



**REPUBLIC OF NAMIBIA**  
**MINISTRY OF ENVIRONMENT, FORESTRY AND TOURISM**

OFFICE OF THE ENVIRONMENTAL COMMISSIONER

**ENVIRONMENTAL CLEARANCE CERTIFICATE**

**ISSUED**

In accordance with Section 37(2) of the Environmental  
Management Act (Act No. 7 of 2007)

**TO**

**Karibib Town Council**  
**P. O. Box 19, Karibib**

**TO UNDERTAKE THE FOLLOWING LISTED ACTIVITY**

**The Construction of Public Roads, Infrastructure and Activities in Water  
Courses within Flood Lines through Township Establishments at Karibib  
to be known as Usab Extensions in Erongo Region.**



Issued on the date: **2022-09-16**  
Expires on this date: **2025-09-16**

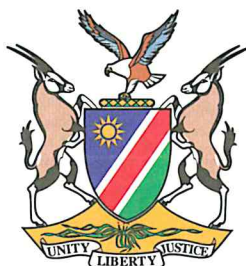
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### **CONDITIONS OF APPROVAL**

1. This environmental clearance is valid for a period of 3 (three) years, from the date of issue unless withdrawn by this office
2. This certificate does not in any way hold the Ministry of Environment, Forestry and Tourism accountable for misleading information, nor any adverse effects that may arise from these activities. Instead, full accountability rests with the proponent and its consultants
3. This Ministry reserves the right to attach further legislative and regulatory conditions during
4. the operational phase of the project
5. All applicable and required permits are obtained and mitigation measures stipulated in the EMP are applied particularly with respect to management of ecological impacts.
6. Strict compliance with national heritage guidelines and regulations is expected throughout the life-span of the proposed activity, therefore any new archaeological finds must be reported to the National Heritage Council for appropriate handling of such.



REPUBLIC OF NAMIBIA

## MINISTRY OF ENVIRONMENT, FORESTRY AND TOURISM

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### OFFICE OF THE ENVIRONMENTAL COMMISSIONER

#### NOTIFICATION OF DECISION

REF NUMBER: ECC- APP2578

DATE OF ISSUE: 16 SEPTEMBER 2022

#### DETAILS OF PROPONENT:

Karibib Town Council  
P. O. Box 19  
Karibib  
Namibia

Dear Sir/ Madam

**SUBJECT: NOTIFICATION ON APPLICATION FOR ENVIRONMENTAL CLEARANCE TO UNDERTAKE THE PROPOSED LISTED ACTIVITY:** The Construction of Public Roads, Infrastructure and Activities in Water Courses within Flood Lines through Township Establishments at Karibib to be known as Usab Extensions in Erongo Region.

**Notice is herewith given** in accordance with section 37(2) of the Environmental Management Act, Act 7 of 2007 and Environmental Impact Assessment Regulations of 2012 (GG 4878): that a decision in respect to your application No. **APP 2578** for Environmental Clearance Certificate to undertake a listed activity has been reached.

#### DECISION

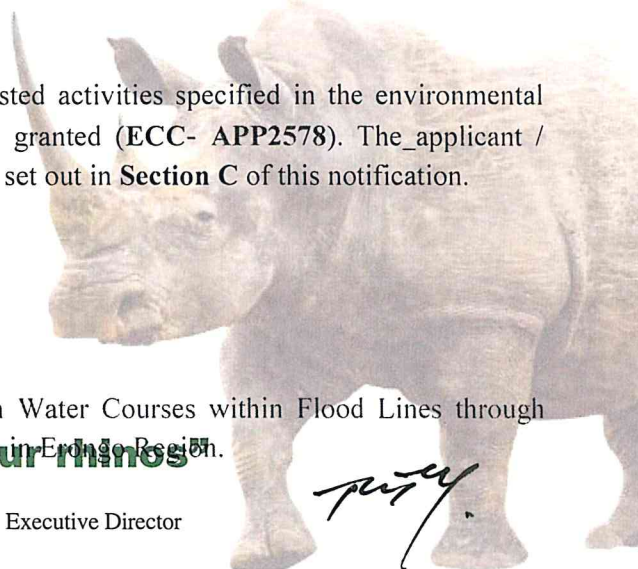
An Environmental Clearance Certificate (ECC) to undertake the listed activities specified in the environmental assessment report and draft management plan dated July 2022, is granted (**ECC- APP2578**). The applicant / proponent is therefore advised to comply with conditions of approval set out in **Section C** of this notification.

#### A. DETAILS OF THE PROPOSED ACTIVITY

##### A1: TITLE OF THE PROPOSED ACTIVITY

The Construction of Public Roads, Infrastructure and Activities in Water Courses within Flood Lines through Township Establishments at Karibib to be known as Usab Extensions in Erongo Region.

**Stop the poaching of our rhinos**



**A2: DETAILS OF ASSESSMENT PRACTITIONER**

Urban Dynamics Africa  
P.O Box 20837 Windhoek  
Heidri Bindemann-Nel  
Tell: 061-240300  
Cell: 081 651 7336

**A3: LOCATION OF PROPOSED ACTIVITY**

(Annexure A – proposed site map)

**B. RELEVANT LISTED ACTIVITIES**

Legislation	Description of Listed Activity	Relevance to Proposed Activity
Regulation 29(sub-regulation 5) of Government Notice No. 29 of 2012	INFRASTRUCTURE 10.1 The construction of- (a) oil, water, gas and petrochemical and other bulk supply pipelines; (b) public roads; (c) railways and harbours; (d) airports and airfields; (e) any structure below the high water mark of the sea; (f) cableways; (g) communication networks including towers, telecommunication and marine telecommunication lines and cables; (h) motor vehicle and motorcycle racing and test tracks; (i) the outdoor racing sites of motor powered vehicles including - (i) motorcars; (ii) trucks; (iii) motorcycles; (iv) quad bikes; (v) boats; and (vi) jet skis; (j) masts of any material or type and of any height, including those used for telecommunication broadcasting and radio transmission, but excluding - (i) flag poles; and (ii) lightning conductor poles. 10.2 The route determination of roads and design of associated physical infrastructure where - (a) it is a public road; (b) the road reserve is wider than 30 meters; or (c) the road caters for more than one lane of traffic in both directions.	The Construction of Public Roads, Infrastructure and Activities in Water Courses within Flood Lines through Township Establishments at Karibib to be known as Usab Extensions in Erongo Region.

**C. CONDITIONS**

**C1: Conditions of Approval**

1. This certificate does not in any way hold the Ministry of Environment and Tourism accountable for misleading information, nor any adverse effects that may arise from these activities. Instead, full accountability rests with the proponent and its consultants.
2. This Ministry reserves the right to attach further legislative and regulatory conditions during the operational phase of the project.
3. Regular environmental monitoring and evaluations on environmental performance should be conducted. Targets for improvements should be established and monitored throughout this process.



4. This environmental clearance is valid for a period of 3 (three) years, from the date of issue unless withdrawn by this office.

**C2: Clearance Certificate Validity**

1. On expiry of the ECC, the proponent is required to submit within a period not exceeding one month, and in the prescribed form and manner an application to the Office of the Environmental Commissioner for the renewal of the ECC.
2. Failure to renew an expired environmental clearance certificate shall result in permanent termination of the environmental clearance certificate.
3. In terms of Section 3 (2)C of the Environmental Impact Assessment, you are instructed to, within 14 days of this notice issuance date, ensure that all registered interested and affected parties (“ I&APs”) are notified that an environmental clearance certificate has been issued in respect to your application and of their right to appeal

**C3: Compliance with authorization under other laws**

4. All other applicable and required permits or authorization from relevant competent authorities must be obtained prior to commencing the proposed activities and accordingly adhered to.

**C4: Implementation and Monitoring**

5. The granting of the Environmental Clearance Certificate (ECC) constitute, an approval for the implementation of mitigation measures proposed in your approved Environmental Management Plan (EMP), hence making the approved EMP legally binding document.
6. The proponent shall appoint a suitably experienced environmental control officer, or site agent where appropriate, before the commencement of any listed activities to ensure compliance with the conditions of approval and mitigation stipulated in the approved EMP
7. A copy of the Environmental Clearance Certificate (ECC), EMP, Environmental Audit and monitoring reports must be kept at the site of the authorized activity and readily available for inspection by officials of the Ministry and registered Interested and affected Parties (I&APs) on request.
8. Should any heritage remains be exposed during excavations or any other actions on the site, these must immediately be reported to the National Heritage Council of Namibia. Heritage remains uncovered or disturbed during earthworks must not be further disturbed until the necessary approval has been obtained from National Heritage Council.
9. Using the best and affordable methodology, the Proponent must ensure that all listed activity’s operations footprints are thoroughly rehabilitated prior to closure of the operation. Wherever possible, the Proponent must proceed with the rehabilitation process concurrently with the progression of the project rather than wait until the damage is far beyond the available means of management.
10. The general standard for all rehabilitation processes must at all costs aim at restoring the natural character of the environment to the satisfaction of the Ministry of Environment and Tourism. Such rehabilitation processes shall be inspected and certified satisfactory or unsatisfactory by the Ministry of Environment and Tourism. Where a certificate of unsatisfactory is issued, the Proponent shall be advised to carry-out certain tasks to meet the

requirements. Failure to meet the basic rehabilitation requirements shall be regarded by this Ministry as a breach of this contract and of which serious consequences shall follow.

11. Officials of the environmental commissioner's office may from time-to-time conduct spot-inspection (non-auditing) without prior notice and or Auditing Inspection (dates to be agreed prior to arrival to the site), hence access to the site and the aforementioned documentation must be granted to any authorized official representing the Office of the Environmental Commissioner and Registered Interested and Affected Parties (I&APs)
12. Any changes to, or deviations from the scope of the alternative described in section B above must be accepted or approved, in writing, by the Office of the Environmental Commissioner before such changes or deviations may be implemented. In assessing whether to grant such acceptance/ approval or not, the Competent Authority may request information in order to evaluate the significance and impacts of such changes or deviations, and it may be necessary for the holder to apply for further authorization in terms of the applicable legislation.
13. Officials representing the Office of the Environmental Commissioner must be, in possession and or by request and for the purpose of inspection referred to in C4(11) present their staff identification card in order to gain entry to the premises
14. The proponent is required, from the date of commencing implementation of project activities, to compile and submit environmental monitoring reports (on project progress and the environmental management profile) on a bi-annual basis to Office of Environmental Commissioner
15. Any changes to, or deviations from the scope of project activities approved in respect to the assessment received and reviewed for the purpose or granting this ECC Number (**ECC- APP2578**) are subject to an amendment application and approval by the Environmental Commissioner prior to adopting / implementing any such changes / deviations.
16. For the purpose of amending and or transferring the ECC, the proponent submit in the prescribed form and manner an application to the Office of the Environmental Commissioner, clearly indicating the need for amendment and or transfer of the ECC
17. Non-compliance with a condition of this Environmental Clearance Certificate or EMP may render the Proponent liable to criminal prosecution.

#### **D. DISCLAIMER**

1. The decision taken by the Office of Environmental Commission is based mainly on information provided by the proponent or their representative, therefore, it must be noted here that the proponent is accountable for any wrong and misleading information that may have been presented in the environmental assessment documents.

Yours sincerely,

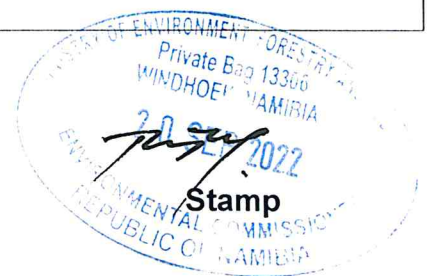
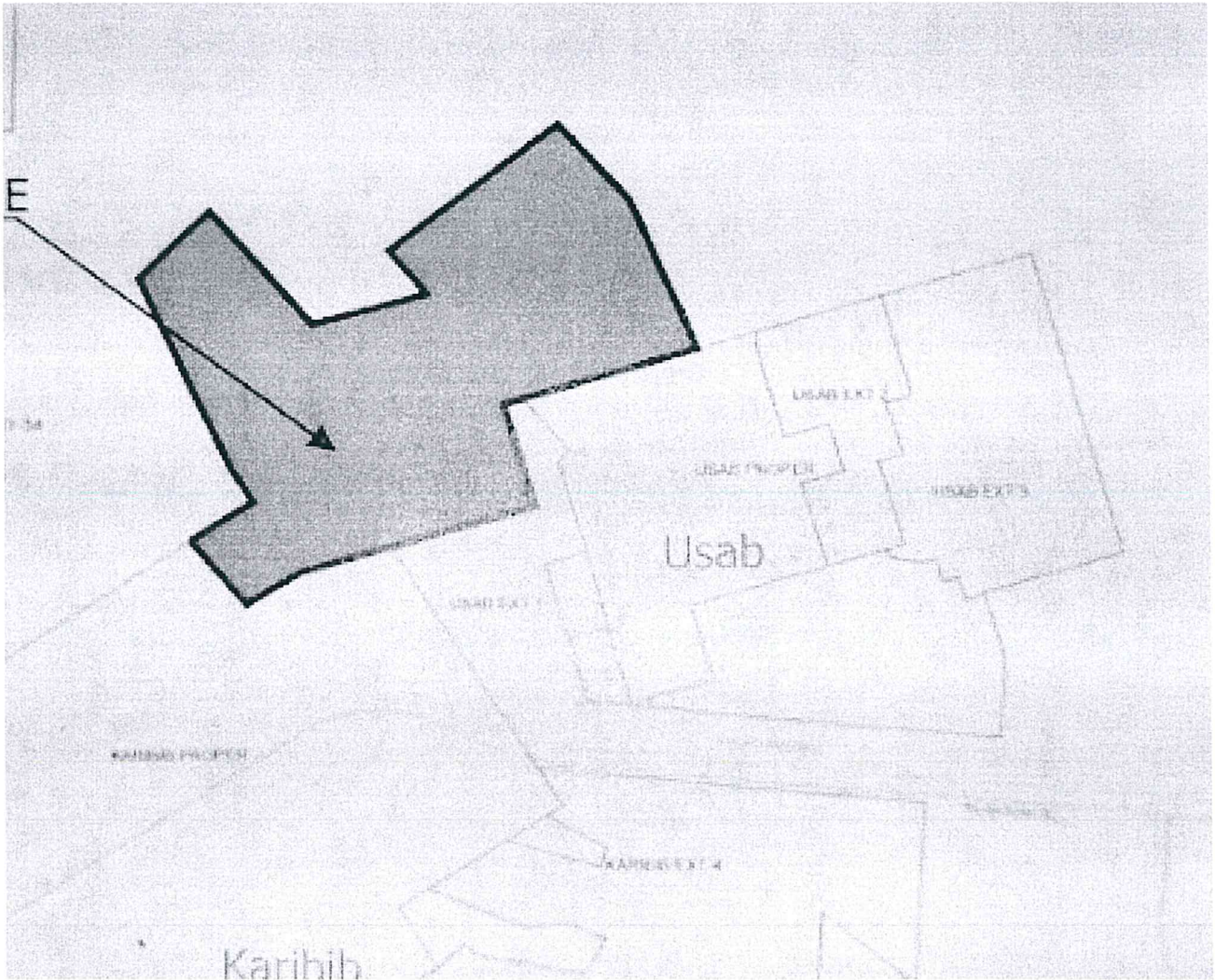
  
Timoteus Mufeti

**ENVIRONMENTAL COMMISSIONER**



**ANNEXURE A: SITEMAP / SITE LAYOUT**

**REZONING OF LAND FROM GENERAL INDUSTRIAL TO UNDETERMINED AND SIMULTANEOUSLY FOR THE CONSTRUCTION OF PUBLIC ROADS, INFRASTRUCTURE AND ACTIVITIES IN WATER COURSES WITHIN FLOOD LINES THROUGH TOWNSHIP ESTABLISHMENTS AT KARIBIB TO BE KNOWN AS USAB EXTENSIONS**



# APPLICATION FOR ENVIRONMENTAL CLEARANCE:

**FOR THE CONSTRUCTION OF PUBLIC ROADS, INFRASTRUCTURE AND ACTIVITIES  
IN WATER COURSES WITHIN FLOOD LINES THROUGH TOWNSHIP ESTABLISHMENT  
AT KARIBIB**

**AN ENVIRONMENTAL SCOPING ASSESMENT**



**PROPONENT:**

**KARIBIB TOWN COUNCIL**  
P O Box 19  
KARIBIB  
**NAMIBIA**

**CONSULTANT:**

**URBAN DYNAMICS AFRICA**  
P O Box 20837  
WINDHOEK  
**NAMIBIA**

**SUBMISSION:**

MINISTRY OF ENVIRONMENT, FORESTRY AND TOURISM  
PRIVATE BAG 13306  
**WINDHOEK**  
NAMIBIA

REFERENCE: 1232  
ENQUIRIES: WILHELM SHEPYA  
HEIDRI BINDEMANN-NEL  
JOHANN OPPERMAN

TEL: +264-61-240300  
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**DEVELOPMENT ROLE PLAYERS:**

**KARIBIB TOWN COUNCIL**

P O Box 19

**KARIBIB**

NAMIBIA



**DEVELOPMENT WORKSHOP NAMIBIA**

P O Box 40723

AUSSPANPLATZ

**WINDHOEK**

NAMIBIA

**DW**

Development Workshop Namibia

**PLANNING AND COMPILING OF THE SCOPING REPORT FOR THE ESTABLISHMENT OF TOWNSHIPS AT KARIBIB, PREPARED BY**

**WILHELM SHEPYA AND HEIDRI BINDEMANN-NEL**

**URBAN DYNAMICS AFRICA**

P O Box 20837

**WINDHOEK**

**NAMIBIA**



**GENERAL LOCATION DESCRIPTION OF THE DEVELOPMENT AREA:**

DESCRIPTOR:	LOCATION SPECIFICS:
NATURE OF ACTIVITIES:	The construction of public roads and the creation of infrastructures through Township Establishments.
REGION:	Erongo Region
LOCAL AUTHORITY:	Karibibi Town Council
FALL WITHIN:	Within the Remainder of the Farm Karabib No. 54 and Farm Karabib No. 56
NEAREST TOWNS / CITY:	Karibib
SIZE OF PTN 23 OF PTN 18	5.5 ha
SIZE OF PTN 24 OF PTN 18	17.9 ha
SIZE OF PTN 25 OF PTN 18	17.1 ha
SIZE OF PTN 26 OF PTN 18	17.1 ha
SIZE OF REMAINDER OF PTN 18	18.2 ha
SIZE OF PTN 5 OF FARM KARIBIB NO. 56	13.6 ha
ERF 332, USAB PROPER	6.7 ha
ERF 2, USAB PROPER	4.4 ha
LAND USE:	General Industrial
STRUCTURES:	Yes
HISTORICAL RESOURCE LISTINGS:	No
CEMETERY:	No
FLOODLINES:	Yes
ENVIRONMENTAL SIGNIFICANT AREA:	➤ Ephemeral rivers
LATITUDE:	-21.925465 S,
LONGITUDE:	15.855983 E
RELEVANT LISTED ACTIVITIES:	<p>The Environmental Management Act (Act 7 of 2007),</p> <p><b>Section 8.</b> Water Resource Developments;</p> <p>8.8. Construction and other activities in watercourses within flood lines;</p> <p>8.9. Construction and other activities within a catchment area;</p> <p><b>Section 10.</b> Infrastructure:</p> <p>10.1. The construction of-</p> <p>(b) public roads;</p> <p>10.2. Route determination of roads and design of associate physical infrastructure where-</p> <p>(a) public roads.</p>

<b>ABBREVIATION:</b>	<b>DESCRIPTION:</b>
am	ANTE MERIDIEM / BEFORE MIDDAY
Av	AVENUE
BID	BACKGROUND INFORMATION DOCUMENT
DEM	DIGITAL ELAVATION MODEL
e.g.	EXEMPLI GRATIA
EA	ENVIRONMENTAL ASSESSMENT
EC	ENVIRONMENTAL COMMISSIONER
ECO	ENVIRONMENTAL CONTROL OFFICER
EMP	ENVIRONMENTAL MANAGEMENT PLAN
ER	EMPLOYERS REPRESENTATIVE
Etc.	ET CETERA / OTHER SIMILAR THINGS
FRMP	FLOOD RISK MANAGEMENT PLAN
HIV	HUMAN IMMUNODEFICIENCY VIRUS
I&APs	INTERESTED AND AFFECTED PARTIES
i.e.	ID EST. / IN OTHER WORDS
KP	Knight Pièsold
NBD	THE NAMIBIA BIODIVERSITY DATABASE
NHC	NAMIBIAN HEALTH CARE
pm	POST MERIDIEM / AFTER MIDDAY
SME	SMALL-AND-MEDIUM-SIZED ENTERPRISE
TB	TUBERCULOSIS
TRRP	TREE REMOVAL AND REPLACEMENT PLAN
UDA	Urban Dynamics Africa
URPB	Urban and Regional Planning Board
WMP	WASTE MANAGEMENT PLAN
<b>UNIT SYMBOL:</b>	<b>UNIT DESCRIPTION:</b>
0°	DEGREES CELSIUS
E	EAST
ha	HECTARES
Km	KILOMETRE
m	METER
mm	MILLIMETRE
S	SOUTH
m <sup>2</sup>	SQUARE METERS
%	PERCENTAGE

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## 1 APPOINTMENT

Karibib Town Council, in partnership with the Development Workshop of Namibia (DWN), appointed Urban Dynamics to obtain Environmental Clearance for the

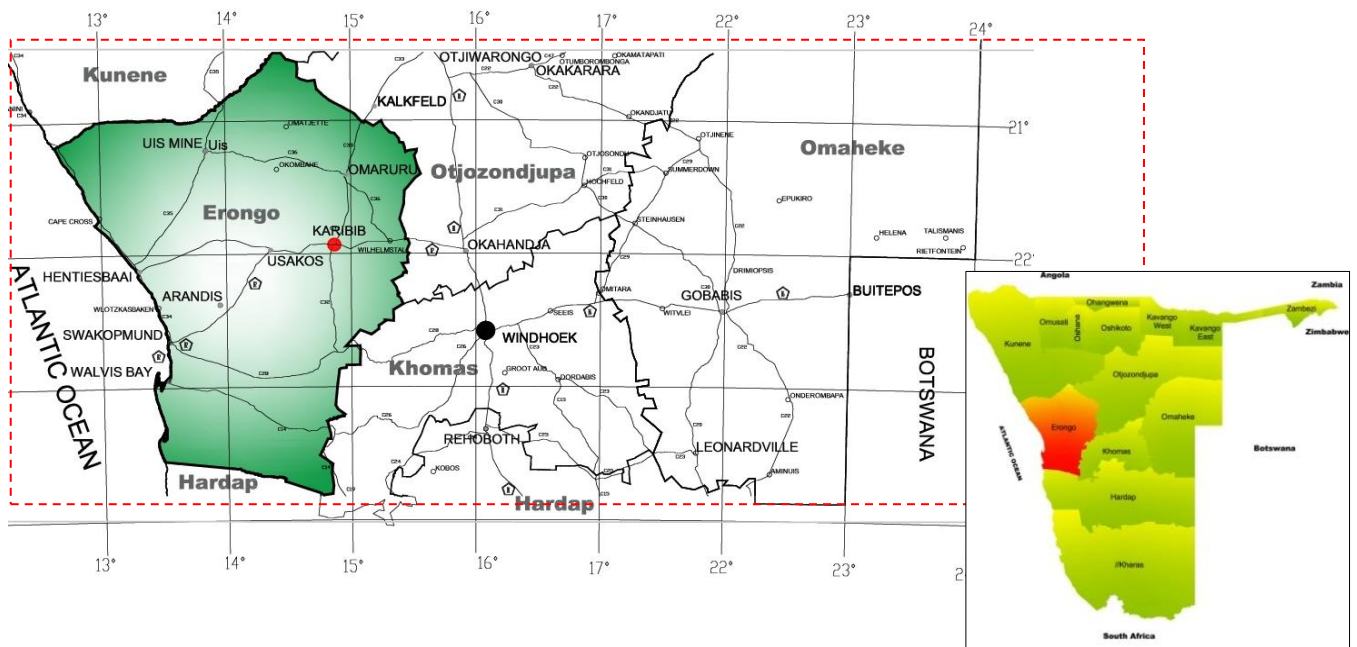
### **CONSTRUCTION OF PUBLIC ROADS, INFRASTRUCTURE AND ACTIVITIES IN WATERCOURSES WITHIN FLOOD LINES THROUGH TOWNSHIP ESTABLISHMENTS AT KARIBIB TO BE KNOWN AS USAB EXTENSIONS 6, 7, 8, 9, 10 AND 11.**

The relevant documentation are included in support of our application to the Environmental Commissioner, please refer to the appendices attached hereto.

## 2 BACKGROUND

Urban Dynamics and Karibib Town Council had a meeting to propose a Service Level Agreement due to the 3 outstanding layouts. Karibib Town Council suggested that Urban Dynamics Africa (UDA) draft layouts on the portions mentioned above due to the high demand for residential land in Usab. The layouts were drafted and consisted of 1 534 erven. The next step was for UDA to submit the layouts for approval to Karibib Town Council, and then the final step was to submit the final application to the Urban and Regional Planning Board (URPB).

**Figure 1: The Locality of Karibib**



For the purpose of obtaining approval from the Ministry of Urban and Rural Development through the Urban and Regional Planning Board, an Environmental Clearance Certificate must first be obtained from the Ministry of Environment, Forestry and Tourism.



### 3 PURPOSE OF THE REPORT

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In terms of the Regulations of the Environmental Management Act (Act 7 of 2007), township establishment is not a listed activity. Although Section 27 of the Act lists land use and transformation of an area within which activities may be listed, the honourable Minister chose not to list township establishment as one such activity.

Urban Dynamics acknowledges that township establishment may, in some cases, have unacceptable environmental impacts, but those impacts are generally limited since it is mainly done to extend existing urban areas by way of laying out new erven on Townlands already earmarked for urban development. To ensure that there are no unacceptable or unmitigated environmental and social impacts, Urban Dynamics, as a matter of course, provides the Environmental Commissioner (EC) with a baseline report which will enable him to screen the project and determine if a clearance certificate can be issued or if a full assessment is required. Find attached a copy of the meeting minutes with the Environmental Commissioner wherein this modus operandi was agreed upon (**Appendix "D"**).

### 4 NATURE OF THE ACTIVITY

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The purpose of the application is to obtain approval from the Ministry of Environment Forestry and Tourism in terms of

**Section 8.** Water Resource Developments-

- 8.8. Construction and other activities in watercourses within flood lines;
- 8.9. Construction and other activities within a catchment area;

**Section 10.** Infrastructure-

- 10.1. The construction of-
  - (b), Public roads;
- 10.2. Route determination of roads and design of associate physical infrastructure where-
  - (a), Public road.

This report documents the baseline information necessary to enable the Environmental Commissioner (EC) to screen this project and issue an Environmental Clearance Certificate in **Section 33 of the Environmental Management Act (Act 7 of 2007)**.

The report deals with the nature of the project, identifies the potential impacts that may be expected and the mitigation measures which will be implemented to deal with the impacts.

## 5 LEGISLATION

The following table provides the legislative framework against which the application should be assessed:

STATUTE	PROVISIONS	PROJECT IMPLICATIONS
<p><b>THE CONSTITUTION OF THE REPUBLIC OF NAMIBIA, 1990:</b></p>	<p>The state shall actively promote and maintain the welfare of the people by adopting, inter-alia, policies aimed at the following:</p> <p>(i) <i>management of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation of living natural resources on a sustainable basis for the benefit of all.</i></p>	<p>Ensure that the ecological integrity of the ecosystems of the area is protected.</p>
<p><b>ENVIRONMENTAL MANAGEMENT:</b></p>	<p><b><i>Environmental Management Act No.7 of 2007:</i></b></p> <p><b><i>EIA Regulation (EIAR) GN 57/2007 (GG 3212):</i></b></p> <p>In terms of Section 10.1(a), 10.1(b), 10.2(a), and 10.2(c) for environmental clearance for the construction of oil, water, gas and petrochemical and other bulk supply pipelines, the construction of public roads and the construction of a road with more than one lane of traffic in both directions.</p> <p>In terms of Section 8.8, 8.10 and 8.11, for construction and other activities in watercourses within flood lines, the reclamation of land from below or above the high-water and the alteration of natural wetlands are listed activities.</p> <p>Prescribes the procedures to be followed for authorisation of the project (i.e. Environmental clearance certificate).</p>	<p>Evaluate if the alignment of the street will impact the social and natural environment.</p> <p>Determine if the risk of flooding of the erven is at acceptable levels.</p> <p>Determine if the proposed limited infill would impact the function of the watercourse or cause flooding elsewhere.</p> <p>Determine how wastewater pipelines in the riverbed should be designed, constructed and maintained to prevent groundwater and other pollution.</p>

<p><b>WATER AND RESOURCES MANAGEMENT:</b></p>	<p><b><i>The Water Act No. 54 of 1956 and Water Resources and Management Act No.27 of 2007 Section 92:</i></b></p> <p>Section 92 (1), A person may not engage in any construction work or activity that causes or is likely to cause, the natural flow conditions of water in to or from a watercourse to be modified, unless the Minister has granted prior written approval for the work or activity to be carried out.</p> <p>Section 100 (e) consult with the regional Council or local authority in determining the geographic extent of flood plain areas in its region or local authority, as the case may be, and assist any such councils in regulating the development and use of land within floodplain areas</p> <p>Section 100 (f) prescribe measures for control and management of storm and flood risk within local authority areas.</p> <p>Section 101 (b) development on the banks of any wetland or dam; and</p> <p>Section 101 (c) the removal of rocks, sand or gravel or any other material from a watercourse.</p>	<p>Assess the potential risk that the planned activities may have on both the watercourse on the one hand and future occupants of the land on the other.</p>
<p><b>THE PUBLIC HEALTH AND HEALTH AND SAFETY REGULATIONS:</b></p>	<p><b><i>The Public Health Act 36 of 1919 as amended and the Health and Safety Regulations:</i></b></p> <p>These acts control the existence of nuisances such as litter that can cause a threat to the environment and public health.</p>	<p>Prevent activities that can have an impact on the health and safety of the public.</p>

## **6 METHODOLOGY**

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The following section discusses the methodology used by UDA in assessing the site in terms of its strengths, weaknesses, opportunities, and threats and then formulate a planning approach to prepare a layout that harnesses the strengths, accommodates the weaknesses, utilise the opportunities and avoid the threats identified. These also include the natural and social environment within which the project is set.

### **6.1 SITE INFORMATION AND TOPOGRAPHY**

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In terms of obtaining an accurate topographical base map, Urban Dynamics appointed a registered Land Surveyor to assist with a photogrammetric survey of Usab’s site in March 2021. Urban Dynamics used aerial photography, a 3D model, a topographical base map, and a Digital Elevation Model (DEM) for the site.

The site visit identified the existing buildings, trees, low-lying and environmentally sensitive areas, infrastructure, facilities, topography, and an understanding of how the settlement is currently functioning.

DWN appointed Knight Pièsold Consulting Engineers (KP) to conduct a Status Quo Floodline Assessment of the project site. KP created a 1 in 50 & 1 in 20-year floodline model using HEC-RAS 6.1 software to model a 2 Dimensional hydrodynamic numerical model of the project area's flood area, which was used to guide layout drafting.

### **6.2 NATURAL RECEIVING ENVIRONMENT**

---

The Urban Dynamics team conducted an environmental screening for the affected area in March 2021. The team used orthophoto analysis, a site visit, literature surveys and extensive experience in the region.

