



## water & sanitation

Department:  
Water and Sanitation  
REPUBLIC OF SOUTH AFRICA

NORTHERN CAPE PROVINCIAL OFFICE  
Lower Orange Water Management Area  
Private Bag X5912, Upington, 8800  
Tel: (054) 338-5800, Fax: (054) 334-0205, [www.dwa.gov.za](http://www.dwa.gov.za)

Enquiries: M. Mei

Tel: 054 338 5800

Fax: 054 334 0205

E-mail: [meim@dwa.gov.za](mailto:meim@dwa.gov.za)

24 May 2016

Humansrus Solar 4 (Pty) Ltd  
PO BOX 51060  
Waterfront  
Western Cape  
8002

Attention: Mr. David Peinke

**APPLICATION FOR WATER USE AUTHORISATION IN TERMS OF SECTION 40 OF THE NATIONAL WATER ACT, 1998 (ACT NO.36 OF 1998): PROPOSED HUMANSRUS SOLAR 4 PV FACILITY BY HUMANSRUS SOLAR 4 (PTY) LTD: NORTHERN CAPE PROVINCE**

The Department confirms receipt of your Water Use Licence Application received on 24 May 2016 by the Orange Proto-CMA office:

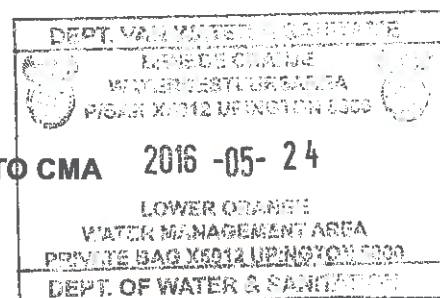
- This Department will however not be able to process the above Application until a letter confirming that the above mentioned project forms part of the DoE preferred bidders.
- The Department hereby request that a complete Application be submitted upon approval of preferred bidder status.

Kindly note that you application will be assessed as soon as the above confirmation is available.

Please also note that any use of water without authorization is unlawful as it is in contravention of the National Water Act, 1998 and is punishable by law.

Yours sincerely,

  
CHIEF EXECUTIVE OFFICER (ACTING): ORANGE PROTO CMA  
DATE: 24/05/16



Humansrus Solar 4 (Pty) Ltd  
 101, 1<sup>st</sup> Floor, West Quay Buildings  
 7 West Quay Road, Waterfront  
 Cape Town  
 8000

18 March 2016

Department of Water and Sanitation  
Attention: Melinda Mei, Shaun Cloete

To whom it may concern,

**RE: Application for Water Use License (WULA) for the solar PV development; Humansrus Solar 4 (Pty) Ltd. on the property; Farm 147 Humansrus, near Prieska; Northern Cape province.**

Humansrus Solar 4 (Pty) Ltd. as an Independent Power Producer (IPP) is proposing the establishment of a commercial solar energy facility on a site within the Northern Cape to be known as Humansrus Solar 4, of size 75 MW. The proposed development site is located on the Farm 147 Humansrus, which is situated within the jurisdiction of the Siyathemba local Municipality in the Northern Cape Province.

The purpose of this facility is to generate electricity from a renewable energy source (i.e. solar radiation) to provide power to the national electricity grid.

**“Water Use Licence Application” (WULA) initial submission**

Humansrus Solar 4 (Pty) Ltd. submitted an initial WULA with the following documentation included in this initial submission, as illustrated in the following table. It should be noted that an aquatic study has been done. A Storm water management report to be done and will be included in the environmental impact phase.

DWS application form	Document	Comment
DW758	DW758 NWA – Humansrus Solar 4	Signed document was submitted.
DW763	DW763 NWA Section 21(c) – Humansrus Solar 4	Signed document was submitted.
DW768	DW768 NWA section 21(i) - Humansrus Solar 4	Signed document was submitted.
DW901	DW901 Property – Humansrus Solar 4	Signed document was submitted.
DW902	DW902 Property owners - Humansrus Solar 4	Signed document was submitted.
N/A	Power of attorney	Signed document was submitted.
N/A	ID copy David Peinke	Director South African ID
N/A	Title deed	Farm 147 Humansrus, Near Prieska, Northern Cape.
N/A	Lease agreement (Option agreement)	Humansrus Solar 4 lease and option agreement on said property.
N/A	Environmental Scoping Assessment report	Applicable section on water and water use was incorporated.

N/A	Cover Letter	Submitted as part of application.
N/A	Aquatic (freshwater) study report and part of Scoping EIA_Engineering report; water related items.	Submitted as part of application

It should be noted that on submission of the WULA no detail designs are finalised and therefore the crossing of washes, impeding of drainage lines and abstraction of water are yet to be determined and finalised. As far as possible any of these activities will be eliminated and the impact thereof mitigated within the detail designs.

This initial application therefore was based on the potential that the proposed facility would trigger water use activities as identified in the above table. We foresee that the detailed designs (to be completed on preferred bidder status) will shed light and give clarity on the detailed activities required for water use licencing.

It should be noted that at the time of the initial WULA submission an Environmental Authorisation has not yet been received and will therefore be submitted to the Department together with the complete application. Please note that according to communication with DWS a complete application will be submitted once preferred bidder status under the REIPPP program is obtained.

#### **Correspondence details**

For any correspondence with Humansrus Solar 4 by DWS, please make use of the particulars provided in the following table.

#	Item	Note
1	Project	Humansrus Solar 4 (Pty) Ltd.
2	Attention	Director
3	Address	101, 1 <sup>st</sup> Floor, West Quay Buildings 7 West Quay Road, Waterfront Cape Town 8000
4	Reference person	David Peinke (on behalf of Humansrus Solar 4 (Pty) Ltd.)
5	Contact name	Thys van der Hout
6	Contact number	086 124 2327
7	Email	<a href="mailto:thys@solek.co.za">thys@solek.co.za</a> ; <a href="mailto:johannes@solek.co.za">johannes@solek.co.za</a> ; <a href="mailto:david@atlanticep.com">david@atlanticep.com</a> ;



## water & sanitation

Department:  
Water and Sanitation  
REPUBLIC OF SOUTH AFRICA

### REGISTRATION/LICENSING PART 1

### COMPANY, BUSINESS, PARTNERSHIP OR COMMUNITY, NATIONAL OR PROVINCIAL GOVERNMENT

#### 1. GENERAL INFORMATION

Mark the applicable option(s) with an X and/or complete details where applicable/available.

Indicate the nature of this application:

New registration  Minor change

Formal amendment

Registration Number

--	--	--	--	--	--	--	--	--	--

#### 2. PARTICULARS OF THE APPLICANT

Application for:  
(Mark **one** block with an X)

Company, business, partnership or community (complete part 3,5,6,7 and 8)

National or provincial government (complete part 4,5,6,7 and 8 excl. 8.1.2)

#### 3. PARTICULARS OF THE COMPANY, BUSINESS, PARTNERSHIP OR COMMUNITY

3.1 Name of company, business, partnership or community:

Humansrus Solar 4 (Pty) Ltd

3.2 Trading name if different from name of company, business, partnership or community:

3.3 Type of enterprise:  
(Mark **one** block with an X)

06 Public Company (Ltd)  07 Private Company (Pty) Ltd

08 Article 21 (Association Inc. under Article 21 of the Company Act No. 61 of 1973)  09 Limited By Guarantee

10 External Company  11 External Company under article 21 of the Company Act No. 61 of 1973

20 Transvaal Ordinance  21 Incorporated (Inc)

22 Unlimited  23 Close Corporation (CC)

24 Co-operative (CR)  Trust

Parastatal

Other [i.e. non-CIPRO Company types (e.g. Churches, Schools, Community Groups, etc.) excluding Trust and Parastatal]

3.4 Business enterprise registration number:

2015/337639/07

3.5

**Date established:**  
(ccyy/mm/dd)

2	0	1	5	0	9	2	1
---	---	---	---	---	---	---	---

3.6

**Country where established:**

Republic of South Africa
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3.7

