ADDENDUM TO THE 2014 HERITAGE IMPACT ASSESSMENT (CHAPTER 9) in the MAINSTREAM RENEWABLE POWER SOUTH AFRICA ENVIRONMENTAL IMPACT ASSESSMENT FINAL REPORT
for
DOUGLAS SOLAR ENERGY PROJECT IN THE NORTHERN CAPE PROVINCE, SOUTH AFRICA. (MAINSTREAM DOUGLAS SOLAR (PTY) LTD)

based on a
MCGREGOR MUSEUM HERITAGE IMPACT ASSESSMENT REPORT (2012)
and
MCGREGOR MUSEUM CONFIRMATION LETTER (22 OCT 2014)

by
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BACKGROUND

Notice has been given in terms of the National Environmental Management Act (Act No 107 of 1998) and the 2014 EIA Regulations, as amended, that an application for a PART 2 AMENDMENT OF AN ENVIRONMENTAL AUTHORISATION will be made to the Department of Environment, Forestry & Fisheries. Approval could also be required in terms of the National Water Act (Act Nr 36 of 1998) and the National Heritage Resources Act (Act Nr 25 of 1999). The Applicant is South Africa Mainstream Douglas Solar (Pty) Ltd. Project

Description:- An Environmental Authorisation (EA) was issued for the Mainstream Douglas Solar Project on 7 May 2015 with an EA Amendment issued on 25 May 2015 to correct an administrative error. During the previous EIA process, as part of the project components, three route alternatives for the electricity grid connection had been investigated of which one (of approximately 500mm in length) was approved. For technical reasons Mainstream decided that the Environmental Authorisation has to be amended to authorise one of the other two route alternatives (approximately 3km and approximately 1,5km in length) which were previously assessed.

This Addendum to the Heritage Impact Assessment addresses the proposed amendment with reference to the two route alternative.

Project Locality:- The project site is located east of the R357 approximately 15km south-west of the town of Douglas in the jurisdiction of the Siyanda District Municipality in the Northern Cape Province.

Prior heritage impact assessment

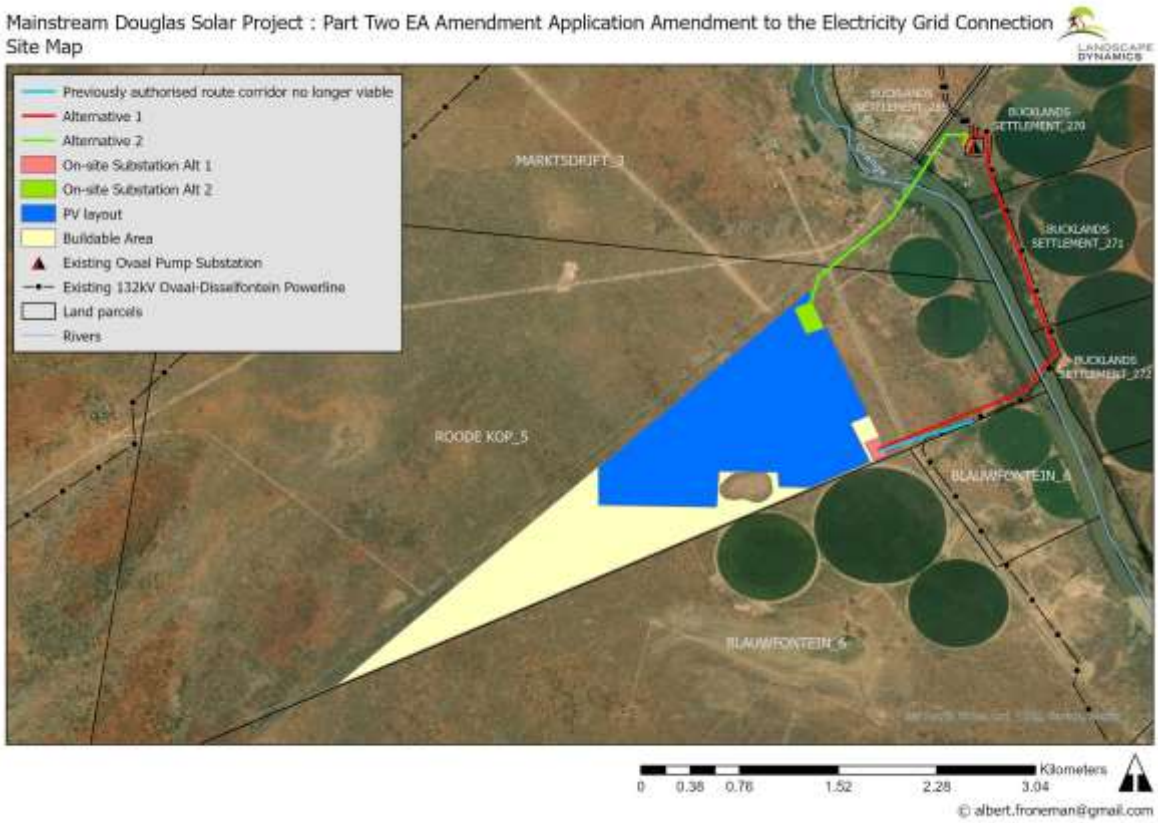
An initial April 2012 Archaeological Impact Assessment (AIA) was conducted by way of a field survey of the site by Dr David Morris from the McGregor Museum as part of the EIA for the

