







Appendix 5

Maps

Proposed Grid Connection












-  Power Line Corridor Option 1
-  Power Line Corridor Option 2
-  Power Line Corridor Option 3
-  Substations

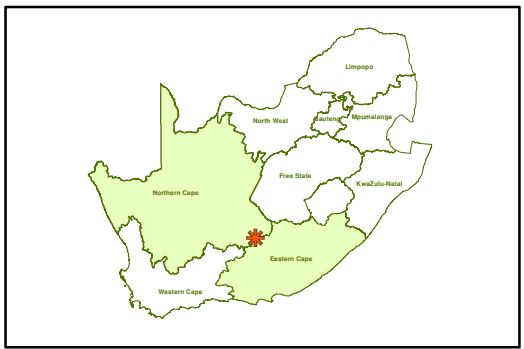
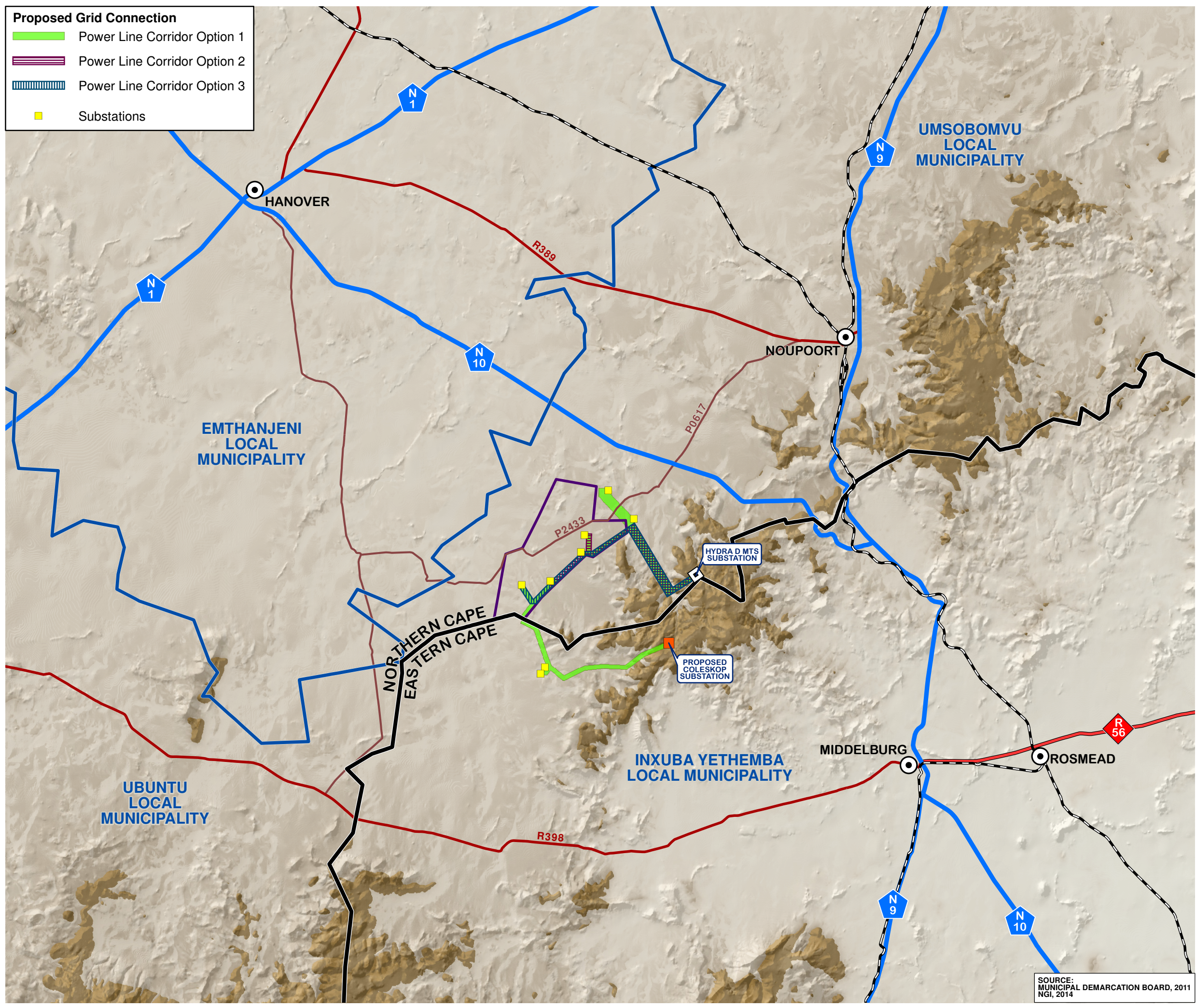
**PROPOSED
GRID CONNECTION FOR
WONDERHEUVEL SOLAR
PHOTOVOLTAIC (PV)
ENERGY FACILITY**


**NEAR NOUPOORT,
NORTHERN AND EASTERN
CAPE PROVINCES**

REGIONAL CONTEXT

Legend

-  Provincial Boundary
-  Local Municipal Boundaries
-  National Routes
-  Main Arterial Routes
-  Main Roads
-  Secondary Roads
-  Railways
-  Main Towns
-  Hydra D MTS Substation
-  Proposed Coleskop WEF Substation
-  Wonderheuveul Solar PV Application Site