**VAT registration number:**

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4. PARTICULARS OF NATIONAL OR PROVINCIAL GOVERNMENT

4.1 National Department: \_\_\_\_\_

4.2 a) Provincial Department: \_\_\_\_\_

b) Province: \_\_\_\_\_

5. APPLICANT CONTACT DETAILS

5.1 Postal Address: \_\_\_\_\_

PO BOX 704

GREENPOINT

WESTERN CAPE

Postal Code 8 0 0 1

5.2 Street Address (only if different from postal address): \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Postal Code \_\_\_\_\_

5.3 Contact telephone number during office hours

Area/cell code \_\_\_\_\_ 0 2 1 Number 4 1 8 2 5 9 6 Ext \_\_\_\_\_

Alternative contact number

Area/cell code \_\_\_\_\_ Number \_\_\_\_\_ Ext \_\_\_\_\_

5.4 E-mail \_\_\_\_\_

6. CONTACT PERSON DETAILS

6.1 Title MNR

6.2 Name THYS

6.3 Surname VAN DER HOUT

6.4 Telephone

Area/cell code \_\_\_\_\_ 0 8 6 Number 1 2 4 2 3 2 7 Ext \_\_\_\_\_

6.5 Cell Phone Number

Area/cell code \_\_\_\_\_ 0 7 1 Number 6 0 4 7 2 5 0

6.6 Fax

Area/cell code \_\_\_\_\_ Number \_\_\_\_\_ Ext \_\_\_\_\_

6.7 E-mail thys@solek.co.za

6.8 Preferred Form Of Communication EMAIL

# Declaration by applicant (or person who was granted power of attorney by the applicant)

Surname of delegated person:

P E I N K E

Title:

M R

Initials:

D M

ID Number:

8 3 0 1 1 5 5 0 4 7 0 8 1

Passport Number:  
(if not a holder of South African ID)

Expiry Date (ccyy/mmdd):

Delete the words that are not applicable I/we DAVID MICHAEL PEINKE (FULL NAME(S)) hereby declare that the information provided by me/us in this application form is, to the best of my/our knowledge, true and correct.



021 418 2596

Signature  
DIRECTOR

Thumb print

Contact number during office hours  
2016/01/28

Designation of signatory

Date (ccyy/mm/dd)

**It is a criminal offence to provide information that is false or misleading.**

## 7. LIST OF PART 2 DOCUMENTS (WATER USE RELATED FORMS)

Mark with an X which of the following documents have been submitted with this application

- |   |   |
|---|---|
| <input type="checkbox"/> DW760 NWA-Section 21(a)            | <input checked="" type="checkbox"/> DW768 NWA-Section 21(i)                                 |
| <input type="checkbox"/> DW761 NWA-Section 21(b)            | <input type="checkbox"/> DW780 NWA-Section 21(h)  |
| <input type="checkbox"/> DW762 NWA-Section 21(b)            | <input type="checkbox"/> DW805 NWA-Section 21(j)  |
| <input checked="" type="checkbox"/> DW763 NWA-Section 21(c) | <input type="checkbox"/> DW806 NWA-Section 21(k)  |
| <input type="checkbox"/> DW764 NWA-Section 21(d)            | <input checked="" type="checkbox"/> DW901 Property or properties where water use occurs     |
| <input type="checkbox"/> DW765 NWA-Section 21(e)            | <input checked="" type="checkbox"/> DW902 Details of property owner                         |
| <input type="checkbox"/> DW766 NWA-Section 21(f)            | <input type="checkbox"/> DW903 Actual/Monitored waste discharge details NWA-Section 21(f/h) |
| <input type="checkbox"/> DW767 NWA-Section 21(g)            | <input type="checkbox"/> DW904 Actual/Monitored waste discharge details NWA-Section 21(e/g) |

## 8. THIS SECTION IS RESERVED FOR OFFICE USE ONLY

### 8.1 Billing information

8.1.1   WMA for billing\*

\* Water Management Area Codes

01 Limpopo	05 Inkomati	09 Middle Vaal	13 Upper Orange	17 Olifants/Doorn
02 Luvuvhu/Letaba	06 Usutu-Mhlatuze	10 Lower Vaal	14 Lower Orange	18 Breede
03 Crocodile (W), Marico	07 Thukela	11 Mvoti-Umzimkulu	15 Fish-Tsitsikamma	19 Berg
04 Olifants	08 Upper Vaal	12 Mzimvubu-Keiskamma	16 Gouritz	

8.1.2 District Municipal Establishment Levy Payable  Yes  No

### 8.2 Mark with an X which of the following documents have been submitted with this application

- Certified copy of South African identity document
- Certified copy of passport



File number (i.e. Office Hardcopy Register File No)

Water Use Register Number

Received by:

Surname

Initials

Position / Rank

Signature

Date (ccyymmdd)

Captured on NRWU database

Captured by:

Surname

Initials

Signature

Date stamp of receiving office

Quality Assurance Executed by:

Surname

Initials

Position / Rank

Signature

Date (ccyymmdd)



**1.3.2 South African ID (if holder of South African Id) alternatively Passport Number:**ID Number or Passport Number Passport Expiry Date (ccyymmdd) Passport Country Of Issue **1.4 If the applicant is a company, business, partnership or community:****1.4.1** Name of company, business, partnership or community:**1.4.2** Business Enterprise Registration Number**1.4.3** Date Established (ccyymmdd)

Country Where Established

**1.5 If the applicant is a National Department:****1.5.1** National Department Name:**1.6 If the property owner is a Provincial Department:****1.6.1** Province:**1.6.2** Provincial Department Name:**1.7 If the applicant is a Water Services Provider:****1.7.1** Name of WSP:**1.8 If the applicant is a Water User Association:****1.8.1** Name of WUA:**Declaration by applicant**

Delete the words that are not applicable I/we DAVID MICHAEL PEINKE (FULL NAME(S)) hereby declare that the information provided by me/us in this application form is, to the best of my/our knowledge, true and correct.



Signature  
DIRECTOR

Designation of signatory



Thumb print

021 418 2596

Contact number during office hours  
2016/01/28

Date (ccyy/mm/dd)

**It is a criminal offence to provide information that is false or misleading.**





**7. ACTIVITY AFFECTING FLOW IN WATERCOURSE**

7.1 Description of activity (mark only one block with X)

Diversion through a pipe                       Diversion through a canal                       Impeding structure

Other diversion (specify below)

\_\_\_\_\_

7.2 Start date of activity (ccyymmdd)                     

7.3 Flow rate before diversion or impedance                       cubic metres per second

7.4 Flow rate after diversion or impedance                       cubic metres per second

7.5 Purpose of the activity (e.g. "to continue with mining")

\_\_\_\_\_

7.6 If the activity is mining-related, complete the following

e) Distance of the mining-related activity from the original watercourse                       metres

f) Distance of the mining-related activity from the watercourse after impedance or diversion                       metres

g) Depth of undermining of watercourse, if applicable                       metres

h) Mining method used in c), (if any)                      \_\_\_\_\_

**8. DESCRIPTION OF WATER USE SECTOR(S)**

8.1 Where applicable select one more of the following water use sectors

<input type="checkbox"/> Agriculture: Aquaculture	<input type="checkbox"/> Industry (Urban)
<input type="checkbox"/> Agriculture: Irrigation	<input type="checkbox"/> Mining
<input type="checkbox"/> Agriculture: Watering Livestock	<input checked="" type="checkbox"/> Power Generation
<input type="checkbox"/> Evaporation (Storage)	<input type="checkbox"/> Recreation
<input type="checkbox"/> Industry (Non-urban)	<input type="checkbox"/> Water Supply Service
<input type="checkbox"/> Conservation	

**9. EXISTING AUTHORISATION**

9.1 Water use started on (ccyymmdd)

9.2 If this is an existing water use, mark with X and enter permit numbers   
 Permit number

Permit No.	
Permit No.	
Permit No.	
Permit No.	
Permit No.	
Permit No.	

