Msikaba sandstone cliffs on the western side of the Kulumbe River. Due to the ruggedness of the terrain and lack of access roads to the location of this sub-section, survey observations were limited to a study of the satellite imagery (see Figure 189) and a spot check on the site of the Kulumbe River Bridge (see Figures 190 and 191). No evidence was found of archaeological remains.

Figure 190. Subsection 9.2: Kulumbe River Bridge site (Q) (see Figures 191 and 192, below).

Google Earth imagery date 10/23/2012; ©2013. Viewed towards the north-east. Scale: 40m.

Figure 191. Subsection 9.2: Kulumbe River Bridge marker BH KLU 2.

Photo: SAS DSC00098, October 2011. Photographed at 31°7'51.69S; 30°4'1.67"E.

Figure 192. Subsection 9.2: Detail of Kulumbe River Bridge marker BH KLU 2.

Photo: SAS DSC00099, October 2011. Photographed at 31°7'51.79"S; 30°4'1.50"E.

- **Subsection 9.3: From the Kulumbe River Bridge up to and including the Mpahlane River Bridge**

  The satellite images and 1:50 000 topo-cadastral map show that Subsection 9.3 of the N2WCTH road reserve runs from the Kulumbe River Bridge up to the Mpahlane River Bridge across a typical local landscape of shallow soil on Msikaba sandstone, with sandstone outcrops, numerous agricultural fields surrounding scattered homesteads, and an informal network of access roads or motor vehicle tracks (see Figures 190, 191, 193, 199 and 200).

  The homesteads consist of small clusters of rondavel type buildings, and rectangular buildings, as well as structures that are probably kraals for livestock such as cattle, often near water courses, water seepages or small patches of wetland (see Figures 199 to 202). Two fairly recent graves were observed near an abandoned homestead (see Figures 203 and 204).

  The alignment of the road reserve which will bypass the stone mounds and the location of the Mpahlane River Bridge, which will be constructed on abutments and piers across the Mpahlane River ravine, is expected to have no impact on the archaeological features (see Figures 200 and 203) and little impact on the ravine itself.

  The archaeological surveys on the site are summarized as follows (see Figures 200 and 203):

  (a) Survey by Binneman (2002a, 2002b)

  According to Binneman (2002a, 2002b), the steep banks of the Mpahlane and Mzamba Rivers revealed no archaeological sites, and the likelihood of finding any was very limited. The dense grass cover proved to be a major problem in identifying potential sites. During a visit on foot, four stone cairns (*izivivane*) of unknown date were found on the western bank at the top of the cliff next to a path that crosses the Mpahlane River (31˚06'21"S; 30˚08'10"E). Binneman indicated that these cairns need to be protected.

  (b) Survey by eThembeni (2008a, 2008b)

  Survey visits by eThembeni revealed no archaeological evidence.

  (c) Supplementary Archaeological Field Survey of Subsection 9.3

  The SAS of Subsection 9.3 revealed the following:
  - In and around the interchange in Subsection 9.3, occupied and recently abandoned rural homesteads surrounded by gardens and agricultural fields near available water sources were observed (see Figures 193 to 198, spot checks labelled SC9.3.1 to SC9.3.5 in the SAS report). An auger test at spot check SC9.3.1 at the site of the interchange (see Figure 194) revealed no evidence of archaeological or cultural heritage material.
  - Satellite imagery and navigation and GPS data confirmed that the coordinates of the stone cairns or piles observed at the Mphalane River Bridge site are outside the N2WCTH alignment (see Figures 199, 200 and 203; spot checks labelled SC9.3.6 to SC9.3.8 in the SAS report). During a search on foot, the cairns reported by Binneman, located by him at 31˚06'21"S; 30˚08'10"E, could not be found.
  - A small stone concentration or remains of a former mound (spot check SC9.3.8) was photographed at 31°6'22.16"S; 30°8'13.0"E; (see Figures 203 and 207) to the west of the road reserve alignment; and three recently stacked stone piles were photographed at 31°6'25.61"S; 30°8'18.22'E to the east of the alignment (spot check SC9.3.7; see Figures

203 and 207). It appears that rock fragments that had broken off a nearby rock outcrop had been used for these piles. A local inhabitant who was interviewed could not provide information on these mounds, other than a comment that the mounds are stockpiles of stone for building purposes (see Figures 200, 203, 207 and 208).