 0 2.5 5
 Kilometers


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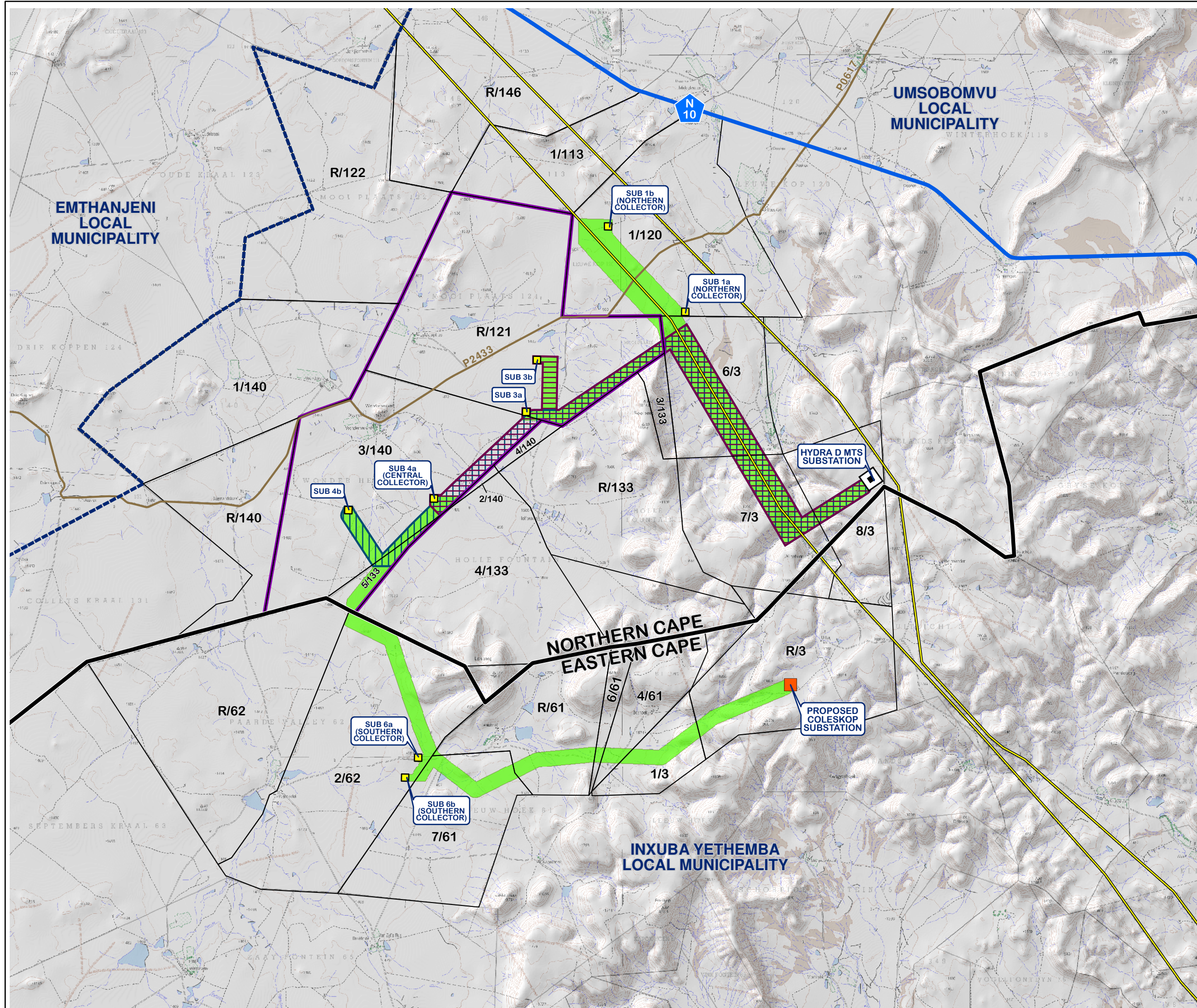
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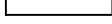






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SOURCE:
MUNICIPAL DEMARCATION BOARD, 2011
NGI, 2014

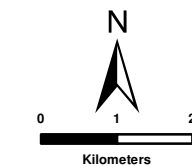
**PROPOSED
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ENERGY FACILITY**
NEAR NOUPOORT,
NORTHERN AND EASTERN
CAPE PROVINCES
ROUTE ALIGNMENT



Legend

-  Provincial Boundary
 -  Local Municipal Boundaries
 -  National Route (N10)
 -  Secondary Roads
 -  Existing High Voltage Power Lines (400kV)
 -  Farm Portions
 -  Wonderheuvel Solar PV Application Site
 -  Hydra D MTS Substation
 -  Proposed Coleskop WEF Substation
- Proposed Grid Connection**
-  Power Line Corridor Option 1
 -  Power Line Corridor Option 2
 -  Power Line Corridor Option 3
 -  Substations

SOURCE:
ESKOM, 2012
MUNICIPAL DEMARCATION BOARD, 2016
NGI, 2014



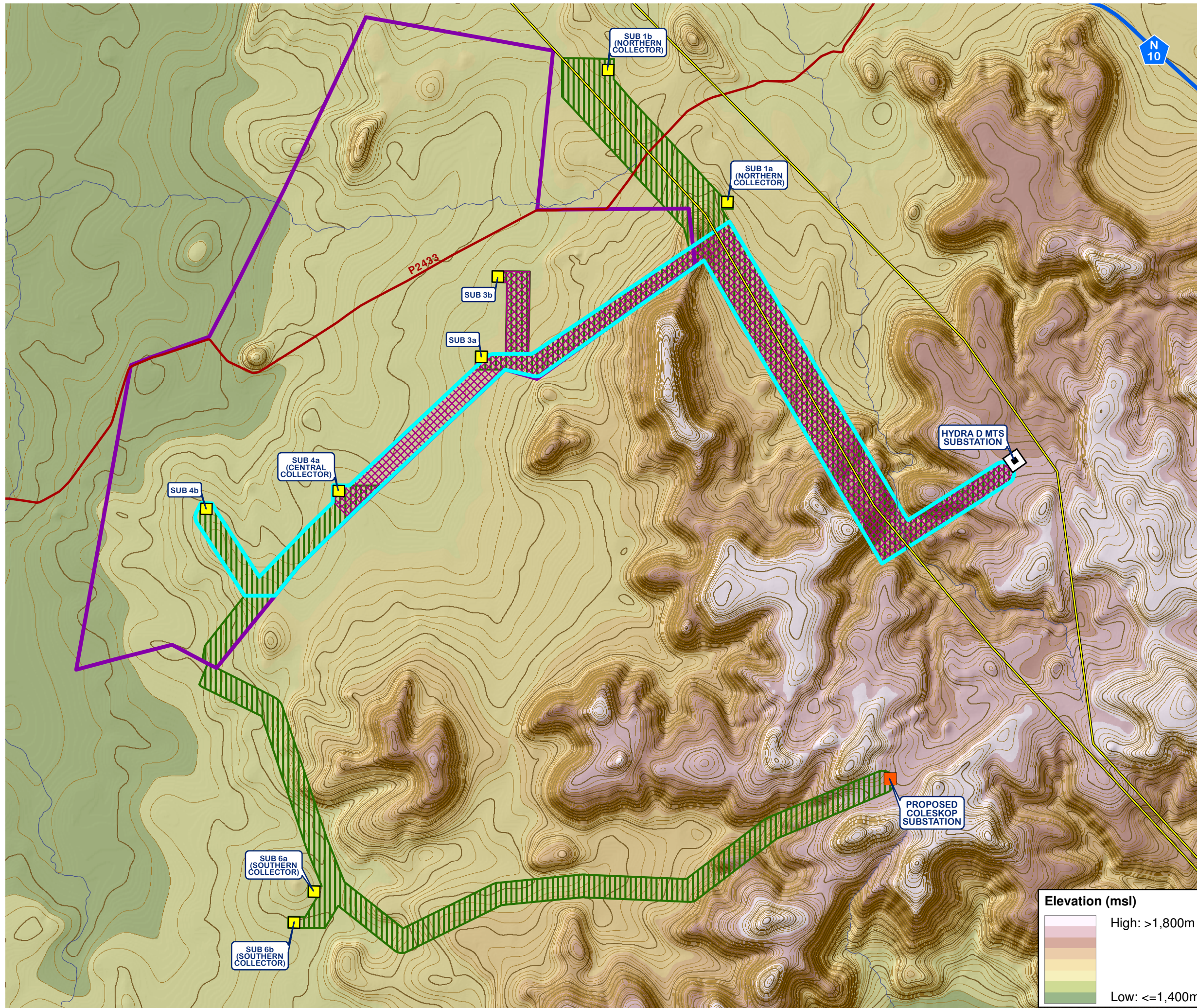
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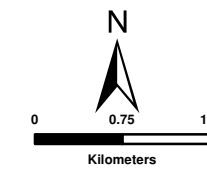
**PROPOSED
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WONDERHEUVEL SOLAR
PHOTOVOLTAIC (PV)
ENERGY FACILITY
NEAR NOUPOORT,
NORTHERN AND EASTERN
CAPE PROVINCES
TOPOGRAPHY**