**Date (ccyymmdd)**


9.3 If water use takes place in terms of the General Authorisation, mark with an X

\*If yes complete the following details after confirmation with relevant DWAF/CMA officials:

<u>Date(s) from which applicable GA is/was applicable to this water use</u>			
South African Act:		Applicable section of the act	
	[E.g. National Water Act (Act No. 36 of 1998)]		[E.g. Section 21]
Date From (ccyymmdd)	<input type="text"/>	Government Notice No.	<input type="text"/>
Date To (ccyymmdd)	<input type="text"/>	Government Notice Date (ccyymmdd)	<input type="text"/>
Applicable Section Of The General Authorisation			
<hr/>			
Date From (ccyymmdd)	<input type="text"/>	Government Notice No.	<input type="text"/>
Date To (ccyymmdd)	<input type="text"/>	Government Notice Date (ccyymmdd)	<input type="text"/>
Applicable Section Of The General Authorisation			
<hr/>			
Date From (ccyymmdd)	<input type="text"/>	Government Notice No.	<input type="text"/>
Date To (ccyymmdd)	<input type="text"/>	Government Notice Date (ccyymmdd)	<input type="text"/>
Applicable Section Of The General Authorisation			

9.4 If an authorisation has been issued under other legislation  
 Law /Regulation

**10. PROPERTY RELATIONSHIP DETAILS (Complete supplementary forms DW901 & DW902)**

Property Name	Surveyed Property				Unsurveyed property				Property Relationship Date	
	Title Deed Number	Surveyor-General Cadastral Code	Property Number	Portion of property	Title Deed Number	Surveyor-General Cadastral Code	Property Number	Portion of property	From:	To:
FARM 147 HUMANSRUS	T28367/1978	C09000000000147000	0000		Surname of the Leader of Village, Community or Tribal Authority					
			147		Initial of the Leader of Village, Community or Tribal Authority					
					Local Authority (if applicable)					
					Magisterial District (if applicable)					
					Tribal Authority/Council (if applicable)					
					Surname of the Leader of Village, Community or Tribal Authority					
					Initial of the Leader of Village, Community or Tribal Authority					
					Local Authority (if applicable)					
					Magisterial District (if applicable)					
					Tribal Authority/Council (if applicable)					
					Surname of the Leader of Village, Community or Tribal Authority					
					Initial of the Leader of Village, Community or Tribal Authority					
					Local Authority (if applicable)					
					Magisterial District (if applicable)					
					Tribal Authority/Council (if applicable)					
					Surname of the Leader of Village, Community or Tribal Authority					
					Initial of the Leader of Village, Community or Tribal Authority					
					Local Authority (if applicable)					
					Magisterial District (if applicable)					
					Tribal Authority/Council (if applicable)					
					Surname of the Leader of Village, Community or Tribal Authority					
					Initial of the Leader of Village, Community or Tribal Authority					
					Local Authority (if applicable)					
					Magisterial District (if applicable)					
					Tribal Authority/Council (if applicable)					
					Surname of the Leader of Village, Community or Tribal Authority					
					Initial of the Leader of Village, Community or Tribal Authority					
					Local Authority (if applicable)					
					Magisterial District (if applicable)					
					Tribal Authority/Council (if applicable)					
					Surname of the Leader of Village, Community or Tribal Authority					
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					Tribal Authority/Council (if applicable)					
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					Initial of the Leader of Village, Community or Tribal Authority					
					Local Authority (if applicable)					
					Magisterial District (if applicable)					
					Tribal Authority/Council (if applicable)					





File number

Water Use Register Number

Received by:

Surname

Initials

Position / Rank

Signature

Captured on NRWU database

(ccymmdd)

Capured by:

Surname

Initials

Signature

Date stamp of receiving office



**water affairs**

Department:  
Water Affairs  
REPUBLIC OF SOUTH AFRICA

**Registration / Licensing**

**Section 21(i) of the National Water Act**

**Part 2**

**ALTERING THE BED, BANKS, COURSE OR CHARACTERISTICS OF A WATERCOURSE**

**SPECIAL NOTE**

This form is not applicable for any structure that impedes or diverts flow.  
For these structures, please complete form DW763/775

**1. GENERAL INFORMATION**

Mark the applicable option(s) with an X and/or complete details where applicable/available.

1.1 **Have you already registered a water use with the Department of Water Affairs and Forestry?**  Yes  No

Registration Number:

Water Use Number:

Licence Related WU

RLA Reference:

NRW Licence Number:

RLA Business Unit:

(NRW = National Register of Water Use; RLA = Responsible Licensing Authority; WU = Water Use)

**1.2 Applicant Type (mark only one block with X)**

- Individual (complete 1.3)
- Company, business, partnership or community (complete 1.4)
- National Department (complete 1.5)
- Provincial Department (complete 1.6)
- Water Services Provider (complete 1.7)
- Water User Association (complete 1.8)

**1.3 If the applicant is an individual**

1.3.1 Title  Surname  Initials

**For office use only**

Allocated Reg. No.  WU No.

**1.3.2 South African ID (if holder of South African Id) alternatively Passport Number:**

ID Number or Passport Number

Passport Expiry Date (ccyymmdd)

Passport Country Of Issue

**1.4 If the applicant is a company, business, partnership or community:**

**1.4.1** Name of company, business, partnership or community:

**1.4.2** Business Enterprise Registration Number

**1.4.3** Date Established (ccyymmdd)

Country Where Established

**1.5 If the applicant is a National Department:**

**1.5.1** National Department Name:

**1.6 If the applicant is a Provincial Department:**

**1.6.1** Province:

**1.6.2** Provincial Department Name:

**1.7 If the applicant is a Water Services Provider:**

**1.7.1** Name of WSP:

**1.8 If the applicant is a Water User Association:**

**1.8.1** Name of WUA:

**Declaration by applicant**

Delete the words that are not applicable I/we DAVID MICHAEL PEINKE (FULL NAME(S)) hereby declare that the information provided by me/us in this application form is, to the best of my/our knowledge, true and correct.



Signature  
DIRECTOR

Designation of signatory



Thumb print

021 418 2596

Contact number during office hours  
2016/01/28

Date (ccyy/mm/dd)

**It is a criminal offence to provide information that is false or misleading.**

**2. SUCCESSION/TRANSFER AND SOURCE PART 2 DETAILS**

2.1 Is this a "succession-in-title" related Water Use?  Yes  
 (Mark only one box with an X)  No

2.2 If yes, complete the following source details

2.3 Source Register Number	<input type="text"/>	WU Number	<input type="text"/>
Source Register Number	<input type="text"/>	WU Number	<input type="text"/>
Source Register Number	<input type="text"/>	WU Number	<input type="text"/>

**3. WATER RESOURCE INFORMATION**

3.1 Name of water source

3.2 Type of water source  
 River/stream     Estuary     Spring/Eye     Wetland     Dam     Lake

3.3 Quaternary Drainage Region

**4. DETAILS OF WATER USE ACTIVITY**

4.1 Name of alteration

4.2 Location of the alteration

a) Geographic location of the start of the alteration

Latitude   °  ,  .  " or   .  ° or   °  .  ,

Longitude   °  ,  .  " or   .  ° or   °  .  ,

Datum Type:  Cape (Modified Clarke 1880)     WGS-84

b) Geographic location of the end of the alteration (if different from the start)

Latitude   °  ,  .  " or   .  ° or   °  .  ,

Longitude   °  ,  .  " or   .  ° or   °  .  ,

Datum Type:  Cape (Modified Clarke 1880)     WGS-84

4.3 Length of watercourse affected by the alteration  metres

4.4 Type of alteration (mark all applicable with an X)

Bed     Banks     Course     Other (specify below)