proposed Douglas Solar Energy Project. A widespread surface 'background scatter' of artefacts (as characterised by Orton 2016) was found to occur over the entire area surveyed – i.e. artefacts lacking assemblage coherence or integrity, subject to erosion and/or secondary deposition, being parts of palimpsests with mixing of material of possibly differing age. These are preponderantly of Pleistocene age, though in places probably including more recent material. While densities are often fairly high, the archaeological significance of such material is low.

Alternatives for solar field location, the location of associated buildings and options for electrical connection were weighed and save for some suggestions concerning solar field location it was recommended that, from an archaeological viewpoint, implementation could proceed without further mitigation.

VERIFICATION

A field visit was conducted in January 2021 to verify the conclusions reached in the 2012 report on which the Final Report Chapter 9 Heritage Impact Assessment was based, focussing on the two route alternatives for electricity grid connection, one approximately 3km and the other approximately 1,5km in length, indicated in the following Google Earth-based map:



Alternative electricity grid connection 1. South-east & east (red, 3 km) and 2. North-west (green, 1,5 km).

Findings made in 2012 are confirmed. Areas through which the two alternatives pass can be characterised as follows:

Alternative Route 1 (south-east and east, red in map, 3 km):

Much of the route followed by this alternative crosses terrain, west of the river, with 'background scatter' of surface artefacts in low significance secondary archaeological context as was noted previously over the area of the proposed solar energy facility (Heritage Report, 2014). There is however potential for later (Holocene) material to be preserved in silts near the river both on the west and more especially the east banks of the Orange River, although on both sides there is some disturbance from agricultural activity. Some degree of alluvial diamond mining has occurred (and evidently still active) in adjacent areas on the west side of the river. This electricity connection route may not have any significant impact on any heritage resources, but of the two alternatives it is not the preferred one.

Alternative Route 2 (north-west, green in map, 1,5 km):

Most of the route followed by this alternative crosses terrain with the same kind of 'background scatter' of surface artefacts in low significance secondary archaeological context mentioned for Route 1. While there is potential for later (Holocene) material to be preserved near the west bank of the Orange River, the landscape in this vicinity is disturbed, being adjacent to road and bridge infrastructure as well as the weir built across the river at this point. The north/east bank of the river is similarly disturbed up to the Eskom power facility. Any electricity connection route here is likely to have minimal impact on any heritage resources that may be present.

Discussion: a general comment

With respect to the magnitude and extent of potential impacts, it has been noted that the erection of power lines would have a relatively small impact on Stone Age sites, in light of Sampson's (1985:21) observations during surveys beneath power lines in the Karoo (actual modification of the landscape tends to be limited to the footprint of each pylon), whereas other kinds of development such as a water supply pipeline or road would tend have greater linear impact.

PREFERRED OPTION AND MITIGATION

In light of the above observations:

Alternative Route 2 (1,5 km indicated in green in the map) is the preferred option.
Mitigation measures are not considered necessary for this option.

Alternative Route 1 (3 km indicated in red in the map) is the less favoured option with a low potential to impact heritage resources of possibly higher integrity in the silts alongside the river. No specific mitigatory measures are recommended at this time but the possibility exists that tower positions may impact sites (although, noting Sampson's (1985) conclusion, the impact of power lines is generally not significant. No specific mitigatory measures are recommended (noting Sampson's (1985) conclusion that the impact of power lines is generally not significant).

In the event of any unanticipated significant heritage feature being uncovered during construction or operation phases of the project, alert the relevant heritage authority and mitigate if as recommended and/or deemed necessary.

REFERENCES

Morris, D. 2012/2014. Heritage Impact Assessment for Mainstream Renewable Power South Africa Environmental Impact Assessment Final Report (2014) for Douglas Solar Energy Project in the Northern Cape Province, South Africa. Report for Mainstream Douglas Solar (Pty) Ltd. CSIR/CAS/EMS/ER/2012/0010B

Orton, J. 2016. Prehistoric cultural landscapes in South Africa: a typology and discussion. *South African Archaeological Bulletin* 71: 119-129.

Sampson, C.G. 1985. Atlas of Stone Age settlement in the central and upper Seacow Valley. *Memoirs of the National Museum* 20.