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Integrated Urban Water Management Master Plan for the City of Windhoek

PROJECT APPRAISAL REPORT

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December 2017

African Water Facility | Facilité africaine de l'eau

African Development Bank | Banque africaine de développement

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Project Information Sheet

COUNTRY : Namibia

PROJECT NAME : Integrated Urban Water Management
Master Plan for City of Windhoek

LOCATION : City of Windhoek

RECIPIENT : Government of Namibia

EXECUTING AGENCY : City of Windhoek

TOTAL COST : € 1,439,000

AWF : € 1,037,400 (net of taxes and duties)

City of Windhoek : € 407,600

Estimated start date : February 2017

Exchange Rate – September 2017

1 European Euro (EUR) = 15.46 Namibian Dollar (NAD)

List of Acronyms and Abbreviations

AfDB	African Development Bank
BPS	Borrower Procurement System
CoW	City of Windhoek
IUWM	Integrated Urban Water Management
EA	Executing Agency
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and social Management Framework
ESMP	Environmental and Social Management Plan
FM	Financial management
MAR	Managed Aquifer Recharge
MAWF	Ministry of Agriculture, Water and Forestry
PIU	Project Implementation Unit
PM	Project Manager
PMPs	Procurement Methods and Procedures
PSC	Project Steering Committee
SESA	Strategic Environmental and Social Assessment
WSS	Water Supply and Sanitation

Logical Frame work

Country and project name: Integrated Urban Water Management Master Plan for City of Windhoek					
Main Goal: Provide Windhoek Municipality with a strategic document for the sustainable development and operation of water and wastewater infrastructure for the next 20 years					
Results chain					
Performance indicators					
	Indicators	Baseline	Targets	Means of verification	Risks/mitigation measures
Impact	Achieve equitable access to safe and affordable drinking water and adequate and equitable sanitation for all in The City of Windhoek	94%	100%	CoW	
		90%	100%	CoW	
Outcomes	The City of Windhoek water supply and wastewater planning framework is improved and implemented	NA	Some recommended investments appears in the municipal budget 36 months after project approval	Council resolution	Risk: The Master Plan is not internally owned in the Municipality by the main stakeholders.
	The City receives expressions of interest from financiers for the financing of priority investments and measures	0	80% 36 months after project approval	Financiers conference minutes	Mitigation: An interdepartmental Steering Committee will be established to make sure all concerned departments participate in the preparation of the Master Plan
OUTPUTS	Component I: Prepare IUWM Master Plan				Risk: The technicalities of the Master Plan cannot be fully controlled by the Executing Agency, and the Master Plan does not follow a genuine integrated approach.
	<ul style="list-style-type: none"> The IUWM Master plan is approved by the municipal council A financing strategy is defined and priority projects are identified for submission to financiers 	<ul style="list-style-type: none"> Nil Nil 	<ul style="list-style-type: none"> Approved by 28 months after project approval Financing strategy prepared by 27 months after project approval 	<ul style="list-style-type: none"> Council resolution IUWM Master Plan report 	Mitigation: A Technical Advisory Panel will be established to assure the quality control of the study

Country and project name: Integrated Urban Water Management Master Plan for City of Windhoek				
Main Goal: Provide Windhoek Municipality with a strategic document for the sustainable development and operation of water and wastewater infrastructure for the next 20 years				
Results chain	Performance indicators			Risks/mitigation measures
	Indicators	Baseline	Targets	Means of verification
<p>Component 2: Priority project preparation</p> <ul style="list-style-type: none"> A priority project preparation is prepared at detailed design level including an ESIA or ESMF 	<ul style="list-style-type: none"> Detailed design and ESIA or ESMF available 	<ul style="list-style-type: none"> Nil 	<p>Validated by Steering Committee by 34 months after approval</p>	<p>Steering Committee decision</p>
<p>Component III: Project Management</p> <ul style="list-style-type: none"> Project coordinated and implemented as per planning 	<p>Project completed within approved timeframe</p>	<p>NA</p>	<p>Project closed by 36 months after approval</p>	<p>Project completion report</p>
<p>Component I: Integrated Urban Water Management Master Plan</p> <p>Component II: Priority Project Preparation Detailed Design and ESIA</p> <p>Component II: Project Management Project Management Stakeholders consultation Quality control Financiers conference</p>				
Activities			<p>Cost Estimate</p> <ul style="list-style-type: none"> Total Project cost ----- € 1,439,000 Component I ----- € 1,000,000 Component II ----- € 340,000 Component III ----- € 99,000 <p>Funding (net of taxes and duties)</p> <ul style="list-style-type: none"> AWF ----- € 1,037,400 City of Windhoek (in cash and in-kind) --- € 401,600 	
				<p>Risk: The City of Windhoek does not mobilise its monetary contribution</p> <p>Mitigation: CoW should provide as condition to first disbursement evidence that part of the monetary contribution is budgeted for 2017-2018 and should commit to budget for the balance of the contribution during the following years</p>

Executive Summary

Background: The City of Windhoek (CoW) is faced with steady demographic growth, and growing informal settlements. The Municipality, which encompasses 326,000 inhabitants, is located in a semi-arid area with annual rainfall averaging 370mm only and scarce surface water and groundwater resources. Windhoek's main water resource is transferred over several hundreds of kilometres from the Northern part of Namibia. Climate change is anticipated to result in higher temperatures, increased evaporation, and rainfall intensity across Namibia. The conjunction of the steady urban growth, scarce water resources, and projected climate change impact makes it necessary for CoW to plan the municipal water infrastructure with an Integrated Urban Water Management approach in order to optimize the recycling of wastewater and sludge produced by the City.

Objectives: The objective of the project is to provide The City of Windhoek with (i) a strategic document for the sustainable development and operation of water and wastewater infrastructure for the next 20 years and (ii) an operational investment framework. This document will be developed with an integrated and participative approach and will include a financing strategy. The project will help achieve equitable access to safe and affordable drinking water and adequate and equitable sanitation for all in the City of Windhoek.

Beneficiaries and impact: The direct beneficiary of the project will be CoW. Its 326,000 inhabitants (2011) will indirectly benefit from the project when the investments identified and prioritised will be implemented.

Activities and Implementation: The project activities are structured under three components. Component I includes the preparation of the Integrated Urban Water Management Master Plan which comprises a Strategic Environmental and Social Assessment, financing strategy and identifies priority projects. Component II aims at preparing at detailed design stage a priority project that will be selected through the Master Plan. The plan and priority projects will be presented to financiers during a conference in order to start funding mobilisation for implementing the latter. Component III is related to project management, stakeholders' consultation and quality control. The Republic of Namibia is the beneficiary of the grant and CoW is the Executing Agency for the project. A consultancy firm will be required to undertake the main study and a Technical Advisory Panel will be in charge of the project quality assurance. The project will establish a Consultative Committee composed of the main stakeholders, which will meet at the key stages of the project to inform the decision of the Steering Committee. The project is planned to be implemented over a period of 36 months after its approval.

Cost and Financing: The total cost of the project is estimated at Euro 1,439,000. The proposed funding from the AWF is Euro 1,037,400 or 72% of the total project cost; CoW will provide a monetary contribution equivalent to Euro 321,600 and an in kind participation estimated to Euro 80,000 both of which represent 28% of the total project cost.

Recommendation: In view of the anticipated benefits that will accrue from the implementation of the project, it is recommended that approval be given for a grant funding **Euro 1,037,400** from AWF to the Republic of Namibia to enable the City of Windhoek to execute the project.

1 BACKGROUND

1.1 Origin of the Project

1.1.1 The City of Windhoek (CoW) is faced with a sharp demographic Growth which reached 5.6% per annum¹ between 2001 and 2011 according to the national census. This growth translates into rapid urban development and extension of informal settlements. Various companies are developing huge residential and industrial areas in the northern and eastern part of the City, which could nearly increase by half the current extension of the urban area. These developments are located outside the geographical coverage of the existing Spatial Development Framework (urban plan), dated from 1996, and create a major challenge for CoW for ensuring a planned and consistent development of infrastructure and facilities to service these new neighbourhoods. As CoW concentrates many economic opportunities in Namibia, rural populations are moving toward the capital city in search of jobs. This rural depopulation flow feeds informal settlements growth around the City and induces an increasing demand for basic public services. As access to sanitation is poor in informal settlements, wastewater is polluting surface and groundwater resources, and CoW cannot use all its dams for supplying its water treatment plants.

1.1.2 Demographic growth takes place within a context of severe water scarcity. CoW is located in a semi-arid area with rainfall averaging 370 mm per year and where significant surface or groundwater resources are situated hundreds of kilometres away. Sparingly using the limited water resources has been a priority for CoW for many years, and the Municipality commissioned one of the first wastewater reclamation plant in the world capable of producing drinking water as early as in 1968.

1.1.3 Bearing in mind this priority, CoW developed a bulk water supply Master Plan in 2008 and a bulk sewer Master Plan in 2004. Both documents are now outdated and CoW submitted a request for financing a water supply and wastewater Master Plan to the Bank in April 2017.

1.2 Sector Priorities

1.2.1 The water sector is governed by a comprehensive set of laws and policies. The Water Resource Management Act of 2013 ‘provides for the management, protection, development, use and conservation of water resources’ and ‘for the regulation and monitoring of water’. It is completed by two policies: the Water Supply and Sanitation (WSS) Policy, 2008; and the Integrated Water Resources Management Plan for Namibia, 2010.

1.2.2 The 2008 WSS policy provides guidance for the development of sustainable universal WSS services. It states in particular as principles that (i) ‘Essential water supply and sanitation services should become available to all Namibians, and should be acceptable and accessible at a cost which is affordable to the country as a whole’ and (ii) ‘Environmentally sustainable development and efficient

¹ The augmentation of water supply to the central area of Namibia and the Cuvelai; interim report n°3; LCE and SCE; 2016

utilisation of the water resources of the country and environmentally sustainable development of sanitation services should be pursued in addressing the various needs'. The IUWM Master Plan will translate this objective at the municipal level.

1.2.3 The Integrated Water Resources Management Plan for Namibia, 2010², is based on a comprehensive approach for managing water resources and promotes the following actions with whom the IUWM Master Plan is well aligned: (i) 'Develop and implement water supply management Master Plans', (ii) 'Investigate and elaborate potential for conjunctive water use in all basins and regions', (iii) 'Develop and implement sanitation management plan[s] and [their] monitoring and evaluation parameters'.

1.2.4 The Republic of Namibia has recognised that climate change is a significant challenge, with projected temperature rise and evaporation increase as well as higher rainfall variability likely to exacerbate the existing challenges around water resources that Namibia is facing. The "Intended Nationally Determined Contributions (INDC) of The Republic of Namibia to the United Nations Framework Convention on Climate Change", 2016, outlines Namibia current and planned adaptation response, including the rationalization of the use of water resources for different economic sectors; recycling of Windhoek's wastewater into potable water; and the artificial recharge of aquifers – 'banking water'.

1.3 Problem Definition

1.3.1 The Municipality of Windhoek's boundaries were extended in 2011 to cover an area of 5130 km² which includes secondary settlements and rural areas. The population according to the national census was of 326,000 inhabitants in 2011 and given the significant demographic growth is forecast to reach 790,000 people by 2050³. In parallel, private developers are expanding vast new medium and high class neighbourhoods in the City outskirts, as in Brakwater and Finkenstein areas. These poorly planned and uncoordinated developments generally display low urban density patterns that have significant cost implications for the development of municipal infrastructure. They represent major challenges for the municipality, which has been trying to ensure a minimum level of planning through preparing local Master Plans for municipal infrastructure⁴ in the last years.