4.5 Purpose of the alteration

4.6 The activity is (mark only one block with X)       Temporary       Permanent

4.7 Start date of the alteration      **Start Date** (ccyymmdd)

4.8 End date of the alteration (if temporary)      **End Date** (ccyymmdd)

4.9 Enter the number of alterations on this property

**5. DESCRIPTION OF WATER USE SECTOR(S)**

5.1 Where applicable select one or more of the following water use sectors

- |  |  |
|--|--|
| <input type="checkbox"/> Agriculture: Aquaculture        | <input type="checkbox"/> Industry (Urban)            |
| <input type="checkbox"/> Agriculture: Irrigation         | <input type="checkbox"/> Mining                      |
| <input type="checkbox"/> Agriculture: Watering Livestock | <input checked="" type="checkbox"/> Power Generation |
| <input type="checkbox"/> Evaporation (Storage)           | <input type="checkbox"/> Recreation                  |
| <input type="checkbox"/> Conservation                    | <input type="checkbox"/> Water Supply Service        |

**6. EXISTING AUTHORISATION**

6.1 Water use started on      **Date** (ccyymmdd)

6.2 If water use is an existing water use, mark with X and enter permit numbers

	Permit number
Permit No.	<input style="width: 95%; height: 20px;" type="text"/>
Permit No.	<input style="width: 95%; height: 20px;" type="text"/>
Permit No.	<input style="width: 95%; height: 20px;" type="text"/>
Permit No.	<input style="width: 95%; height: 20px;" type="text"/>
Permit No.	<input style="width: 95%; height: 20px;" type="text"/>
Permit No.	<input style="width: 95%; height: 20px;" type="text"/>

<input type="checkbox"/>										

6.3 If water use is in terms of the General Authorisation, mark with X

\*If yes complete the following details after confirmation with relevant DWAF/CMA officials:

<b><u>Date(s) from which applicable GA is/was applicable to this water use</u></b>			
South African Act:		Applicable section of the act	
	[E.g. National Water Act (Act No. 36 of 1998)]		[E.g. Section 21]
Date From (ccyymmdd)	<input type="text"/>	Government Notice No.	<input type="text"/>
Date To (ccyymmdd)	<input type="text"/>	Government Notice Date (ccyymmdd)	<input type="text"/>
Applicable Section Of The General Authorisation		<hr/>	
Date From (ccyymmdd)	<input type="text"/>	Government Notice No.	<input type="text"/>
Date To (ccyymmdd)	<input type="text"/>	Government Notice Date (ccyymmdd)	<input type="text"/>
Applicable Section Of The General Authorisation		<hr/>	
Date From (ccyymmdd)	<input type="text"/>	Government Notice No.	<input type="text"/>
Date To (ccyymmdd)	<input type="text"/>	Government Notice Date (ccyymmdd)	<input type="text"/>
Applicable Section Of The General Authorisation		<hr/>	

6.4 If an authorisation has been issued under other legislation  
 Law /Regulation

**7. PROPERTY RELATIONSHIP DETAILS (Complete supplementary forms DW901 & DW902)**

Property Name	Surveyed Property				Unsurveyed property				Property Relationship Date		
	Title Deed Number	Surveyor-General Cadastral Code	Property Number	Portion of property	Surname of the Leader of Village, Community or Tribal Authority	Initial of the Leader of Village, Community or Tribal Authority	Local Authority (if applicable)	Magisterial District (if applicable)	Tribal Authority/Council (if applicable)	From:	To:
FARM 147 HUMANSRUS	T28367/1978	C060000000000147000	0000		Surname of the Leader of Village, Community or Tribal Authority	Initial of the Leader of Village, Community or Tribal Authority	Local Authority (if applicable)	Magisterial District (if applicable)			
			147		Local Authority (if applicable)		Magisterial District (if applicable)	Tribal Authority/Council (if applicable)			
					Surname of the Leader of Village, Community or Tribal Authority	Initial of the Leader of Village, Community or Tribal Authority	Local Authority (if applicable)	Magisterial District (if applicable)	Tribal Authority/Council (if applicable)		
					Surname of the Leader of Village, Community or Tribal Authority	Initial of the Leader of Village, Community or Tribal Authority	Local Authority (if applicable)	Magisterial District (if applicable)	Tribal Authority/Council (if applicable)		
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					Surname of the Leader of Village, Community or Tribal Authority	Initial of the Leader of Village, Community or Tribal Authority	Local Authority (if applicable)	Magisterial District (if applicable)	Tribal Authority/Council (if applicable)		
					Surname of the Leader of Village, Community or Tribal Authority	Initial of the Leader of Village, Community or Tribal Authority	Local Authority (if applicable)	Magisterial District (if applicable)	Tribal Authority/Council (if applicable)		





File number

Water Use Register Number

Received by:

Surname  Initials

Position / Rank

Signature

Captured on NRWU database (ccymmdd)

Capured by: Surname  Initials

Signature

Date stamp of receiving office



# water affairs

Department:  
Water Affairs  
REPUBLIC OF SOUTH AFRICA

## SUPPLEMENTARY WATER USE INFORMATION PROPERTY WHERE WATER USE OCCURS

DW901 serves to address the following: The property (or properties) where water use(s) is to take place.

• Complete one DW901 form for each property impacted / applicable to a water use registration application.

• Should more than one property owner be applicable to a "property where water occurs" an additional DW902 must be completed for each additional property owner.

### 1. PROPERTY WHERE WATER USE(S) OCCURS

#### 1.1 Property where water use takes place (farm, stand or community): description as per the Deeds Act if applicable, or name of agricultural holding, farm, township, town or city.

FARM 147 HUMANSRUS, NEAR PRIESKA, NORTHERN CAPE

Registration Date (ccyyymmdd):

--	--	--	--	--	--	--	--	--	--

#### 1.2 Property Type (mark only one with an X)

- |   |   |
|---|---|
| <input type="checkbox"/> Agricultural Holding             | <input type="checkbox"/> Erf                                |
| <input type="checkbox"/> Exclusive Use Areas (EUA)        | <input checked="" type="checkbox"/> Farm                    |
| <input type="checkbox"/> Sectional Scheme (To Obtain EUA) | <input type="checkbox"/> Sectional Scheme (to obtain units) |
| <input type="checkbox"/> Sectional Scheme Unit            | <input type="checkbox"/> Township                           |
| <input type="checkbox"/> Unspecified                      | <input type="checkbox"/> Unsurveyed                         |

#### 1.3 If the property type is unsurveyed, complete the following:

a) Surname and initials of leader of village, community or tribal authority

\_\_\_\_\_

Initials

--	--	--	--	--	--

b) Local Authority

\_\_\_\_\_

&/or

c) Magisterial District

\_\_\_\_\_

&/or

d) Tribal Authority/Council

\_\_\_\_\_

#### 1.4 If the property type is not equal to unsurveyed, complete the following:

a) Deeds Office

Cape Town

b) Registration Division

\_\_\_\_\_

c) Property No (i.e. Farm No./Erf No./Holding Area No./Scheme No.)

147

d) Portion of Property

\_\_\_\_\_

e) Title Deed Number

T28367/1978

f) Surveyor-General Cadastral Code

1	2	3	4	5
C	0 6 0	0 0 0 0	0 0 0 0 1 4 7	0 0 0 0 0

1. Refers to the Surveyor's-General Office (T = Pretoria, F = Free State, C = Cape Town & N = Kwazulu-Natal)

2. Major Code (Registration Division)

3. Minor code

4. Property No (i.e. Farm No./Erf No./Holding Area No./Scheme No.)

5. Portion Number

Note: All fields 'left padded with 0'

1.5 Property Area Size

4	7	6	9	.	4	1	5
---	---	---	---	---	---	---	---

Measure Unit:

Hectares       Square Meters       Acres

1.6 Ownership of the property (mark only one with an X)

- Property owned by applicant (100% Share value)
- Property leased by applicant
- Property owned by applicant (Share value less than 100%)
- The property is communal land

2. PROPERTY OWNER RELATIONSHIP

Individual (Identity Number or Passport Number)	Company, Business, Partnership or Community (Business Enterprise Registration Number)	Property Owner Name	Property Owner Document Number (Owner's Title Deed Reference Number)	Property Owner and Property Relationship Date		Owner Share Value %
				From:	To:	
3710090031080		SUSANNA CHRISTINA HUMAN				







# water affairs

Department:  
Water Affairs  
REPUBLIC OF SOUTH AFRICA

## SUPPLEMENTARY WATER USE INFORMATION DETAILS OF PROPERTY OWNER

Should more than one property owner be applicable to a 'property where water use occurs', an additional DW902 must be completed for each additional property owner.

