

APPENDIX D2

WRITTEN NOTICES

Review of the Draft Basic Assessment Report for the proposed Wheatlands Urban Solar Farm



A period of 30 calendar days will be allowed for review and comments on the Draft Basic Assessment Report for the proposed Wheatlands Urban Solar Farm from **28 June 2017** – **28 July 2017**.

Your comments should be sent directly to our office at Bokamoso. Attention: Adèle Drake or Juanita De Beer (reception@bokamoso.net or fax: 086 570 5659).

A copy of the report will be available at:

Venue: Randgate Public Library

Address: Corner of Juni Str and Van Deventer Str, Randgate, Randfontein, 1763

Tel: 011 412 1363

Date: 28 June 2017 – 28 July 2017

Also available on our Website: www.bokamoso.net

Please do not hesitate to contact us should you have any queries regarding the abovementioned development.

Contact person: **Juanita De Beer**

Tel: 012 346 3810 Fax: 086 570 5659

E-mail: reception@bokamoso.net

LEBOMBO GARDENS BUILDING
36 LEBOMBO ROAD
ASHLEA GARDENS
0081

P.O. BOX 11375
MAROELANA
0161

Tel: (012) 346 3810
Fax: 086 570 5659
E-mail: lizelleg@mweb.co.za
Website: www.Bokamoso.net



Landscape Architects, Environmental Consultants,
Environmental Auditing, Water License Applications

Acknowledgement of Receipt

Randgate Public Library
Corner of Juni Str and Van Deventer Str
Randgate
Randfontein
1763
Tel: 011 412 1363

27 June 2017

Attention: Management

RE: DRAFT BASIC ASSESSMENT REPORT FOR COMMENTS FOR THE PROPOSED WHEATLANDS URBAN SOLAR FARM

Please find herewith 1 x Hard Copy of the Draft Basic Assessment Report & Issues and Comments Register for the abovementioned project.

By Hand

Name and Surname :
(Receiver)

Jeanette Gungo

Date:

27/06/2017

Where:

Randgate Library

Signature:

Gungo.

Sender:

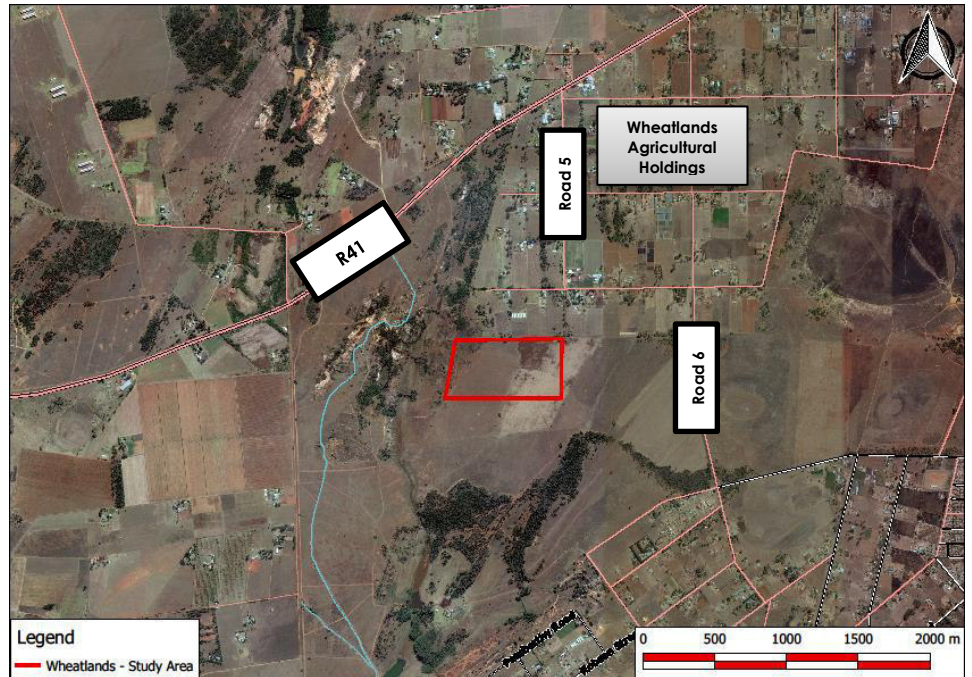
Juanita De Beer

NOTICE OF ENVIRONMENTAL AUTHORISATION AND WATER USE LICENSE APPLICATIONS

Notice is hereby given that an application for a **Basic Assessment Process** in terms of the EIA Regulations, 2014 (Regulations in terms of Chapter 6 of the National Environmental Management Act, 1998, as amended) will be lodged with the Gauteng Department of Agriculture and Rural Development. A **Water Use License Application** (WULA) in terms of the National Water Act, 1998 (Act No. 36 of 1998) will be submitted to the Department of Water and Sanitation.

Project & Property Description: The establishment of the **Wheatlands Urban Solar Farm** on the **Remaining Extent of the Farm Wheatlands 260 IQ**.

Location: The proposed Wheatlands Urban Solar Farm is situated in the Wheatland's Agricultural Holdings, Rand West City Local Municipality, approximately 8.5 km west-south-west from Randfontein between the R41 to the north and the R559 to the south. The site can be accessed via the Road 6 running past the development site from north to south approximately 1 km to the east.



Listing Activities Applied for in terms of NEMA EIA Regulations, 4 December 2014:

GNR 983 (Listing Notice 1) – Activity 1, 11, 27 & 56.
GNR 985 (Listing Notice 3) – Activity 4, 12, 15 & 18.

The aforementioned proposed activity requires an application in terms Section 21 of the National Water Act, 1998 (Act 36 of 1998) (NWA) for the following water uses:

- Section 21 (c): Impeding or diverting the flow of water in a watercourse
- Section 21 (i): Altering the bed, banks, course or characteristics of a watercourse

Proponent: Solar Reserve SA (Pty) Ltd

Date of Notice: 7 March 2017 – 7 April 2017

In order to ensure that you are identified as an Interested and/or Affected Party (I&AP) please submit your name, contact information and interest in the matter, in writing, to the contact person given above **within 30 days from the date of commencement of this Notice**.

Queries regarding this matter should be referred to:

Bokamoso Landscape Architects and Environmental Consultants CC

Public Participation registration and Enquiries: **Juanita De Beer**

Project & WULA Enquiries: **Adèle Drake**

Tel: (012) 346 3810

P.O. Box 11375

Maroelana 0161

Fax: (086) 570 5659

E-mail: reception@bokamoso.net

www.bokamoso.net

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0181

Tel: (012) 346 3810
Fax: 086 570 5659
E-mail: reception@bokamoso.net
Website: www.Bokamoso.net



Dear Landowner/Tenant

7 March 2017

You are hereby informed that Bokamoso Environmental Consultants CC were appointed (as Environmental Assessment Practitioner) by Solar Reserve SA (Pty) Ltd to conduct the **Basic Assessment Process** in terms of the amended 2014 NEMA EIA Regulations for the proposed establishment of the Wheatlands Urban Solar Farm on the Remaining Extent of the Farm Wheatlands 260 IQ, as well as **Water Use License Application** in terms of the National Water Act, 1998 (Act 36 of 1998).

The Project Description:

The proposed establishment of the Wheatlands Urban Solar Farm on the Remaining Extent of the Farm Wheatlands 260 IQ.

In terms of Regulation No. R982 published in the Government Notice No. 38282 of 4 December 2014 of the National Environment Management Act, 1998 (Act No. 107 of 1998) governing Basic Assessment (Notice 1 & 3 - Government Notice R983 & R985) of the 2014 amended NEMA Regulations, the EAP must inform all landowners and tenants of properties adjacent to the site of the proposed development.

This letter serves as notification to you, (landowner/tenant) of the property of the proposed development. Bokamoso requests that you supply the contact details of any tenants or other interested and affected parties that may reside or work on the property. Bokamoso will supply these parties with the necessary notification letters.

Alternatively, you are also welcome to distribute copies of your notification to these parties. We will however require proof that you supplied the notices to the tenants, landowners, workers etc. An alternative to the above option is to act as representative on behalf of these parties.

Please confirm within 30 days from start date of this notice (via email/fax) that you received the landowners/tenant notification and this letter. Also indicate in this confirmation letter whether you have tenants on your property and your preferred method of tenant/worker notification.

The proposed development requires applications subject to a **Basic Assessment Process** and a **Water Use License Application**. All registered I&APs will be allowed 30 days to register on the **Basic Assessment Process and Water Use License Application** upon release of the documentation.

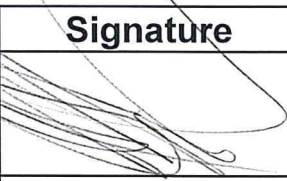


Please may you notify Bokamoso if you are planning to sell your property as the new owners will be required to be registered as an I&AP.

Regards

.....
Lizelle Gregory/Juanita De Beer

Wheatlands Urban Solar Farm - Landowner Notification

Acknowledgement of Receipt of land owner notification concerning the proposed Wheatlands Urban Solar Farm Project.


	Name	Address	Contact Details	Signature
1	Stern	17th 3rd Road.	Email: Fax: Tel:	
2	Jacobs	123, 124 Plot Road 3	Email: Fax: Tel: 08220 68763	
3	Gate	Plot 95 gate = Road 3	Email: Fax: Tel:	
4	Gate	Plot 122 gate = Road 3	Email: Fax: Tel:	
5	Gate	Plot 121 gate Road 3	Email: Fax: Tel:	
6	Gate	Plot - 94 gate Road 3	Email: Fax: Tel:	
7	Gate	Plot 93 gate Road - 3	Email: Fax: Tel:	
8	DRIES	Plot 126 Road 3	Email: Fax: Tel: 0724 173239	
9	Gate	Plot 110	Email: Fax: Tel:	
10	Gate.	Plot - 2 gate Road - 5	Email: Fax: Tel:	
11			Email: Fax: Tel:	
12			Email: Fax: Tel:	
13			Email: Fax: Tel:	
14			Email: Fax: Tel:	
15			Email: Fax: Tel:	

APPENDIX D3

PROOF OF NEWSPAPER ADVERTISEMENTS

MEDIA ADVERTISING CONSULTANT
 Caxton Local Media is offering a position for an External advertising consultant with previous **EXTERNAL sales experience and a successful track record.** The main function of this position is to advise current and potential advertisers on a marketing strategy using the different digital and print products that Caxton Local Media produces. Applicants must have a minimum qualification of grade 12 as well as a valid driver's license and own car. Cost to Company package consists of a basic salary, petrol allowance, pension contribution and commission. **Send a 2 page CV as well as a motivational letter to lindar@caxton.co.za with the subject "Get It". Applications close 17 March 2017. If you haven't heard from us by 24 March 2017 your application was unsuccessful.**

0860 SECURITY
POSTE BESKIKBAAR VIR ALARM TEGNIKUS TE RANDFONTEIN
 Moet ondervinding he in die installasie en herstel van alle alarm sisteme, elektriese heinings, kameras en hek motors. Moet PSIRA geregistreerd wees en geldige bestuurslisensie he.
Faks Kort CV na: 086-600-6702

HAVE A VACANCY TO FILL?

 Contact us today to place your advert
 Tel: 087 285 0575
 Fax: 086 595 0000
 Email: classadwest@caxton.co.za
 classadnorth@caxton.co.za

POSTE BESKIKBAAR VIR GEWAPENDE REAKSIE TE RANDFONTEIN
 Geldige bestuurslisensie, vuurwapen bevoegdheid en PSIRA registrasie is 'n vereiste. Moet goeie dissipline he en in 'n span verband kan werk.
Faks Kort CV na: 086-600-6702

POSTE BESKIKBAAR VIR BEHEERKAMER OPERATEURS TE RANDFONTEIN
 Moet PSIRA geregistreerd wees en bereid wees om skofte te werk.
Faks Kort CV na: 086-600-6702

0875 TRADE
QUALIFIED SPRAYPAINTER REQUIRED
 Must have knowledge in trucks and trailer and experience in panelbeating. Salary negotiable dependent on qualifications.
E-mail CVs to toydippenaar@vodamail.co.za

VACANCIES AVAILABLE AT MAPOGO A MATHAMAGA RANDFONTEIN
Controlroom Supervisor:
 • Supervisor experience
 • PSIRA certificate.
 • PSIRA grades (minimum grade D).
 • Need to work on listener.
 • Need to work on Excel and Word.
 • Need CCTV camera observant background.

EMAIL CV TO: payroll@mapogosec.co.za
MAPOGO A MATHAMAGA
 BUSINESS & COMMUNITY SHIELD
087 720 6000

0895 DOMESTIC EMPLOYMENT WANTED

ANNAH
 Requires domestic employment on a full-time or part-time basis.
071-736-4859
BEAUTY
 Requires part-time domestic employment for Tues, Wed & Thursdays.
073-493-8236
ELIZABETH
 Requires full or part-time domestic employment. Has ref.
060-736-4697
ELLEN
 Seeks full / part time domestic employment.
083-621-7015
ESTHER
 Requires domestic employment on a full or part-time basis.
083-312-8480
EVELYN
 Seeks full / part time domestic employment with accommodation.
073-906-0614
JOYCE
 Seeks full / part time domestic employment, has reference.
073-935-7687
LETTIE
 Requires domestic employment on a full-time or part-time basis.
078-796-7811
MARIA
 Seeks full or part time domestic work. Accommodation.
078-164-5367
MERCY
 Seeks full or part-time domestic work with or without accommodation. Has refs.
078-221-0702
MERIAMA
 Requires employment as a domestic worker on a full time basis.
078-558-8300
NAMHLA
 Requires domestic employment on a full-time or part-time basis.
073-614-7877
PINKIE
 Requires domestic work for Mon, Wed and Thurs / part-time.
078-336-7225
PRINCESS
 Seeks full / part time domestic employment with or without accommodation.
071-934-5934
SANNAH
 Requires domestic work on Mon, Wed & Fri.
Ref:074-779 -5559
078-393-1394

ATTENTION!!
 Be aware of scams targeting job seekers. You do not have to pay money in order to secure a job.
 Report this to your nearest police station if you are contacted.
Information:
 Please note that Caxton Newspapers do not supply these job scams with your personal information, it is against our company policy to share such with any third party. They are picking up your name and telephone number in your advert.
 Should you wish to report a pay for job scam to Caxton Newspapers please supply us with the information including the company name, contact person and their telephone number to classadnorth@caxton.co.za

VICTORIA
 Requires employment as a domestic worker on a full / part-time basis.
060-468-9519
legals
 • auctioneers
 • legal notices
 • tenders

0950 LEGAL NOTICES
NOTICE OF ENVIRONMENTAL AUTHORISATION AND WATER USE LICENSE APPLICATIONS
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 • Section 21 (c): Impeding or diverting the flow of water in a watercourse
 • Section 21 (i): Altering the bed, banks, course or characteristics of a watercourse
Propponent: Solar Reserve SA (Pty) Ltd
Date of Notice: 7 March 2017 - 7 April 2017

In order to ensure that you are identified as an Interested and/or Affected Party (I&AP) please submit your name, contact information and interest in the matter, in writing, to the contact person given above within 30 days from the date of commencement of this Notice. Queries regarding this matter should be referred to:
Bokamoso Landscape Architects and Environmental Consultants CC
 Public Participation registration and Enquiries: **Juanita De Beer**
 Project & WULA Enquiries: **Adèle Drake**
 Tel: (012) 346 3810
 Fax: (086) 570 5659
 P.O. Box 11375, Maroelana 0161
 E-mail: reception@bokamoso.net
 www.bokamoso.net

RANDFONTEIN LOCAL MUNICIPALITY DEPARTMENT OF PLANNING AND LAND USE MANAGEMENT

RANDFONTEIN TOWN PLANNING SCHEME, 1988 NOTICE OF APPLICATION FOR CONSENT
 Notice is hereby given in terms of Clause 13 of the Randfontein Town Planning Scheme, 1988, that I, undersigned, intend to apply to the Local Municipality of Randfontein for special consent to establish:
SISI GOGO CARE GIVERS CENTRE.
 On Erf/Stand No: 2298, Township: Toekomsrus. Situated at: Pineapple Street which falls within: Residential 1 use zone.

Plans and/or particulars of this application may be inspected between normal office hours (08h00 to 16h00) at the Municipal Offices, Randfontein.
 Objections, if any, to the application, together with the grounds thereof, must be lodged in writing to the Municipal Manager, Local Municipality of Randfontein, P O Box 218, RANDFONTEIN, 1760 and to the applicant within a period of 28 days from the first day of site notices.
Name: Gertrude Sarah Simelane
Tel no: 078-391- 5761
Address: 2298 Pineapple Street, Toekomsrus, Randfontein
Code: 1759

RANDFONTEIN LOCAL MUNICIPALITY DEPARTMENT OF DEVELOPMENT PLANNING AND LAND USE MANAGEMENT

RANDFONTEIN DORPSBE-PLANNINGSKEMA, 1988 KENNISGEWING VAN AANSOEK OM TOESTEMMING
 Kennisgewing geskien hiermee, ingevolge Klousule 13 van bogenoemde skema dat ek die ondergetekende, van voornemens is om by die Plaaslike Munisipaliteit van Randfontein aansoek te doen om spesiale toestemming vir die oprigting, gebruik of stigting van **SISI GOGO CARE GIVERS CENTRE.**
 Op Erf No: 2298, Dorp: Randfontein
 Geleë te: Pineapple Straat, wat binne Residensiële 1 gebruiksone val.
 Planne en/of besonderhede van hierdie aansoek is gedurende gewone kantoorure (08h00 tot 16h00) te Munisipale kantore, Randfontein, ter insa.

Besware, indien enige, teen die goedkeuring van hierdie aansoek, met redes daarvoor, moet skriftelik by die Munisipale Bestuurder, Randfontein Plaaslike Munisipaliteit Posbus 218, Randfontein, 1760 en by die applikant ingedien word, binne 'n tydperk van 28 dae vanaf die eerste dag van erf kennisgewing.
Naam: Gertrude Sarah Simelane
Tel no: 078-391- 5761
Adres: Pineapple Straat 2298, Toekomsrus, Randfontein
Kode: 1759

adult
 1005 adult entertainment
 1008 adult entertainment vacancy
 1010 escorts

1005 ADULT ENTERTAINMENT

LUST PALMAS
 Sexy ladies to choose from. Body to body massage. Randfontein
072-677-4207

MATURE LADY RANDFONTEIN

Call Rachel
071-232-3912
(07:00 - 15:00)

LOOKING FOR CONSULTANTS
 For Randfontein, Westonaria, Molakeng and Kagiso areas,
 To start as soon as possible.
 Training will be provided.
 Salary: The sky is the limit.
Contact Numbers 083-578-6698 or 073-078-9923

Our People Our Gold

The chance of a lifetime to work at the cutting edge of technology
GOLD FIELDS
 Gold Fields Limited is an unhedged, globally diversified producer of gold with eight operating mines in Australia, Ghana, Peru and South Africa. In February 2013, Gold Fields unbundled its mature, underground KDC and Beatrix mines in South Africa into an independent and separately listed company, Sibanye Gold. In October 2013, it expanded its presence in Western Australia by acquiring the Granny Smith, Lawlers and Darlot mines (known as the Yilgarn South Assets) from Barrick Gold.
 Gold Fields has attributable annual gold production of approximately 2.02 million ounces, as well as attributable Mineral Reserves of around 49 million ounces and Mineral Resources of about 113 million ounces. Attributable copper Mineral Reserves total 708 million pounds and Mineral Resources 7,120 million pounds. Gold Fields has a primary listing on the JSE Limited, with secondary listings on the New York Stock Exchange (NYSE), NASDAQ Dubai Limited, Euronext in Brussels (NYSE) and the Swiss Exchange (SWX).
South Deep Gold Mine
 Department: Rock Engineering
CHIEF ROCK ENGINEER
 (Ref. SDS/RE05/FEB17)
 The incumbent will assume the roles and responsibilities, according to the MHSC by providing rock engineering expertise and services to the mining, planning and engineering disciplines
 Applicants must be in possession of a valid Grade 12 qualification with Mathematics and Science, a Chamber of Mines Rock Mechanic Certificate (for metalliferous mines), a Certificate in Strata Control and 9 years' experience in a mining environment. This must be supported by professional registration with SANIRE, MAP3D experience, as well as the ability to use other numerical modelling and seismicity software packages. A Chamber of Mines Strata Control Certificate (for metalliferous mines), a valid driver's licence and First Aid Certificate are essential, along with operating proficiency of Microsoft Office, including relevant rock engineering computer software programs as well as numerical modelling tools to produce reports and relevant numerical models. A relevant postgraduate qualification, a Blasting Certificate, mechanised mining experience, GDE, AREC and MSc will be advantageous.
Duties and responsibilities include: • Providing rock engineering services to the mining, planning and engineering disciplines • Providing input into weekly and monthly planning activities • Managing and coordinating activities of a team of persons under your control • Providing input into the design of support and support systems • Periodic numerical modelling of underground workings • Working within a dynamic team of professionals in the pursuance of the organisation's goals • Providing a work ethic that ensures the health and safety of people.
 Gold Fields is committed to the achievement and maintenance of diversity and equity in employment, therefore HDSA will be given first preference.
 Telephonic enquiries: Elzani Olivier, tel. (011) 411-1733
 Interested parties should submit detailed Curriculum Vitae to Elzani Olivier at e-mail: Elzani.Olivier@goldfields.co.za or fax: 086 579 9978
 Candidates must be medically fit for the position, as determined by a risk-based medical examination at a Gold Fields Occupational Health Centre.
 Pre-screening and psychometric evaluation may form part of the selection process. Short-listed candidates will be requested to attend a panel interview. Applicants who have received no response to their applications within 14 days of the closing date may consider their applications unsuccessful.
Closing date: 14 March 2017
www.goldfields.co.za

Place your legal notices in your local newspaper.
Contact: 087 285 0575
Fax: 086 595 0000


APPENDIX D4

COMMUNICATION TO AND FROM I&APs

From: juanita@bokamoso.net
Sent: 28 June 2017 11:51 AM
To: 'mseleke@wrdm.gov.za'; dlesotho; 'stoffberg@wrdm.gov.za'; isabel olivier; 'jgrobler@geoscience.org.za'; msebesho; 'asalomon@sahra.org.za'; 'keetm@dwaf.gov.za'; 'Siwelane Lilian (GAU)'; 'tshifaror@dwa.gov.za'; 'mathebet@dwa.gov.za'; 'paia@eskom.co.za'; 'central@eskom.co.za'; kumen govender; nkoneigh; mmpshe; 'loveous.tampane@transnet.net'; AntonMa (AntonMa@daff.gov.za); PhyllystasM; zanel.chauke@energy.gov.za; lister.mbowane@energy.gov.za; Avishkar.nandkishore@energy.gov.za; lerato april; 'Ramaleho.saila@drdlr.gov.za'; Malebo.Baloi@drdlr.gov.za; schmidk; 'alwyn@sabroking.co.za'; 'tcrwalters@gmail.com'; 'moosthuizen@yahoo.com'
Subject: Wheatlands Solar Farm - Review Notice
Attachments: Wheatlands Solar Farm - Review Notice.pdf; image001.jpg

Dear Interested and/or Affected Parties,

Please refer to the attached Review Notice for the Draft Basic Assessment Report regarding the proposed **Wheatlands Urban Solar Farm** Project.

A period of 30 calendar days will be allowed for review and comments on the Draft Basic Assessment Report for the proposed Wheatlands Urban Solar Farm from **28 June 2017 – 28 July 2017**.

Your comments should be sent directly to our office at Bokamoso. Attention: Adèle Drake or Juanita De Beer (reception@bokamoso.net or fax: 086 570 5659).

Kind Regards/Vriendelike Groete

Juanita De Beer

Senior Public Participation Consultant & EAP in training



Landscape Architects & Environmental Consultants

T: (+27)12 346 3810 | F: (+27) 86 570 5659 | E: juanita@bokamoso.net | www.bokamoso.net
36 Leombo Street, Ashlea Gardens, Pretoria | P.O. Box 11375 Maroelana 0161



GAUTENG PROVINCE

AGRICULTURE AND RURAL DEVELOPMENT
REPUBLIC OF SOUTH AFRICA

FAX COVER

Receiver's Details		Sender's Details	
To:	Lizelle Gregory	From:	Aristotelis Kapsosideris
Company:	Bokamoso Landscape Architects & Environmental Consultants	Section:	Environmental Impact Management
Email:	Lizelle@bokamoso.net	Floor:	28 th Floor, Umnotho Building, 56 Eoff Street
Fax:	086 570 5659		
Tel no.	012 346 3810	Tel:	011 240 3398
Date:		Pages:	03 including fax cover
Re:	GAUT REFERENCE 002/17-18/E0062 COMMENTS ON DRAFT BASIC ASSESSMENT REPORT: THE PROPOSED WHEATLANDS URBAN SOLAR FARM ON THE REMAINING EXTENT OF THE FARM WHEATLANDS 260 IQ, RAND WEST LOCAL MUNICIPALITY		

CC	Rand West Local Municipality	Attn:	Isabel Olivier
		Tel:	011 411 0228
		Email:	isabel.olivier@randfontein.org.za



GAUTENG PROVINCE

AGRICULTURE AND RURAL DEVELOPMENT
REPUBLIC OF SOUTH AFRICA

Reference: Gaut 002/17-18/E0062
Enquiries: Aristotelis Kapsosideris
Telephone: 011 240 3398
E-mail: Aristotelis.kapsosideris@gauteng.gov.za

**Bokamoso Landscape Architects &
Environmental Consultants**
P.O. Box 11375
Maroelana
0161

Tel No: 012 346 3810
Fax No: 086 570 5659
Email: Lizelle@bokamoso.net

Dear Madam

COMMENTS ON THE DRAFT BASIC ASSESSMENT REPORT: THE PROPOSED WHEATLANDS URBAN SOLAR FARM ON A PORTION OF THE REMAINDER OF THE FARM WHEATLANDS 260 IQ, RAND WEST LOCAL MUNICIPALITY

The Draft Basic Assessment Report (DBAR) regarding the abovementioned development received by the Department on 27 June 2017 has reference. There is currently an existing Environmental Authorisation for mixed use development on the proposed site.