1.3.2 The extension of informal settlements that are happening in parallel to these new private developments is also a complex issue for the City. Poor planning makes it difficult for CoW to develop consistent reticulation networks, and due to the low income of households in these areas, cost recovery is an issue. CoW needs a coherent strategy to help provide basic services in these uncontrolled settlements.

² Financed by AWF

³ LCE and SCE, op. cit.

⁴ 'Brakwater Bulk Services Master Plan'; LPC; 2010 and 'North West And South West Windhoek bulk water and sewer reticulation master plan'; LPC; 2016

1.3.3 The Municipality has four types of water resources⁵:

- (i) Surface water, harvested in three dams⁶ provides about 20 Mm³ per year with a 95% assurance of satisfaction;
- (ii) Groundwater, abstracted from aquifers located hundreds of kilometres north from Windhoek and transferred via the Eastern National Water Carrier to the Von Bach Dam, provide an average yield of 4.34 Mm³ per year. In addition, another aquifer south of Windhoek also supplies 0.5 Mm³ per year.
- (iii) Reclaimed wastewater, treated to potable standards through the Goreangab Water Reclamation Plant, can provide 7.7 Mm³ per year.
- (iv) Semi-purified wastewater, treated to irrigation standards through the Old Goreangab Water Reclamation Plant, supply 1.6 Mm³ per year for landscaping purpose.

In addition to these resources, the Municipality is also running a system of Managed Aquifer Recharge (MAR), which aims at storing water underground in the Windhoek aquifer in order to limit evaporation in surface reservoirs, and then using this resource when other resources cannot meet demand. This MAR increases the resilience of the system to climate change.

1.3.4 Bulk surface water and groundwater supply (with the exception of the Windhoek aquifer) are operated by Namwater, a state owned enterprise in charge of providing bulk water to the municipalities and big users. The reclamation plants and the MAR system are managed by CoW.

1.3.5 The total water resource available is consequently about 34 Mm³, whereas the total demand (drinking water, landscaping and industry) reached 36.6 Mm³ in 2013. This deficit will amount nearly 55 Mm³ per year in 2050 with the water resources currently mobilized⁷. On the long term, the Ministry of Agriculture, Water and Forestry (MAWR), in charge of planning and regulatory aspects, is considering two possible options to meet the demand: (i) transferring water from the Okavango River to the head of the Eastern National Water Carrier and in cascade to Windhoek, (ii) desalinating water on the coast and conveying it to Windhoek. On the short and medium term, solutions will come from (i) water demand management measures, (ii) optimisation of existing facilities through reduction of water losses and (iii) increasing wastewater reclamation and managed aquifer recharge.

1.3.6 The *National Climate Change Strategy & Action Plan 2013 – 2020* indicates that summer rainfall is projected to increase slightly in parts of Central and Northern Namibia, but other areas, predominantly Southern and Eastern Namibia, will receive reduced winter rainfall patterns. The Khomas region, where the CoW is located, is projected to face increases in temperature, underground water contamination and low recharge, an increase in rainfall, but also more frequent flooding along the ephemeral rivers. The Otjozondjupa region, from where present groundwater is sourced from, is projected to have more prolonged droughts, increased flooding, low recharge / declining groundwater availability and quality, a later start and earlier ending of rainfall seasons, and an increase in seasonal

⁵ LCE and SCE, op. cit.

⁶ Omakato dam on the Omakato River, Swakoppoort dam and Von Bach Dam on the Swakop River

⁷ LCE and SCE, op. cit.

rainfall. Projections from the Kavango regions suggest increases of summer rainfall and flooding. As CoW is reliant on a variety of water resources both local and distant, climate change has substantive implications for both medium and long-term planning and investment in basic for the CoW, therefore the risks need to be incorporated within master planning.

1.3.7 On the wastewater treatment side, although CoW has first class water reclamation facilities, pollution does occur due to several factors: (i) the Gammams wastewater treatment plant that processes the bulk of CoW sewerage is often overloaded, (ii) informal settlements dispose of wastewater in ephemeral river bodies, (iii) combined sewers over-spilling during storm events and (iv) some industrial effluents are not properly treated. This induces eutrophication and algal bloom in the Swakoppoort and Goreangab reservoirs, reducing water availability for the city, higher costs for treatment, and generates public health issues due to higher risk of waterborne diseases.

1.3.8 Wastewater and drinking water issues are intrinsically linked in the case of Windhoek, and the City has recognized this for decades. It has been pioneering the Integrated Urban Water Management (IUWM) approach, which looks at the whole water cycle in the city through optimizing the linkages between wastewater, stormwater, potable water and energy uses. However, this genuine IUWM approach is not backed up by a sound and comprehensive Master Plan. The wastewater and water supply Master Plans are outdated, geographically and thematically fragmented and they are mainly infrastructure oriented: necessary environmental, institutional and financial aspects are absent from these documents. There is a need to provide CoW with a Master Plan with a comprehensive IUWM approach. *This Master Plan should provide both a strategic vision to the City Council to ensure a sustainable development and maintenance of the facilities and an operational plan to the municipality departments for the development of the infrastructure.*

1.4 Beneficiaries and stakeholders

1.4.1 The direct beneficiaries of the project is CoW which will benefit from a strategic Master Plan defining a vision for a sustainable development, operation and maintenance of the municipal water infrastructure. This Master Plan will be critical to mobilise financing. The 326,000 inhabitants of The City of Windhoek (2011) will indirectly benefit from the project when the planned infrastructure and accompanying measures will be implemented.

1.4.2 The main stakeholders are the Ministry of Agriculture, Water and Forestry, in charge of planning, monitoring and regulation in the water sector, Namwater, the parastatal in charge of providing bulk water to municipalities and big users, the Ministry of Health and Social Services, the Ministry of Environment and Tourism, and civil society organisations representing the inhabitants.

1.5 Justification for AWF Support

1.5.1 The project is well aligned with the first pillar of the AWF strategy: 'project preparation'. The primary strategic focus for AWF operations is the preparation of projects and programmes that optimise multipurpose water resources development and use. Thanks to the Master Plan, CoW will be able to select priority projects and prepare them at a financeable stage. The Master Plan will be developed with an Integrated Urban Water Management Approach, fully consistent with AWF strategy.

1.5.2 The project is also coherent with the pillar I of the country strategy paper (CSP) 2014-2018 for

Namibia: ‘Infrastructure with a focus on transport, energy and water’. According to the CSP, ‘the Bank will contribute towards the fourth National Development Plan’s goal of increasing access to water supply for human consumption and industrial use. This will be achieved by recharging strategic aquifers, recycling and reusing, as well as addressing the demand side through water-saving technologies’. The Master Plan will promote all of these themes.

1.5.3 Finally the project is in line with the African Development Bank’s 10-year strategy and in particular with the fifth of the ‘high fives’ objectives: ‘Improve the Quality of Lives of Africans’.

2 THE PROJECT

2.1 Project Purpose

2.1.1 The Project Purpose is to provide the City of Windhoek with a strategic document for the sustainable development and operation of water and wastewater infrastructure for the next 20 years. This IUWM Master Plan will define the investments, accompanying measures, institutional reforms needed to ensure access to sustainable water supply and sanitation services for all the municipality’s inhabitants.

2.2 Outcomes and Impacts

2.2.1 The project’s immediate outcomes will be twofold:

- (i) The City of Windhoek’s water supply and wastewater planning framework is improved and implemented ;
- (ii) The City receives expressions of interest from financiers for the financing of priority investments and accompanying measures;

2.2.2 Thanks to these outcomes, the expected long term development impact of the project will be to achieve equitable access to safe and affordable drinking water and adequate and equitable sanitation for all in the City of Windhoek.

2.3 Outputs

2.3.1 The project activities are structured under three components.

2.3.2 The main outputs under **Component I** are (i) the IUWM Master Plan is approved by the Municipal Council and (ii) a financing strategy is defined and priority projects are identified for submission to financiers.

2.3.3 **Component II** will aim at preparing a priority project at detailed design level including an Environmental and Social Impact Assessment (ESIA) so as to facilitate financing mobilisation for a first tranche of the Master Plan.

2.3.4 The output from project management functions under **Component III** is the implementation of

the project in accordance with the proposed schedule and budget, a controlled quality and a sound consultation process with the stakeholders.

2.4 Project Components and Activities

2.4.1 Activities under Component I will result in the preparation of the Integrated Urban Water Management Master Plan while Component II will prepare at detailed design level a priority project selected through the Master Plan. Component III is relating to project coordination, stakeholders' consultation and quality control. The main outputs, tasks and activities under each component are described in the following sections.

Component I- the Integrated Urban Water Management Master Plan

2.4.2 The detailed tasks under component I are presented in annex 7 (Terms of Reference)

2.4.3 The Integrated Urban Water Management Master Plan will be both (i) a *Strategic document* providing a vision for the sustainable development and operation of water facilities in the next 20 years, from the technical, institutional, financial and environmental perspective and (ii) an *Operational document* determining the required works, costs, impacts and sequence of investment. It will be backed up by a thorough *economic and financial analysis and a detailed financing strategy*. This document will be prepared with an *Integrated Urban Water Management approach* which 'seeks to develop efficient, flexible urban water systems by adopting a holistic view of all components of the urban water cycle (water supply, sanitation, storm water management), in the context of the wider watersheds⁸'. This approach is already put into practice by CoW which is reclaiming wastewater to a potable standard, using sludge to produce energy and utilizing surface and groundwater resources conjunctively. It requires a sound *consultation with all the stakeholders*. It will be developed using a Strategic Environmental and Social Assessment to inform the selection of the best scenario. The IUWM Master Plan will also include a reflection on the informal settlements and how CoW should address the challenge of ensuring the adequate level of services in these areas considering all their specificities. The preparation of the IUWM Master Plan will include three phases: diagnosis, scenarios and Master Plan.

2.4.4 **Phase 1 will consist in developing an integrated diagnosis** which will include:

- (i) *Water balance reconciliation* comparing water demand forecast with the water resources availability, taking into consideration reclaimed water, semi-purified water⁹, groundwater resources, bulk water supplied by Namwater and the projects currently considered by the

⁸ The Future of Water in African Cities: Why Waste Water? Jacobsen and Al., WB and WPP, 2012

⁹ Semi-purified water is a term used by CoW to qualify wastewater treated to a standard usable for irrigation

MAWR to augment the water supply of the Central Areas of Namibia¹⁰. Gaps will be Identified and the impact of increasing reclaimed/ semi-purified water and developing a water demand management / water conservation programme on the water balance will be quantified.