### 1. DETAILS OF PROPERTY OWNER

#### 1.1 Nature of property owner (mark only one block with X)

- Individual (complete 1.2)
  Provincial Department (complete 1.5)  
 Company, business, partnership or community (complete 1.3)
  Water Services Provider (complete 1.6)  
 National Department (complete 1.4)
  Water User Association (complete 1.7)

#### 1.2 If property owner is an individual

1.2.1 Surname  Maiden Name

Initials     Title  Position or official status

Marital Status (mark only one):  
 Married In Community Of Property
  Married Out Of Community Of Property  
 Unmarried

#### 1.2.2 If holder of South African ID:

ID Number

#### 1.2.3 If not holder of South African ID:

Passport No.

Expiry Date (ccyymmdd)

Country of issue

#### 1.3 If the property owner is a company, business, partnership or community:

##### 1.3.1 Name of company, business, partnership or community:

##### 1.3.2 Trading name if different from name of company, business, partnership or community:

##### 1.3.3 Type of Enterprise (mark only one with an X)

- 06 Public Company (Ltd)
  07 Private Company (Pty) Ltd
  08 Article 21 (Association inc under Section 21)  
 09 Limited By Guarantee
  10 External Company
  11 External Company under Article 21  
 20 Transvaal Ordinance
  21 Incorporated (Inc)
  22 Unlimited  
 23 Close Corporation (CC)
  Parastatal
  Trust  
 Other [i.e. Non-CIPRO Company Types (e.g. Churches, Schools, Community Groups, etc.) excluding Trust & Parastatal]





## 2. DECLARATION BY PROPERTY OWNER

### 2.1 Property owner or delegated person:

Surname

Initials  Title

ID number

### 2.2 If not a holder of South African ID:

Passport No.

Expiry Date (ccymmdd)

Country of issue

### 2.3 Position or official status:

### 2.4 I declare that the applicant defined in this application has lawful access to the property and carry out the water use activity or activities related to this application.

Signature  Date (ccymmdd)  Thumbprint (only if requested)

## 3. LIST OF ATTACHED DOCUMENTS (mark each document type attached with an X)

- 3.1  Certified copy of identity document or passport.
- 3.2  Certified copy of Property Owner Document [refer Section 2 of DW901 (Property Title Deed or Deeds printout)].
- 3.3  Certified copy of lease agreement (refer paragraph 1.6 of DW901)
- 3.4  Certified copy of the "power of attorney" or appropriate supporting documentation



Atlantic Renewable Energy Partners (Pty) Ltd  
Reg 2014/078624/07

101, 1<sup>st</sup> Floor, West Quay Building  
7 West Quay Road, Waterfront  
Cape Town  
8000

5 February 2016

**Attention:** Atlantic Renewable Energy Partners

**RE: AGREEMENT TO GRANT PERMISSION FOR APPLYING FOR WATER USE ON THE FARM HUMANSRUS 147, NORTHERN CAPE PROVINCE.**

I CHRISTINA SUSANNA HUMAN with ID 3710090031080 hereby grant permission to David Michael Peinke as director of Atlantic Renewable Energy Partners to apply for Water use license for Humansrus Solar 4 (Pty) Ltd. on the farm Humansrus 147.

Name: C.S. HUMAN

ID: 3710090031080

Date: 2016.02.08

C.S. Human.  
Signature

Certified a true copy  
of the original

ANDREW KOCH CA (SA)  
Commissioner of Oaths RSA  
9 Dal Road  
Camps Bay  
8005

A.K.C.

1

**GEREGISTREERDE WOON- EN POSADRES**

1. Bewaar die bewys van u GEREGISTREERDE WOON- EN POSADRES in hierdie sakkie.

2. Indien u van adres verander het, of indien besonderhede van u huidige adres, bv. straatnaam en/of -nommer, ens. verander het, moet die vorm KENNISGEWING VAN ADRESVERANDERING, wat in die sakkie agter in die identiteitsdokument is, gebruik word om die verandering aan te meld en moet dit ingedien word by of gepos word aan die naaste streek-distrikantoor van die DEPARTEMENT VAN BINNELANDSE SAKE.

**REGISTERED RESIDENTIAL AND POSTAL ADDRESS**

1. Keep the proof of your REGISTERED RESIDENTIAL AND POSTAL ADDRESS in this pocket.

2. If you have changed your address, or, if particulars of your present address, e.g. name of street and/or street number, etc., have been changed, the NOTICE OF CHANGE OF ADDRESS form in the pocket at the back of the identity document must be used to report the change and it must be handed in at or posted to the nearest regional/district office of the DEPARTMENT OF HOME AFFAIRS.

**I.D.No. 830115 5047 08 1**



**S.A. BURGER/S.A. CITIZEN**

**VAN/SURNAME**  
PEINKE

**VOORNAME/FORENAMES**  
DAVID MICHAEL

**GEBORTEDISTRIK OF-LAND/  
DISTRICT OR COUNTRY OF BIRTH**  
SOUTH AFRICA

**GEBORTE DATUM/  
DATE OF BIRTH** 1983-01-15



**DATUM UITGEREIK  
DATE ISSUED** 1999-05-04

**UITGEREIK OP GESAG VAN DIE  
DIREKTEUR-GENERAAL:  
BINNELANDSE SAKE**

**ISSUED BY AUTHORITY OF THE  
DIRECTOR-GENERAL:  
HOME AFFAIRS**

## Deeds Office Property



HUMANSRUS, 147, 0 (CAPE TOWN)

## GENERAL INFORMATION

Deeds Office	CAPE TOWN
Date Requested	2013/04/15 14:23
Information Source	DEEDS OFFICE
Reference	-

## PROPERTY INFORMATION

Property Type	FARM
Farm Name	HUMANSRUS
Farm Number	147
Portion Number	0
Local Authority	PRIESKADC
Registration Division	PRIESKARD
Province	NORTHERN CAPE
Diagram Deed	T28367/1978
Extent	4769,4155HA
Previous Description	-
LPI Code	C06000000000014700000

## OWNER INFORMATION

## Owner 1 of 2

Person Type	INDIVIDUAL
Name	HUMAN CHRISTINA SUSANNA
ID Number	3710090031080
Title Deed	T28367/1978
Registration Date	1978/11/08
Purchase Price (R)	SECT 45(1)
Purchase Date	-
Share	
Microfilm Reference	2009 0223 2346
Multiple Properties	NO
Multiple Owners	NO

## Owner 2 of 2

Person Type	INDIVIDUAL
Name	HUMAN CHRISTINA SUSANNA
ID Number	3710090031080
Title Deed	T15173/2009
Registration Date	-
Purchase Price (R)	TRANSFER BY ENDO
Purchase Date	-
Share	
Microfilm Reference	2009 0222 5214

Microfilm Reference 2009 0222 2346  
**Multiple Properties** NO  
**Multiple Owners** NO

**ENDORSEMENTS (3)**


#	Document	Description	Institution	Amount (R)	Microfilm
1	K620/1979RM	CONTRACT SERVITUDES/MINERALS/LEASES/PC	HUMAN JAN WYNAND VLOK	UNKNOWN	-
2	FARM PR 147	-	-	UNKNOWN	1985 0061 1370
3	FROM PR RD 102/1,104	-	/9	UNKNOWN	-

**HISTORIC DOCUMENTS (1)**

#	Document	Description	Owner	Amount (R)	Microfilm
1	T28367/1978	TRANSFER	HUMAN JAN WYNAND VLOK	UNKNOWN	2009 0223 2346

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 NORTON ROSE FULBRIGHT

## Solar PV Facility Option Agreement

between

**Christina Susanna Human (ID: 371009 0031 080)**

and

**Humansrus Solar 4 Proprietary Limited**

In respect of  
Lease Area on the Farm Humansrus Nr. 147,  
Pixley Ka Seme District Municipality, Prieska Registration Division, Northern Cape Province



### 3.4 Water related items

The following portion of the report are dedicated to discussions pertaining to water, the volumes and seasonality of the project requirements, the sources available, the infrastructure pertaining to water usage, the legislative approvals required for water usage and the corresponding environmental impact risks thereof.