The proposal entails construction and operation of a 15MW Urban Solar Photovoltaic power plant and associated infrastructure that will consist of PV panels that encase the solar cells on the above mentioned site that measures approximately 20 hectares with the activity footprint being 16 hectares. The panels will be mounted on metal frames with a height of approximately 600-1000mm above the ground, supported by rammed, concrete or screw pie foundation, and they will face north in order to capture the optimum amount of sunlight.

The site is designated as an Ecological Support Area and a Critical Biodiversity Area having an Orange Listed Plant habitat, a Bioclimatic zone, a pan, non-perennial river and primary vegetation according the Departmental GIS and C-Plan version 3.3.

The Department will like to comment as follows:

1. Alignment of the activity with applicable legislations and policies

The development has a direct bearing on the National Environmental Management Act (NEMA) (Act No. 107 of 1998) (as amended) at both national and provincial levels. The proposed development corresponds with the activity applied for under the Environmental Impact Assessment (EIA) Regulations, 2014, (GN R.983) Listing Notice 1, Activity 1, 11, 14, 27 and 56, Listing Notice 3, Activity 4, 12 and 18 published under the National Environmental Management Act (NEMA) (Act No. 107 of 1998) (as amended).

2. Guidelines GDARD requirements

In addition to what is listed in the DBAR that will be incorporated in the final BAR (FBAR), the Department would require the following documents in order to undertake a thorough review and reach a credible decision on whether to issue an Environmental Authorisation or not.

- a) The application form must be amended to reflect the correct parcel of land affected by this application and to differentiate it from the larger portion of land in which it is situated and has an existing Environmental Authorisation (Gaut 002/15-16/E0261). The correct name must be stipulated in the title of the proposed development.
- b) A detailed storm water management plan for the site (including storm water management measures to be implemented temporarily during the construction phase and permanent measures to be installed for the operational phase) must be developed by a suitably qualified engineer and approved by the Local Municipality.
- c) Where municipal bulk services are required and will not be provided by the local municipality, then details of alternative arrangements in respect of sewage and water provision must be given.
- d) Comments from the Rand West Local Municipality are required.
- e) Comments from Eskom regarding the electrical infrastructure upgrades must also be included.
- f) A fauna and flora assessment must also accompany the final BAR.

3. Alternatives

The report covered all relevant and feasible alternatives except the No-Go alternative which must be assessed and included in the FBAR.

4. Basic Assessment issues on the site

The Draft Basic Assessment Report lists information on environmental issues on the site that will require further investigation as has been mentioned in point 2 above.

5. Locality map and layout plans or facility illustrations

A layout plan is required indicating the position of all the various structures and facilities that will be erected for the proposed development. This must be overlain by a composite sensitivity map indicate buffer zones with a suitable legend and scale.

6. EMPr

A site (project) specific Environmental Management Programme (EMPr) is included in the DBAR and will be assessed in the FBAR. The EMPr must comply with the content requirements as stipulated in Appendix 4 of the Environmental Impact Assessment (EIA) Regulations, 2014.

7. Public participation process

The Public participation process must be done in accordance to the minimum requirements of EIA Regulations 2014. Stakeholders must also be consulted through delivery of draft basic assessment. Note that all comment from interested and affected parties must be incorporated on the Comments and Response report to be attached on the final report. Proof of legible newspaper advert must also be included on the final report.

Proof of correspondence with stakeholders must be included in the final BAR. Should you be unable to submit comments, proof of attempts that were made to obtain comments must be submitted to the Department.

If you have any queries regarding this letter, contact the official at the contact details provided above.

Yours faithfully



Mr. Dan Motaung
Acting Director: Impact Management

Date: 27/07/2017



an agency of the
Department of Arts and Culture

T: +27 21 462 4502 | F: +27 21 462 4509 | E: info@sahra.org.za
South African Heritage Resources Agency | 111 Harrington Street | Cape Town
P.O. Box 4637 | Cape Town | 8001
www.sahra.org.za

Enquiries: Andrew Salomon
Tel: 021 462 4502
Email: asalomon@sahra.org.za
CaseID: 10764

Date: Tuesday March 07, 2017
Page No: 1

Letter

In terms of Section 38 of the National Heritage Resources Act (Act 25 of 1999)

Attention: Solar Reserve SA (Pty) Ltd

**The establishment of the Wheatlands Urban Solar Farm on the Remaining Extent of the Farm
Wheatlands 260 IQ.**

Thank you for your notification regarding this development.

In terms of the National Heritage Resources Act, no 25 of 1999, heritage resources, including archaeological or palaeontological sites over 100 years old, graves older than 60 years, structures older than 60 years are protected. They may not be disturbed without a permit from the relevant heritage resources authority. This means that prior to development it is incumbent on the developer to ensure that a **Heritage Impact Assessment** is done. This must include the archaeological component (Phase 1) and any other applicable heritage components. Appropriate (Phase 2) mitigation, which involves recording, sampling and dating sites that are to be destroyed, must be done as required.

The quickest process to follow for the archaeological component is to contract an accredited specialist (see the web site of the Association of Southern African Professional Archaeologists www.asapa.org.za) to provide a Phase 1 Archaeological Impact Assessment Report. This must be done before any large development takes place.

The Phase 1 Impact Assessment Report will identify the archaeological sites and assess their significance. It should also make recommendations (as indicated in section 38) about the process to be followed. For example, there may need to be a mitigation phase (Phase 2) where the specialist will collect or excavate material and date the site. At the end of the process the heritage authority may give permission for destruction of the sites.

Where bedrock is to be affected, or where there are coastal sediments, or marine or river terraces and in potentially fossiliferous superficial deposits, a Palaeontological Desk Top study must be undertaken to assess whether or not the development will impact upon palaeontological resources - or at least a letter of exemption from a Palaeontologist is needed to indicate that this is unnecessary. If the area is deemed sensitive, a full Phase 1 Palaeontological Impact Assessment will be required and if necessary a Phase 2 rescue operation might be necessary. **Please note that a nationwide fossil sensitivity map is now available on SAHRIS to assist with determining the fossil sensitivity of a study area .**



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Enquiries: Andrew Salomon
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Date: Tuesday March 07, 2017
Page No: 2

If the property is very small or disturbed and there is no significant site the heritage specialist may choose to send a letter to the heritage authority motivating for exemption from having to undertake further heritage assessments.

Any other heritage resources that may be impacted such as built structures over 60 years old, sites of cultural significance associated with oral histories, burial grounds and graves, graves of victims of conflict, and cultural landscapes or viewsapes must also be assessed.

Should you have any further queries, please contact the designated official using the case number quoted above in the case header.

Yours faithfully

Andrew Salomon
Heritage Officer: Archaeology
South African Heritage Resources Agency

John Gribble
Manager: Maritime and Underwater Cultural Heritage Unit / Acting Manager: Archaeology, Palaeontology and Meteorites Unit
South African Heritage Resources Agency

ADMIN:

Direct URL to case: <http://www.sahra.org.za/node/388594>
(GDARD, Ref:)

juanita@bokamoso.net

From: adele@bokamoso.net
Sent: 02 August 2017 11:41 AM
To: juanita
Subject: FW: Whetalands Urban Solar Farm DBAR comments
Attachments: image001.jpg; 20170801144627450.pdf

From: sstoffberg@wrdm.gov.za [mailto:sstoffberg@wrdm.gov.za]
Sent: 01 August 2017 03:11 PM
To: adele@bokamoso.net
Subject: RE: Whetalands Urban Solar Farm DBAR comments

Good afternoon Adéle

Attached please find the signed copy of the comments

Kind regards

Susan Stoffberg
Environmentalist: Waste Management and Biodiversity
West Rand District Municipality, Gauteng
Private Bag X 033, Randfontein,1760
Cnr Sixth -and Park Streets, Randfontein
Tel: 011 411 5131, Cell: 083 409 3150
E-mail: [sstoffberg@wrdm.gov.za](mailto:ssstoffberg@wrdm.gov.za)
Personal e-mail: susanstoffberg@gmail.com
Website: www.wrdm.gov.za



From: adele@bokamoso.net [mailto:adele@bokamoso.net]
Sent: 01 August 2017 09:55 AM
To: [sstoffberg@wrdm.gov.za](mailto:ssstoffberg@wrdm.gov.za)
Cc: reception <reception@bokamoso.net>; juanita <juanita@bokamoso.net>; mseleke@wrdm.gov.za;
dlesotho@wrdm.gov.za
Subject: FW: Whetalands Urban Solar Farm DBAR comments

Good morning Susan,

As per our telephonic conversation this morning, could you please advise as to when we can expect feedback from Rand West District Municipality on the Draft BAR for the proposed Wheatlands Urban Solar Farm, as per the attached Notice.

According to GDARD we have to incorporate your comments into the Final BAR.

Would appreciate if you could assist in getting the Municipalities comments to Bokamoso as soon as possible. Please direct correspondence to reception@bokamoso.net

Kind Regards / Vriendelike Groete

Adèle Drake

Environmental Assessment Practitioner & Water Use License Consultant

BA (Geography)

Air Quality Management (NQF Level 7)



**Landscape Architects &
Environmental Consultants**

T: (+27)12 346 3810 | F: (+27) 86 570 5659 | E: adele@bokamoso.net | www.bokamoso.net
36 Lebombo Street, Ashlea Gardens, Pretoria | P.O. Box 11375 Maroelana 0161

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WEST RAND DISTRICT MUNICIPALITY



OFFICE OF THE MUNICIPAL MANAGER

Ref: 12/2/1/3
Your ref: 002/17-18/E0062

Bokamaso Environmental
P.O.Box 11375
Maroelana
0161

Madam

Attention: Ms A Drake
Fax: 086 570 5659

**LEGAL COMPETENCY: ENVIRONMENTAL MANAGEMENT: ROUTINE ENQUIRIES:
COMMENTS: DRAFT BASIC ASSESSMENT REPORT FOR PROPOSED WEATLANDS
URBAN SOLAR FARM AND ASSOCIATED INFRASTRUCTURE ON THE REMAINING
EXTENT OF THE FARM WHEATLANDS 260 IQ: RAND WEST CITY LOCAL
MUNICIPALITY**

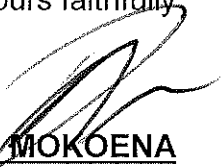
With reference to your document dated 28 June 2017 requesting comments in the above regard, the West Rand District Municipality (Environmental Management Section) wishes to comment as follows:

- The development should comply with the Bio-regional Plan for the West Rand, published in Government Gazette 390 (2 September 2015), in all cases where land is depicted as Critical Biodiversity Areas or Ecological Support Areas.
- In the event of any development on land affected by dolomites, assessments and/or investigations need to be undertaken in line with SANS 1936-1; SANS 1936-2; SANS 1936-3; SANS 1936-4; and SANS 633, by an experienced and qualified geologists who is registered by the Council for Geosciences.
- All infrastructure and construction must comply with "The Guidelines for Consultants: Appropriate Development of Infrastructure on Dolomite" from Department of Public Works (August 2004).
- The developer should comply with the National Dust Control Regulations that were promulgated on 1 November 2013 during the construction phase of the project.
- Climate change adaptation should be incorporated into the proposed development (rainwater harvesting, grey water use).
- A dolomite safety clearance certificate should be obtained from the Head of Disaster Management of the West Rand District Municipality.
- Indicate the photovoltaic degradation rates and how it will be addressed to ensure sustainability.
- Indicate if the proposed Solar PV Power Facility would affect the rainfall and the drainage of the region.

- Indicate if reflected light beams coming from the concentrated solar power system will interfere with aircraft operating pathways.
- Indicate if the solar farm would involve high temperature emissions in surroundings and what environmental risk this could pose.
- Indicate if the facility will produce electric and magnetic fields that will have an impact on the natural surroundings.
- Indicate what impact dust fallout will have on the Solar PV Power Facility.
- The developer should attempt to make use of alternative sources of energy in the development.
- Ensure that there is adequate capacity for the required services (electricity, water, sewage) and that these services are in place before development commence.
- In the case where dirt roads are used, a dust suppression plan should be included in the Environmental Management Plan.
- Water conservation must be actively promoted through water saving technologies.
- Cumulative environmental impacts over time should be taken into account in the report.
- The activities should be in line with the proposals as contained in the Integrated Development Plan, Spatial Development Framework and Environmental Management Framework of the Rand West City Local Municipality.
- In the event of actions that may result in significant environmental damage, an emergency response and contingency plan must be in place to limit the extent of environmental damage.

Trusting the above to be in order

Yours faithfully,



MD MOKOENA
MUNICIPAL MANAGER

Date: 27/10/17

From: adele@bokamoso.net
Sent: 01 August 2017 09:55 AM
To: sstoffberg@wrdm.gov.za
Cc: reception; juanita; mseleke@wrdm.gov.za; dlesotho@wrdm.gov.za
Subject: FW: Whetalands Urban Solar Farm DBAR comments
Attachments: image001.jpg; Wheatlands Solar Farm - Review Notice.pdf

Good morning Susan,

As per our telephonic conversation this morning, could you please advise as to when we can expect feedback from Rand West District Municipality on the Draft BAR for the proposed Wheatlands Urban Solar Farm, as per the attached Notice.

According to GDARD we have to incorporate your comments into the Final BAR.

Would appreciate if you could assist in getting the Municipalities comments to Bokamoso as soon as possible. Please direct correspondence to reception@bokamoso.net

Kind Regards / Vriendelike Groete

Adèle Drake

Environmental Assessment Practitioner & Water Use License Consultant

BA (Geography)

Air Quality Management (NQF Level 7)



**Landscape Architects &
Environmental Consultants**

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36 Lebombo Street, Ashlea Gardens, Pretoria | P.O. Box 11375 Maroelana 0161

juanita@bokamoso.net

From: juanita@bokamoso.net
Sent: 10 March 2017 09:51 AM
To: rnoosthuizen@yahoo.com
Subject: RE: Affected party details regarding Wheatlands Urban Solar Farm
Attachments: image001.jpg

Dear Riana Oosthuizen,

Thank you for your response, Bokamoso Environmental registered you as an Interested and/or Affected Party for the proposed **Wheatlands Urban Solar Farm** Project.

Bokamoso Environmental will keep you updated regarding the process in the future.

Kind Regards/Vriendelike Groete

Juanita De Beer

Senior Public Participation Consultant & EAP in training



Landscape Architects & Environmental Consultants

T: (+27)12 346 3810 | F: (+27) 86 570 5659 | E: juanita@bokamoso.net | www.bokamoso.net
36 Lebombo Street, Ashlea Gardens, Pretoria | P.O. Box 11375 Maroelana 0161

From: Riana Oosthuizen [mailto:rnoosthuizen@yahoo.com]
Sent: 10 March 2017 09:26 AM
To: Juanita de Beer solar farm
Subject: Affected party details regarding Wheatlands Urban Solar Farm

Good day

I am the resident of smallholdings 123 and 124 Wheatlands Randfontein.
I hereby acknowledge receiving information regarding the proposed Wheatlands Urban Solar Farm.
I would appreciate it if u could keep me informed about the project and its effect on our water supply if any.

My contact information:
Riana Jacobs
Tel 0822268763

[Sent from Yahoo Mail on Android](#)

From: adele@bokamoso.net
Sent: 02 August 2017 11:46 AM
To: sstoffberg@wrdm.gov.za
Cc: juanita
Subject: RE: Whetalands Urban Solar Farm DBAR comments
Attachments: image001.jpg

Follow Up Flag: Follow up
Flag Status: Flagged

Good morning Susan,

Thank you for the comments supplied by WRDM
It shall be incorporated into the C&R Report as Part of Public Participation and address comments as part of specialist studies conducted.

Kind Regards / Vriendelike Groete

Adéle Drake

*Environmental Assessment Practitioner & Water Use License Consultant
BA (Geography)
Air Quality Management (NQF Level 7)*



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From: sstoffberg@wrdm.gov.za [mailto:[sstoffberg@wrdm.gov.za](mailto:ssstoffberg@wrdm.gov.za)]
Sent: 01 August 2017 03:11 PM
To: adele@bokamoso.net
Subject: RE: Whetalands Urban Solar Farm DBAR comments

Good afternoon Adéle

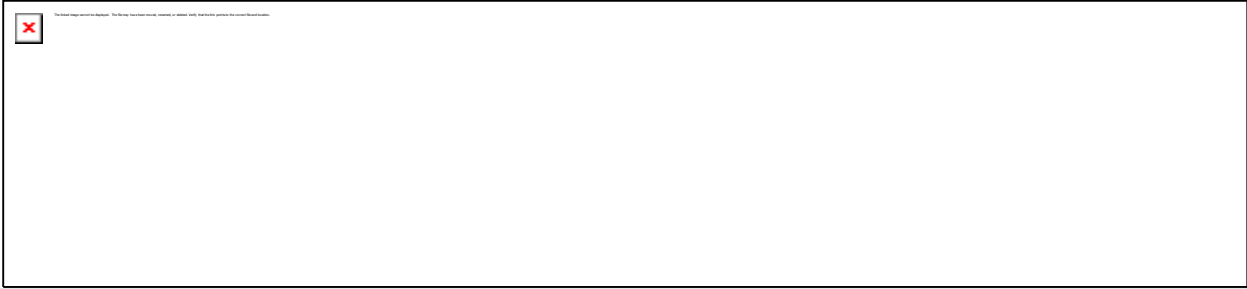
Attached please find the signed copy of the comments

Kind regards

Susan Stoffberg
Environmentalist: Waste Management and Biodiversity
West Rand District Municipality, Gauteng
Private Bag X 033, Randfontein, 1760
Cnr Sixth -and Park Streets, Randfontein
Tel: 011 411 5131, Cell: 083 409 3150
E-mail: [sstoffberg@wrdm.gov.za](mailto:ssstoffberg@wrdm.gov.za)

Personal e-mail: susanstoffberg@gmail.com

Website: www.wrdm.gov.za



From: adele@bokamoso.net [<mailto:adele@bokamoso.net>]
Sent: 01 August 2017 09:55 AM
To: sstoffberg@wrdm.gov.za
Cc: reception <reception@bokamoso.net>; juanita <juanita@bokamoso.net>; mseleke@wrdm.gov.za;
dlesotho@wrdm.gov.za
Subject: FW: Whetalands Urban Solar Farm DBAR comments

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Kind Regards / Vriendelike Groete

Adèle Drake

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Air Quality Management (NQF Level 7)



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From: juanita@bokamoso.net
Sent: 07 March 2017 12:28 PM
To: 'slaven@maximumgroup.co.za'; 'jgrobler@geoscience.org.za';
'mseleke@wrdm.gov.za'; 'stoffberg@wrdm.gov.za';
'isabel.olivier@randfontein.org.za'; msebesho; 'asalomon@sahra.org.za';
'keetm@dwaf.gov.za'; 'Siwelane Lilian (GAU)'; 'tshifaror@dwa.gov.za';
'mathebet@dwa.gov.za'; 'paia@eskom.co.za'; 'central@eskom.co.za'; kumen
govender; nkoneigh; mmpshe; 'loveous.tampane@transnet.net'; AntonMa
(AntonMa@daff.gov.za); PhyllystasM; 'Ramaleho.saila@drdlr.gov.za';
Malebo.Baloi@drdlr.gov.za; schmidk; 'alwyn@sabroking.co.za';
'tcrwalters@gmail.com'
Subject: Wheatlands Urban Solar Farm - Public Participation Process
Attachments: Wheatlands Urban Solar Farm - Public Notice.pdf; image001.jpg; Wheatlands Urban
Solar Farm - Landowner & Tenant Letter.pdf

Dear Interested and/or Affected Parties,

Please refer to the attached Public Notice and Landowner & Tenant Letter regarding the proposed **Wheatlands Urban Solar Farm** Project.

Kind Regards/Vriendelike Groete

Juanita De Beer

Senior Public Participation Consultant & EAP in training



Landscape Architects & Environmental Consultants

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36 Lebombo Street, Ashlea Gardens, Pretoria | P.O. Box 11375 Maroelana 0161

juanita@bokamoso.net

From: juanita@bokamoso.net
Sent: 08 March 2017 11:59 AM
To: 'lerato.april@energy.gov.za'
Subject: Wheatlands Urban Solar Farm - Public Participation Process
Attachments: Wheatlands Urban Solar Farm - Public Notice.pdf; image001.jpg; Wheatlands Urban Solar Farm - Landowner & Tenant Letter.pdf

Dear Interested and/or Affected Parties,

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Kind Regards/Vriendelike Groete

Juanita De Beer

Senior Public Participation Consultant & EAP in training



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36 Lebombo Street, Ashlea Gardens, Pretoria | P.O. Box 11375 Maroelana 0161

juanita@bokamoso.net

From: juanita@bokamoso.net
Sent: 08 March 2017 11:53 AM
To: zanel.chauke@energy.gov.za; lister.mbowane@energy.gov.za;
Avishkar.nandkishore@energy.gov.za
Subject: Wheatlands Urban Solar Farm - Public Participation Process
Attachments: Wheatlands Urban Solar Farm - Public Notice.pdf; image001.jpg; Wheatlands Urban Solar Farm - Landowner & Tenant Letter.pdf

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Kind Regards/Vriendelike Groete

Juanita De Beer

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36 Lebombo Street, Ashlea Gardens, Pretoria | P.O. Box 11375 Maroelana 0161

juanita@bokamoso.net

From: juanita@bokamoso.net
Sent: 01 August 2017 01:20 PM
To: 'info@birdlife.org.za'
Subject: Wheatlands Urban Solar Farm - Public Participation Process
Attachments: Wheatlands Urban Solar Farm - Public Notice.pdf; image001.jpg; Wheatlands Urban Solar Farm - Landowner & Tenant Letter.pdf

Dear Interested and/or Affected Parties,

Please refer to the attached Public Notice and Landowner & Tenant Letter regarding the proposed **Wheatlands Urban Solar Farm** Project.

Kind Regards/Vriendelike Groete

Juanita De Beer

Senior Public Participation Consultant & EAP in training



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From: adele@bokamoso.net
Sent: 01 August 2017 09:42 AM
To: isabel.olivier@randfontein.org.za
Cc: reception; juanita
Subject: Whetalands Urban Solar Farm DBAR comments
Attachments: image001.jpg; Wheatlands Solar Farm - Review Notice.pdf

Good morning Isabel,

As per our telephonic conversation this morning, could you please advise as to when we can expect feedback from Randfontein Local Municipality on the Draft BAR for the proposed Wheatlands Urban Solar Farm, as per the attached Notice.

According to GDARD we have to incorporate your comments into the FBAR.

Would appreciate if you could assist in getting the Municipalities comments to Bokamoso as soon as possible. Please direct correspondence to reception@bokamoso.net

Kind Regards / Vriendelike Groete

Adèle Drake

Environmental Assessment Practitioner & Water Use License Consultant

BA (Geography)

Air Quality Management (NQF Level 7)



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From: adele@bokamoso.net
Sent: 01 August 2017 09:44 AM
To: stoffberg@wrdm.gov.za
Cc: reception; juanita
Subject: Whetalands Urban Solar Farm DBAR comments
Attachments: image001.jpg

Good morning Susan,

As per our telephonic conversation this morning, could you please advise as to when we can expect feedback from Rand West District Municipality on the Draft BAR for the proposed Wheatlands Urban Solar Farm, as per the attached Notice.

According to GDARD we have to incorporate your comments into the Final BAR.