- (ii) *Analysis of the climate change effects*: based on available studies, the effect of climate change on the different water resources and on the local demand will be quantified as much as possible. Scenarios will be prepared if the uncertainty is such that quantification proves to be difficult. The water balance will then be revised accordingly. In addition, there is a need to assess the vulnerability of existing facilities to extreme climatic events, mainly floods and the consequences of floods on Windhoek's aquifer quality.
- (iii) *Technical assessment of water supply facilities*: the existing infrastructure will be mapped and its state and operational efficiency assessed through a hydraulic model. Non Revenue Water and physical losses will be quantified.
- (iv) *Technical assessment of wastewater facilities*: similarly, the wastewater infrastructure will be mapped and assessed in terms of state, infiltrations, leakages, effluent quality at Wastewater Treatment Plants entry and exit, Wastewater Treatment Plants state and process efficiency, etc. The waste to energy and the bio-solid value chains shall be assessed as regards regulatory compliance, efficiency and financial sustainability.
- (v) *Institutional and regulatory assessment*: this assessment will aim at analysing whether the current institutional set-up for the operation and maintenance of water facilities is adequate and whether there are some regulatory gaps as regards wastewater and sludge recycling.
- (vi) *Environment and public health impacts assessment*: environmental and public health issues related to water and wastewater will be mapped and evaluated.
- (vii) *Evaluation of Financial sustainability*: the cost and revenue structures, cost recovery level, tariff structure and overall financial sustainability will be appraised.

Based on the above, three comprehensive scenarios describing a possible future will be proposed for further detailed analysis. Each scenario should:

- Reconcile water demand and water resources over the next 20 years based on (i) Namwater projects and (ii) a set of measures including optimization of water reclamation, water demand management/ conservation, groundwater recharge, etc.
- Propose a coherent reticulation development strategy, in line with the spatial development framework. This strategy should (i) propose a certain level of service in the informal settlements, (ii) propose centralized / decentralized options for the new developments, (iii) map sewer / on site sanitation areas
- Propose a recycling strategy regarding wastewater and sludge.

¹⁰ MAWR is studying to options to meet the Central Area of Namibia water demand on the long run : bringing desalinated water from the coast or fresh water from the Kavango River.

2.4.5 **Phase 2- Comparison of scenarios:** each scenario will be detailed from the institutional, technical, environmental and financial perspective, including high level mapping and costing. The water balance reconciliation will be analysed and the scenarios will be compared through a multi-criteria analysis addressing water security, level of service, financial sustainability and environmental impact. The Steering Committee shall select the scenario to be developed in the Master Plan. The selected scenario might be a mix between various scenarios.

2.4.6 **Phase 3- Development of the Integrated Master Plan:** the Master Plan will be then developed based on the selected scenario. It will include:

- (i) *Refined water balance reconciliation*, showing in particular the effect of the water conservation / water demand management measures and wastewater reclamation investments;
- (ii) *Concept design* of the new infrastructure, rehabilitation and improvement of the existing ones;
- (iii) *Informal settlements:* determine an adequate level of service taking into consideration the population ability to pay, the temporary nature of informal settlements and possible cross subsidies with formal urban sectors.
- (iv) *Rural areas:* determine the strategy to ensure an adequate level of service;
- (viii) *Detailed description of accompanying measures:* water demand management, water conservation, tariff structure revision, institutional structuration, etc;
- (v) *Costing of CAPEX and OPEX;*
- (vi) *Phasing of the developments* in line with the spatial development framework under preparation;
- (vii) *Institutional structuration;*
- (viii) *Gender strategy;*
- (ix) *Economic analysis:* costs/benefits analysis quantifying direct and indirect costs and benefits at the national level;
- (x) *Detailed financial analysis and financing strategy:* propose and justify a tariff structure and financing strategy for the master plan to ensure the financial viability of CoW water and sanitation sector.

2.4.7 The IUWM Master Plan will be developed using a Strategic Environmental and Social Assessment (SESA) approach. The SESA will provide a baseline overview of prevailing environmental and social conditions (Phase 1). Using this baseline, the SESA will examine the scenarios to assess their potential environmental and social implications (phase 2), refine this analysis based on the selected scenario and determine the institutional options for the monitoring and management of resulting environmental and social changes over time (phase 3).

Component II- Preparation of a Priority Project

2.4.8 In order to ensure a leverage effect to the AWF grant, component II will aim at preparing at detailed design level a priority project. This project will be selected during phase 3 of the master plan,

based on a costs-benefits analysis and should amount around EUR 25m¹¹. In addition to the detailed design, depending on the project footprint and its categorisation, either an Environmental and Social Impact Assessment (ESIA) and Environmental and Social Management Plan (ESMP) or an Environmental and social Management Framework (ESMF) will be prepared.

Component III - Project Management:

2.4.9 This component will consist in establishing a Project Implementation Unit (PIU), Project Steering Committee (PSC) and Technical Advisory Panel to coordinate and guide project implementation and validate the project outputs. Project management includes the following activities:

- (i) Coordinate project implementation according to schedule, budget and quality expectations including procurement, financial management and auditing;
- (ii) Supervise and facilitate the work of the consultancy firm and ensure provisions of the support specified in the contract;
- (iii) Identify the project communication and promotion needs, draft a communication plan and implement it.
- (iv) Ensure the secretariat of the Steering Committee and organise the decision making process;
- (v) *Ensure the quality control of the project* through the mobilisation of the Technical Advisory Panel.
- (vi) *Organise the stakeholders' consultation process*;
- (vii) Prepare reports on progress and performance as per the reporting schedule in this appraisal report;
- (viii) *Organise, prepare and conduct a financiers' conference* to promote and mobilise investment commitments for the implementation of IUWM Master Plan. The Consultant in charge of the Master Plan will prepare briefs for the conference presenting the master plan and priority projects;
- (ix) Prepare the project completion report.

2.5 Risks

2.5.1 Previous Master Plans were steered mainly by the Infrastructure Department of CoW, with limited interaction with other internal stakeholders. Given its strategic and integrated nature the IUWM Master Plan concerns a number of departments from the Municipality and should be owned by the Municipal Council. To mitigate the risk of limited internal ownership from civil servants and councillors, an interdepartmental Steering Committee will be established to make sure all concerned departments participate in the preparation of the Master Plan. The draft masterplan elements will also

¹¹ The Detailed design budget is euro 250,000. Considering that a detail design cost about 1% of the investment, this match with an infrastructure amounting around Euro 25m.

be submitted to the Strategic Executive Forum on an *ad hoc* basis for certification.

2.5.2 In addition, the Master Plan being quite comprehensive and integrated, all its technicalities might not be fully controlled by the Executing Agency and it might not follow a genuine integrated approach. As mitigation measure to this, risk a Technical Advisory Panel (TAP) will be constituted to review the reports and advise the Steering Committee.

2.5.3 Finally, the City of Windhoek might not prioritize the project in its budget due to financial constraints. In order to alleviate this risk, CoW should provide, as condition to first disbursement, evidence that an acceptable part of the monetary contribution is budgeted for 2017-2018 and should commit to budget the balance of the contribution during the following years.

2.6 Cost and Financing

2.6.1 The total cost of the project, net of taxes and duties, is estimated at Euro 1,439,000 including 5% contingency. Table 2.1 presents the proposed project cost estimate by component and sources of funding. The detailed cost estimate is provided in **Annex 6**. All cost mentioned in this chapter are net of taxes and duties.

Table 2.1: Project cost estimate by component and source of financing in euro net of taxes and duties (includes 5% contingency)

Component	Cost by source of financing		Total
	AWF	CoW	
Component I - IUWM Master Plan	760,000	240,000	1,000,000
Component II- Infrastructure preparation	258,400	81,600	340,000
Component III- Project Management (<i>in kind for CoW</i>)	19,000	80,000	99,000
Total	1,037,400	401,600	1,439,000
% of total	72%	28%	100%

2.6.2 The main project cost consists of payment for the consultancy services for the preparation of the Master Plan and detailed design of a priority investment (Euro 1,250,000). The consultancy service cost, including Euro 90,000 for the ESIA or ESMF and Euro 19,000 for the expert in IUWM member of the Technical Advisory Panel, constitutes 94% of the total project cost. The project management and stakeholders consultation is Euro 80,000, or 6%.

2.6.3 The proposed funding from the AWF is Euro 1,037,400 or 72% of the total project cost, and will cover 76% of (i) the Master Plan and detailed design and (ii) ESIA. AWF will also bear 100% of the IUWM expert for the Technical Advisory Panel. CoW will provide a monetary contribution equivalent to EUR 321,600 covering the balance of (i) the Master Plan and detailed design and (ii) ESIA (24%) and an in kind contribution estimated to Euro 80,000 for the project management and consultation cost. This includes the salaries of the PIU staff and overheads, the operational costs (office,

communications, stationary, vehicles, etc.) and the cost of the consultation meetings, Technical Advisory Panel and financiers conference. **Annex 6 details CoW's inkind contribution.** Table 2.2 and 2.3 below provides the cost estimate by sources of funding and category of expenditure and by component and category of expenditure respectively.

Table 2.2.: Project cost estimate by source of funding and category of expenditure net of taxes and duties (in euro)

Sources of Funding	Category of Expenditure		Total
	Services	Operations	
AWF	1,037,400	0	1,037,400
CoW	321,600	80,000	401,600
Total	1,359,000.00	80,000.00	1,439,000.00

Table 2.3: Project cost estimate net of taxes and duties by category of expenditure (in euro)

Description	Services	Operations	Total
Component I - IUWM Master Plan	950,000	0	950,000
Component II- Infrastructure preparation	322,900	0	322,900
Component III- Project Management	17,850	75,000	92,850
Total	1,290,750	75,000	1,365,750
Contingencies (about 5%)	68,250	5,000	73,250
Grand total	1,359,000	80,000	1,439,000

3 PROJECT IMPLEMENTATION

3.1 Recipient and Executing Agency

3.1.1 **The recipient of the Grant will be the Government of Namibia and the Executing Agency (EA) will be CoW.** CoW handled several donors funded projects (in particular financed by KfW) through its Department of Infrastructure Water and Technical Services. It is used to managing complex consultation services and has the technical capacity to handle the project.

3.2 Implementation Arrangements

3.2.1 **A Project Implementation Unit (PIU)** headed by a competent Project Manager (PM) has been established under the Department of Infrastructure, Water and Technical Services. The PIU staff comprising part time officers designated from various departments consists of a Project Manager,

accountant and procurement officer. CoW will provide furnished office of adequate space for the PIU and will cover the cost of office equipment, office supplies, running cost, communication, utilities and logistical support needs. PIU salaries and operational costs are part of CoW in-kind contribution to the project.

3.2.2 The services of consultancy firms will be contracted to prepare the IUWM Master Plan, detailed design and ESIA. The services will be provided by reputable and qualified consulting firms recruited on a competitive basis. The draft terms of reference for the consultancy services is provide in Annex 7.

3.2.3 **A Project Steering Committee (PSC) will approve the reports and give guidance to the Consultant and the PIU.** It will be composed of:

- (i) Strategic Executive: Infrastructure, Water and Technical Services (Chair);
- (ii) Representative of the Strategic Executive: Urban Transport and Planning;
- (iii) Representative of the Strategic Executive: Housing, Property Management & Human Settlement;
- (iv) Chief Engineer: Engineering Services
- (v) Chief Engineer: Bulk Water and Wastewater Services
- (vi) Chief Scientist: Scientific Services
- (vii) One Section Engineer: Engineering Services
- (viii) One Section Engineer: Bulk Water and Wastewater Services

3.2.4 **In order to ensure the quality control of the project, CoW will establish a Technical Advisory Panel** composed of three experts in the field of water supply, sanitation and IUWM. Its role will be to review the study reports and advise the Steering Committee and PIU. Its members will be designated from relevant national or competitively recruited and completed by an international specialist of IUWM competitively recruited.