#### 3.4.1 Water requirements

The project consumes water for two purposes, the first being during the construction period and the second being for maintenance purposes (during the operational phase). The construction of the solar facility requires approximately 300-500 m<sup>3</sup>/month during the construction period (5400m<sup>3</sup> – 6000m<sup>3</sup>/12-18month construction period). The project requires about 8 litres of water per panel per annum for the purposes of maintaining proper production (water used for cleaning of panels).

The amount and size of the panels that will be used will therefore determine how much water will be required for the maintenance requirements of a 75 MW plant. If a 250 Watt panel is used, a 75 MW plant (installed 85MW) will consist of more or less 340 000 panels, which will roughly calculate to 6.6-8 kl of water required per day (2'400-2'900 m<sup>3</sup>/annum), when considering an average consumption throughout the year.

The 20 x 10 kl capacity water tanks will be places on site in order to store 200 000 litres (200m<sup>3</sup>) of water at any given time, effectively providing a storage capacity of two to four weeks of cleaning water supply. The proposed activity is not a "water intensive activity" (as opposed to CSP technology).

Only a limited amount of water is required in low rainfall periods to clean the modules once every quarter so that they can operate at maximum capacity. No chemicals will be used to clean the panels, only water.

Weather conditions, traffic and general dustiness at the site play a role in the exact amount of water required to clean the solar PV panels. At present it is assumed that each panel should be washed once every three months.

To further reduce the use of water at the solar facility, the use of alternative panel cleaning methods is also being investigated. The most feasible technology under consideration uses compressed air to blow off any debris and dust from the panel's surface. At this stage the technology is being tested and needs refinement before it would be commercially viable. Other cleaning options are currently under development where rotating rubber-based waterless cleaning is used. Cleaning technologies are improving overtime and it is expected that more innovative cleaning technology will be developed, further reducing or eliminating water requirements although these are not fully commercially proven.

The development is expected to apply for a water use authorization or licence, from the Department of Water Affairs, as part of the development process. A water use licence is expected to be required for any water extraction (boreholes, rivers or channels) or for crossing river beds/washes. As far as possible, it is planned to avoid engaging in activities or actions which requires a water use licence, for example the crossing of perennial washes or abstraction of water. The requirements to apply for a water use licence are expected to be confirmed and directed by the appropriate specialists.



### 3.4.2 Water sources

There are a number of different water sources which can be further investigated to supply water for the project. The following section investigates these options.

#### 3.4.2.1 Boreholes:

The preferred water sources are the existing boreholes on the proposed farm. Two boreholes have been identified on the farm, situated near the proposed site. These boreholes are seen as a possible water option for the facility.

A full pump-test is expected to be done after preferred-bidder status, should borehole water supply remain the preferred water supply, in order to confirm sufficient water supply potential from on-site boreholes; this will further confirm water availability.

The water from boreholes could be pumped to the on-site water tanks through a pipeline, although this will depend on the final location of the water tanks. Should such a water pipeline be required, the pipe diameter will be approximately 50mm-100mm. The pipeline will be laid on the ground, or just below the ground by means of manual excavation. The water pipeline should not result in any additional environmental impacts outside of the main construction area.

The utilisation of water from the boreholes is likely to require a licence in terms of section 21 (a) of the National Water Act which regulates abstraction from a water source. Should it deem possible to avoid the need for a water licence it would be done (for example eliminating water abstraction on-site as an option). A proof of submission of a "Water use licence application" (WULA) will be included within the Final Environmental Impact report should a water use licence be required.

Note that a freshwater ecology study is undertaken so as to verify any constraints surrounding seasonal washes and to take cognisance of any water use licence activities which could be required and will be included within the impact assessment phase.

#### 3.4.2.2 Prieska-Copperton water-pipeline

An additional option is to obtain water from the existing pipeline which supplies Copperton and Alkantpan with potable water. The water is currently being fed, via the constructed pipeline, from Prieska and the Orange River. Should water be drawn from the existing water-pipeline, water will most probably be transported with water trucks.

The usage of this "Alkantpan" potable water could potentially avoid the requirement of obtaining a water use licence from the Department of Water Affairs in terms of the extraction of water from resources such as groundwater or rivers (Section 21 (a)).

#### 3.4.2.3 Siyathemba local municipality (alternative supply)

Permission to use water directly from the nearest town (Copperton) will further be investigated. This water will also have to be transported by trucks to the proposed site. This will be seen as the last alternative as transport costs will be significantly higher compared to the other two options. The usage of municipal water can reduce the requirement of obtaining a water use licence from the Department of Water Affairs in terms of the extraction of water from resources such as groundwater or rivers.

#### 3.4.2.4 Rainwater

As an additional measure, PVC rainwater tanks could be placed alongside the on-site buildings to collect the rainwater runoff from the roof. These PVC tanks will then form part of the water storage tanks.

#### 3.4.3 Water buffer

Water storing infrastructure is to be provided as part of the auxiliary building footprint area. Storing capacity for two weeks are planned to be provided for. This will add up to twenty 10 kl water tanks.



Figure 12: Typical water storage tank

#### 3.4.4 Water-use permission

A water use application will be submitted as part of the environmental impact assessment process should it be found that this is unavoidable. As stated previously, proof of such a “Water use licence application” submission will be added to the “Final Environmental Impact Report”.

However, as also stipulated in the official REIPPP documentation (RFP, Volume 1, Part 1, Section 4.5) the “Department of Water and Sanitation” (DWS) will only process water use licence applications from developers who have been selected as Preferred Bidders. Therefore a full assessment of the water-use licence application will only be undertaken by the DWS once the project is approved.

The EIA application can therefore be submitted without a water licence, although application proof of receipt is required. The DWS are also registered as a key stakeholder in the environmental process and will have an opportunity to provide any additional input.

#### 3.4.5 Erosion and storm water control

The risk of water erosion is low because of the extremely low annual rainfall in the area. The ground condition in the Copperton area is such that large portions of surface water are absorbed into the soil. This avoids water build up on the surface and quickly reduces any water flow which might cause water erosion.

On large structures or buildings appropriate guttering could be used around the building to avoid water erosion where roof water would be flowing off the roof. Wherever practically possible rainfall run-off from the roofs/gutters will be captured and stored in rainwater tanks. If this water cannot be captured, water will be channelled into energy dissipating structures to spread the water and slow it down to reduce the risk of erosion. Such a structure could be moulded from precast concrete, loosely packed rock or perforated bags filled with stone.

Any rainfall on the solar modules would be welcomed due to its cleaning effect, but as mentioned before the annual predicted rainfall is very low and would not cause any erosion worth discussing. The solar module surfaces are installed at a relatively large incline with gaps between modules.

This does not allow significant water build up on the modules while also reducing the energy in falling droplets. Should a tracking technology be used this implies that droplets leaving the solar module surface would not drop onto the same ground areas all the time.

The construction area might cross over seasonal washes. To avoid erosion in these washes recognised building practices will be followed to keep the natural flow of water within its natural borders. It is in the interest of the solar operator to keep the area clean and free of erosion to avoid any damage to the equipment. The solar modules would be installed on frames, allowing for natural water flow underneath the structure.