Would appreciate if you could assist in getting the Municipalities comments to Bokamoso as soon as possible. Please direct correspondence to reception@bokamoso.net

Kind Regards / Vriendelike Groete

Adèle Drake

Environmental Assessment Practitioner & Water Use License Consultant

BA (Geography)

Air Quality Management (NQF Level 7)



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APPENDIX D5

MINUTES OF PUBLIC/STAKEHOLDER MEETING

NOT APPLICABLE

APPENDIX D6

COMMENTS & RESPONSE REPORT

**COMMENT AND RESPONSE REPORT-
FOR THE PROPOSED WHEATLANDS URBAN SOLAR FARM PROJECT**

Issue	Commentator	Response
<p>Thank you for your notification regarding this development.</p> <p>In terms of the National Heritage Resources Act, no 25 of 1999, heritage resources, including archaeological or palaeontological sites over 100 years old, graves older than 60 years, structures older than 60 years are protected. They may not be disturbed without a permit from the relevant heritage resources authority. This means that prior to development it is incumbent on the developer to ensure that a Heritage Impact Assessment is done. This must include the archaeological component (Phase 1) and any other applicable heritage components. Appropriate (Phase 2) mitigation, which involves recording, sampling and dating sites that are to be destroyed, must be done as required.</p> <p>The quickest process to follow for the archaeological component is to contract an accredited specialist (see the website of the Association of Southern African Professional Archaeologists www.asapa.org.za) to provide a Phase 1 Archaeological Impact Assessment Report. This must be done before any large development takes place.</p> <p>The Phase 1 Impact Assessment Report will identify the archaeological sites and assess their significance. It should also make recommendations (as indicated in section 38) about the process to be followed. For example, there may need to be a mitigation phase (Phase 2) where the specialist will collect or excavate material and date the site. At the end of the process the heritage authority may give permission for destruction of the sites.</p> <p>Where bedrock is to be affected, or where there are coastal sediments, or marine or river terraces and in potentially fossiliferous superficial deposits, a Palaeontological Desk Top study must be undertaken to assess whether or not the development will impact upon palaeontological resources – or at least a letter of exemption from a Palaeontologist is needed to indicate that this is unnecessary. If the area is deemed sensitive, a full Phase 1 Palaeontological Impact Assessment will be required and if necessary a Phase 2 rescue operation might be necessary. Please note that a nationwide fossil sensitivity map is now available on SAHRIS to assist with determining the fossil sensitivity of a study area.</p> <p>If the property is very small or disturbed and there is no significant site the heritage specialist may choose to send a letter to the heritage authority motivating for</p>	<p>Andrew Salomon asalomon@sahra.org.za SAHRA 7 March 2017</p>	<p>Noted.</p> <p>A Phase 1 HIA was conducted and included in appendix E of the Final BAR.</p>

Issue	Commentator	Response
<p>exemption from having to undertake further heritage assessments.</p> <p>Any other heritage resources that may be impacted such as built structures over 60 years old, sites and cultural significance associated with oral histories, burial grounds and graves, graves of victims of conflict, and cultural landscapes or viewsapes must also be assessed.</p>	<p>Riana Oosthuizen rioosthuizen@yahoo.com 10 March 2017</p>	<p>Thank you for your response, Bokamoso Environmental registered you as an Interested and/or Affected Party for the proposed Wheatlands Urban Solar Farm Project.</p>
<p>I am the resident of smallholding 123 and 124 Wheatlands Randfontein. I hereby acknowledge receiving information regarding the proposed Wheatlands Urban Solar Farm. I would appreciate it if u could keep me informed about the project and its effect on our water supply if any.</p> <p>My contact information: Riana Jacobs Tel: 082 226 8763</p>	<p>Aristotelis Kapsosideris Aristotelis.kapsosideris@gau.feng.gov.za GDARD 27 July 2017</p>	<p>Bokamoso Environmental will keep you updated regarding the process in the future.</p> <p>Noted.</p>
<p>The Draft Basic Assessment Report (DBAR) regarding the abovementioned development received by the Department on 27 June 2017 has reference. There is currently an existing Environmental Authorisation for mixed use development on the proposed site.</p> <p>The proposal entails construction and operation of a 15MW Urban Solar Photovoltaic power plant and associated infrastructure that will consist of PV panels that encase the solar cells on the above mentioned site that measures approximately 20 hectares with the activity footprint being 16 hectares. The panels will be mounted on metal frames with a height of approximately 600-1000mm above the ground, supported by rammed, concrete or screw pie foundation, and they will face north in order to capture the optimum amount of sunlight.</p> <p>The site is designated as an Ecological Support Area and a Critical Biodiversity Area having an Orange Listed Plant habitat, a Bioclimatic zone, a pan, non-perennial river and primary vegetation according the Departmental GIS and C-Plan version 3.3.</p> <p>The Department will like to comment as follows:</p>		<p>1. Noted</p>

Issue	Commentator	Response
<p>the National Environmental Management Act (NEMA) (Act No. 107 of 1998) (as amended).</p> <p>2. Guidelines GDARD requirements</p> <p>In addition to what is listed in the DBAR that will be incorporated in the final BAR (FBAR), the Department would require the following documents in order to undertake a thorough review and reach a credible decision on whether to issue an Environmental Authorisation or not.</p> <ol style="list-style-type: none"> The application form must be amended to reflect the correct parcel of land affected by this application and to differentiate it from the larger portion of land in which it is situated and has an existing Environmental Authorisation (Gaut 002/15-16/E0261). The correct name must be stipulated in the title of the proposed development. A detailed storm water management plan for the site (including storm water management measures to be implemented temporarily during the construction phase and permanent measures to be installed for the operational phase) must be developed by a suitably qualified engineer and approved by the Local Municipality. Where municipal bulk services are required and will not be provided by the local municipality, then details of alternative arrangements in respect of sewage and water provision must be given. Comments from the Rand West Local Municipality are required. Comments from Eskom regarding the electrical infrastructure upgrades must also be included. A fauna and flora assessment must also accompany the final BAR. <p>3. Alternatives</p> <p>The report covered all relevant and feasible alternatives except the No-Go alternative which must be assessed and included in the FBAR.</p> <p>4. Basic Assessment issues on the site</p> <p>The Draft Basic Assessment Report lists information on environmental issues on the site that will require further investigation as has been mentioned in point 2 above.</p> <p>5. Locality map and layout plans or facility illustrations</p> <p>A layout plan is required indicating the position of all the various structures and facilities that will be erected for the proposed development. This must be overlain by a composite sensitivity map indicate buffer zones with a suitable legend and scale.</p>		<ol style="list-style-type: none"> <ol style="list-style-type: none"> An Amended Application form will be attached to the Final BAR reflecting the correct property description. A detailed SWMP is attached under Appendix E. Refer to Outline Scheme Report attached under Appendix E for alternatives related to bulk water and sewage. Comments included in Appendix F. Eskom is not the responsible authority, Rand West Local Municipality is. Fauna and Flora Assessments are attached under Appendix E. Noted Issues listed is addressed in the Final BAR. A Sensitivity map overlain over the proposed layout shall be provided as part of the Final BAR.

Issue	Commentator	Response
<p>6. EMPr A site (project) specific Environmental Management Programme (EMPr) is included in the DBAR and will be assessed in the FBAR. The EMPr must comply with the content requirements as stipulated in Appendix 4 of the Environmental Impact Assessment (EIA) Regulations, 2014.</p> <p>7. Public Participation process The Public Participation process must be done in accordance to the minimum requirements of EIA Regulations 2014. Stakeholders must also be consulted through delivery of draft basic assessment. Note that all comment from interested and affected parties must be incorporated on the Comments and Response report to be attached on the final report. Proof of legible newspaper advert must also be included on the final report.</p> <p>Proof of correspondence with stakeholders must be included in the final BAR. Should you be unable to submit comments, proof of attempts that were made to obtain comments must be submitted to the Department.</p> <p>If you have any queries regarding this letter, contact the official at the contact details provided above.</p> <p>Attached please find the signed copy of the comments.</p> <p>Letter With reference to your document dated 28 June 2017 requesting comments in the above regard, the West Rand District Municipality (Environmental Management Section) wishes to comments as follows:</p> <ul style="list-style-type: none"> • The development should comply with the Bio-regional Plan for the West Rand, published in Government Gazette 390 (2 September 2015), in all cases where land is depicted as Critical Biodiversity Areas or Ecological Support Areas. • In the event of any development on land affected by dolomites, assessments and/or investigations need to be undertaken in line with SANS 1936-1; SANS 1936-2; SANS 1936-3; SANS 1936-4; and SANS 633, by an experienced and qualified geologists who is registered by the Council for Geosciences. • All infrastructure and construction must comply with "The Guidelines for Consultants: Appropriate Development of Infrastructure on Dolomite" from Department of Public Works (August 2004). • The developer should comply with the National Dust Control Regulations that were promulgated on 1 November 2013 during the construction phase of the project. • Climate change adaptation should be incorporated into the proposed 		<p>6. Shall review EMPr to ensure it complies with Appendix 4 of the Environmental Impact Assessment (EIA) Regulations, 2014, as amended.</p> <p>7. The Draft BAR was published for 30-day review by Stakeholders and registered I&APs. Proof of Public Participation shall be included as Appendix D.</p>
	<p>Susan Stoffberg sstoffberg@wrldm.gov.za West Rand District Municipality 1 August 2017</p>	<p>Noted.</p> <ul style="list-style-type: none"> • The proposed development shall comply with the West Rand Bio-regional Plan. • Not applicable • Not applicable • Mitigation related to dust suppression of exposed areas are included in the

Issue	Commentator	Response
<p>development (rainwater harvesting, grey water use).</p> <ul style="list-style-type: none"> • A dolomite safety clearance certificate should be obtained from the Head of Disaster Management of the West Rand District Municipality. • Indicate the photovoltaic degradation rates and how it will be addressed to ensure sustainability. • Indicate if the proposed Solar PV Power Facility would affect the rainfall and the drainage of the region. • Indicate if reflected light beams coming from the concentrated solar power system will interfere with aircraft operating pathways. • Indicate if the solar farm would involve high temperature emissions in surroundings and what environmental risk this could pose. • Indicate if the facility will produce electric and magnetic fields that will have an impact on the natural surroundings. • Indicate what impact dust fallout will have on the Solar PV Power Facility. • The developer should attempt to make use of alternative sources of energy in the development. • Ensure that there is adequate capacity for the required services (electricity, water, sewage) and that these services are in place before development commence. • In the case where dirt roads are used, a dust suppression plan should be included in the Environmental Management Plan. • Water conservation must be actively promoted through water saving technologies. • Cumulative environmental impacts over time should be taken into account in the report. • The activities should be in line with the proposals as contained in the Integrated Development Plan, Spatial Development Framework and Environmental Management Framework of the Rand West City Local Municipality. • In the event of actions that may result in significant environmental damage, an emergency response and contingency plan must be in place to limit the extent of environmental damage. 		<p>EMPr.</p> <ul style="list-style-type: none"> • Refer to Outline Scheme Report attached in Appendix E. • Photovoltaic degradation rates will be addressed in Final BAR. • Refer Final BAR. • Refer Final BAR. • Refer Final BAR. • Refer Final BAR. • Refer to Section D4 of the Final BAR. • Refer to Outline Scheme Report attached in Appendix E. • Refer to Section D1 and D2 of the Final BAR. • Refer to Section D2 of the Final BAR. • Refer to Section E4 of the Final BAR. • Significant environmental damage is not anticipated due to the nature of the site, and therefore an emergency response and contingency plan is not deemed necessary.

APPENDIX D7

REGISTER OF I&APs

REGISTERED INTERESTED AND AFFECTED PARTIES

Please include all authorities as well as attendees from the public meetings

PROJECT TITLE: _____ Wheatlands Urban Solar Farm



CONTACT	NAME	PHONE	FAX	E-MAIL	ADDRESS (Postal/Physical)
Client	Solar Reserve SA (Pty) Ltd				
Competent Authority - GDARD					
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Department of Energy: Renewable Energy	Mokgadi Modise	Tel: 012 406 7686		lerato.april@energy.gov.za	
Department of Land Claims	Baloi Malebo / Salla Ramaleho			Ramaleho.salla@drdlr.gov.za / Malebo.baloi@drdlr.gov.za	
SANRAL	Klaus Schmidt			schmidk@nra.co.za	

Ward Councillor 3 - Rand West City Constituency	Alwyn Jacobus Van Tonder	Cell: 082 583 0313			alwyn@sabroking.co.za	
head Randfontein/Kagiso	Thomas Walters	Cell: 082 521 3763			twalters@gmail.com	
Local Newspaper						

APPENDIX E

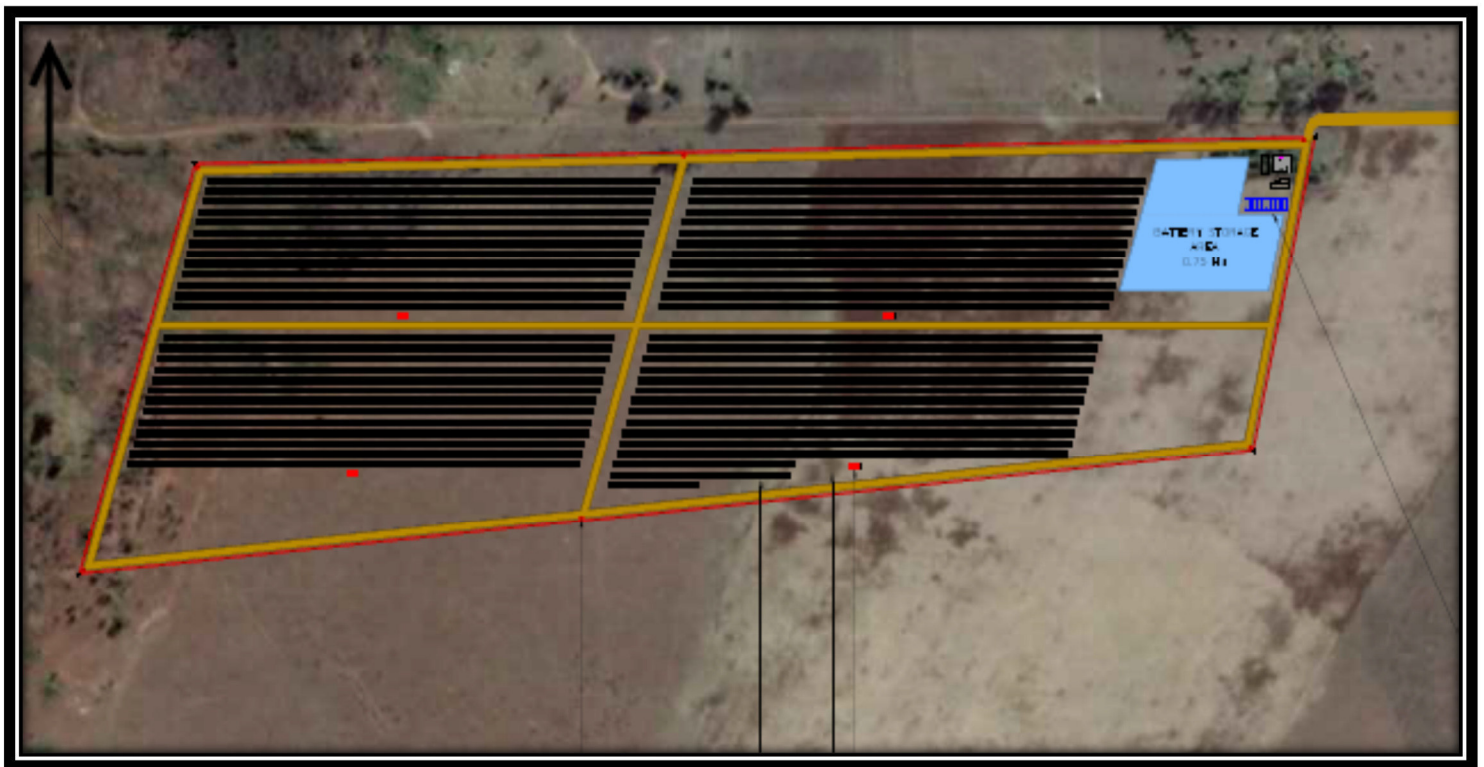
SPECIALIST REPORTS

APPENDIX E1

TECHNICAL DESCRIPTION

SOLARRESERVE®

Wheatlands 260 IQ Technical Description



Contents

1	INTRODUCTION	3
2.	PV PLANT TECHNICAL DESCRIPTION	5
2.1	Process Flow Diagram	5
2.2	Layout.....	6
2.3	Civil Works	6
2.3.1	Fence	6
2.3.2	Roads: Access / Internal.....	7
2.3.3	Ground Preparation	8
2.3.4	Foundations	8
2.3.5	Buildings.....	9
2.3.6	Trenches.....	9
2.4	PV Generator Field.....	10
2.4.1	Electrical Configuration.....	10
2.4.2	Main Equipment.....	11
2.5	MV Collecting System	19
2.6	Interconnection.....	20
2.7	Grounding and Lightning Protection.....	21
2.8	Auxiliary Services	21
2.9	Performance Monitoring	22
2.9.1	Hardware Architecture	23
2.9.2	Communication Architecture Solution	24
2.9.3	SCADA.....	24
2.9.4	Plant control MAIN SCREEN:.....	26
2.9.5	Equipment Controls	27
2.9.6	Data graphs	29
2.9.7	Minimum reports.....	29
2.9.8	Calculated alarms.....	29
2.10	Meteorological Station	30
2.11	Security System.....	32
2.12	Battery Storage	32
3.	CONSTRUCTION ACTIVITIES AND FACILITIES.....	34
3.1	Site Establishment.....	34

3.1.1	Site Clearing and Earthworks	35
3.1.2	Laydown and stores	35
3.1.3	Fuelling and maintenance	35
3.1.4	Power Supply	35
3.1.5	Water Supply.....	36
3.1.6	Construction camp and staff facilities.....	36
3.1.7	Management and Administration.....	36
3.1.8	Waste Management.....	37
3.1.9	General and Inert Building Waste.....	37
3.1.10	Hazardous Waste	37
3.1.11	Sewage/effluent waste	37
3.2	Fire Protection	38
3.2.1	Timeframes	38
3.2.2	Decommissioning of construction activities	38
3.3	Operational activities and facilities.....	38
3.3.1	Access and Security.....	39
3.3.2	Operational Power Supply	39
3.3.3	Water supply and use	39
3.3.4	Procurement, storage and use of consumables.....	40
3.3.5	Maintenance and repair facilities	40
3.3.6	Waste Management.....	40
3.3.7	Storm water management.....	42
3.5	Decommissioning and closure	43
3.5.2	Rehabilitation.....	43
3.6	Need and desirability of Urban Solar Farms	43

1 INTRODUCTION

SolarReserve intends to develop, construct and operate a Photovoltaic (PV) Power Plant combined with utility scale battery storage better known as an Urban Solar Farm (USF) on the remaining extension of the Farm Wheatlands 260 IQ portion of land depicted in figure 1 below. The land is approximately 20ha in size and located within the Rand West Municipal region. The proposed Urban Solar Farm will be constructed on the north to south gentle sloping land and forms an integral part of the overall township development.



Figure 1

The Urban Solar Farm concept has been developed to provide power in areas where there are electricity supply and grid constraints. Municipalities are unable to develop certain areas as Eskom supply and network may be restricted with the capital costs of infrastructure upgrade in many cases too expensive and many years away. Urban Solar Farms with integrated storage strengthen the municipal grid and enable certain shelved developments to proceed. The USF concept furthermore provides the private market with an alternative to owning their own plants by providing affordable green renewable power purchased through the municipal network.

Solarreserve are an international company with offices in 8 countries as depicted in the figure 2 below. The Developer currently has 260MW of solar PV facilities in operation in South Africa as part of the Department of Energy’s Renewable Energy Independent Power Producer Procurement Programme.

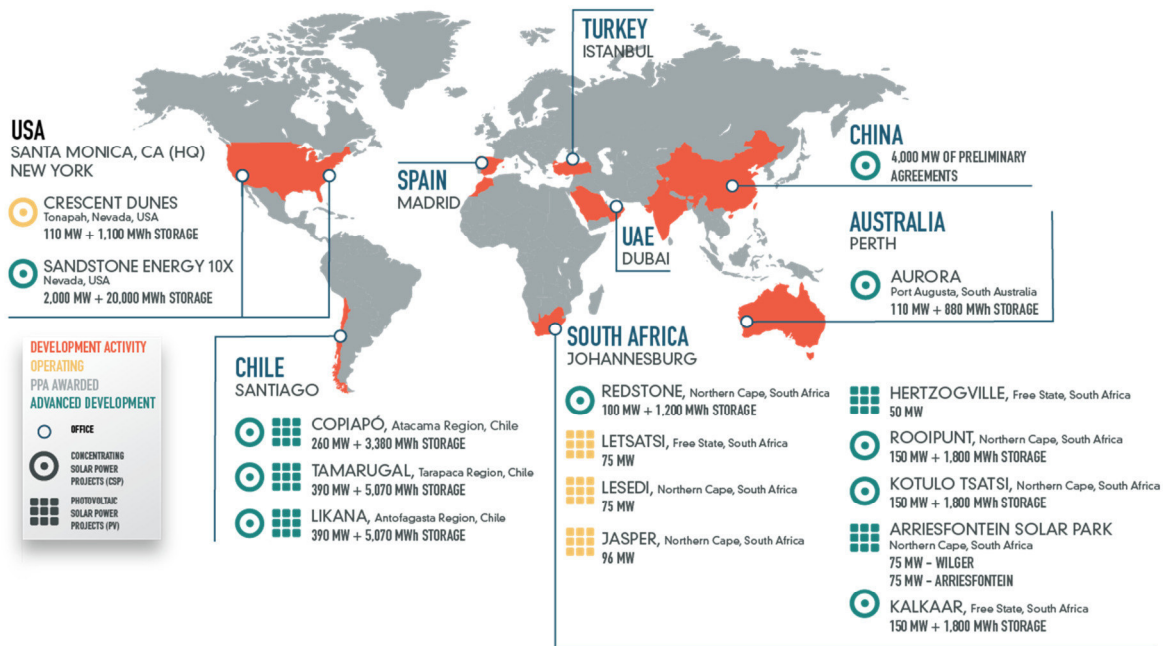


Figure 2

2. PV PLANT TECHNICAL DESCRIPTION

2.1 Process Flow Diagram

The PFD of the PV Plant is showed in the following graphic:

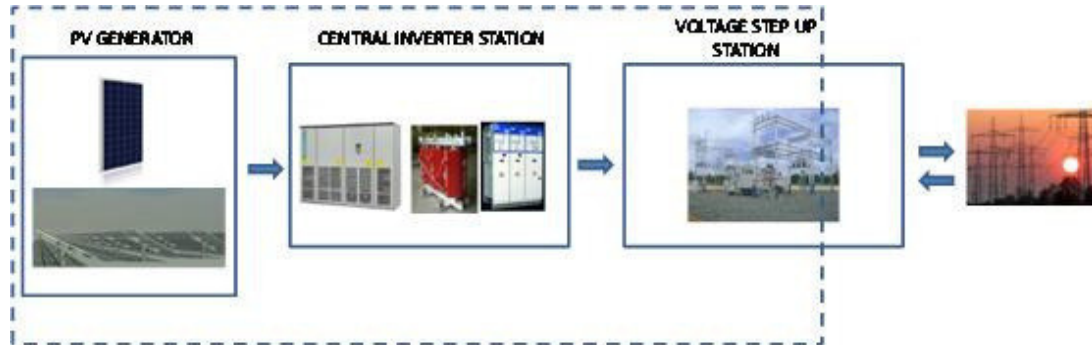


Figure 3

Direct current (DC) producing solar photovoltaic panels will be arranged on site in series strings to capture incident solar energy. Their low voltage direct current output will be converted to 3-phase alternating current (AC) by the use of inverters. The low-voltage output of the inverters is then transformed by LV/MV transformer to the voltage selected for the MV collecting system of the plant. The MV system ends in a voltage step up station where a MV/HV transformer adjusts the voltage to one compatible with the Municipal grid; in this project the value is 33kV.

The Wheatlands Solar farm proposes a fixed structure optimized with 24° tilt and 0° North orientation with high efficiency modules and 1,000 Vdc inverters will provide the lowest LCOE. The Generic Structure System will be engineered for quality, cost efficiency and rapid constructability.

The fixed structures will be based on two 2 modules in portrait design, each rack having two rows of 20 modules (two strings).

High efficiency 72-cells C-Si 295 WDC (15.1 % module efficiency) modules in accordance with the Agreement, will provide a proven, bankable, optimal technical solution at reasonable cost. The modules will be PID Free certified, and then will not grounding the negative pole of the modules.

For the inverter, Ingeteam Ingecon Sun PowerMax 1000 M400 model with maximum system voltage of 1,000 VDC and minimum efficiency of 98.1% has been selected. The number of inverters has been determined taking into account the so called “Contracted Capacity” as described in the Agreement

which shall be no greater than 9.32MWAC at the Delivery Point located at the metering point of the PV Plant output power “point of supply” at the Drowell substation.

The Contracted Capacity requirement determines that the Nominal Capacity of the PV Facility has to be such that allows the Facility to achieve a maximum AC power of 9.32MWp at the Delivery Point taking into account the power loss between the inverter output and the battery limit. The total loss includes: the self-consumption for the inverter operation, losses due heat both in modules as inverters, the ones caused by LV/MV transformer and MV cabinets located in the central inverter stations, the power losses generated in the MV Collecting System’s cables and the losses at the voltage step up station due to the MV transformers.

2.2 Layout

The solar PV plots have an adequate size and geometry which enables fast installation and construction of the PV installation as well as internal roads allowing access to buildings and development of the subsequent operation and maintenance tasks in an efficient manner.

Several areas have been provided to collect the materials received during the construction period. Thus, there are specific areas for the various sub-contractors to install their temporary facilities (container construction, temporary toilets, etc.) and available parking allowing access for internal employees of the plant.

2.3 Civil Works

2.3.1 Fence

A continuous fence shall be constructed around the perimeter of the plant. The entire perimeter of the plots will be fenced for safety reasons according to environmental restrictions. The fence will be a combination of one mechanical and one electrical fence.

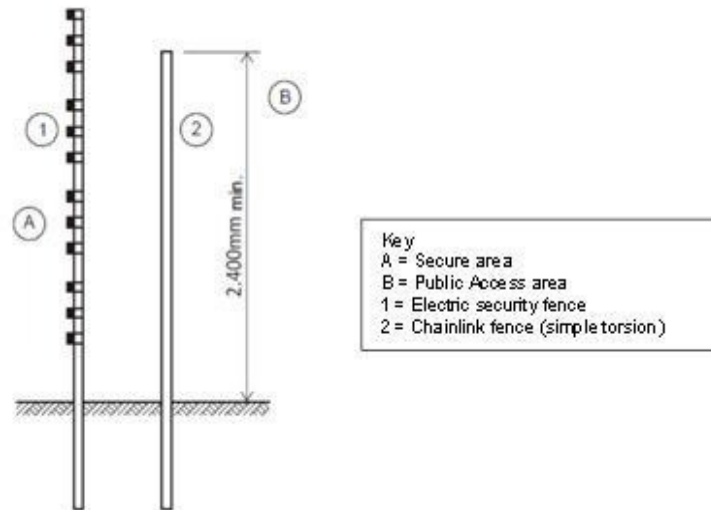


Figure 4

The height of the fence will be of 2.4m for the exterior fencing and 2.8m for the electric fence. The system shall be monitored and supervised from a control room located in an operation and maintenance building (optic-fiber communication, TCP/IP) near the access gate, inside the plant.