3.2.5 **CoW will also establish a Consultative Committee** which will be composed of the main external stakeholders from public institutions, civil society and private sector. This ad-hoc Committee shall be consulted at the various phases of the study in order to make sure that fair trades-off between the various stakes are taken into account.

3.3 Project Implementation Schedule

3.3.1 The project will be implemented over a period of 30 months from Grant approval including 24 months for the consultancy as shown on the preliminary project implementation schedule in **Annex 3**.

3.3.2 The main tasks and timing of events are presented in Table 3.1 below. The Executing Agency will initiate advanced procurement actions in the recruitment of the consulting firm to fast track implementation of the project activities.

Table 3.1 Performance Plan

Event	Schedule
Project Approval	M0
Grant effectiveness (signing)	M+3
Contracting of Consultancy services	M+6
Phase 1 report (diagnosis) approval	M+16
Phase 2 report (scenarios) approval	M+21
Phase 3 report (Master Plan) validated by SC	M+26
IUWM Master Plan approved by Municipal Council	M+27
Resources mobilisation financiers conference	M+28
Detailed design validation	M+31
ESIA validation	M+34
Project completion report and project closure	M+36

3.4 Procurement Arrangements

3.4.1 Acquisition of consulting services, financed by the Bank for the project, will be carried out in accordance with the Procurement Policy and Methodology for Bank Group Funded Operations, dated October 2015 and following the provisions stated in the Financing Agreement.

3.4.2 Specifically, Procurement would be carried out following:

- (i) **Borrower Procurement System (BPS):** Specific Procurement Methods and Procedures (PMPs) under BPS comprising its Laws and Regulations, Procurement Act of 2015 and Public Procurement Regulation (no. 2016), using the Standard Request For Proposal' for Selection of Consultants [Issued in terms of section 7(1)(i) of the Public Procurement Act, 2015] - Small/Individual Assignment; for recruitment of individual consultant as Integrated Urban Water Management Expert.
- (ii) **Bank Procurement Policy Methods and Methodology Procedures (PMPs):** Bank standard PMPs, using the relevant Bank Standard Solicitation Documents, for contracts that are either: (i) Consultancy services of firms, or (ii) in case BPS is not relied upon for a specific transaction or group of transactions; and (iii) in case Bank's PMPs have been found to be the best fit for purpose for a specific transaction or group of transactions. These assignments are recruitment of two consultancy firms for, (1) Integrated Urban Water Management Master Plan and Detailed Design¹²; and (2) Environmental and Social Impact Assessment or Environmental and Social Management Framework

3.4.3 **Procurement Risks and Capacity Assessment:** the assessment of procurement risks at the Country, Sector, and Project levels and of procurement capacity at the Executing Agency, were undertaken for the project and the output have informed the decisions on the procurement regimes (BPS

¹² Including SESA

or Bank's PMPs) being used for specific transactions or groups of similar transactions under the project.

3.5 Disbursement Arrangements

3.5.1 The project disbursement will comply with the Bank's disbursement guidelines as outlined in the Disbursement Handbook. Disbursement will primarily be by direct payment and reimbursement.

3.5.2 The costs of the main consultancy and ESIA will be shared on the following prorata basis: 76% for AWF, 24% for CoW. AWF will fully finance the cost of the IUWM expert.

3.5.3 The obligation of the Bank to make the first disbursement of the grant shall be conditional upon submission by CoW of (i) a letter attesting that an amount of at least NAD 3,000,000 has been committed for the project in the 2017-2018 municipal budget and (ii) a letter nominating a procurement specialist acceptable to the Bank for the PIU.

3.5.4 In addition CoW will undertake to budget annually for the balance of its contribution up to the end of the project and will provide to the Bank every fiscal year a letter attesting to the amount budgeted for the project.

3.6 Financial Management Arrangements

3.6.1 The City of Windhoek has prior experience in implementation of donor-funded projects. The financial management function comprises of a Strategic Executive: Finance and Customer Services, a financial reporting manager, cash management manager, finance and customer service manager, 10 accountants, 8 technicians and 2 assistant accountants. The team has varied expertise in finance, adequate experience and qualifications. Given the fiduciary requirements related to the Bank financing, CoW will assign an accountant within the establishment with the appropriate qualifications and experience to serve as the project accountant and handle the project's financial management (FM) tasks within the Project's Implementation Unit. The project accountant will be supervised by the Manager: Cash Management. The Bank will provide comprehensive training to the implementing Agency on Bank's financial management requirements and disbursement procedures. A detailed Terms of reference will be provided to the project accountant and s/he will be subjected to an annual performance evaluation. CoW shall be required to comply with the Bank's requirements.

3.6.2 CoW follows the Government procedures through the line ministry (Ministry of Local Government and Housing) and prepare annual budgets that are consolidated by the Ministry of Finance. The PIU will prepare an annual work plan and budget for project activities under each of the specific project components. The quarterly reports will include a comparison of budgeted versus actual expenditure and Management will be required to take steps to address significant variances. CoW currently uses a computerized accounting system (E-VENUS) for transaction processing and generation of financial reports. The review found that the system has sufficient flexibility for configuration to suit project requirements for processing transactions and generation of reports.

3.6.3 The financial statements of CoW are audited annually by a private auditor recruited by the Auditor General of Namibia. CoW shall be required to disclose the project financials in the institutional annual financial reports that will be subject for audit by the Auditor General. The AWF Operations procedures require the funds to be audited at pre-determined intervals. Since the Bank funds will be disbursed solely by direct payment, the risks are deemed low and therefore external audit will be done

once at the completion of the project. The external auditors shall be recruited and retained by African Water Facilities (AWF). The cost of the audit will be borne by the AWF.

3.6.4 The overall conclusion of the assessment is that the CoW's capacity to handle all the FM aspects of the project, satisfies Bank minimum requirements as laid out in the Bank's FM guidelines. The overall initial FM risk for the project is assessed as Moderate.

3.6.5 In accordance with the AWF operational procedures and also with the Bank requirements, the project will be required to prepare Interim Quarterly Progress Reports (IQPR) and submit to the Bank not later than 30 days after the end of each calendar quarter. The project shall be required to prepare annual reports. The project will also prepare and submit financial statements, audited by the external auditor, together with the auditor's opinion and management letter to the Bank not later than six (6) months after the end of the project.

3.6.6 The results of the assessment and the agreed FM, disbursement and auditing arrangements for the proposed project are documented in **annex 5**.

3.7 Monitoring and Reporting Arrangement

3.7.1 The monitoring of the project implementation activities including that of the consultancy services will be carried out by the Project Manager. The PSC will have the overall responsibility of monitoring and of reviewing progress and providing guidance from time to time. The PM will submit quarterly progress reports for the AWF review. The Logical Framework matrix included in this PAR shall serve as a basis for the results-based assessment of the outputs of the project during implementation and after completion.

3.7.2 The AWF will also monitor project implementation through communication and correspondence with CoW and the PIU. In addition, AWF will undertake supervision missions as the need arises but at least once a year. *CoW shall apply the AWF Communication and Visibility Guidelines* as outlined in **Annex 6** for project promotion, awareness building and other communication needs.

3.7.3 The technical reports prepared by the consulting firm shall be submitted through the PIU for review by the Technical Advisory Panel, Consultative Committee and AWF and validation by the PSC. The PIU will be responsible for preparing the Project Completion Report at end of the project. The AWF shall in addition commission and bear the cost of an independent consultant to draft a separate Project Completion Report, with a different template which shall use the one prepared by the PIU.

3.7.4 The main reporting requirements are summarised as follows. Details of the reports prepared by the consultant are provided in the draft TOR for the consultant attached as **Annex 7**.

- (i) **Quarterly Progress Report:** The reports prepared by the PIU with the input from the consultant, will cover technical, procurement, disbursement and financial progress, administrative issues and constraints affecting the project and suggested solutions.
- (ii) **Project Completion Report (PCR):** The PCR will be prepared by the Executing Agency at the end of the project implementation.

4 EFFECTIVENESS, EFFICIENCY AND SUSTAINABILITY

4.1 Effectiveness and Efficiency

4.1.1 The project effectiveness and efficiency will be guaranteed by: (i) the step-wise approach which will help the Government select the best scenario before embarking on the fully-fledged Master Plan, (ii) the consultation process and (iii) the quality assurance process.

4.2 Viability

4.2.1 The main consultancy includes a thorough financial analysis leading to a financing strategy. This strategy will be aimed at securing the capital expenditures and operational expenditures financing. The selection of the scenario to be developed in Master Plan will be supported by a detailed economic analysis. This economic analysis will be refined during the preparation of the Master Plan to make sure that the economic viability is confirmed with the refined cost estimate.

4.3 Sustainability

4.3.1 **Environmental approach:** the preparation of the Master Plan will include an environmental diagnosis of the current impacts of the water and sanitation services on public health, groundwater, ecosystems and other themes. The selection of the best scenario will be backed up by a multi-criteria analysis which will include environmental criteria. The IUWM Master Plan will help CoW mobilize the required financing for the water sector and eventually reduce water borne diseases and groundwater and surface water pollution.

4.3.2 **Climate change:** The project was classified as Category 2 when screened within AfDB's Climate Safeguards System. Screening included assessment against the following climate risks: Reduced rainfall that causes prolonged dry season/drought and/or depletion of ground water reserves, and reduced rainfall that causes drought and/ or increased rainfall that causes fluvial flood. Climate change effects on the different water resources and local water demand will be assessed during the diagnosis phase and the scenarios will be designed to improve the Municipality resilience to droughts and floods. These activities are in line with the recommendations made as part of CSS screening. CoW is already quite advanced in terms of Integrated Urban Water Management and the Master Plan will look at maximising the benefits of this approach as regards recycling (i) wastewater to improve the Municipality water security and (ii) sludge to reduce greenhouse gas emissions through energy generation or bio-fertiliser production.

4.3.3 **Inclusivity and Gender:** the IUWM Master Plan will help CoW define a sustainable strategy to tackle the provision of water supply and sanitation in the growing informal settlements. Infrastructure required to provide the right level of service in these areas will be identified and costed in the Master Plan. The tariff structure will be analysed and recommendation will be done to ensure that the most vulnerable population groups can access to water supply and sanitation services. A Gender strategy will be developed during the Master Plan phase in order to ensure that women and youth are fairly considered in the implementation of the Master Plan recommendations. The EA will pay a particular attention to the involvement of Women and youth in the consultative committee. Their voices and concerns should be taken into account when designing the scenarios. The implementation of the

investments and accompanying measures recommended in the IUWM Master Plan will lead to (i) improved health and productivity through reduction of waterborne diseases incidence, (ii) women's increased participation in income-generating activities and time used for education and leisure as less time will be needed for fetching water.

5 CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

5.1.1 The project will help CoW provide sustainable and affordable water supply and sanitation services to the 326 000¹³ Municipality inhabitants, which represents 15% of the country population. It is well aligned with the National 2008 Water Supply and Sanitation Strategy and with the 2010 Integrated Water Resources Management Plan for Namibia. It also matches the first pillar of the AWF strategy , 'project preparation', and one of the Bank's High Five, 'improve the quality of life of the people of Africa'.

5.2 Recommendations

5.2.1 In view of the anticipated benefits that will accrue from the implementation of the project, it is recommended that approval of the grant funding **Euro 1,037,400 from AWF** be considered to the Republic of Namibia for enabling the City of Windhoek to execute the project.

