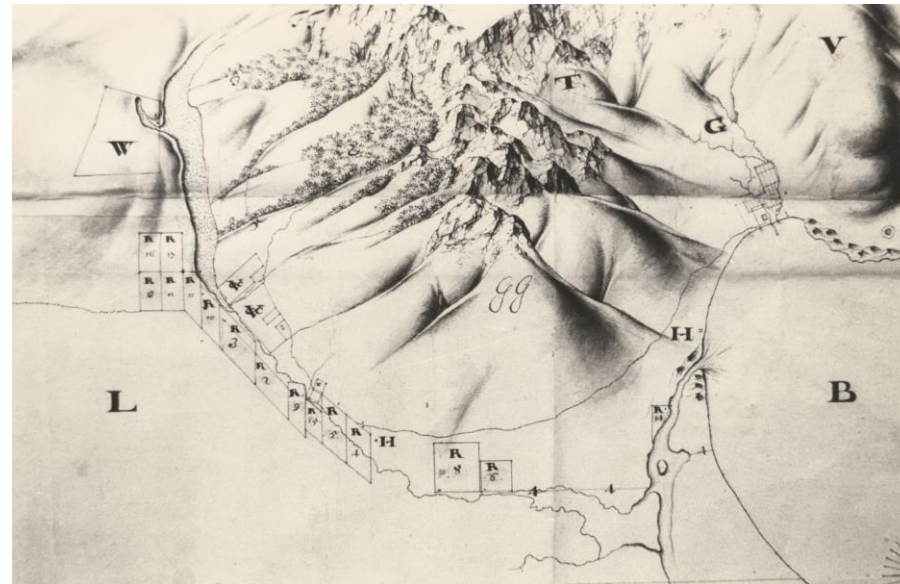


Presented at the FIG Working Week 2016,  
May 2-6, 2016 in Christchurch, New Zealand

# The relocation of Bosheuvel farm in the Liesbeeck River Valley, Cape Town:

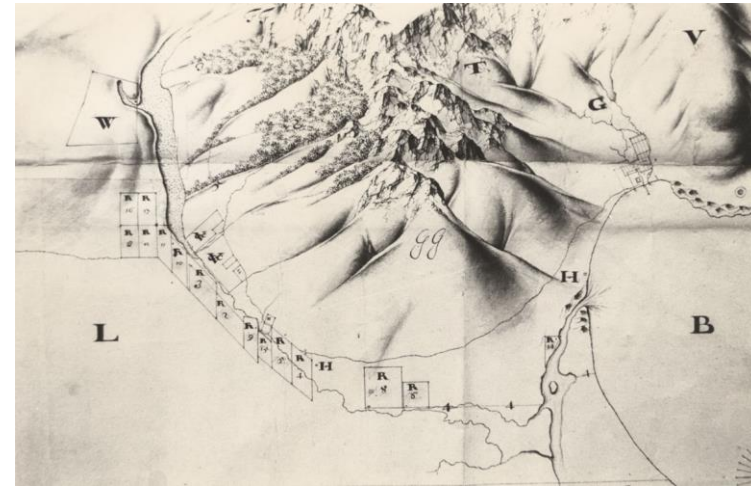
## *A Case of Spatial Construction of Society in Early Dutch Settlement at the Cape from a Land Surveying Perspective*



May 2016

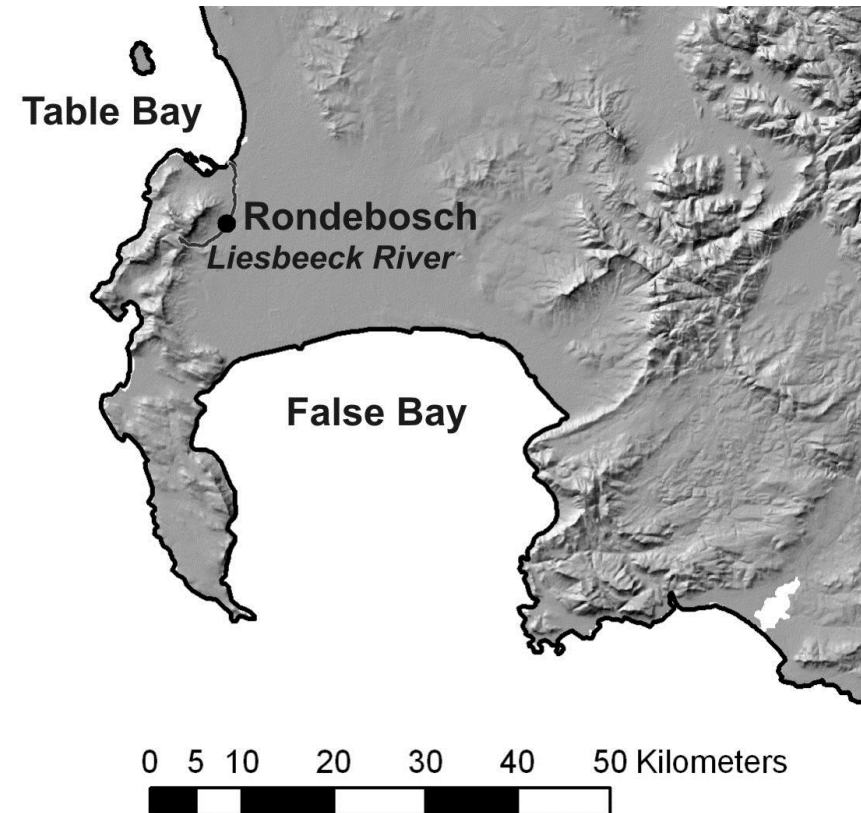
TS04J

- Relocation of Bosheuwel
- Identification of original beacons... and boundaries
- Significant addition to body of work on early settlements
- Add spatial survey knowledge and rigour to historical research



# Early Cadastre at the Cape

- First settlers
  - Dutch East India Company
  - 1652
- Early Farming
  - 1657
  - Rondebosjen
  - Liesbeeck River
- First Grants
  - 1657-1679
  - 17 parcels by 1660
  - Surveyed by Pieter Potter



# 1658 Plan of Pieter Potter



# Sketch of Sir John Herschel 1834-8





Remnants of the wild almond hedge

# Data sources

- Historic **maps** digitized and georeferenced in ArcMap
  - 1658/9 General Plan; 1661 General Plan
  - Modern day compilation of farms 1657-1750
  - 1786 Van Der Graaf
  - 1812-13 Thibault resurvey and map
  - Pre-1840 unidentified map
  - 1865 peninsula map
  - 1880 map of the SW districts
  - 1887 map of Constantia
  - 1891 Sewerage map
  - 1901, 1902, 1909, 1930 1934