Data sources used include:

- Atlas of Namibia (Mendelsohn et. al, 2002);
- Draft Karibib Structure Plan (SPC, 2016); and
- Usab (Karibib) Status Quo Floodline Assessment (KP, 2021).

### **6.3 PUBLIC CONSULTATION**

---

Urban Dynamics launched a public consultation campaign to ensure that any person interested in the project will have an opportunity to register as a stakeholder. Urban Dynamics, the Karibib Town Council, and the Development Workshop of Namibia (DWN) held two meetings on the 27<sup>th</sup> of April 2021 at the Usab Community Center.

**Figure 2: Public Meeting**



## 7 DESCRIPTION OF THE SITE

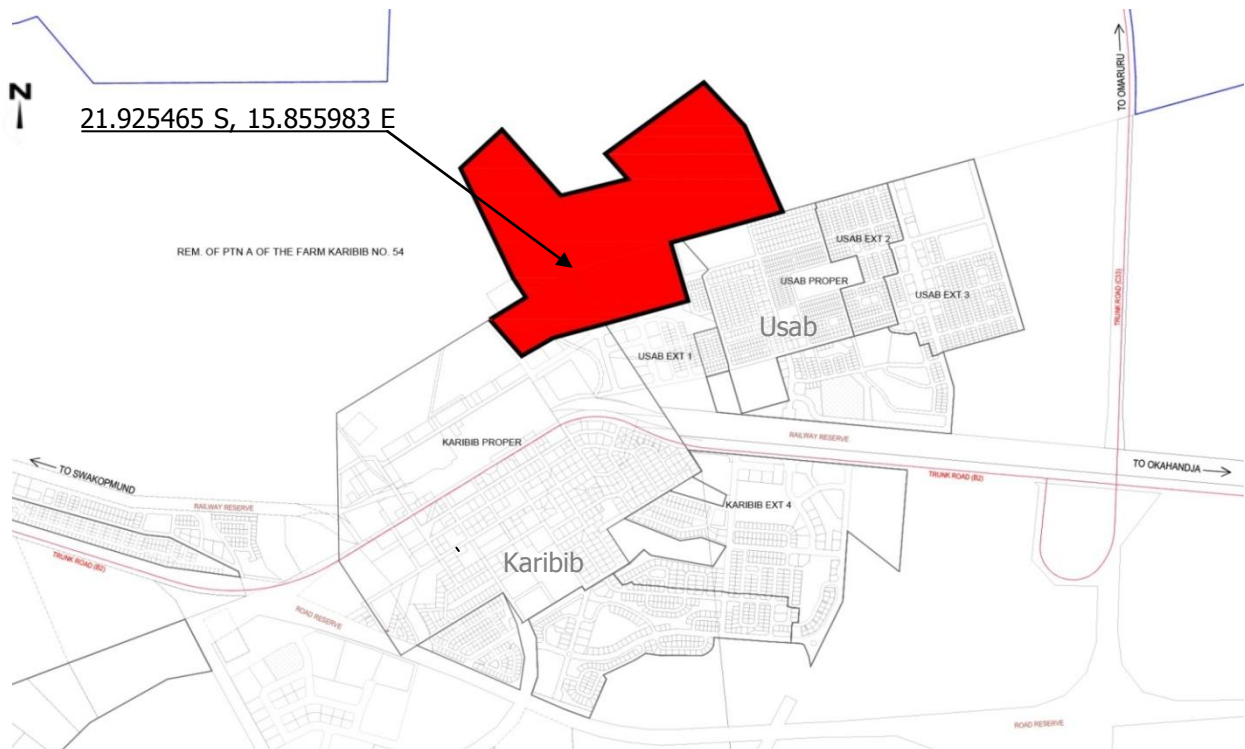
This section provides a planning description of the proposed project site relative to the surrounding urban areas, existing use and settlement, services and other infrastructure, topography, and other site features.

### 7.1 LOCATION OF THE SITES

The proposed development is located on Portion (PTN.) 23-, 24-, 25-, 26- Remainder of PTN. 18 of the Farm Karibib No. 54) (Extension 5-9), on PTN. 5 of Farm Karibib No 56 (Extension 10), Erf 2 and 332 Karibib Proper (Extension 11). The project falls within the Karibib Townlands and Erongo Region under Registration Division H.

The portions are north of Karibib Proper, next to Usab, Proper and Extension 1, at -21.925465 S, 15.855983 E. A locality plan is attached as **Appendix "B"**.

**Figure 3: Locality of the Project Area**



## 7.2 OWNERSHIP, SIZES, AND SHAPES OF THE PORTIONS

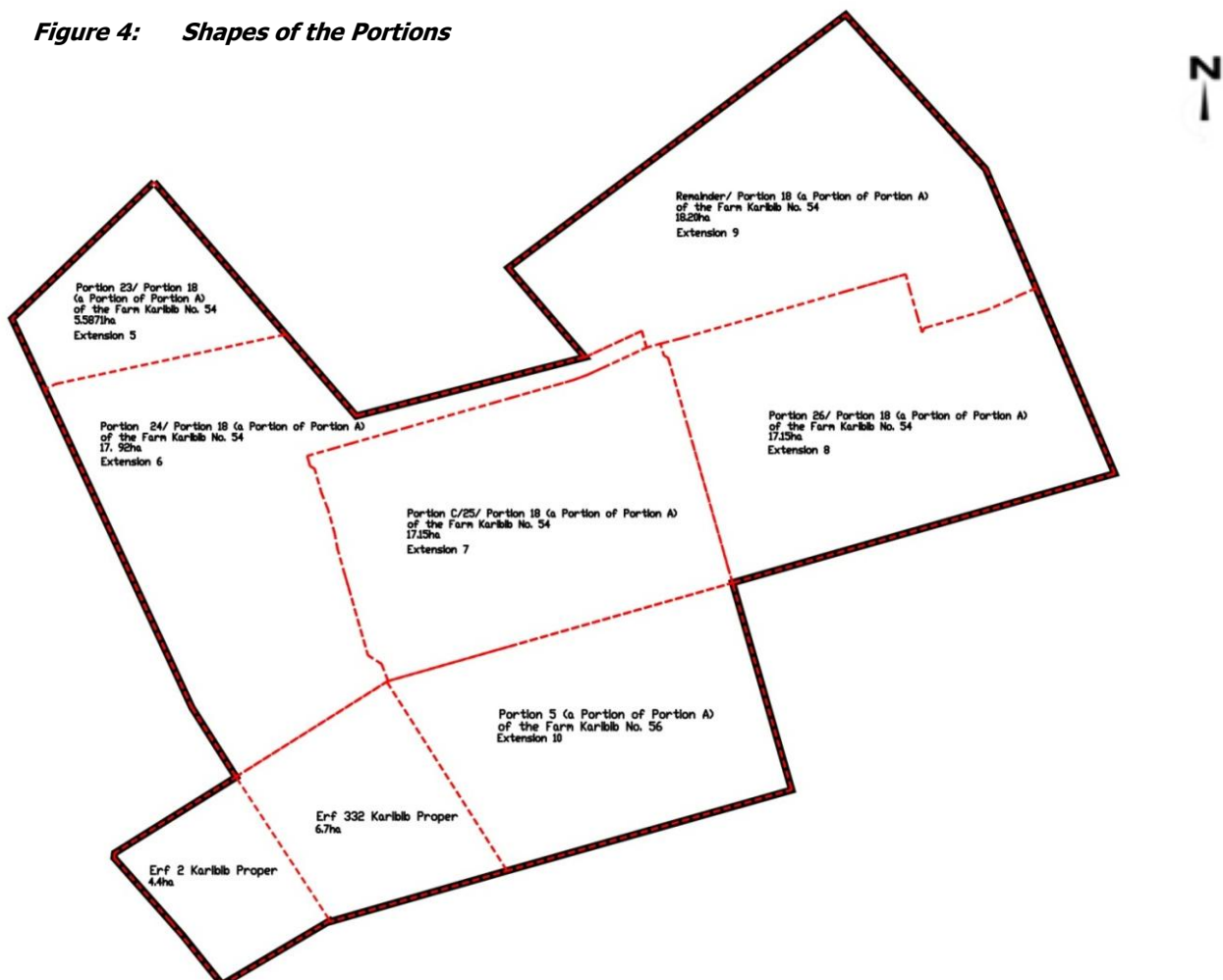
The Karibib Town Council is the registered owner of the area. According to the Town Council, the proposed development portions are currently zoned as “General Industrial”.

The project site measures approximately 96.4ha in extent and includes seven portions of land. **Figure 4** illustrates the shapes of the portions. **Table 1** provides each portion's size and zoning.

**Table 1: Portions Zonings and Size**

PORTIONS	AREA	ZONINGS
Portion A of Portion 23 of Portion 18 (a PTN of PTN A of the Farm Karibib No 54)	5.5	General Industrial
Portion A of Portion 24 of Portion 18 (a PTN of PTN A of the Farm Karibib No 54)	17.9	General Industrial
Portion A of Portion 25 of Portion 18 (a PTN of PTN A of the Farm Karibib No 54)	17.1	General Industrial
Portion A of Portion 26 of Portion 18 (a PTN of PTN A of the Farm Karibib No 54)	17.1	General Industrial
The remainder of Portion 18 (a PTN of PTN A of the Farm Karibib No 54)	18.2	General Industrial
Portion 5 of Farm Karibib No.56	13.6	General Industrial
Erf 332, Usab, Proper	6.7	General Industrial
Erf 2, Usab, Proper	4.4	General Industrial
<b>TOTAL:</b>	<b>96.4</b>	

**Figure 4: Shapes of the Portions**



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### 7.3 LAND USE ACTIVITIES

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Preveslay illegal structures were erected on the site by the community. In partnership with DWN, the council created a database of all the shack residents in the area. The residents on the databased were accommodated on larger portions of land, forming part of the proposed layout.

**Figure 5: Site Activities**



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### 7.4 ACCESS AND UTILITY SERVICES

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#### 7.4.1 Road Access:

The proposed sites currently access the road north of Karibib, Usab, Proper and Extension 1.

#### 7.4.2 Water Connection:

NamWater supplies bulk water to Karibib via the Swakoppoort reservoir. NamWater extracts raw water from the Swakoppoort dam, which is then pumped to Karibib and treated at a treatment plant in Karibib. Water within the town is supplied through the council's reticulated network (Draft Karibib Structure Plan, 2016).

Currently, the site has three water points. The water supply to the area will be from the council's reticulated network.

**Figure 6: Existing Council Water Points**



### 7.4.3 Electrical Supply:

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A 66kV overhead powerline supplies Karibib by ErongoRED, terminating at the Karibib 66/11kV, 2.5 MVA substation (WCE, 2015).

The development site is to be supplied from Karibib’s reticulated network through the nearby Usab, Extension 1.

**Figure 7: Electricity Poles and Streetlight on Portion 5**



### 7.4.4 Sewerage:

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Karibib is served by a sewerage system consisting of a collection network and pump stations that send sewerage to oxidation ponds located North-west of the site.

**Figure 8: Showing the community toilet (left) and the water pipes (right)**



## 7.5 CULTURAL RESOURCES

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No graves were identified on the site, and no other items of historical value were found or could be identified within the development site boundaries.



7.6 ENVIRONMENTAL CHARACTERISTICS AND TOPOGRAPHY

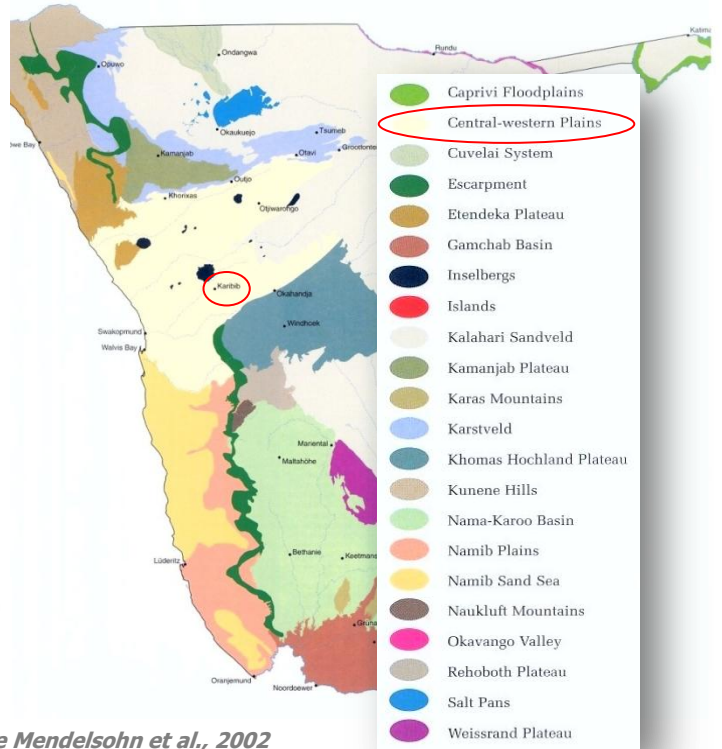
7.6.1 Natural Environment:

Karibib is located within the Central–Western Plains'and forms part of the Higher Inland Plateau, which is part of the Khomas Hochland and Karibib catchment area. Minor ephemeral rivers within the catchment area flow into the Khan River, flowing into the Swakop River.

Figure 9: Vegetation

According to Mendelsohn et al. (2002), the Karibib area's vegetation comprises of the Western Highlands Vegetation. The vegetation consists mainly out of sparse shrubland that includes grasslands and scattered trees.

The dominant vegetation type in this biome is acacia reficiens, euphorbia geuerichiana, colophospermum mopane, maerua schinzii, and ademolobius garipensis (Mendelson et al., 2002).



Source Mendelsohn et al., 2002

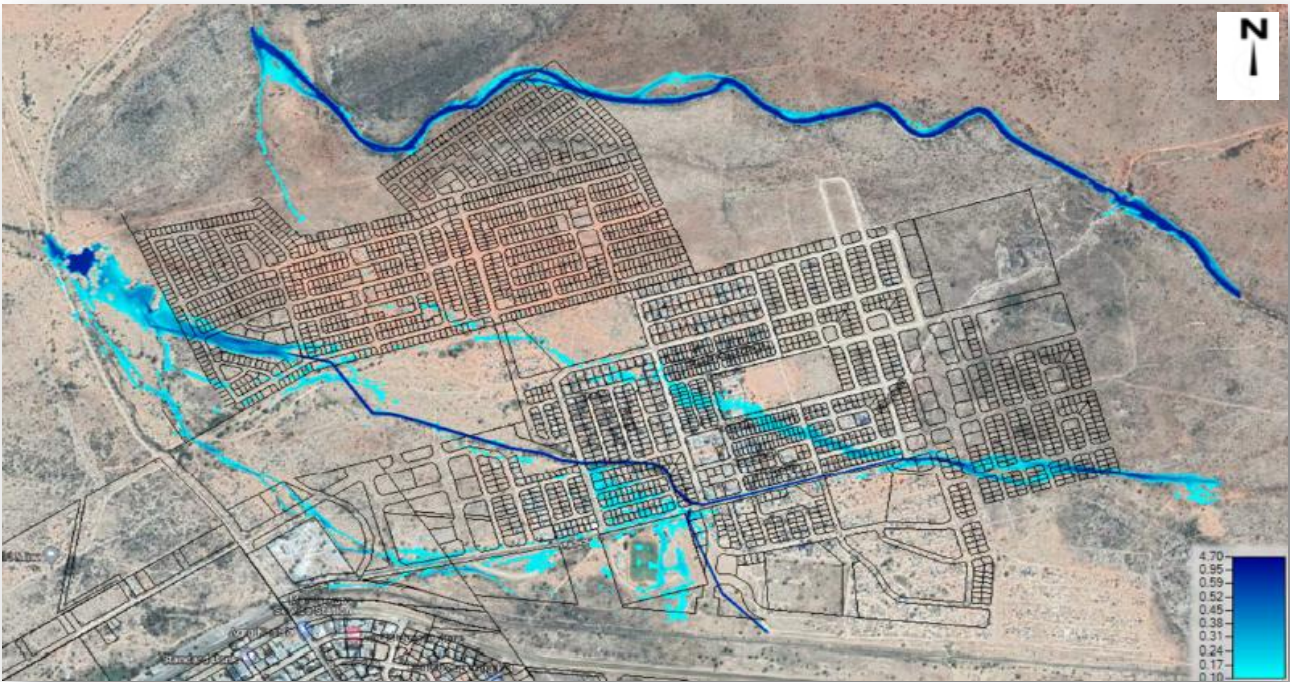
Due to the illegal clearing of vegetation for the shacks construction, minimal significant low-level vegetation remains in the area. Scattered larger trees have been left intact, as is the custom. No large wild mammals are resident within the project area.

### 7.6.2 Topography and Flooding:

Four ephemeral streams flow through the project site. Drainage at the site is from northeast to north or east to northwest, towards lower areas. The streams are highlighted in light blue on the image overleaf. A downward slope of 1.50 m characterises the site’s topography.

**Figure 10: 1:50 and 1:20 Year Flood Lines**

#### 1:50 Year Flood Lines



#### 1:20 Year Flood Lines



Source Knight Piesold (Consulting Engineers, 2021)

**7.6.3 Habitats on Site:**

Habitat on the site area is ecologically degraded, and parts of the site are no longer pristine and are not fully functional at an ecosystem level. The ecosystem's degradation is due to increased illegal shacks on the site, which can be best described as a growing urban area.

**7.6.4 Soil Conditions:**

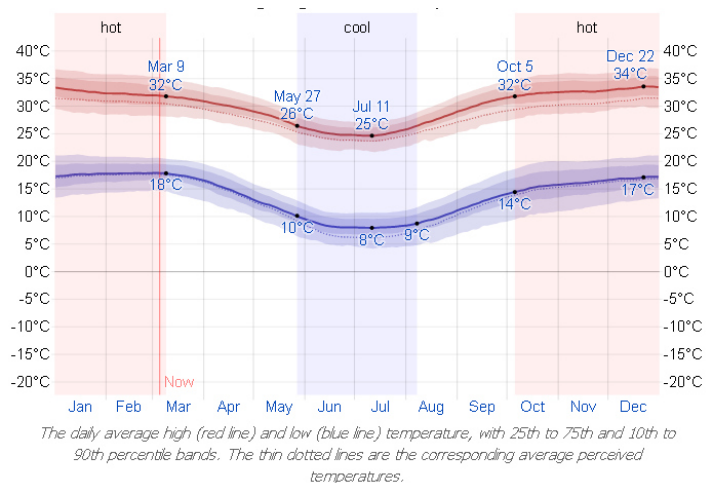
Karibib falls within the Swakop Group (Schists) and forming the Karabib Formations (Mendelsohn et al., 2002).

The Karibib Formation consists of an interbedded succession of dark grey marble, ribbon marble made up of thin alternating layers of light and dark grey marble, sedimentary marble breccias, grey phyllitic dolomite and laminae of calc-silicate rock (Steven et al.,1994).

**7.6.5 Climate, Wind Directions, and Rainfall:**

Karibib has a semi-desert climate, characterised by an extensive range of temperatures, low rainfall, and high evaporation. The hot season lasts for 5.1 months, from October 5 to March 9, with an average daily high temperature above 32°C. The cool season lasts for 2.4 months, from May 27 to August 7, with an average daily high temperature below 26°C.

**Figure 11: Average High and Low Temperature**



Source Weather Spark, 2021

Karibib had an annual average rainfall of 224mm recorded between 1967 and 1983 and 180mm between 1980 to 2002, and between 2008 and 2010, 215mm (Kondiri, 2015). The Karibib area's relative humidity during winter months is anything between 30 to 40%, while during summer months, it can rise to between 60 to 70%.

The average sunlight each day at Karibib is 10 hours. However, the town is located near the coast and forms part of the fog belt, which means Karibib can receive fog for five days annually (SPC, 2016).

The prevailing wind direction at Karibib is south-west and the minimum speeds recorded are 15 km/hour (Mendelashon et al., 2002).

## **7.7 STATUS OF PROTECTED AREA**

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The site itself has no protected status. However, the ephemeral rivers, 1 in 50 and 1 in 20-year flood areas, are environmentally sensitive. Urban Dynamics should accommodate the streams and flood areas within public open spaces.

## **7.8 SUMMARY OF THE HABITATION ON SITE**

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Due to the illegal clearance of land and population density at Karibib, extensive habitat alteration occurred. The site is ecologically degraded and no longer pristine, and is not fully functional at the ecosystem level. It may be best described as a highly impacted urban ecosystem and is not a natural environment.

Key environmentally relevant features show that:

- ❖ The development area is located at -21.925465 S, 15.855983 E, north of Karibib Proper, next to Usab, Proper, and Extension 1;
- ❖ Activities on the site include informal structures with little or no infrastructure;
- ❖ Karibib has a semi-desert climate, characterised by an extensive range of temperatures; low rainfall, and high evaporation;
- ❖ No significant low-level vegetation remains in the area but scattered larger trees, and no large wild mammals are resident within the development site;
- ❖ The prevailing wind direction at Karibib is south-west and the minimum speeds recorded are 15 km/hour;
- ❖ No graves were identified on the site, and no other items of historical value were found or could be identified within the development site boundaries; and
- ❖ Four ephemeral streams flow through the project site and need to be accommodated within public open spaces.

The screening process showed no significant biodiversity-related issues for the current development, and there are no aspects that require further investigation. The layout should consider the minor ephemeral streams and the scattered trees in the area, and, where necessary, apply for permits for these to be moved. It is recommended that the development proceeds without the need for further assessment, as provided for under articles 33 and 34 of the Environmental Management Act.

## 8 THE PROJECT TOWNSHIPS

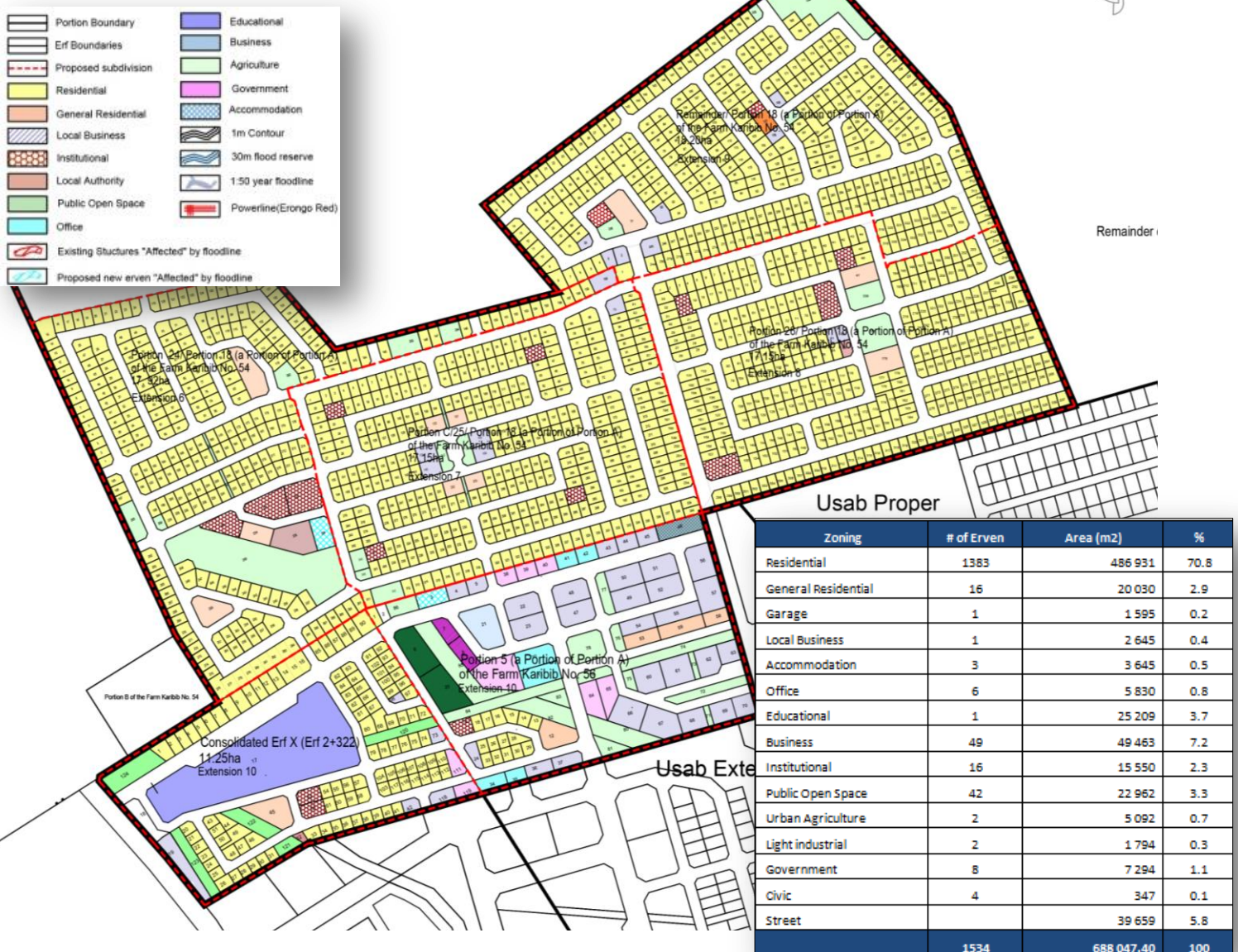
The client intends to establish new township extensions on PTN-23/8, PTN-24/8, PTN-25/8, PTN-26/8, Rem/18, PTN 5/56, Erf 2, and lastly, Erf 332 (Extension 5-11). The townships will consist of mixed-use neighbourhoods, thereby meeting the rising demand for housing and business plots within Usab at Karibib and the Erongo Region.

### 8.1 FIRST LAYOUT DETAIL

The first layout alters the current zonings of the portions from General Industrial to include Residential-, Institutional-, Business plots and Public Open Spaces. The layout's locality, shapes and sizes are illustrated in **Figure 13**.

**Table 11** summarise the detailed land-use allocation on the portions, while the layout's mitigated detail is discussed afterwards.

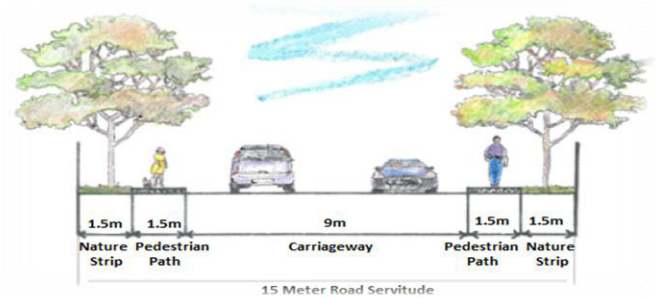
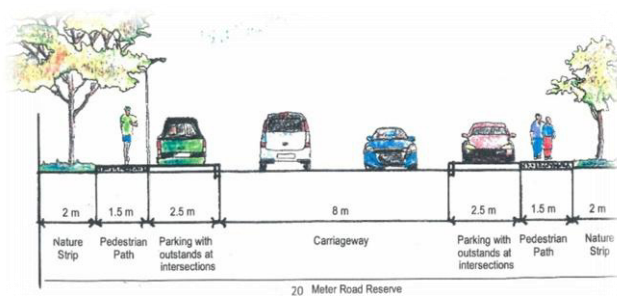
**Figure 12: The Proposed Layout**



## 8.2 THE STREET LAYOUT

The layout has 14 (six) entry points, of which one (1) access points link to an already existing 20m distributor road. The layout has various types of roads: 13m collector road (light blue) connects with the 15m distributor roads (blue), which leads into the 20m distributor roads (dark blue) to assure adequate flow in the settlement.

**Figure 13: Street Layout**



### 8.2.1 Provision for Drainage:

Stormwater Drainage should be designed, and culverts and bridges will be used to accommodate the flow of the water.

## 9 POTENTIAL IMPACTS

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During the course of preparing the Karibib layouts, the team continuously assessed the potential positive and negative impacts of the project. Attempts have been made to enhance and strengthen positive impacts and mitigate and weaken the effects of negative impacts in all cases. The planners made several alterations to the plan until they were satisfied that the layout had been refined to the point where it limits risks, mitigates negative impacts and enhances positive impacts to as great an extent as possible. The following section explores each of these impacts in detail, describing and exploring the various ideas integrated into the layout and assessing alternatives where they seem viable.

The section also explores positive impacts that are not fully addressed by the layout. Many influences may be transitory in nature (for example, occurring only during the project's construction phase) or unavoidable given the site constraints and the need for maximising long-term benefits overall. These impacts and strategies for dealing with them are discussed here, but given that this document is an application for environmental clearance, the measures dealing with their mitigation/enhancement are dealt with in detail in the EMP.

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### 9.1 SUMMARY OF POTENTIAL IMPACTS

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The planning of the layout, together with the upgrading of bulk infrastructure and alignment of roads, has the potential to cause environmental and social impacts. The following is a list of potential impacts identified through the scoping process:

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#### 9.1.1 Benefits of the Project:

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- Provision for serviced erven;
- Stimulation of economic development and providing new employment opportunities during construction; and
- Stimulation of the health and wellness of the Karibib/Usakos and the Erongo Region.

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#### 9.1.2 Potential Negative Impacts during Construction:

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- Impact of removal of vegetation from the site;
- Impact of dust;
- Impact of noise;
- Impact on traffic flow;
- Impact on the health and safety of workers; and
- Impact of waste.

### 9.1.3 Potential Negative Impacts during Operations:

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- Potential flooding; and
- Impact of waste during operation.

## 9.2 POTENTIAL IMPACTS

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### 9.2.1 Project Benefits:

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- **Provide for serviced erven.** The communities will now have access to adequately planned erven with specified erf boundaries. This will lead to residents having formal and permanent occupation of land and security of tenure. The layouts process creates a formal development framework, which would prevent uncontrolled settlement growth and address the current uncontrolled developments.
- **Stimulate employment creation and local economic development.** The development will lead to employment creation during the construction and operation phases. It will render services within the formal economy of Karibib, employ staff, contribute to rates and taxes and spend money within the same economy.
- **Stimulate health and wellness within the Karibib Townlands.** The layout makes provision for much-needed service connections that are safe and in line with the layout. It will also create properly aligned roads which will ease traffic circulation within the township. Clearly defined routes will allow for the provision of pedestrian infrastructure, creating a safe walking environment. Two erven are included within the layout to include a clinic and community sports grounds.

### 9.2.2 Negative Impacts during Construction:

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- **Impact of the removal of trees from the site.** The planner prepared the layout in such a way as to avoid the removal of large trees. Trees within the project site will remain intact as far as possible during the alignment of the roads.
- **Impact on traffic flow during construction.** Construction vehicles would need to haul the excavated soil to a disposal site and provide building material and other supplies (i.e. fuel etc.) to the construction site, most of which could be delivered to the site by truck. Construction vehicles are most likely to pass in close proximity to erven and disrupt traffic flow near Extension 2 (although the exact access routes to the site are yet to be defined).
- **Impact of dust.** The movement of construction vehicles on bare soil will cause excessive dust, which will expose the community and workers to dust pollution and



affect their health. Preventative measures need to be put in place on the site to prevent excessive dust.

- **Impact of potential construction noise.** Construction machinery creates substantial noise, and this will impact the surrounding community. Constant noise can cause stress and health impacts on nearby residents.
- **Impact of construction waste.** Solid waste is the expected major source of waste at the construction site. If no waste management plan is in place to address the disposal of general and hazardous waste at the site, it can lead to water and soil pollution on the site and/or within the water areas.
- **Impact on the health and safety of workers and nearby residents.** Construction activities always have potential risks for workers and nearby residents. Inadequate site management measures can expose workers and residents living near the site to hazardous chemicals, dust, and noise. A lack of notices and signs within the area where deep excavation work is done can put the lives of residents and workers in danger.