5.2.2 The obligation of the Bank to make the first disbursement of the grant shall be conditional upon submission by CoW of (i) a letter attesting that an amount of at least NAD 3,000,000 has been committed for the project in the 2017-2018 municipal budget and (ii) a letter nominating a procurement specialist acceptable to the Bank for the PIU.

5.2.3 In addition CoW will undertake to budget annually for the balance of its contribution up to the end of the project and will provide to the Bank every fiscal year a letter attesting to the amount budgeted for the project.

¹³ 2011 census

Annex 2: Project detailed budget

Cost estimate - Master Plan

	Qty	Unit	rate (€)	Cost (€)
Fees				
Team leader	12	mm	18,000	216,000
Water resources specialist	3	mm	15,000	45,000
Groundwater specialist	2	mm	15,000	30,000
WS engineer	6	mm	17,000	102,000
Wastewater engineer	6	mm	17,000	102,000
Process engineer	3	mm	15,000	45,000
Environmentalist	2	mm	15,000	30,000
Waste to Energy Specialist	1	mm	15,000	15,000
Agronomist / agricultural sludge recycling specialist	2	mm	15,000	30,000
financial specialist / PPP financial expert	5	mm	18,000	90,000
Project Economist	2	mm	15,000	30,000
Non key staff	11	mm	8,000	88,000
Sub-total fees				823,000
Reimbursables				
Per diem	220	day	150	33,000
international Travels	20	U	1,200	24,000
Miscellaneous including investigations		lumpsum		70,000
Sub-total reimbursable				127,000
Total without contingencies				950,000
Contingencies				50,000
Total with contingencies				1,000,000

Cost estimate - Detail Design priority project

	Qty	Unit	rate (€)	Cost (€)
Fees				
Team leader	1	mm	18,000	18,000
WS or Ww Engineer	4	mm	17,000	68,000
Electomechanical Engineer	1	mm	15,000	15,000
Non key staff	11	mm	8,000	88,000
Sub-total fees				189,000
Reimbursables				
Per diem	20	day	150	3,000
international Travels	2	U	1,200	2,400
Miscellaneous including investigations		lumpsum		45,000
Sub-total reimbursable				50,400
Total without contingencies				239,400
Contingencies				10,600
Total with contingencies				250,000

Cost estimate - Environmental and Social Impact Assessment

	Qty	Unit	rate (€)	Cost (€)
Fees				
Team leader environmentalist	1.5	mm	15,000	22,500
Socio economist	1.5	mm	15,000	22,500
Groundwater specialist	0.5	mm	15,000	7,500
Non key staff	2	mm	8,000	16,000
Sub-total fees				68,500
Reimbursables				
Per diem	0	day	150	0
international Travels	0	U	1,200	0
Miscellaneous including surveys		lumpsum		15,000
Sub-total reimbursable				15,000
Total without contingencies				83,500
Contingencies				6,500
Total with contingencies				90,000

Cost estimate - Technical Advisory Panel

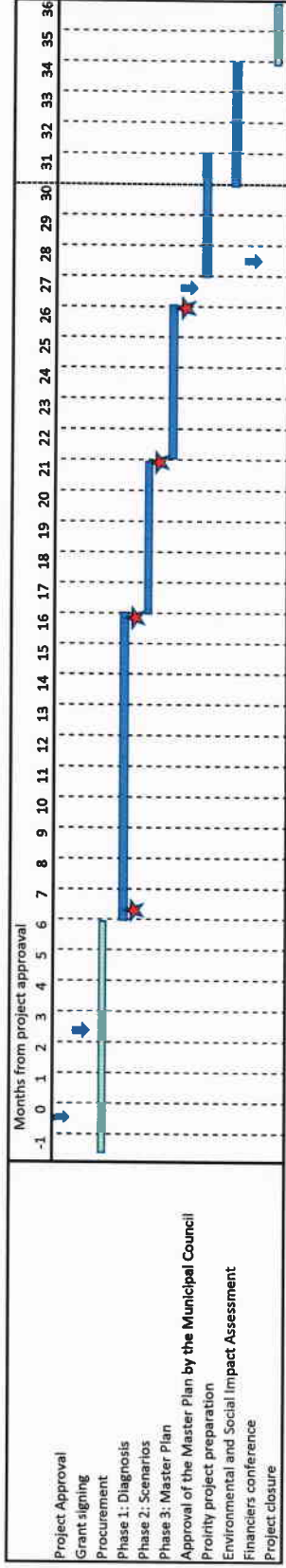
	Qty	Unit	rate (€)	Cost (€)
Fees				
IUWM specialist - international individual consultant	1	mm	12,000	12,000
WS expert - from National Institution	1	mm	pm- CoW	
Wastewater expert - from National Institution	1	mm	pm- CoW	
Sub-total fees				12,000
Reimbursables				
Per diem	15	day	150	2,250
international Travels	3	U	1,200	3,600
Sub-total reimbursable				5,850
Total without contingencies				17,850
Contingencies				1,150
Total with contingencies				19,000

Cost estimate - in kind contribution CoW - Project Management

	Qty	Unit	rate (€)	Cost (€)
Staff cost				
Project manager 0.5 EFT over 30 months	15	mm	1,500	22,500
Accountant 0.1 EFT over 30 months	3	mm	1,000	3,000
Procurement specialist 0.1 EFT over 30 months	3	mm	1,500	4,500
Management and senior management 0.2 EFT over 30 months	6	mm	4,000	24,000
Sub-total staff cost				54,000
Operational costs				
Furnished office, stationary and communications	30	months	400	12,000
Car expenses	30	months	200	6,000
Consultative Workshops	3	lumpsum	1,000	3,000
Sub-total operational costs				21,000
Total without contingencies				75,000
Contingencies				5,000
Total with contingencies				80,000

Annex 3: Project Implementation Schedule

Project schedule



Consultative and steering committee ★

Annex 4: Bank Procurement Assessment Report

4.1 Procurement Legal and Regulatory Framework

1. *Procurement Law and Regulatory Framework.* The procurement law and code have been reviewed and the risk for its use in Bank-financed projects is rated at '*moderate*' due to the following reasons: (i) The Public Procurement Regulatory Framework (Public Procurement Act No. 15 of 2015) is being implemented by Public Procurement Regulations No. 2016. Regulations, Guidelines and User Manuals; (ii) The Act prescribes establishment of a public procurement oversight agency (PPU) and the Central Tender Board these are being put in place.; (iii) Sub-section 4 (2) allows the Minister to grant a general or specific exemption to certain provisions of the Act that are not practical or appropriate for the purpose for which such goods are let, hired or disposed of, including goods, works and services being procured.
2. *National Standard Bidding Documents.* The National Standard Bidding document for goods, works, and services, including General Conditions of Contracts (GCC) for public sector contracts, and the dispute resolution mechanism and enforcement procedures of outcome of the dispute resolution process, have been reviewed and the risk for its use in Bank-financed projects is rated '*substantial*' due to the following reasons: (i) Only a limited number of bidding documents are issued so far; namely Informal Quotations; Request for Sealed Quotation (Goods and Works); and Open International Bidding for Goods. There are no national standard bidding documents for Consultancy Services and Large Works.
3. *Regulatory Function.* According to the Act the Public Procurement Unit (PPU) is being set-up for (i) Oversight and monitoring of the implementation of the policies and compliance with the law, regulations and directives; (ii) Issuing standard bidding documents and other standard documents; (iii) Reviewing the procurement and disposal system and making recommendations; (iv) Development and implementation of capacity building strategies; (v) Monitor compliance to the Act; (vi) Development and implementation of procurement professionalization; (vii) Liaison with international organizations in matters of procurement; and (viii) Procurement audits and investigations in respect of procurement contracts which fall under the Act. The regulatory body is not responsible for any direct procurement operations and is therefore free from any possible conflicts of interest with procurement process, therefore the risk for its use in Bank-financed projects is rated at '*low*'.
4. *Internal and External Controls.* The legal framework, organization, policy, and procedures provides for internal and external control and audit of public procurement which enforces the proper application of laws, regulations and procedures, have been assessed and the risk

for its use is rated as '**substantial**' for its use in Bank-financed projects due to the following reasons: (i) the Public procurement in Namibia was so far governed by The Tender Board of Namibia, Act 16 of 1996, the Tender Board Regulations of 1996 and the Tender Board of Namibia Code of Procedure of 1997, however no evidences have been provided of any procurement audits being conducted in the past. Furthermore, there is no law for Internal Audit in Namibia or any international standards which mandates Internal Audits in the Country. Within the Act of 2015, the Public Procurement Unit is mandated to institute: (i) contract audit in the course of the execution of an awarded contract; and (ii) performance audit after the completion of the contract in respect of any procurement, when it is necessary. In addition, in accordance to section 23 (1) of the Act, the Central Procurement Board (CPB), with the consent of the Auditor-General, must appoint a person registered as an auditor in terms of the Public Accountants' and Auditors' Act, 1951 (Act 51 of 1951), to annually audit its accounting records and financial statements and submit an audited report to the Board which is more Administrative Audit of the working of CPB and rather not the project procurement audits undertaken on behalf of the Procuring Entities.

5. *Complaints Redressal Mechanism.* The existing complaints redressal system has been reviewed with a view to ensure whether it sets out clear specific conditions that provide for fairness, independent and due process, the 'Act' outlines a complaints redressal system stating that when the Minister thinks it is necessary on account of any of grounds mentioned under the 'Application for review', appoint a Review Panel (from a list of 15 qualified persons who may hold office for a period of which the Minister may determine) which is the highest body in terms of the complaints redressal system. However, the composition of Review Panel has not been completed. Furthermore, for the 'Review Panel' to convene over a request for review in each it requires approval of the Minister. This is not efficient and undermines the independence of the 'Review Panel' meeting for requests directly from the aggrieved parties. Due to these issues the risk for its use in Bank-financed projects is rated as '**high**'.

Systemic Prohibited Practices

6. *Prohibited Practices.* The legal provisions, including those relating to the institutions in charge of fighting against prohibited practices (corruption, fraud, conflict of interest, and unethical behavior) in public procurement, as well as those which also define responsibilities, accountabilities and penalties for prohibited practices, has been reviewed and the risk for its use in Bank-financed projects is rated as '**low**' due to the following reasons: The Act and Regulations sufficiently address legal provisions on corruption, fraud, conflict of interest related to public procurement; there is a separate Act, Anti-Corruption Act No: 8 of 2003 which deals with investigations and punishment corrupt Activities and established an Anti-Corruption Commission and provided for other matters incidental to the prevention of corruption. In additional, published national standard bidding documents have provision on fraud and corruption

Bank's guidance on the use of BPS in Bank-financed operations.

7. Due to the above remaining issues identified within GRN Procurement System, the risk for its use in Bank-financed project is globally rated as '***substantial***'. Therefore, the use of BPS is only recommended for low risk transactions of works and goods based on case to case basis, as indicated in paragraph B.5.3.1. Overall, the project will be implemented according to the 'Procurement Policy for Bank Group- Funded Operations', dated October 2015, utilizing available Bank's Standard Solicitation Documents (SSDs).