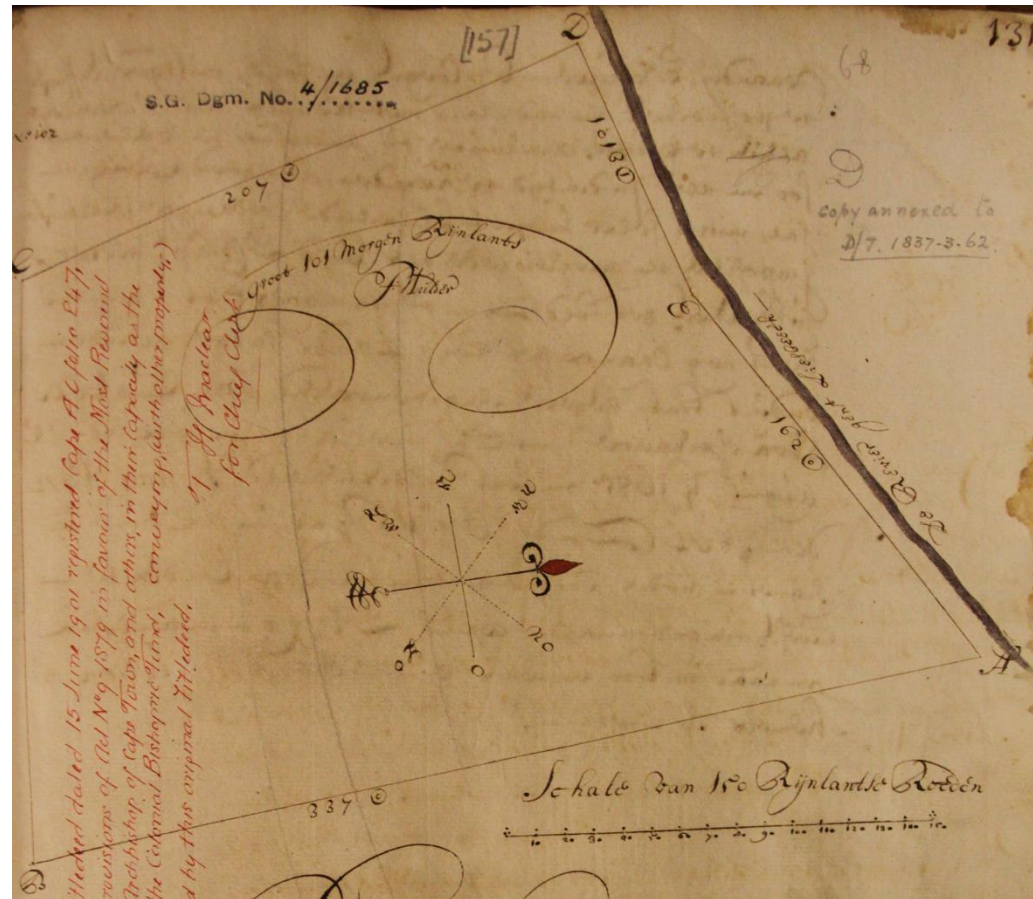
# Data sources

- Aerial imagery for context
- Surveyor-General's Office noting sheets
- Cadastral layer
- Lineage of diagrams and title deeds back through time
- Cadastral beacon data – office and field

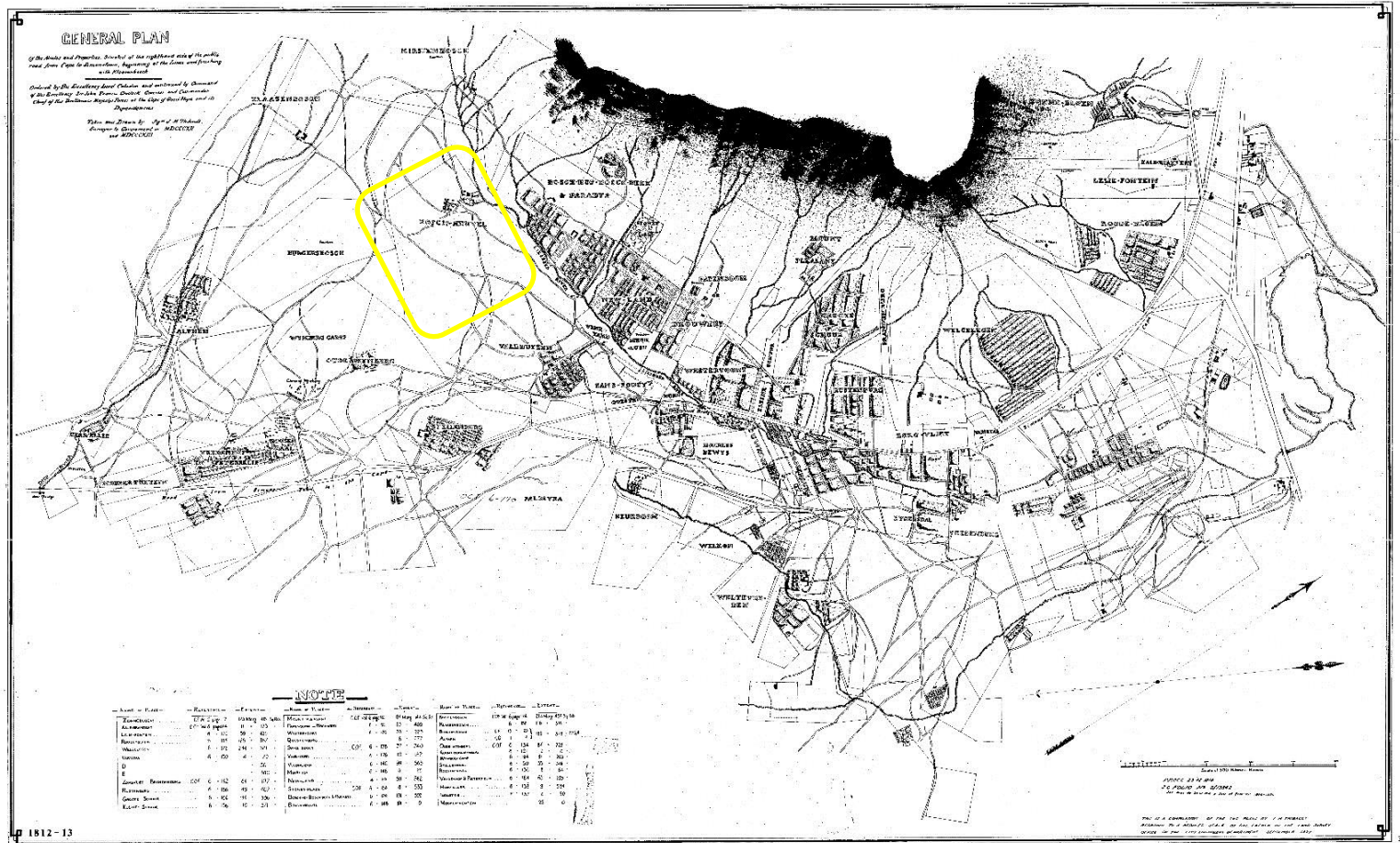


# Bosheuwel Farm

- Loaned to Commander Jan Van Riebeeck from 1657 – 1662
- Transfers and eventually a grant 1685 with the oldest diagram of the farm