Figure 193. Subsection 9.3: Interchange north-east of the Kulumbe River Bridge.

- Spot check SC9.3.1: Auger test at 31°6'28.1"S; 30°5'39.9"E (see Figure 194).
- Spot check SC9.3.2: Agricultural field at 31°6'26.70"S; 30°5'42.30"E (see Figure 195).
- Spot check SC9.3.3: Soccer field at 31°6'32.76"S; 30°5'45.68"E (see Figure 196).
- Spot check Spot check SC9.3.4: Abandoned homestead at 31°6'22.83"S; 30°5'51.47"E (see Figure 197).
- Spot check SC9.3.5: Game board on sandstone a t 31°6'25.0"S; 30°5'54.9"E (see Figure 198).
- Homestead at 31° 6'29.46"S'; 30°5'30.01"E (see Figure 193 above).
- Agricultural at field 31° 6'30.50"S; 30°5'31.68"E (see Figure 193 above).
- Plantation at 31° 6'30.49"S; 30° 5'34.73"E (see Figure 193 above).

Google Earth imagery date 2/24/2012; ©2013. Viewed towards the east. Scale: 80m.

Figure 194. Subsection 9.3 Interchange: Spot check SC9.3.1, an auger test.

Photo: SAS DSC00077, October 2011. Photographed at 31°6'28.09"S; 30°5'39.85"E.

Figure 195. Subsection 9.3, Interchange: Spot check SC9.3.2 in an agricultural field.

Photo: SAS DSC00073, October 2011. Photographed at 31°6'26.69"S; 30°5'42.32"E.

Figure 196. Subsection 9.3: Spot check SC9.3.3. Soccer field to the south-east of the interchange.

Photo: SAS DSC00069, October 2011. Photographed at 31°6'31.94"S; 30°5'44.15"E.

Figure 197. Subsection 9.3. SC9.3.4. Abandoned homestead.

Photo: SAS DSC00081, October 2011. Photographed at 31°6'23.29"S; 30°5'51.93"E.

Figure 198. Subsection 9.3: SC9.3.5. A game board scratched on sandstone in the interchange area.

Photo: SAS DSC00083 , October 2011. Photographed at 31°6'24.96"S; 30°5'54.89"E.