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### **9.2.3 Potential Negative Impacts during Operations:**

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- **Potential flooding.** During the public meeting, erven within the first layout was identified as potential flood risk areas. Suppose these erven are left as residential erven. In that case, it can impact people and property during flooding periods.
- **Impact of operational waste.** Solid household waste is the expected major source of waste at townships. Suppose Karabib Town Council has no waste management plan (WMP) or waste removal plan (WRP) to address general and hazardous waste disposal at Usab. In that case, it can lead to soil pollution on the site and/or within the water areas.

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## **9.3 DEALING WITH RESIDUAL IMPACTS**

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### **9.3.1 Residual Social Impacts:**

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Residual social impacts through this project could be elaborated on as follows:

Ilegal shacks will be affected by the planning of the layouts. As indicated above, DWN and the council created a database of all the shack residents to relocate, according to the Karibib Town Council (2019).

The owners of these structures are aware that they are within the townlands and will need to make way for future development.

### **9.3.2 Residual Environmental Impacts:**

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Residual environmental impacts through this project could be elaborated on as follows:

- The development project will create dust and noise during the construction phase. However, this will be limited, and a method to limit it is contained in the Environmental Management Plan (EMP).
- The project development will have an impact on traffic during the construction phase. To minimise the increase in transportation during the construction phase, mitigation measures to manage the vehicles on the construction site when services are included in the EMP provisions.
- Solid waste is the expected major source of waste at the construction site. Mitigation methods are contained in the EMP regarding a WMP for the construction site.
- During the construction phase, there will be a potential impact on the workers' health and safety due to their work environment. This will be limited, and methods to restrict it are contained in the EMP.
- Not all trees can be protected within the layout; thus, before construction commences, a Tree Management Plan (TMP) should be compiled. Mitigation methods are contained in the EMP regarding the TMP and required permits to remove protected trees.
- Potential flood risk areas were identified within the first layout. The planner amended the layout to accommodate impacted erven within public open space. In addition, the Karibib Town Council resolved via Council Resolution No: CM/0001/24/02/2022 to implement the flood mitigation measure presented to them by Urban Dynamics. Please find attached **Appendix "F"** flood mitigation measure approval.
- Solid household waste is the expected major source of waste in the new Usab townships. Mitigation methods are contained in the EMP regarding the removal of waste within Karibib.

## 10 SUMMARY AND APPLICATION

### 10.1 PROJECT IMPACTS, AVOIDANCE MEASURES AND RESIDUAL IMPACTS

POTENTIAL IMPACT:	MEASURES:			RESIDUAL IMPACTS:
	AVOIDANCE:	MITIGATION:	ENHANCEMENT:	
<b><i>Stimulate local economic development and create employment opportunities:</i></b>			<p>During the development phase, the construction company will render service within the formal economy, employ staff, pay rates and taxes and spend money all within the same economy.</p> <p>Emphasis must be placed on the requirement and employment of local people.</p>	
<b><i>Providing serviced residential erven:</i></b>			<p>The project will lead to a formal and permanent land occupation, tenure security, access to capital and partaking in the economy, and ultimately to wealth creation in the operational phase.</p>	
<b><i>STIMULATE THE HEALTH AND WELLNESS OF THE COMMUNITY:</i></b>			<p><b>THE DEVELOPMENT:</b></p> <p>Provide for pedestrian infrastructure.</p> <p>Provide an erf for a clinic.</p> <p>The development is also situated walkable distance from the town centre, schools and health facilities within Usab.</p> <p>Provide formal and permanent occupation of land and the security of tenure.</p>	

POTENTIAL IMPACT:	MEASURES:			RESIDUAL IMPACTS:
	AVOIDANCE:	MITIGATION:	ENHANCEMENT:	
<b>POTENTIAL REMOVAL OF EXISTING TREES:</b>	Avoid the removal of existing trees.	<p>The EMP mitigation measures for protecting trees on the site include:</p> <ul style="list-style-type: none"> <li>- Trees need to be accommodated within individual erven or the road reserves.</li> <li>- A Tree Management plan need to be compiled before the development comments.</li> </ul> <p>The timeline for the potential impact is short term, and the responsibility lies with the planner and contractor.</p>		<p><i>The planners could not accommodate all the trees on the site. Therefore, medication measures are included in the EMP.</i></p>
<b>POTENTIAL DUST AND NOISE ON THE CONSTRUCTION SITE:</b>	Avoid dust and noise during the construction phase.	<p>The EMP mitigation measures for</p> <p><b>Dust:</b></p> <ul style="list-style-type: none"> <li>• No removal of vegetation or soil on the site except where necessary during the construction phase.</li> </ul> <p><b>Noise:</b></p> <ul style="list-style-type: none"> <li>• Construction work will be restricted between 07h00 and 18h00.</li> </ul> <p>The timeline for the potential impact is short term, and the responsibility lies with the contractor and the Karibib Town Council.</p>		<p><i>Not all the dust and noise can be prevented.</i></p>
<b>POTENTIAL IN AN INCREASE IN TRAFFIC DURING THE CONSTRUCTION PHASE:</b>	Avoid an uncontrolled increase in traffic during the construction	<p>The EMP mitigation measures for traffic at the site include:</p> <ul style="list-style-type: none"> <li>• <b>Traffic</b> during the construction phase will</li> </ul>		<p><i>An increase in traffic can be managed. However, the</i></p>

	phase.	<p>be restricted between 07h00 and 18h00.</p> <p>The timeline for the potential impact is short term, and the responsibility lies with the contractor and the Karibib Town Council.</p>		<p><i>increase in traffic will still have a potential impact on residents.</i></p>
<b>HEALTH AND SAFETY OF WORKERS:</b>	<p>Avoid health and safety impacts on workers during the construction phase.</p>	<p>The EMP mitigation measures for the health and safety of workers at the site include:</p> <ul style="list-style-type: none"> <li>• Proper construction practices and safety procedures need to be applied.</li> </ul> <p>The timeline for the potential impact is short term, and the responsibility lies with the contractor.</p>		<p><i>Not all the health and safety aspects of the workers can be prevented.</i></p>
<b>FLOODING</b>	<p>Avoid flood risk.</p>	<p>The planner accommodated all the potential flood areas within public open space.</p> <p>Management of the public open space needs to include maintenance of the public space during the operational phase.</p> <p>The potential impact timeline is long-term term, and the responsibility lies with the Karibib Town Council.</p>		<p><i>Not all impacts as a result of flooding can be prevented.</i></p>
<b>WASTE MANAGEMENT</b>	<p>Avoid pollution as a result of no waste management.</p>	<p>The EMP mitigation measures for the waste on the construction site and during operations include:</p> <ul style="list-style-type: none"> <li>• During the construction phase, a waste management plan needs to be used on the site.</li> </ul>		<p><i>Not all pollution can be prevented</i></p>

		<ul style="list-style-type: none"> <li>During the operational phase, the townships need to be included in the Karibib Town Councils' waste management system or program.</li> </ul> <p>The potential impact timeline is short-term during construction and long-term during operations.</p> <p>The responsibility lies with the contractor and the Karibib Town Council.</p>		
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**11 APPLICATION FOR ENVIRONMENTAL CLEARANCE**

Given these baseline investigation findings, there are no current future environmental impacts and future identified due to creating the street portions or the construction activities within the Karibib area.

It is recommended that the development proceeds without the need for further assessment, as provided for under articles 33 and 34 of the Environmental Management Act. The application form for an Environmental Clearance Certificate as per Section 32 is attached as Annexure "1" to this Scoping Report.

## ANNEXURE 1

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# FORM 1 APPLICATION FOR AN ENVIRONMENTAL CLEARANCE CERTIFICATE

**FORMS**

Form 1

**REPUBLIC OF NAMIBIA**

**ENVIRONMENTAL MANAGEMENT ACT, 2007**

**(Section 32)**

**APPLICATION FOR ENVIRONMENTAL CLEARANCE CERTIFICATE**



**PART A: DETAILS OF APPLICANT**

1. NAME:	KARIBIB TOWN COUNCIL
2. BUSINESS REGISTRATION:	
3. CORRESPONDENCE ADDRESS:	PO. BOX 19, KARIBIB, NAMIBIA
4. NAME OF CONTACT PERSON:	Mr. Lesley Goreseb
5. POSITION OF CONTACT PERSON:	CEO
6. TELEPHONE NUMBER:	064-550016
7. FAX No:	064- 550032
8. E-MAIL ADDRESS:	<a href="mailto:techmanager@karibibtown.org">techmanager@karibibtown.org</a>





**PART B: SCOPE OF THE ENVIRONMENTAL CLEARANCE CERTIFICATE**

REZONING OF LAND FROM GENERAL INDUSTRIAL TO UNDETERMINED AND SIMULTANEOUSLY FOR THE CONSTRUCTION OF PUBLIC ROADS, INFRASTRUCTURE AND ACTIVITIES IN WATER COURSES WITHIN FLOOD LINES THROUGH TOWNSHIP ESTABLISHMENTS AT KARIBIB.

Title of Activity: Rezoning of land from General Industrial to Undetermined, alignment and construction of public roads and the construction of infrastructure in a water course within floodlines.


Nature of Activity: Infrastructure development

Location of Activity: Portion No. 5 of Farm Karibib No. 56, Portions No. 23, No.24, No. 25, No. 26, and Remainder of Portion No. 18 of the Farm Karibib No. 56, Erf No. 332 and Erf No. 2 Usab, Proper, within the Erongo Region

Scale and Scope of Activity:

**PART C: DECLARATION BY APPLICANT**

I hereby certify that the particulars given above are correct and true to the best of my knowledge and belief. I understand the environmental clearance certificate may be suspended, amended or cancelled if any, information given above is false, misleading, wrong or incomplete.



Signature of Applicant

**Lesley Goreseb**

**Karibib Town Council CEO**

Full Name in Block Letters

Position

Date: 29 September 2021



## ANNEXURE 2

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# CV OF ENVIRONMENTAL PRACTITIONER

- 1. Surname:** Heidri Estellè Bindemann-Nel
- 2. Profession:** Environmentalist
- 3. Date of Birth:** 29 March 1977
- 4. Nationality:** South African, PR number N6723/94
- 5. Membership in Professional Bodies:**

- Member of the Namibia Council of Town and Regional Planners
- Member of the Namibia Institute of Town and Regional Planners

#### **KEY QUALIFICATIONS: (RELEVANT TO THE PROJECT)**

SELECTED TOWN PLANNING EXPERIENCE RELATED TO ENVIRONMENTAL CLEARANCE	
ENVIRONMENTAL CLEARANCE:	
DETAILED TASKS ASSIGNED:	RELEVANT PROJECTS:
SCOPING REPORTS FOR ENVIRONMENTAL CLEARANCE FROM THE MINISTRY OF ENVIRONMENTAL AND TOURISM:	<p>Environmental Clearance for Township Establishment at, Tungo within the Rundu Town and Townlands No. 1329. (approved 2014),</p> <p>Environmental Clearance for Township Establishment at, Ozondje within the Omaruru Town and Townlands No. 85. (approved 2014),</p> <p>Environmental Clearance for Township Establishment at, Onesi Town and Townlands No. 992. (approved 2015),</p> <p>Environmental Clearance for Township Establishment at, Onayena Town and Townlands No. 985. (approved 2015),</p> <p>Environmental Clearance for Township Establishment at Portion 154, within the Consolidated Farm Okahandja Town and Townlands No. 277. (approved 2015),</p> <p>Environmental Clearance for Townships Establishments for the development of 18 New Township Extensions in Oshitayi, within the Ondangwa Town and Townlands No.882. (approved 2016),</p> <p>Environmental Clearance for Township Establishment on Portion 1 of Farm 1115, within the Opuwo Townlands No. 876. (approved 2017),</p> <p>Environmental Clearance for creating of a street on the Remainder of Erf 3093, Tsumeb, Extension 4. (approved 2017),</p> <p>Environmental Clearance for the Amendment of Conditions of Title from Residential to Industrial and the Existing Charcoal Storage and Packing Facility on Portion 149 (Randte), within the Remainder of Farm Outjo Townlands No. 193 (approved 2019),</p> <p>Environmental Clearance for the Rezoning of Erf 680, Swakopmund From "General Residential 2" to "General Business" (approved 2019),</p> <p>Environmental Clearance for Odila Lodge within the Ohangwena Region" (approved 2019),</p> <p>Environmental Clearance for the Establishment of Townships at Okanjengedi South within the Remainder of Farm Okshakati Townland No. 880. (approved 2019),</p>

SCOPING REPORTS FOR ENVIRONMENTAL CLEARANCE FROM THE MINISTRY OF ENVIRONMENTAL AND TOURISM:	Environmental Clearance for the Establishment of the establishment of Land Hold Titles at Onawa, Oshakait – As defined by the Flexible Land Tenure Act, 2012 (Act 4 of 2012. (approved 2019),  Environmental Clearance for the creation of a street and construction and other activities within a watercourse floodline, on the Remainder of Erf 3526, Extension 7, Katima Mulilo. (approved 2019),
<b>FIELDWORK OR SURVEYS:</b>	
COLLECTED AND ANALYSED DATA:	Townships Establishments for the development of 18 New Township Extensions in Oshitayi, within the Ondangwa Town and Townlands No.882. (2014)  Township Establishment at Portion 154, within the Consolidated Farm Okahandja Town and Townlands No. 277. (2015)
COLLECTED DATA:	Socio-Economic impact study on the DR 3670, DR 3671 and DR 3672 (2017)

**EDUCATION:**

INSTITUTION:	DATES ATTENDED:	DEGREES OBTAINED:
Stellenbosch University	2006 to 2008	B.A in Environmental Studies
Stellenbosch University	2009 to 2010	Honours in Geography and Environment
University of Pretoria	2012 to 2014	Masters Degree in Town and Regional Planning

**EMPLOYMENT RECORD:**

<b>JULY 2014 – CURRENT:</b>	<b>Urban Dynamics (Pty) Ltd - Windhoek-Namibia</b>
	<b>Position held::</b> Environmental Practitioner and Town and Regional Planner in training.
	<b>Responsibilities include:</b> Compiling Scoping Reports for environmental clearance, consolidations, subdivisions and drafted locality and site plans.
<b>FEBRUARY 2013 – JULY 2014:</b>	<b>Bindemann Associates, Land Surveyors- Walvis Bay-Namibia</b>
	<b>Position held::</b> Office assistant
	<b>Responsibilities include:</b> Compiling applications for consolidations, subdivisions and drafted locality and site plans.
<b>MAY TO DECEMBER 2012:</b>	<b>Silberbauer Welman Design – Grabouw –South Africa</b>
	<b>Position held:</b> Assisting draftsman
	<b>Responsibilities include:</b> Drafting house and site plans and submitting building plans and environmental clearance applications to the local governments regarding the Koberg Biosphere. Projects were located in Grabouw and Hermanus, South Africa.

**LANGUAGE:**

	<b>Speaking</b>	<b>Reading</b>	<b>Writing</b>
<b>English</b>	Good	Good	Good
<b>Afrikaans</b>	Excellent	Good	Good

**CERTIFICATION:**

I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describe me, my qualifications, and experience.

**Date:** 8 / 10 / 2019

**Signed:** \_\_\_\_\_

*Bindemann*

**Heidri Estellè Bindemann-Nel**

## ANNEXURE 3

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### CONTACT DETAIL OF THE PROPONENT

## DETAIL OF CLIENT

---

- |                                |  |
|--------------------------------|--|
| 1. NAME:                       | <b>KARIBIB TOWN COUNCIL</b>                          |
| 2. BUSINESS REGISTRATION:      |  |
| 3. CORRESPONDENCE ADDRESS:     | <b>PO. BOX 19, KARIBIB, NAMIBIA - 19 KALK STREET</b> |
| 4. NAME OF CONTACT PERSON:     | <b>MS EMELY TJOMBUMBI</b>                            |
| 5. POSITION OF CONTACT PERSON: | <b>TECH-MANAGER</b>                                  |
| 6. TELEPHONE NUMBER:           | <b>064-550016</b>                                    |
| 7. FAX No:                     | <b>064- 550032</b>                                   |
| 8. E-MAIL ADDRESS:             | <b>techmanager@karibibtown.org</b>                   |



## ANNEXURE 4

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### CONTACT DETAIL OF THE CONSULTANT



## DETAILS OF CONSULTANT

---

1.	NAME:	<b>URBAN DYNAMICS PTY LTD</b>
2.	BUSINESS REGISTRATION:	<b>93/423</b>
3.	CORRESPONDENCE ADDRESS:	<b>P O BOX 20837, WINDHOEK</b>
4.	NAME OF CONTACT PERSON:	<b>MR. JOHANN OPPERMAN</b>
5.	POSITION OF CONTACT PERSON:	<b>MANAGING DIRECTOR</b>
6.	TELEPHONE NUMBER:	<b>061 240 300</b>
7.	FAX No:	<b>061 240 309</b>
8.	E-MAIL ADDRESS:	<b><a href="mailto:johann@udanam.com">johann@udanam.com</a></b>



## ANNEXURE 5

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# ENVIRONMENTAL MANAGEMENT PLAN



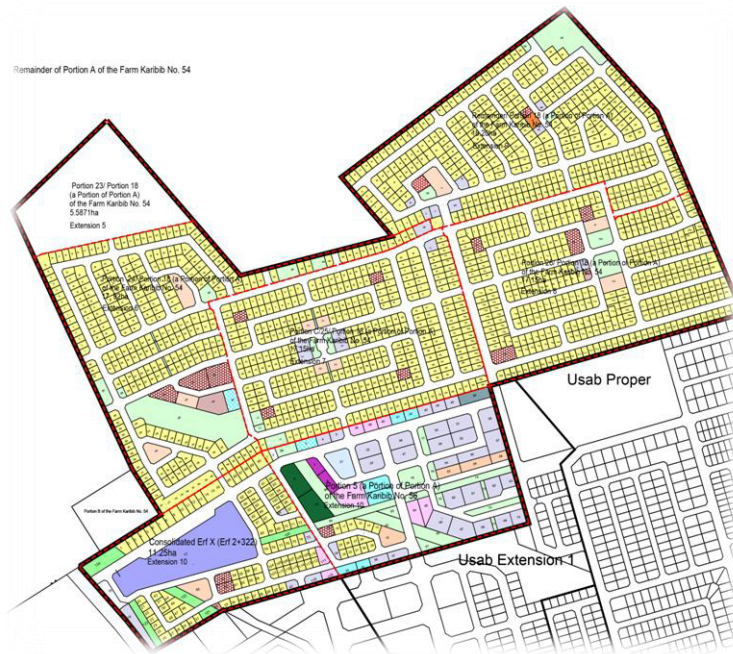
**URBAN  
DYNAMICS**




town and regional planners



JULY 2022  
REPORT NUMBER: APP-002578

# ENVIRONMENTAL MANAGEMENT PLAN:

**FOR THE ALIGNMENT AND CONSTRUCTION OF PUBLIC ROADS AND THE  
CONSTRUCTION OF INFRASTRUCTURE AS A RESULT OF TOWNSHIP  
ESTABLISHMENT WITHIN KARIBIB**



<b>PROPONENT:</b>	<b>CONSULTANT:</b>
<p><b>KARIBIB TOWN COUNCIL</b> P O BOX 19 <b>KARIBIB</b> NAMIBIA</p> 	<p><b>URBAN DYNAMICS AFRICA</b> P O Box 20837 <b>WINDHOEK</b> NAMIBIA</p> 
<p><b>SUBMISSION:</b></p> <p><b>MINISTRY OF ENVIRONMENT FORESTRY AND TOURISM</b> PRIVATE BAG 13306 <b>WINDHOEK</b> NAMIBIA</p> 	<p>Reference: 1232 Enquiries: Wilhelm Shepya Heidri Bindemann-Nel Johann Opperman TEL: +264-61-240300 FAX: +264-61-240309</p>

<b>DEVELOPMENT ROLE PLAYERS:</b>	
<b>KARIBIB TOWN COUNCIL</b> P O Box 19 <b>KARIBIB</b> NAMIBIA	
<b>DEVELOPMENT WORKSHOP NAMIBIA</b> P O Box 40723 AUSSPANPLATZ <b>WINDHOEK</b> NAMIBIA	

<b>THE ENVIRONMENTAL SCREENING REPORT FOR TOWNSHIP ESTABLISHMENT AT KARIBIB, PREPARED BY</b>	
<b>URBAN DYNAMICS AFRICA</b> P O Box 20837 <b>WINDHOEK</b> NAMIBIA	

**GENERAL LOCATION DESCRIPTION OF THE DEVELOPMENT AREA:**

<b>DESCRIPTOR:</b>	<b>LOCATION SPECIFICS:</b>
NATURE OF ACTIVITIES:	The construction of public roads and the creation of infrastructures through Establishments.
REGION:	Erongo Region
LOCAL AUTHORITY:	Karibibi Town Council
FALL WITHIN:	Within the Remainder of the Farm Karabib No. 54 and Farm Karabib No. 56
NEAREST TOWNS / CITY:	Karibib
SIZE OF PTN 23 OF PTN 18	5.5 ha
SIZE OF PTN 24 OF PTN 18	17.9 ha
SIZE OF PTN 25 OF PTN 18	17.1 ha
SIZE OF PTN 26 OF PTN 18	17.1 ha
SIZE OF REMAINDER OF PTN 18	18.2 ha
SIZE OF PTN 5 OF FARM KARIBIB NO. 56	13.6
ERF 332, USAB PROPER	6.7 ha
ERF 2, USAB PROPER	4.4 ha
LAND USE:	General Industrial
STRUCTURES:	Yes
HISTORICAL RESOURCE LISTINGS:	No
CEMETERY:	No
FLOODLINES:	Yes
ENVIRONMENTAL SIGNIFICANT AREA:	➤ Ephemeral rivers
LATITUDE:	-21.925465 S,
LONGITUDE:	15.855983 E
RELEVANT LISTED ACTIVITIES:	<p>The Environmental Management Act (Act 7 of 2007),</p> <p><b>Section 8.</b> Water Resource Developments;</p> <p>8.8. Construction and other activities in watercourses flood lines;</p> <p>8.9. Construction and other activities within a catchment</p> <p><b>Section 10.</b> Infrastructure:</p> <p>10.1. The construction of-</p> <p>(b) public roads;</p> <p>10.2. Route determination of roads and design of a physical infrastructure where-</p> <p>(a) public roads.</p>

<b>ABBREVIATION:</b>	<b>DESCRIPTION:</b>
am	ANTE MERIDIEM / BEFORE MIDDAY
BID	BACKGROUND INFORMATION DOCUMENT
EPP	EMERGENCY PREVENTION PLANS
ER	EMPLOYERS REPRESENTATIVE
EA	ENVIRONMENTAL ASSESSMENT
EC	ENVIRONMENTAL COMMISSIONER
ECO	ENVIRONMENTAL CONTROL OFFICER
EMP	ENVIRONMENTAL MANAGEMENT PLAN
etc.	ET CETERA / OTHER SIMILAR THINGS
e.g.	EXEMPLI GRATIA
FC/AC	FIBRE CEMENT/ASBESTOS CEMENT
HIV	HUMAN IMMUNODEFICIENCY VIRUS
i.e.	ID EST. / IN OTHER WORDS
I&APs	INTERESTED AND AFFECTED PARTIES
NHC	NAMIBIAN HEALTH CARE
NAMPAB	NAMIBIAN PLANNING ADVISORY BOARD
pm	POST MERIDIEM / AFTER MIDDAY
TMP	TREE MANAGEMENT PLAN
TB	TUBERCULOSIS
WMP	WASTE MANAGEMENT PLAN
<b>UNIT SYMBOL:</b>	<b>UNIT DESCRIPTION:</b>
0°	DEGREES CELSIUS
E	EAST
ha	HECTARES
Km	KILOMETRE
m	METER
mm	MILLIMETRE
m <sup>2</sup>	SQUARE METERS
%	PERCENTAGE

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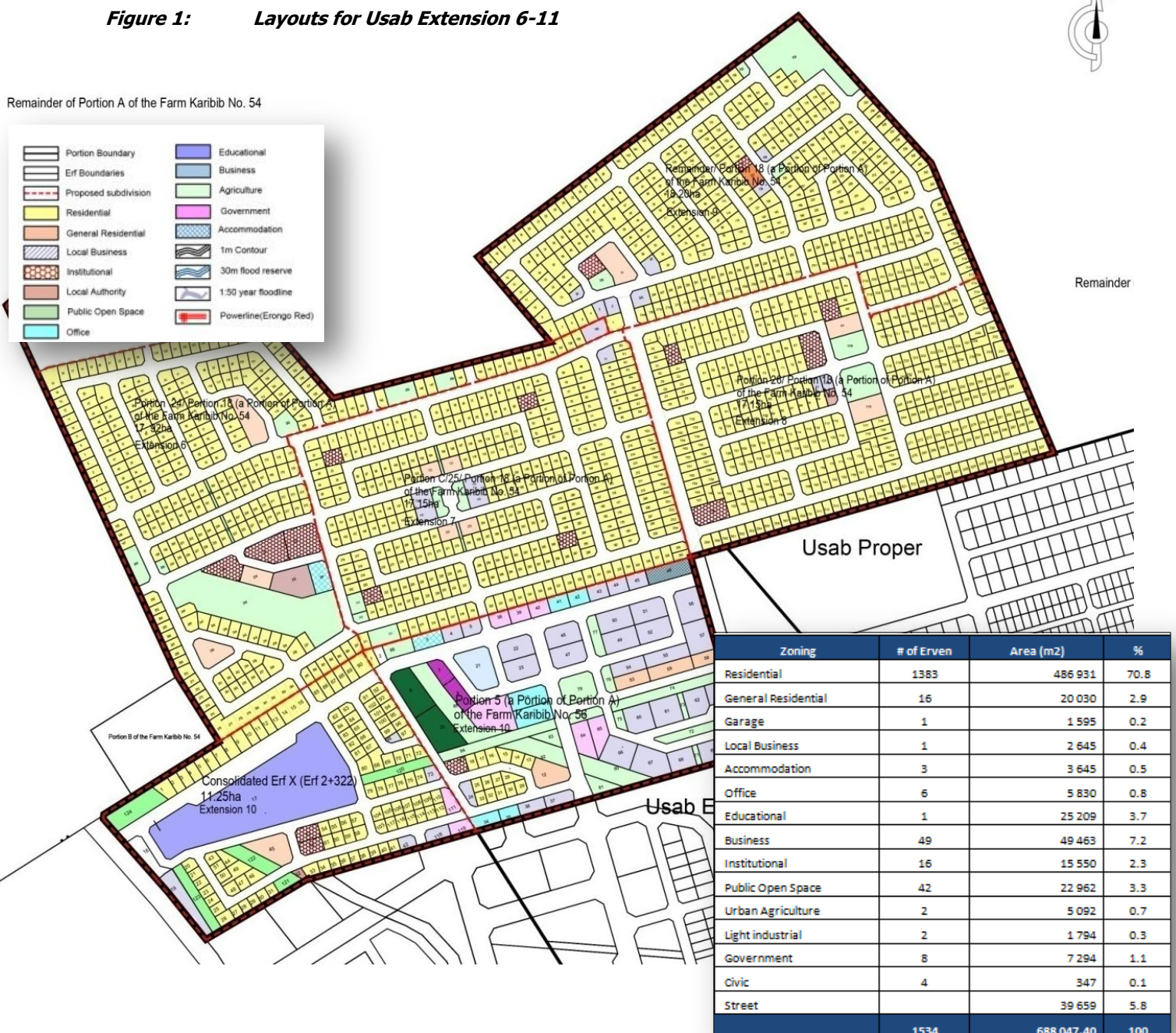
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# 1 INTRODUCTION

The project portions will be developed into six new townships consisting of mixed-use neighbourhoods, meeting the rising demand for business, institutional plots and housing within Karibib. The proposed township layouts will include the alignment, construction of public roads and the construction of infrastructure in watercourses within floodlines.

The new portions will alter the current zoning from undetermined/industrial to include 1 383 residential, 16 General Residential, 1 Garage, 1 Local Business, 3 Accommodation, 6 Office, 1 Educational, 49 Business, 16 Institutional, 42 Public Open Spaces, 2 Urban Agriculture, 2 Light Industrials, 8 Government and 4 Civic. The erven shapes and sizes are illustrated in figure 1, Area 1.

**Figure 1: Layouts for Usab Extension 6-11**

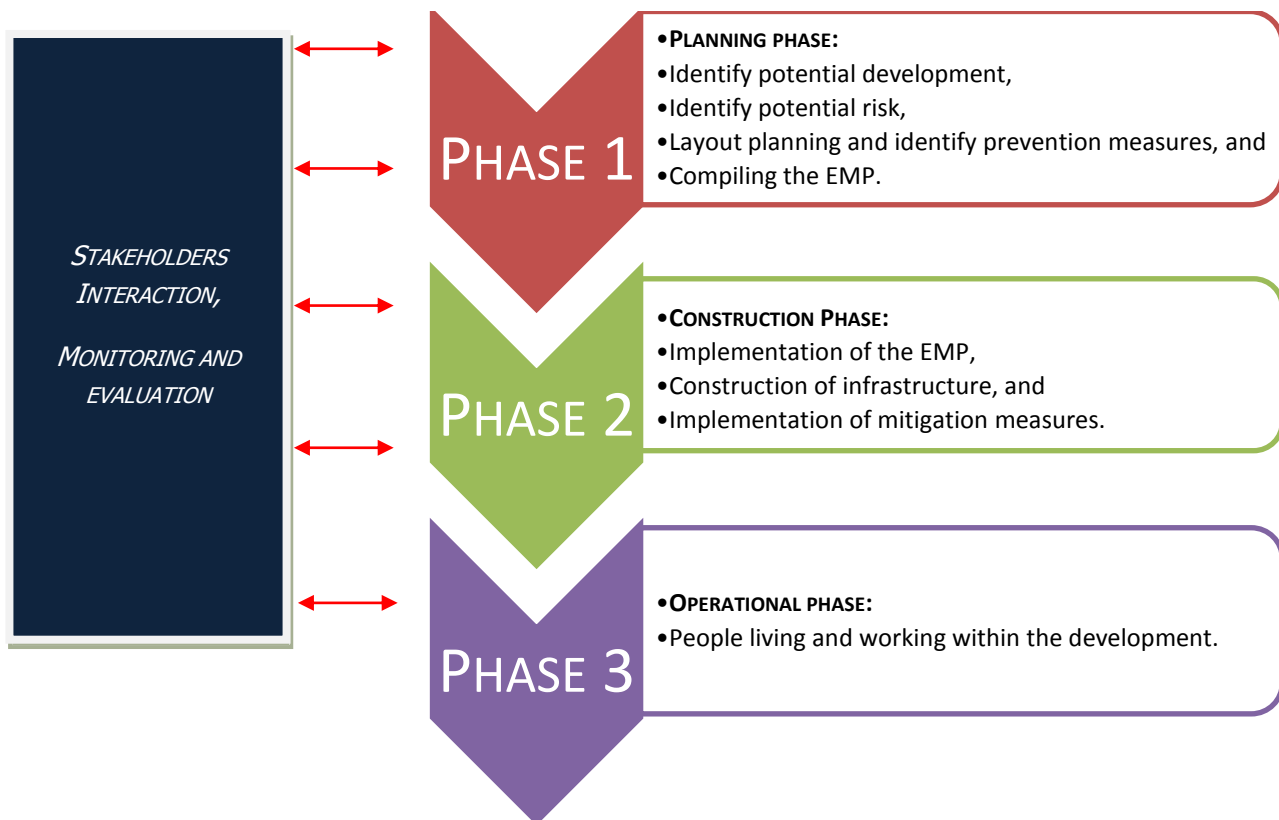




An EMP is an essential product of an Environmental Assessment (EA) process. An EMP synthesises all recommended mitigation and monitoring measures laid out according to the various stages of a project life cycle, with clearly defined follow-up actions and responsibility assigned to specific actors. This EMP has been drafted in accordance with the Namibian Environmental Management Act (No. 7 of 2007) and its Environmental Impact Assessment Regulations (2012). This plan describes the mitigation and monitoring measures to be implemented during the following phases of the development:

- ❖ Construction and
- ❖ Operation

**Table 1: Project Phases**



## 2 RESPONSIBILITIES

Implementation of the EMP is ultimately the responsibility of the Developer (Karibib Town Council and Development Workshop Namibia), the administrator of the development after construction and the Karibib Town Council. Due to the project's magnitude, it may be necessary to outsource certain functions to manage all aspects of the actual development process. When implementing the EMP, the following roles and responsibilities apply.