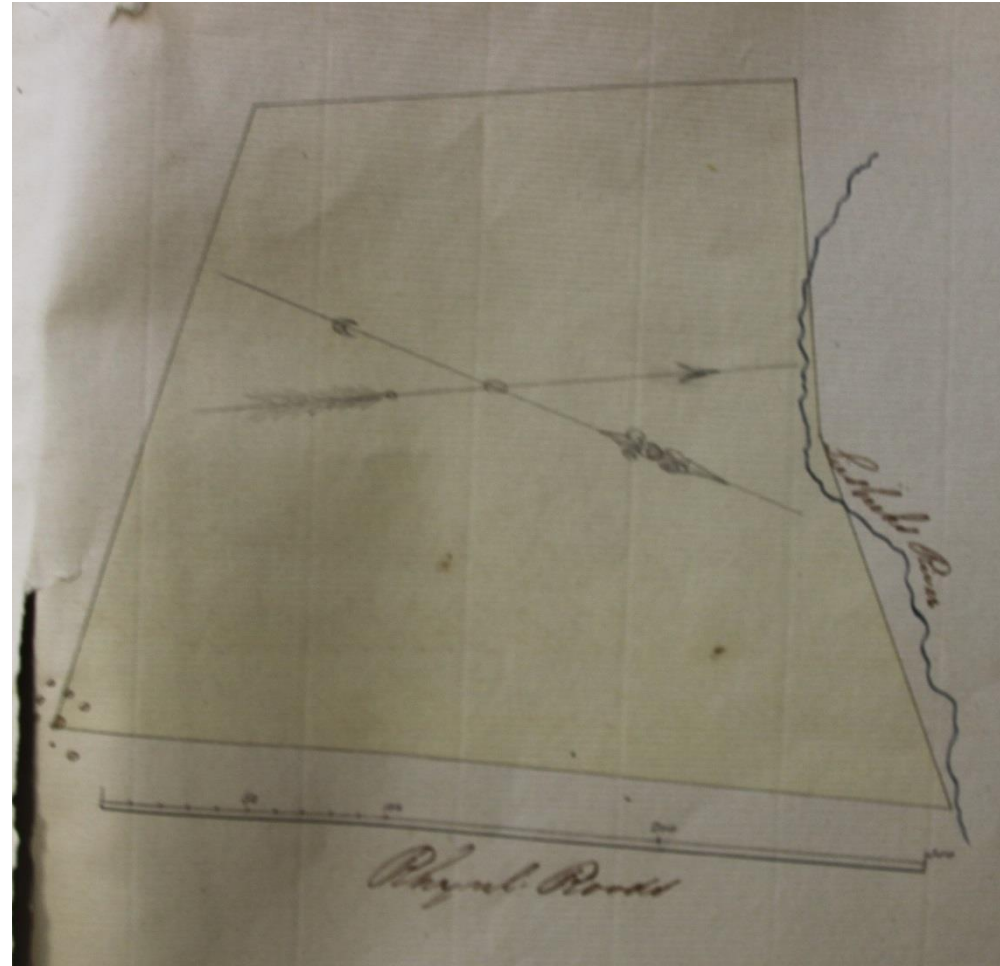
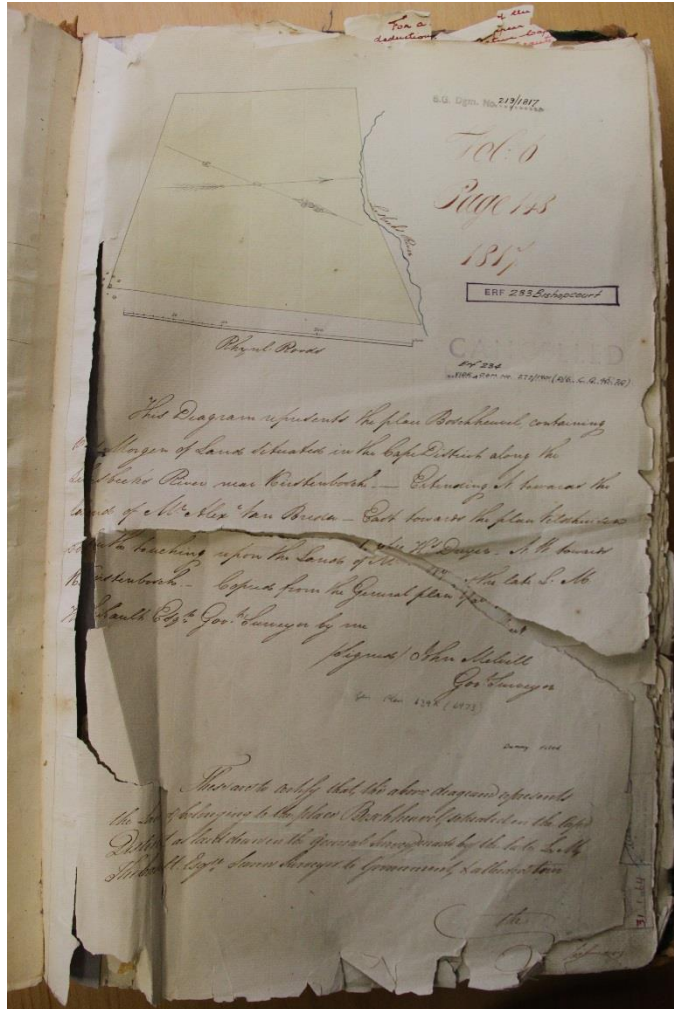