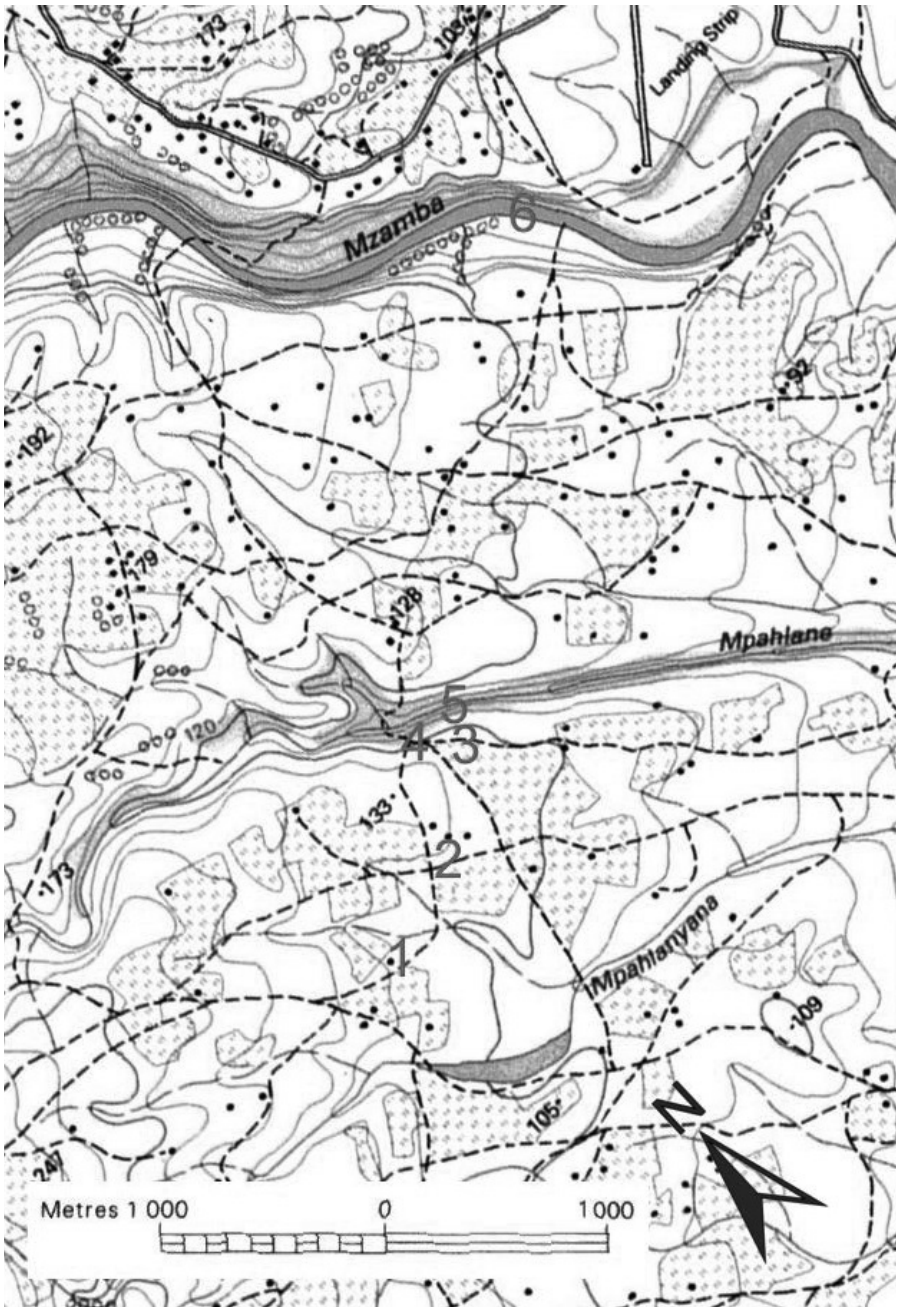

Figure 199. Subsection 9.3: The Msikaba sandstone landscape between the Mpahalane River and the Mpahlanyana River, showing the extent and locations of agricultural fields (see Figures 200 to 208 below).

1 Homestead HS9.3.1 landscape.
2 Homestead HS9.3.2.
3 Homestead HS9.3.3.
4 Stone mounds/cairns.
5 Mpahlane River Bridge.
6 Mzamba River Bridge.

1:50 000 topo-cadastral map WGS3130AA & AB Port Edward (1993). Scale: 1000 m.