Each role player's responsibilities are described below.

### ***EMPLOYERS REPRESENTATIVE (ER)***

The ER is appointed by the Developer to manage all contracts for work/services that are outsourced during the construction phase. Any competent employee or third-party organisation which possesses the appropriate experience may fill this position. Any official communication regarding work agreements is delivered through this person/organisation.

The ER shall assist the Environmental Control Officer (ECO) where necessary and will have the following responsibilities regarding the implementation of this Environmental Management Plan (EMP):

- ❖ Ensuring that the necessary legal authorisations and permits have been obtained by the Contractor,
- ❖ Assisting the Contractor in finding environmentally responsible solutions to problems with input from the ECO where appropriate,
- ❖ Warning and ordering the removal of individuals and/or equipment not complying with the EMP,
- ❖ Issuing fines for the transgression of site rules and penalties for contravention of the EMP, and
- ❖ Providing input into the ECO's ongoing internal review of the EMP. This review report should be submitted on a monthly basis to the Developer.

### ***ENVIRONMENTAL CONTROL OFFICER (ECO)***

The ECO should be a competent person appointed by the ER. If the ECO has no training in occupational safety and health on a construction site, they should be sent for such training. The ECO is the ER's on-site representative primarily responsible for the monitoring and review of on-site environmental management and implementation of the EMP by the Contractor(s). If no ECO is appointed the duties of the ECO fall upon the ER. The Karibib Town Council should, with the commencement of the project monitor the implementation of the EMP on-site on an ad hoc basis.

The ECO's duties include the following:

- ❖ Assisting the ER in ensuring that the necessary legal authorisations have been obtained;
- ❖ Maintaining open and direct lines of communication between the ER, Developer, Contractor, and Interested and Affected Parties (I&APs) with regard to this EMP and matters incidental thereto;
- ❖ Monthly site inspection of all construction areas with regard to compliance with this EMP;
- ❖ Monitor and verify adherence to the EMP (audit the implementation of the EMP) and verify

that environmental impacts are kept to a minimum;

- ❖ Taking appropriate action if the specifications for the EMP are not adhered to;
- ❖ Assisting the Contractor in finding environmentally responsible solutions to problems;
- ❖ Training of all construction personnel with regard to the construction and operation mitigation measures of this EMP and continually promoting awareness of these;
- ❖ Ensure that all contractors shall provide adequate environmental awareness training (see Plan Component 5) of senior site personnel by the ECO and that all construction workers and newcomers receive an induction presentation on the importance and implications of this EMP. The presentation shall be conducted, as far as is possible, in the employees' language of choice;
- ❖ Monthly inspection to verify if new personnel have received appropriate environmental, health and safety training and training for those who have not;
- ❖ Advising on the removal of person(s) and/or equipment not complying with the specifications of the EMP in consultation with the ER;
- ❖ Recommending the issuing of fines for transgressions of site rules and penalties for contraventions of the EMP; and
- ❖ Undertaking a monthly-month review of the EMP and recommending additions and/or changes to the document.

### **CONTRACTOR**

The Contractor is responsible for the implementation, on-site monitoring and evaluation of the EMP. In order to ensure sound environmental management, the relevant sections of this EMP should be incorporated operation in all contracts of work outsourced, thus legally binding all appointed contractors.

The Contractor must keep records of all environmental training sessions, including names, dates and the information presented for inspection and reporting by the ER and ECO at all times.

### 3 RELEVANT LEGISLATION AND PERMIT REQUIREMENTS

The following table provides the legislative framework within which the EMP should be viewed:

STATUTE	PROVISIONS	PROJECT IMPLICATIONS
<b>The Constitution of the Republic of Namibia, 1990:</b>	<p>The state shall actively promote and maintain the welfare of the people by adopting, inter-alia, policies aimed at the following:</p> <p>(i) <i>management of ecosystems, essential ecological processes and biological diversity of Namibia and utilisation of living natural resources on a sustainable basis for the benefit of all.</i></p>	<p>Ensure that the ecological integrity of the ecosystems of the area is protected.</p>
<b>Environmental Management:</b>	<p><b><i>Environmental Management Act No.7 of 2007:</i></b></p> <p><b><i>EIA Regulation (EIAR) GN 57/2007 (GG 3212):</i></b></p> <p>In terms of Section 10.1(a), 10.1(b), 10.2(a), and 10.2(c) for environmental clearance for the construction of oil, water, gas and petrochemical and other bulk supply pipelines, the construction of public roads and the construction of a road with more than one lane of traffic in both directions.</p> <p>In terms of Section 8.8, 8.10 and 8.11, for construction and other activities in watercourses within flood lines, the reclamation of land from below or above the high-water and the alteration of natural wetlands are listed activities.</p> <p>Prescribes the procedures to be followed for authorisation of the project (i.e. Environmental clearance certificate).</p>	<p>Evaluate if the alignment of the street will impact on the social and natural environment.</p> <p>Determine if the risk of flooding of the erven is at acceptable levels.</p> <p>Determine if proposed limited infill would impact the function of the watercourse or cause flooding elsewhere.</p> <p>Determine how wastewater pipelines in the riverbed should be designed, constructed and maintained to prevent groundwater and other pollution.</p>

<p><b>WATER AND RESOURCES MANAGEMENT:</b></p>	<p><b><i>The Water Act No. 54 of 1956 and Water Resources and Management Act No.27 of 2007 Section 92:</i></b></p> <p>Section 92 (1), A person may not engage in any construction work or activity that causes or is likely to cause, the natural flow conditions of water in to or from a watercourse to be modified, unless the minister has granted prior written approval for the work or activity to be carried out.</p> <p>Section 100 (e) consult with the regional Council or local authority in determining the geographic extent of flood plain areas in its region or local authority, as the case may be, and assist any such councils in regulating the development and use of land within floodplain areas</p> <p>Section 100 (f) prescribe measures for control and management of storm and flood risk within local authority areas.</p> <p>Section 101 (b) development on the banks of any wetland or dam; and</p> <p>Section 101 (c) the removal of rocks, sand or gravel or any other material from a watercourse.</p>	<p>Assess the potential risk that the planned activities may have on both the watercourse on the one hand and future occupants of the land on the other.</p>
<p><b>THE PUBLIC HEALTH AND HEALTH AND SAFETY REGULATIONS:</b></p>	<p><b><i>The Public Health Act 36 of 1919 as amended and the Health and Safety Regulations:</i></b></p> <p>These acts control the existence nuisances such as litter that can cause a threat to the environment and public health.</p>	<p>Prevent activities which can have an impact on the health and safety of the public.</p>

<b>POLLUTION CONTROL AND WASTE MANAGEMENT BILL:</b>	<p><b><i>Pollution Control and Waste Management Bill:</i></b></p> <p>This bill aims to promote sustainable development and to prevent and regulate the discharge of pollutants into the environment.</p>	<p>Consider the risk of pollution as a result of the sewer infrastructure in the riverbed.</p>
<b>LABOUR:</b>	<p><b><i>Labour Act. 11 of 2007:</i></b></p> <p>This bill aims to protect workers and their environment which they work in.</p>	<p>Ensure the protection of workers' rights and safety in Namibia.</p>
<b>FORESTRY:</b>	<p><b><i>Forest Act. 12 of 2001:</i></b></p> <p>Protected tree species and any vegetation within 100m from a watercourse may not be removed without a permit from the Ministry of Agriculture, Water and Forestry.</p>	<p>Ensure that the necessary permits are obtained for the removal of the protected trees.</p>

**PLANNING AND DESIGN PHASE****Table 2: Management Requirements for the Planning and Design Phase**

ASPECT	MANAGEMENT REQUIREMENTS
<b>Natural Building Material</b>	<b>All building material</b> (sand and gravel) must be sourced from a local registered borrow pit only. Road building material, (G4, G5, etc. material) must be sourced in collaboration within Karibib from approved borrow pits within the townlands. If suitable material can only be sourced from untouched land to create a new borrow pit, then that is legally subject to an EIA as well by the Karibib Town Council.
<b>EMP Implementation</b>	<b>Relevant sections</b> of this EMP should be included in the tender documents for all construction so that tenderers can make provision for implementation of the EMP.
<b>Financial Provisions</b>	<ul style="list-style-type: none"> <li>• <b>Financial provision</b> for the facilitation of an induction programme for senior, temporary construction personnel as well as subcontractors and associated personnel should be included as a cost item within tenders concerning the construction and/or operation and maintenance of the proposed development.</li> <li>• <b>Financial provision</b> for the compilation of a Tree Management Plan should be included as a cost item within construction tender documents.</li> </ul>
<b>Recruitment</b>	<ul style="list-style-type: none"> <li>• <b>Provisions designed</b> to maximise the use of local labour should be included within tenders concerning the construction of bulk and reticulation services.</li> <li>• <b>A provision</b> stating that all unskilled labour should be sourced locally should be included in tenders concerning the construction of all services of the development.</li> <li>• <b>Specific recruitment</b> procedures ensuring local firms enjoy preference during tender adjudication should be included in tenders concerning the construction of the development's bulk services.</li> <li>• <b>Provisions promoting gender equality</b> pertaining to recruitment should be included in tenders concerning the construction of the township services.</li> <li>• <b>Women</b> should be given preference for certain jobs (e.g. those jobs that require relatively less physical strength).</li> </ul>

## 4 CONSTRUCTION MITIGATION DETAIL

Table 3 provides a scale overview of all the major environmental management themes pertaining to both generic and site-specific construction mitigation detail. This table serves as a quick reference for the mitigation detail that follows subsequently for each theme. This is done to simplify the implementation of the construction component of this EMP.

**Table 3: Generic and Site-Specific Environmental Management Actions:**

THEME:	OBJECTIVE:	MITIGATION DETAIL:	
		GENERIC:	SITE-SPECIFIC:
<b>WASTE MANAGEMENT:</b>	Minimise and avoid all waste pollution associated with construction.	<b>PLAN COMPONENT 1</b>	<b>YES</b>
<b>HEALTH AND SAFETY MANAGEMENT:</b>	Focusing on the wellbeing of the labourers on and the community near the construction.	<b>PLAN COMPONENT 2</b>	<b>YES</b>
<b>NOISE AND DUST MANAGEMENT:</b>	Minimise and avoid all noise and dust associated with construction.	<b>PLAN COMPONENT 3</b>	<b>YES</b>
<b>TRAFFIC MANAGEMENT:</b>	Minimise and avoid traffic impacts.	<b>PLAN COMPONENT 4</b>	<b>YES</b>
<b>ENVIRONMENTAL TRAINING AND AWARENESS:</b>	Awareness creation regarding the provisions of the EMP as well as the importance of safeguarding environmental resources.	<b>PLAN COMPONENT 5</b>	<b>YES</b>
<b>ENVIRONMENTAL CONSERVATION:</b>	Minimise the effect of the activity and protect the social environment in which it is happening.	<b>PLAN COMPONENT 6</b>	<b>YES</b>
<b>EMPLOYMENT /RECRUITMENT</b>	Ensure the protection of workers' rights and safety in Namibia.	<b>PLAN COMPONENT 7</b>	<b>YES</b>
<b>STAKEHOLDER COMMUNICATION:</b>	Provide a platform for stakeholders to raise grievances and receive feedback and hence, minimise negative conflict.	<b>PLAN COMPONENT 8</b>	<b>YES</b>
<b>SOCIO-ECONOMIC AND MISCELLANEOUS:</b>	Protecting cultural and general wellbeing of the affected.	<b>PLAN COMPONENT 9</b>	<b>N.A</b>



## 4.1 PLAN COMPONENT 1: WASTE MANAGEMENT

At the construction site, high importance shall be placed on waste management, and it needs to be performed daily. Solid waste is the expected major source of waste at the construction site; therefore, a **Waste Management Plan** (WMP) must be compiled. The WMP must address measures for the use and disposal of general waste and hazardous waste at the site, as indicated below:

### 4.1.1 CONSTRUCTION WASTE MANAGEMENT:

#### GENERAL WASTE:

- The construction site should be kept tidy at all times. All general construction waste produced should be cleaned and contained daily,
- No waste may be buried or burned,
- No waste may be dumped in any watercourse in and around the project area,
- A sufficient number of separate waste containers (bins) for hazardous and domestic/general waste must be provided on-site. These should be clearly marked as such, and
- Construction labourers should be sensitised to dispose of waste in a responsible manner and not to litter.

#### HAZARDOUS WASTE:

- All heavy construction vehicles and large fuel-powered equipment on the site should be provided with a drip tray,
  - If the vehicle used is suspected of having an oil leakage, drip trays are to be transported with vehicles wherever they go on site.
  - Drip trays should be cleaned daily, and spillage handled, stored, and disposed of as hazardous waste.
- Spilled concrete (wet) should be treated as waste and disposed of by the end of each day in the appropriate waste containers,
- Due to its high alkalinity content, unbound cement (dry) in its raw state and cement-infused water from mixers are classified as hazardous waste. Treatment would be the same as for hazardous waste, and disposal of such should take place in the appropriate labelled hazardous waste containers,

- A hazardous waste spill clean-up kit should be kept on-site, and its stock replenished as needed. The kit will consist of the following items (with the numbers of each item is up to the discretion of the ER):
  - Medium-sized shovels, strong plastic bags, drip trays, dust masks, heavy-duty gloves, and a biodegradable hand wash (degreasing) agent,
- A storage location must be provided for the use of all hazardous substances (e.g. fuel etc.) or chemicals. The storage area must be of an impermeable surface; this is bonded, awaiting use and disposal afterwards.

The duration of the phase is short-term (0-5 years) and will end at the start of the operational phase. The responsibility to implement the EMP, on-site monitoring and evaluation of the EMP / WMP lies with the Contractor, ECO and the ER.

#### **4.1.2 OPERATIONAL WASTE MANAGEMENT:**

##### **GENERAL WASTE:**

- The development needs to provide efficient waste management infrastructure for household and business, which will include recycling infrastructure,
- The household and business waste needs to be collected by the Karibib Town Council or service provider, and
- Sewerage needs to be pumped through a closed system pipeline to the Karibib Town Council bulk sewerage lines.

The timeframe of the actions mentioned above is long-term, and the responsibility and monitoring lie with the Karibib Town Council, who will be responsible for maintaining the sewerage pipelines after construction and the solid waste removal.

## 4.2 PLAN COMPONENT 2: HEALTH AND SAFETY

The health and safety aspect of the workspace is something that cannot be understated, considering that unexpected severe events can occur at any given moment.

### 4.2.1 HEALTH AND SAFETY MANAGEMENT:

The construction industry is fraught with hazards; therefore, careful planning and prevention measures are necessary to reduce the risk of serious injuries while on duty.

The Contractor will need to apply to the Labour Act. No. 11 of 2007 in conjunction with Regulation 156, 'Regulations which describe the health and safety of employees at work'. Measures to mitigate the health and safety of workers and nearby residents on the site are included in the EMP.

#### **HIV/AIDS AND TB TRAINING:**

The Contractor should approach the Ministry of Health and Social Services to appoint a health officer to facilitate HIV/AIDS and TB education programmes on-site during construction.

#### **ROAD SAFETY:**

- Vehicles' contents/consignments should be adequately secured to avoid items falling off the vehicle.
- All trucks carrying sand or fine material loads should be covered with a shade net cover to prevent these materials from being blown off onto approaching vehicles from both directions.
- No construction vehicle may be used to transport personnel to and from the construction site. This is an offence and punishable by law due to the extreme safety risk involved.

#### **SAFETY AROUND EXCAVATED AND WORK AREAS:**

- A meeting with the neighbouring community shall be held, and the safety precautions of the construction area explained,
- Excavations should be left open for an absolute minimum time only,
- Excavate short lengths of trenches and box areas for services or foundations in such a way that the trench will not be left unattended for more than 24 hours,
- Demarcate the following areas with danger tape or orange demarcation netting:
  - All excavation works;
  - Soil and other building material stockpiles; and

- Temporary waste stockpiles.
- Provide additional warning signage in areas of movement and in "no person allowed" areas where workers are not active,
- Work areas must be set out and isolated with danger tape on a daily basis,
- All building materials and equipment are to be stored only within set out and demarcated work areas,
- Only construction personnel will be allowed within these demarcated work areas, and
- Two dry chemical powder fire extinguishers should be available at fuel storage areas, the workshop area, and the site office.

#### **ABLUTIONS:**

- Separate ablutions (toilet) should be available for men and women and should clearly be indicated as such,
- Portable toilets (i.e. easily transportable) should be available at every construction site:
  - 1 toilet for every 25 females.
  - 1 toilet for every 50 males.
- Sewage waste needs to be removed regularly to an approved sewage disposal site. Alternatively, pump it into sealable containers and store it until it can be removed, and
- Workers responsible for cleaning the toilets should be provided with latex gloves and masks.

#### **4.2.2 OPERATIONAL PHASE HEALTH AND SAFETY MANAGEMENT:**

Four ephemeral streams flow through the project site. Drainage at the site is from northeast to north or east to northwest, towards lower areas. These streams are accommodated within public open spaces within the layout. This is to ensure that limited development takes place within the flood areas. Knight Piesold's mitigation measures to prevent any flood risk within the layout are as follows:

- Relocating the informal settlement on the southern side of the river 2 channel between "Start" and "Main Bridge" to create space for a channel with embankments,
- The Council should decide whether the 1 in 20-year flood mitigation measures will be acceptable, considering the lower cost and the low-risk overflow of the 1 in 50-year flood, which is estimated to result in less than 100mm flood depth throughout the township.
- The Council should clear away sand deposits obstructing the culverts before the next rainy season.

- Karibib Town Council should ensure all culverts are cleaned and inspected to ensure that there is no debris. Should the problem persist, a hydraulic assessment should be done to determine if their hydraulic capacity is sufficient.

The timeframe of the actions mentioned above is continuous, and the responsibility and monitoring lie with the Karibib Town Council, the owners of the new erven.

### 4.3 PLAN COMPONENT 3: NOISE AND DUST

Noise and dust can cause stress and health impacts on nearby residents and construction workers. Therefore, high priority needs to be placed on mitigation measures at the site to manage noise and dust pollution within the area.

#### 4.3.1 NOISE PREVENTION:

Noise associated with construction and traffic activities will be heard from the site. Ongoing noise can cause stress and have a health impact on construction workers and nearby residents. However, mitigation measures need to be in place to prevent noise pollution within the area.

The following measures are provided below to minimise noise:

- No noisy activities on-site between 17:00 and 07:00,
- Construction activities on Saturday shall be between 08:00 and 13:00,
- Sunday and public holidays - no noisy activities on-site, and
- In the event that work is necessary outside the designated working hours, all receptors (residents or businesses within 500 m from the work areas) need to be notified at least two days in advance.

The duration of the actions mentioned above is short-term, and the impact ceases after the operational phase starts. The responsibility for monitoring lies with the Contractor, ECO of the development, and the Karibib Town Council.

#### 4.3.2 DUST PREVENTION:

The movement of construction vehicles on bare soil will cause excessive dust, which will expose nearby residents and workers on the site to dust pollution. Fugitive dust from construction sites can spread crystalline silica, which can impact nearby residents and site workers' health.

Fugitive dust from the construction site can also cause poor visibility for road users. Mitigation measures must be put in place to prevent dust pollution.

The following measures are provided below to minimise dust:

- Provide a suitable screen/panels surrounding the construction site, to reduce the spread of dust from the site,
- Dust palliatives need to be applied to the road surfaces to prevent dust clouds,
- A watering truck with semi-purified water should be used on gravel roads with the most vehicle movement, especially during dry and windy conditions. However, due consideration should be given to water restrictions during times of drought and applicable seasons,
- Stockpiles of building material and earth material need to be kept moist, or the surfaces need to be kept stabilised. A nylon mesh cover which reduces dust lift with  $\pm$  50% can be an alternative option,
- Limit the size of stockpiles of large quantities of soil, topsoil and other fine material,
- Dust protection masks should be issued to all workers exposed to dust on the site, and
- Improve awareness of ambient air quality and consideration regarding wind speed and direction when undertaking dust-generating activities.

The duration of the actions mentioned above is short-term, and the impact ceases after the operational phase starts. The responsibility for implementation and monitoring lies with the Contractor, ECO of the development, and the Karibib Town Council.

#### 4.4 PLAN COMPONENT 4: TRAFFIC MANAGEMENT

The construction of the infrastructure will have a disruptive impact on the surrounding traffic. Mitigation measures should be in place to minimise the anticipated disruption of the surrounding traffic during the construction of the infrastructure upgrade.

##### 4.4.1 TRAFFIC DURING THE CONSTRUCTION PHASE:

The following measures are provided to minimise traffic:

###### **TRAFFIC MITIGATION:**

- Develop a **Traffic Plan** to reduce traffic flow interference from construction activities. The plan may include advance public notice of routing, use of public transportation, and satellite parking areas with a shuttle service.
- Schedule operations, affecting traffic for off-peak hours. Minimise obstruction of through-traffic lanes. Provide a flag person to guide traffic properly and ensure safety at construction sites.
- Construction vehicles should be restricted during peak hours, between 07:00-08:00 and 17:00-18:30.
- Appropriate advance road warning signage needs to be used.

The duration of the actions mentioned above is short-term and will end when the operation phase commences. The responsibility for implementation and monitoring lies with the Contractor. However, the road infrastructure will become permanent, and the responsibility for maintaining the streets will lie with the Karibib Town Council after construction.

#### 4.5 PLAN COMPONENT 5: ENVIRONMENTAL TRAINING AND AWARENESS

All construction workers at the development site are to undergo environmental training and awareness programs. The following aspects should be included:

- Explanation of the importance of complying with the EMP.
- Discussion of the potential environmental impacts of construction activities.
- Employees' roles and responsibilities, including emergency preparedness.
- Explanation of the mitigation measures that must be implemented when particular workgroups carry out their respective activities.
- Explanation of the specific mitigation measures within this EMP, especially unfamiliar provisions.

**During the training sessions**, an attendance register should be completed, including the names, positions designations and signatures of everyone who attended the training and kept on file for auditing purposes. Thereby, all the training sessions prior to it being conducted must be approved by the ECO.

#### 4.6 PLAN COMPONENT 6: ENVIRONMENTAL CONSERVATION

##### 4.6.1 TREE MANAGEMENT PLAN:

The layout was prepared in such a way to avoid the removal of trees. The trees in the project site will remain intact as far as possible during development. Trees need to be accommodated on individual erven, and along the road in such a manner as to allow the positioning and construction of residential buildings and construction of the road without necessitating removal.

A **Tree Management Plan** shall be implemented, which should include the following content at the minimum level:

- All protected trees should be surveyed,
- Permits shall be obtained before the removal of protected trees, by the ECO.
- Protected trees which are removed shall be replaced and used within the landscaping of the development, and
- Indigenous plants and trees can be obtained at a commercial nursery. The forestry officers can also direct to nearby nurseries where additional trees may be bought.

The duration of the actions mentioned above is short term. The responsibility for the implementation of the **Tree Management Plan** lies with the Developer and Contractor.

#### 4.6.2 MATERIALS CAMP AND LAY-DOWN AREAS:

A suitable location for the **materials camp and lay-down** areas should be identified with the assistance of the ER, and the following should be considered in selecting these sites:

- The areas designated for the proposed services infrastructure should be used as far as possible, and
- Sensitive areas should be avoided (e.g. watercourses).

The duration of the actions mentioned above is short-term. The responsibility for the implementation of the EMP lies with the Contractor, ER and ECO.

### 4.7 PLAN COMPONENT 7: EMPLOYMENT/RECRUITMENT

The construction of the development will take place over several years and will employ about up to a thousand (1000) workers. It is not clear at this stage which skill sets would be required, nor the extent to which employment opportunities could be created in the project area.

The benefits to the local community from jobs could be dependent on the extent of local recruitment and the measures put in place to ensure preferential local gender-based recruitment where possible.

#### 4.7.1 RECRUITMENT:

The formal recruitment process should be compiled and shall include the following minimum provisions:

- A recruitment process whereby local residents shall be given preference shall be designed by the ER and the Contractor,
- Ensure that all sub-contractors are aware of recommended recruitment procedures and discourage any recruitment of labour outside the agreed-upon process,
- Contractors should give preference in terms of recruitment of sub-contractors and individual labourers to those from the project area and only then look to surrounding towns, and
- Clearly explain to all job-seekers the terms and conditions of their respective employment contract (e.g. period of employment, etc.) – make use of interpreters when required.

#### 4.7.2 LEGISLATION:

The Contractor needs to adhere to the legal provisions in the Labour Act (Labour Act. 11 of 2007), for the recruitment of labour (target percentages for gender balance, optimal use of local labour



and SME's, etc.) in the contract.

## 4.8 PLAN COMPONENT 8: STAKEHOLDER COMMUNICATION

Within the construction phase, the Developer should draft a **Communication Plan**. The ER, in collaboration with the Developer, must appoint an ECO to liaise between the Contractor, stakeholders, Developer, and consultants. The Contractor shall appoint a person from the construction team to take responsibility for implementing all provisions of this EMP.

### 4.8.1 COMMUNICATION PLAN:

In addition, the plan shall specify:

- How stakeholders, who require ongoing communication for the duration of the construction period, will be identified and recorded and who will manage and update these records,
- How these stakeholders will be consulted on an ongoing basis, and
- How grievances shall be handled – i.e. how concerns can/ will be lodged/ recorded and how feedback will be delivered as well as further steps of arbitration in the event that feedback is deemed unsatisfactory.

### 4.8.2 GENERAL COMMUNICATION:

- The Contractor shall, at every site meeting, report on the status of the implementation of all provisions of the EMP,
- The ECO must list the stakeholders of the project and their contact details with whom ongoing communication would be required for the duration of the contract. This list, together with the **Communication Plan**, must be agreed upon and given to the ER before construction commences,
- The Communication Plan, once agreed upon by the Developer, shall be binding,
- All communication with the stakeholders must take place through the ECO,
- A copy of the EMP must be available at the site office and should be accessible to all stakeholders,
- The Contractor should liaise with the Developer regarding all issues related to community consultation and negotiation before construction commences,
- A procedure should be put in place to ensure that concerns raised have been followed-up and addressed, and
- All people on the stakeholder's list should be informed about the availability of the complaints register in writing by the ER prior to the commencement of construction activities.

**Table 4: Public Consultation Process**

<b>THE PROCESS:</b>	<b>DESCRIPTION OF THE PROCESS:</b>
<b>PLANNING PHASE:</b>	
<b>I&amp;APs IDENTIFICATION:</b>	Key Interested and Affected Parties (I&APs) were identified and included in a list of I&APs ( <b>Appendix D.2</b> ). The list included the Karibib Town Council.
<b>NEWSPAPER NOTICES:</b>	Notices were placed, for two consecutive weeks in two widely circulated newspapers, briefly describing the developments and their locality, inviting the public to register as I&APs ( <b>Appendix E.1</b> ).
<b>INFORMATION PROVISION:</b>	A Background Information Document (BID) was compiled that contained essential information about the project ( <b>Appendix D.3</b> ).
<b>MEETINGS:</b>	<ul style="list-style-type: none"> <li>- Urban Dynamics did advertise and requested that the public register as I&amp;APs for a public meeting.</li> <li>- The meeting date was the <b>28<sup>th</sup> of April 2021</b>.</li> <li>- Information was provided to stakeholders (of which one was the Karibib Town Council)(<b>Appendix A</b>)</li> </ul>
<b>PUBLIC COMMENTS PERIOD:</b>	The public comments period was from <b>12 April to 24 May 2020</b> .
<b>THE CONSTRUCTION PHASE:</b>	
<b>COMMUNICATION PLAN:</b>	<ul style="list-style-type: none"> <li>- The Contractor shall at every site meeting report on the status of the implementation of all provisions of the EMP.</li> <li>- The ECO must list the stakeholders of the project and their contact details with whom ongoing communication would be required for the duration of the contract. This list, together with the Communication Plan, must be agreed upon and given to the ER before construction commences.</li> <li>- The Communication Plan, once agreed upon by the Developer, shall be binding.</li> <li>- All communication with the stakeholders must take place through the ECO.</li> <li>- A copy of the EMP must be available at the site office and should be accessible to all stakeholders.</li> <li>- The Contractor should liaise with the Developer regarding all issues related to community consultation and negotiation before construction commences.</li> <li>- A procedure should be put in place to ensure that concerns raised have been followed-up and addressed.</li> <li>- All people on the stakeholder's list should be informed about the availability of the complaints register in writing by the ER prior to the commencement of construction activities.</li> </ul>

## 4.9 PLAN COMPONENT 9: SOCIO-ECONOMIC AND MISCELLANEOUS

No heritage or archaeological sites were found in the area. However, the EMP's standard procedures for heritage or archaeological sites are still included in this plan. No formal survey for archaeological remains was conducted during the field studies of the site, therefore, the possibility of it containing some or the other form of remnants cannot be ruled out, especially when excavations are done.

### ***Heritage or Archaeological Sites***

In the case where a heritage or archaeological site is uncovered or discovered during the construction phase of the development, a 'chance find' procedure should be applied as follows:

- If operating machinery or equipment to stop work immediately;
- Demarcate the site with danger tape;
- Determine GPS position if possible;
- Report findings to foreman;
- Cease any works in the immediate vicinity;
- Visit the site and determine whether the work can proceed without damage to the findings;
- Determine and demarcate exclusion boundary;
- Inspect site and confirm the exact location.
- Advise the National Heritage Council (NHC) and request written permission to remove findings from the work area; and
- Recovery, packaging and labelling of findings for transfer to National Museum.

Should human remains be found, the following actions will be required:

- Apply the 'chance find' procedure as formerly described;
- Schedule a field inspection with an archaeologist to confirm that the remains are human;
- Advise and liaise with the NHC and Police; and
- Remains will be recovered and removed either to the National Museum or the National Forensic Laboratory.

If it is found that the construction site is on a heritage site or an archaeological site, the Developer will need to apply for a permit from the National Heritage Council in order to carry out works in a protected place as indicated in the National Heritage Act 27 of 2004.

## APPENDIX A

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### CONSENT FROM MURD



Republic of Namibia

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## Ministry of Urban and Rural Development

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Enquiries: **Mr. T. Newaya**  
Tel: (+264+61) 297-5186  
Fax: (+264+61) 297-5305

Government Office Park  
Luther Street

Private Bag 13289  
Windhoek, Namibia

Our Ref.: 1/1/  
Your Ref.:

Mr. Johan Opperman  
Managing Director  
Urban Dynamics Town and Regional Planners  
P.O.Box 20837  
**WINDHOEK**

Dear Mr. Opperman,

**RE: REQUEST FOR COMMENTS FOR PROPOSED TOWNSHIP AT USAB, KARIBIB,  
ERONGO REGION AND FOR TOWNSHIP ESTABLISHMENT AT ONIIPA,  
OSHIKOTO REGION**

We refer to the above-captioned subject matter.