# Bosheuvel Farm

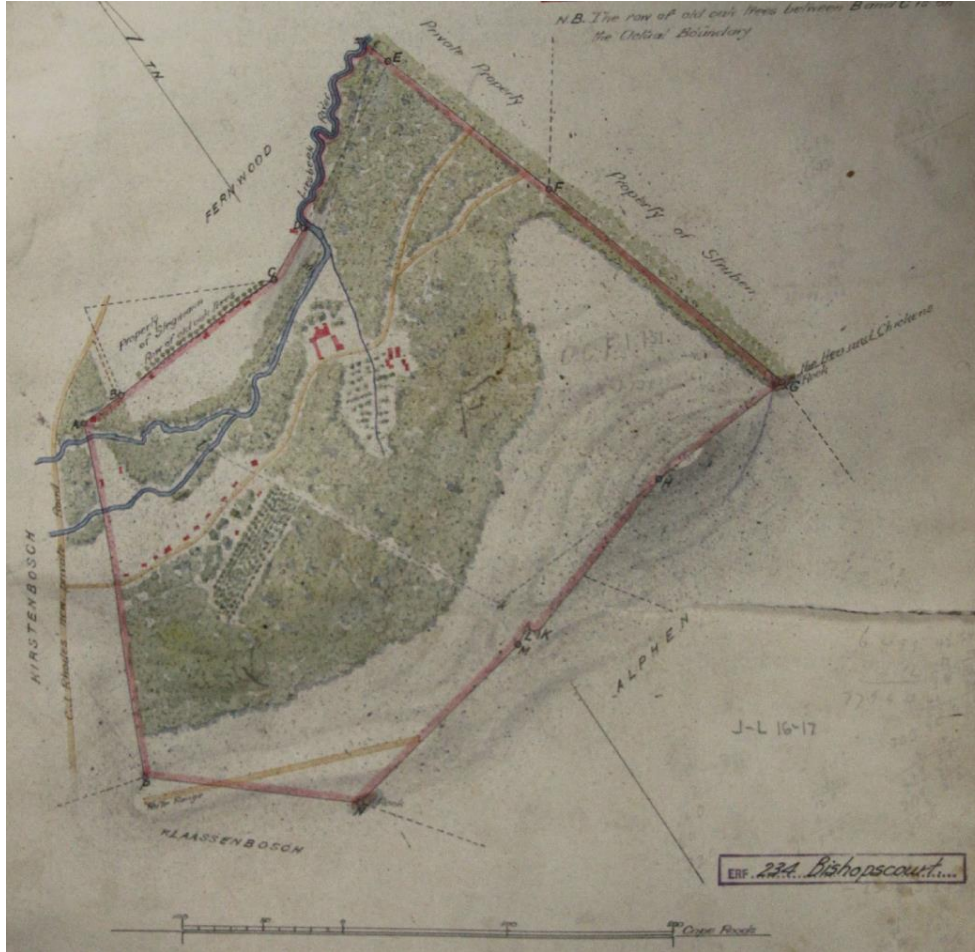


Thibault Plan of 1813 and new diagram

# Bosheuvel Farm

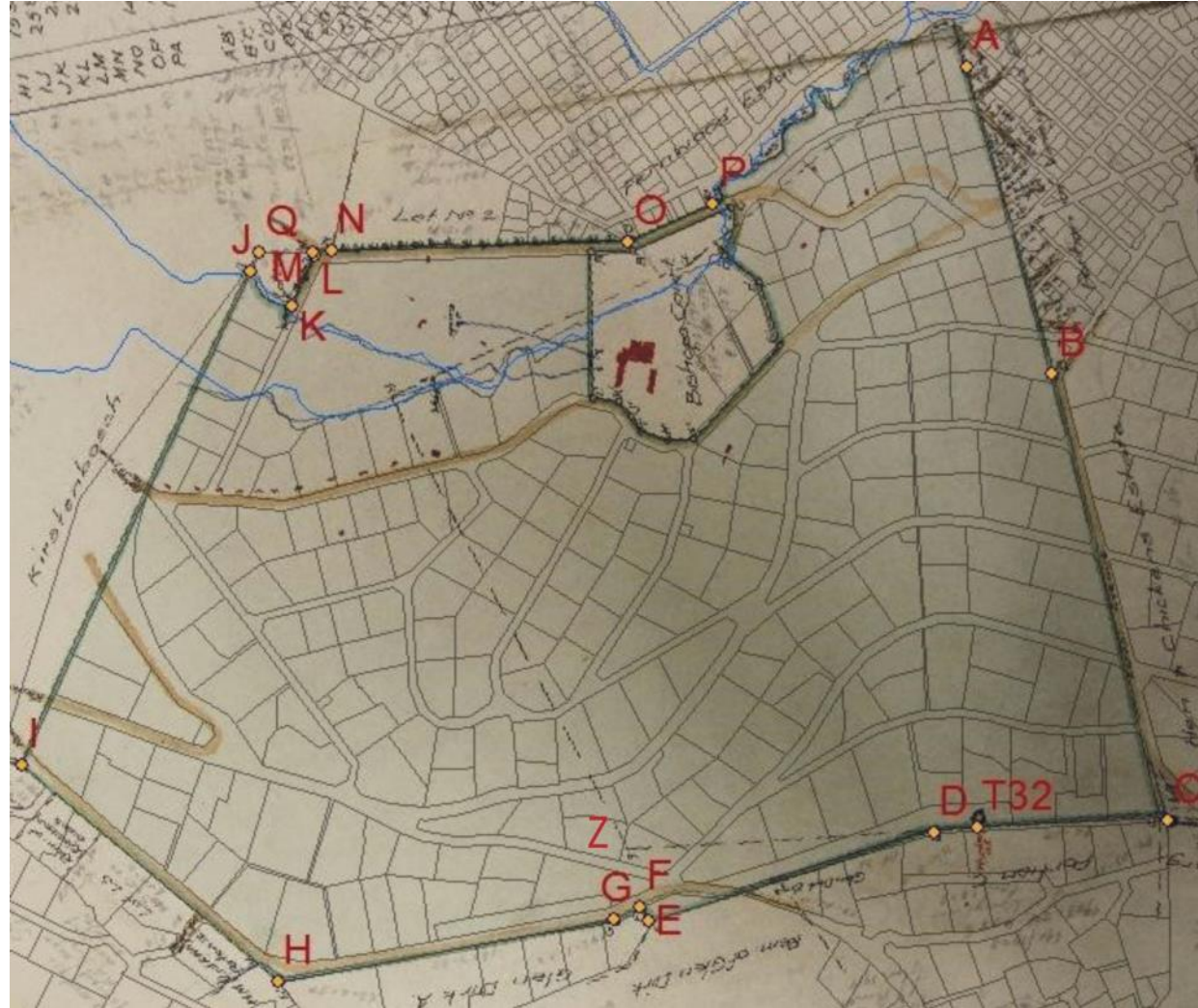


# Bosheuvel Farm

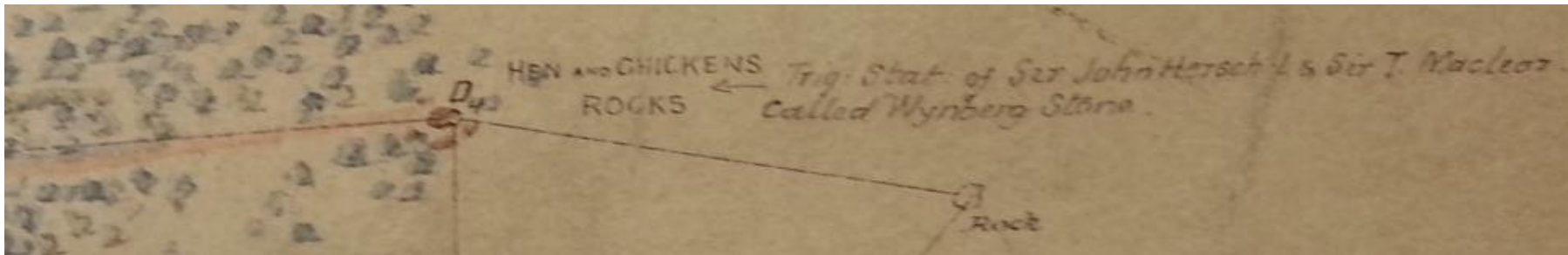