Legend

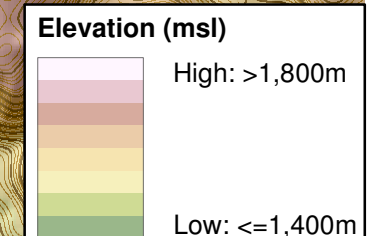
-  National Route (N10)
-  Secondary Roads
-  Existing High Voltage Power Lines (400kV)
-  Rivers
-  Contours (20m Interval)
-  Contours (5m Interval)
-  Wonderheuvel Solar PV Application Site
-  Hydra D MTS Substation
-  Proposed Coleskop WEF Substation
-  Power Line Corridor Option 1
-  Power Line Corridor Option 2
-  Power Line Corridor Option 3
-  Substations

SOURCE:
ESKOM, 2012
NGI, 2014



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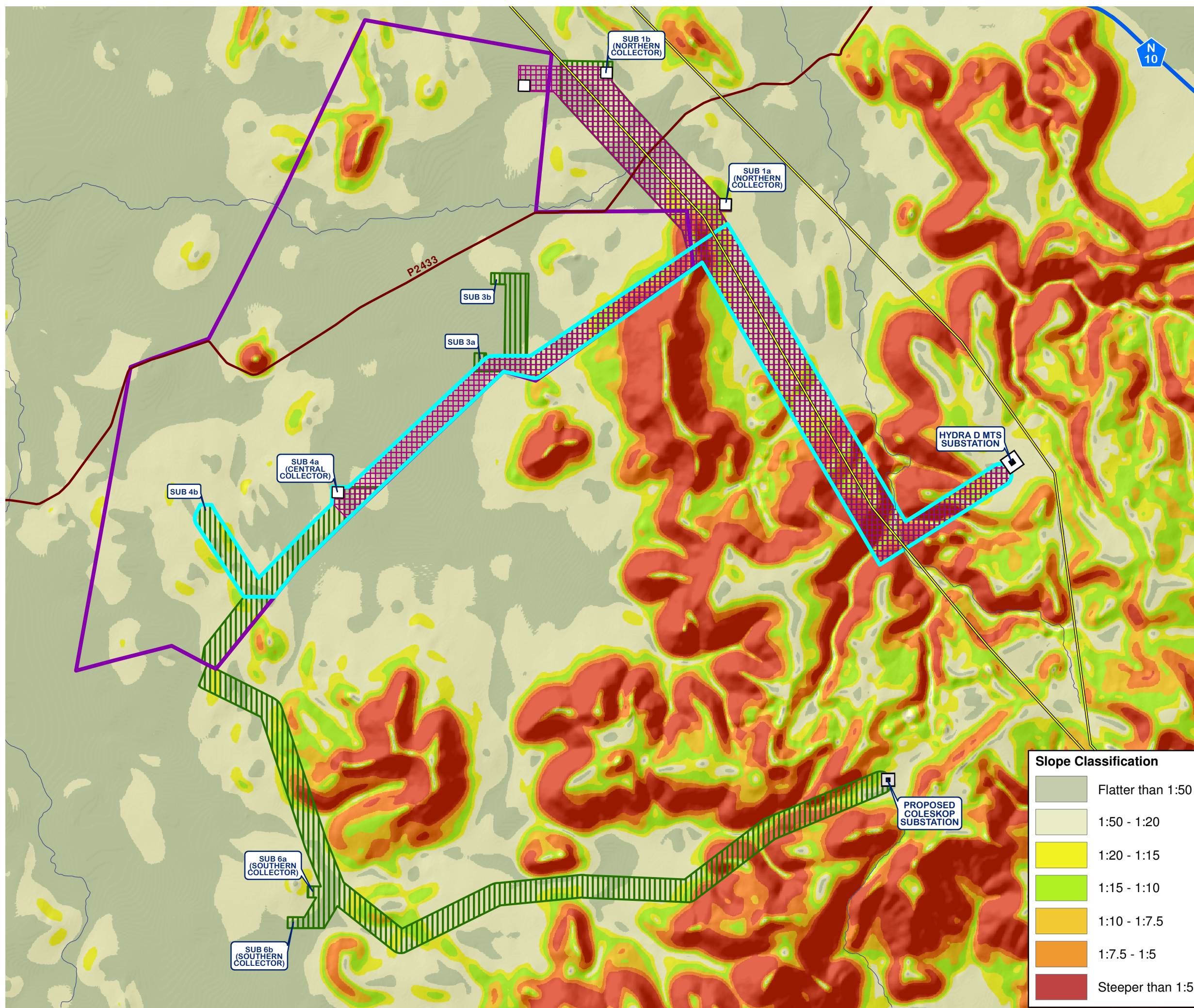
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Map Ref No 15324/WG_03	Revision 0	Date
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**PROPOSED
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ENERGY FACILITY
NEAR NOUPOORT,
NORTHERN AND EASTERN
CAPE PROVINCES
SLOPE CLASSIFICATION**



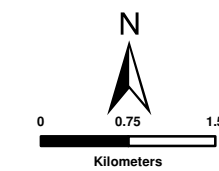
Legend

- National Route (N10)
- Secondary Roads
- Existing High Voltage Power Lines (400kV)
- Rivers
- Wonderheuvel Solar PV Application Site
- Hydra D MTS Substation
- Proposed Coleskop WEF Substation
- Proposed Grid Connection**
- Power Line Corridor Option 1
- Power Line Corridor Option 2
- Power Line Corridor Option 3
- Substations

Slope Classification

	Flatter than 1:50
	1:50 - 1:20
	1:20 - 1:15
	1:15 - 1:10
	1:10 - 1:7.5
	1:7.5 - 1:5
	Steeper than 1:5