4.2 Procurement Risk and Capacity Assessment (PRCA)

8. A Procurement Risk and Capacity Assessment (PRCA) was undertaken by the Bank to (i) evaluate the risks associated with the Borrower procurement system (BPS), the sector capacity which includes the capacity of the local industry, the project complexity and design, and the procurement capacity of the Executing Agency; (ii) set up risk mitigation to be exercised by the Bank and the Borrower; and (iii) form a judgment on the adequacy of Procurement Methods and Procedures (PMPs), as well as controls being exercised by the Borrower in the use of funds and contract management.
9. The outcomes of the PRCA revealed that the following considerations will contribute to minimizing impact of risk: (i) country procurement information relevant to the project; (ii) the outcomes of the sector market analysis; (iii) level project complexity (project design risk, delivery quality risk) and the amount and complexity of transactions; (iv) the adequacy of Bank and Borrower experience with similar project, (v) the procurement methods to be used; (vi) the Bank's oversight arrangements; and (vii) any other specific recommendations to be taken at the level of the Executing Agency to ensure adequate overall capacity, compliance performance, and operational track record to implement procurement actions under the project in accordance to Bank Procurement Policy.

4.2.1 Country Procurement information relevant to the Project:

10. A review of the BPS has been performed and led to the conclusions that the BPS is not adequately reliable for use in current the project due to its magnitude and complexity, namely for LCB and OCB with international publication and all consultancy services except Individual (ICs) Consultants. The review has also identified additional risks within the procurement system which may affect the efficiency of procurement operations, such as lack of integration of the procurement system with the budget formulation process, payment delays, lack of proper system of collecting, producing and disseminating statistical data of the system, and no standing 'Review Panel' for redress of complaints in place as yet.

The following mitigation measures should be considered in order to address these issues:

N°	Efficiency-related Risks identified	Mitigation Measures
1.	The national Standard Solicitation Documents (SSDs) are not complete for major procurement such as large works and consultancy	The PPU should finalize and adopt these SSDs.
2.	No 'Review Panel' setup as in accordance to the ACT of 2015	The PPU should setup the 'Review Panel' in accordance to the Act of 2015.
3.	There is no law on Internal Audit or no Internal Audit standards based on international standards.	The Government should expedite enactment of a law for Internal Audit and follow the international standards which can help enforce recommendations from internal audits.
4.	The External Audit of Central Procurement Board is limited to only administrative functions and does not extend to the procurement function performed by CPB on behalf of the Procuring Entities (PEs)	The Government should consider extending the audit to cover procurement functions undertaken by the CPB on behalf of PEs.
5.	The Complaint Redressal Mechanism is not efficient. In each case it requires approval of the minister to setup the five members committee of the 'Review Panel' subject to him finding the request for review acceptable to him.	The law should be amended to constitute a standing 'Review Panel' which can be approached freely by a complainant
6.	No Procedures for enforcement of international arbitration awards in Namibia	The GRN should consider joining the New York Convention on Enforcement of International Arbitration Awards. This would encourage foreign bidders to participate in the International Tender invited by GRN and improve the competition.

4.2.2 Sector and Market Analysis

11. The Bank Group has gained information on the water sector in the country. Key lessons that have been learned include: (i) needs to take into account institutional environment under which the project operates so as to avoid unnecessary delays to project implementation in the areas of procurement and disbursement procedures, (ii) The City of Windhoek (CoW) has been responsible for the city's Masterplan in water and sanitation and hence have the expertise to supervise the consultant. It will work closely with the line Ministry. The CoW is one of the leaders in water supply and wastewater and understand the market. The required service requires an international firm to conduct the consultancy.

12. The Bank also reviewed the overall capacity of the sector, and found there is limited capacity in the country to undertake such an assignment. However, it is noted that there is enough capacity in the region where local firms shall be encouraged to partner with international firm to bid. The Act has preferential treatment for local contracts for contracts not more than NAD \$30,000,000 under works and NAD \$ 10,000,000. For With higher value contracts, the local firms will be encouraged to have joint ventures. The risk assessment in the sector is considered '*moderate*'

4.2.3 Project Design and Complexity

13. The design and complexity of the project have been reviewed from procurement perspectives and they generate '*low*' procurement risks, especially due to; i) the CoW is relatively advance in preparation of Masterplans in integrated water supply and wastewater dating back decades since 1984 where they have already produced 11 Masterplans; and (ii) Department of Engineering Services which is mandated with the design and supervision of projects in the CoW is well organized and works closely with the Procurement Management Unit which headed by an experienced Procurement Manager with three sub-units; (1) Sourcing; (2) Accounting Functions; and (3) Bid Admin/Contracting, all of which are fully functional. The challenges posed is the Act is relatively new and delays are expected as this implementation is currently ongoing with some areas still underway.

4.2.4 Executing Agency (EA) Assessment

14. The City of Windhoek (CoW) will be the Executing Agency for the Project. The project shall be managed at Department of Infrastructure, Water and Technical Services under the Engineering Services Division which oversees planning, design and implementation of mainly capital projects within CoW. The procurement of the Consultant shall be responsibility Procurement Management Unit within CoW. The current workload of the Unit is not foreseen to hamper this activity. The team can sufficiently conduct its work in addition to the procurement on the project.
15. Following the assessment of the Executing Agency; City of Windhoek from a procurement perspective, it generated '*low*' risk.

4.2.5 Project Procurement Risks Rating (PPRR)

16. Procurement Risk Assessments were undertaken for this project by conducting an exhaustive assessment covering the risks associated with the country, sector and project environments as well as the Executing Agency responsible for the implementation of the Project's procurement activities.

The outcome of assessments provides the justifications to the risks indicated in the Summary of PPRR as shown in the table below:

Item		Assessment Rating
Risk factor #	Risk factor	Low (L) / Moderate (M) / Substantial (S) / High (H)
Project Procurement Risk Rating		
<i>Country Level</i>		
1.	Procurement Legal and Regulations Framework	Moderate (M)
2.	Systemic Prohibited Practices	Low (L)
<i>Sector Level</i>		
3.	Capacity of the Sector	Moderate (M)
4.	Capacity of local industry	Moderate (M)
<i>Project Level</i>		
5.	Project design risks	Low (L)
6.	Delivery risks	Low (L)
<i>Capacity Risk of the Executing Agency</i>		
7.	Capacity	Low (L)
8.	Governance & Prohibited Practices	Low (L)

Most of the issues/ risks associated with the procurement activities for implementation of the project have been identified and mitigated. The mitigation measures have been discussed and agreed with the Executing Agency, 'City of Windhoek' (CoW).

The overall Project Procurement Risk Rating (PPRR) is at time of Appraisal is:

Items	H	S	M	L
Overall Project Procurement Risk				
<i>Country Risks</i>		✓		
<i>Sector Risks</i>			✓	
<i>Project Specific risks</i>				✓
<i>Executing Agency (ies) Risks</i>				✓
<i>Other¹⁴ Risks if identified</i>				

4.3 Details of Procurement Methods & Procedures (PMPs) to be used under the Project¹⁵

4.3.1 Borrower Procurement System (BPS)

17. The following contracts will be carried out using the Borrower's Procurement System (BPS) in line with the Borrower's The Public Procurement Regulatory Framework (*Public Procurement Act No. 15 of 2015*), implemented by *Public Procurement*

¹⁴ Other risks are specific to operations with special risks like those associated with Community-Based Investment projects, fragile states, and emergency operations, etc.

¹⁵ Provide justification

Regulations No. 2016. Regulations, Guidelines and User Manuals, utilizing available National Standard Solicitation Documents (SSDs) including 'Standard Request For Proposal' for Selection of Consultants [Issued in terms of section 7(1)(i) of the Public Procurement Act, 2015] - Small/Individual Assignment;

- **Consulting Services**

The recruitment of an individual consultant for shall be procured using method for Integrated Urban Water Management expert for an estimated value of Euro 19,000

4.3.2 Bank's Procurement Methods and Procedures (Bank's PMPs):

18. The following contracts will be carried out using the Bank's PMPs in line with the Bank's "Procurement Policy and Methodology for Bank Group Funded Operations" (BPM), dated October 2015, utilizing available Bank's Standard Solicitation Documents (SSDs).

Consulting Services

- The following consultancy service shall be procured using Quality Cost Based Selection (QCBS) method includes: (i) Consultancy services for Windhoek Integrated Urban Water Management Master Plan and detailed design of a priority project for the value of Euro 1.250 million; and (2) Environmental and Social Impact Assessment (or Environmental and Social Management Framework) for an estimated value of Euro 90,000.

4.4 Summary of the Procurement Arrangements for the Project

19. "The procurement arrangements for the various components, elements, and items, under the different expenditure categories to be financed by the Grant and procured using BPS, and Banks' PMPs are summarized in Table 5.1 below. Large-value contracts, each group of similar transactions/contracts, the different procurement regimes, estimated costs, oversight requirements, and the timeframe as agreed between the Borrower and the Bank, are documented in the Procurement Plan (Section B.5.6)."

Table 1: Summary of Procurement Arrangements

Project Categories	Euro						Total
	BPS ¹⁶			Bank's PMPs			
	OCB	LCB	Other	OCB	LCB	Other	
Consulting Services							
1) Integrated and Urban Water Mgmt. Expert	-	-	19,000	-	-	-	19,000
2) Integrated Urban Water Management Master Plan and detailed Design	-	-	-	1,250,000	-	-	1,250,000
3) - Environmental and Social Impact Assessment / ESMF	-	-	-	90,000	-	-	90,000
TOTAL			19,000	1,340,000			1,359,000

4.5 Advertising

20. The text of a General Procurement Notice (GPN) has been agreed with 'City of Windhoek' (CoW), and it will be issued for publication¹⁷ in UNDB online and in the Bank's Internet Website, upon approval by the Board of Directors of the Financing Proposal.

4.6 Bank's Oversight of Borrower's Procurement

21. The framework for the review of Borrowers' procurement actions, documents, bid evaluation and contract award recommendations, depends on whether the BPS, or Bank's PMPs, are being used.

4.6.1 Oversight under BPS:

22. Under BPS, procurement oversight is carried out according to national procurement laws and regulations. National oversight institutions comprising the national Public Procurement Unit and the Office of Auditor General (OAG) will be conducting their own audits as per national laws and regulations. Monitoring the transaction shall be also carried out by independent auditors, undertaking Audits within the City of Windhoek, relying on the national audit reports as input to their independent reviews.

¹⁶ Procurement methods OCB, LCB and DP mentioned are indicative and should be aligned with what is available in the BPS

¹⁷ The General Procurement Notice is prepared by the Borrower and submitted to the Bank, which will arrange for its publication in the United Nations Development Business (UNDB online) and in Bank's Internet Website.

4.6.2 Oversight under Bank's PMPs:

23. Procurement undertaken through Bank shall be subject to prior review. The decision as to whether a procurement process shall be subject to prior or post review is determined at the level of the transaction or group of similar transactions. It is a risk-based assessment which drives the (Fit-for-Purpose) FfP decision for any particular procurement transaction based on the EA and the project level assessments taking into account the market and country circumstances. In addition to prior review by the Bank, the capacity assessment of the EA, its recommended two procurement supervision missions annually.

4.7 Procurement Plan

General: The Recipient, during project appraisal, is required to develop a detailed Procurement Plan (PP) covering the entire scope of implementation of the project, and which has provided the basis for the procurement arrangements in this project appraisal report (PAR).