2.3.2 Roads: Access / Internal

The main access to the Wheatlands plant during the construction will be obtained from Road 6, east of the site, connecting to the R41 to the north of the site. This access will be the main access to the plant during the construction period as seen in the Google Earth figure 5 below, i.e. yellow line.

The plant will have internal roads which permits to access to everywhere inside the fence. The roads will follow the following specs: refilling based on stone-gravel/quarry-run, and compacted soil of 4m wide with 1m ditches for the support of the drainage system (if necessary), and built with an aggregate Base layer up to 15cm thick compacted to the 95% Proctor (AASHTO) and obtained from crushed stone/ excavation, and a 40cm minimum of subgrade preparation.

The road route will be designed in order to ensure the nimble access to every Power Station. In areas where there aren't internal roads, an area will be conditioned to allow the traffic (e.g. all-terrain vehicles) between internal roads in order to connect those internal roads closest to the fence.

There shall be an independent access to the Drowell substation.



Figure 5

2.3.3 Ground Preparation

The site will be cleared, grubbed and graded by means of the necessary cuts and fills in order to condition the terrain to the maximum slopes allowed for buildings, roads and racks.

The site drainage system shall be based on a uniform site grading, in order to provide a clear direction for the storm water flow, and the support of the road ditches to route securely the flow of water.

Initially, relevant earthworks are not envisaged and foundation structural design will accommodate to existing ground conditions accounting for minor levelling works if required. The works include all ground preparations that are necessary.

2.3.4 Foundations

Based on the Geotechnical Report findings, the foundation design considered a direct-driven (rammed), approximately 50% and 50% with micropiles, with a ramming depth subject to the soil

features.

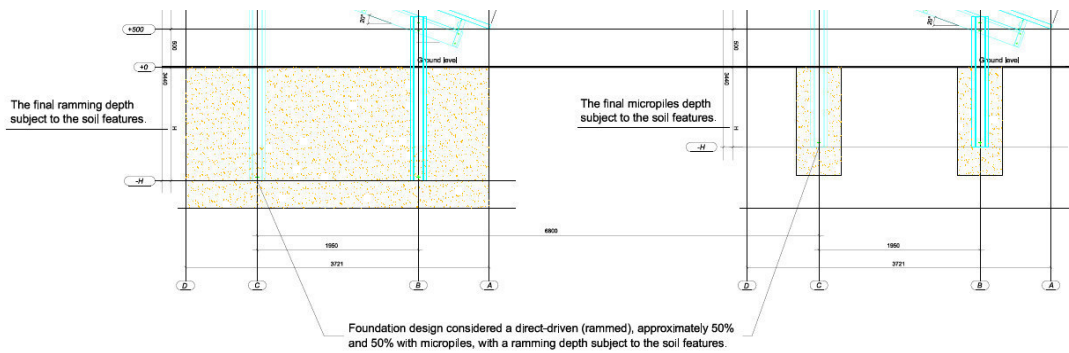


Figure 6

The dimensions showed above are indicative, the final structural design. The latest geotechnical information and the pull-out tests will determine the definitive foundation design.

The inverters buildings will be erected on about 0.5 m depth excavation enable to receive the building and a layer of sand will placed in the bottom as first support to the building. Due to flooding considerations some of the building will have to be elevated.

2.3.5 Buildings

The PV Plant will be provided with three prefabricated enclosures mainly used for the safe storage of equipment as well as offices and facilities for security personnel.

All monitoring of the plant will be managed remotely from a central monitoring control station located at Solarreserve offices in Sandton.

Ablution, showering and eating facilities will be prefabricated enclosures.

2.3.6 Trenches

The DC voltage cables will be installed inside PVC ducts, AC low voltage cables and AC medium voltage ones will be placed direct buried within the trenches, communications cables and optical fibre will be installed inside PVC ducts, so different types of trenches in size will be executed during the PV plant construction.

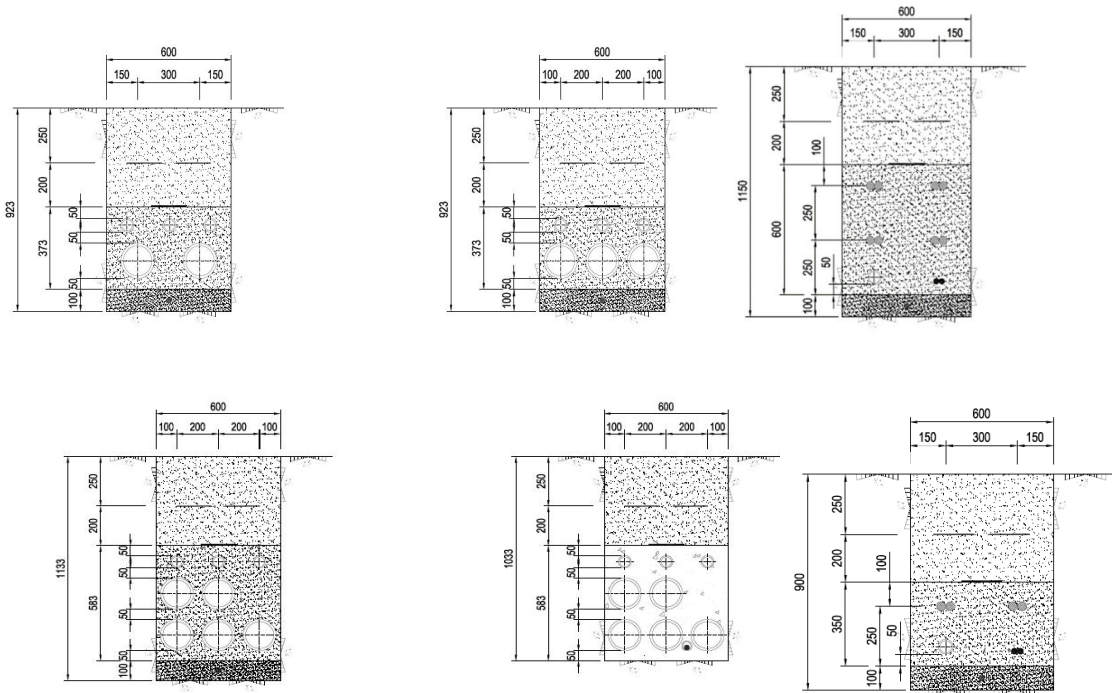


Figure 7

2.4 PV Generator Field

2.4.1 Electrical Configuration

The electrical diagrams for Wheatlands are described following: the design is based on the same central inverter station with two different electrical configurations:

- 4 units of 2.0MW_{AC} ; 8 Ingeteam Ingecon Sun PowerMax 1000 M400

The main parameters for each configuration are:

- 4 units of 2.0MW_{AC} with:
 - 2 inverters of 1.019kVA 's will be installed in 2.038kVA 's power block (2x1019kW inverters per shelter) coupled with step up transformer of 2.050kVA .
 - Installed power of $2,4544\text{MW}_{dc}$.
 - Ratio DC/AC: 20,43%
 - Strings: 208/inverter.
 - Modules: 4160/inverter.

The total number of modules that will be installed is 31,200 so the total power installed (nameplate capacity) is 9.98 MW_{DC} , for a nominal power of 9.32 MW_{AC}

All the Powerblocks will contain: the MV switchgear and ancillary services equipment (LV transformer and panel board). The MV step-up transformer will be oil-immersed, natural cooling with primary and secondary isolators located over the cover. Each Power Block will be installed as an all-in-one, pre-assembled and pre-tested plug-and-play system.

The proposed Powerblock can be seen off-loaded on pad foundation below.



Figure 8

2.4.2 Main Equipment

2.4.2.1 Modules

Module technology will be 295WDC high efficiency 72 cells modules (Polycrystalline).

Other minimum requirements:

- ISO 9001 quality control. ISO9001:2000;
- ISO 14001 guidelines for environmental responsibility. ISO14001:2000;
- OHSAS 18001;
- PV Cycle member;

- PID Free Certified.



- Modules will be certified by TÜV, CE, UL, and CEC, committed to industry sustainability and participate in a module recycling program;
- Cells will be high-efficiency (Mono ~19%, Multi ~17%) with silicon Nitride anti-reflective coating 180~200 μm cell thickness with cell breakage consistently below 0.5%;
- Aluminium frame will be lightweight, double-coated anodized;
- Bus bars configured to maximize light-absorbing surface and output;
- Durable low-iron glass surface proven to withstand falling steel marbles weighing over 1 kg and a load of 300 kg per square meter.

Guarantees

Module supplier will provide a 25 year warranty against loss of output and Module Guarantee to 10 or 12 years (whatever is offered by module supplier) against any manufacturing defects as described in Schedule 19.3 (Extended Warranty Equipment and Structure) of the EPC Agreement.

The modules supplied will have the anti-PID certificate approved by the lender’s technical advisor.

2.4.2.2 Inverter – LV/MV Transformer Centres

2MW Central Stations including inverters, cabinets and LV/MV transformer with high efficiency greater than 98% is the technology selected for SolarReserve’s REIPPP 96MWP Jasper Power Project.

Cluster operation has the advantage that the inverter units are always running close to their optimal efficiency. For instance, when there is low sunlight, excess inverters are automatically switched off so that the work load can be distributed more efficiently over the remaining inverters to produce the maximum possible amount of current for the power network.



Figure 9

Monitoring will be integrated into the overall general SCADA system of the project as it is 100% compatible.

Inverters will be IEC and CEC and conform to required medium voltage standards.

Equipment will be provided and equipped so as to absorb voltage fluctuations a ride through. In addition they will be able to model power factor of +/-0.95.

The enclosures will be designed so as to provide proper ventilation/cooling to the equipment as it may be required for the site weather conditions.

Enclosure

All the inverter's related equipment (inverters, transformers, cabinets, panels, etc.) will be stored in one or more buildings. These buildings will be provided with the necessary installations in order to allow the normal operation of the inverters; a group of fans (or AC system in the worst case if it's needed) will limit the temperature within the operational range.

The electrical equipment for this project, which is located at an altitude of 1,550 masl, will be designed taking into consideration the effect of the altitude and corresponding correction factors for rating and dielectric strength.

Electrical diagram inverter-transformers

An electrical scheme is showing as an example. Detailed electrical scheme could be showing in the plans named JASP-4-0201-DU-IICEP-0001-LV SINGLE LINE DIAGRAM.pdf and JASP-4-0201-DU-IICEP-0002-LV SINGLE LINE DIAGRAM.pdf.

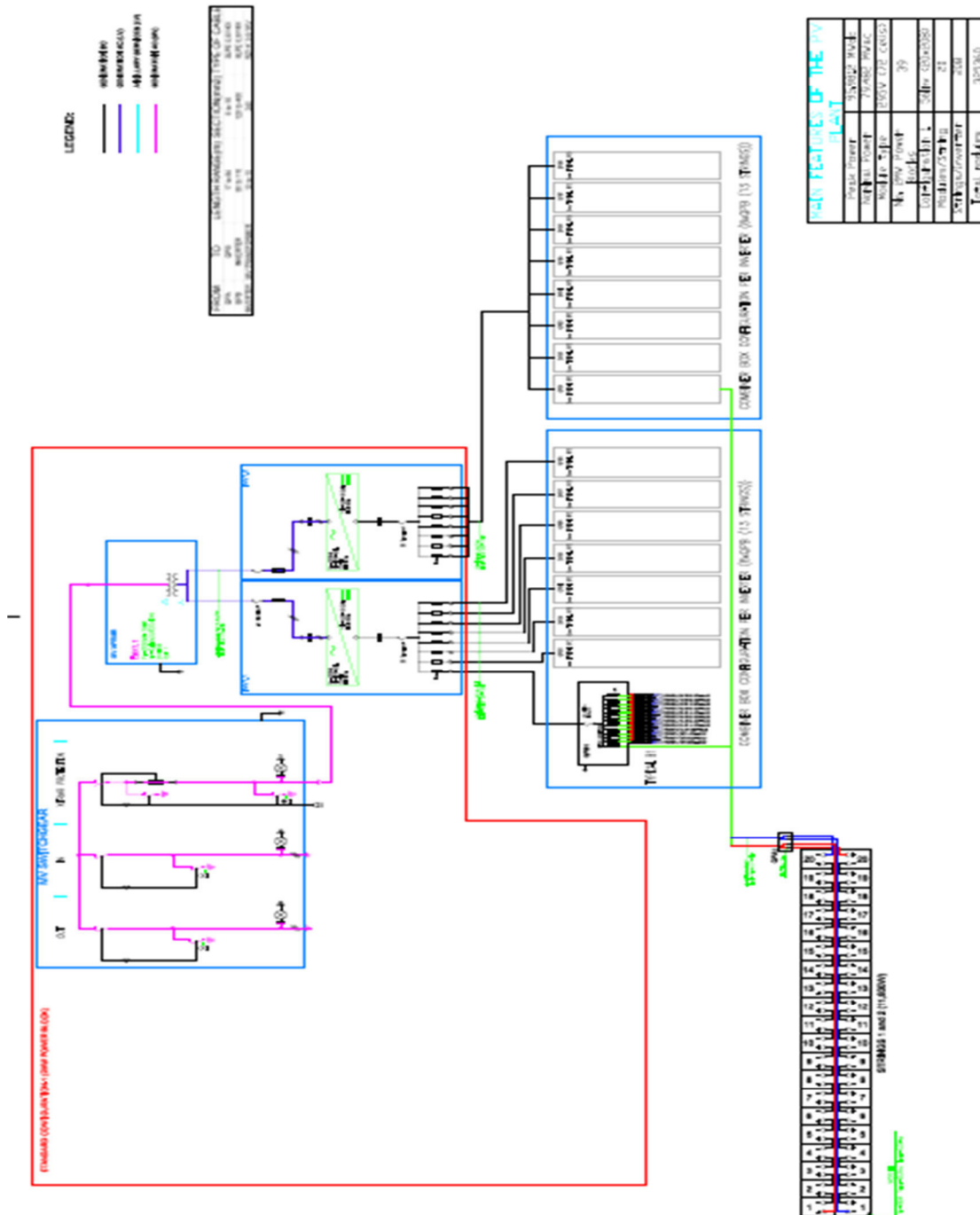


Figure 10

Transformers technical description

Nominal rated power	:	2,050 kVA
Service	:	continuous
Installation	:	indoor
Vector group	:	Dyn11
Frequency	:	50 Hz
High voltage	:	22 kV
High voltage regulation	:	$\pm 2.5 \pm 5$ % (by bridges)
High voltage insulation class	:	24 kV (50/125)
Low voltage	:	0.4 kV (no load)
Low voltage insulation class	:	1.1 kV (3 / -)
Partial discharge value	:	< 10 pC
Maximum ambient temperature	:	40°C
Temperature rise of windings	:	100K
Type of cooling	:	AN
Installation altitude	:	$\leq 1,600$ m
Losses: No-Load	:	$W_0 = 3,100$ W
Load	:	$W_{cc} = 17,500$ W (at 120 °C)
Impedance voltage	:	$V_{cc} = 6$ % (at 120 °C)
No-load current	:	0.9 %
Noise level	:	Sound level (LpA): 55 dB
Length	:	2,050 mm
Width	:	1,310 mm
Height	:	2,200 mm
Roller pitch	:	1,070x1,070 mm
Weight	:	4,300 kg

Class: C2 E2 F1 (according to the standard).

2.4.2.3 Generic Structure System

The ground mount structure is a galvanized steel based product that was engineered for quality, cost efficiency, and rapid constructability.



Figure 11

It consists in a number of vertical ground supports aligned in rows having on the top a beam fix tilted. The distance between verticals is approximately 3.0 m. It's based on 2 modules in portrait design, each rack having two rows of 20 modules (2 strings). According to the manufacturer's instructions, the design of the devices for fixing modules to the structures will enable thermal expansion of the metal without transferring mechanical loads that could affect the integrity of the modules.

The Structure was designed for conditions typical to the majority of large-scale ground mount installations and for long life in extreme environments

The hot-dip galvanized design lends durability in corrosive environments while the slip-fit tubes allow for ease of assembly as well as thermal expansion.

Some of its key features are:

- optimization of installation costs;
- optimization of foundations required;
- 10-year warranty.

2.4.2.4 CABLING AND COMBINER BOXES

Modules are connected through its own connection boxes and +/- cables. End line cables on each string are then connected at a first-level over current protection Box (QPA) QPA is showed as an example by means of properly sized fuses. Then the String Boxes (QPB) (QPB is showed as an example) where server strings are assembled in parallel on each subsystem. There are two configurations QPB with 13 and 14 strings inputs. Cables run below the support structure tightened to the same structure.

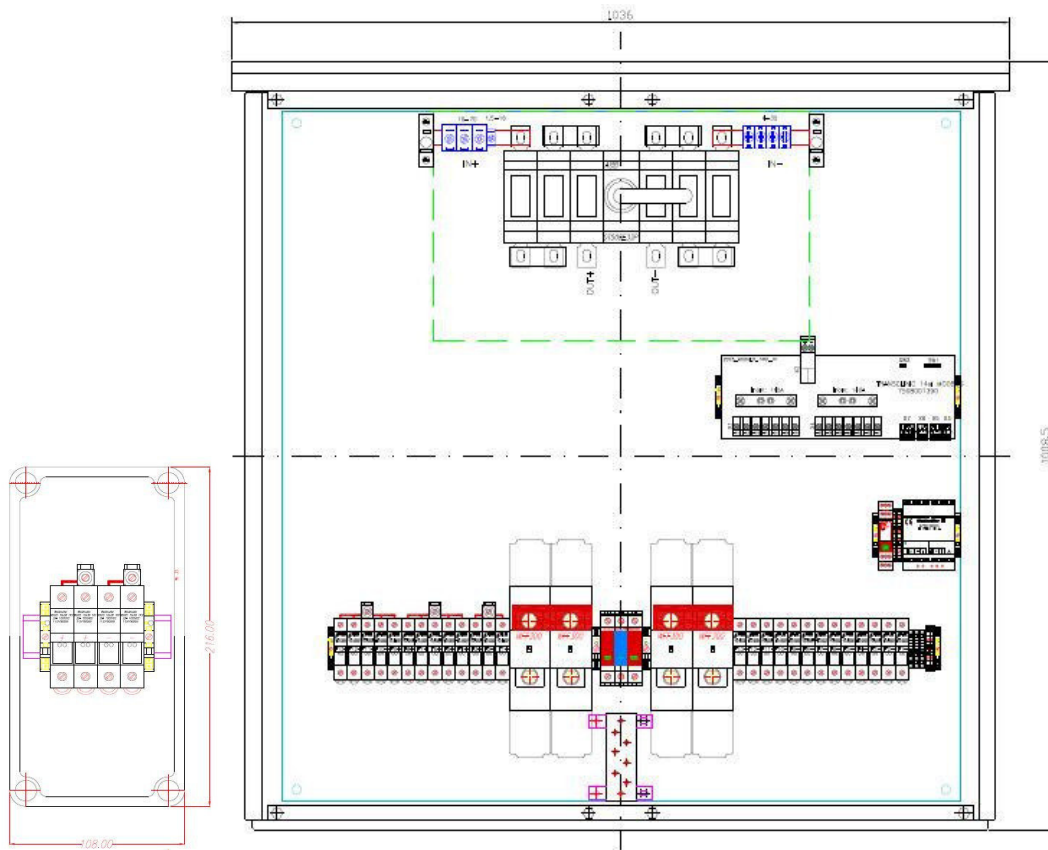


Figure 12

The QPB shall comply with the following characteristics:

- Enclosure: polyester reinforced with fiberglass. They will be stabilized for UV rays. They will be able to work between -30 y 120 °C. The door will be provided of a standard lock with the same universal keys, the locks must be easily opened / closed, protected against corrosion. The door shall come with a risk of electric shock label and identification plate with its TAG.
- They will be prepared with mounting points for fixation. Moreover, all the plates, screws, nuts, glands or whatever item it was necessary for the assembly it will be supplied of hot dipped galvanized steel.
- Boxes will be provided of a pressure compensation device maintaining the at least IP 65 protection. Pressure differentials in enclosures with a high degree of protection are a result of internal and external temperature changes. In the case of negative pressure or partial vacuum, dust and humidity can enter the enclosure through the door seal. When the air inside the enclosure cools down, condensation may occur because the humidity cannot escape the enclosure, so with this device we avoid it.
- DC current monitoring will be performed at the string level (two parallel strings on QPB)
- Power supply for monitoring module shall come from the ancillary services supply.
- Both negative and positive DC inputs on QPB will have the adequate fuse specified in drawings. Fuses shall be specifically for DC. The fuse rating will be 30A, for 1,000Vdc.
- These (13 or 14) x 38 gPV fuses will be place in fuse holders prepared for DC, 1,000 Vdc and 32A.
- The box shall include a surge protection device for the DC input designed with these parameters:
 - 1,000Vdc;
 - Type 2;
 - Protection level $U_p \geq 3.8\text{kV}$;
 - Unload nominal current (8/20) I_n : 20kA
 - Unload maximum current (8/20) I_{max} : 40 kA

- Visual indicator when the useful life finishes.
- The DC inputs will be accepted with MC-4 for 6 mm² XLPE copper cable.
- All the conductors of the box will be prepared for a current 10% greater than the specified in the circuit breaker.
- There shall be communication modules (String Monitoring Cards from now on) to be able to communicate each two strings in parallel.
- There will be 2 inputs of communication cables, so it will be necessary to prepare two polyamide cable glands for it. The size will be according to the communication cable size.

From the String Boxes, secondary cabling lines run underground inside PVC ducts to the inverter containers. DC LV cables shall be made of copper and AC MV cables shall be made either of copper or aluminium. Cable sizing shall be enough so to prevent voltage drops until the inverter entrance up to 1.5%.

All cables shall comply with isolation requirements and protection grade. In particular they shall be good enough to isolate at least 1,000 V and class II protection. All cables used to connect modules shall also be prepared to resist degradations due to weather conditions: solar irradiance, UV rays and high temperature. A cable type RV-K 0.6/1kV or similar shall be used.

Flexible cables shall be used in order to avoid tensions and cutting. Cables shall also be labelled properly in accordance with plant general electrical schemes and will use different colours to facilitate identification during the maintenance period.

During the detailed engineering of the facility all the electrical components of the generation system will be entirely defined.

2.5 MV Collecting System

The inverter stations are divided in 8 lines following an open circuit scheme. These lines collect the power produced in the facility at 33 kV voltage level and transport it to the voltage step up station.

Transformers will be protected with circuit breakers in each inverter buildings (one circuit breaker per transformer 2 MW).

Besides, MV lines will be protected in both extremes of the line, both in extreme of the last inverter building as in extreme of the substation. Design will, in case of equipment faults, minimize the effect into other system equipment.

MV cable size will be provided during the detailed engineering phase, and shall be enough so as to prevent voltage drops at the inverter entrance up to 1.5%.

The stations located at the end of the lines will have output cabinet in addition to those of the transformers, meanwhile the rest will be provided with two cabinets, input and output.

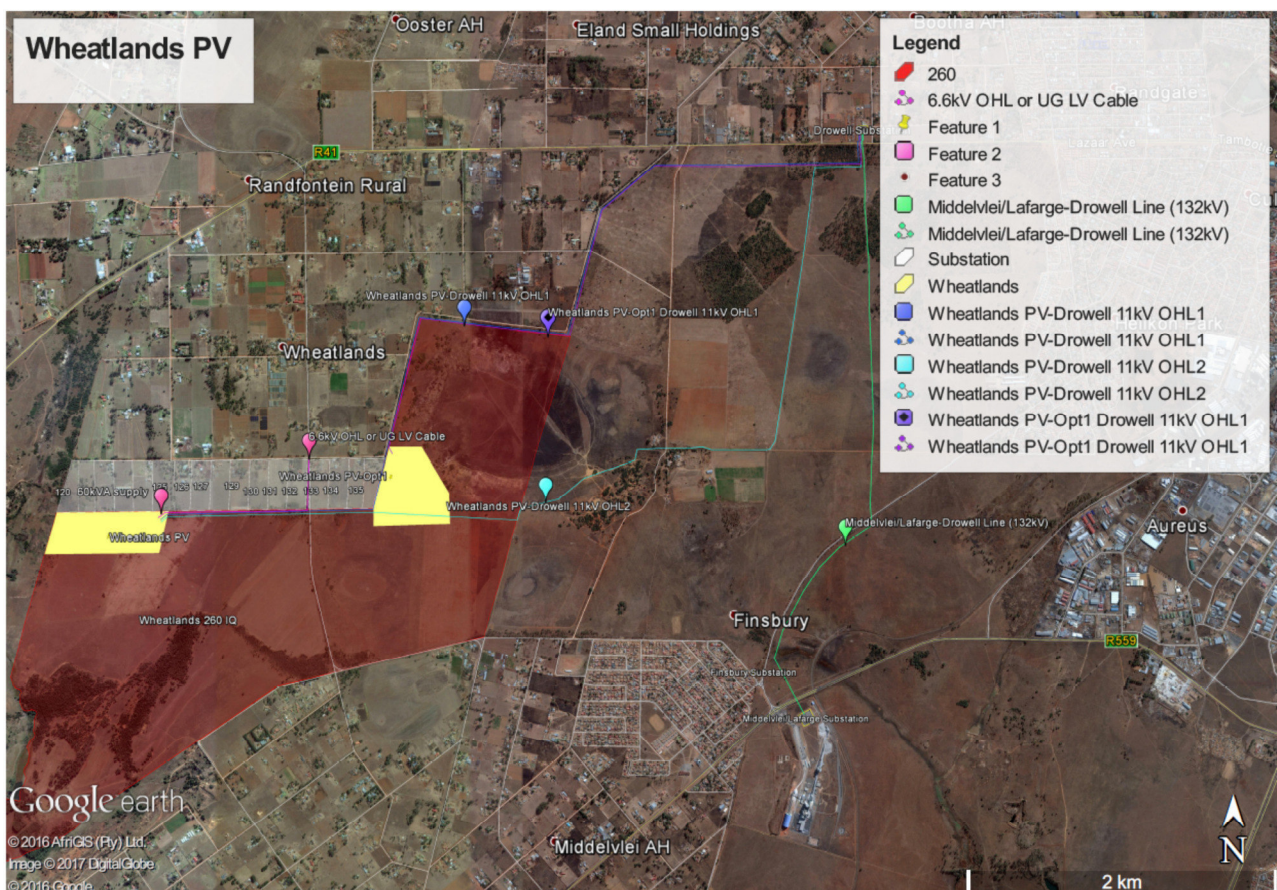
2.6 Interconnection

The plant will connect to the Randfontein 33 kV Drowell substation 7km north-east of the site.