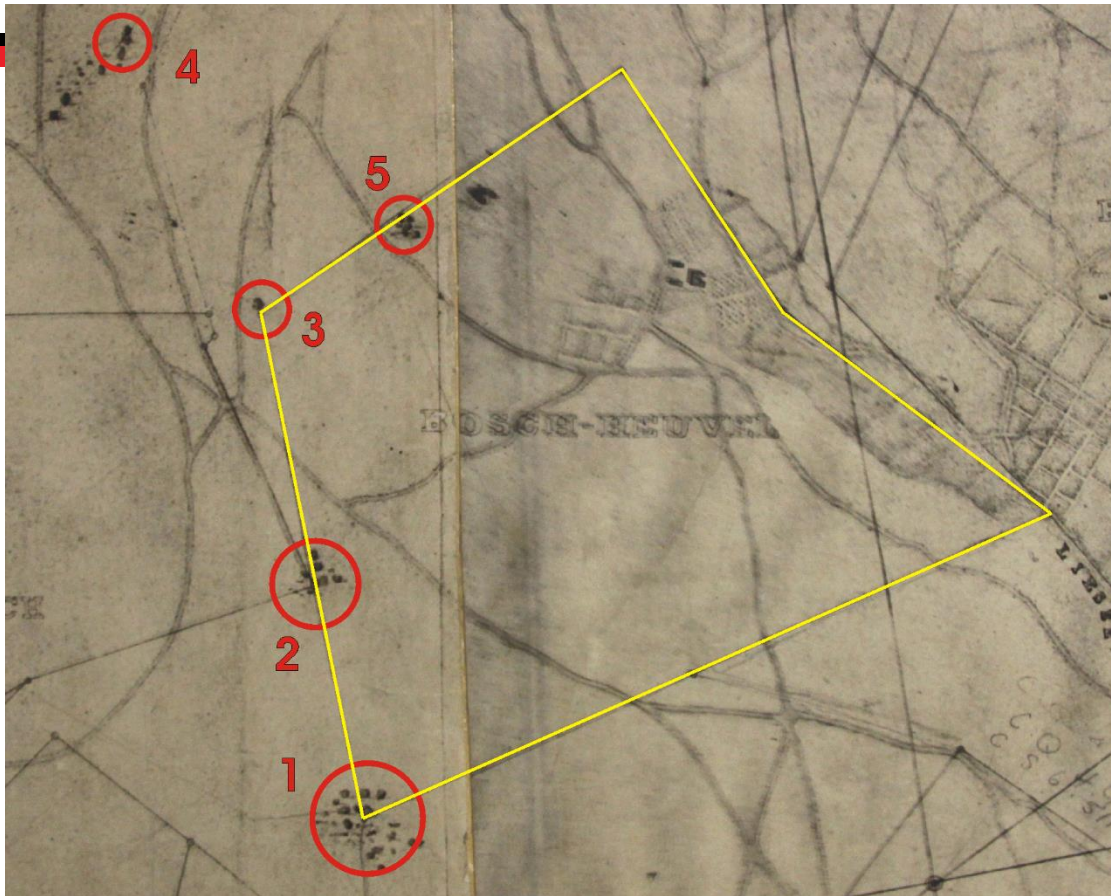


- another 4 transfers
- Colonial Bishops Fund purchased the land
- Consolidated with neighbouring Protea Estate
- Sale of most land for development