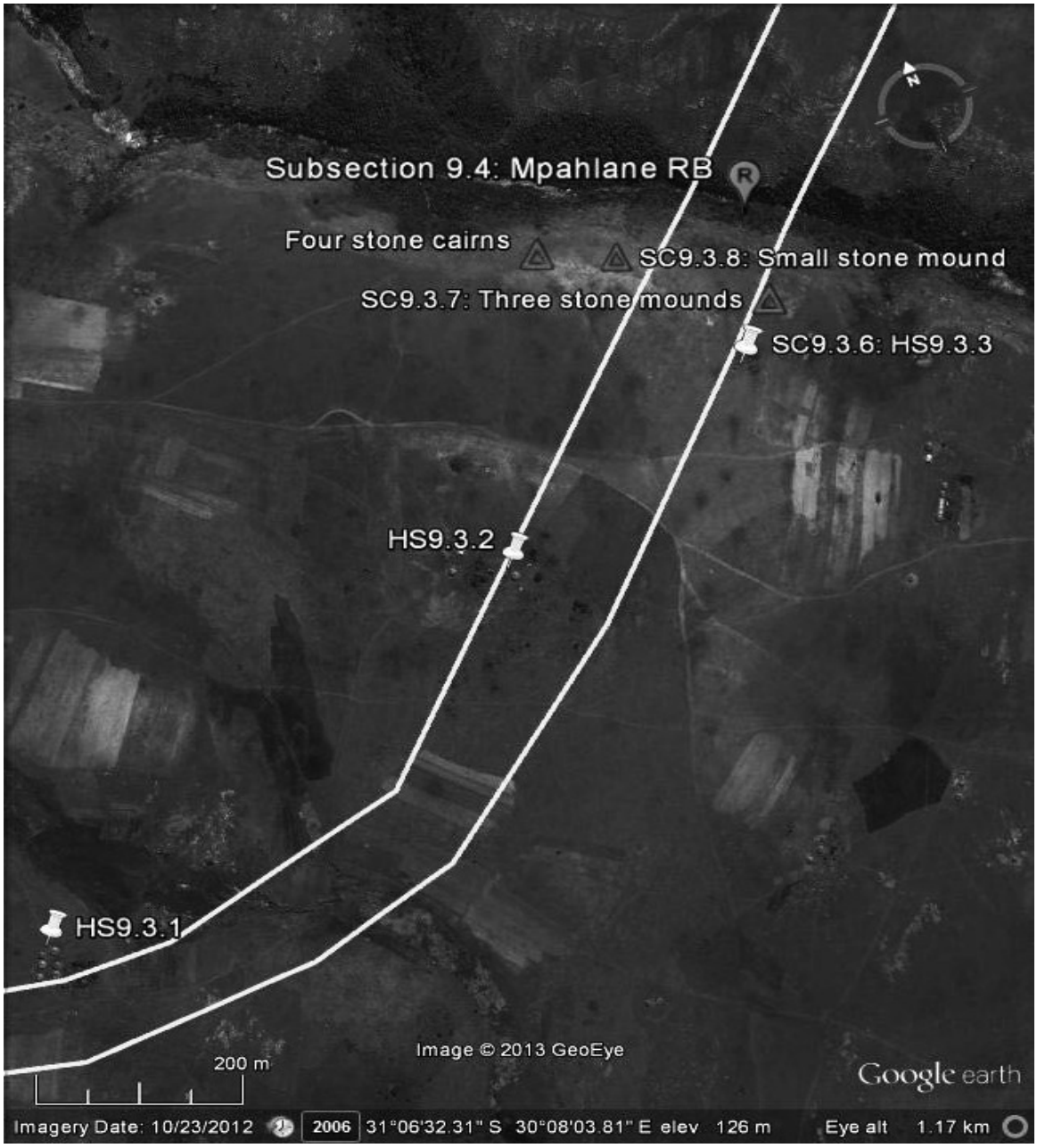

Figure 200. Subsection 9.3: The Mpahlane River Bridge site; and a homestead and garden in the road reserve to the south of the bridge site (see Figures 189 to 196 below).

- Homestead HS9.3.1 (see Figures 201 to 202).
- Homestead HS9.3.2.
- Location of four stone cairns at 31˚06'21"S; 30˚08'10"E, reported by Binneman (2002a, 2002b).
- Spot check SC9.3.6: Homestead HS9.3.3 and graves (see Figures 203, 204)
- Spot check SC9.3.7: Three stone mounds: (see Figure 208).
- Spot check SC9.3.8: Small stone mound: (see Figure 207).

Google Earth imagery date 10/23/2012; ©2013. Orientation: Viewed towards the north-east. Scale:200 m.