The Maximum Export Capacity (MEC) will be 9MVA (assuming power factor is equal to 1) at a voltage level of 33 kV to be injected into the Randfontein network at the Point of Utility Connection.

The interconnection works (Randfontein Switchgear and c. 7.1km OHL) will be designed and built by Randfontein accredited consultants and contractors and according to the Eskom Standards. This work will be added to the scope of Contractor through a Change Order.

The metering and billing of the energy generated by this installation will comply with the current regulations. In particular, for the consumption of the plant (administration and O&M building): the measurement of the energy will be carried out in an independent meter. Figure 13



2.7 Grounding and Lightning Protection

All equipment, including solar panels, inverters, transformers, circuit breakers and poles will be electrically bonded together and earth grounded in accordance with the applicable Electrical Regulation.

The PV Plant grounding system will be unique for the whole plant excepting the Voltage Step Up Station. A bare copper or galvanized steel grid with the necessary grounding rods will cover all the area occupied by the PV generation field. The grounding conductor can share the DC trenches or be buried directly.

The modules are connected following a floating configuration so there is no a dedicated grounding connection for them, their frames are in contact with the supporting structure which will be connected to the general grounding grid.

Each inverter station will be provided with a grounding system.

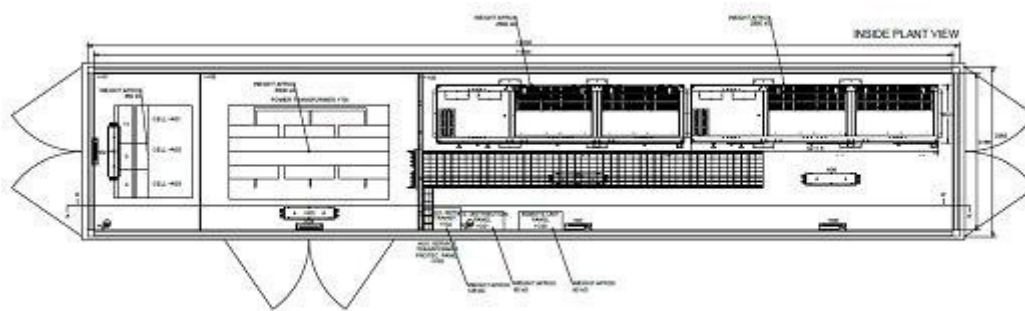


Figure 14

The Voltage Step Up Station will be grounding by means of an exclusive grid following the local standards for electrical substations. Special attention shall be placed on the design on lighting protection due to the atmospheric records in the area.

2.8 Auxiliary Services

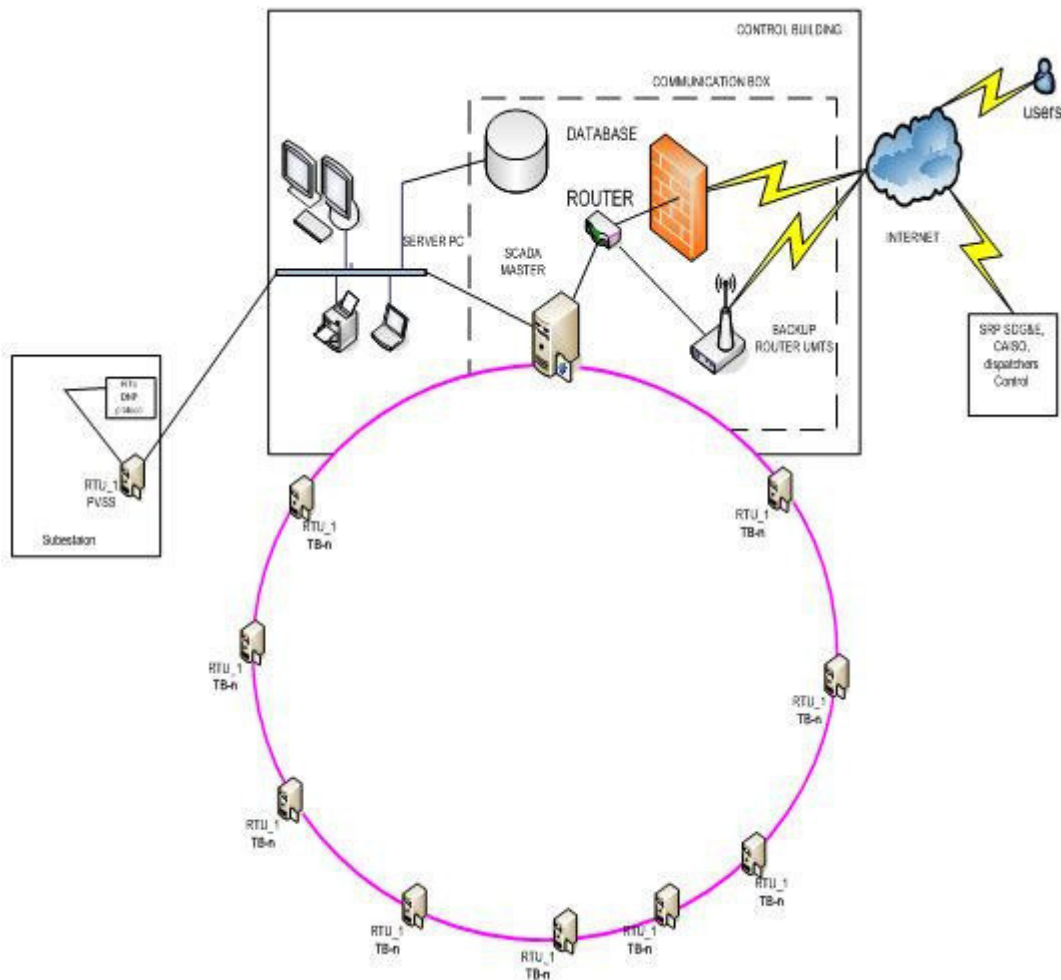
There are systems and buildings in the PV Plant which need electrical supply as the CCTV system, inverter's fans, fence, etc.

The electrical will be obtained off the 33KV grid connection stepped-down to 400V within the IPP substation and distributed across the solar PV facility. The anticipated demand would require 60KVA.

The electrical consumptions located in the central inverter stations will be fed locally (self-consumption option) by means of local auxiliary services transformers.

2.9 Performance Monitoring

The aim of the monitoring/ data acquisition system will be to check the production and gather every critical data regarding the operation of the PV plant, assist and advice maintenance personnel on an agile and intuitive way, and generate reports as described below. The following drawing provides a standard block diagram to illustrate the solution suggested:



Basic block diagram of the data acquisition system

The monitoring and control system (M&Cs) of Ingeteam is the development along the years of experience and knowhow of Iberdrola. The more important points of the M&Cs are:

- Focus to maximize the production, reducing costs and time in PV plants maintenance.
- System with a redundant database and distributed in the acquisition areas associated to PV inverters, automatic and smart management of communications faults. Maximum data warranty.
- Real-time remote management without control centre or dedicated servers, "any laptop with Internet is a control centre with the same functionality of the local control centre."
- Based on industrial PLC technology with high resistance to failure.
- Intelligent Fault Diagnosis of all photovoltaic plant equipment and self-diagnosis.
- Engineering dedicated to each project.

Also the development is continuous and the purpose of this document is to advise about the capacity of Photovoltaic Plants and the new photovoltaic control system can provide to the stability of the electric distribution lines.

2.9.1 Hardware Architecture

The first level of signals acquisitions will be carried out in the RTU_1 unit, to be installed in each Power Block in order to capture the signals associated to each sub-field.

The aim of RTU_1 is:

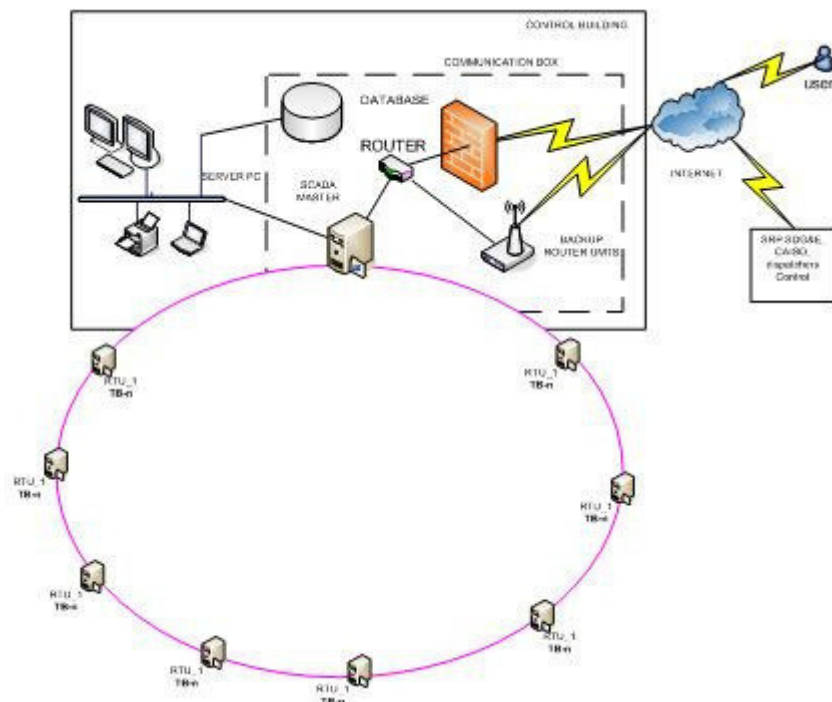
- Communicate and control the inverters of the area.
- Communicate with String monitoring
- Communicate with meteorological station
- Communicate with meters medium voltage and low voltage,
- To acquire the digital signals, Ancillary service protections, switchboards, low voltage generation, positions of the medium-voltage processing centers, electrical protection...

The second monitoring level will be based on one SCADA master, to be installed in the Control Building and which will show the global data of the PV plant.

The last monitoring level will be represented by the Communication box, located in the Control Building. This box will group all communication hardware, routers, and Optic Fiber (OF) switches to communicate with every RTU_1, which will be connected to each other by means of the OF ring, as well as will manage the communications with outside the PV plant. Likewise, the communication box will contain an UPS with 2 hours autonomy of for all hardware in the control room associated to the monitoring system.

2.9.2 Communication Architecture Solution

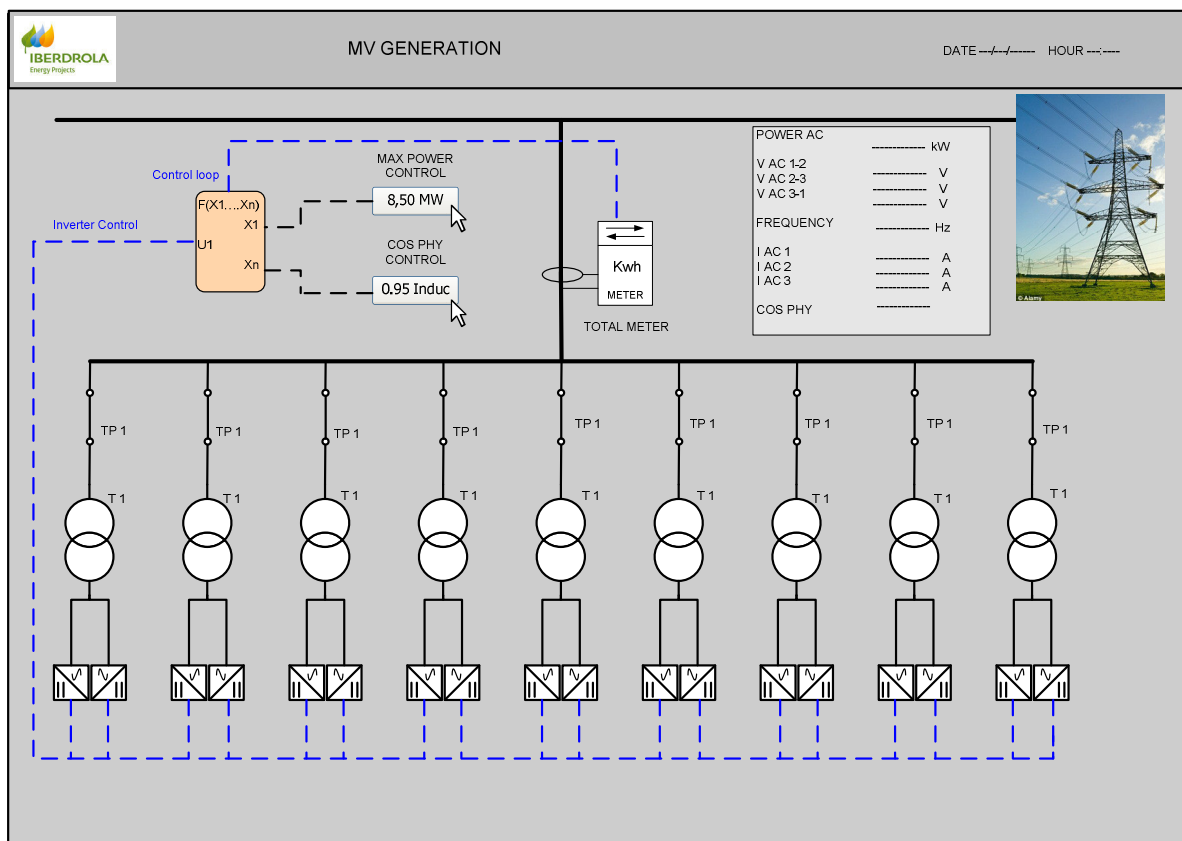
Every RTU_1, which will be connected to each other by means of industrial OF MM ring,



2.9.3 SCADA

- The main tasks and features of the SCADA are described below:
 - Collect through an established local network all information from all RTU of the PV system, including the facility switchgear.
 - Monitor and diagnose the status of all RTU.

- Synchronization of all units of the system using the GPS signal or NTP (Network Time Protocol) internet server.
- Act as a communications hub and interface with network control level superior.
- Allow RTU maintenance functions.
- Screens to present the information of the process
- Send alarms via SMS
- Send alarms via email
- Local database with capacity for the entire lifetime of the PV PLANT (25 years)



M&Cs control loop of reactive Power

2.9.3.1 DATABASE Architecture

- Level 1 RTU_1: All RTU_1 will have a backup at least 60 days database, in case of communication with SCADA fault, local monitoring RTU_1 will store all data in a cyclical database of at least 60 days, when the communication with SCADA is restore, all data in RTU_1 will send to SCADA automatically and no hole will appears in the SCADA database.
- Level 2 GENERAL DATABASE: There is a database of all signals end events. The capacity of storage is 25 years.

2.9.3.2 SCADA Screens

A local monitor will be provided where the O&M personnel will connect locally to the SCADA. The screens for user interface will be presented in the form of mimics, developed as described below:
A historical database of all the signals of the PV Plant will be collected and stored.

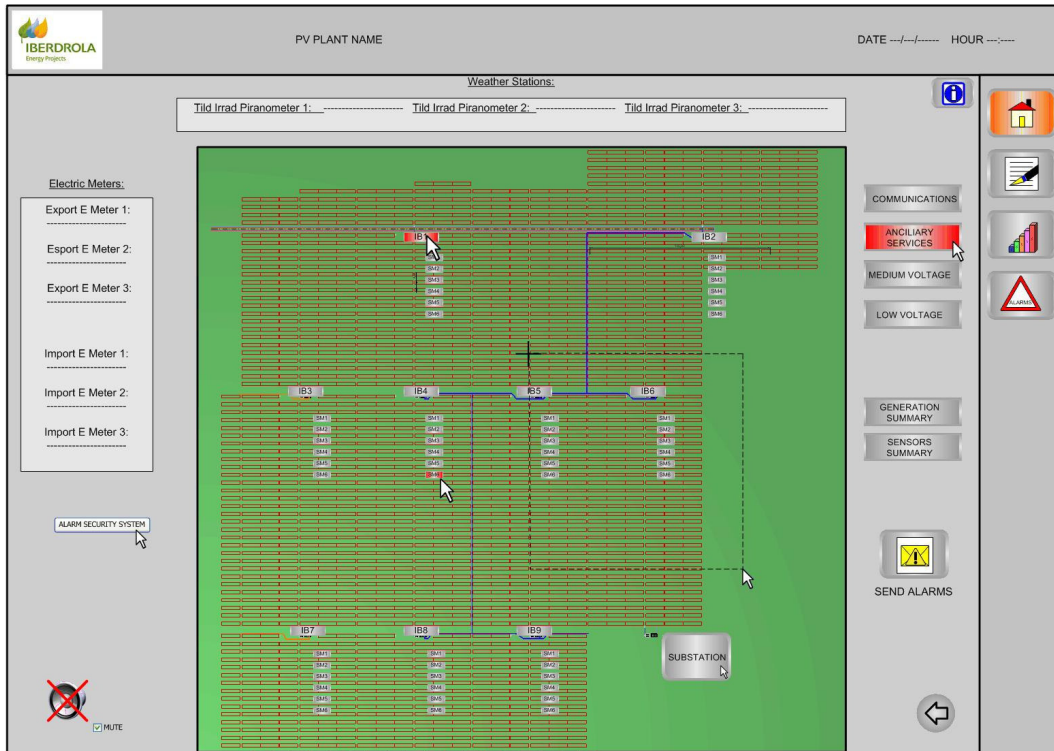
- Report generation
- Alarm management of the plant: storage, presentation, recognition and management of alarms via SMS and email.
- Generate alarms calculated from variables in real time
- Allow RTU maintenance functions.

This user interface (HMI) contains at least the following types of mimics:

- One (1) main screen
- One (1) transformation centre.
- One (1) Switchgear screen
- One (1) inverter centre.
- One (1) sectioning centre.
- One (1) Weather Station.
- One (1) Overview of the signals from each RTU.
- Three (3) Inverter
- One (1) alarm screen.
- One (1) String monitor
- One (1) summary screen.

2.9.4 Plant control MAIN SCREEN:

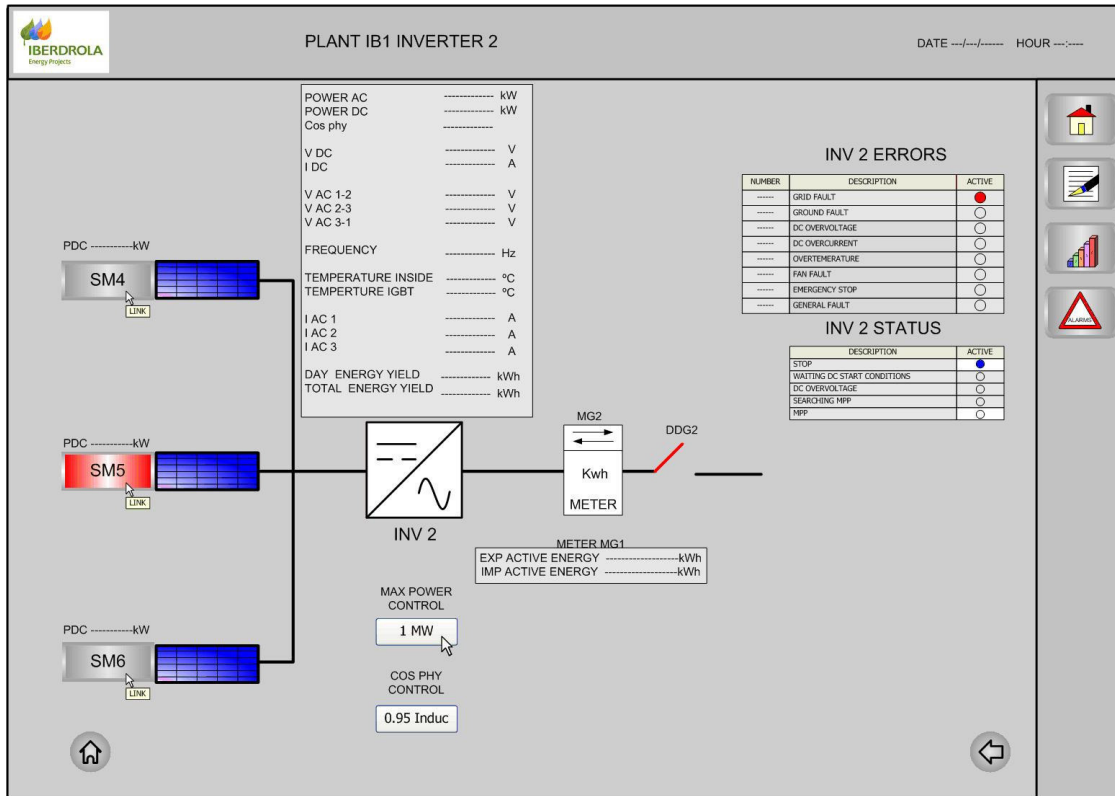
The Main Screen provide general and fast in real time information about all key aspects of the plants, plant sections and inverters, combiner boxes, energy production, and weather stations.



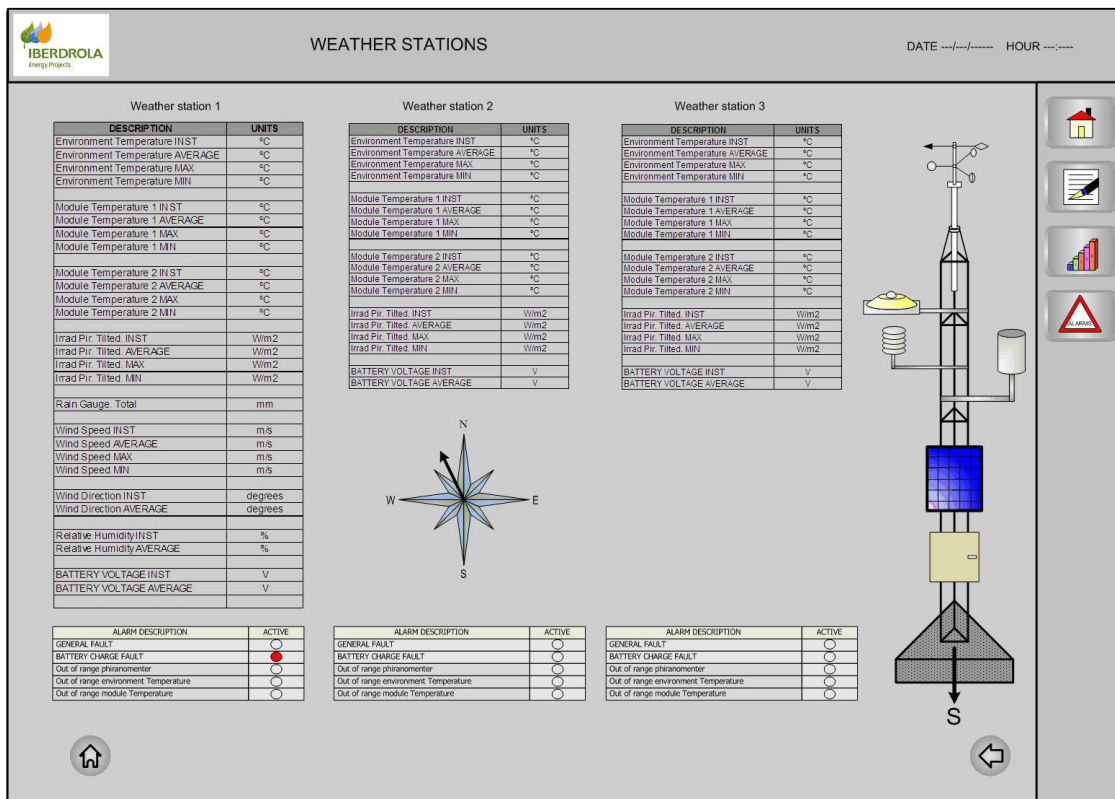
Main Screen (Example)

2.9.5 Equipment Controls

Equipment specific screens to operator visual access to equipment status and online values displayed in a compact format to allow the user to immediately identified possible failures.