SOURCE:
ESKOM, 2012
NGI, 2014



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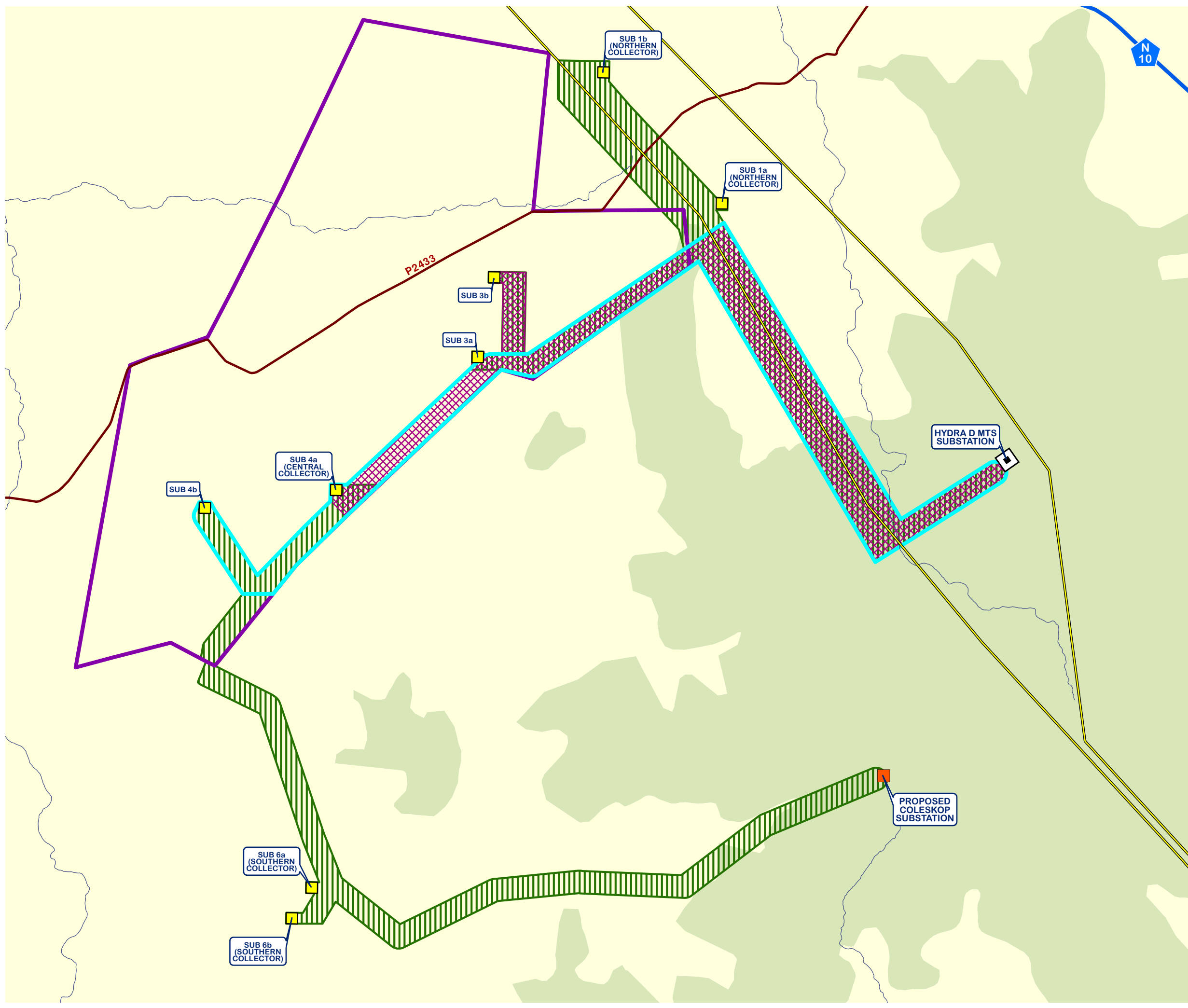
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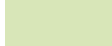

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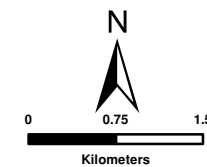
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PHOTOVOLTAIC (PV)
ENERGY FACILITY**
**NEAR NOUPOORT,
NORTHERN AND EASTERN
CAPE PROVINCES**
VEGETATION CLASSIFICATION



Legend

-  National Route (N10)
-  Secondary Roads
-  Existing High Voltage Power Lines (400kV)
-  Rivers
-  Wonderheuvel Solar PV Application Site
-  Hydra D MTS Substation
-  Proposed Coleskop WEF Substation
- Proposed Grid Connection**
-  Power Line Corridor Option 1
-  Power Line Corridor Option 2
-  Power Line Corridor Option 3
-  Substations
- Vegetation Classification**
-  Besemkaree Koppies Shrubland
-  Eastern Upper Karoo

SOURCE:
ESKOM, 2012
NGI, 2014
SANBI, 2012



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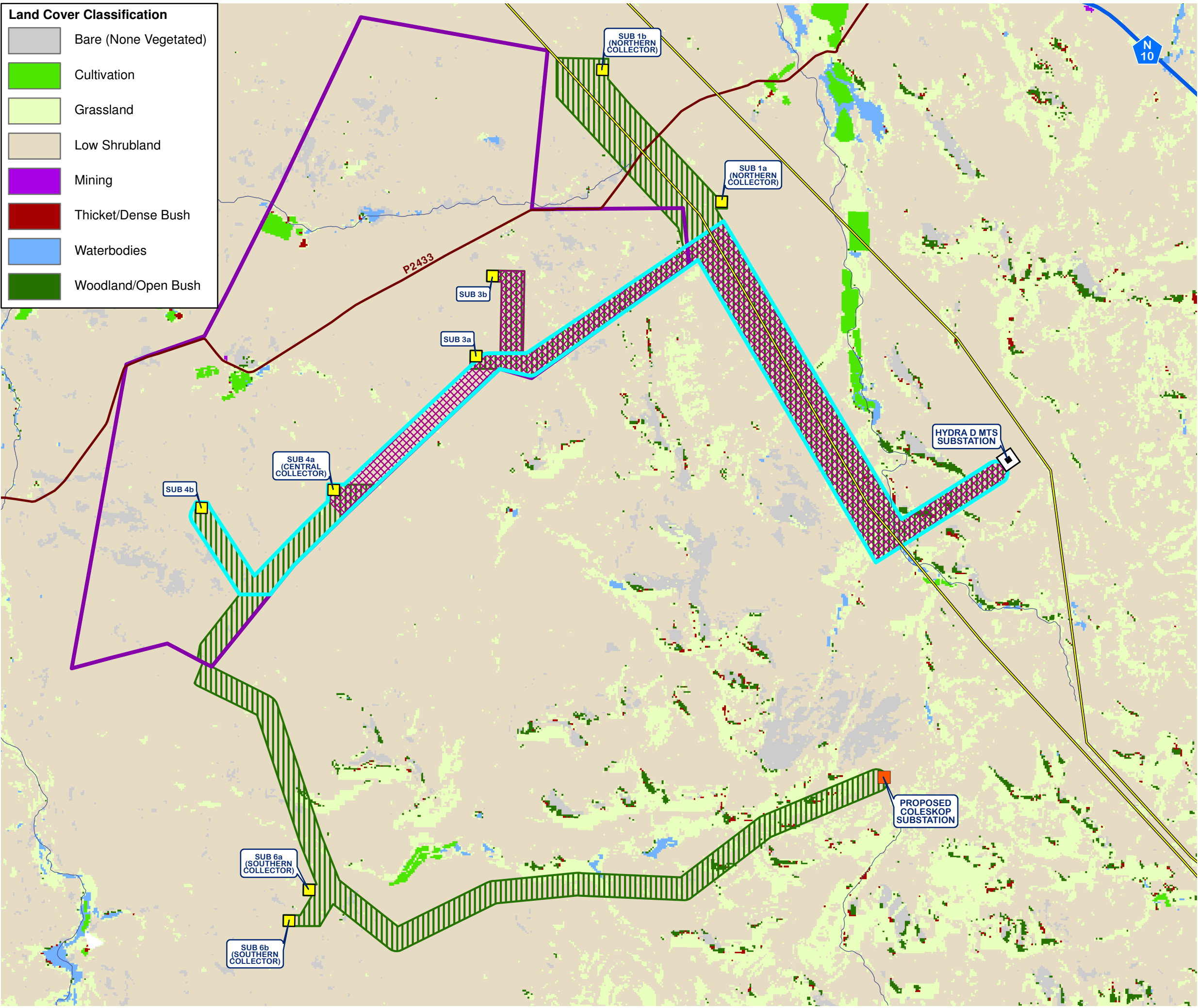
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Land Cover Classification