We would like to inform you that the Ministry of Urban and Rural Development as one of the key stakeholders in the proposed development, does not have any objection against the intended development.

Yours Sincerely,

  
**NGHIDINUA DANIEL**  
**EXECUTIVE DIRECTOR**



## APPENDIX B

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### LOCALITY PLAN



N OF PORTION A) OF THE FARM KARIBIB NO. 54

REM. OF PTN A OF THE FARM KARIBIB NO. 54

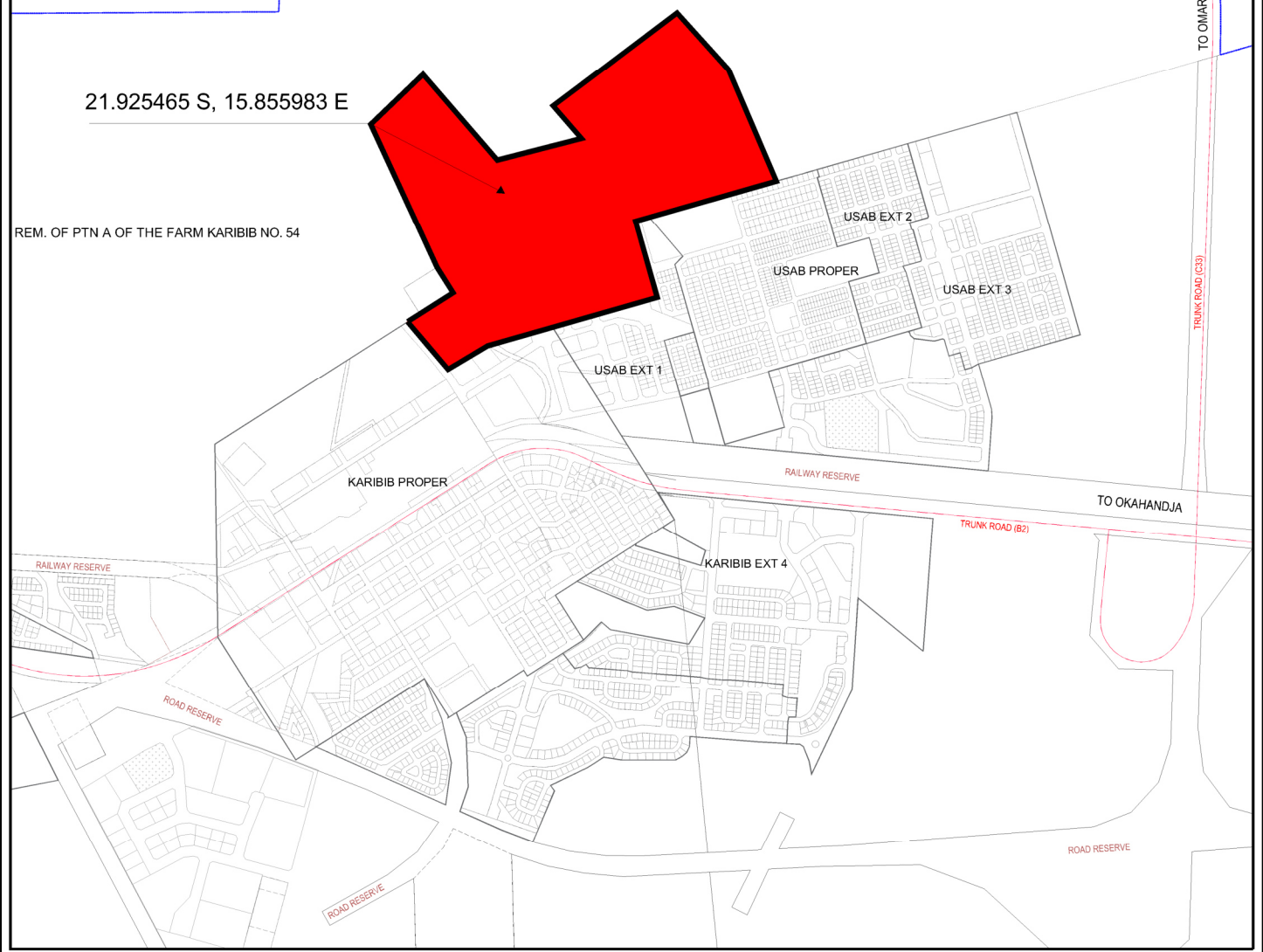
21.925465 S, 15.855983 E

REM. OF PTN A OF THE FARM KARIBIB NO. 54

↑  
TO OMARURU

↑  
TRUNK ROAD (C3)




TO OKAHANDJA



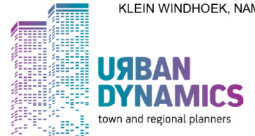
### LOCALITY PLAN

The copyright of this drawing is reserved

DESIGN	URBAN DYNAMICS	DATE	November 2021
DRAWN	URBAN DYNAMICS	DATE	November 2021
REVISION		DATE	

	Project site
	Local Authority Boundary
	Trunk Road

PREPARED BY: 45 NELSON MANDELA AVE.  
KLEIN WINDHOEK, NAMIBIA



JET: PROJECT NUMBER/ DRAWING NAME	
<small>Z:\slip_uf\slip_current\proj\212_065 Township Subdivision of Usab Ext 7, 8, 9 and 11, Karibib Drawings</small>	
SCALE	DRAWING NAME
1 : 25 000	Locality Plan

P O BOX 20837  
WINDHOEK  
Namibia

Telephone +264-61-240300  
Telefax +264-61-240309  
E-mail uda@udanam.com  
Web www.udanam.com

## APPENDIX C

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# PUBLIC CONSULTATION PROCESS



## APPENDIX C.1

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### NOTES AND ADVERTISEMENTS

# the bottom line

News, views and everything you need to know about the economy



**MEGA SOLAR** ... All partners in the Mega Solar project signed a memorandum of intent this month.

Photo for illustrative purposes.

## Nam, Bots more competitive with solar project

• **CHARMAINE NGATJIHEUE and LAZARUS AMUKESHE**

NAMIBIA is well on its way to becoming competitive in the power sector and would soon be able to provide cheaper electricity for manufacturing.

This comes after the planned solar power project by Namibia and Botswana was approved by the United States, placing it in line for funding.

The United States gave the project the nod at the Leaders' Summit on Climate.

Mega Solar is driving the project in collaboration with Power Africa and the governments of Namibia and Botswana, the International Finance Corporation, the International Bank for Reconstruction and Development (World Bank) and the African Development Bank.

The project would support the development of southern Africa's largest solar-generation project and is expected to produce between 3 000 and 5 000 megawatts (MW) of energy and eliminate an estimated 6,5 million tonnes of carbon dioxide.

The first phase of Mega Solar will focus on the procurement of 300-500 MW for local demand in the focal countries. Subsequent procurements are anticipated for projects slated for energy export.

Multiple potential sites have been identified for development; however, the selection of actual project sites has not been finalised.

The partners signed the memorandum of intent this month.

The presidential economic

adviser in the Presidency, James Mnyupe, said the two countries and the multilateral institutions essentially agreed to cooperate on funding the feasibility study, providing land, augmenting the transmission networks and the regional trading platforms and funding the generation assets portfolios.

He said this is necessary to ensure effective and affordable delivery of large-scale renewable assets.

Mnyupe added that the memorandum seeks to build assets (between the two countries) 100 times larger than the recently completed 54-megawatt plant in Zambia.

He added that the Mega Solar assets could provide the cheap electricity needed to make the competitive "oil". He further explained that the multilateral institutions can bring large-scale concessionary funding, expertise and involve cross-border off-takers and can provide guarantees.

"This reduces the cost of funding leading to cheaper electricity. This results in us being even a more competitive region to produce green hydrogen, which has the potential to change our nations," Mnyupe stated.

US ambassador to Namibia Lisa Johnson said Mega Solar will directly advance the goal set by president Hage Geingob in the Harambee Prosperity Plan II for Namibia by securing cost-effective energy supply.

She added that once completed, it could be one of the largest solar parks in the world.

"I am very excited that Namibia, Botswana, the United States, the World Bank, the International Finance Corporation, and the African Development Bank have taken important steps forward together on the Mega Solar project," she said.

Johnson further said the project could transform Namibia and Botswana into two of the globe's most significant producers of solar power, enough to begin exporting renewable energy to the southern Africa region.

"Beyond the economic potential, Mega Solar will help decarbonise southern Africa and will make a significant contribution to global efforts on climate change," the ambassador noted.

Mega Solar's initial goal is to provide additional power from solar photovoltaic and concentrated solar thermal technologies to meet local demand, an ultimate benefit of the collaborative efforts of the Mega Solar partners in strengthening the institutional and technical capacity as well as legal and regulatory frameworks of the focal countries.

United States Agency for International Development coordinator, under which Power Africa falls, Mark Carrato explained that this is a milestone agreement, with Botswana and Namibia demonstrating unprecedented leadership and collaboration.

"Unlocked by this partnership is the extraordinary development potential for life- and globe-changing clean energy, emanating from southern Africa on a pioneering scale of massive productive use," Carrato added.

On 19 April at the signing ceremony in Windhoek, Namibia's mines and energy minister, Tom Alweendo, said that he was glad that Namibia and partners were finally signing the Mega Solar memorandum of intent after two years of negotiation.

He highlighted that both Namibia and Botswana need more locally generated power, adding that Namibia's development roadmap, the Harambee Prosperity Plan II, emphasises the need for clean power generation.

Alweendo said that Namibia is focused on increasing its power generation capacity in the next few years, including through other renewable energy projects with independent power producers. The minister further said he hopes implementing the Mega Solar project will be swift, as it can help Namibia realise its power generation goals and will be complementary to the other power projects Namibia is pursuing.

US embassy spokesperson in Namibia Katherine Cantrell yesterday said bilateral engagements with the two governments will now develop their joint stated priorities and timing. She said this phase moves past the conceptual to stakeholder engagement and technical feasibility.

"This will include project site selection, with the ultimate goal of implementing a procurement phase which would entail detailed legal and regulatory due diligence and the design of country-specific transaction documentation to attract competitive privately funded grid-connected solar projects," Cantrell noted.



### Build Psychological Safety into Conversations about Hybrid Work

PSYCHOLOGICAL safety — the belief that anyone can speak up without risk of punishment or humiliation — is a key driver of high-performing teams. Good managers have learned to create environments that enable candour around traditional work topics. But as hybrid and remote working arrangements become increasingly complex, managers must make staffing, scheduling, and coordination decisions that take into account employees' personal circumstances — a categorically different domain. Here is how to extend psychological safety to these conversations.

Step 1. Open a dialogue with your team to help them recognise that you are all entering a new work environment together. As a group, be clear, transparent, and upfront about the challenges you are facing and your needs and worries, especially as they relate to work-life boundaries.

Step 2. Lead by example. Demonstrate the kind of candour and honesty you want to see from your team.

Step 3. Be patient. One conversation can set the tone, but building real trust happens over time. Emphasise that the dialogue between you and your team is open-ended, confidential, and can adapt over time as people's needs change.

*\* This tip is adapted from 'What Psychological Safety Looks Like in a Hybrid Workplace' by Amy Edmondson and Mark Mortensen.*

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or Fax: 061 229 206  
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#### CALL FOR PUBLIC PARTICIPATION

Notice is herewith also given to interested and affected parties that application will be made to the Environmental Commissioner in terms of the Environmental Management Act 2007 (Act 7 of 2007) and the EIA Regulations (GN No. 30 of 6 February 2012 for the following:

#### TOWNSHIP ESTABLISHMENTS AT KARIBIB

##### COMMUNITY MEETINGS:

In light of the present Covid 19 pandemic and the Namibian Government's regulations prohibiting the convening of public meetings with more than 50 people, we invite the community to register for one of the following scheduled meetings via SMS to Urban Dynamics (081 247 9263) or register in person at the Town Council office by 27 of April 2021. Please note that the meeting timeslots are based on the first-come, first registration principle.

Venue: Usab Community Hall

28 April 2021

Meeting 1  
@13:00

Meeting 2  
@17:30

Proponent: Karibib Town Council  
Project Location: Usab

Registration as Interested and Affected Parties: I&AP's are invited to register to receive the background information document and/or submit their written comments/questions/concerns before the 14<sup>th</sup> of May 2021 to Heidri Nel at email: [heidri@udanam.com](mailto:heidri@udanam.com) Fax: 061 240 309, or Phone: 061 240 300.

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Fax: (061) 220 584

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 Death Notices from N\$200.00  
 Tombstone Unveiling from N\$200.00  
 Thank You Messages from N\$200.00

**Terms and Conditions Apply.**

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Offered

### MOTACS COLLEGE

Location: 3 Middlewick Street, Rhino Park, Windhoek  
 Tel: 061 - 252 108

### Grade 10 and 11 Teachers Needed

- Afrikaans 2nd Language
- Accounting
- Biology
- Business Studies
- Chemistry
- Development Studies
- Economics
- Entrepreneurship
- English 2nd Language
- Geography
- History
- Information and Communication
- Home Economics
- Office Practice
- Mathematics
- Physics

All CVs have to be complete, certified and hand delivered. Teachers should be able to deliver online classes. Preference will be given to retired teachers.

**Due Date:**  
27 April 2021

### SONOP FARMING IS LOOKING FOR A QUALIFIED INSECT ENTOMOLOGIST.

**Qualifications:**  
 Minimum Grade 12 Certificate with 10 years or more experience in the industry as well as a Code 10 valid driver's license.  
 Must be bilingual, Computer literate and have a valid Police Clearance Certificate with no criminal record.

**Forward CV's to:**  
admin@sonop.com.na

VACANT POSITION:  
ATLAS LOGGING AND GEOLOGICAL SERVICE cc is seeking for:

### QUALIFIED GEOPHYSICAL LOGGERS

- Diploma Radiotechnics and or Diploma Design & Manufacture of Radio Equipment
- Certificate Geophysical Well Logging Operator
- 10 Years Experience in In-SITU Mining Geology
- Micromine, Mapinfo and MS Office
- English and Russian

CV to:  
jeanene@algs-namibia.com

**Closing date: 23 April 2021**

VACANT POSITION:  
EMANYA EXPLORATION SERVICES cc is seeking for:

### QUALIFIED FIELD GEOLOGISTS

- Diploma Bachelor of Geology and Mineral Deposits Exploration and or Diploma Engineer Oil and Gas Geology
- 10 Years Experience in In-SITU Mining Geology
- Micromine, Mapinfo and MS Office
- English and Russian

CV to:  
monika@ees-namibia.com

**Closing date: 23 April 2021**



### GRADE 8 - 12

- Homework Assistance
- Extra Classes
- Catch-Up Lessons
- 3 - 21 May Holiday classes
- English, Sciences, Maths & Other subjects

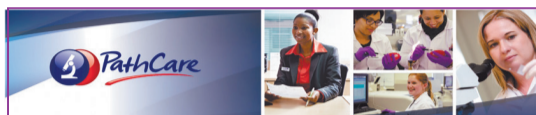
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10 Stephenson Street  
0818000800 / 0813021400

### SONOP FARMING IS LOOKING FOR A COMPUTERISED COST CHAIN DEVELOPER - FRESH PRODUCE

**Responsibilities:**  
 Development and installation of computer cost programs for fresh produce. Wages Officer. Human Resources experience. Grade 12 with accounting and 5 years' experience.

**Forward CV's to:**  
admin@sonop.com.na



### Ongwediva - Medical Technician/Medical Technologist (Job Grade - B5/C1)

An opportunity exists for a Medical Technician/Medical Technologist to join the team at our Ongwediva branch. We are seeking an individual who displays a high level of ethics and integrity while consistently aligning with the PathCare values.

**The successful applicant must meet the following criteria:**

#### Knowledge/Qualification

- National diploma qualification/Medical Technician Certificate in Clinical Pathology
- Current registration with the HPCNA in Clinical Pathology
- Computer literate with Meditech knowledge

#### Skills & Competencies

- Client-focused with excellent attention to detail
- Effective communication and interpersonal skills
- Display initiative
- Problem-solving ability
- Stress resistance and tenacity
- Result-orientated
- Adaptability

#### Experience

- Must have at least a year of Clinical experience post HPCNA registration
- Must have experience with basic trouble shooting on instruments

#### Additional Requirements

- Must be fluent in English with an understanding of Afrikaans
- Must be prepared to work shifts, weekends & public holidays
- Must have an acceptable track record/performance record with regard to the technical and behavioural competencies required to perform in this position

**Closing date for applications is Monday, 26<sup>th</sup> April 2021**

Interested? Please email a comprehensive CV to [michaela.adrian@pathcare.org](mailto:michaela.adrian@pathcare.org)

**Please clearly state the position and location you are applying for in the subject line of your email.**



**Headspring Investments PTY Ltd is seeking for:**

### CHIEF GEOLOGISTS

- REQUIREMENTS:**
- Diploma Mining Engineer Oil and Gas Geology
  - 10 Years Experience in In-SITU Mining Geology
  - Micromine, Mapinfo and MS Office
  - English and Russian

### SENIOR GEOLOGIST

- REQUIREMENTS:**
- Diploma Geo Technican Geology, Prospecting and Exploration of Mineral Deposits
  - 10 Years Experience in In-Situ Mining Geology
  - Micromine, Mapinfo and MS Office
  - English and Russian

CV to: Svetlana.Bauer@uranium1.com

**Closing date:**  
23 April 2021

## Notices

### Legal Notices

REPUBLIC OF NAMIBIA  
 MINISTRY OF TRADE & INDUSTRY LIQUOR ACT, 1998  
 NOTICE OF APPLICATION TO A COMMITTEE IN TERMS OF THE LIQUOR ACT, 1998 (regulations 14, 26 & 33)

Notice is given that an application in terms of the Liquor Act, 1998, particulars of which appear below, will be made to the Regional Liquor Licensing Committee, Region: OSHIKOTO

- Name and postal address of applicant, HISKIA ENKONO, P O BOX 15641, OSHAKATI
- Name of business or proposed Business to which applicant relates REMEMBER BAR
- Address/Location of premises to which Application relates: ELAVI B
- Nature and details of application: LIQUOR LICENCE
- Clerk of the court with whom Application will be lodged: TSUMEB MAGISTRATE
- Date on which application will be Lodged: 30 APRIL 2021
- Date of meeting of Committee at which application will be heard: 09 JUNE 2021

Any objection or written submission in terms of section 28 of the Act in relation to the applicant must be sent or delivered to the Secretary of the Committee to reach the Secretary not less than 21 days before the date of the meeting of the Committee at which the application will be heard.



## NOTICE OF INTENTION TO:

### ESTABLISH NEW TOWNSHIPS

Please take note that Urban Dynamics Pty Ltd (Town and Regional Planners) intends to apply to Karibib Town Council, Ministry of Environment, Forestry and Tourism and to the Urban and Regional Planning Board for consent to establish a new townships.

Urban Dynamics was appointed by Karibib Town Council to establish 4 townships (Extension 6 - 9). The proposed extension will be established on Portions 24 - 26 and Remainder of Portion 18. The combined extensions add up to a total of ±2800 erven.

**Please further take note that -**

(a) The plan lies for inspection at the Karibib Town Council planning office and at Urban Dynamics Africa offices 43, Nelson Mandela Avenue;

(b) Any person having objections to the establishment or extension concerned or who wants to comment thereon, may lodge such objections and comments, together with the grounds thereof, in writing with the Town Council Office and with the applicant (Urban Dynamics) in writing on or before (14<sup>th</sup> May 2021).

Johann Opperman  
 15 April 2021  
 Managing Director at Urban Dynamics

Applicant: Urban Dynamics Africa  
 P O Box 20837  
 Windhoek

The Chief Executive Officer  
 Karibib Town Council  
 Private Bag 19



## CALL FOR PUBLIC PARTICIPATION

Notice is herewith also given to interested and affected parties that application will be made to the Environmental Commissioner in terms of the Environmental Management Act 2007 (Act 7 of 2007) and the EIA Regulations (GN No. 30 of 6 February 2012 for the following:

### TOWNSHIP ESTABLISHMENTS AT KARIBIB

#### Community Meetings:

In light of the present Covid 19 pandemic and the Namibian Government's regulations prohibiting the convening of public meetings with more than 50 people, we invite the community to register for one of the following scheduled meetings via SMS to Urban Dynamics (081 247 9263) or register in person at the Town Council office by 27 of April 2021. Please note that the meeting timeslots are based on the first-come, first registration principle.

Venue: Usab Community Hall

28 April 2021

Meeting 1  
@13:00

Meeting 2  
@17:30

Proponent: Karibib Town Council  
 Project Location: Usab

Registration as Interested and Affected Parties: I&AP's are invited to register to receive the background information document and/or submit their written comments/questions/concerns before the 14<sup>th</sup> of May 2021 to Heidri Nel at email: [heidri@udanam.com](mailto:heidri@udanam.com)

Fax: 061 240 309, or Phone: 061 240 300.

REPUBLIC OF NAMIBIA  
 MINISTRY OF TRADE & INDUSTRY LIQUOR ACT, 1998  
 NOTICE OF APPLICATION TO A COMMITTEE IN TERMS OF THE LIQUOR ACT, 1998 (regulations 14, 26 & 33)

Notice is given that an application in terms of the Liquor Act, 1998, particulars of which appear below, will be made to the Regional Liquor Licensing Committee, Region: OHANGWENA

- Name and postal address of applicant, ALI DHARANI, P O BOX 2041, OSHIKONGO
- Name of business or proposed Business to which applicant relates ONGHA SUPERMARKET AND DEPOT
- Address/Location of premises to which Application relates: SHOP NO 1 AND 4, YELLOW COMPLEX, ONGHA
- Nature and details of application: WHOLESALE LIQUOR LICENCE
- Clerk of the court with whom Application will be lodged: EENHANA MAGISTRATE
- Date on which application will be Lodged: 14 APRIL 2021
- Date of meeting of Committee at which application will be heard: 09 JUNE 2021

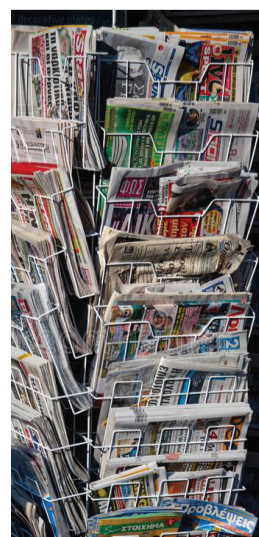
Any objection or written submission in terms of section 28 of the Act in relation to the applicant must be sent or delivered to the Secretary of the Committee to reach the Secretary not less than 21 days before the date of the meeting of the Committee at which the application will be heard.

REPUBLIC OF NAMIBIA  
 MINISTRY OF TRADE & INDUSTRY LIQUOR ACT, 1998  
 NOTICE OF APPLICATION TO A COMMITTEE IN TERMS OF THE LIQUOR ACT, 1998 (regulations 14, 26 & 33)

Notice is given that an application in terms of the Liquor Act, 1998, particulars of which appear below, will be made to the Regional Liquor Licensing Committee, Region: ZAMBEZI

- Name and postal address of applicant, NEHEMIA JOSEPH, PRIVATE BAG 1022, KATIMA MULILO
- Name of business or proposed Business to which applicant relates PAPA CARITO DRAGON SHEBEEN
- Address/Location of premises to which Application relates: ERF NO. 9, MACARAVAN WEST, KATIMA MULILO
- Nature and details of application: SHEBEEN LIQUOR LICENCE
- Clerk of the court with whom Application will be lodged: KATIMA MULILO MAGISTRATE
- Date on which application will be Lodged: 12 MAY 2021
- Date of meeting of Committee at which application will be heard: 09 JUNE 2021

Any objection or written submission in terms of section 28 of the Act in relation to the applicant must be sent or delivered to the Secretary of the Committee to reach the Secretary not less than 21 days before the date of the meeting of the Committee at which the application will be heard.





# Police, farmers meet to curb stock theft

• CHARLOTTE NAMBADJA

DEPUTY inspector general of the Namibian Police Joseph Shikongo and other law enforcers on Saturday engaged farming communities of the Khomas and Omaheke regions to address the stock theft issue.

Shikongo called the meeting after the police recorded a marked increase in stock theft cases over the past three months and received many concerns from the farmers. The meeting at the Hunters Namibia Safari Lodge, 10 kilometres outside Omitara, was convened to find solutions and share suggestions on how to curb the crime.

A farmer who is also a police reservist, said the lack of discipline and resources such as uniforms and identification documentation are hindering their work.

He added that there are many vehicles at Omitara and Witvlei that are not roadworthy and must be impounded.

Another farmer said over the



Photo: Henry van Rooi

**PUTTING HEADS TOGETHER** ... The anti-stock theft meeting that took place 10 kilometres outside Omitara on Saturday.

past three years, over 20 cases were registered with the Okandjira Police Station but only one resulted in a successful prosecution. The

farmer said there is a challenge in investigations.

Other concerns raised are lack of resources at the Witvlei Police

Station, which allegedly has one vehicle only, is understaffed and lacks firearms.

The farmers revealed they suspect

some police officers are close to criminals as they drink with them.

“We want to regain our trust and serve our people. We will serve with humility and integrity,” Shikongo said, adding that his mandate is “to deliver justice to the people, effective police building partnerships with the public and organisational excellence.”

He urged anyone who is a police officer who is close to criminals to report them.

He further urged all stakeholders to follow up reports and not to sit on them.

Shikongo said the police will hold similar meetings in other regions.

Omaheke governor Iteate urged police officers to make friends with criminals to be always disciplined and not to succumb to such temptations from them.

He also urged people to report stolen items as it helps criminals to continue



**CALL FOR PUBLIC PARTICIPATION**

Notice is herewith also given to interested and affected parties that application will be made to the Environmental Commissioner in terms of the Environmental Management Act 2007 (Act 7 of 2007) and the EIA Regulations (GN No. 30 of 6 February 2012 for the following:

**TOWNSHIP ESTABLISHMENTS AT KARIBIB**

**COMMUNITY MEETINGS:**

In light of the present Covid 19 pandemic and the Namibian Government's regulations prohibiting the convening of public meetings with more than 50 people, we invite the community to register for one of the following scheduled meetings via SMS to Urban Dynamics (081 247 9263) or register in person at the Town Council office by 27 of April 2021. Please note that the meeting timeslots are based on the first-come, first registration principle.

**Venue: Usab Community Hall**

28 April 2021

Meeting 1	Meeting 2
@13:00	@17:30

**Proponent:** Karibib Town Council  
**Project Location:** Usab

**Registration as Interested and Affected Parties:** I&AP's are invited to register to receive the background information document and/or submit their written comments/questions/concerns **before the 14<sup>th</sup> of May 2021** to Heidri Nel at email: [heidri@udanam.com](mailto:heidri@udanam.com) Fax: 061 240 309, or Phone: 061 240 300.



Photo: Taati Niilen

**SEA BREEZE** ... K... Pre-school children relieved to escape scorching heat for a moment as they build sandcastles and play on the beach.

## Playtime helps Kuiseb kids cool down

• TAATI NIILENGE

THE coastal areas of Namibia have been experiencing very high temperatures over the past week.

And residents, who claim to have never experienced this kind of heat before, have been flocking to the beach to cool off.

The heatwave is also blamed for the drowning of an 11-year-old boy who had gone to the beach with friends to escape the heat.

With all this in mind, members of the Playtime Namibia Trust decided to take children from different pre-schools at

Kuisebmond, on a supervised tour of the Walvis Bay lagoon to enjoy the sea breeze.

The group, consisting of volunteer coaches of different sport codes, launched the programme in May last year, coaching pre-school children from the Kuisebmond community.

Although it was disrupted by the Covid-19 lockdown, it has been resuscitated, said organiser Steven Damaseb.

Coaches include former football players and coaches Sandro de Gouveia, Damaseb, Eliphaz Shivute and Alex Kirov.

Children from 12 pre-schools that are benefiting from the programme are

regularly taken to an old tennis court in Kuisebmond for multi-sports.

The court was renovated and moderate sport codes like soccer, netball, athletics, volleyball and badminton are offered.

This time, however, the 45 children registered with the trust, were taken to the lagoon in groups during the heatwave.

“Because of the heat, we take them to the lagoon as there is shade and water there. They built sandcastles and played various games. We had four to five trips per week. Some children have never been to the lagoon, and it was exciting for them,” said Damaseb.

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Contact us on **061294 2411** or email [namibia.dealers@standardbank.com.na](mailto:namibia.dealers@standardbank.com.na) or [Warren.Boer@standardbank.com.na](mailto:Warren.Boer@standardbank.com.na)

**Standard Bank**

## APPENDIX C.2

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# BACKGROUND INFORMATION DOCUMENT

# PROPOSED TOWNSHIP ESTABLISHMENTS USAB, KARIBIB WITHIN THE ERONGO REGION

## *ENVIRONMENTAL ASSESSMENT (EA)*

### BACKGROUND INFORMATION DOCUMENT (BID)

**APRIL 2021**

## 1. INTRODUCTION

Development Workshop of Namibia (DWN) currently assist the Council with the provision of low-cost housing via a high-density residential township that caters for ultra low-income residents of Karibib (Usab).

As a result, Urban Dynamics Africa was appointed, to plan and obtain Environmental Clearance for the proposed Township Establishment on Portions (PTN.) 23-26 (Portions of Portion 18 of the Farm Karibib No. 54); Remainder of PTN. 18, PTN 5 of Farm Karibib No. 56 as well as Erf 332 , Karibib Proper within the Erongo Region.

### *Table of Content*

1. Introduction
2. How the EIA process works
3. Description of the proposed project
4. Anticipated benefits and impacts
5. How to become involved

This Background Information Document (BID) was prepared to provide interested and affected stakeholders with the background information and basic detail of the proposed project. It is further aimed at enabling the participation of all stakeholders who may feel that they have an interest or a stake in the impacts of the proposed intervention and explaining how such involvement can be achieved.

## 2. THE EA PROCESS

In terms of the provisions of the Environmental Management Act, the environmental practitioner is required to manage the assessment of the potential social and environmental impacts, conclude the application process and ensure that the general public and interested and affected parties are afforded the opportunity to comment on the proposed intervention. In order to fulfil these requirements, this EA preparation process includes the preparation of a database of

possible interested and affected parties, keeping a record of any issue and response register, and circulating all draft and final documents to registered stakeholders.

Through this document, we aim to start engagement with stakeholders about the project and allow them to determine if they are interested in such engagement and, if so, to share their comments, issues and concerns with the EA team.

This BID is, therefore, also an invitation to all potential interested and affected parties to register as stakeholders. By doing so, you will receive the documentation related to the preparation of the EA as well as the draft and final Environmental Assessment and Environmental Management Plan. You will also be able to share comments, issues, and concerns about the assessment and the management plan and comment on the EA reports and findings.

### 3. PROJECT DESCRIPTION

#### PROJECT RATIONALE

The project site is located within the Karibib Townlands in the Erongo Region. Karibib is about 189 km from Windhoek on the B2 between Swakopmund and Windhoek.

Karibib is the district capital for the Karibib electoral constituency and serves marble quarries and gold mines within the area, which bring employees' settlement within the town and buying power.

The mining and farming sectors together drive the economy of the town. The mining sector with the industries that supports this sector is, for that matter, an important factor for the town.

The demand for employment exceeds that of the provision thereof, depending on the type of employment sought. This increases the town's unemployment rate and its ultra low-income residents. This results in informal settlements being created without any formal services, and therefore not conducive to reside in.