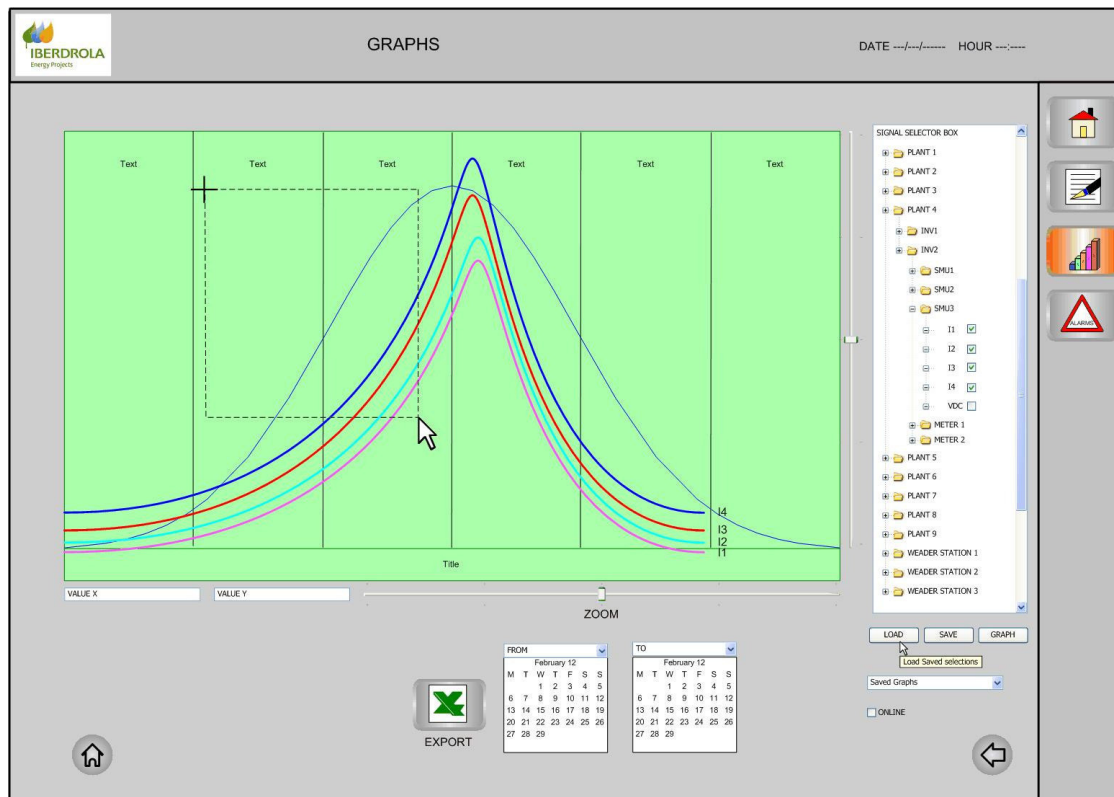


Inverter screen (Example)



2.9.6 Data graphs

The Data Screen displays historical and calculated data of each one of the signals.



Graphs screen (Example)

2.9.7 Minimum reports

- Active energy
- Reactive Energy
- Whether station data
- Database historic report of all signals

2.9.8 Calculated alarms

- **Alarm for low power:** it is compared the power generated by each subfield, and the corresponding alarm will be sent according to the threshold parameters defined in the algorithm.
- **Anomaly in Combiner box:** Activate an alarm when the temperature inside the Combiner exceeds a defined threshold.

- **Strings power deviations:** it is compared the power generated by each strings, and the corresponding alarm will be sent according to the threshold parameters defined in the algorithm.

2.10 Meteorological Station

There will be installed eight meteorological stations (three of the type 1, and five of the type 2), in order provide adequate meteorological data to evaluate the PV plant performance. The features and equipment included in each type of station is described below:

- TYPE 1:

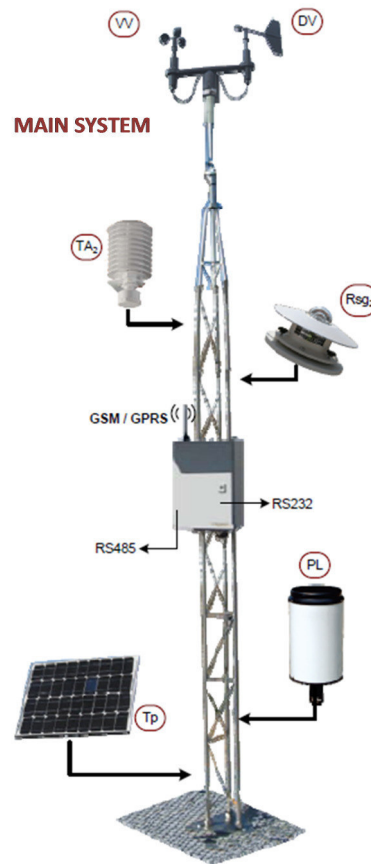
This Meteorological station will include the following items:

- One (1) Lattice Structure 3m high for the support of the systems
- Two (2) pyranometer for tilted radiation.
- One (1) Horizontal pyranometer for global radiation
- One (1) ambient temperature sensor with natural ventilation antiradiant shield.
- One (1) anemometer at 5m height.
- One (1) vane to measure the wind direction.
- Three (3) module temperature sensor.
- One (1) Humidity sensor.
- One (1) Rain gage
- One (1) Barometer.
- One (1) data logger.
- One (1) GSM/GPRS modem.
- One (1) non-stop power supply system.

- TYPE 2:

These Meteorological stations will include the following items:

- One (1) Lattice Structure 3m high for the support of the systems
- Two (2) pyranometer for tilted radiation.
- One (1) Horizontal pyranometer for global radiation
- One (1) ambient temperature sensor with natural ventilation antiradiant shield.
- Three (3) module temperature sensor.
- One (1) data logger.
- One (1) GSM/GPRS modem.
- One (1) non-stop power supply system.



Example of typical design of the Type 1 Meteo Tower

2.11 Security System

The security installation in the PV plants has two elements:

- Physical fence,
- CCTV system.

The CCTV system comprises of a Video Alarm system with a thermal camera placed around the perimeter with technology of movement detection and cognitive technology and mobile cameras Day/night.



2.12 Battery Storage

The use of renewable energy on a large or utility scale leads to new challenges for grid stability and supply of power during demand periods. Energy storage is a fundamental and critical part of renewable energy systems. This application stabilises power supply, which will allow high quality uninterrupted power supply to the municipal grid. A modular storage solution is proposed for the Wheatlands USF. Batteries and control electronics will be housed inside a modular container type structure/unit or within a built structure. These facilities will be constructed in conjunction with each inverter station and will be approximately 12 x 3 m in size, within the assessed development footprint.



The required power and capacity will be achieved through parallel connection of several solar storage units, which will be adapted to the project's particular requirements and based on the final engineering designs. Subject to the final design which will be a bespoke solution for the specific area, the anticipated storage capacity size will be up to 60MWh. The integration of the cabinets into containerised enclosures allow for safe operations – environmentally and for its operators.

Batteries that are commonly used for storage include (but not limited to): lead-acid, lithium-ion, vanadium redox etc. and will only be determined upon final engineering design stages. Each battery type will be evaluated by the engineering team in order to assess the advantages and disadvantages of each storage system with respect to the project's requirements on a technical level.

An effective technique combining a PV energy storage system with a unique smoothing strategy known as the Single Moving Average (SMA) may be applied in order to reduce PV power fluctuations but to also produce power during peak demand. A ramp rate limiter may be used to smooth power fluctuations as part of optimisation. The battery bank (battery blocks) may be placed in a prefabricated container that will keep the storage batteries in a climate controlled environment.

3. CONSTRUCTION ACTIVITIES AND FACILITIES

The construction phase will involve the construction and assembly of the PV panels, electrical systems, buildings, and other infrastructure required for the operation of the plant. In this regard, the activities and/or facilities relevant to the construction phase are listed below, with further details provided thereafter.

- Site establishment and the construction of access roads and services
- Site clearing and earthworks
- Bulk material laydown and consumable stores
- Refuelling and maintenance
- Power supply and use
- Water supply and use
- Construction camp
- Staff facilities
- Management and administration
- Waste management

3.1 Site Establishment

Prior to construction of the project infrastructure, the necessary security and access controls will be implemented and access route established. Access control and security will be required for health, safety and security reasons. The project site will be enclosed by means of the relevant security measures. This will keep both the surrounding residents and land users safe from possible incidents and keep the project proponents' investment safe. A security office with security personnel and associated communication network will be maintained throughout the project phases.

Site access and transportation will be required during all phases of the proposed project. The most intensive road use is expected to take place during the construction phase. During operations road usage will mostly be limited to staff, cleaning of PV panels and deliveries of consumables.

Realignment and/or upgrading (including possible surfacing) of existing farm roads may be required to allow for site access. Site access roads that are developed may be up to 4m wide with associated infrastructure including storm water management adjacent to the road.

3.1.1 Site Clearing and Earthworks

Earthworks may be required prior to the establishment of infrastructure and for the preparation of foundations of the PV panel mounting structures, inverter and transformer units, the electrical control structures and buildings and other structures. In this regard, vegetation and topsoil will be stripped at the location of surface infrastructure. Topsoil will be stockpiled for use in decommissioning and rehabilitation of construction facilities.

3.1.2 Laydown and stores

The final activity layout within this area will be finalised in conjunction with the appointed construction contractor to ensure that the options are practical as well as environmentally sound. This area may be of a temporary nature and would be decommissioned and rehabilitated (as required) once construction is finished.

Consumables will be stored according to use and pollution potential in appropriately designed and operated storage facilities. Bulk chemicals will be stored in storage tanks, and most other chemicals will be stored in returnable delivery containers. This area may also be used for assembly and construction of the PV panels prior to installation on mounting structures. Following the construction phase, it is envisaged that this area continue to operate as the operational materials and consumables storage facility or be used for the installation of additional PV panels.

3.1.3 Fuelling and maintenance

Various construction equipment and vehicles will be used during the construction phase, which will require refuelling. On-site maintenance and repairs on such equipment may also be required. In this regard a temporary refuelling and maintenance facility will be established on site.

3.1.4 Power Supply

Power will be required during the construction phase of the project. It is proposed that this power be sourced from the existing transmission lines / point of connection. The necessary applications for the connection to the grid will be submitted to Randfontein municipality for approval. Diesel generators may also be required during certain periods of the construction phase as an auxiliary power supply.

3.1.5 Water Supply

Water will be required during the construction phase for general building activities, washing of equipment, dust suppression as well as for staff use (potable water). The water consumption requirements for the proposed project during construction are estimated at approximately 1 000 m³.

Due to the location of the site it is proposed that the project will utilise and develop its own water provision services based on the fact that these services do not reach the project site. Accordingly, construction water may need to be sourced through the following options until such time as the operational water supply system is in place.

- Municipal water or treated effluent waste water treatment works (WWTW);
- piping/trucking of water from nearby irrigation schemes;
- abstraction of groundwater; and/or
- a combination of the above.

It is noted that abstraction of groundwater is currently considered as the last potential solution due to the reliance of surrounding land uses on groundwater resources. A Geohydrological Assessment could be done for the project to establish if construction demand water can be sustainably abstracted from the groundwater resource.

3.1.6 Construction camp and staff facilities

A temporary contractor's housing facility is proposed for the duration of PV plant construction period. It is proposed that temporary/portable housing, ablution and sewage treatment facilities be procured from external service providers. Habitation will be staggered over this period and the maximum number of persons housed at any given time will vary. The camp will be either on a single location or split between more than one locations on the site. The selection of the location or combination of locations to be utilised will be finalised in conjunction with the appointed construction contractor to ensure that the locations are appropriate from an environmental and practical perspective.

3.1.7 Management and Administration

During the construction phase temporary management and administration facilities with associated portable ablutions will be required to facilitate construction activities, manage

procurement, maintenance and waste management activities as well as for the daily running of the construction camp and associated staff facilities.

3.1.8 Waste Management

During the construction phase, general and inert building waste, as well as hazardous construction waste will be generated. Sewage/effluent waste will also be generated at the construction camp and ablution and sanitation facilities. The duly authorised service provider will provide all waste management services. All final products will be disposed at the full permitted facility or licenced landfill site. This will be the responsibility of the appointed contractor. The service agreement with the appointed contractor will be put in place once the contract has been awarded.

3.1.9 General and Inert Building Waste

General and inert building waste will be collected in bins and skips and temporarily stored in the designated general and building waste storage area in covered, tip proof waste skips for collection and disposal by an appropriate waste contractor. The burying and/or burning of refuse/waste will not be permitted at any time. The mixing of general and building waste with hazardous materials will not be permitted – waste separation will occur before waste is placed in the waste skips.

3.1.10 Hazardous Waste

Hazardous waste material generated during the construction phase (such as used lubricants and chemicals and empty containers/packaging from potentially contaminating consumables) will be temporarily stored on site prior to collection and disposal at a license hazardous waste disposal facility. This storage area will be bunded, under cover and located on an impermeable surface.

3.1.11 Sewage/effluent waste

Ablution and sanitation facilities will be located within the contractors' camp and readily accessible to all employees. All sewage/effluent water originating from the construction camp will be managed utilising temporary portable chemical toilets and portable modular sewage treatment facilities. These facilities will be maintained and serviced regularly by an appropriate waste contractor. The treated effluent will be reused where possible. The resultant sludge and unusable effluent will be removed from site by a contractor where it could then be disposed of at an appropriate facility or be incorporated into municipal sewage treatment works.

3.2 Fire Protection

A fire protection and prevention plan will be prepared for the construction phase of the project. The primary aim of this system will be to preserve and protect human life as well as tangible goods and equipment in the event of a fire. The fire protection system will employ measures to reduce the occurrence of fire in the event of an explosion as well as to contain and prevent fires from happening or entering the site/plant. A construction phase fire protection and prevention plan will be instituted accordingly. During construction, the Proposed Project will be serviced with an intermediate fire protection system which may entail an auxiliary pressure pump, fire extinguishers and other portable fire-fighting equipment. In addition, a fire break along the site perimeter will be maintained.

3.2.1 Timeframes

- Construction Period

The construction phase is anticipated to last approximately 6 to 10 months, depending on the Munic's connection works time schedule.

- Construction Hours

Construction hours will be according to standard industry practice and/or as any deviation that is approved by the relevant authorities

3.2.2 Decommissioning of construction activities

Upon completion of the construction phase, all temporary construction facilities may be decommissioned and removed from site. Cement/concrete slabs allowed for foundation structures would then be removed and compacted and disturbed soils will be ripped and rehabilitated with appropriate natural vegetation. Some facilities such as stores and maintenance areas, may be utilised during the operation phase of the project and will remain on site and be managed as operational facilities accordingly.

3.3 Operational activities and facilities

The operational phase will involve the generation of power using the PV technology and electrical systems as described in Sections 2, as well as the day-to-day management and maintenance of associated support services and infrastructure. In this regard, the activities and/or facilities relevant to the operational phase are listed below, with further details provided thereafter.

- Access and security services
- Generation of electricity using PV technology
- Operational power supply and use
- Maintenance and repair to operational equipment
- Storm-water management infrastructure
- Fire protection for plant services and infrastructure.

3.3.1 Access and Security

Access routes established during the construction phase may be utilised during operations for staff and deliveries of consumables. The chosen access routes will be maintained by SolarReserve throughout the operational phase.

Access control and security will be required for health, safety and security reasons. The project site will be enclosed by means of the relevant security measures. This will keep both the surrounding residents and land users safe from possible incidents and keep the project proponents' investment safe. A security office with security personnel and associated communication network will be maintained throughout the project phases.

3.3.2 Operational Power Supply

Electricity produced will be exported onto the Randfontein Municipal network. The exact operational profile of the plant would be dependent on generation controlled by the power purchaser's economic dispatch decisions and portfolio resource scheduling, transmission constraints and other factors, as well as on weather conditions. It is anticipated that the plant itself will supply operational power requirements during generating periods. When the plant is off-line, power may be drawn from the Munic's distribution network to ensure critical systems remain on-line and operational, i.e. circa 60KVA.

3.3.3 Water supply and use

The proposed PV plant will require approximately 1 000 m³ of water per annum during the operational phase of the project. Water during this phase will be required for the uses listed below:

PV panel cleaning:

- service water for maintenance;
- potable use and ablutions;
- dust suppression (mostly during construction);

- irrigation during rehabilitation; and
- fire protection water.

3.3.4 Procurement, storage and use of consumables

It is envisaged that all consumables will be stored at a central facility off-site dispatched to site as and when required.

3.3.5 Maintenance and repair facilities

It is envisaged that maintenance teams will be based off-site despatched to the plant as and when required to undertake routine and corrective maintenance. PV panel washing is expected to be accomplished by diesel-fuelled tank trucks specially fitted with high- pressure washers. These trucks are filled with demineralized water and then driven slowly through the PV array, spraying high pressure water onto the panels effectively removing any accumulated dust or foreign matter. Biodegradable detergents may be used in this regard.

3.3.6 Waste Management

Waste management is the process whereby all wastes produced at the proposed PV Plant are minimised or reduced, properly collected, treated (if necessary), re-used (if possible) and removed from site for appropriate disposal or recycling. The operation phase of the proposed project may generate both liquid and solid waste streams, comprising general/domestic, hazardous and sewage waste. The liquid waste shall mainly include sewage effluent. In addition to the above, limited emissions from equipment and machinery are also expected. It is noted that no waste will be disposed of on-site. The service agreement with the appointed contractor will be put in place once the contract has been awarded.

Primary Wastewater Collection System

The proposed project is expected to create a minimal amount of wastewater. The source of waste water would be the water used for washing the PV panels at set intervals and dirty area surface runoff. To the extent practicable, wastewater will be recycled and reused to reduce the amount of effluent generated and removed for disposal.

Plant Drains and Oil/Water Separator

General plant drains may be used to collect containment area wash down and drainage from facility equipment and maintenance area drains. Water from these areas may be collected in a

system of floor drains, hub drains, sumps, and piping and routed to a primary wastewater collection system. Drains that potentially could contain oil or grease would first be routed through an oil/water separator.

Operational Sewage/Effluent Waste

Sewage/effluent waste streams may be generated from the ablution facility. Each area may have a kitchen as well as the requisite quantity of toilets and or showers to support the crew size. As and when required, the septic tank (solids holding tank) will be cleaned out by a vacuum truck and the wastes trucked and disposed at a licensed facility. This activity will adhere to the plant safety program as administered by plant personnel.

Solid Waste

The Plant will produce solid maintenance and plant wastes typical of PV power generation operations. All waste to be generated on site will be subject to the principal of "Reduce, Reuse and Recycle" as far as possible before disposal is regarded as an option. Plant wastes include broken and rusted metal and machine parts, defective or broken electrical materials, empty containers, broken PV panel components and other solid wastes including the typical domestic refuse generated by staff. Solid wastes will be temporarily kept on site and trucked offsite for recycling or disposal at a suitable recycling facility or licensed landfill site in the vicinity.

Management of Hazardous Waste

Hazardous wastes generated by the Plant such as used oil from electrical systems, empty chemical containers and lubricants from maintenance of equipment will be properly managed and disposed of. These waste materials will be temporarily stored on site in appropriate containers (depending on whether in liquid or solid state) in a bunded and covered area prior to collection by a licenced waste contractor for recycling or disposal at an appropriately licensed facility. Plant personnel and maintenance workers will be trained to handle hazardous wastes generated at the site in accordance with all applicable regulations and protocols.

Emissions

Diesel-powered equipment such as operational and maintenance vehicles and equipment and stand-by generators will be well maintained in order to ensure exhaust emissions are within manufacturer specifications. Diesel-powered fire pumps and emergency generators will only be operated during bona fide emergencies and periodically for brief periods, as required by relevant codes and

standards, for reliability testing or maintenance within strict limitations on acceptable fuels and maximum allowable run hours.

3.3.7 Storm water management

The Project Site will be maintained in a relatively natural state, with regard to natural vegetation and soil type. Most of the rainfall falling in this area will infiltrate into the ground whilst surface runoff that does occur will drain towards a preferential flow path and flow towards the South, exiting the project site.

Rainfall run off from the site will remain unchanged to the pre-installation position for the following reasons:

- No significant changes have been made to the topographical layout of the site,
- no significant scaled ground works will act to change the flow of surface water across the site.
- The existing grass vegetation will be retained, cut and managed as stipulated in the Environmental Management Plan.
- No asphalt or layer works will cover any section of the site requiring storm water channelling and associated drainage.

Based on the reasons mentioned above is, is not expected that the plant will influence the natural water drainage system currently on the proposed site and therefore do not perceive there to be any water management issues.

If however required, a clean water channel could be constructed so as to limit the width of flow in this preferential flow path, such that surface runoff is collected and safely removed from the project site. In this regard, should it be required, an outline of the proposed storm-water management infrastructure for the management of clean and dirty water might need to be determined by the civil engineers.

The clean water runoff could be diverted around the project area and discharged to the nearest low point. If required, a silt trap could be installed at the outlet of one of the clean water channels and was sized based on daily anticipated flows which are taken conservatively as the 1:2 year storm event, whilst the spillway sizing for the silt trap is designed to cater for the 1:50 year storm event. The conceptual design will feed into the detailed stormwater management plan which will be finalised prior to construction.

3.5 Decommissioning and closure

Depending on refitting and maintenance of the plant as well as national energy market condition, the PV plant could continue to operate indefinitely and certainly economically for 25 years. However, should plant operations be ceased for whatever reason, decommissioning and closure of the Proposed Project will be done as per the lease agreement obligations with the land owners after 22 years. In this regard, a detailed plan for the decommissioning and closure of the facility will be drawn up before operations are ceased and submitted to the relevant competent authority for authorisation and ultimate implementation.

3.5.2 Rehabilitation

Following decommissioning and removal of all project material from the site, the disturbed area will be rehabilitated to its pre-project land capability. Where possible, rehabilitation will be conducted concurrently with decommissioning. The following rehabilitation activities are relevant:

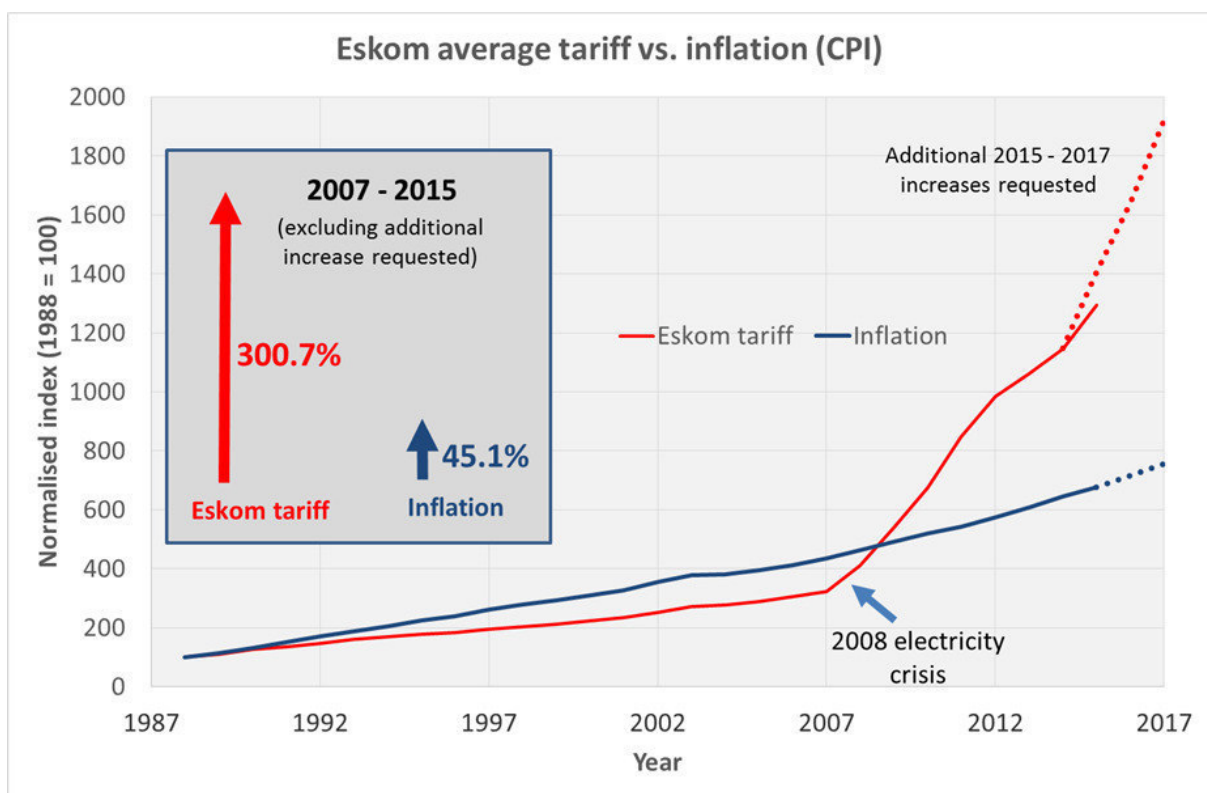
- The existing profiles of the land affected will be improved and stabilised thereby leaving profiles not incompatible with the topography of the area, which is essentially flat.
- Ripping of compacted soils will be done prior to adding topsoil, which will be done by mechanical means. It is expected that there will be a sufficient amount of topsoil and/or subsoil moved and stockpiled during the construction phase to facilitate rehabilitation.
- If required, potential areas or land for extracting topsoil or subsoil will be identified. The land capability characteristics of such areas should be similar to the affected soils (same texture, colour, permeability, etc.).
- Vegetation will be re-established. The plant species used will match those naturally occurring in the area. This will be conducted in consultation with a biodiversity specialist.