-  Bare (None Vegetated)
-  Cultivation
-  Grassland
-  Low Shrubland
-  Mining
-  Thicket/Dense Bush
-  Waterbodies
-  Woodland/Open Bush







**PROPOSED
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ENERGY FACILITY**
NEAR NOUPOORT,
NORTHERN AND EASTERN
CAPE PROVINCES
BROAD LAND COVER
CLASSIFICATION

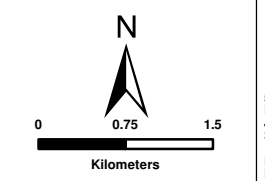
Legend

-  National Route (N10)
-  Secondary Roads
-  Existing High Voltage Power Lines (400kV)
-  Rivers
-  Wonderheuveld Solar PV Application Site
-  Hydra D MTS Substation
-  Proposed Coleskop WEF Substation

Proposed Grid Connection

-  Power Line Corridor Option 1
-  Power Line Corridor Option 2
-  Power Line Corridor Option 3
-  Substations

SOURCE:
ESKOM, 2012
NGI, 2014
2013-2014 SA NATIONAL LAND COVER
(© GEOTERRAIMAGE - 2014)



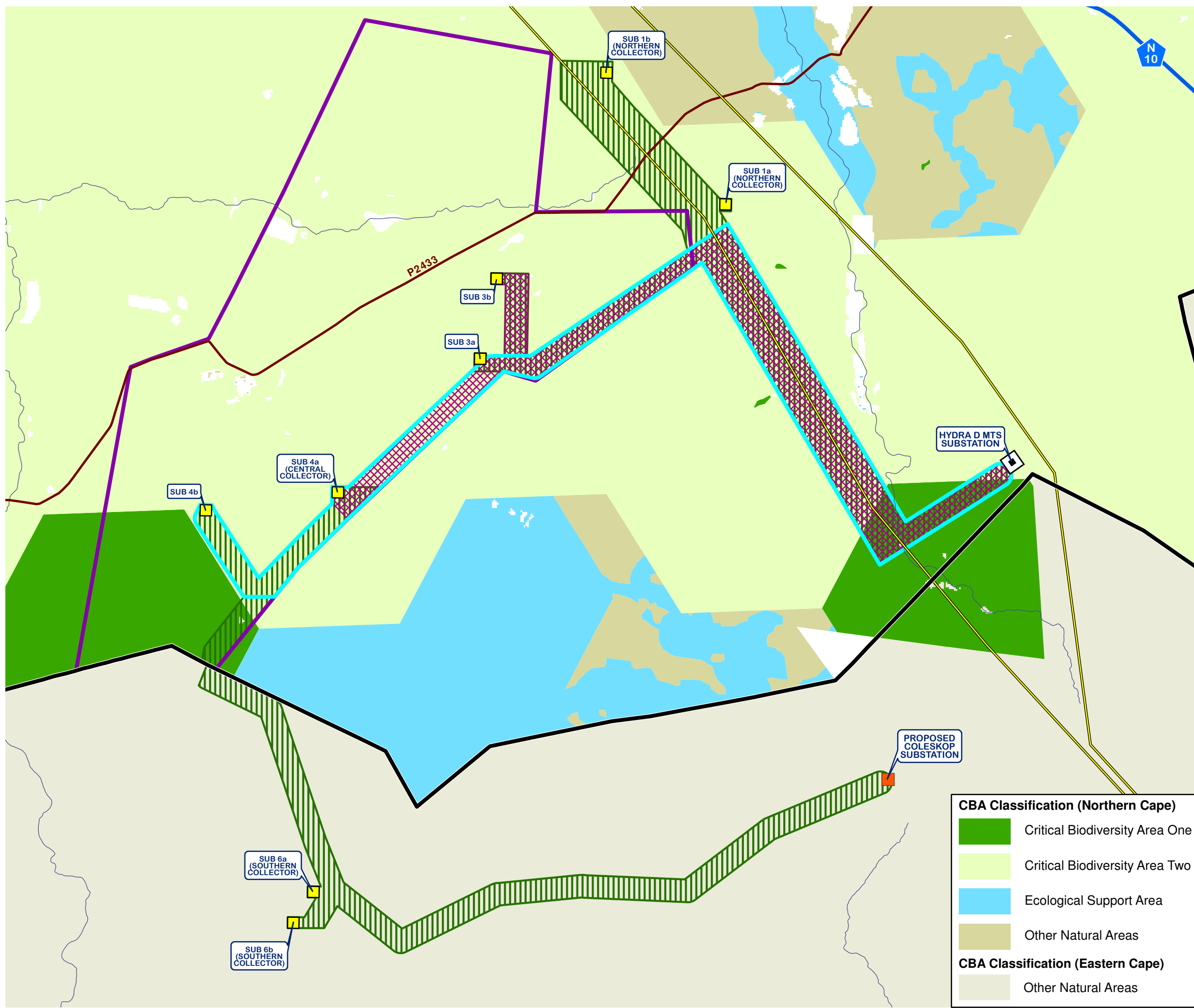
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ENERGY FACILITY**
**NEAR NOUPOORT,
NORTHERN AND EASTERN
CAPE PROVINCES**
CRITICAL BIODIVERSITY AREAS

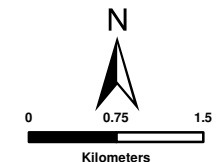


Legend

- Provincial Boundary
 - National Route (N10)
 - Secondary Roads
 - Existing High Voltage Power Lines (400kV)
 - Rivers
 - Wonderheuveld Solar PV Application Site
 - Hydra D MTS Substation
 - Proposed Coleskop WEF Substation
- Proposed Grid Connection**
- Power Line Corridor Option 1
 - Power Line Corridor Option 2
 - Power Line Corridor Option 3
 - Hydra D MTS Substation