During the construction phase of the project there might be a risk of wind erosion where natural vegetation is removed. This might increase the risk of damaging sensitive equipment with a sandblasting effect and all parties involved will be vigilant to avoiding this from happening. A phased construction approach will be investigated

A phased construction approach should also minimise the amount of exposed soil at any one time thus reducing the risk for wind erosion and dust generation. Once the construction on each phase is complete the cleared areas is expected to be re-vegetated with locally-collected seed of indigenous species and left for vegetation to return to the area naturally. Bare areas are envisioned to be packed with brush removed from other parts of the site to encourage natural vegetation regeneration and limit erosion. Any water being used in the cleaning process would speed up this natural vegetation rehabilitation process. Further it will also have a bonding effect on the sandy soil, avoiding the loose sand blowing away causing wind erosion.

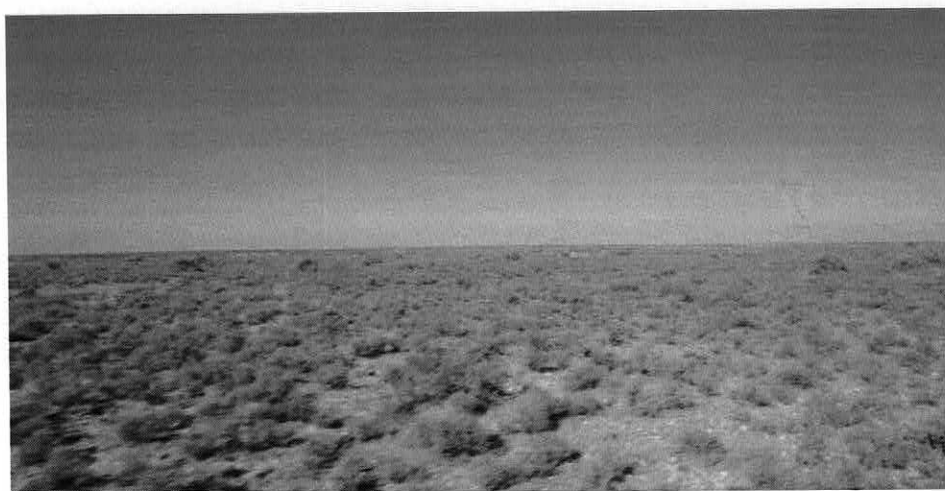


Figure 13: Illustration of current vegetation on the farm

Access roads and internal roads would also be designed and build using recognised erosion and storm water management systems. During the construction phase of the solar PV facility temporary solutions would be implemented to ensure that the environment is preserved in a sustainable way by avoiding erosion. The following figure shows a typical temporary solution that would be implemented during the construction phase, basically consisting of an inlet, channel and outlet. During outflow of the water energy is dissipated allowing any particles to sink to the ground which also avoids fast flowing water to sweep particles up from the ground avoiding erosion, by flowing through packed stones acting as a filter.

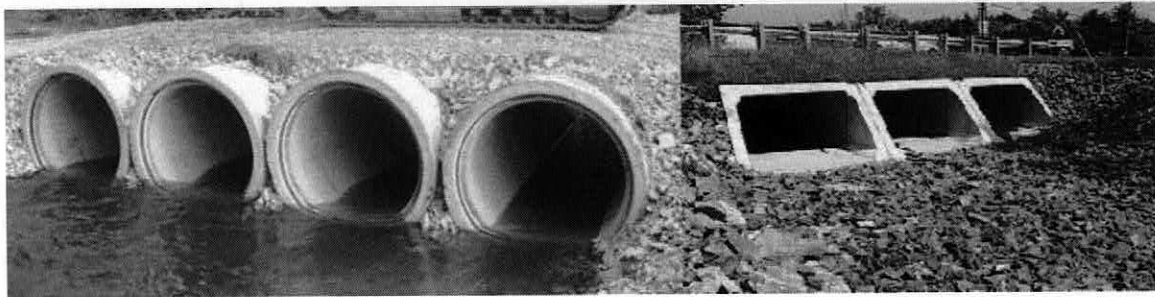


Figure 14: Installed concrete pipes and culverts

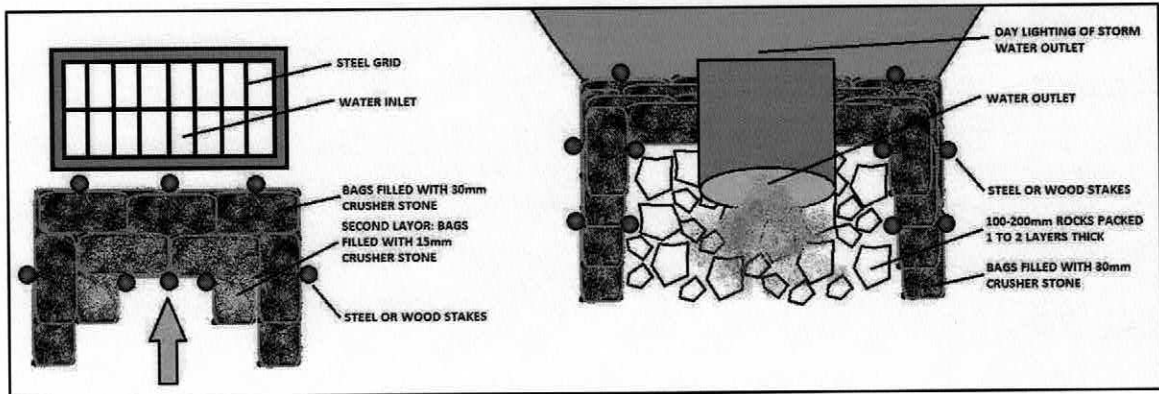


Figure 15: Temporary culvert inlet and outlet

More permanent solutions would be designed to keep storm water under control in a sustainable way. These structures would be built to be aesthetically pleasing by using fixtures such as stones packed in wire mesh to stay in a position or locking retaining walls at the inflow and outflow of the culverts also acting as scour protection.

Depending on the situation which is influenced by the type of water control most probably being stream crossing (in this particular case it would be a dry water wash for most of the year) or a culvert for water runoff management, either portal culverts with bases or reinforced precast concrete pipes would be used as the channelling.

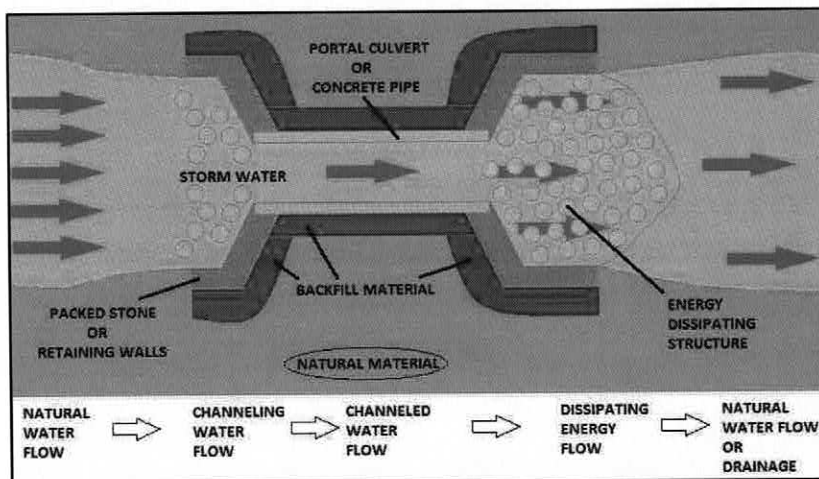


Figure 16: Storm water flow

An alternative to culverts considering drainage line crossings, Low-level River Crossings (LLRC) can be used. A LLRC is a structure that is designed in such a way to provide a bridge when water flow is low, while under high flow conditions water runs over the roadway, without causing damage.

Two types of LLRC can be used depending of the particular situation. A “Causeway” contains openings underneath the surface, which allows passing water through where a “Drift” does not.