3.6 Need and desirability of Urban Solar Farms

3.6.1 Electricity and the economy

Growth for the South African economy is like any other modern economy dependent on the availability of reliable and cheap electricity. Current infrastructure and service delivery however will not be able to support the required economic growth. In order for the National Government to create an economic climate which is suitable to their growth targets and social development, it is essential that basic services such as electricity provision be enhanced as a matter of urgency.

The current infrastructure and generation capacity of South Africa's power utility, Eskom, is unable to accommodate a rapid growing economy in which reliable electricity provision is essential. South Africa has experienced electricity blackouts during 2008 and 2009 which dampened investor confidence in South Africa as an investor destination and also hampered industrial development. Ageing power plants and the prevalence of unplanned maintenance to these plants were major contributors to the problem, which caused erratic and unreliable electricity provision to major industries as well as households throughout South Africa. Eskom is further stained by management and policy controversy that impacts on its ability to sustain tariffs in line with CPI.



Looking at the graph, the following can be noted:

- In the period from 1988 up to the 2008 electricity crisis, electricity tariff increases did not keep tread with inflation. This was partly due to government policy to keep electricity tariffs as low as possible for poor communities, but also due to Eskom having an oversupply of electricity (in the 1990's) and not investing in new capacity (in the 2000's).
- Between 1988 and 2007, electricity tariffs increased by 223%, whilst inflation over this period was 335%.

- From the 2008 electricity crisis onwards, there is a clear and sharp inflection point for electricity tariffs in South Africa. From 2007 to 2015, electricity tariffs increased by 300%, whilst inflation over this period was 45%. Thus electricity tariffs tripled in 8 years.
- If the additional increase for 2015 (another 9.58% on top of the 12.69% already approved by NERSA) is approved, this will mean that the total increase in electricity tariffs from 2007 to 2015 would be 335%.
- If the additional increases for 2016 & 2017 (another 9%/yr on top of the 8%/yr already approved by NERSA) are approved, this will mean that the total increase in electricity tariffs from 2007 to 2017 would be 495%, compared to 74% for inflation over the same period. Thus electricity tariffs would have increased 5-fold in 10 years.

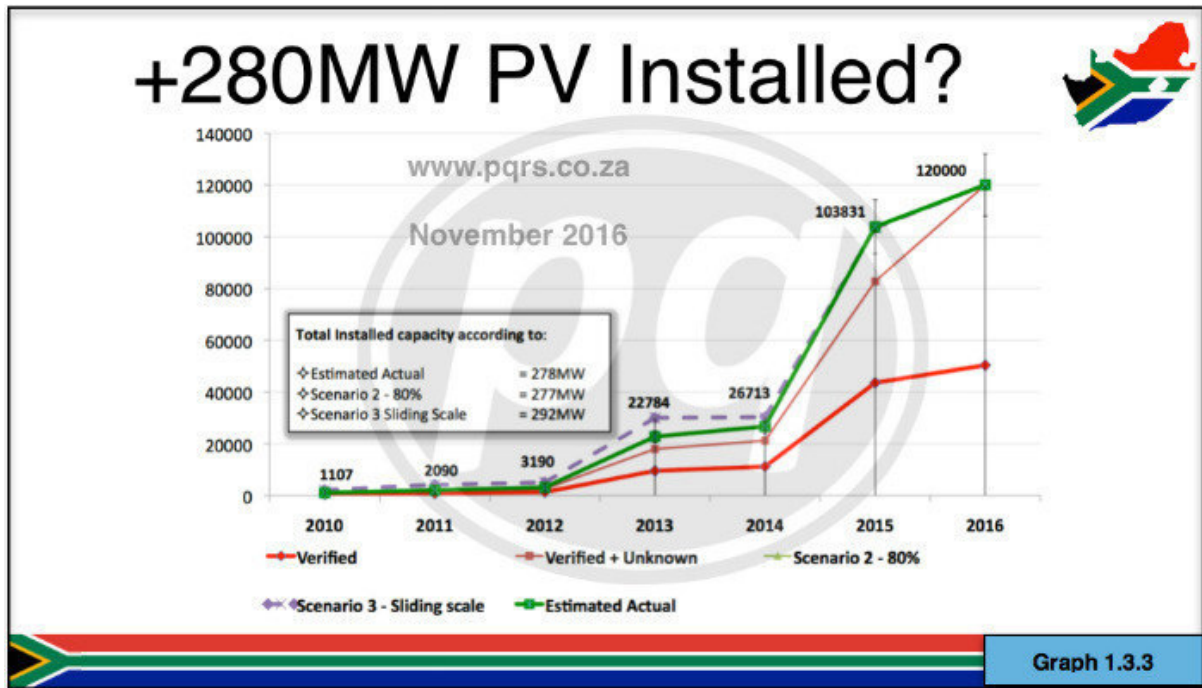
The SAIRR recently published a report projecting that Eskom will have another 18 000 MW supply shortfall by 2030, if our GDP grows by 3%/yr. This is in addition to Medupi, Kusile and Ingula. To add insult to injury, Standard & Poor's has downgraded Eskom to junk status.

Considering the above, it is safe to say that we can expect to see over the next several years:

- a continuation of the current electricity supply shortages (read: load shedding); and
- higher-than-inflation electricity price increases.

3.6.2 Urban Solar Farm concept

The concept of Urban Solar Farms with integrated storage is to provide commercial and industrial consumers interested in purchasing cheaper green power at a tariff set for 20 years. It is already clear that municipalities will in 5 to 10 years from now experience huge revenue losses due to the uptake of private market embedded generation, i.e. behind the meter installations:



Source: <http://pqrs.co.za/data/demystifying-the-total-installed-pv-capacity-for-south-africa-nov-2016/>

The Urban Solar Farm initiative offers municipalities an opportunity to develop a wheeling tariff which:

- enables municipalities to recover the lost revenue by charging the IPP a wheeling tariff for using the municipal grid,
- incentivizes the IPP to go through the development and construction of urban solar farms to sell cost effective green power to the private market

Development constrains in many municipalities, including Randfontein is further evident when considering the backlog of Mega housing projects as a result of lack of electrification infrastructure.

Randfontein municipality will benefit in the following way from this Urban Solar Farm project:

- It provides a revenue protection mechanism for the Munic by securing a wheeling income from IPP sales that provides an alternative, cost-effective renewable electricity source to clients that are considering “behind the meter” rooftop solar installations.
- It does not require any capital investments from the Munic or any commitments from Randfontein municipality to buy electricity from the IPP.
- It will be located in an area where the municipal grid infrastructure is constrained and therefore a privately funded USF in such location will effectively mean a capex deferral for the municipality.

- It could help the Municipality to retain business within its municipal boundaries by providing clients with an alternative power supply with known tariff increases which will enhance investor confidence and encourage business growth.
- It could unlock development, provide for the gentrification of unusable land and promote influx of investment within municipal boundaries.
- The USF initiative promotes a green economy that is in line with the Integrated Development Plan of larger municipalities, e.g. COJ as well as the Gauteng Vision 2055 Economic Development white paper.

3.6.3 Renewable energy resource

The Proposed Project is designed to meet the increasing demand for clean, renewable electrical power in South Africa. The multiple benefits associated with developing renewable energy infrastructure have been recognized by both local regional and National policy-makers. Development of solar resources reduces reliance on foreign sources of fuel, promotes national energy security, diversifies energy portfolios and contributes to the reduction of greenhouse gas emissions at the same time creating a large number of jobs within a new industry at the same time raising the core knowledge bases of the country

In addition, the Kyoto Protocol, as a result of concern about climate change, establishes the obligation of reducing green-house effect gas emissions by industrialised countries including South Africa. Energy efficiency and the use of renewable energy sources are presented as sustainable solutions leading to a reduction in CO₂ emissions into the atmosphere. In addition to these environmental and legislative reasons, the fact is that renewable energy sources mean a reduction in the country's energy dependence on carbon fuels, increasing the safety and quality of the energy supply and providing a valuable source of employment (SolarReserve, 2014).

South Africa is a signatory to the United Nations Framework Convention on Climate Change committing to the stabilization of atmospheric greenhouse gas concentrations at a level that would prevent dangerous anthropogenic interference with the climate system. With this commitment in place and the ever growing need for power, South Africa is urged to expand its generation capacity but through the development and utilisation of alternative resources, which are renewable and more environmentally sustainable (SolarReserve, 2014).

South Africa's climate is ideal with regards to solar resources, with a broad time band of sunlight and a high level of energy delivered by area of land. Utilising this solar resource in combination with photovoltaic technology makes it an ideal system in the generation of renewable energy. Further to its environmental attributes, the project will contribute much needed on-peak power to the electrical grid serving the region. The additional demand for power continues to grow in other regions as older technology fossil fuel plants reach the end of their shelf lives (SolarReserve, 2014).

APPENDIX E2

AGRICULTURAL POTENTIAL SURVEY



REPORT

SOIL AND AGRICULTURAL POTENTIAL SURVEY: WHEATLANDS, GAUTENG PROVINCE

13 June 2017

**Compiled by:
J.H. van der Waals
(PhD Soil Science, Pr.Sci.Nat)**

Member of:
Soil Science Society of South Africa (SSSSA)

Accredited member of:
South African Soil Surveyors Organisation (SASSO)

Registered with:
The South African Council for Natural Scientific Professions
Registration number: 400106/08

Declaration

I, Johan Hilgard van der Waals, declare that –

- I act as the independent specialist in this application
- I will perform the work relating to the application in an objective manner, even if this results in views and findings that are not favourable to the applicant
- I declare that there are no circumstances that may compromise my objectivity in performing such work;
- I have expertise in conducting the specialist report relevant to this application, including knowledge of the Act, regulations and any guidelines that have relevance to the proposed activity;
- I will comply with the Act, regulations and all other applicable legislation;
- I have no, and will not engage in, conflicting interests in the undertaking of the activity;
- I undertake to disclose to the applicant and the competent authority all material information in my possession that reasonably has or may have the potential of influencing - any decision to be taken with respect to the application by the competent authority; and - the objectivity of any report, plan or document to be prepared by myself for submission to the competent authority;
- all the particulars furnished by me in this form are true and correct; and
- I realise that a false declaration is an offence in terms of Regulation 71 and is punishable in terms of Section 24F of the Act.

A handwritten signature in black ink, appearing to read 'J.H. VAN DER WAALS', written over a light blue horizontal line.

J.H. VAN DER WAALS
TERRA SOIL SCIENCE

TABLE OF CONTENTS

1.	INTRODUCTION.....	1
1.1	Terms of Reference	1
1.2	Agricultural Potential Background	1
1.3	Land Capability Classification – DAFF	2
1.4	Report Methodology	3
2.	BRIEF DESCRIPTION OF THE SURVEY AREA	3
2.1	Survey Area Boundary.....	3
2.2	Survey Area Physical Features.....	3
3.	METHOD OF AGRICULTURAL POTENTIAL SURVEY	3
3.1	Phase 1: Land Type Data	3
3.2	Phase 2: Topographic Parameters.....	5
3.3	Phase 3: Satellite Image Interpretation	5
3.4	Phase 4: Soil Survey.....	5
4.	AGRICULTURAL POTENTIAL SURVEY RESULTS	6
4.1	Phase 1: Land Type Data	6
4.2	Phase 2: Topographic Parameters.....	7
4.3	Phase 3: Satellite Image Interpretation	7
4.4	Phase 4: Soil Survey.....	11
5.	AGRICULTURAL POTENTIAL.....	11
5.1	Agricultural Potential of the Site	11
5.2	Soil Potential Linked to Current Land Use and Status.....	11
5.3	Cost-benefit Analysis	18
5.4	Current Activities / Developments / Buildings.....	18
5.5	Surrounding Developments / Land Uses / Activities Within a 500 m Radius	18
5.6	Current Status of Land.....	18
5.7	Possible Land Use Options for the Site.....	18
6.	CONCLUSIONS AND RECOMMENDATIONS.....	18

SOIL AND AGRICULTURAL POTENTIAL SURVEY: WHEATLANDS, GAUTENG PROVINCE

1. INTRODUCTION

1.1 TERMS OF REFERENCE

Terra Soil Science was appointed by **Bokamoso** to conduct an agricultural potential assessment for the Wheatlands site in the Gauteng Province.

1.2 AGRICULTURAL POTENTIAL BACKGROUND

The assessment of agricultural potential rests primarily on the identification of soils that are suited to crop production. In order to qualify as high potential soils they must have the following properties:

- Deep profile (more than 600 mm) for adequate root development,
- Deep profile and adequate clay content for the storing of sufficient water so that plants can weather short dry spells,
- Adequate structure (loose enough and not dense) that allows for good root development,
- Sufficient clay or organic matter to ensure retention and supply of plant nutrients,
- Limited quantities of rock in the matrix that would otherwise limit tilling options and water holding capacity,
- Adequate distribution of soils and size of high potential soil area to constitute a viable economic management unit, and
- Good enough internal and external (out of profile) drainage if irrigation practices are considered. Drainage is imperative for the removal (leaching) of salts that accumulate in profiles during irrigation and fertilization.

In addition to soil characteristics, climatic characteristics need to be assessed to determine the agricultural potential of a site. The rainfall characteristics are of primary importance and in order to provide an adequate baseline for the viable production of crops rainfall quantities and distribution need to be sufficient and optimal.

In the case where crop production is not possible due to soil or climatic constraints aspects such as grazing potential and carrying capacity is considered. Grazing capacity is mainly determined by vegetation characteristics of a site and would therefore have to be deduced from vegetation reports (that do address carrying capacity) or from dedicated discussions with farmers and land users. The combination of the above mentioned factors will be used to assess the agricultural potential of the soils on the site.

Several soil quality, landscape and surrounding land use parameters influence agricultural potential. These parameters include pollution of soils and water, human activities influencing the economic

viability of farming enterprises, storm water management and water availability (for irrigation purposes or inherent soil properties that provide perched water sources). Where applicable these parameters will be addressed in this report.

1.3 LAND CAPABILITY CLASSIFICATION – DAFF

Land capability refers to the specific land use and agronomic practices that a given piece of land is capable of in the context of the original land capability categories published in the USA in the 1960's. The land capability concept is a bit broader than the "land suitability" approach expounded by the FAO (Food and Agriculture Organisation of the UN) where the latter aims to pronounce on the suitability of a specific area of land for a specific "land utilization type" (LUT). In the more recent South African case for "land capability" the then Department of Agriculture, Forestry and Fisheries (DAFF) established a requirement for the classification of land based on the criteria provided in **Table 1**. These categories are not significantly different from the original concept but have been amended for the South African context.

Table 1 Land capability classes for assessment of land

Land Capability Class	Definition	Conservation Need	Use suitability
I	No or few limitations. Very high arable potential. Very low erosion hazard.	Good agronomic practice.	Annual cropping.
II	Slight limitations. High arable potential. Low erosion hazard.	Adequate run-off control.	Annual cropping with special tillage or ley (25%)
III	Moderate limitations. Some erosion hazards.	Special conservation practice and tillage methods.	Rotation of crops and ley (50 %).
IV	Severe limitations. Low arable potential. High erosion hazard.	Intensive conservation practice.	Long term leys (75 %)
V	Watercourse and land with wetness limitations.	Protection and control of water table.	Improved pastures or Wildlife
VI	Limitations preclude cultivation. Suitable for perennial vegetation.	Protection measures for establishment eg. Sod-seeding	Veld and/or afforestation
VII	Very severe limitations. Suitable only for natural vegetation.	Adequate management for natural vegetation.	Natural veld grazing and afforestation
VIII	Extremely severe limitations. Not suitable for grazing or afforestation.	Total protection from agriculture.	Wildlife

The assessment of land capability rests squarely on the assessment of soil properties for agricultural purposes as discussed in the previous section. These properties will therefore be used to determine the specific land capability class for the survey area.

1.4 REPORT METHODOLOGY

This report was generated following a dedicated satellite image, topographical and land type data interpretation exercise as well as a field soil survey. Due to extensive experience in the field as well as in the general area the pronouncements in this report are considered to be accurate and representative of the specific site.

The report addresses the following aspects:

1. Land use and land cover (satellite image interpretation)
2. General soil associations (topographical parameters, land type data and soil survey)
3. Agricultural potential (experience and interpretation of above information)
4. Risks flagged with agricultural activities on the site (experience on similar projects)

2. BRIEF DESCRIPTION OF THE SURVEY AREA

2.1 SURVEY AREA BOUNDARY

The survey lies between 26° 11' 38" and 26° 11' 58" S and 27° 36' 44" and 27° 37' 21" E south approximately 7 km west of the town of Randfontein in the Gauteng Province (**Figure 1**). The site is surrounded by agricultural land on all sides and a portion has been tilled for dryland crop production.

2.2 SURVEY AREA PHYSICAL FEATURES

The site is underlain by quartzite, shale and conglomerate geology and lies on relatively flat terrain in the east to undulating terrain in the west. It has a south-westerly aspect and the altitude varies from 1700 m in the south-west to 1730 in the north-east. The long-term average rainfall of the area is approximately 650 mm per annum with the site indicated in **Figure 2** on a rainfall map of South Africa.

3. METHOD OF AGRICULTURAL POTENTIAL SURVEY

The survey was conducted in four phases.

3.1 PHASE 1: LAND TYPE DATA

Land type data for the site was obtained from the Institute for Soil Climate and Water (ISCW) of the Agricultural Research Council (ARC) (Land Type Survey Staff, 1972 – 2006). The land type data is presented at a scale of 1:250 000 and entails the division of land into land types, typical terrain cross sections for the land type and the presentation of dominant soil types for each of the identified terrain units (in the cross section). The soil data is classified according to the Binomial System (MacVicar et al., 1977). The soil data was interpreted and re-classified according to the Taxonomic System (The Soil Classification Working Group, 1991).

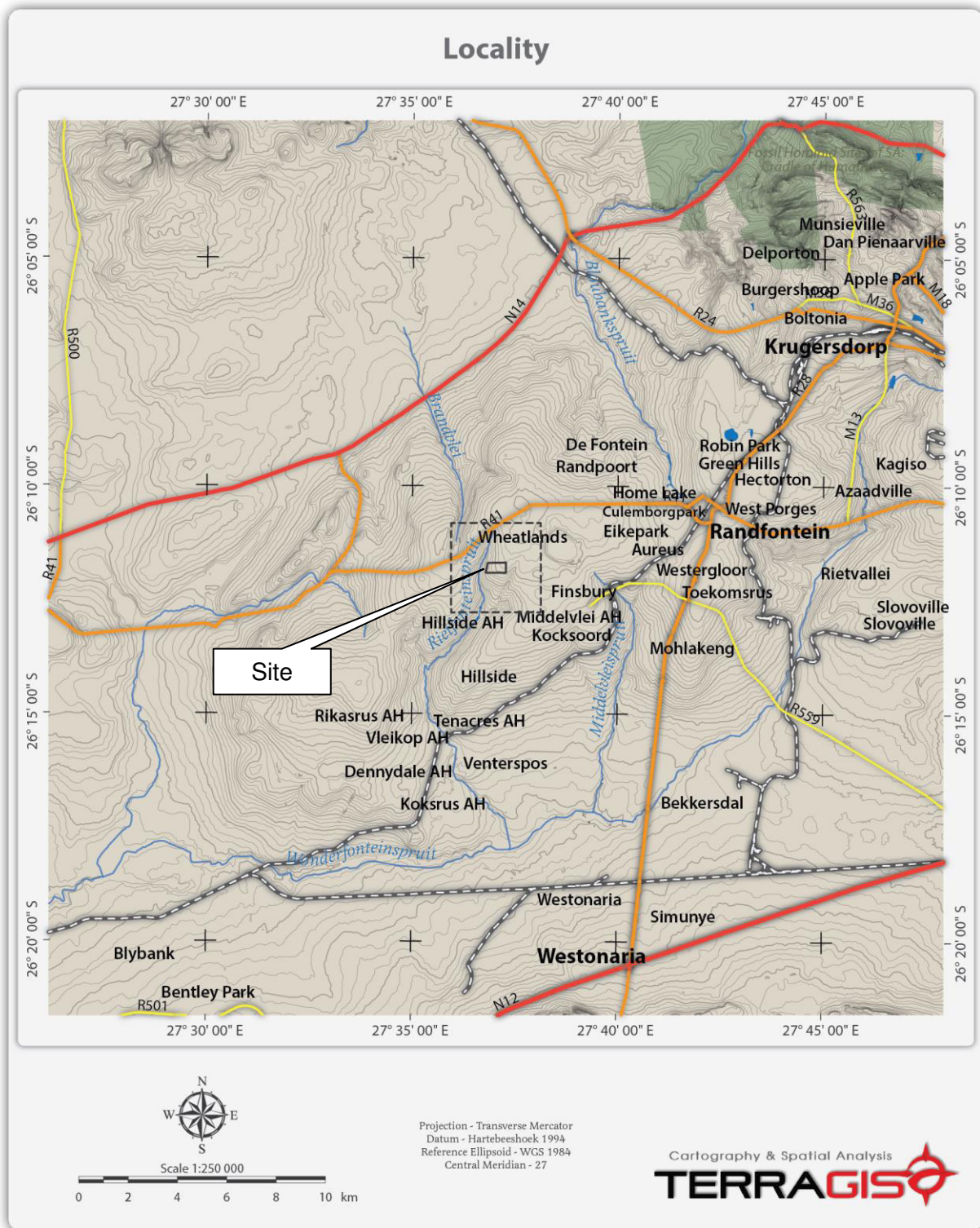


Figure 1 Location of the survey site

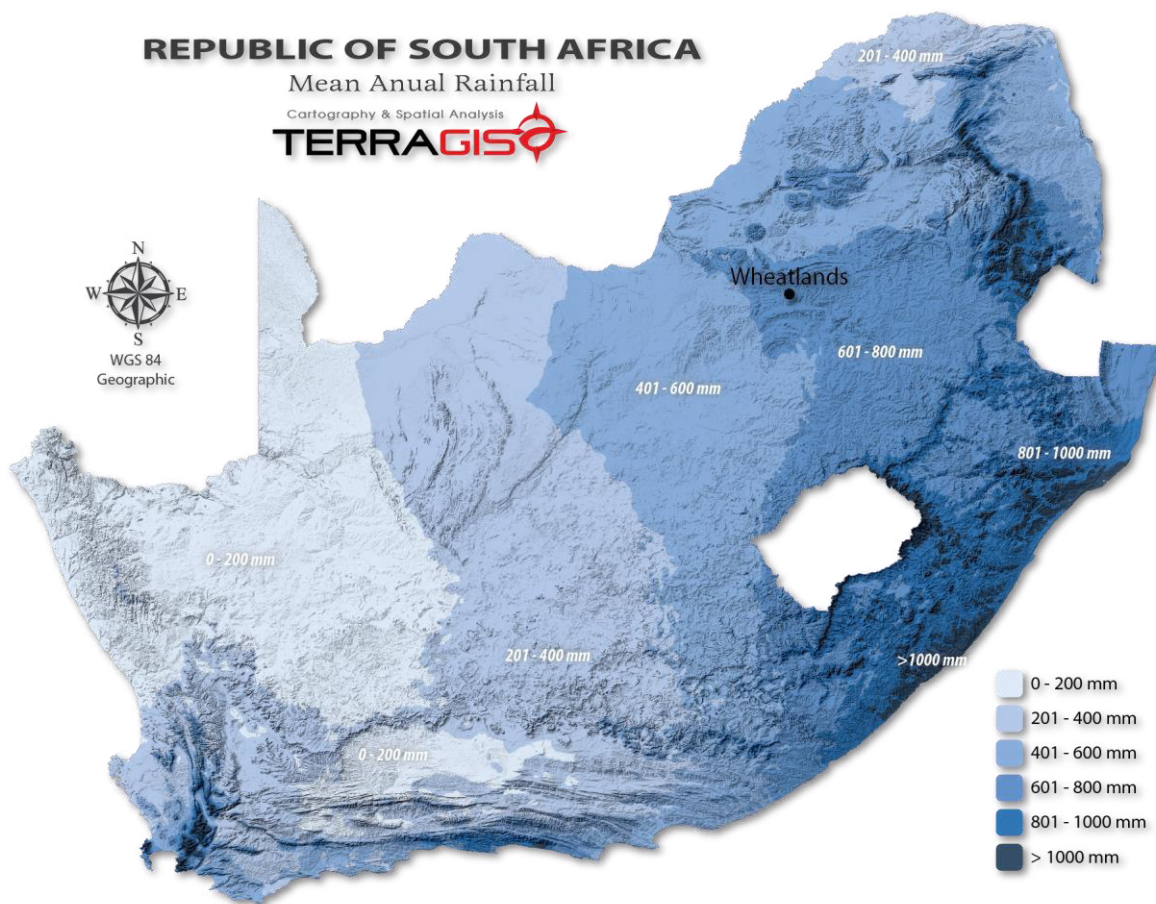


Figure 2 Rainfall map of South Africa indicating the survey site

3.2 PHASE 2: TOPOGRAPHIC PARAMETERS

The topography of the sites was elucidated through the generation of a digital elevation model (DEM) map and a topographic wetness index (TWI) for each site. Data generated during this phase was verified during the field survey phase and used to generate additional soil information for the sites.

3.3 PHASE 3: SATELLITE IMAGE INTERPRETATION

A dedicated satellite image (Google Earth) interpretation exercise was conducted to determine the current site conditions as well as the historical land uses. This was done through the accessing of Google Earth images from different periods in the past.