The PP will be updated by the Borrower annually or as required to reflect the actual project implementation needs and improvements in institutional capacity. Any revisions proposed to the Procurement Plan shall be submitted to the Bank for its prior no objection. The Borrower shall implement the PP in the manner in which it has been agreed with the Bank

PROCUREMENT PLAN

CONSULTANTS

1 General

Country/Organisation:	Government of Republic of Namibia
Project/Programme Name:	x
Project/Programme SAP Identification #:	x
Loan Number:	x
Executing Agency:	City Council of Windhoek
Approval Date of Procurement Plan:	x
Date of General Procurement Notice:	x
Period Covered by these Proc. Plans:	12 months

2 Consulting Services: Prior/Post review Threshold

Selection Method	Prior review Threshold (UA equiv.)	Post review Threshold (UA equiv.)	Frequency of Review
1. Quality & Cost Based Selection (QCBS)	All		All
2.			

3 Consulting Services: Selection Method and Time schedule for 18 Months

Description	Selection Method	Lump sum or Time-Based	Estimated Amount in EURO	Prior/Post Review	EOI Publication Date	Contract Start Date	Comments
1. Integrated Water and Wastewater Master Plan and detailed Design	QCBS	Lump sum	1,250,000	Prior	05-02-2018	23-07-2018	
2. Environmental and Social Impact Assessment	QCBS	Lumpsum	90,000	Prior	12-03-2018	10-09-2018	
Total Cost			1,340,000.00				

Annex 5: Financial Management Assessment Report

5.1 Introduction

The Financial Management (FM) assessment of the City of Windhoek (CoW), as the designated Agency to handle project's FM, was carried out in accordance with the Financial Management Policy in African Development Bank Group Financed Operations (2014), the Financial Management manual for Bank Group Sector Operations (2014). The objective of the assessment was to determine whether CoW has acceptable FM arrangements, capable of (i) correctly and completely recording all transactions and balances relating to the project; (ii) facilitating the preparation of regular, timely and reliable financial statements; (iii) safeguarding the project's assets; and (iv) can be subjected to auditing arrangements acceptable to the Bank.

5.2 Executive Summary:

The City of Windhoek has prior experience in implementation of donor-funded projects. The financial management function comprises of a Strategic Executive finance, a financial reporting manager, cash management manager, finance and customer service manager, 10 accountants, 8 technicians and 2 assistant accountants. The team has varied expertise in finance, adequate experience and qualifications. Given the fiduciary requirements related to the Bank financing, the CoW will assign an accountant within the establishment with the appropriate qualifications and experience to serve as the project accountant and handle the project's financial management (FM) tasks within the Project's Implementation Team. The project accountant will be supervised by the manager cash management. The Bank will provide comprehensive training to the implementing Agency on Bank's financial management requirements and disbursement procedures. A detailed Terms of reference will be provided to the project accountant and s/he will be subjected to an annual performance evaluation. CoW shall be required to comply with the Bank's requirements.

CoW follows the Government procedures through the line ministry (Ministry of Local Government and Housing) and prepare annual budgets that are consolidated by the Ministry of Finance. The PIT will prepare an annual work plan and budget for project activities under each of the specific project components. The quarterly reports will include a comparison of budgeted versus actual expenditure and Management will be required to take steps to address significant variances. CoW currently uses a computerized accounting system (E-VENUS) for transaction processing and generation of financial reports. The review found that the system has sufficient flexibility for configuration to suit project requirements for processing transactions and generation of reports.

The financial statements of CoW are audited annually by a private auditor recruited by the Auditor General of Namibia. CoW shall be required to disclose the project financials in the institutional annual financial reports that will be subject for audit by the Auditor General. The project shall be required to prepare annual reports. The project shall be subjected to audit at the end of the project by external auditors recruited and retained by African Water Facilities (AWF). The cost of the audit will be borne by the AWF. The project

disbursement will comply with the Bank's disbursement guidelines as outlined in the Disbursement Handbook. Disbursement will primarily be by direct payment and reimbursement.

The overall conclusion of the assessment is that the CoW's capacity to handle all the FM aspects of the project, satisfies Bank minimum requirements as laid out in the Bank's FM guidelines. The overall initial FM risk for the project is assessed as Moderate.

In accordance with the AWF operational procedures and also with the Bank requirements, the project will be required to prepare Interim Quarterly Progress Reports (IQPR) and submit to the Bank not later than 30 days after the end of each calendar quarter. The project will also prepare and submit annual financial statements, audited by the external auditor, together with the auditor's opinion and management letter to the Bank not later than six (6) months after the end of the financial year.

The results of the assessment and the agreed FM, disbursement and auditing arrangements for the proposed project are documented below.

5.4 Use of country Systems

The updated (January 2017) Country Fiduciary Risk Assessment (CFRA) carried out by the Bank as part of the CSP review process, noted Namibia continue to make measurable progress in the implementation of Public Financial Management (PFM) reforms over the years. Noticeable achievements includes: (i) the introduction of medium-term expenditure framework (MTEF); (ii) medium-term plans (MTP); (iii) Integrated Financial Management System (IFMS) and (iv) programme budget among others. The CFRA however revealed challenges still remains, including delays in (i) the legal and regulatory framework, (ii) the establishment of an integrated modelling tool for Fiscal Planning; (iii) the development of systems linkages such as the HRMIS and the Treasury for boosting internal control system; (iv) lack of evidence of systematic follow-up of audit recommendations and implementation of an Integrated Tax System, which the ongoing reforms is seeking to address. The CFRA concluded the PFM systems are reasonably adequate and the Bank can place reliance on the core elements for implementation of Bank aid initiatives. These includes; the banking and treasury procedures, internal controls and internal audit, as well as making use of the Country's Supreme Audit Institution (SAI), the Office of the Auditor General (OAG) to oversee the auditing aspects of the project as per their mandate.

5.6 Executing Agency

The City of Windhoek (CoW) is a local authority operating semi-autonomously under the Ministry of Local Government and Housing in Namibia. The CoW's finance department handles financial accountability of all resources including financial management and preparation of all required financial reports to interested stakeholders, including donors. As a result, all FM activities for past and ongoing donor-funded (including KFW) project has been handled by CoW. The agency operates within a sound control environment with adequate FM procedures in place; budgeting preparation, execution and reporting were found to be adequate. The finance department which is responsible for FM is headed by the Strategic Executive Finance. The finance department is adequately staffed with a team of finance experts with varied qualifications and experience. The Agency operates a functional computerized accounting system (E-VENUS system) to record and process transactions for financial reporting purposes. The overall FM performance of the Agency in managing both past and ongoing Donor-funded projects have been generally satisfactory. The Bank will continue to monitor and provide relevant support to the team to further strengthen the control environment to enhance accountability process under the proposed project.

5.7 Summary of assessed Financial Management arrangements

The results from the assessments of various FM elements regarding their adequacy as well as the proposed arrangements.

5.7.1 Planning and Budgeting: CoW has a comprehensive budgeting systems that follow GRN's budgeting procedures contained in the national budget law and regulations. The existing budgeting system (from preparation, execution, monitoring and reporting were found to be adequate. In that regard, the operation will follow existing budgeting principles. The PIT will prepare an annual work plan and budget (AWPB) for implementing project activities taking into account the specific components of the project as contained in the appraisal report. The AWPB will be submitted to the project steering committee for approval and thereafter to the Bank for review and no objection. Quarterly reports will be used to monitor execution and management take appropriate action on significant variances between the actual expenditures and the budget.

5.7.2 Accounting Policies, Procedures and Information Systems: CoW's accounting system follows laid down accounting procedures as contained in the State Finance Act (1991) and Financial Regulations. Transaction processing follows documented processing procedures, payment vouchers are prepared and appropriately authorized. The function computerized (E-VENUS) system is used for processing transactions and preparation of reports. This system was found to be adequate, therefore the project will follow the existing processes and procedures in recording, processing transactions and generation of reports. Ledgers will be created within the existing computerized accounting system and codes shall be created within the existing chart of accounts to enable recording and processing of project transactions and reporting.

5.7.4 Internal Control: The CoW's administrative and procedures manual guides day to day operations of the Agency. The roles are clearly defined enabling segregation of duties. These control procedures are consistent with the GRN's established accounting and internal control guidelines as documented in the Finance Act (1991) and Financial Regulations. CoW has a functional internal audit unit with adequate staff creating strong governance and fiduciary processes. Overall controls over CoW's activities were found to be adequate and effective. Therefore, the project will be covered under the existing internal control rules and requirements. In addition, the Bank's Guidelines for financial Reporting and Auditing of projects, as well as the Disbursement Handbook (2012) would be applied to provide further fiduciary and eligibility guidance to the project.

5.7.5 Funds Flow and Disbursements Arrangements: The flow of funds in CoW follows the National treasury and appropriation procedures. The authority operates 2 bank accounts for collections and payment. CoW has managed donor-fund using the existing funds flow arrangement. Overall disbursement performance by the authority for ongoing project has been generally found to be satisfactory. For this project and taking into account the nature of activities to be funded by the Bank under the project, it has been agreed for all payments to be made using the direct payment method of disbursement, where the Bank will pay contractors/consultants and suppliers directly based on satisfactory performance in accordance with the terms of respective contracts and in accordance with the Bank's Disbursement Handbook. The reimbursement method may also be used. It will not be necessary to open a special account. Disbursements will be made upon preparation and submission of all relevant documentation by CoW to the Bank's Disbursement Division. The payment requests shall be signed by signatories authorized to sign those payment requests. The PIT shall be referring to the project documents including the PAR for appropriate information on details of project. The Bank will issue a Disbursement Letter.

5.7.6 Counterpart contribution: CoW's cash contribution estimated at EUR 321,600 (24%) of the total project costs will be financed under the existing GRN, Ministry of Local Government and Housing, and CoW financing arrangement. Other form of counterpart contribution will be in-kind in the form of salaries, office space, and transport and meetings costs. Reviews of current Bank-funded on-going projects in GRN noted delays in accessing the counterpart funds. The GRN needs to ensure timely release of counterpart funds to facilitate smooth project operations. However the review also noted that CoW generates own revenue to add to the funding allocated from the GRN.

5.7.7 Financial Reporting: The overall responsibility for financial reporting is that of the head of finance department at the CoW. CoW generates monthly and quarterly reports for use by the management in decision making and annual reports for audit. The reports were found to be comprehensive and prepared within the required timelines. The reports are generated automatically from the system. The reports used by donors are similar in format with the Bank requirements. Bank reports' contents and formats will be clarified to the project further during the project launch. In accordance to AWF and the Bank's requirements, the project will be required to prepare interim quarterly progress reports (IQPRs) on all activities. These reports will at a minimum include description of each activity approved, list of contracts engaged with details, description of progress of ongoing activities including financial status, a statement of sources and uses of funds, with the uses of funds analyzed by activities/components and categories, comparing actual expenditure with budgets and notes explaining significant variations in expenditure, status of project audit and description of proposed activities still under consideration. The project will be required to submit the IQPRs to the Bank not later than 30 days after end of each quarter. In addition, the project will be required to prepare annual reports. The annual report at a minimum shall include a financial statement of the project activities, a statement of cumulative receipts and expenditures, and a statement of the use of resources with explanatory notes as may be pertinent.