FIGURE 1: THE LOCALITY OF KARIBIB WITHIN THE ERONGO REGION



When townships are planned, not enough consideration is given to the ultra low-income residents of the town. For this reason, DWN intends to provide an opportunity for ultra low-income residents to obtain security of tenure.

The proposed development intends to facilitate an adequate supply of residential properties, serve the town's ultra low-income residents, and have service infrastructure installed. This creates a conducive environment for the residents to live in.

**LAY OF THE LAND**

The portions on which the new townships are planned are situated north of Karibib Proper, next to Usab, Proper and Extension 1 at -21.925465 S, 15.855983 E. The Portions (PTN.) include Portions 23-, 24-, 25-, 26- (Portions of Portion 8 of the Farm Karibib No. 54); Remainder of PTN. 18 and on PTN 5 of Farm Karibib No 56 as well as Erf 332 of Karibib Proper.

The project falls within the Erongo Region under Registration Division H. The project area measure approximately 89.4100 m<sup>2</sup>

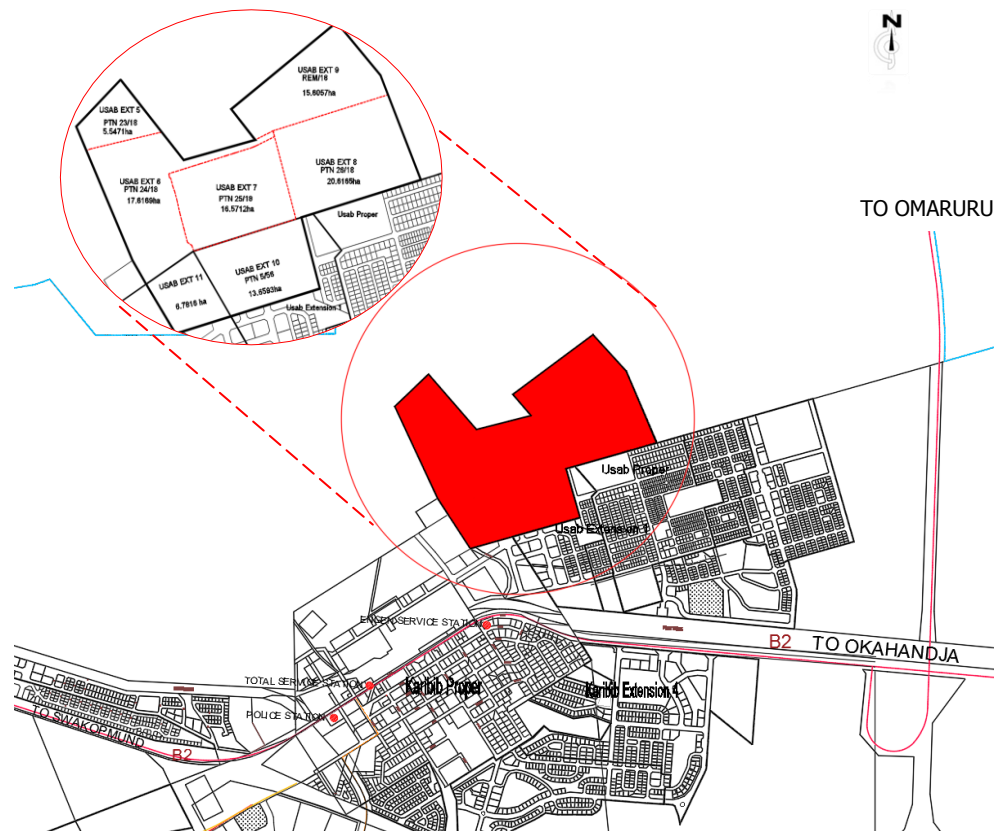


FIGURE 2: THE LOCALITY OF KARIBIB WITHIN THE ERONGO REGION

**CURRENT LAND USE**

According to the Karibib Town Planning Scheme, the site is zoned "General Industrial".

A larger area of the site is vacant. However, parts of the site do accommodate informal structures.

## WHAT ARE THE PLANNING OBJECTIVES?

- ❖ To establish seven new townships at Usab;
- ❖ To provide low-cost housing within Karibib and the Erongo Region;
- ❖ To ensure dignity through planning; and
- ❖ To preserve and conserve the natural environment as much as we can.

## THE PROPOSED LAYOUT

### NEW LAND USE

The draft layout makes provision for 1 475 erven. It alters the zoning from General Industrial to Undetermined, which will be rezoned to include Single Residential-, General Residential -, Business-, Local Business, Institutional-, Local Authority-, Office-, Government-, Hospitality-, Agriculture-, Service Station- and Public Open Spaces. The block's shapes and sizes are illustrated in the figure below. The table below provides a summary of the detailed land-use allocation for the portion.

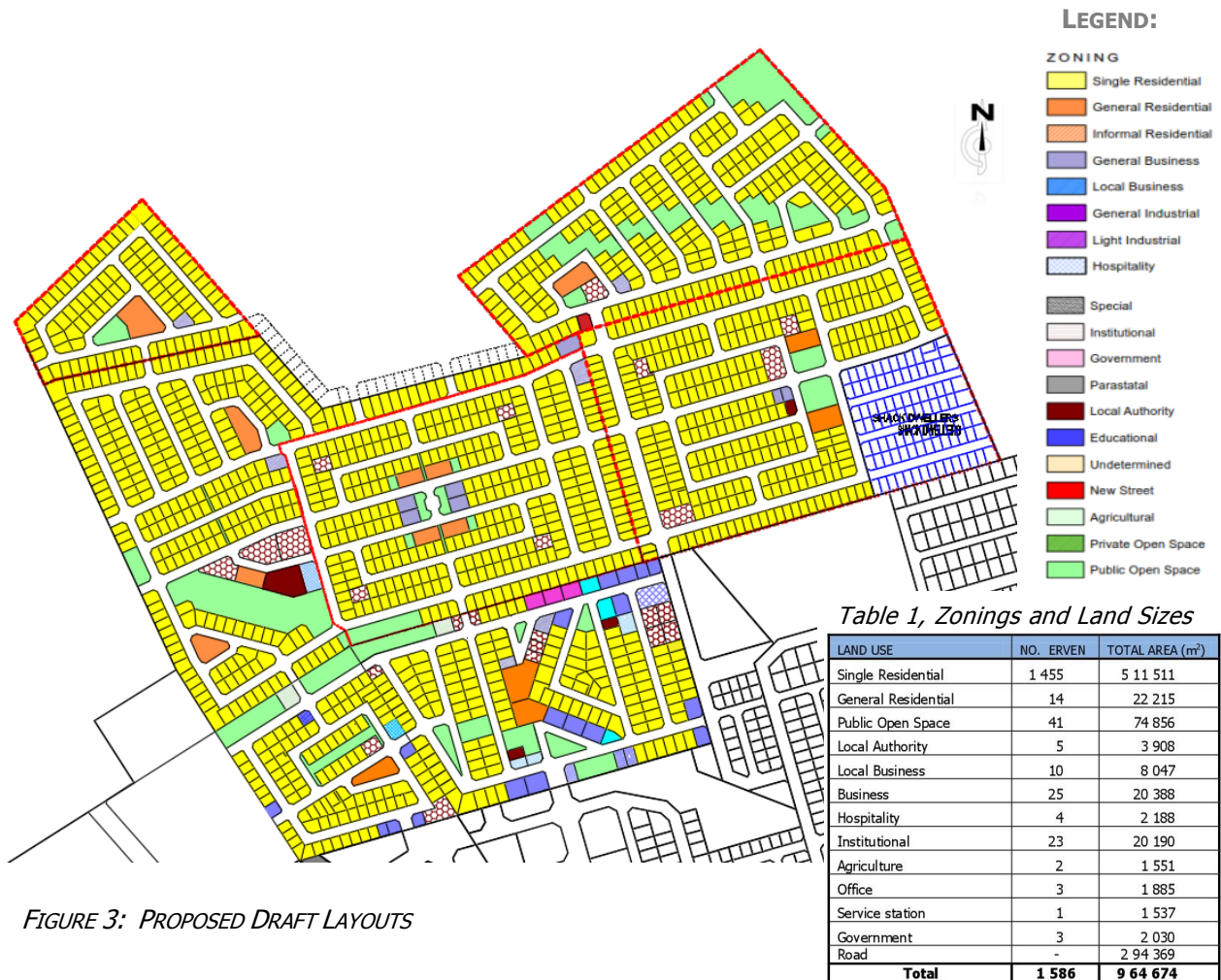


FIGURE 3: PROPOSED DRAFT LAYOUTS

## **EXISTING INFRASTRUCTURE**

No sewerage system, electricity and water supply is currently available for the development. Hence, a new infrastructure service will be required.

## **4. ANTICIPATED BENEFITS AND IMPACTS**

Some of the most important benefits of the project are the following:

- Ⓢ A layout that is functional and in line with the developments on the ground;
- Ⓢ Providing formal erven to the households and businesses currently settled on public open spaces and streets;
- Ⓢ Stimulation of economic development and creation of new development opportunities; and
- Ⓢ Employment creation during both the construction and operation phases of the project.

However, some environmental and social impacts can also occur and should be considered and evaluated. These include

- Ⓢ Impact on traffic flow during construction;
- Ⓢ Impact of potential construction dust;
- Ⓢ Impact of construction noise;
- Ⓢ Impact on the health and safety of workers and nearby residents;
- Ⓢ Relocation of informal structures;
- Ⓢ Potential removal of trees;
- Ⓢ The potential flooding of the smaller ephemeral rivers; and
- Ⓢ Potential solid waste pollution in the area during construction and operations phases.

## 5. HOW TO BECOME INVOLVED

Public Participation is an important part of the EIA process because it allows the public to obtain information about the proposed project.

1. To become involved in this EIA, any interested or potentially affected party is herewith invited to register as a stakeholder of this project. This should be done by sending an e-mail with your detail to [heidri@udanam.com](mailto:heidri@udanam.com).
2. Once registered, you will receive invitations to all public events related to the EIA. You will also receive digital copies of all draft reports and final reports produced as a result of this EIA.
3. You will be invited to comment on any event or any report related to the EIA.
4. You will be informed of the decision by MET as soon as it's received.



## CONTACT US

Urban Dynamics Africa (PTY) Ltd., welcomes any comments and correspondence about this project.

### Contact us as follows:

#### Johann Opperman

Tel: (+26461) 240300

e-mail: [johann@udanam.com](mailto:johann@udanam.com)

#### Wilhelm Shepya

Tel: (+26461) 240300

e-mail: [wilhelm@udanam.com](mailto:wilhelm@udanam.com)

## APPENDIX C.3

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### COPY OF THE STAKEHOLDERS LIST



USAB EXTENSION 6-9 TOWNSHIP ESTABLISHMENT MEETING REGISTER



Meeting 1 13:00pm		Meeting 1 13:00pm		Meeting 2 17:00pm		Meeting 2 17:00pm	
at	at	at	at	at	at	at	at
1. Abid Ncaminku Cell No: 081 878 8884	51. T Engelberg Cell No: 081 878 8884	1. Lucas Petrus Cell No: 081 878 8884	51. M. Khrupa Cell No: 081 205 7401	2. Brigette Hoops Cell No: 081 746 3361	52. J. Engelberg Cell No: 081 746 3361	2. Conrad Lucas Cell No: 081 205 7401	52. T. Somers Cell No: 081 269 4355
3. Sneep Jherms Cell No: 081 208 5596	53. W. Bie Elze Cell No: 081 208 5596	3. Lucretia Shapata Cell No: 081 208 5596	53. T. Somers Cell No: 081 269 4355	4. Ntseleka Gases Cell No: 081 605 2298	54. T. Somers Cell No: 081 605 2298	4. Rudolfine Katambo Cell No: 081 605 2298	54. Alma Shigwedha Cell No: 081 219 5902
5. Tina Joseph Cell No: 081 327 0302	55. T. Somers Cell No: 081 327 0302	5. Ivan Xooqub Cell No: 081 327 0302	55. T. Somers Cell No: 081 327 0302	6. Mariana Amaras Cell No: 081 327 0302	56. T. Somers Cell No: 081 327 0302	6. Amander/Moetic Cell No: 081 327 0302	56. T. Somers Cell No: 081 327 0302
7. Niky Carrolo Cell No: 081 327 0302	57. Rose, APRAS Cell No: 081 327 0302	7. M. Engelberg Cell No: 081 327 0302	57. T. Somers Cell No: 081 327 0302	8. Iwan Xooqub Cell No: 081 327 0302	58. T. Somers Cell No: 081 327 0302	8. I. Timunze Cell No: 081 327 0302	58. T. Somers Cell No: 081 327 0302
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13. Roswilly Tamuraco Cell No: 081 327 0302	63. T. Somers Cell No: 081 327 0302	13. T. Somers Cell No: 081 327 0302	63. T. Somers Cell No: 081 327 0302	13. Roswilly Tamuraco Cell No: 081 327 0302	64. T. Somers Cell No: 081 327 0302	13. T. Somers Cell No: 081 327 0302	63. T. Somers Cell No: 081 327 0302
14. Elizabeth Howick Cell No: 081 327 0302	64. T. Somers Cell No: 081 327 0302	14. T. Somers Cell No: 081 327 0302	64. T. Somers Cell No: 081 327 0302	14. Elizabeth Howick Cell No: 081 327 0302	65. T. Somers Cell No: 081 327 0302	14. T. Somers Cell No: 081 327 0302	64. T. Somers Cell No: 081 327 0302
15. Shireen Atterbeck Cell No: 081 327 0302	65. T. Somers Cell No: 081 327 0302	15. T. Somers Cell No: 081 327 0302	65. T. Somers Cell No: 081 327 0302	15. Shireen Atterbeck Cell No: 081 327 0302	66. T. Somers Cell No: 081 327 0302	15. T. Somers Cell No: 081 327 0302	65. T. Somers Cell No: 081 327 0302
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USAB EXTENSION 6-9 TOWNSHIP ESTABLISHMENT MEETING REGISTER



Cell No:		Cell No:		Cell No:		Cell No:	
18.	Cell No: 0818756659	68.	Cell No: Annetiskhwezi	18.	Cell No: Diana	68.	Cell No:
19.	Cell No: 0818940660	69.	Cell No: Elizabeth Hweza	19.	Cell No: 081813271828	69.	Cell No:
20.	Cell No: 081618008	70.	Cell No: Merica Neuren Jenson	20.	Cell No: 0814015740	70.	Cell No:
21.	Cell No: 088265355	71.	Cell No: M.L. LENI	21.	Cell No: 0815353169	71.	Cell No:
22.	Cell No: 0812085596	72.	Cell No: LITHINUS SHEKA	22.	Cell No: 0816617300	72.	Cell No:
23.	Cell No: 0812981514	73.	Cell No: Josia . T. J	23.	Cell No:	73.	Cell No:
24.	Cell No: 0812102862	74.	Cell No: Shine . Karises	24.	Cell No:	74.	Cell No:
25.	Cell No: 0815554465	75.	Cell No: JOHANN BETH	25.	Cell No:	75.	Cell No:
26.	Cell No: 0812129977	76.	Cell No: SHAPAKA	26.	Cell No: 081288156	76.	Cell No:
27.	Cell No: 081744204	77.	Cell No: KATHAMBO	27.	Cell No:	77.	Cell No:
28.	Cell No: 0816617300	78.	Cell No: RIE WANDUHLA	28.	Cell No:	78.	Cell No:
29.	Cell No:	79.	Cell No:	29.	Cell No:	79.	Cell No:
30.	Cell No:	80.	Cell No:	30.	Cell No:	80.	Cell No:
31.	Cell No: 0814684455	81.	Cell No: LUCY	31.	Cell No:	81.	Cell No:
32.	Cell No: 081	82.	Cell No: ELISE	32.	Cell No:	82.	Cell No:
33.	Cell No: 0813457338	83.	Cell No: JIMUNE	33.	Cell No:	83.	Cell No:
34.	Cell No: 0813457339	84.	Cell No: MELISSA	34.	Cell No:	84.	Cell No:



USAB EXTENSION 6-9 TOWNSHIP ESTABLISHMENT MEETING REGISTER



35.	Cell No: <i>Telky Genusss</i>	85.	Cell No: <i>061775LE008</i>	35.	Cell No:	85.	Cell No:
36.	Cell No: <i>Melipi</i>	86.	Cell No: <i>08135505233</i>	36.	Cell No:	86.	Cell No:
37.	Cell No: <i>William Hombfreny</i>	87.	Cell No: <i>0817442085</i>	37.	Cell No:	87.	Cell No:
38.	Cell No: <i>Megdalena Nainjo</i>	88.	Cell No: <i>0817649843</i>	38.	Cell No:	88.	Cell No:
39.	Cell No: <i>Mildred Vanwyl</i>	89.	Cell No: <i>0816732381</i>	39.	Cell No:	89.	Cell No:
40.	Cell No: <i>Bright Hoares</i>	90.	Cell No: <i>0817645861</i>	40.	Cell No:	90.	Cell No:
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## ANNEXURE C.4

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# COMMUNITY MEETING MINUTES

# AGENDA & MINUTES OF THE COMMUNITY MEETING HELD AT USAB, KARIBIB ON THE 28<sup>TH</sup> OF APRIL 2021 FOR THE PROPOSED TOWNSHIP ESTABLISHMENTS AT USAB, KARIBIB WITHIN THE ERONGO REGION

**28 APRIL 2021**

## START AND ENDING OF THE MEETINGS

Two public meetings were held in the Usab Community Hall on the 28<sup>th</sup> of April 2021. The first meeting commenced at 13:30 and concluded at 15:20, and the second meeting commenced at 17:15 and ended at 18:50. The meeting was held in English and translated into Afrikaans.

## REPRESENTING:

### Urban Dynamics Team:

- Wilhelm Shepya Town Planner in training
- Tjjjama Tjitemisa - Town Planner in Training;
- Heidri Nel- Environmentalist

### Karibib Town Council:

- Selma Nghifindaka

Development Workshop Namibia (DWN)

### The Community of Harambee

A copy of the community attendance register is attached as Appendix C3

All the participants received a Background Information Document, one base map and a layout plan of the proposed extensions when they entered the hall.

## *Agenda*

1. Greetings	10	minutes
Karibib Town Council		
2. Presentation	30	minutes
Urban Dynamics		
3. Questions and Comments	60	minutes
Stakeholders		
4. Adjournment		



The purpose of the meeting was to provide background on the planning process, the proposed layout and potential environmental impacts resulting from the development (Presentation slides are attached as Appendix\_C4).

The community was invited to give feedback to the team by indicating on a large-scale map of the area.

At the first meeting, the community highlighted the following:

- Areas within the layout flooded during March and April 2021;
- River/streams that were not incorporated as public open space;
- They need a soccer field. The existing soccer field within Usab is privately owned, and only one team can make use of the grounds; and
- Churches within the area already make use of portions that are not allocated for institutional land.

At the second meeting, the following points were highlighted:

- They do not want shabeens within the area;
- They drew the rivers on the map, which was not included in the layout;
- One member indicated that as a result of Covid 19, they need an extra clinic;
- A member also suggested that they do not need so many business erven they would rather have more erven;
- A community member asked how this project would impact the community within the old industrial area (not related to this project); and
- They are happy with the layout as it was.

The community were asked if they could indicate where a town dump site was, and they indicated two areas near the site. One was a private construction company dumping building material near the site, and the other was to the east but not near the layout. They are not impacted by the dumpsite lastly mentioned.



## ANNEXURE D

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# MEETING MINUTES BETWEEN UDA AND MEFT

## Minutes of NITRP meeting held with Environmental Commissioner: 23 July 2012

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Attendances: Mr Theo Nghitila - Environmental Commissioner - MET  
Dr Freddy Sikabongo - MET  
Mr Pieter Genis - MRLGHRD  
Mrs Petrine Moongela - City of Windhoek  
Mr Ernst Simon - Urban Dynamics Africa  
Mr Edwin Thornley - President of NITRP

The meeting commenced at 14:15 at the board room of the Ministry of Environment and Tourism

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The meeting was opened by the Environmental Commissioner, Mr. Theo Nghitila by welcoming all attendants. He started by acknowledging that there are currently many problems experienced with the List of Activities and Regulations within the Environmental Management Act. He indicated that his door is open for discussions and constructive criticism if acceptable solutions could be found. He stated that the Environmental Management Act was not meant to stop or to delay development, but to guide development to be done in a sustainable manner within the natural environment. Implementation of the Act would be a learning process and MET does not want to have a negative perception from stakeholders.

The floor was handed over to Mr Ernst Simon.

Mr Simon thanked the Commissioner for his opening statement and indicated his appreciation towards the positive approach MET has taken with regard to the concerns of stakeholders. He indicated that the meeting was arranged under the auspices of the Namibian Institute of Town and Regional Planners and introduced each person attending the meeting. Mr. Simon was asked by the NITRP to facilitate the meeting. Mr Edwin Thornley is current President of the NITRP, Mr Pieter Genis represented the Ministry of Regional and Local Government Housing and Rural Development, and Mrs. Petrine Moongela represented the City of Windhoek and is also a member of the NITRP Board.

He indicated that the Town and Regional Planning Profession has experience in the Law making exercise and that the Profession understands the predicament currently being faced by MET as far as regulations are concerned. One can never expect to get Regulations one hundred percent right the first time and it is always a process of seeing how it works in practice, identifying shortcomings and then amending it to make it work effectively with all the stakeholders involved.

He categorically stated that the Town Planning Profession fully supports the Environmental Management Act as well as the concept of Sustainable Development and everything that the Environmental Management Act stands for. However, as pointed out by the Commissioner, the Profession has certain immediate problems with the List of Activities in the Regulations. Since the Commissioner has been on NAMPAB before he knows exactly how the process works with planning proposals and how cumbersome the process is. With the addition of the provisions of the Environmental Act, this process could now become even longer and time consuming with the resultant effect of delaying development.

He also indicated that he would like to discuss the impacts of the Listed of Activities and some aspects of the Regulations as far as Town and Regional Planning processes are concerned. He added that he wanted to share the problems experienced to give the Commissioner an idea of the problems the profession are dealing with and to see if some solutions could be found. A presentation to this effect was prepared, but it was understood that it would not be necessary to deal with all the detail at this stage.

Mr Simon indicated that he would like to discuss the process for obtaining a Clearance Certificate to confirm that the process is understood correctly. He also indicated that the Commissioner already had a clear understanding of the problems the Profession is facing with the Listed Activities and that he would not go into

detail regarding each listed activity. Perhaps the most important thing is to explore solutions and map the way forward in terms of the provisions of the Act and especially the regulations.

He presented a diagram showing the process for obtaining a Clearance Certificate which was extracted from the Guidelines prepared in 2008 after the promulgation of the Act. It is understood that a person who would want to have an Environmental Clearance Certificate would apply to the Environmental Commissioner for an such clearance certificate. The Commissioner would then screen the application and decide whether a scoping or full assessment would be required or not.

However, a problem which needed to be discussed was that the process within the Regulations has changed compared to what was indicated in the Guidelines. The Regulations indicated that a scoping report is now required as part of the application and must be submitted before the Commissioner takes a decision.

For example where an application was to be submitted for a rezoning from Residential to Office, a full scoping report would have to be compiled and submitted to MET for screening after which a decision would be made on whether a clearance can be issued or if a full environmental assessment would be required. This was a concern for him as he indicated that a normal rezoning from "Single Residential" to "Office" or "Business" would potentially have no environmental impact at all. It was not clear why a full scoping process would have to be followed for such an application. He indicated that through a planning or screening report it would be possible to assess and determine whether it would be necessary to conduct a scoping or EIA assessment.

He asked the Commissioner to confirm whether the abovementioned process as indicated in the Regulations was understood correctly by him.

The Commissioner responded by confirming that Mr Simon understood the process correctly and that the process as outlined in the Regulations will be the process applying in practical terms. An applicant or proponent intending to obtain a Clearance Certificate must first do a full scoping before the Commissioner will make a decision on whether a full EIA is required or not. He further indicated that this process would be the norm for large scaled activities which would normally have a significant impact on the environment. The activities as referred to by Mr Simon were regarded as "*small works*" by the Commissioner.

He indicated that there are many activities which are similar to small scale rezonings inclusive of small agricultural activities or projects which are already occurring within existing urban areas or mahango fields. The processes for these activities are straight forward. The process of developing the Regulations was done in such a manner as to allow for a competent authority to be established. In a process which concerns agriculture, it would be contradictory to clear an activity by MET if the Ministry of Agriculture does not support that activity. For small scale activities such a rezoning within an existing build environment which has no environmental impact, it would be an administrative nightmare to deal with all the rezoning applications.

He further indicated that MET would not merely leave the decision of such applications in the hands of Municipalities. He indicated that he advised the City of Windhoek to apply for exemption to some of the listed activities. MET would then consider giving exemption to those activities which will have no environmental impact. However, a rezoning to Industrial would be regarded as a different story and would not be exempted easily. All Local Authorities will have to apply to the Commissioner's office to receive an exemption of not more than three years for certain listed activities. However, certain conditions will be attached to these exemptions to which Local Authorities will have to comply.

He indicated that MET will implement the Act and will not move backwards in the process by trying to avoid making mistakes. They are currently in the process of designing a strategy to disseminate and to implement the Act and to exclude minor activities which do not require a full EIA. This will be achieved through consultative workshops and meetings within MET which will be followed by a Road Show where the implications of the Act will be explained to Line Ministries, Municipalities, Local and Regional Authorities. This strategy should address many concerns which were already presented at the meeting.

Activities such as waste management and disposal sites will require a mandatory EIA process and will not be exempted from the list of activities. Rezoning from residential to industrial will have certain conditions since

the scale of the activity will play a role. If a land owner living in Katutura with a large erf wants to develop industrial activities on that property and the City of Windhoek approves the rezoning then it will reflect negatively on the Commissioner. So a Municipality or Local and Regional Authority will have to apply to the Commissioner for exemption for these types of activities. However, rezoning from residential to office or business will be dealt directly by the Local Authority if exemption is obtained from MET.

Mr Simon suggested that rezoning to "commercial" could be completely removed from the list of activities.

The Commissioner responded that it might be possible to remove it, but the Ministry opted to have it included, but exemption could just be given. The Municipality would then handle it within their own area of jurisdiction. There should be different categories.

Mr Simon indicated his appreciation to the Commissioner and added that the fact that there are no categorisations in terms of Clause 56 (1) (d1) of the Act is one of the key problems. Although these activities are listed, for example a hotel, some erven within the CBD is already zoned for many years to accommodate a hotel like the Hilton Hotel. He added that he could not see why an Environmental Impact Assessment or even a Clearance Certificate would be required if a person wants to construct a hotel on a property which already makes provision for it. However, he indicated that should a lodge be constructed within the Groot Berg then it would be a completely different situation.

The Commissioner agreed that it would be a different situation. He further indicated that one cannot expect every detail to be included into the Environmental Management Act. If the situation is already within a build environment obviously it would be different. He indicated that most of us have done and understand that an EIA is a process administered by people which is dependent on the consultation with every party involved. So the Act would not include every detail. When it comes to the construction of a hotel, the screening process will indicate the location. An application would be registered at MET with an application form which should indicate the exact position or location of the hotel. If it is situated within the middle of a town then there would be no need for an EIA. However, if a land owner intends to demolish his house to build a hotel then the Municipality needs to be happy with that first.

Mr Simon added that the pressure on MET would also be high. If one considers the number of rezoning occurring each day in Windhoek alone, MET would probably receive three applications a day. It would flood the system to such an extent that the office of the Commissioner would hardly be able to keep their heads above water.

The commissioner indicated that is exactly why the exemption will be granted, which is not an unusual thing. In this case there will be exemption of three years for those activities. It will be up to a Municipality, Local or Regional Authority to have a valid exemption from these activities. He acknowledged that they have a lot of explanation to do and at the moment they are preparing their information material with regard to explaining how this Legislation and Regulations will be applied.

Mr Simon commented on the issue of making Regulations by indicating that there is also a provision in the Act that any person may make representation to the Minister as to what should be added or removed from the list together with the rationale behind such proposals. From the Town Planning Profession a real option would be to look at some of these regulations, motivate it thoroughly, and make a presentation to the Commissioner to the amendment of the Regulations.

He indicated that he would not discuss specific activities in the list, because one would have to sit and talk about it specifically for a long time. He then referred to two important issues. The first is the listing of "any construction or activities within a catchment area". He explained that it actually means that 'nothing' can happen without a clearance certificate, because every activity that occurs within Namibia, occurs within some or other catchment area. So by just looking at that sentence it encompasses every possible activity that happens within Namibia.

The Commissioner enquired whether there is any definition given of the catchment area?

Mr Simon responded by saying unfortunately not and that the lack of adequate definitions is one of the problems which needs to be dealt with separately.

The second issue is Township Establishment, which is not mentioned as a listed activity. He indicated that township establishment is perhaps one of the most important activities which need to be listed. He suggested that the Commissioner, in consultation with the planning profession, should possibly review the list of activities and regulations from a planning perspective to try and integrate the environmental requirements in a logical way into the whole planning process so that the two processes are actually coordinated properly as provided for in the Act. According to clause 11 of the regulations, the Minister of Environment and Tourism should, in writing, communicate with the competent authority (who in this case is the Ministry of Regional Local Government, Housing and Rural Development) to decide on how to deal with the different Acts so that they work efficiently with each other.

The Commissioner indicated his appreciation that these matters were mentioned. He further indicated that the current Legislation will bring many developments or activities to a hold. However, implementation of the Act will be a learning process and if an argument or proposal for an amendment is brought forward then MET will consider that the Act makes provision for it. If activities are listed which are not possible, such as catchment areas, then they will be extracted or amended to perfect the Legislation. The Act is there to regulate activities and for MET to facilitate the process of obtaining a Clearance Certificate. The doors of MET are still open for discussions since MET must implement the Legislation.

He referred to an example of pesticides or pest control which is one of the listed activities which does not indicate to what scale it should be implemented. He mentioned that if a person wishes to buy a pesticide for home or garden use then it would not be necessary to first obtain a clearance certificate. He also indicated that he would not expect people to apply for a clearance certificate for such a small scale activity.

Mr Simon referred to the issue of definitions and that many of the listed activities are not defined which makes it extremely difficult to interpret. He used an example that "Resettlement Scheme" is not defined. He further indicated that he spoke to Dr. Pieter Tarr and some people within the Environmental Profession. He stated that different people had different opinions about the meaning of a resettlement scheme.

He also referred to "Bulk Services" and asked what was intended when talking about bulk services? He indicated that "Commercial Zonings" is a zoning which does not exist within the Planning Legislations and that these references should be properly defined otherwise it would be impossible to interpret the Environmental Management Act, List of Activities or Regulations.

The Commissioner responded that the Environmental Management Act makes provision to work in conformity with other Laws. He indicated that when a "Resettlement Scheme" is defined in another Act, then the Environmental Management Act will assume the same definition. It was for this reason that one would not expect a definition for "Resettlement Scheme" within the Environmental Management Act.

He indicated that MET would be implementing the Act as it is and that they know that there are many amendments which would urgently need to be made. He added by saying that they "*are talking the same language*".

He once again indicated his appreciation for pointing out some of the obvious issues which needs urgent attention. He also indicated that his Ministry will not amend the Act, List of Activities or Regulations without first implementing them. When the Act was drafted, it exchanged many hands, and it is not simply a Law which was drafted by one person only. Some things are the way they should be and they should not be amended a month after it was Gazetted. The Act will be perfected to become one of the best Laws within the Environmental Sector and it will be reflective of what our situation is and what Namibians want.