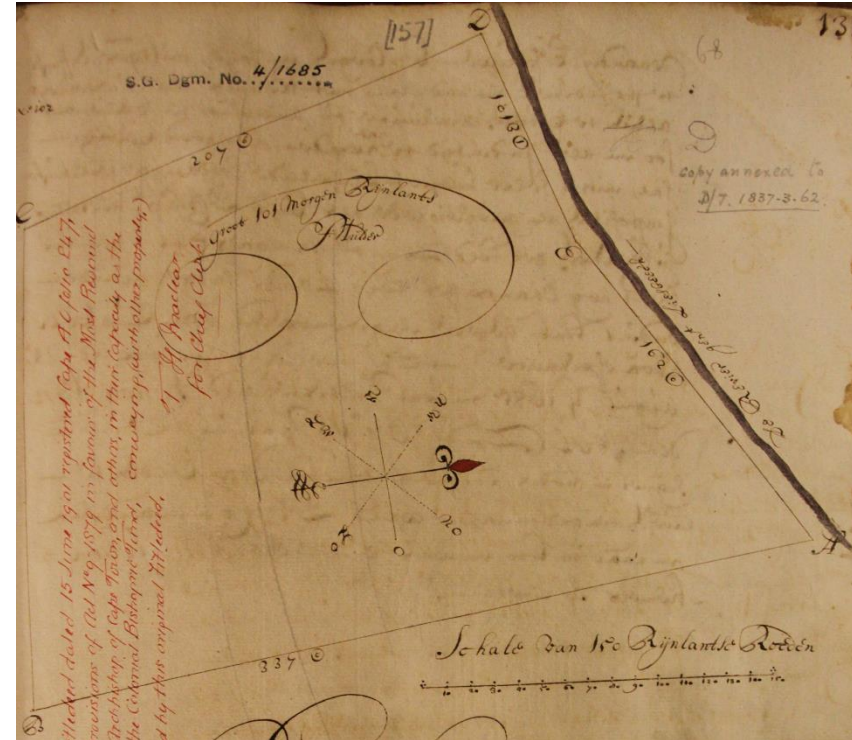
# Bosheuvel Farm



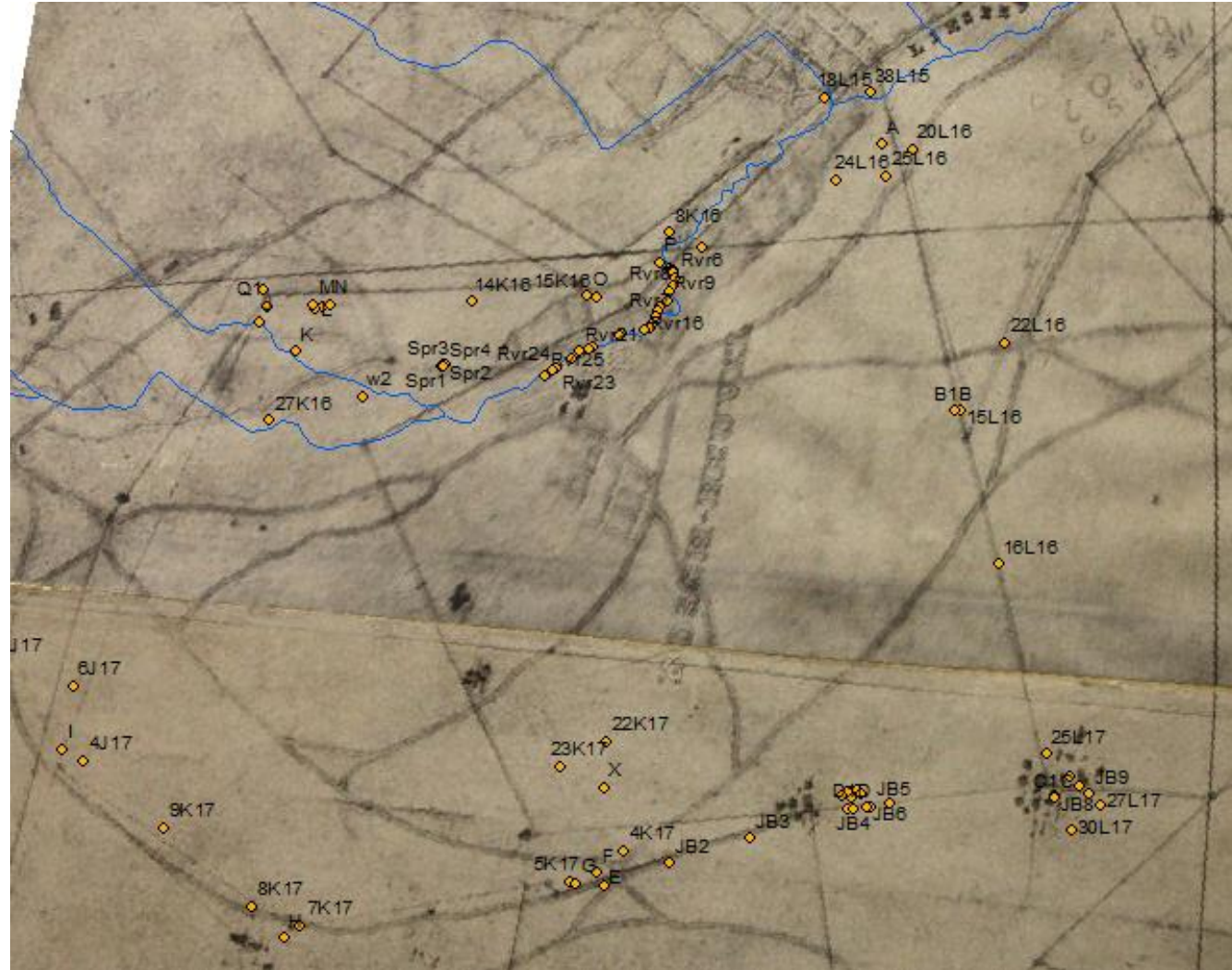
# Identifying beacons



# Shape, area, angles, lengths



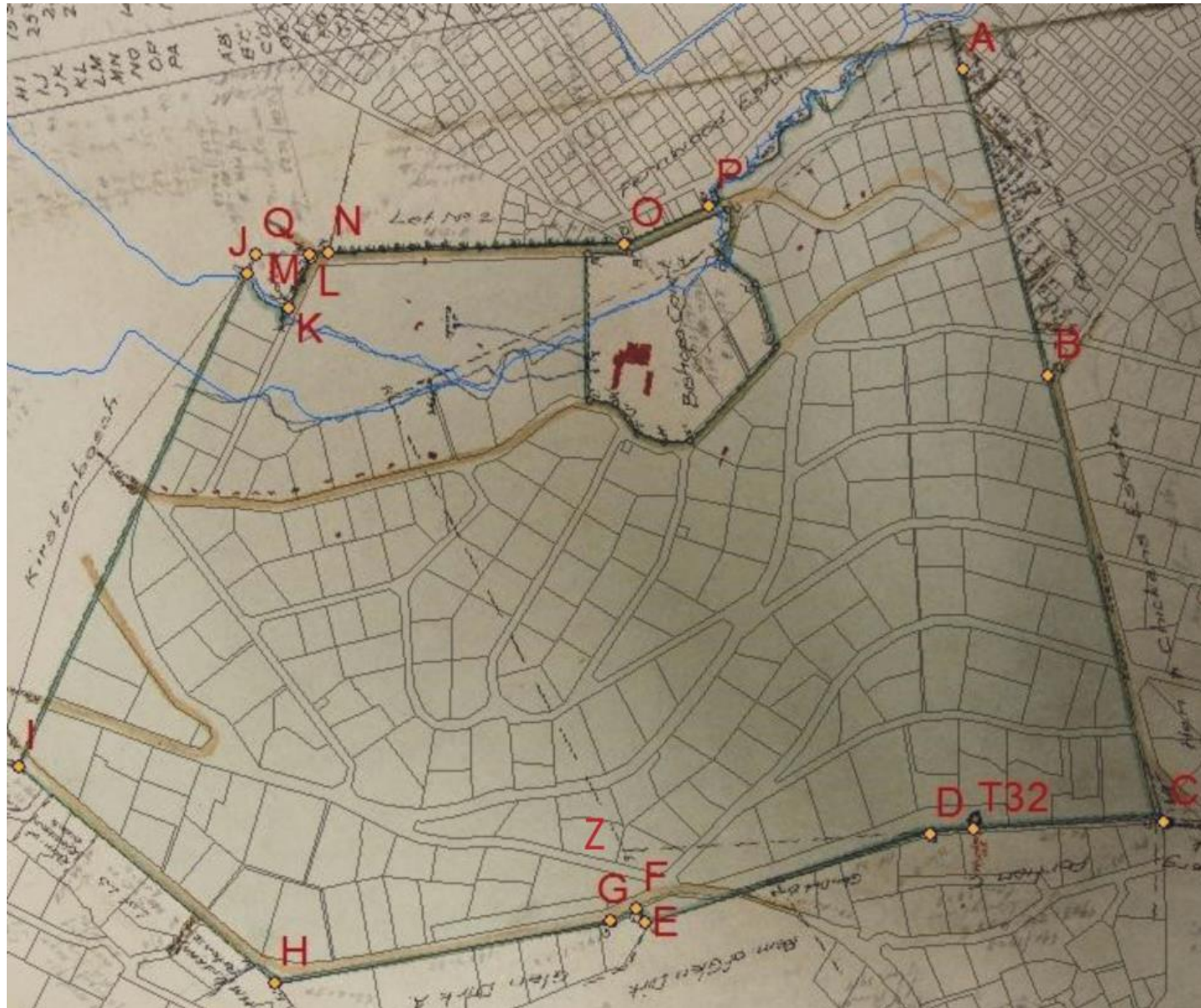
# Coordinates, field survey

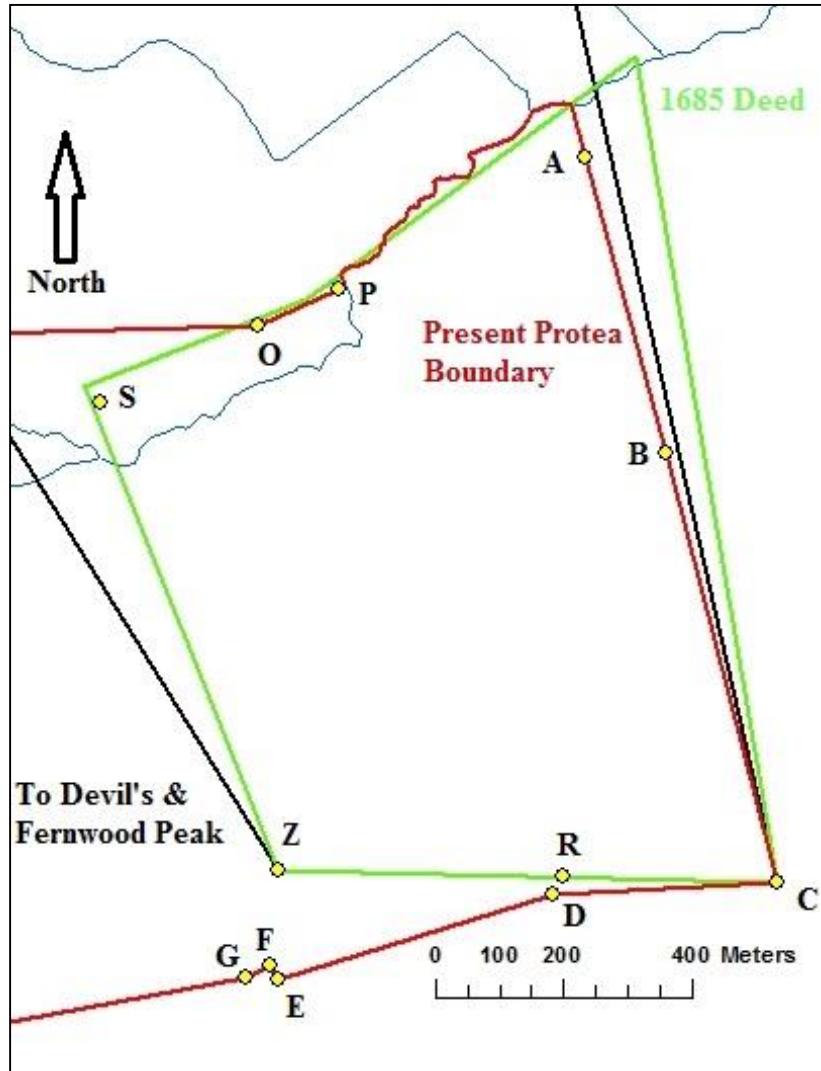




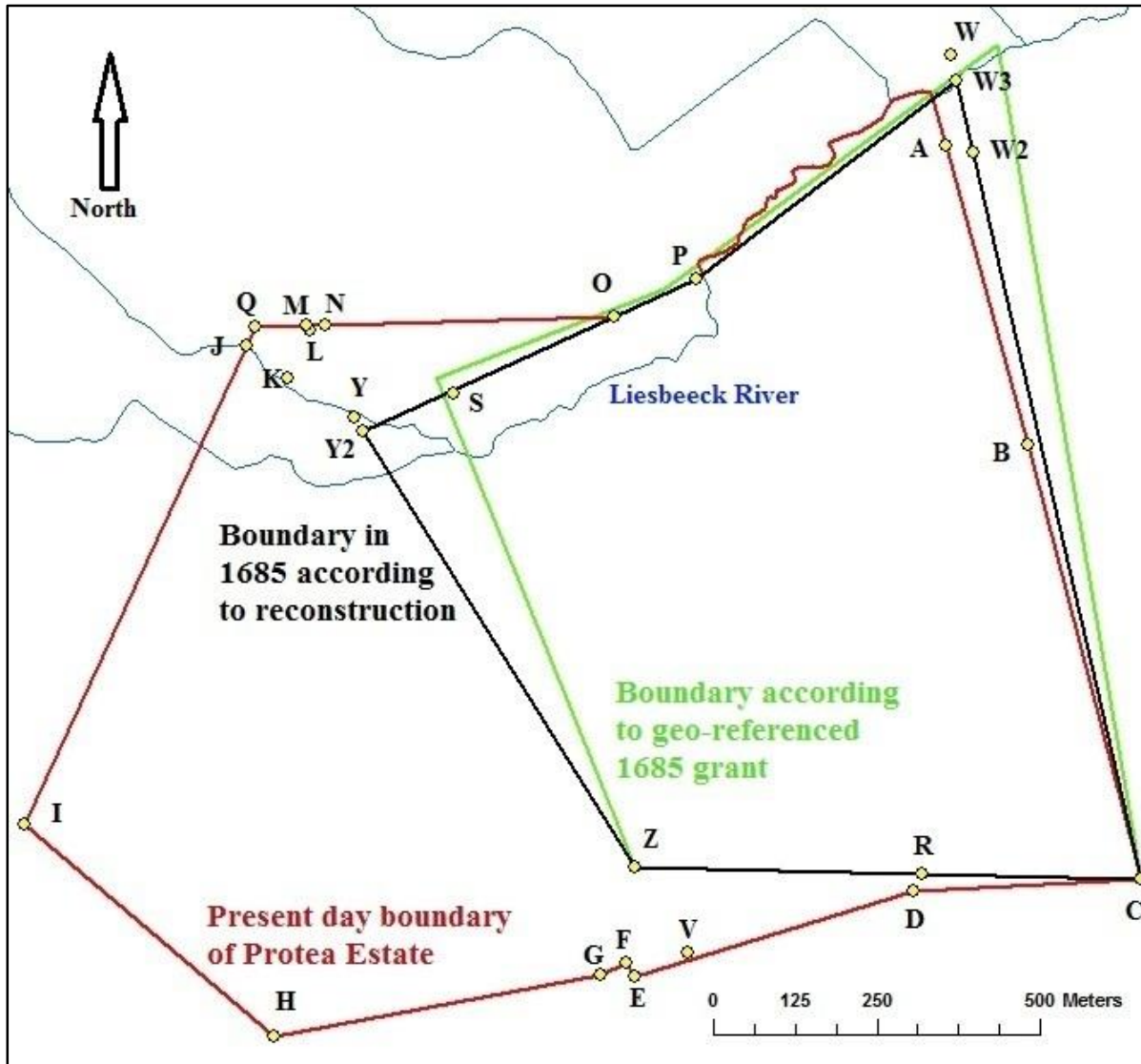
# Hen and Chickens Rock



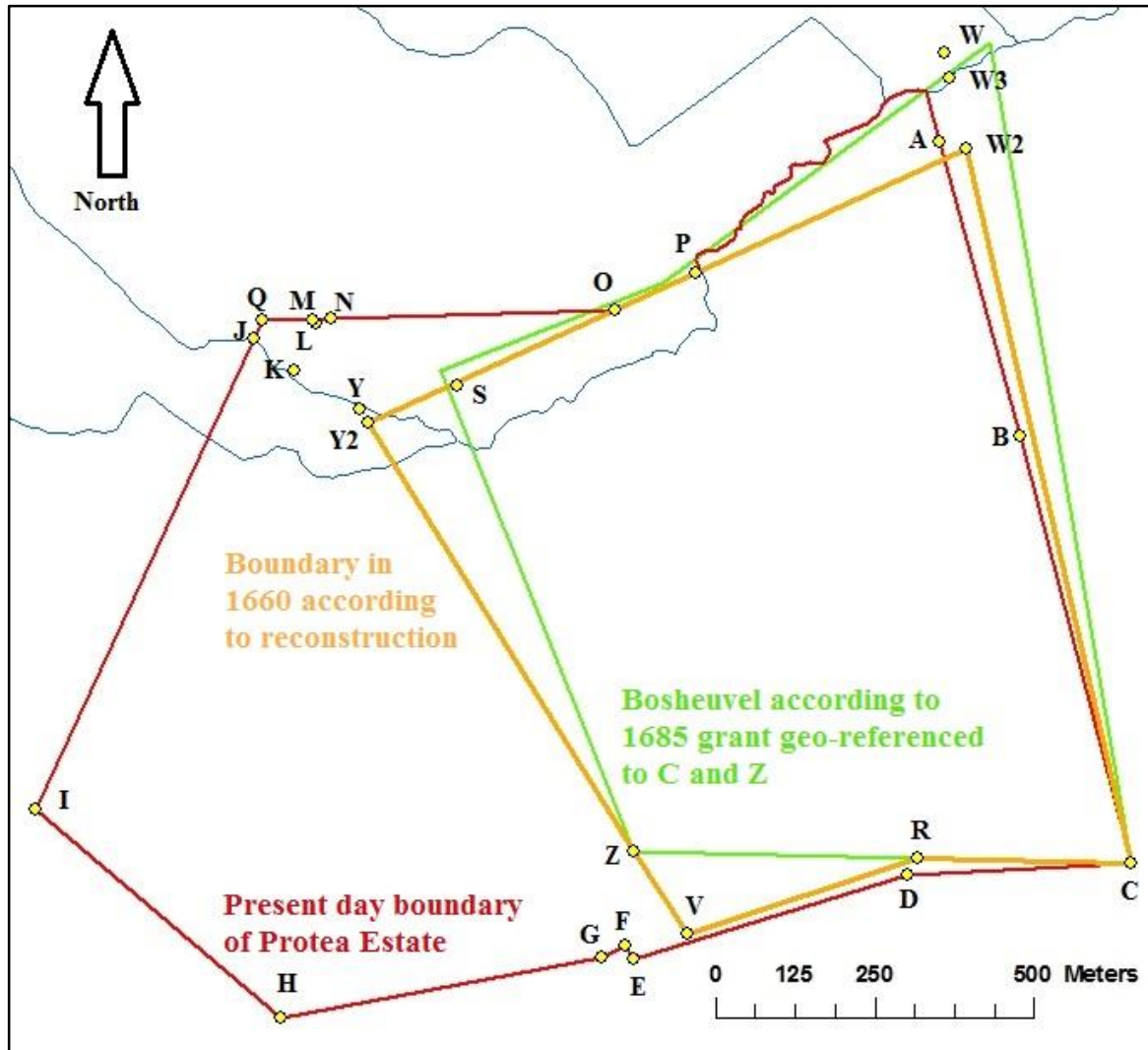




Comparison of reconstructed western and eastern boundaries of Bosheuvel as in 1685



## Reconstruction of Northern and Southern boundaries to 1685



- Reconstructing to the 1657 grant and 1658 general plan

# Beacon/Boundary Conclusions

- Beacon C
  - original beacon
  - oldest known cadastral boundary beacon still in use today and is currently some 359 years old.



# The full paper ...

- **Whittal, J,** (2015) *The relocation of VOC-era Bosheuvel farm in the Liesbeeck River Valley, Cape Town: A Land Surveying Approach*, South African Historical Journal, Sage Open, 7(4), 387-409
- DOI 10.1080/02582473.2015.1094505