3.4 PHASE 4: SOIL SURVEY

The site was traversed on foot perpendicular to the access of soil variation identified in the previous phase. The soil conditions and forms were determined through the auguring of holes for classification as well as the observation of general soil properties as expressed in the tilled soils. Photographs were taken of pertinent aspects and are provided in the results section.

4. AGRICULTURAL POTENTIAL SURVEY RESULTS

4.1 PHASE 1: LAND TYPE DATA

Figure 3 presents the land type distribution for the sites and surrounding area. The land types found on the site are **Ba35** and **Ba36** (Land Type Survey Staff, 1972 – 2006). Below follows a brief description of the land type in terms of soils, land capability, land use and agricultural potential.

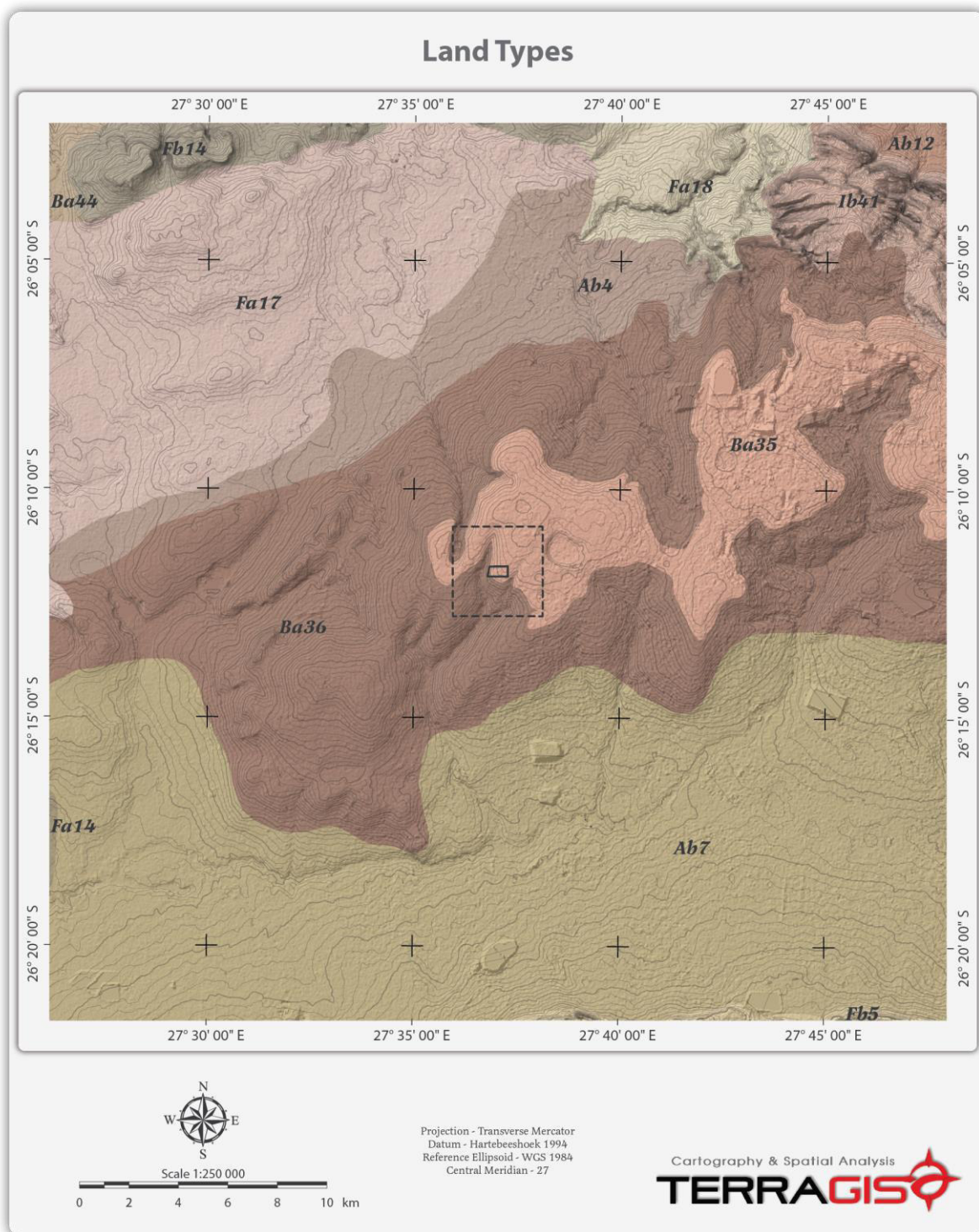


Figure 3 Land type map of the survey site and its surrounding area

Land Type Ba35 and Ba36

Land Type – General: Ba land types denote plinthic landscapes where the dominant soils are well-drained and red with a low to intermediate base status (dystrophic and mesotrophic).

Soils: The land types are dominated by shallow to moderate depth red and yellow soils with extensive hard plinthite and concretionary plinthic horizons. Higher lying areas are dominated by shallow soils that grade rapidly into weathering quartzite and conglomerate at depth with deeper well-drained soils occurring to a limited degree on flat midslope positions. Foothills and valley-bottom areas are characterised by yellow-brown soils with hard plinthic subsoils grading onto bleached sandy soils.

Land capability and land use: The land use in the general land type area is characterised by urban developments, and in the agricultural areas, extensive grazing on the shallower soils and dryland crop production on the deeper soils that exhibit fewer limitations to tillage. Irrigated agriculture is practiced sporadically in areas where soils properties allow and where water is available. The land capability mimics the land use.

Agricultural potential: The agricultural potential ranges from low on the shallow soils to moderate/high on the deeper soils. In areas where irrigation water and infrastructure is available the potential is high due to the suitability of the soils in crest, midslope and foothills positions to irrigation land uses.

4.2 PHASE 2: TOPOGRAPHIC PARAMETERS

Contours of the site (5 meters – **Figure 4**) were used to generate a digital elevation model (**Figure 5**). This data was used to generate the topographic wetness index (TWI) for the site (**Figure 6**).

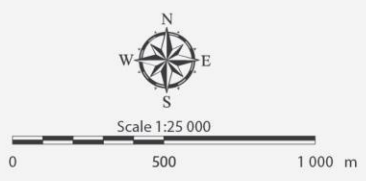
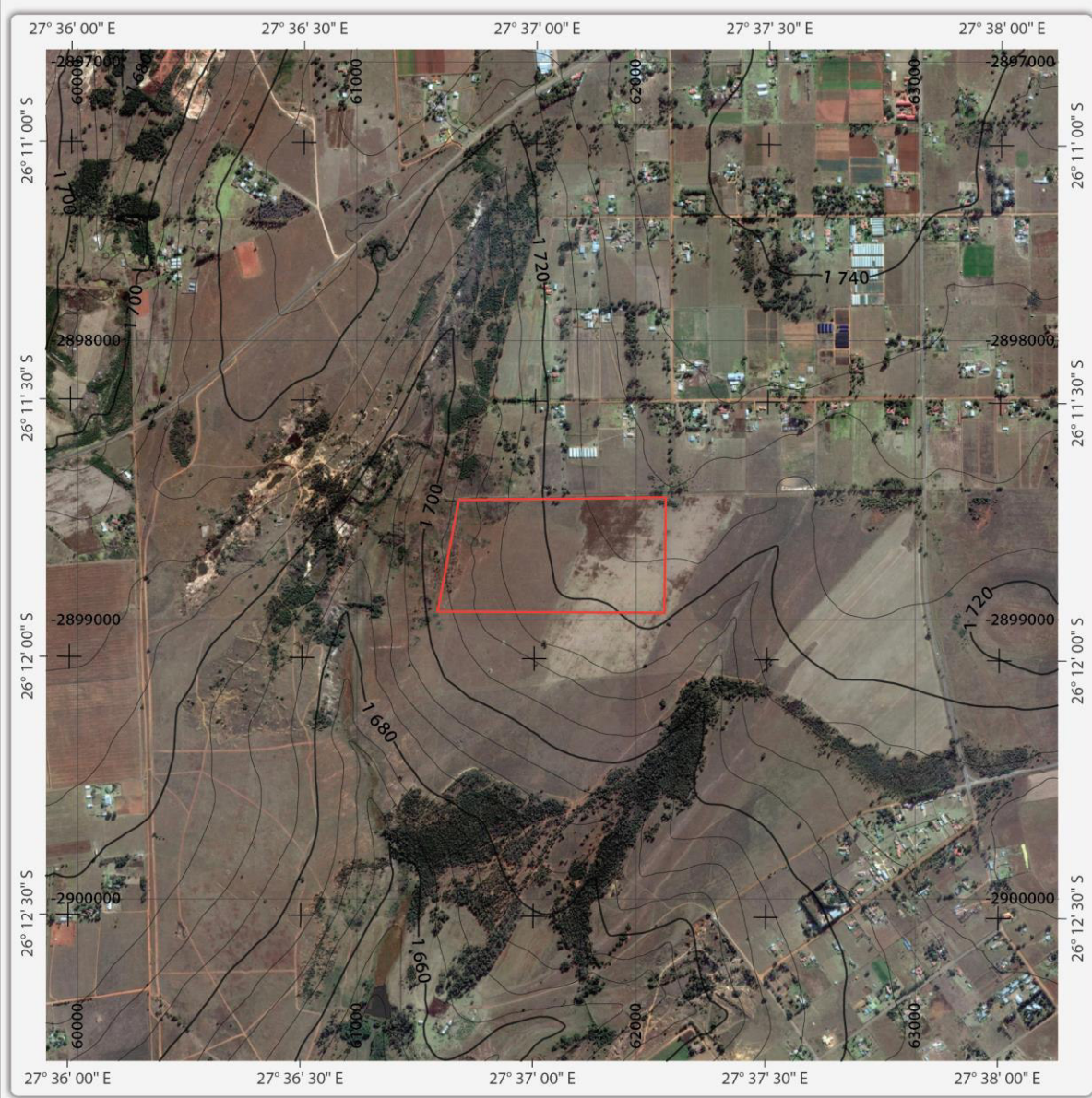
From extensive experience in the field of hydrogeology it is evident that the TWI provides a very accurate indication of water flow paths and areas of water accumulation that are often correlated with wetlands. This is a function of the topography of the site and ties in with the dominant water flow regime in the soils and the landscape. Areas in blue indicate concentration of water in flow paths with lighter shades of blue indicating areas of regular water flows in the soils and on the surface of the wetland / terrestrial zone interface.

The TWI for the site indicates the distinct drainage features running north to south beyond the western boundary.

4.3 PHASE 3: SATELLITE IMAGE INTERPRETATION

The satellite image provided in **Figure 4** indicates that the investigation site is characterised by grassland with historical and recent tillage activities. The western section of the site is characterised by informal wattle woodlots with clear signs of increased wattle infestation. The eastern section of the site has been used for dryland agriculture and the western section appears to be left to grazing and wattle stands.

Satellite Image



Projection - Transverse Mercator
Datum - Hartebeeshoek 1994
Reference Ellipsoid - WGS 1984
Central Meridian - 27



Figure 4 Satellite image of the site with 5 meter contours

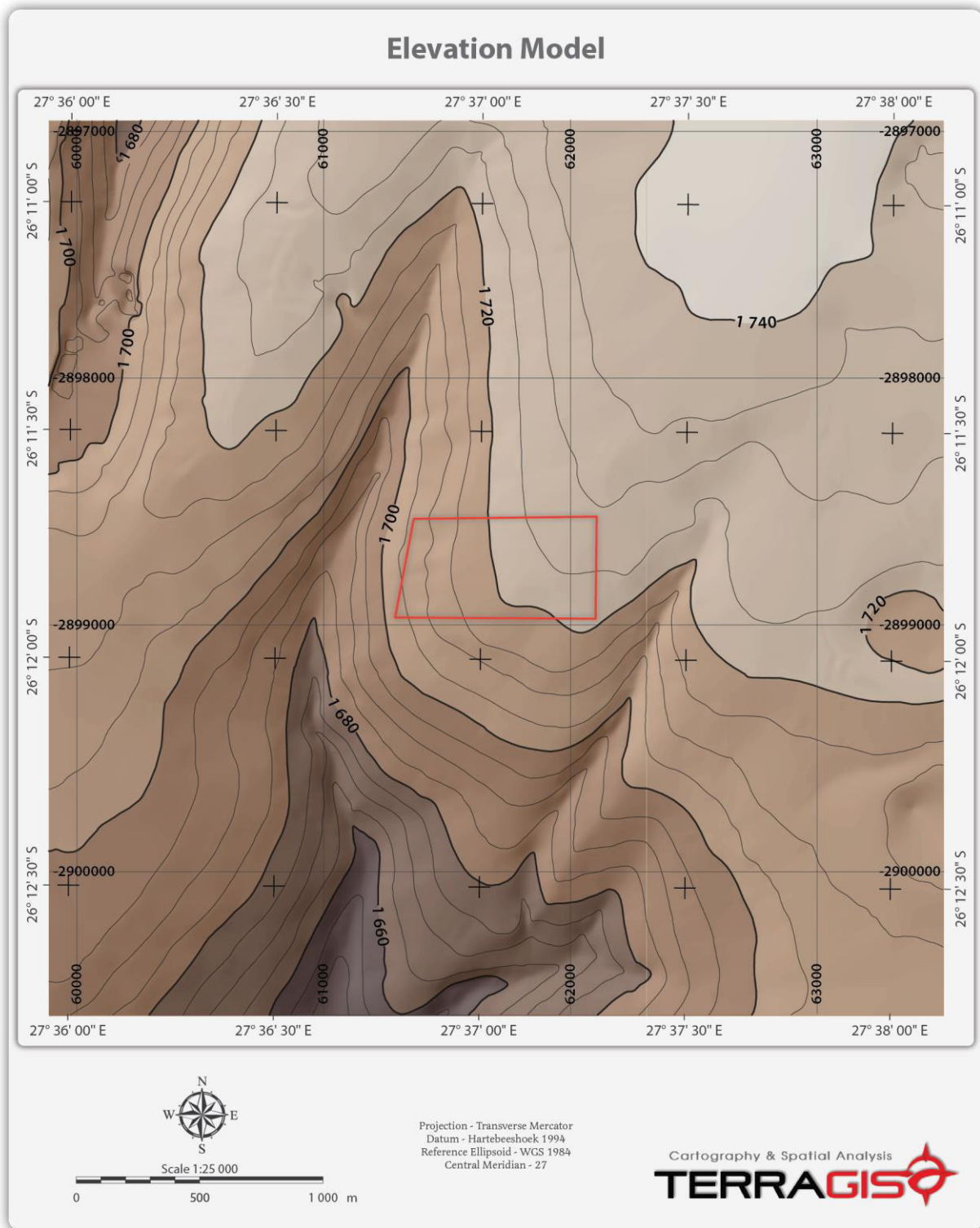
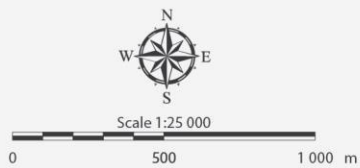
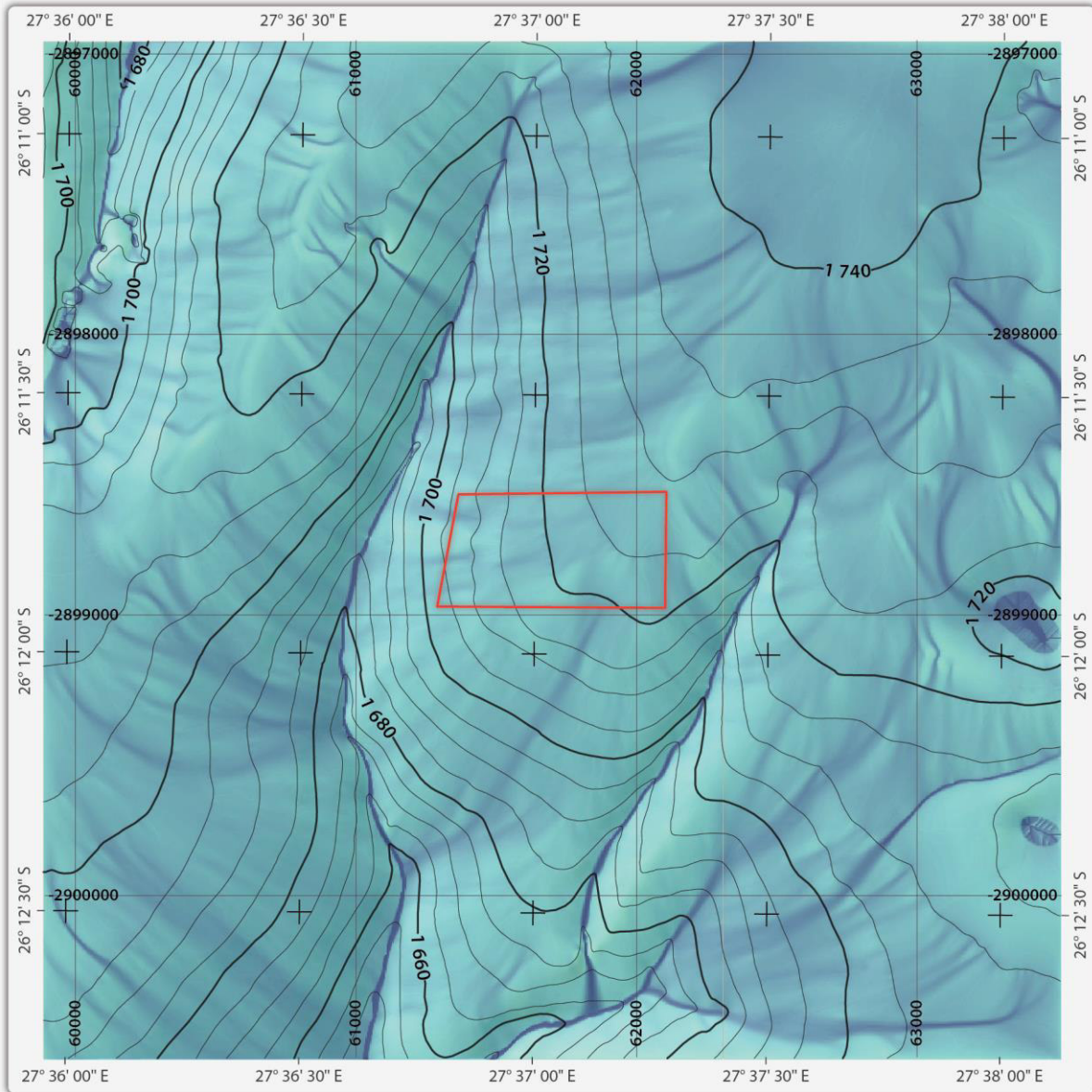


Figure 5 Digital elevation model for the site

Topographic Wetness Index



Projection - Transverse Mercator
Datum - Hartebeeshoek 1994
Reference Ellipsoid - WGS 1984
Central Meridian - 27

Cartography & Spatial Analysis
TERRAGISO

Figure 6 Topographic wetness index for Site 1

4.4 PHASE 4: SOIL SURVEY

The soil survey of the site yielded that there are three soil association areas (**Figure 7**) with their assessed agricultural potential and land capability (**Figure 8**):

1. Mispah (Ms) and Glenrosa (Gs) soils dominant: The western section of the site is characterised by shallow and rocky soils on the more pronounced slope. The dominant soils are of the Mispah (Ms – orthic A / hard rock) and Glenrosa (orthic A / lithocutanic B) forms that have very limited effective rooting depth and water holding capacity (**Figures 9 to 11**). This area is therefore classified as of low agricultural potential with a land capability class VII.
2. Shallow Clovelly (Cv) and Glenrosa (Gs) soils dominant: The central and southern section of the site is characterised by shallow soils of the Clovelly (orthic A / yellow-brown apedal B horizon / unspecified – usually hard or weathering rock) and Glenrosa (orthic A / lithocutanic B) forms (**Figures 12 to 14**). Due to the shallow nature of the soils this area is classified as of moderate to low agricultural potential with a land capability class of IV.
3. Variable depth and shallow Clovelly (Cv) and Glencoe (Gc) soils dominant: The deeper soils areas on the site are characterised by soils of the Clovelly (orthic A / yellow-brown apedal B horizon / unspecified – usually hard or weathering rock) and Glencoe (orthic A / yellow-brown apedal B horizon / hard plinthite) forms (**Figures 15 and 16**). These are classified as being of moderate potential due to a thickness of 60 cm and less and have a land capability class of III.

5. AGRICULTURAL POTENTIAL

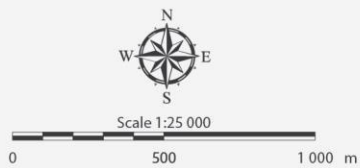
5.1 AGRICULTURAL POTENTIAL OF THE SITE

The agricultural potential of the site is linked to the dominance of shallow and rocky soils that pose significant limitations to tillage and crop production due to the presence of large volumes of rock. The soils would have a higher potential if water was available for irrigation purposes. However, the rocky nature of the soils and the shallow profiles lead to a very limited rooting depth potential and water storage capacity – both critical parameters for successful dryland crop production on the Highveld.

5.2 SOIL POTENTIAL LINKED TO CURRENT LAND USE AND STATUS

The current land use is grazing, with wattle infestation in the west, and low intensity dryland cropping in the east. The tillage activities on the site are restricted due to the presence of large quantities of rock and the shallow profiles present in large sections. The agricultural potential due to these limitations is as described in section 5.1.

Soils

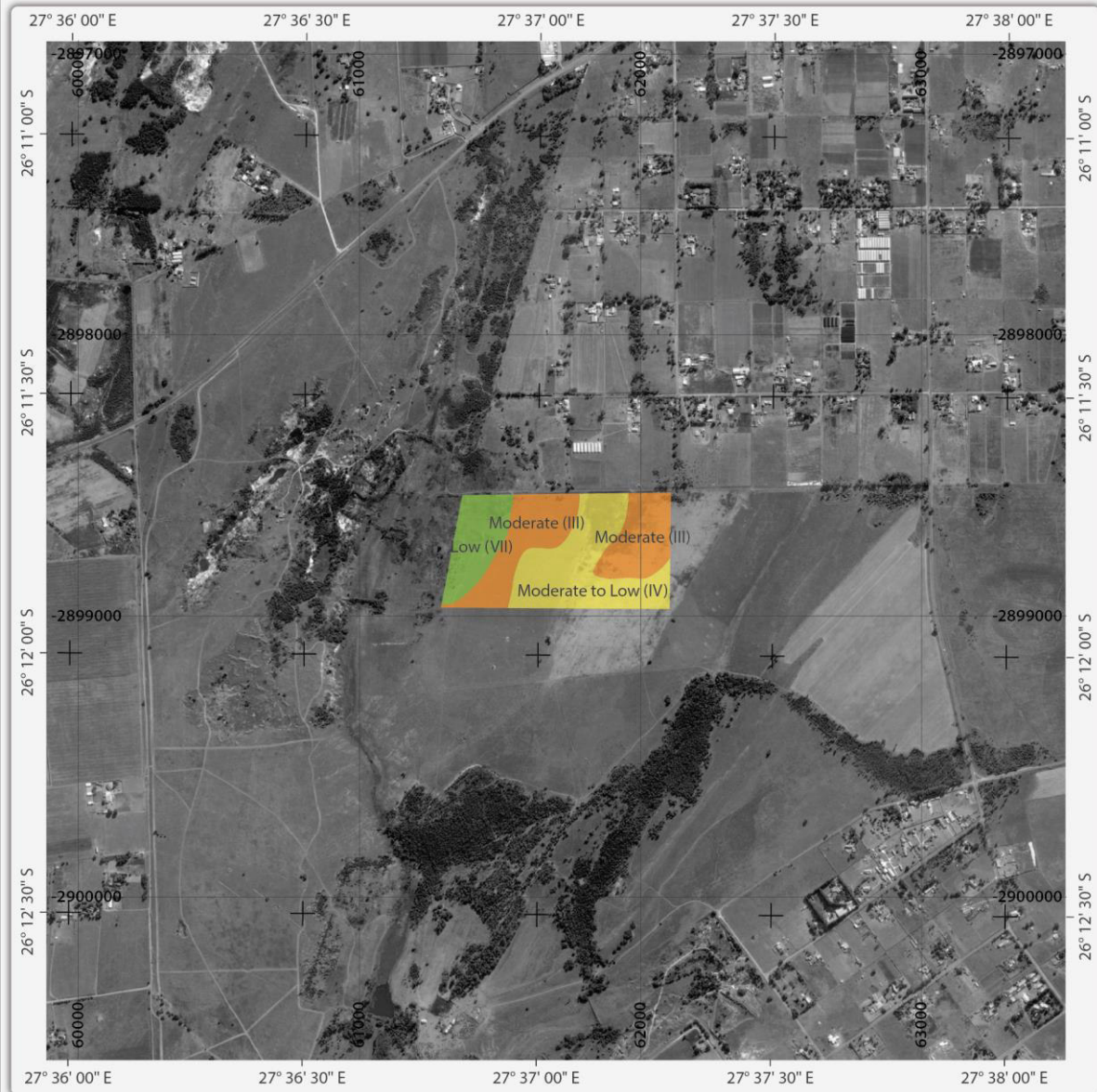


Projection - Transverse Mercator
Datum - Hartebeeshoek 1994
Reference Ellipsoid - WGS 1984
Central Meridian - 27

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Figure 7 Soil association map of the survey site

Agricultural Potential (Land Capability)



Scale 1:25 000

0 500 1000 m

Projection - Transverse Mercator
Datum - Hartebeeshoek 1994
Reference Ellipsoid - WGS 1984
Central Meridian - 27

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Figure 8 Agricultural potential map of the site with the land capability class indicated in brackets