He stated further that some issues were also removed from the Act such as the provision to regulate an Environmental Assessment Practitioner. It is a necessary issue which would be included later, but which would not be possible to implement at this moment. There are many examples which could be discussed such as "pesticides", but a lot of time would be wasted. When it comes to a scale such a Tandjies Koppe, then



obviously it would become applicable. MET will not allow them to get away with such a large scale activity, but for smaller scale activities we would not have a problem.

He added that the Regulations do not indicate to what scale "Charcoal Production" requires a Clearance Certificate. Many commercial farmers are fighting bush encroachment and many of them are benefitting from charcoal production. If those farmers require a clearance certificate, then MET will not deny them one if they have not done public consultation. MET will provide the clearance certificate provided that the Ministry of Agriculture issued a letter to MET allowing the activity. This is what is happening on the ground by implementing the Act and MET is dictated by reality and learning from the process.

Dr Sikabonga indicated that some of the smaller scoping and EIA processes were included in the List of Activities for the sake of public consultation. Before an activity takes place, the proponent should consult MET or certain affected parties on the proposed activity. An example was used for overhead electricity lines. Even though the distance may be short, the fact that it passes over an existing cemetery or grave yard becomes a problem for the community or residents. Another example is that in towns you would find some structures within catchment areas or river beds. When it rains the water will backup into the areas and cause more flooded areas. These are some of the areas where MET and the private sector should be conscious about.

Mr Simon indicated that he fully agreed with this statement and indicated that another problem exists for example "Flood Lines". He mentioned that the regulations only state "flood lines" without a proper definition. He also enquired what was meant with flood lines and whether it refers to a 5 year flood line, 10 years, 50 years or a 100 year flood line?

He indicated that it becomes impossible for Town and Regional Planners to work within the framework of a flood line if it is not defined properly as a guideline.

Mr Genis stated that the Profession is under tremendous pressure, in terms of the process of getting new Townships and rezonings approved within a reasonable time. The Minister of Regional and Local Government, Housing and Rural Development wants an application to be approved within 6 months. He further indicated that the Namibian Planning Advisory Board and Townships Board currently do not recommend applications for approval by the Minister of RLGHDR since they are bound by the new Regulations and List of Activities which first require a clearance certificate for certain activities.

He requested the advice from the Commissioner on behalf of the MRLGHRD in relation to the process which should be followed. How should Townships Board and NAMPAB deal with applications within the short term, before they come to the point where the regulations will be streamlined? He indicated that the current process takes about 2-3 years before it reaches a final decision and by referring an application back to the consultants to obtain a clearance would be another addition to the time frames.

Mr Simon added that a preparatory meeting was held during the morning with some Town and Regional Planning Consultants and, from a consultant's point of view, many projects such as Township Establishments has taken up to two years from the starting date. This involved community consultation, taking of aerial photography, base mapping, actual planning design, obtaining approval from the Local or Regional Authority and even NAMPAB. At the moment there are many applications within the final stage which was in process before the Regulations came into force. Those projects have all been approved by Local Authorities and Regional Councils. Many of these would have to go back to their Local Authorities requesting an EIA before they would be approved by NAMPAB or Townships Board. These Local Authorities would not have budgeted for an EIA process and it would take another 6 months in addition to what they already have. The Local Authorities are asking the Planning Profession what they should do.

The Commissioner responded by saying that he did not understand why Local Authorities should be worried about these projects, even going to the extent of referring to the costs, especially small municipalities. He indicated that if the process is already initiated and completed to the stage of seeking approval from NAMPAB or Townships Board, then there should not be a problem with it. He indicated that there is a provision in the Act which will exempt these projects as long as proper justification is provided for.

He suggested that the planning process could be done parallel to include a SEA on the plans which would be a cheaper exercise. A request should be submitted to the Minister or to the Commissioner for exemption to those projects which are already at an advanced stage. This should be done by writing a letter within the provisions of the Act and justifying the situation that these projects should be exempted.

Mr Simon responded by indicating that the Institute could write such a letter asking for exemption for everything that has already been approved by Local and Regional Councils before the Regulations came into effect.

The Commissioner agreed to this statement and indicated that it is the concern of the stakeholders which is a reality. The purpose of the Act is to protect the environment and if there is no significant impact on the environment then one cannot enforce something which is undue. The objectives of the Act are clear.

Mr Simon indicated that this statement was clear and thanked the Commissioner for his flexibility.

Dr Sikabonga added that MET currently experienced situations where most of the proponents would approach their office and demand a solution within an unreasonable timeframe.

Mr Simon agreed that it would be unfair to expect that from MET and suggested that the Commissioner should have a meeting with the Chairpersons of Townships Board and NAMPAB to explain the procedures and verify that certain activities and projects will be exempted. He added that both Townships Board and NAMPAB see themselves as the competent authority and they do not know what they are allowed to do or what they may allow or not. As a result both Boards just block applications by requesting clearance certificates to be obtained. He indicated that the Act refers to coordination between various Legislations and if some sort of agreement could be reached to allow applications to be approved which were ongoing before the Regulations came into effect. This would then allow for a fresh start and all new projects which started after the Regulations came into effect would be subject to the Scoping and EIA process.

The Commissioner indicated that they would only have to engage all relevant bodies of State. He also indicated that even though their mandate increased, the number of staff within his office remained the same even after the Act was Gazetted. He added that his office only interviewed the positions for the Deputy Commissioner and a senior Deputy Director which should be filled soon along with two other senior positions within the department. He requested that even though the stakeholders are not to blame they should at least be patient with the Ministry since they will coordinate the process as efficiently as possible. They will sit around one table to amend the Act to sort out any problems. He also stated that he welcomed constructive criticism which would help facilitate the process to enable the Act to ensure sustainable development within all the listed activities. The Ministry of Environment and Tourism would not block all development as many people tend to believe, but larger companies such as chemical factories will be regulated.

He stated that he is pleased to see how many companies and stakeholders are forthcoming towards the process. Especially within the Mining Sector which is more proactive and setting a good trend towards implementation of the Act and Regulations. The Act has also given people and residents within a city or town more rights to be heard on development intentions. MET has been flooded by many phone calls of people complaining which has become too much for his office to handle. Even this principle of "not in my back yard" has become a reality after being Gazetted. He indicated that their doors are open and they will act accordingly on the proposals to allow approval of applications at NAMPAB immediately so that they are not seen within the industry as delaying development or the process.

Mr Genis suggested that the Ministry of Regional and Local Government, Housing and Rural Development should write a letter to the Ministry of Environment and Tourism highlighting some of the issues discussed so that the two Ministries could come together with suggestions on how to deal with it.

The Commissioner agreed with Mr Genis to write the letter so that his office can see how they could expedite to the point as not to block or delay anything which have already been approved. If Oshikuku is already in the process of being proclaimed after all the approvals, then it should not suddenly be delayed because of this new Act. There should be a way around it as provided for within the Act.

He indicated that he received a similar request from the City of Windhoek in the form of a letter. The City of Windhoek had discussions with MET regarding certain exemptions and it was agreed to write a letter to MET to request such exemptions.

Mrs Moongela indicated that one of the main confusions came in when Townships Board and NAMPAB only heard about the Act and saw which activities could be allowed and which activities should require a clearance certificate. Without consulting any of the stakeholders, they just referred the applications back to first obtain a clearance certificate. She indicated that it might be due to a lack of communication and understanding amongst stakeholders which should be solved by writing a letter and highlighting the issues which would not require a clearance certificate, such as rezoning within the buildup environment.

The Commissioner responded by saying that rezoning will be exempted and this exemption would not be given to individuals but rather to Local Authorities who should be accountable for it. Implementation of the Act has identified many situations which were previously not known by many people. Where a small community of women received enough funding to start a small scale garden proposal, they suddenly required a clearance certificate because they intended to irrigate their fields. He indicated that his office could see that the garden was already located within their existing fields and they would not be using and chemicals so they received the go ahead. He indicated that it was only someone who interpreted the Act wrong. He also indicated that his office were identifying larger activities which had worse environmental impacts such as boats dumping waste within the rivers which was not acceptable and was dealt with strictly.

Mr Simon stated that he fully agreed with the Commissioner and suggested that the Regulations should also be thought through more thoroughly. He explained by saying that the Regulations required an Environmental Practitioner to be appointed within the process. Should a person living in Katutura intend to rezone his erf from residential to business, then he already had to pay the Planning fees involved in the process and now he would be expected to appoint an Environmental Practitioner to do the Scoping report as well. At the end the whole process would become unaffordable to the poorest people as was the case with the group of women who intended to start their little agriculture project. Small and insignificant projects should be judged on the basis of a simple application to the Environmental Commissioner who could then decide if a scoping study or EIA is required.

The Commissioner responded that the Municipality would have an exemption in that case and it would not be a problem. The person would be able to apply for his rezoning.

Mr Thornley requested clarification on which Local Authorities would be able to apply for exemption. Would it be only selected Municipalities and Local Authorities or would all Local Authorities within Namibia be able to apply for exemptions?

The Commissioner responded by saying that every Local Authority who applied to the Commissioner would be able to obtain exemption and that it would be their own responsibility to obtain such exemption. They should write a letter to MET to apply for it since it will not be issued automatically. Should they not apply for exemption, then they would be in serious trouble. He stated that it would be important for his office to reach out to each Local Authority and inform them of the situation. He added that the Act would require each Local Authority or Institution to employ an Environmental Officer whom would work closely with MET. This should ensure that the Act and Regulations would be implemented correctly and that everyone would know exactly what the Law requires.

He referred to an example which should be targeted by these officers such as the quarries or borrow pits from road construction which are visible along the road when driving to the North. He indicated that some of those borrow pits were poorly excavated and some became an eyesore while others became a danger for people and livestock. There are also cases where those borrow pits became dumping sites, which MET does not want. It would take a long time before MET would have a sufficient pollution and waste management system in place and as a result the Clause for registering dumping and waste management sites were included in the Act. This should at least assist MET to control the situation on the ground and manage our waste accordingly.

Mr Simon agreed to the statement and suggested that community consultation should also be implemented when it come to those borrow pits. He explained that previous Environmental Impact Assessments conducted for road construction projects revealed that many communities requested these borrow pits to remain behind since they become important sources for water and fish. He also added that there should be a compromise between the environmental and social aspects.

He summarized the discussions by commending the flexibility and preparedness of the Commissioner and MET to address the immediate problems experienced by the planners. He concluded that a meeting should be held with the Chairpersons of Townships Board and NAMPAB to clarify the requirements of the MET.. He also mentioned that small scale activities would be exempted by writing a letter to MET indicating which applications would be adequate to deal without a screening process to determine whether a Scoping or EIA would be required or not.

He suggested that the Institute should prepare a submission to the Commissioner on the main problems as well as suggest solutions to these problems. This would highlight the concerns and potential solutions as provided for in the Act. He indicated that the office of the Commissioner could deal with the letter as they see fit, but the potential solutions as suggested could be used by the Ministry in the process of fine tuning the regulations.

The Commissioner indicated that he would be happy to receive such a submission.

Mr Thornley added that all projects which have been already approved by Local Authorities prior to the enforcement of the List of Activities and Regulations should also be exempted in general.

Mr Simon agreed and indicated that it should be included under the exemption procedure. He enquired from the Commissioner whether the Institute, the MRLGHRD, Townships Board or NAMPAB should apply to MET for the exemptions of already approved projects?

The Commissioner responded by indicating that it should be from the Ministry of Regional and Local Government, Housing and Rural Development.

Mr Simon agreed to this statement.

The Commissioner indicated that should the MRLGHRD not agree to the proposals, then they would write a letter indicating that it would not be possible. He used an example that if the Ministry of Fisheries wrote a letter to MET which were in contradiction to what was allowed, then it would be difficult for MET to allow such an action. The same would apply to the MRLGHRD, if they were satisfied with the proposal then MET would accept it also. The Act bounds everyone to the process and should something go wrong then MET could still implement the Act to rectify it. He indicated that this should be dealt with as soon as possible in order to speed up the process and to avoid any further delays.

Mr Simon indicated that he agreed with the Commissioner and stated that the letters should reach the Commissioner as soon as possible.

The Commissioner enquired whether there were any other issues which needed to be discussed after which he thanked everyone attending the meeting for their time and effort. He indicated that the meeting was open and constructive and that the Act would not only be used to stop or delay development, but that it will be used to protect the environment which is the ultimate objective. He indicated that he would appreciate any suggestions in writing which would be submitted to his office. He stated that his office would consider the proposals, exclusions and amendments as provided for within the Act.

He indicated that everything as discussed was provided for in the Act and this should be used by the stakeholders. However, he stated that although his office is open for discussions, MET would first implement the Act to point out where things are not working well and then they would address those issues.

Mr Simon concluded by thanking the Commissioner and Dr Sikabonga for their time and cooperation and indicated that it was much appreciated.

The Commissioner concluded that he was looking forward to continued cooperation within the future which would improve the Act. He added that he would remain open for discussions and would remain transparent throughout the process. He requested, however, that people should understand that they are still in the process of setting up the department and their capacity was limited to only a few people.

The meeting ended at 15h00.

## ANNEXURE E

---

### KP FLOODLINE STUDY

Prepared for  
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**WI311-00592/01**

## **USAB (KARIBIB)**

# **STATUS QUO FLOODLINE ASSESSMENT**

Rev	Description	Date
0	Issued in Final	22 September, 2021
1	Issued in Final (Channel Details)	4 October, 2021

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# 1.0 INTRODUCTION

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## 1.1 OVERVIEW

Knight Piesold Consulting Engineers were appointed by Urban Dynamics Town Planners to determine flood lines for the Usab Area of Karibib, to the northeast of the town. Urban Dynamics were appointed by Karibib Town Council to formalise a town layout for the Usab Area; however, the area is prone to flooding and required investigation into the floodlines. Usab is bordered by roads to the east and south and a dry river to the north and west. From aerial images it appears that a large informal settlement was established in this area.

## 1.2 STUDY SCOPE AND OBJECTIVE

The scope of this report is the following:

1. To assess the current site topography and determine the flood peaks and floodlines for the 1 in 20-year and 1 in 50-year event.
2. To provide Urban Dynamics with Autocad drawings with the floodlines to overlay on the township layout to account for flooding.

This study consists of a detailed hydrometeorological assessment to determine floodlines for the current site topography. The flood peaks are routed over a terrain using a shallow water hydrodynamic model to determine floodlines. Sensitivity analysis is carried out to determine the impact of roughness on the inundation boundary and to use the most realistic surface roughness for the study area. Furthermore, terrain manipulation is done to account for bridges or culverts, which were not accounted for in the survey for the accurate flood routing mechanisms to occur.

The objective is to derive flood lines for the 1 in 20-year and 1 in 50-year flood event, having an annual exceedance probability of 5% and 2% respectively. The assessment excludes engineering designs of flood mitigation methods or formalisation of storm water components.

## 1.3 REPORT STRUCTURE

The report comprises of the following sections to capture the assumptions and study methodology:

3. Introduction: Study and locality background, with a scope and objective discussion.
4. Hydrometeorology: Study area climate, rainfall record origin and quality, limitations and statistical depth derivations for different return periods. Catchment delineation, physical characteristics, land use. Based on rainfall depths and catchment characteristics the runoff peaks and hydrograph are determined.
5. The flood peaks and hydrographs are used to determine with a hydrodynamic software to route the floods over a terrain with a realistic surface roughness.
6. Conclusion and recommendations are made to conclude the report.

## 2.0 HYDROMETEOROLOGY

---

### 2.1 CLIMATE AND VEGETATION

The climate in Namibia is highly variable, with extreme drought periods and large rainfall events (MET, 2011). The study area is in a semi-arid to arid region of Namibia with an average mean annual precipitation depth of between 200 mm to 250 mm, with high evaporation losses. The rainfall patterns are unequally spatially distributed. Rainfall events occur localised with high intensity over short durations, classified as cloud bursts, from nearby sub-daily rainfall stations (record length is 3 years only) it is known that typical rainfall event only last a few hours.

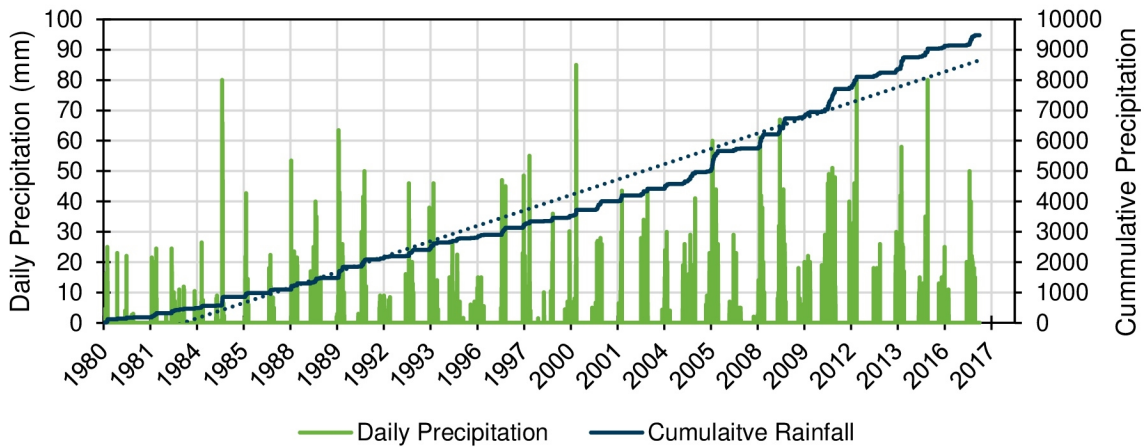
Vegetation in the contributing catchment is variable and depends on the season and antecedent conditions, during average to above average rainfall years, grasslands are formed and in winters or drought years barren earth with high erodibility is prevalent. Many landowners or farmers upstream of the study area cleared the land of bush to increase grass growth and land productivity for commercial farming.

Daily temperatures in summer range from 20 to 38 degrees Celsius and in winter from 0 to 24 degrees Celsius. Climate change models indicate that Namibia, especially the western and southern parts are adversely affected by rising temperatures and the consequences thereof (WBG, 2021). A mitigation strategy was prepared by the Namibian Ministry of Environment and Tourism (MET), indicating flood protection systems to be investigated in affected regions and expending the water resources infrastructure to supplement the already overstressed water resources throughout Namibia. The focus of the document is on the most populous regions of Namibia, being the Central area of Namibia (CAN) and northern Namibia (MET, 2021).

Currently there is no detailed information or guidelines available to be used by water resources practitioners to account for climate change impacts on floods in southern Africa. Generally, the guidelines indicate that the climate will become more variable, leaning towards longer more severe drought events and shorter more severe flood events, which are inherent to the rainfall pattern along the study area.

### 2.2 RAINFALL

Daily rainfall data, as shown in Figure 2-1, was sourced from the Namibian Meteorological (MET) Offices for the Karibib town, which is approximately 2 km south of the study area. The rainfall record was assessed to determine the data quality, by assessing the overall trend, stationarity, and variance. The record contains 8% of missing data over a record period from 1980 to 2017, 37 years (NMET, 2021). No daily records could be sourced earlier than 1980. The rainfall record was ranked, a plotting position assigned, and a statistical distribution fitted, as per southern African meteorology guidelines for storm events (SANRAL, 2013). The cumulative precipitation indicates that there is a significant non-stationary behaviour, which is typical of poorer data quality, for the purpose of this study and the lack of better data, it was determined that the rainfall data is of sufficient quality to be used for further processing.



**Figure 2-1 Daily rain precipitation at Karibib (MET Station)**

The rainfall depths for the different return periods as obtained from the statistical method was compared to the TR102 rainfall depths, which are part of the Southern African Storm event study (Adamson, 1980), which was completed in the 1980s, to confirm if the latest results are in line with the original rainfall depths.

The rainfall depths for the two data sources are summarised in Table 2-1. The TR102 depths are higher due to a shorter record length of 21 years, compared to 37 years for the MET Office record. A shorter record, especially in an arid region, can result in a skewed average rainfall, as the record length increases, prolonged droughts can normalise the distribution, the same applies to above average and abnormally high intensity storm events. It would have been desirable to have sub-daily rainfall data for further detailed statistical trend analysis.

**Table 2-1 Rainfall Depths**

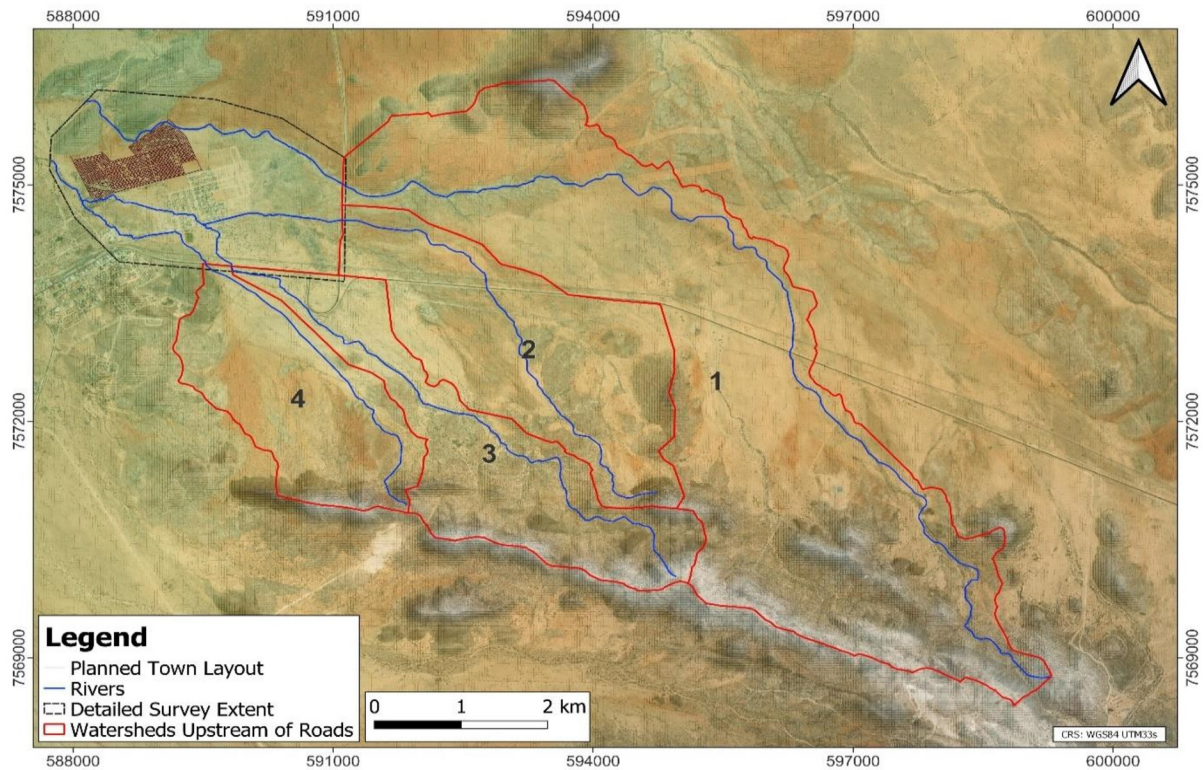
Return Period	Karibib Rainfall Depths (mm)	
	MET Office	TR102
2	36	40
5	57	61
10	74	78
20	90	97
50	114	125
100	133	150

## 2.3 CATCHMENT DELINEATION AND CHARACTERISTICS

The catchment was defined using the NASADEM terrain, as the detailed survey did not cover the entire catchment. The NASADEM terrain has a resolution of 30 m by 30 m horizontal distance for each elevation point, compared to the detailed survey of 0.5 m by 0.5 m for each elevation point. The detailed survey was done by photogrammetry with aerial drone imagery. The resolution of the NASADEM terrain is sufficient to delineate the catchment area, however not sufficient for detailed flood line assessment. The quality of the detailed survey is exceptional and captures all the hydraulically relevant components

in the study area. An automated lowest cost algorithm was used to delineate the catchment and to determine the main channels (Gericke & du Plessis, 2012). A visual inspection was done to confirm that the catchment outline based on the NASADEM conforms to the satellite images and corrections were done to obtain the most accurate catchment boundaries and watercourse lengths. A map of the four distinct upstream catchments, main watercourses and detailed survey area is shown in Figure 2-2.

Four distinct catchments were delineated upstream of the study area to determine flood peaks and hydrographs for the hydrodynamic routing. A simple triangular hydrograph shape was selected with a rising limb equivalent to one time the time of concentration (Tc) and twice the Tc for the falling limb. The slope of the catchment was derived with the 10-85 Slope Method as per Namibian Road Authority Manual for Flood Hydrology. Satellite images were used to derive the land use, vegetation and soils in the catchment. The slope, storage, permeability, soils and vegetation were used to derived realistic runoff coefficients and catchment roughness. The catchment characteristics are summarised in Table 2-2, as per catchment numbers provided in the overview map in Figure 2-2.



**Figure 2-2 Delineated Catchments**

**Table 2-2 Catchment Characteristics**

Catchment	Area (km <sup>2</sup> )	Slope (%)	Length (km)	Tc (hours)	Runoff coefficient
1	20.17	1.01%	13.28	2.9	0.11
2	7.53	0.99%	5.87	1.5	0.125
3	6.06	1.50%	7.42	1.6	0.13
4	4.93	1.30%	4.29	1.1	0.12

## 2.4 FLOOD HYDROLOGY

The alternative rational method was used to determine the flood peaks based on rainfall depths, catchment characteristics and land use (SANRAL, 2013). A simplified triangular hydrograph was used to describe the runoff behaviour, as there was no rainfall or flow gauge with a sub-daily resolution near Karibib with record length exceeding 20 years to use as shape template to generate a more localised artificial hydrograph shape.

The runoff peaks for the four catchments are summarised in Table 2-3, the largest runoff is expected to be generated from the first catchment, which has the largest catchment area with the longest water course.

The return periods which are typically used for urban designs range from 1 in 20-year to 1 in 50-year return periods. The time of concentration for the catchments were determined using the Defined Watercourse Equation by Kirpich (RA, 2014).

**Table 2-3 Peak runoff for different return periods**

Return period	Catchment runoff (m <sup>3</sup> /s)			
	1	2	3	4
2	9.2	4.6	3.7	3.8
5	16.0	6.7	5.3	5.5
10	21.4	8.7	6.9	7.1
20	28.2	11.3	9.0	9.2
50	41.5	16.4	13.0	13.4
100	56.9	22.2	17.6	18.1

## 3.0 FLOODLINES

### 3.1 HYDRODYNAMIC MODELLING

A shallow water two-dimensional model, HECRAS 6.1, was used to derive the inundation boundaries. The detailed survey was used in the model, with a mesh size of 10 m by 10 m with sub-grid sampling to allow for the highest possible accuracy, each cell as a unique area-depth relationship. Several iterations were done on the Manning-n roughness, and it was determined that 0.032 results in the most realistic inundation depths based on historic observations for specific rainfall and flood events. Unfortunately, no detailed flood event records were available to further optimise and calibrate the model. The full-momentum wave equation was utilised with a finite volume equation to give the highest accuracy output.

The water depths and velocities for the 1 in 20-year return period flood are shown in Figure 3-1 and Figure 3-2, and the depths and velocity for the 1 in 50-year return period flood are shown Figure 3-3 and Figure 3-4. Several erven are affected by the flooding and require upstream re-routing of the watercourse by formalisation. An unlined channel was constructed to the southeast of existing formalised erven; however, the capacity of the channel appears to be insufficient to effectively route runoff away from the development. The flow depths are generally less than 0.1 m with velocities not exceeding 0.5 m/s for both return periods.