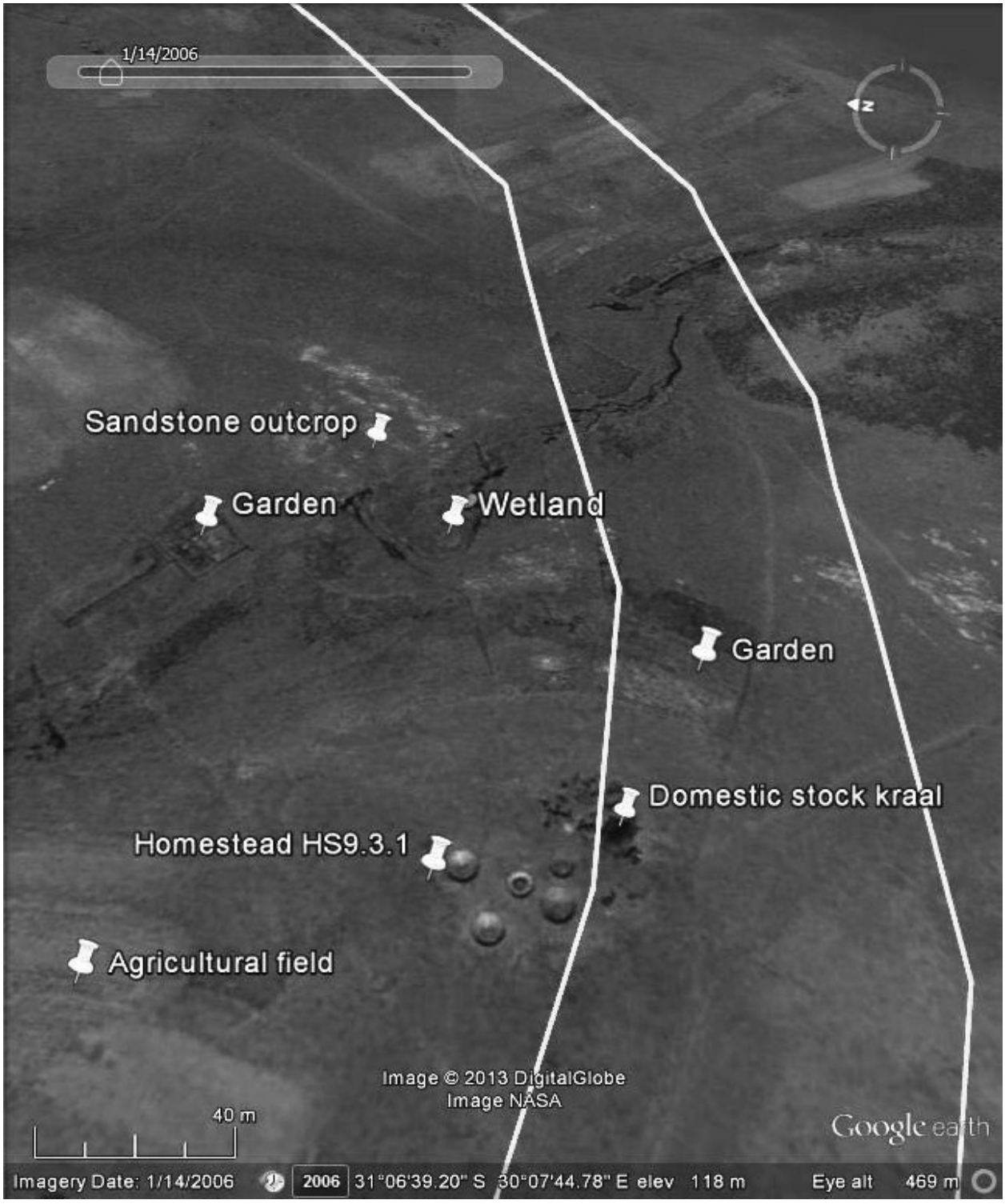

Figure 201. Subsection 9.3: Homestead HS9.3.1 recorded by satellite in 2006, consisting of three rondavel type structures with a fourth one possibly under construction.

Google Earth imagery date 1/14/2006; ©2013. Viewed towards the east. Scale: 40 m.