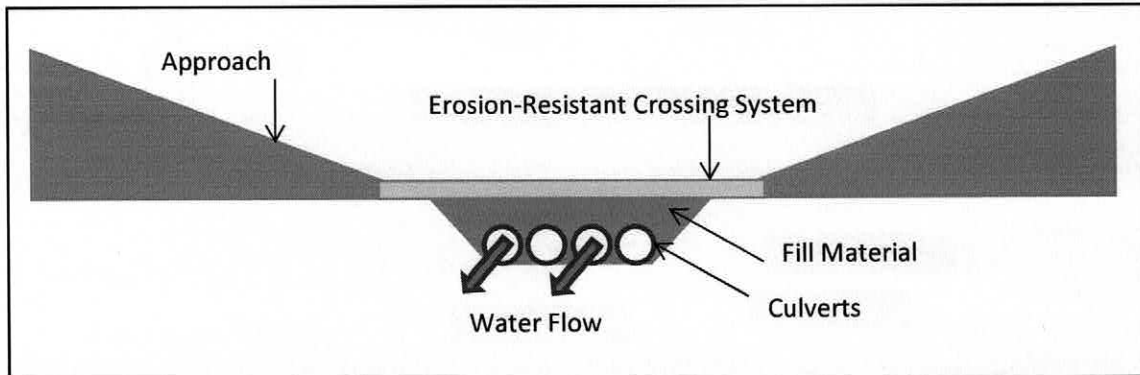


Figure 17: Causeway (Low Level River Crossing)

The same type of erosion control methods discussed with the culverts is taken into account when designing a LLRC. Because a LLRC is designed for water to flow over it, erosion protection is very important. Rock filled baskets, loosely packed rock or perforated bags filled with stone are some of the methods usually considered with LLRC.

The water use licence application process will include application for potential crossings of water courses in terms of Section 21(i) &(c) of the national water act. This application process will only commence if the project is selected as a preferred bidder. It should be noted that the finalization of the detail facility layout design is typically done only after preferred bidder status is obtained. Note that these discussed erosion prevention and stormwater management will be implemented as and where required (to be finalised and included within the final detailed facility design and considerations to be taken will be obtained from specialists within the impact phase of this project).

As part of the impact phase of the environmental assessment process, a Stormwater management, Erosion and Wash-water report will be prepared.

### 3.5 Grid connection

In this Scoping Phase a self-build powerline option to be investigated. Due to the planned decommissioning of the Cuprum Hydra 132kV powerline a Loop-in Loop-out grid connection option has been eliminated from the grid connection options. Due to the current information available and Eskom recommending connecting to Kronos substation a self-build Powerline option connecting to the Eskom Kronos substation has been selected and will be assessed.

Please note that the routes of power lines inside the project site and study area have a number of options and that this route options could change. The routes outside the study area and project site are however fixed to the route discussions within this impact phase.

Self-build grid connection options erects new grid connection infrastructure from the on-site substation to the Kronos substation in order to evacuate the generated electricity.

**Aquatic Delineation and Impact Statement:**

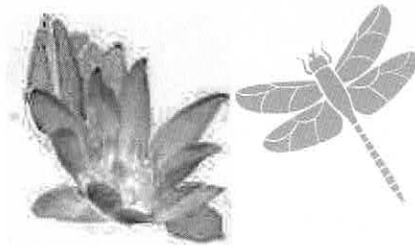
**HUMANSRUS SOLAR 4  
NORTHERN CAPE PROVINCE**

**Prepared for:**

**Humansrus Solar 4 (Pty) Ltd**

**Prepared by:**

**Scherman Colloty & Associates  
1 Rossini Road  
PORT ELIZABETH, 6070**



**January 2016**

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## SPECIALIST STATEMENT DETAIL

This statement has been prepared with the requirements of the Environmental Impact Assessment Regulations and the National Environmental Management Act (Act 107 of 1998), any subsequent amendments and any relevant other National and / or Provincial Policies related to biodiversity assessments in mind.

**Report prepared by:** Dr. Brian Colloty Pr.Sci.Nat. (Ecology) / Certified EAP / Member SAEIES & SASAqS

**Expertise / Field of Study:** BSc (Hons) Zoology, MSc Botany (Rivers), Ph.D Botany Conservation Importance rating (Estuaries) and interior wetland / riverine assessment consultant from 1996 to present.

I, **Dr. Brian Michael Colloty** declare that this report has been prepared independently of any influence or prejudice as may be specified by the National Department of Environmental Affairs



Signed:...

..... Date:....21 January 2016.....



## **1 - Introduction**

Scherman Colloty & Associates (SC&A) was appointed by Humansrus Solar 4 (Pty) Ltd to conduct an aquatic assessment for the proposed Humansrus Solar 4 Photovoltaic Energy Facility and any additional supporting infrastructure near Copperton in the Northern Cape. This includes any transmission lines, substations and temporary works areas located within the solar facility.

This study includes verifying any previous desktop delineations conducted by SC&A (2013 & 2014) and was based on additional site specific information collected during a site visit in November 2015, while adhering to the assessment criteria contained in the DWAF 2005 / 2007 delineation manuals and the National Wetland Classification System found in the Appendix 1.

This report thus provides the relevant delineations and Present Ecological State status assessment of the observed waterbodies together with an analysis of the potential impact of the proposed activities on the aquatic environment.

## 2 - Project description

The proposed solar facility is located on a portion of the Farm 147 Humansrus, near Copperton in the Northern Cape and will be accessed via the R357.

The project comprises of the following components related to the aquatic environment:

- PV Footprint (including PV Panels, Substation, laydown areas).
- Grid connection options
- Proposed access road option (including new roads as well as existing roads that may need some upgrading).
- Water supplied for the construction phase will be obtained from Alkantpan via an agreement between them and the proponent.
- The project will not employ any on-site treatment or disposal for the waste water generated during the project's development phases. The generated quantities will differ significantly between the construction and operational phases of the development. The waste water will be treated at the Siyathemba Local Municipality Waste Water Treatment Works (WWTW). According to the Municipality this facility has sufficient capacity to deal with all the expected Waste Water quantities generated by the project.

## 3 – Study area description

The study area is characterised by non- perennial watercourses (Plate 1), drainage lines and depressions (Plate 2) associated with the Bastersput River although located within the Carnavonleegte River D54D quaternary catchment (Figure 1).

Several of the national spatial databases such as the National Freshwater Ecosystems Priority Areas (NFEPA) assessment also identified several wetlands within the study area. These were typical pans or depressions (Figure 2) or the riparian<sup>1</sup> systems associated with the larger river systems to the east of the study area. The wetland areas were investigated during the site visit with the majority confirmed to be either farm dams or old borrow-pits.

According to the Present Ecological State Scores (PES) issued by the Department of Water and Sanitation (DWS) in 1999 (Nel *et al.* 2011), the D54 systems were rated with a PES = B, largely natural, with impacts mostly related either to agricultural practices, impoundments or alien vegetation (*Prosopis* spp).

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<sup>1</sup> Riparian systems were included in NFEPA database, but are associated with river systems thus not typically considered wetlands, unless these are defined as floodplain wetlands which is not the case for the study area.

## **8 – Conclusion and recommendations**

The proposed layout for the solar energy facility will have a negligible impact on the aquatic environment. The project has adhered to past specialist recommendations and the infrastructure that would have posed even a slight risk to water resources has been moved outside of any direct wetlands or water course areas.

Furthermore, during the site visit, no aquatic protected or species of special concern (fauna & flora) were observed within the adjacent areas that will be used. Therefore, based on the site visit the significance of the impacts assessed for the aquatic systems after mitigation would be LOW.

Figure 3 further indicates various buffers as required by the legislation, for each type of aquatic feature, which would trigger the need for a Water Use License application, should any construction take place within these areas. The author of this report would thus not object to the authorisation for any of the supporting infrastructure.

This would apply to any of the proposed alternatives as they would present a similar impact on the aquatic environment.

Finally, when considering any other potential projects within the adjacent / nearby farms the potential for changes to the surrounding aquatic habitat would not be significant especially during the operational phases (hard surfaces and stormwater management). It is however assumed that any such changes would be detrimental to the various project's owners, i.e. erode areas around mirrors. This coupled to the fact that the low mean annual run-off and with suitable stormwater management the impacts could be mitigated. The likelihood of any cumulative impacts listed in this report is especially low when considering the only a low percentage of projects will actually move into the construction phase.