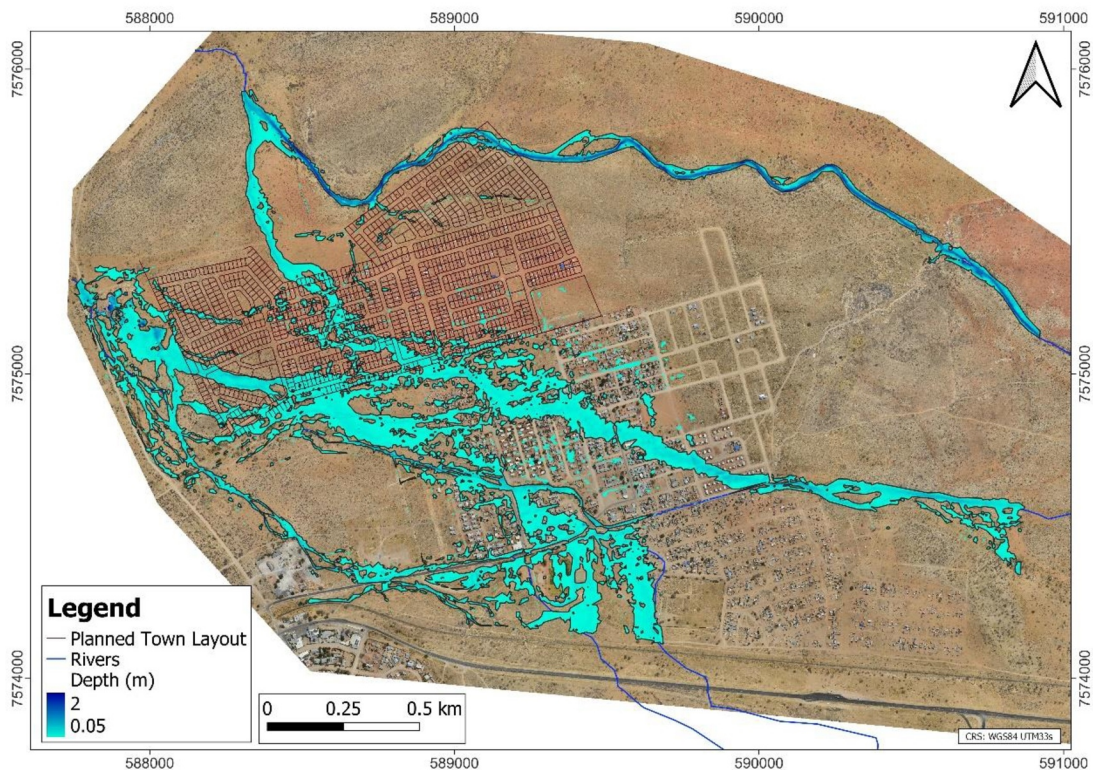


Figure 3-1 1 in 20-year water depth

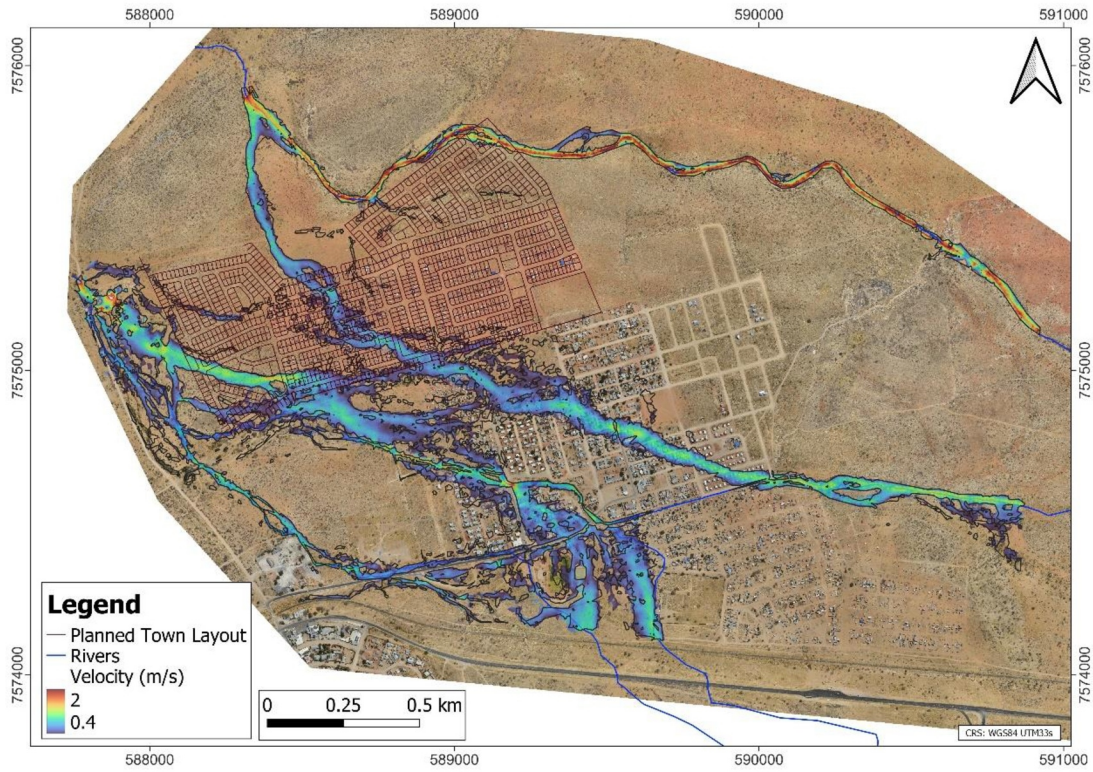


Figure 3-2 1 in 20-year water velocity

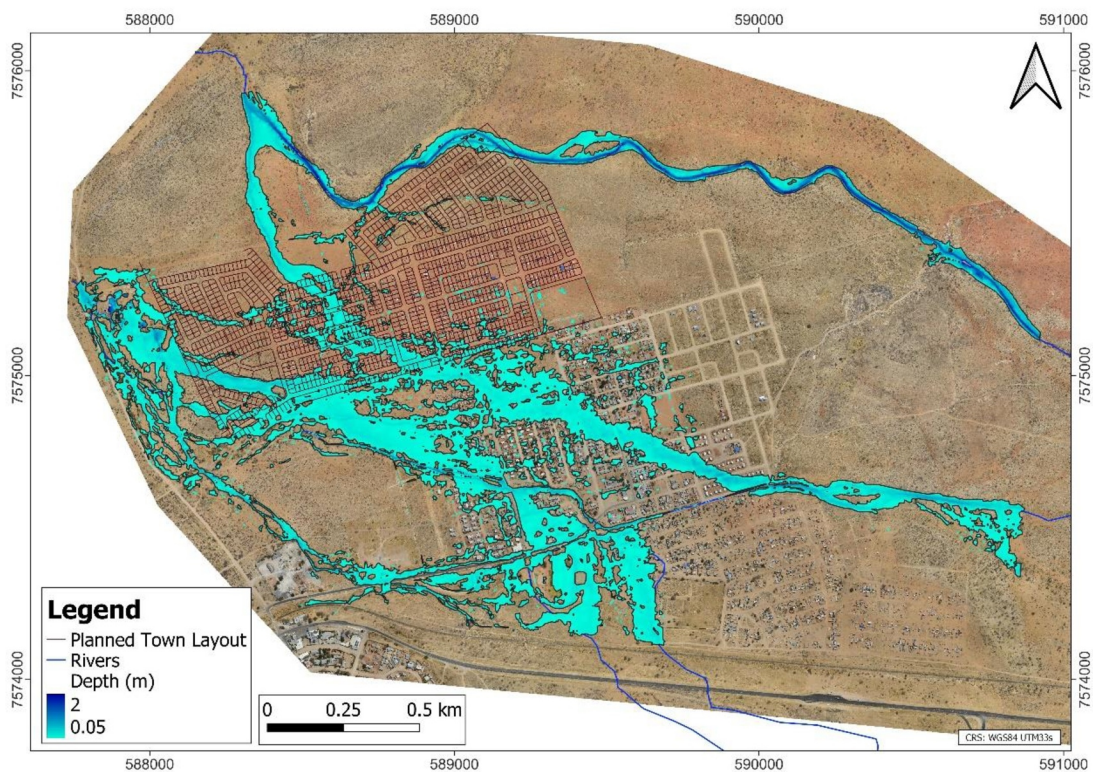
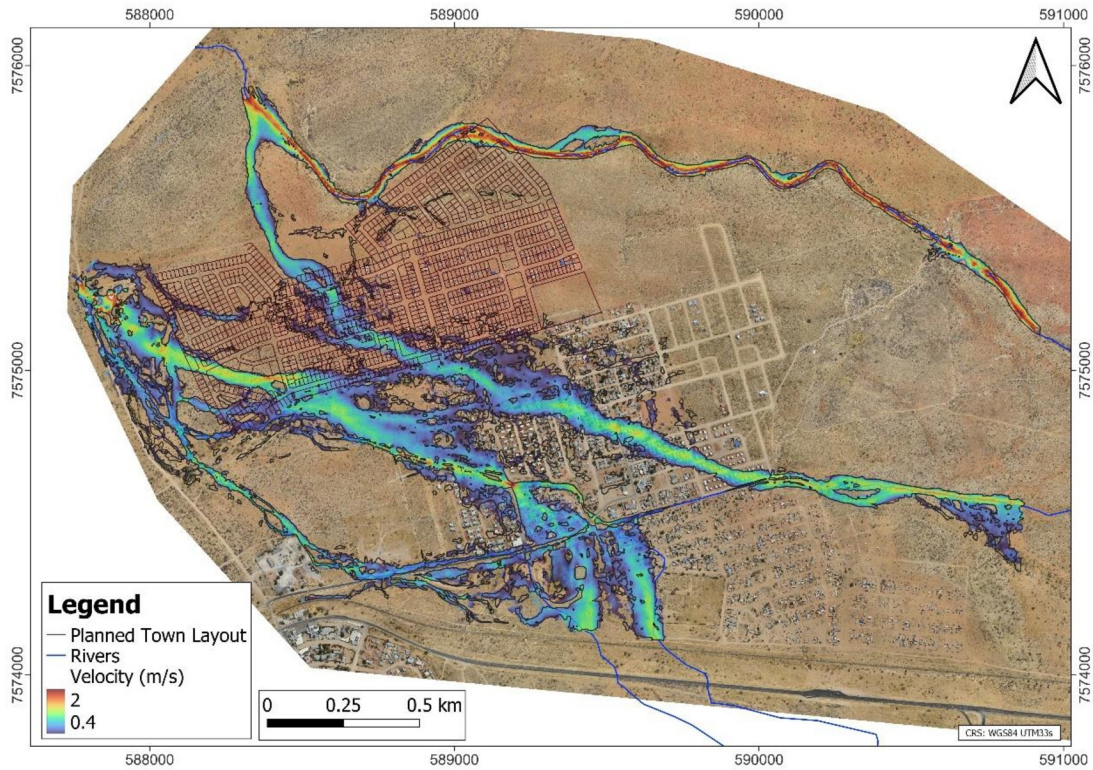


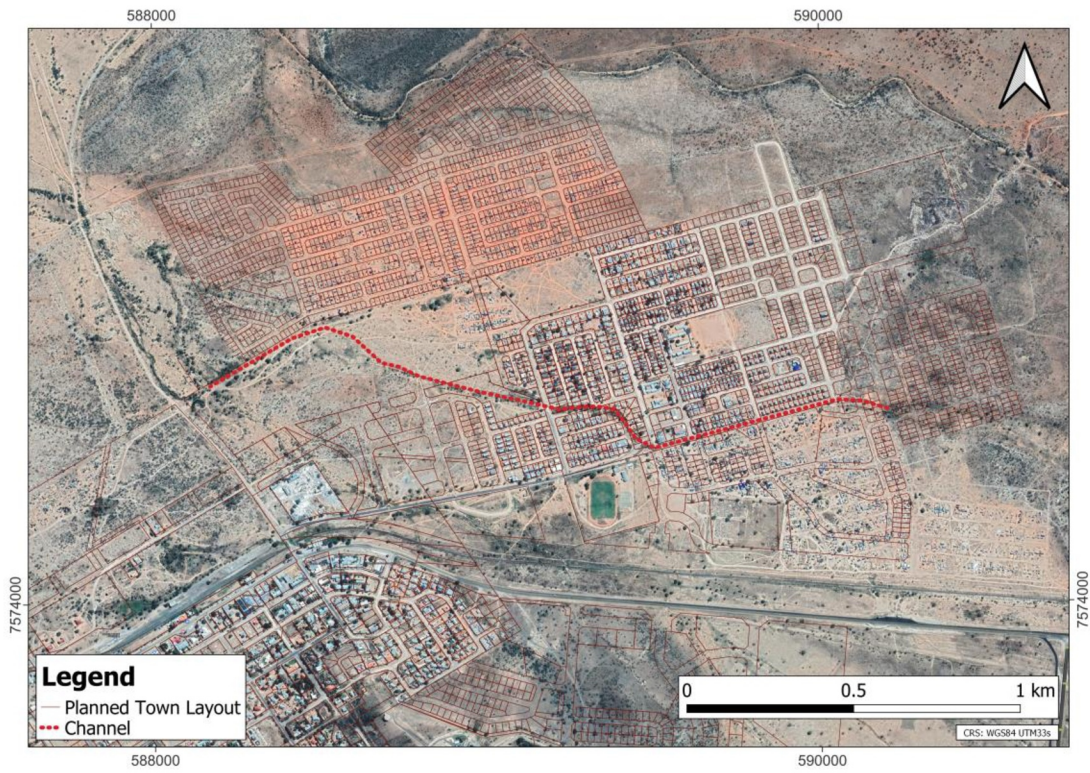
Figure 3-3 1 in 50-year water depth



**Figure 3-4 1 in 50-year water velocity**

It was observed that a channel to the southeast of the study area is undersized, the channel is indicated in Figure 3-5. A high level assessment indicated that a 12 m wide channel, which is deepened by another 1.5 m from the current channel elevation, should be sufficient to route flood through the area, significantly reducing the risk of flooding to the planned development.





**Figure 3-5** Channel proposed for formalisation

## 4.0 CONCLUSION AND RECOMMEDATION

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A detailed survey was used to derive the floodlines, based on a daily rainfall record to derive flood peaks. The catchment areas and subsequent time of runoff concentration is relatively short 1 to 3 hours, with much higher anticipated short duration rainfall intensities, compared to the available average daily rainfall record. This required higher rainfall intensity due to the typical shorter durations has been accounted for with area reduction factors and favourable for greater runoff antecedent conditions. In future and where available it would be advantageous to start monitoring sub-daily rainfall data by means of automatic weather stations, as this is not yet common practice in Namibia.

The catchment area upstream of the adjacent roads is flat and offers attenuation capacity for the main watercourses, this has not been accounted for in this study, as there was no detailed survey available, and it is assumed according to best practice that the watercourses area flowing when the flood occurs and that attenuation area is occupied resulting in spills or direct routing of the flood event through the culverts. No additional assessments were done on the culverts, as it is assumed that the culvert are designed to route a 1 in 50-year storm event without overtopping, as per Roads Authority Guidelines for Highways and National Roads.

Several planned and existing erven are affected by flooding for both the 1 in 20-year and 1 in 50-year return period event. Most of the flooded area has a water depth of less than 0.1 m, only the main watercourses or localised depressions indicate water depths exceeding 0.2 m. The shallow waters depths results in only minor impacts over large extents of the inundated area, which over time can however cause erosion issues.

It is proposed that an engineering solution is investigated for upstream flood mitigation measures, which should include formalisation of the channel to re-route storm water from the south and southeast catchments away from the erven towards the northwest of Karibib. A high level assessment indicated that a 12 m wide channel and 1.5 m deep should be sufficient to reduce the risk of flooding for the surrounding erven.

Based on the available rainfall data it is advised that another 5 meters of horizontal distance from the flood lines is used as safety margin for planning purposes, especially along the major tributary along the northern edge.

## 5.0 REFERENCES

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## 6.0 CERTIFICATION

---

This report was prepared and reviewed by the undersigned.

Prepared:



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Sebastian Jahnke, Candidate Engineer (MEng Water Resources Engineering)  
Civil Engineer

Reviewed:



---

Estee Cuff, Pr. Eng.  
Senior Engineer

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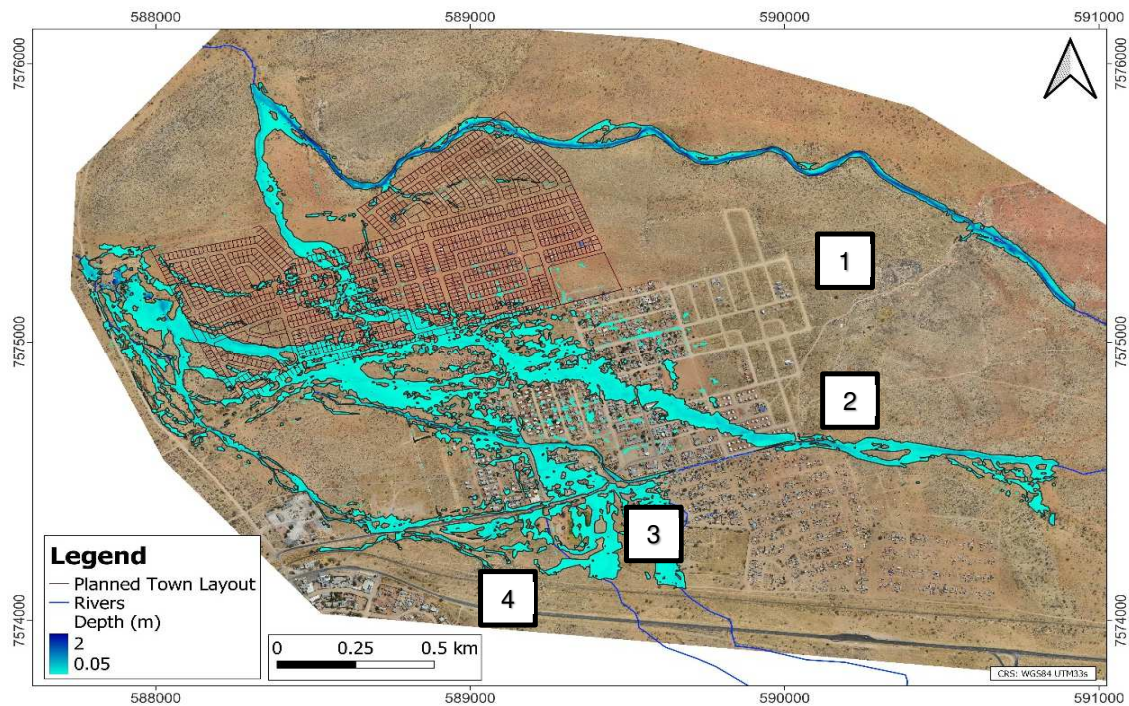
Approval that this document adheres to Knight Piésold Quality Systems:

# TECHNICAL MEMORANDUM

**Date:** 15 December 2021 **File No.:** WI311-00592/01-A  
**Cont. No.:** WI21-00253  
**To:** Mr. Johann Opperman, Mr W Shepya  
**Copy To:** -  
**From:** Sebastian Jahnke, Estee Cuff  
**Re:** **Karibib Usab: High Level Feasibility investigation into Flood Mitigation Measures**

## 1. BACKGROUND

Knight Piésold Consulting Engineers (KP) was appointed by Urban Dynamics Town Planners (UD) to determine the status quo floodlines for the Usab Area of Karibib, which is located to the northeast of the town. KP issued a report “Status Quo Floodline Assessment” indicating the extent of the flooding of the existing and proposed Usab development for the existing scenario. The result of the hydrodynamic modeling indicated flooding of large parts of the Karibib Usab township, indicated in Figure 1-1.



**Figure 1-1: 1 in 20-year water depth for current status quo (KP, 2021 Status Quo Floodline Assessment)**

Four major rivers contribute to the flooding of the area and were numbered from northeast to south, in a clockwise direction, for ease of reference as per Figure 1-1. The status quo report indicated that river 1 did not pose a flood risk to the Karibib Usab township. However, the 1 in 20-year and 1 in 50-year return period floods for rivers 2, 3 and 4 inundated several erven and require intervention. It should be noted that although large areas are inundated, the flow depths are generally less than 0.1 m with velocities not exceeding 0.5 m/s for both return periods, resulting in minor anticipated flooding related damages.

## 2. SCOPE OF MEMORANDUM

High level site investigation and technical memorandum into the feasibility of the proposed flood mitigation measures as per the Status Quo Report.

## 3. SITE INVESTIGATION

KP visited the site in-conjunction with UD on 11 November 2021, to investigate the practicality and local arrangements for implementing flood mitigation measures by assessing the extent of hard rock prevalence. The extend and location of the existing services which might need to be relocated with the proposed flood mitigation measures was also investigated. During the site visit a meeting with Karibib Town Council was held to discuss their experience of flooding and existing flood mitigation measures, and to ascertain the flood modeling results.



Figure 3-1 Field survey with Trial Pit locations (TP1 to TP7)

### 3.1 RESULTS FROM THE SITE INVESTIGATION

The following observations were made during the site investigation with reference to Figure 3-1.

1. Seven trial holes were excavated with a midrange back actor with the following results:
  - a. TP 1, TP2, TP3 experienced refusal at topsoil level (between 0 to 0.2m depth).
  - b. TP 4 and TP 6 was excavated in soft soil, and no hard rock was encountered within 1.5m.
  - c. TP 5 was excavated up to 1m depth before meeting hard rock. However exposed rock formations were observed adjacent to the trial hole. It is expected that a heavy-duty excavator could excavate up to about 0.5m in depth, with help of a tok-tok.
  - d. TP7 experienced refusal at 0.4m depth, but experience in the area indicates that a heavy-duty excavator with a tok-tok could excavate locally with some effort.
2. Services crossing the existing stormwater routes:
  - a. The only service observed to cross the river 2 route is a buried sewer gravity pipeline crossing on the eastern side of the Stormwater Drift.
  - b. A water supply pipeline crosses the river 2 route 20m upstream of the Main Bridge. However, to excavate, and relay the pipeline at a deeper depth is not a costly exercise.
  - c. No other buried services could be observed.
3. Karibib Town Council reported flooding of the township from the railway line culverts 1 and 2, see Figure 3-1.
4. The bridge (Main Bridge) crossing river 3 consists of 6 culverts of 1.8m wide x 1.2m deep, with  $\pm 0.5$ m deep sand deposits at the bridge.

## 4. FLOOD MITIGATION OPTIONS

Several options were considered for flood mitigation in the desktop study prior to the site investigation, most notably the following two:

- **Option 1:** This option entailed the diversion of river 2 towards river 1 before reaching Usab. This option is outlined in red around TP 2 on Figure 3-1. Following the site investigation, it was clear that due to the extent of hard rock excavation that Option 1 would not be financially feasible due to the high cost of excavations and the probability of blasting. An option of creating a berm would also not be feasible, as there is a 3.5m high rise in between the two rivers.
- **Option 2:** This option kept to the existing river routes, and formalized the existing rivers 2, 3 and 4 through the township into channels. Figure 5-1 indicate the formal channels, blue line for the channel in river 2 and the purple line for the channel diverting river 3 and river 4. The yellow lines indicate berms. Due to the hard rock, it was not considered feasible to deepen the existing channel along most of the way. Thus, an embankment would have to be created on either side of the existing channel to contain floods. This option was considered to offer the more cost effective and feasible option and was therefore further investigated.

## 5. OPTION 2: FLOOD MITIGATION MASURES

Best Management Practice for flood line assessment is taken from the Guidelines for Human Settlement Planning and Design (CSIR 2007). The design flood frequencies for a major system are recommended as 1 in 50-year flood, and for a minor system 5-to-10-year floodlines. Namibia currently has no regulation or guideline with regards floodline design specification, and each municipality/council has their own requirements.



Figure 5-1 Option 2: Proposed Flood channel formalisation

### 5.1 FLOOD MITIGATING MEASURES: 1 IN 50-YEAR

A high-level assessment of the 1 in 50-year flood was done prior to modeling, and it was estimated that the formalized channel would be  $\pm 22\text{m}$  wide (including embankments) to convey the stormwater. The servitude between “Start” to “Stormwater Drift” is only  $\pm 20\text{m}$  wide and this is insufficient for a channel together with two access roads and two sidewalks and space for services. From the “Main Bridge” to “Stormwater Drift” there are proclaimed erven in the river.

A channel with embankments would not be feasible due to the insufficient space available in the proclaimed servitude. Furthermore, the cost of adding culverts to the Main Bridge, which could be between N\$ 2 to 3 million as well as a new bridge at the Stormwater Drift, which would cost between N\$ 6 to 8 million, disqualifies the option. It was therefore decided to model the 1 in 20-year flood to determine a more realistic solution.



## 5.2 FLOOD MITIGATING MEASURES: 1 IN 20-YEAR

The flood mitigation measures proposal for the 1 in 20-year flood entailed the following:

1. River 1 does not require any alteration or formalization as per current status quo
2. River 2 would require a formal channel (blue line on Figure 5-1). The channel is to be 5m wide, with 1.5m high embankments on both sides. Embankments are proposed at maximum 1.5m high to lessen the risk associated with possible failure of the wall during flood.

The channel would begin with at “Start” indicated on Figure 5-1 with a berm. No reduction in the channel level from “Start” up to “NHE West” due to hard rock prevalence.

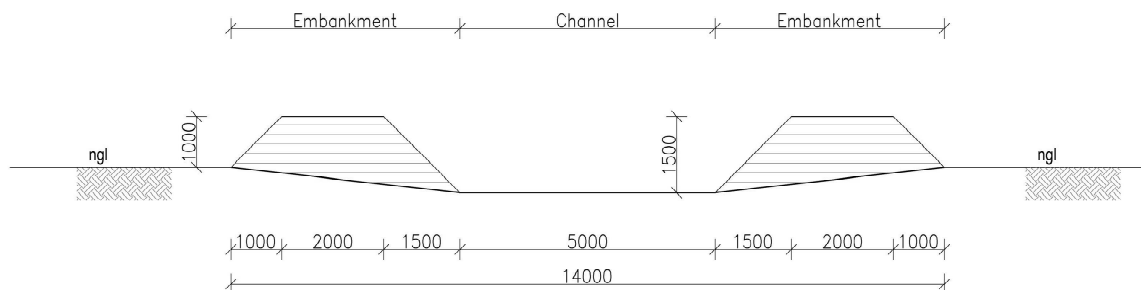
From “NHE West” up to the “Main Bridge” the hard rock is less prevalent, and the channel level could be lowered gradually from the existing channel invert level by 0.5m. The sand deposits at the “Main bridge” are  $\pm 0.5\text{m}$  high, thus the excavations will not undermine the existing culverts.

From the “Main Bridge” up to the “Gravel Road” the channel invert is kept at 0.5m below the existing river invert level. This will mean the embankment visible is about  $\pm 1\text{m}$  above natural ground level. Figure 5-2 shows a typical cross section from the “Main Bridge” up to “Gravel Road”.

3. The existing Stormwater Drift will be inadequate to prevent flooding into the neighborhood. Overflowing from the existing stormwater drift into the neighborhood was also reported by Karibib Town Council. A new deepened stormwater drift was included in the cost estimate.
4. River 3 would be diverted into a formal 4m wide channel, with 1.5m high embankments on both sides. The channel would be from the railway line, up to river 2 (purple line on Figure 5-1)

The invert level of this channel would start at existing level due to hard rock prevalence and gradually lowered to a similar level as the river 2 channel closer to the “Main Bridge”

5. River 4 would be diverted into the river 3 channel with a 1.5m high berm (indicated in yellow on Figure 5-1).
6. The existing sewer line crossing upstream of the Stormwater Drift will not be influenced, as it was constructed at a depth of more than 1.5m. Scouring usually occurs only downstream of a bridge.



**Figure 5-2 Typical cross-section through embankment and channel**

The 20-year flood is adequately contained by the proposed channels as seen in Figure 5-3. However, this solution is unfeasible due to the constraints within the proclaimed erven layout as follow:

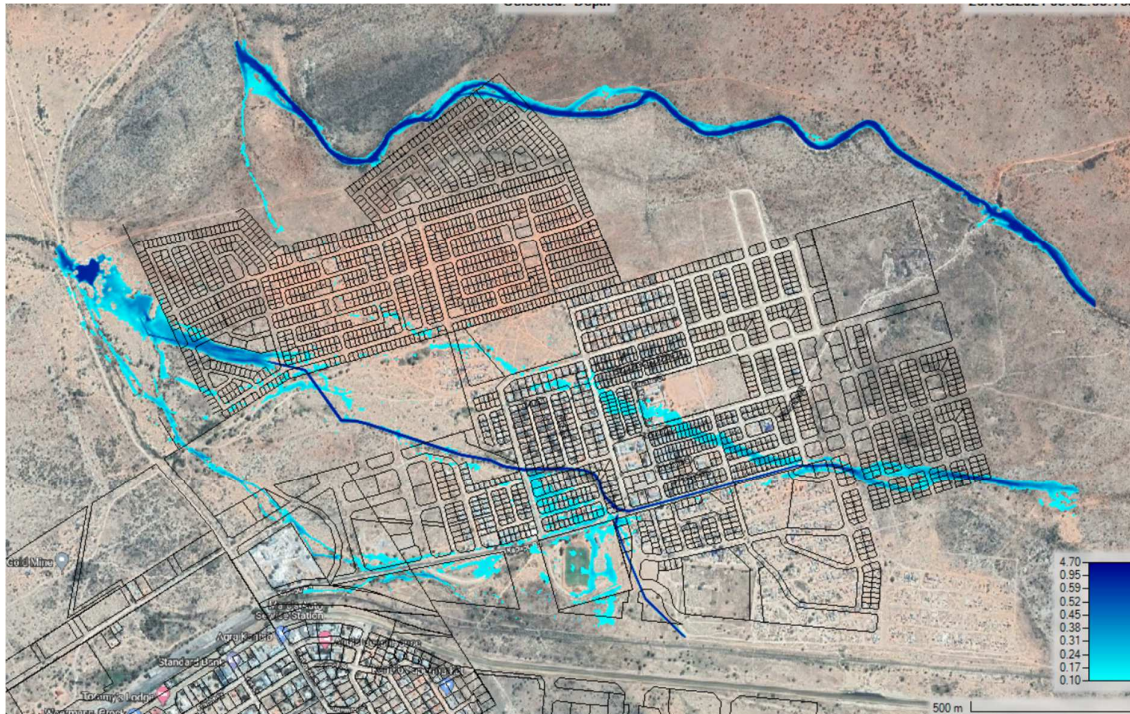
1. Between the “Start” and the “Main Bridge” there is only a distance of 20m available for the channel and access roads to erven on both sides of the channel. Therefore, it is not adequate space/width for a 14 to 15m wide channel with embankments, together with two access roads and two sidewalks and space for services. There are already informal settlements on the southern bank, thus the relocation of these settlements will entail land compensation which was not included in the cost estimate.
2. From the “Main Bridge” to “Stormwater Drift” there are erven proclaimed which are in located the river. There seems to be space in between the existing houses for a 1 in 20- or 50-year channel with embankments.
3. The formal channel for river 3 and 4 has not been included in the proclaimed township layout.

As previously noted, it appears as if the erven in Karibib Usab Township were proclaimed without taking any stormwater impacts into consideration.



**Figure 5-3** 1 in 20-year flood with formalization of channels

The 1 in 50-year flood was superimposed onto the proposed 1 in 20-year flood mitigation measures to determine the extent of overflow. As seen in Figure 5-4 the overflow from the 1 in 50-year flood is relatively shallow as the sheet flow does not exceed 100mm in depth.



**Figure 5-4 1 in 50-year flood with formalization of channels**

## 6. COST ESTIMATE

We have carried out a high-level cost estimate to determine the financial feasibility of the proposed mitigation measures for the 1 in 20-year flood.

Formalized channels ±3.1km long:	N\$ 4,0 million
Berms ± 0.5km long	N\$ 0,4 million
Stormwater Drift:	N\$ 1,8 million
<u>Embankments:</u>	<u>N\$4,7 million</u>
<b>Total</b>	<b>N\$10,9 million</b>

This cost estimate assumes that suitable material for the embankments will be provided by die Karibib TC free of charge.

## 7. CONCLUSION

- High level assessment of the 1 in 50-year flood indicated that no satisfactory flood mitigation proposal could be made due to the following limiting factors:
  - Should the channel be lowered, the prevalence of hard rock indicates that blasting could be required and would be cost intensive.
  - Extensions to the Main bridge and a new bridge at the Stormwater Drift would be required to accommodate the flood, the cost of this would be N\$8 to 11 million.
  - There would not be enough space within the existing proclaimed erven layout for a formalized channel with embankments.
- For the space and cost reasons stated above we modelled the 1 in 20-year flood with mitigation measures in more detail.
- Although estimated to be a more cost-effective option at an estimated N\$10,9 million, the 1 in 20-year flood channel with embankments is also not feasible due to the space constraint within the existing proclaimed erven layout.
- The possible revision of the layouts of the proclaimed erven to accommodate stormwater will have to be discussed with UD and the Karibib Town Council.

Thus in conclusion, currently no flood mitigation measures can be implemented within the current town layout resulting from the limited space available and cost implication of hard rock excavation to lower or divert the channel.

## 8. RECOMMENDATION

The recommendations are as follows:

- Investigate the possibility of relocating informal settlement on the southern side of the river 2 channel between “Start” and “Main Bridge” to create space for a channel with embankments.
- The client must decide whether the 1 in 20-year flood mitigation measures will be acceptable, taking into consideration the lower cost and the low risk overflow of the 1 in 50-year flood, which is estimated to result in less than 100mm flood depth throughout the township.
- The client’s budget for this project is unknown to us, however there is scope to implement the mitigating measures in phases. Depending on above items being successfully implemented, budget should be made available for detail designs that will deliver detailed cost estimates. The client will then have a road map with associated costs to properly plan the project or project phases according to the yearly budgets.
- Karibib Town Council should clear away sand deposits obstructing the culverts before the next rainy season.
- Karibib Town Council should ensure all culverts east of the Omaruru road are cleaned and inspected to ensure that there is no debris. Should the problem persist, a hydraulic assessment should be done to determine if their hydraulic capacity is sufficient.

We trust you will find the above in order and please do not hesitate to contact us for additional information.

Yours truly,  
**Knight Piésold Ltd.**

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\_\_\_\_\_  
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Reviewed:   
\_\_\_\_\_  
C Mostert  
Managing Director

Approval that this document adheres to Knight Piésold Quality Systems:

## 9. REFERENCES

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CSIR, 2007. Red Book: Guideline for Human Settlements. Stormwater Evaluation.



# KARIBIB TOWN COUNCIL

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Our Ref: 01/22  
Date: 22 June 2022

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Dear Mr. Opperman,

## **SUBJECT: USAB EXTENSION 6-10 FLOOD LINE STUDY**

With reference to your presentation to the Karibib Full Council meeting held on the 24<sup>th</sup> February 2022 bearing subject matter

Council through the Council resolution no: *CM/0001/24/02/2022* resolved as below:

1. Council approved the 1:50 flood mitigation plans to the value of +-N\$ 20.1 million;
2. That the Council, through the office of the Mayor, engage the Minister of Urban and Rural Development for possible funding of the project;
3. That the layout for Usab Extension 6-11 be designed according to the 1:50 year floodline as Council will implement the flood mitigation measure.
4. That the allocation of erven subject to flooding, as per the floodline report, only be done up on the implementation of the 1:50 year flood mitigation measures.
5. That the disaster Risk Management Committee discuss the flood mitigation report in their meeting and report back to Council

I hope you find the above in order.

Yours Truly,

  
LESLY GRAND GORESEB (MR.)  
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Office of the Chief Executive Officer

**Karibib Town Council**  
PO Box 19, Karibib  
2022-06-22