SOURCE:
ESKOM, 2012
NFEPA, 2011
NORTHERN CAPE DEPT OF ENVIRONMENT AND
CONSERVATION, 2016
EASTERN CAPE BIODIVERSITY CONSERVATION PLAN, 2007

- CBA Classification (Northern Cape)**
- Critical Biodiversity Area One
 - Critical Biodiversity Area Two
 - Ecological Support Area
 - Other Natural Areas
- CBA Classification (Eastern Cape)**
- Other Natural Areas



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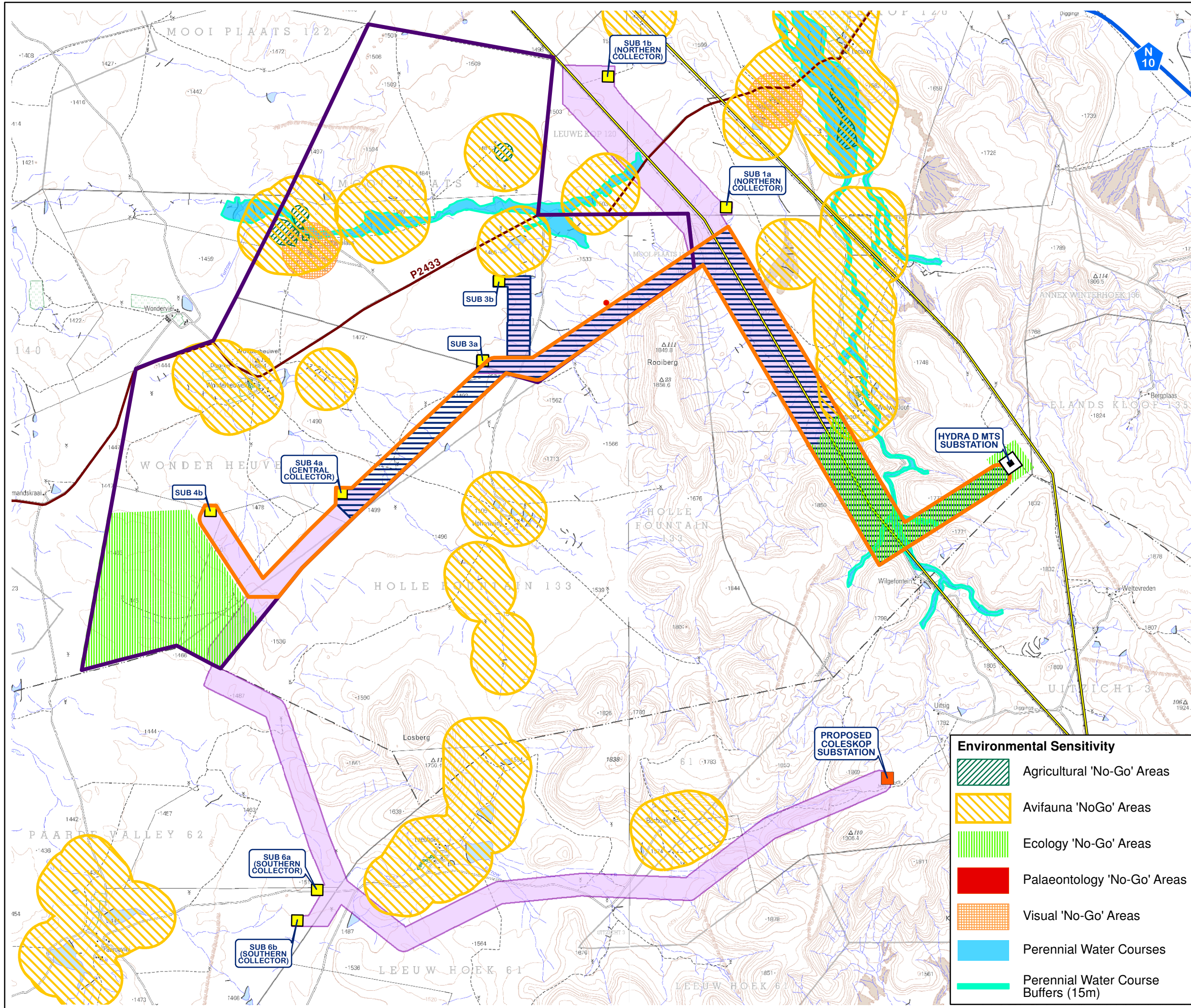
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ENERGY FACILITY**
**NEAR NOUPOORT,
NORTHERN AND EASTERN
CAPE PROVINCES**
ENVIRONMENTAL SENSITIVITY



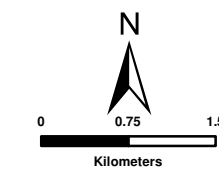
Legend

- National Route (N10)
- Secondary Roads
- Existing High Voltage Power Lines (400kV)
- Wonderheuveld Solar PV Application Site
- Hydra D MTS Substation
- Proposed Coleskop WEF Substation
- Proposed Grid Connection**
- Power Line Corridor Option 1
- Power Line Corridor Option 2
- Power Line Corridor Option 3
- Substations

Environmental Sensitivity

- Agricultural 'No-Go' Areas
- Avifauna 'No-Go' Areas
- Ecology 'No-Go' Areas
- Palaeontology 'No-Go' Areas
- Visual 'No-Go' Areas
- Perennial Water Courses
- Perennial Water Course Buffers (15m)