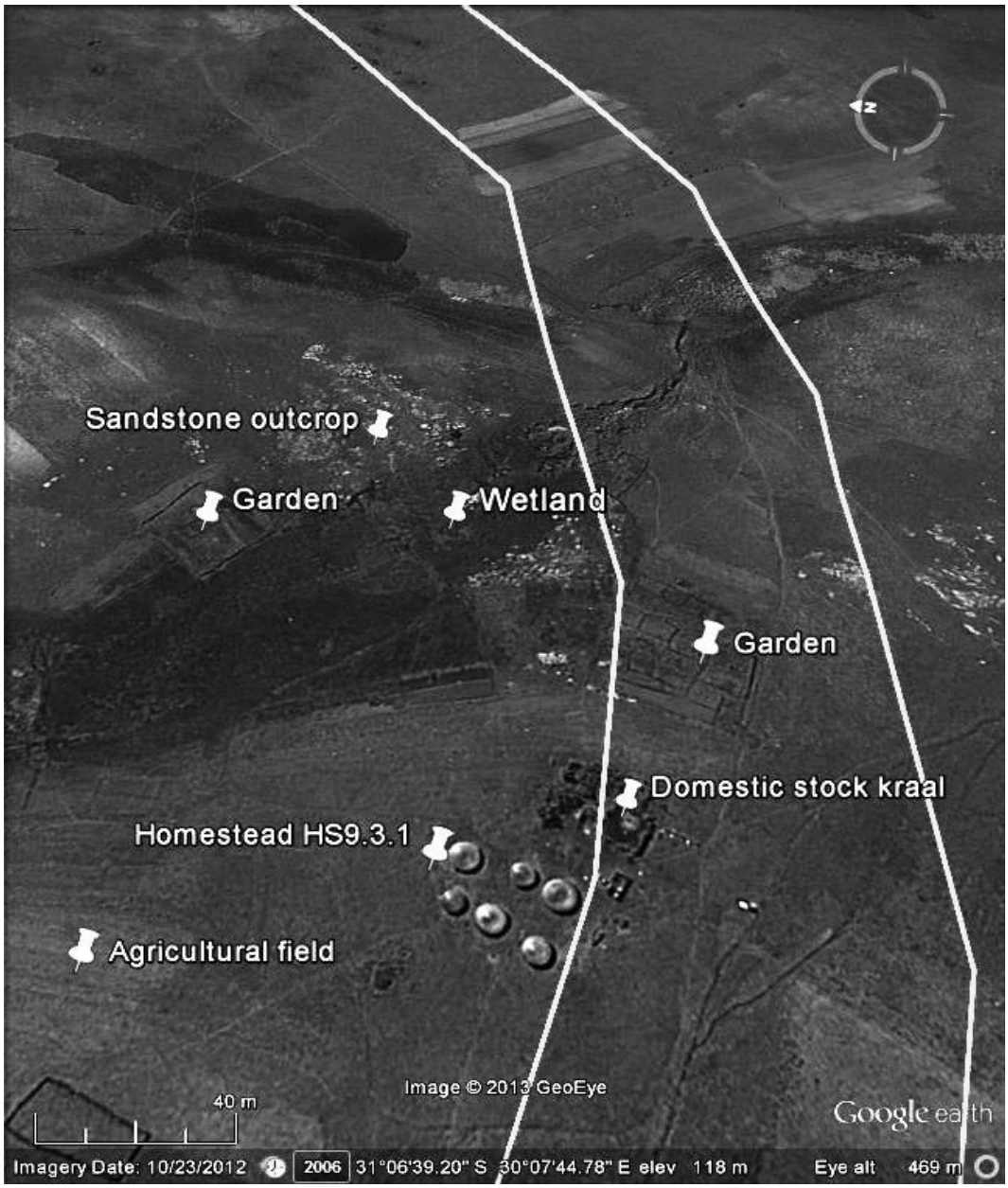

Figure 202. Subsection 9.3: Homestead HS9.3.1 recorded by satellite in 2012 , consisting of six rondavel type structures. (On a satellite image dated 2/13/2011 this homestead consisted of 5 rondavels).

Google Earth Imagery date 10/213/2012; ©2013. Orientation: Viewed towards east. Scale: 40 m.