- Online Available <http://dx.doi.org/10.1080/02582473.2015.1094505>



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@jfwhittal



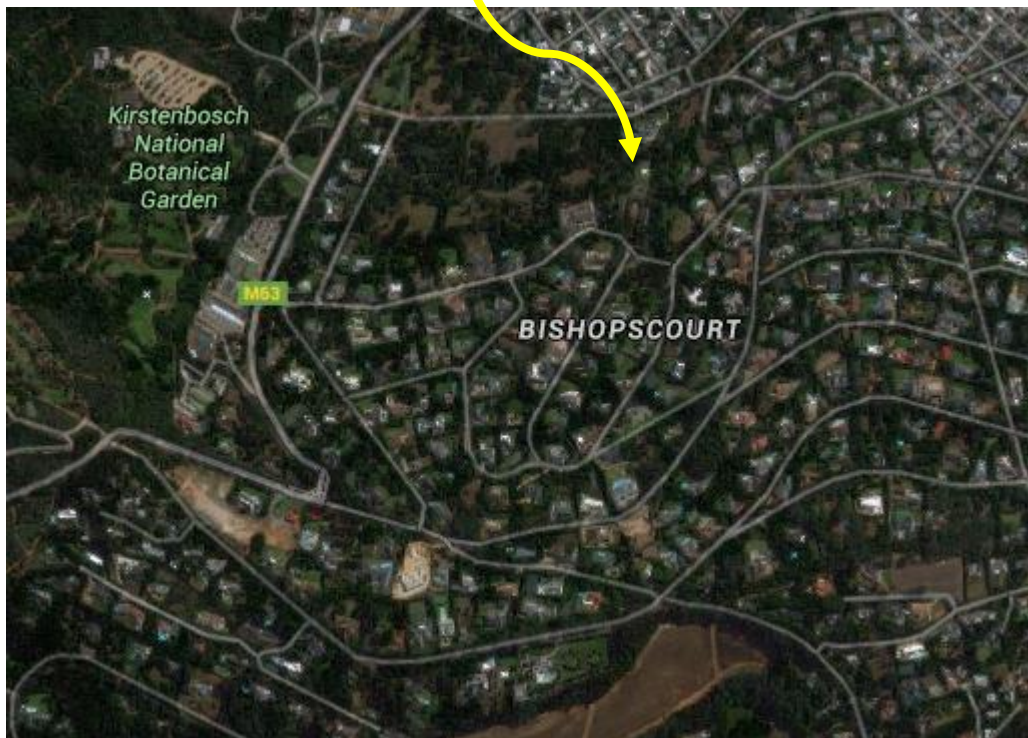
UCT Geomatics Division





# Methods

- Spatially-accurate research
- Historical research vs. Cadastral research methods
- Larger study of 17 farms
- Process of evidentiary and methodological triangulation
- Georeferencing - GIS map overlays
- Diagram/deed tracing – Old Dutch
- Cadastral surveying and reconstruction



# Beacons Found

Beacon	Description
B	Fencing standard close to calculated position
C	Iron peg in concrete cone at the top of a large granite boulder on calculated position. Called 'Hen and chickens rock'
D	Fencing standard close to calculated position. A nearby large rock (R) could be the original beacon
E	Fragments of masonry beacon with a hole
F	Three foot concrete cone found lying prone 3m from expected position. Rail section found close to calculated position
H	Concrete cone on top of a large boulder on position
P	Concrete cone next to the old bridge over the Liesbeeck River

Farms and original areas	Original Areas in square metres		Reconstructed Areas in square metres	Differences in square metres	
	Cape Morgen conversion	Rynland morgen conversion		Cape Morgen conversion	Rynland morgen conversion
<b>Bosheuwel 1657 loan grant to Jan van Riebeeck</b> <b>101.5 Rynland morgen</b>	869 380	864 353	864 271	-5 109 or 60% less than a Cape Morgen	-82 or 1% more than a Rynland Morgen
<b>Bosheuwel 1685 grant</b> <b>101 Rynland morgen</b>	865 097	860 095	861 620	-3 477 or 41% less than a Cape Morgen	+1 525 or 18% more than a Rynland Morgen
<b>1901 transfer Protea Estate</b> <b>100 morgen and 100 square roods noted as freehold (Bosheuwel Portion)</b>	857 960	852 998		+3 660 or 43% more than a Cape Morgen	+8 622 or 101% more than a Rynland Morgen

# Methodology Conclusions

- Successful mixed-method approach:
  - GIS-based overlays for georeferencing
  - SGO noting sheets
  - Tracing grants
  - Electronic desktop access to diagrams
  - Fieldwork
  - Traditional cadastral reconstruction essential