SOURCE:
ESKOM, 2012
NGI, 2014



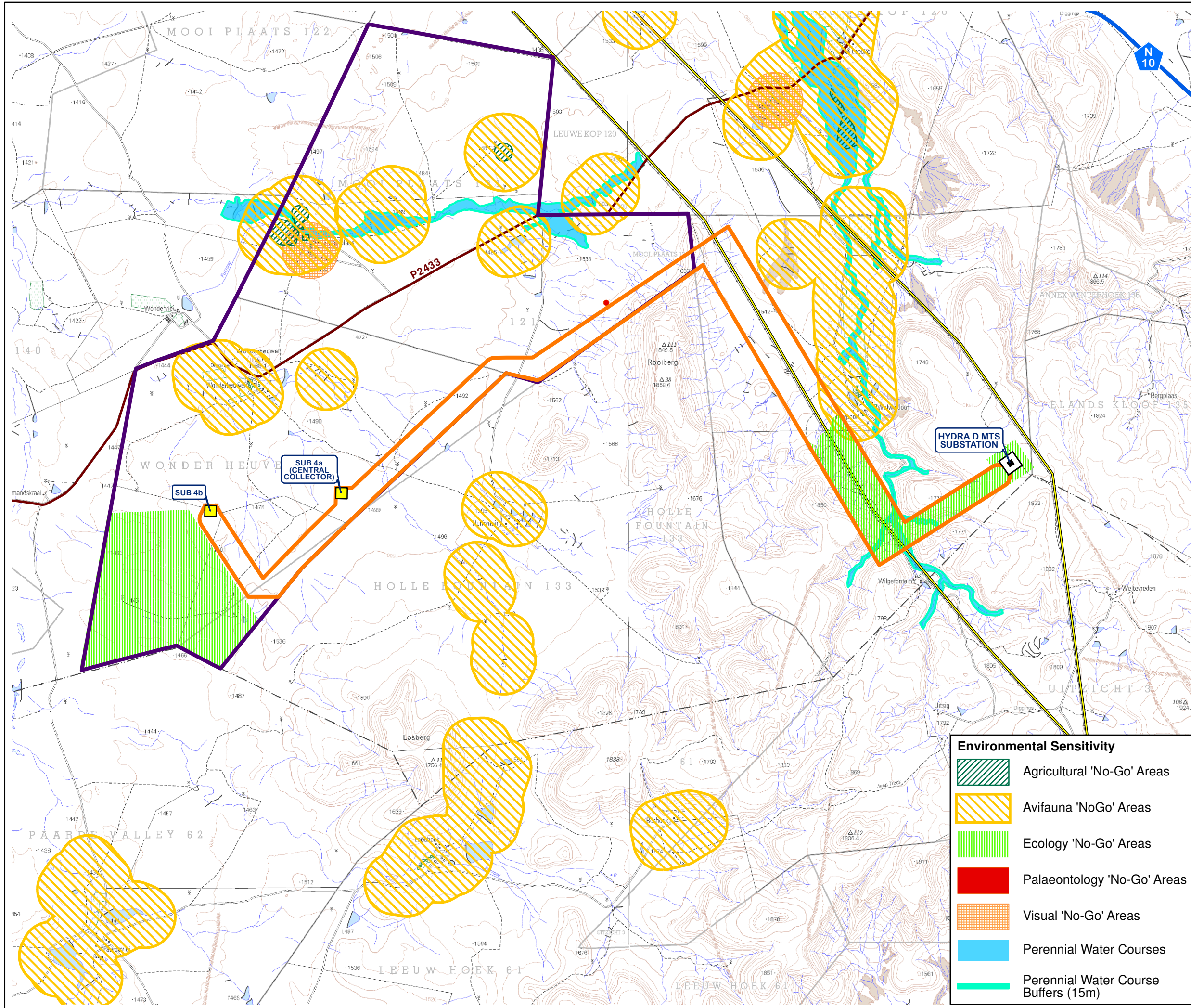
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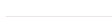





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**PROPOSED
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PHOTOVOLTAIC (PV)
ENERGY FACILITY
NEAR NOUPOORT,
NORTHERN AND EASTERN
CAPE PROVINCES
PREFERRED ALTERNATIVES**



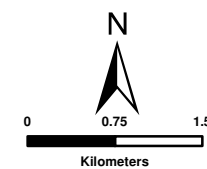
Legend

-  National Route (N10)
-  Secondary Roads
-  Existing High Voltage Power Lines (400kV)
-  Wonderheuveld Solar PV Application Site
-  Hydra D MTS Substation
- Preferred Alternatives**
-  Power Line Corridor Option 3
-  Substations

Environmental Sensitivity

-  Agricultural 'No-Go' Areas
-  Avifauna 'NoGo' Areas
-  Ecology 'No-Go' Areas
-  Palaeontology 'No-Go' Areas
-  Visual 'No-Go' Areas
-  Perennial Water Courses
-  Perennial Water Course Buffers (15m)

SOURCE:
ESKOM, 2012
NGI, 2014



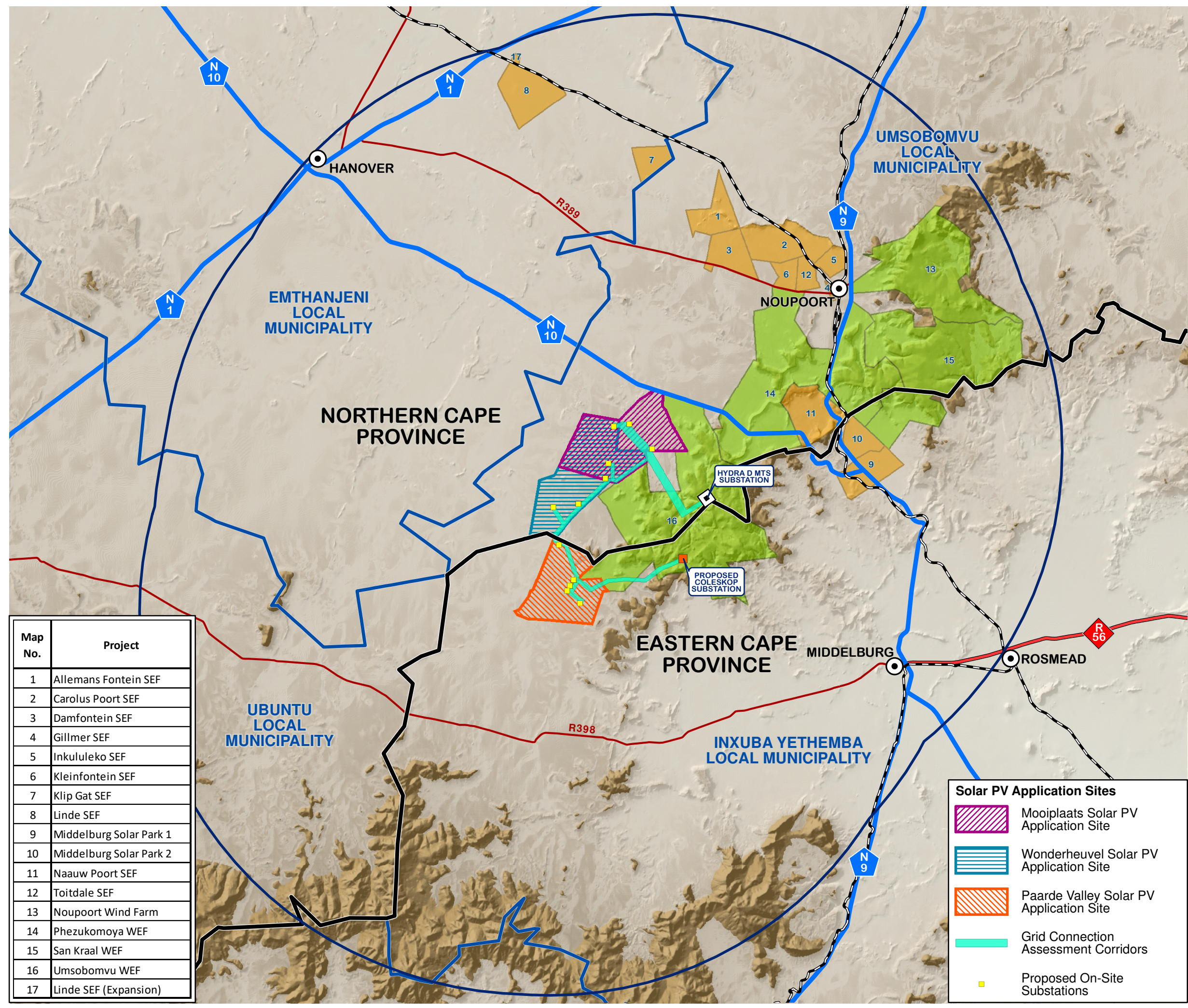
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PROPOSED CONSTRUCTION OF THREE SOLAR PHOTOVOLTAIC (PV) ENERGY FACILITIES NEAR NOUPOORT, NORTHERN AND EASTERN CAPE PROVINCES
RENEWABLE ENERGY PROJECTS (EXISTING AND PROPOSED)