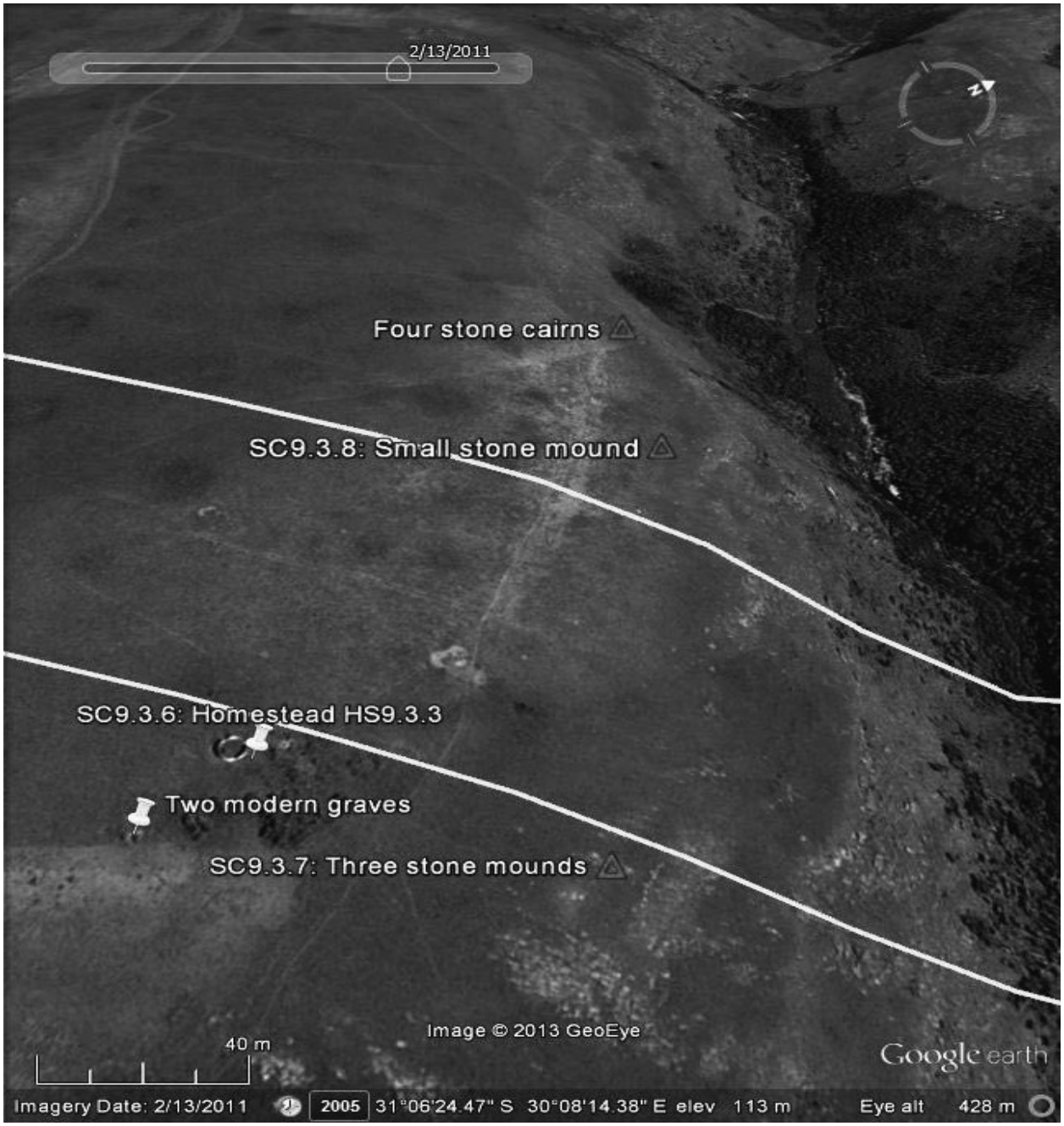

Figure 203. Subsection 9.3: The stone mounds or cairns near the Mpahlane River bridge, all outside the road reserve. The abandoned homestead (HS9.3.3) and two nearby graves are also outside the road reserve.

- Spot check SC9.3.6: Abandoned homestead HS9.3.3 at 31° 6'27.67"S; 30° 8'15.68"E.
- Spot check SC9.3.6: Modern graves photographed at 31˚6'28.66"S; 30˚8'15.72"E (see Figure 204).
- Spot check SC9.3.7: Three stone mounds at 31°6'25.61"S; 30°8'18.22'E (see Figure 208).
- Spot check SC9.3.8: Small stone mound at 31°6'22.16"S; 30°8'13.0"E (see Figure 207).
- Four previously observed stone cairns at 31˚06'21"S; 30˚08'10"E (Binneman 2002b).

Google Earth Imagery date 2/13/2011; ©2013. Viewed towards the north-west. Scale: 40 m.

Figure 204. Subsection 9.3: Spot check SC9.3.6. Two graves at the abandoned homestead (labelled HS9.3.3), photographed at 31˚6'28.66"S; 30˚8'15.72"E, to the south of the Mpahlane River Bridge site outside and to the east of the road alignment. Note the dense grass cover and sparsely populated landscape towards the east (also see

Photo: SAS DSC00097, October 2011. Photographed at 31˚6'28.66"S; 30˚8'15.98"E.

Figure 205. Subsection 9.3: Mpahlane River Bridge marker BH MPA 4.
Photo: SAS DSC00086, October 2011. Photographed at 31°6'22.68"S; 30°8.17.79"E.

Figure 206. Subsection 9.3: Mpahlane River Bridge marker BH MPA 4.
Photo: SAS DSC00089, October 2011. Photographed at 31°6'22.68"S; 30°8'17.86"E.