Legend

- Local Municipal Boundaries
- National Routes
- Main Arterial Routes
- Main Roads
- Railways
- Main Towns
- 35km Radius

Renewable Energy Application Sites

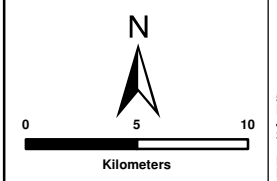
- Solar
- Wind

Map No.	Project
1	Allemans Fontein SEF
2	Carolus Poort SEF
3	Damfontein SEF
4	Gillmer SEF
5	Inkululeko SEF
6	Kleinfontein SEF
7	Klip Gat SEF
8	Linde SEF
9	Middelburg Solar Park 1
10	Middelburg Solar Park 2
11	Naauw Poort SEF
12	Toitdale SEF
13	Noupoort Wind Farm
14	Phezukomoya WEF
15	San Kraal WEF
16	Umsobomvu WEF
17	Linde SEF (Expansion)

Solar PV Application Sites

- Mooiplaats Solar PV Application Site
- Wonderheuvel Solar PV Application Site
- Paarde Valley Solar PV Application Site
- Grid Connection Assessment Corridors
- Proposed On-Site Substations

SOURCE: DEA, 2018 MUNICIPAL DEMARCATION BOARD, 2011 NGI, 2014








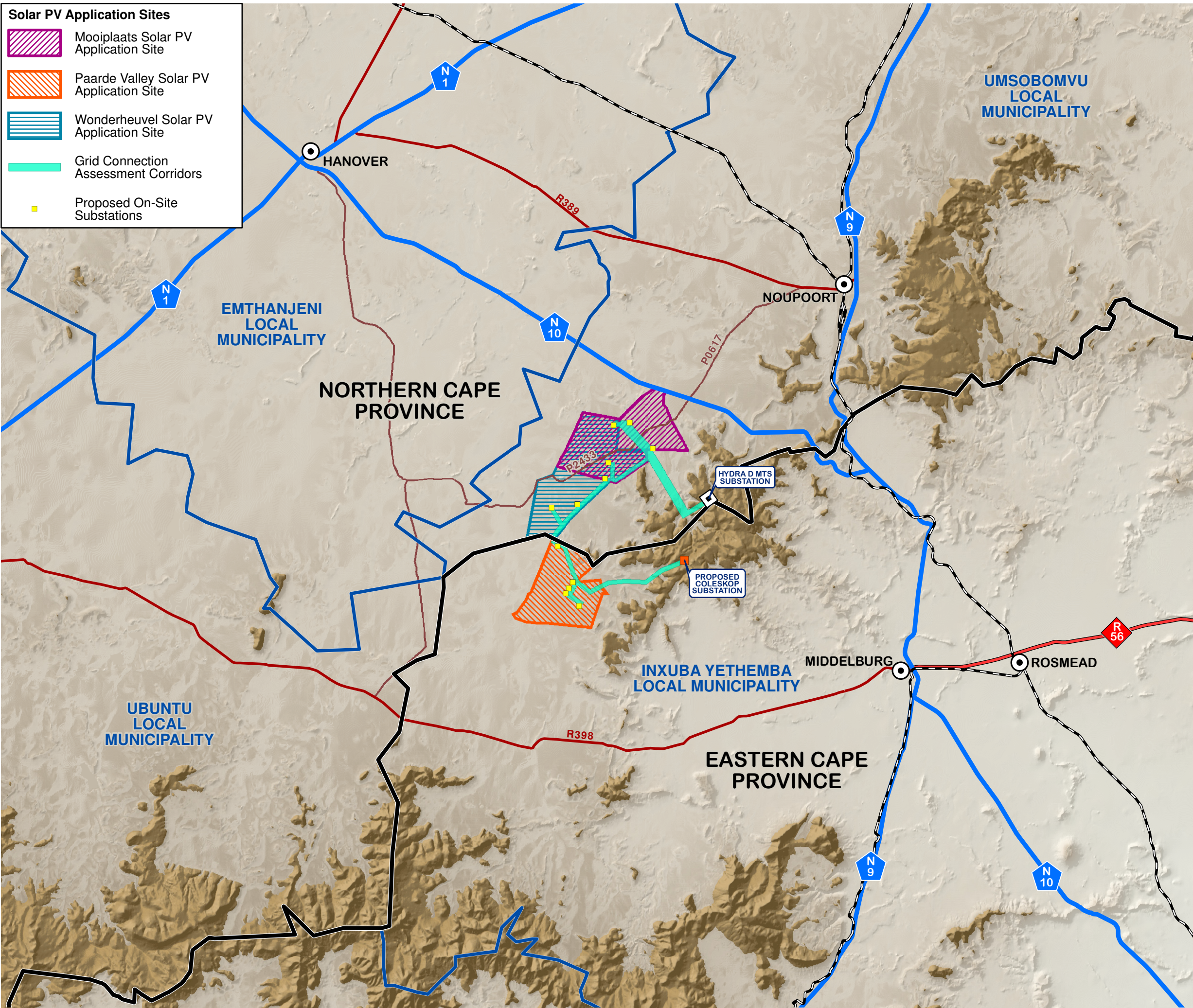
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- Solar PV Application Sites**
-  Mooiplaats Solar PV Application Site
 -  Paarde Valley Solar PV Application Site
 -  Wonderheuvél Solar PV Application Site
 -  Grid Connection Assessment Corridors
 -  Proposed On-Site Substations



PROPOSED CONSTRUCTION OF THREE SOLAR PHOTOVOLTAIC (PV) ENERGY FACILITIES NEAR NOUPOORT, NORTHERN AND EASTERN CAPE PROVINCES REGIONAL CONTEXT

- Legend**
-  Provincial Boundary
 -  Local Municipal Boundaries
 -  National Routes
 -  Main Arterial Routes
 -  Main Roads
 -  Secondary Roads
 -  Railways
 -  Main Towns
 -  Hydra D MTS Substation
 -  Proposed Coleskop WEF Substation

SOURCE: MUNICIPAL DEMARCATION BOARD, 2011
NGI, 2014



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