5.7.7 External Audit: The CoW has been subject to annual audits by a private auditor appointed by the Auditor General who has the constitutional mandate to audit all public funds. The audits were completed on timely manner without delays. The report was unqualified. Most ongoing Bank-funded projects in Namibia are audited by private auditors appointed through a competitive process with the involvement of the office of Auditor General. CoW shall be required to disclose the project financials in the institutional annual reports that will be subject for audit by the Auditor General. In accordance with AWF the project will prepare separate annual financial reports. The AWF operations procedures require the funds to be audited at pre-determined intervals. Since the Bank funds will be disbursed solely by direct payment, the risks are deemed low and therefore external audit will be done once at the completion of the project. The audit will be carried out by private auditor recruited and retained by AWF. This audit will be carried out in accordance with the International Standards on Auditing (ISA), and will include such tests and controls, as the auditor considers necessary under the circumstances. Besides expressing an opinion on the project's financial statements in accordance with ISA, the auditors will be expected to prepare management letters giving observations and comments, and providing recommendations for improvements in accounting records, systems, controls and compliance with financial covenants of the Bank. The audit report and opinions on the financial statements including the management letter and management response shall be submitted to the Bank within six months from the end of the audited financial period. The cost of the audit shall be charged to AWF.

Audit submission Plan

Audit Report	Due submission date
Separate project Audited Financial Statements and Management Letter	No later than six months following the end of the period being audited

- **5.7.8 Conditions and Financial covenants:** There is no FM condition. However, CoW needs to maintain an effective financial management system acceptable to the Bank, throughout the project implementation period.

5.7.9 FM Supervision:

The frequency of FM supervision is determined by the outcome of the assessed risk rating. The project would be implemented in a “Moderate” risk environment and hence, subject to one supervision per year. Other supervision activities would be desk reviews of the IQPRs, annual audit reports, and management letters for follow-up actions. The outcome of these reviews would inform the intensity of subsequent FM supervisions.

FM Action Plan

Actions	Responsible Entity	Completion Date	Comments/Remarks
Designation of an accountant from the CoW to handle the project implementation team for project financial management	CoW	Before project grant approval	The EA will submit the CV of the nominated candidate to the Bank for review and clearance
Update the existing administrative and financial procedures manual to incorporate the project	CoW	Within six months after effectiveness.	

Appendix: FM Risk Assessment Summary

Risk	Risk Rating	Risk Mitigation Measures	Timing for the proposed Mitigation measures	Conditionality
Country Level: Acknowledging achievements made in PFM reforms, there remain challenges in areas relating to fiscal planning, budgeting, internal control system, external audit and systematic follow-up of related recommendations as documented in the PEFA 2015	M	PFM reforms ongoing to improve systems	Continuous	No
Entity Level: Lacks experience of CoW in implementing Bank funded projects	S	The project will be implemented by a PIT constituted within CoW who have experience in donor funded projects management. Training will be provided to the PIT on Bank specific requirements and procedures	PIT be constituted by project approval	No
Project Level: CoW staff lack of knowledge on Bank requirements in respect of project management	M	Training will be provided on Bank procedures and continuous FM sessions throughout the implementation.	Within 6 months from effectiveness	No
Overall Inherent Risk				
Budgeting:	M	N/A	N/A	No

Risk	Risk Rating	Risk Mitigation Measures	Timing for the proposed Mitigation measures	Conditionality
No major risks identified				
Accounting: No major risks identified	M	N/A	N/A	No
Internal Control: CoW Administrative and procedures manual is outdated and ineffective in providing guidance to project operations	M	The EA will update the Administrative and procedure manual. The manual will provide guidance on procedures and key internal control mechanism. The Bank will pay a particular attention to internal control during FM supervision	Within six months after effectiveness	No
Funds Flow: CoW has no experience in managing AFDB disbursement. Risk of non-compliance with Bank requirements and procedures	S	Disbursement and FM training will be conducted at the project launch. Bank funds will be primarily via direct payment method.	During project launching	No
Financial Reporting: EA has no experience in Bank financial reporting hence risk of financial reporting not being compliant with the Bank requirements.	M	Financial reporting as per Bank's requirements will be covered during the training scheduled at project launching. Format of the financial reports will be clarified and templates shared as necessary	Training at project launch and continuous during project supervisions	No
External Audit: There are capacity constraints in the national audit office.	M	A private independent external auditor will be recruited and retained by the AWF.	Audit report submitted to the Bank within 6 months after end of the period being audited.	No
Overall Risk Assessment	M			

The FM risk rating is stated in terms of: High (H) or Substantial (S) or Modest (M), or Low (L)

Annex 6: AWF Communication and Visibility Guidelines

Communication and brand visibility greatly matter to the AWF. They view communication as a strategic function firmly tied to its strategies and business objectives. Steady communication with AWF stakeholders helps build credibility and secure their trust and esteem, which in turn, helps AWF build and protect its reputation. Communications is also about disclosure. The AWF are a multi-donor funds, and are accountable to a Governing Council that expects the AWF to hold itself to the highest level of accountability and transparency. The AWF is committed to making every effort to disclose, share and report information useful and relevant to its stakeholders and the greater public. This entails effectively communicating its achievements, progress, and results by using all means available, in a timely manner. All these elements are important for business and essential to attract and retain donors, and for AWF to maintain its social license to operate.

Brand awareness is about making sure the public knows AWF exists and can tell the AWF apart from other water funds/preparation facilities or organisations. The brand is a visual, memorable trigger, or logos, that embodies the AWF and captures its core identity. Brand awareness is achieved over time, through activities meant to increase brand visibility, by repeated use and exposure of the logos at strategic places and times. The AWF logos are used as a seal or a signature used to signal AWF financial support or special collaboration.

The AWF has established **Communication and Visibility Guidelines** to the attention of partners, AfDB regional offices and grant recipients to help AWF more effectively achieve its brand and communications objectives, as laid out in the AWF Long Term Communications Strategies.

1. GENERAL REQUIREMENTS

- 1.1 At an early stage, when preparing communication activities related to AWF -supported event or project, contact the AWF Secretariat.
- 1.2 At a minimum, and wherever possible, the AWF logos should be applied to outreach materials that pertain to AWF -supported projects or events. The proper use of the logos should be discussed with the AWF.
- 1.3 The AWF should be verbally mentioned as donor of the project it is funding at public speaking events where the project is discussed, and also be mentioned as donor in any PowerPoint presentations relevant to the project funded by the AWF, using the name and the logos of the AWF appropriately.
- 1.4 The logos are to be obtained upon request from the AWF Secretariat.
- 1.5 Documents and publications related to AWF -supported project or sponsored publication should contain the AWF logos, as well as this phrase on the cover page: "This project/program/study is funded by the African Water Facility and NEPAD Infrastructure Project Preparation Facility".
- 1.6 Implementing and executing agencies should always have a link to the AWF website on the page of their website relevant to an AWF -funded project/activity.
- 1.7 The AWF asks that grant recipients report back to the AWF Secretariat any special mention, award nominations or recognition that the project may have received.

2 VALIDATION PROCESS

- 2.1 The AWF Management are responsible for the final clearance of AWF communications products/outputs.

3 PRESS RELEASES & MEDIA ADVISORIES

- 3.1 The AWF will issue an AWF -branded press release every time a project is approved and/or signed, and when completed (handover).
- 3.2 AWF press releases must always include a quote from the Coordinators of the AWF, which must be cleared by the Coordinators.
- 3.3 The AWF encourages and appreciates initiatives to issue joint press releases with its grant recipients. A standard joint press release can be issued at any time agreed by the AWF (between launch and completion).
- 3.4 When the grant recipient wishes to produce a press release, liaising with the AWF Secretariat is required, as well as receiving a quote from the AWF Coordinators, as appropriate, and getting approval and clearance.
- 3.5 The should be included in the title and/or first paragraph of the press release, as appropriate.
- 3.6 The press release should incorporate the AWF logo, mention that funding was provided by the, and mention the amount of the AWF funding.
- 3.7 If a press conference is planned, the press release should include the name of the AWF senior representatives who will be present at the press conference, when relevant.
- 3.8 All press releases must bear the name and contact information of the AWF Secretariat, and if possible that of the communication/media representative from the grant recipient.
- 3.9 The AWF boilerplate text ("About the AWF") must be added to the text, including the AWF website address. Please contact the AWF Secretariat for the latest version.
- 3.10 The AWF has final validation of all its press releases, following a review process.
- 3.11 The rules above also apply to media advisories.

4 PRESS CONFERENCES

- 4.1 Press conferences to launch projects funded by the AWF should be organised in cooperation with the AWF, as much as possible.
- 4.2 The invitations should bear the AWF logo.
- 4.3 The AWF logo of a visible size should appear on any banner or poster to be displayed at the site of the conference.
- 4.4 Press kits need to include a press release with the AWF logo.
- 4.5 Whenever possible, the AWF banner should be on hand and set up to serve as a backdrop for TV and photo purposes.

5 PRESS VISITS

- 5.1 When appropriate, journalists should be invited to visit the project funded by AWF, accompanied by representatives of the AWF or the AWF Focal Points in the respective authority / government of the grant recipient.

6 VISITS BY GOVERNMENT OFFICIALS, AWF DONORS

- 6.1 Visits to projects by government officials and AWF donors are encouraged. Those should be prepared in coordination with the AWF and the AWF Focal Points of the host government. This can include meetings with local beneficiaries.
- 6.2 These visits may also include government officials and AWF donors' participation to roundtables and other events, as relevant.

7 LEAFLETS, BROCHURES AND NEWSLETTERS

- 7.1 All leaflets and brochures relevant to the project/program financed by AWF should incorporate the basic elements of the AWF visual identity, i.e. the AWF logos – with or without tagline.

7.2 Leaflets and brochures produced by a grant recipient must also incorporate a definition of the AWF (boilerplate text).

7.3 The cover page of all documents pertaining to the project financed by the AWF must clearly identify the activity as being part of the AWF -funded activity.

7.4 Copies, including electronic copies of the publications, should be made available to the AWF.

8 ELECTRONIC COMMUNICATIONS

8.1 Electronic communication disseminating information on AWF -funded projects including websites, newsletter, and social media platforms, should link to the AWF websites.

9 SIGNAGE

9.1 The grant recipient should produce display panels, posters or banners to promote their AWF -funded or AWF -related activities at exhibitions and other events, placed in strategic locations for all to see.

10 VEHICLES, SUPPLIES AND EQUIPMENT

10.1 AWF generally requests that vehicles, supplies and equipment funded by AWF be clearly identified, and visibly carry the AWF logos and the phrase “Provided with the support of the African Water Facility and NEPAD Infrastructure Project Preparation Facility” in English or French as relevant.

10.2 This requirement is subject to negotiation between AWF and the grant recipient as some supplies and equipment may be exempt.

10.3 The grant recipient must provide evidence of compliance with this rule (digital photos sent by email are recommended).

11 PHOTOGRAPHS AND AUDIOVISUAL PRODUCTIONS

11.1 Professional high resolutions (300 dpi) digital photographs of the project funded by AWF should be supplied to the AWF throughout the different phases of the project, to document the progress of actions and events related to these, and to be used in print and online publications.

11.2 All photos should be submitted with full caption and credit information.

11.3 The AWF will be entitled to use or reproduce photos submitted to it without payment of royalties.

11.4 Whenever relevant, audiovisual materials should acknowledge AWF support, by featuring the AWF logos at the beginning and/or end of the movie/documentary.

11.5 Copies of the movie(s) / documentary (ies) should be supplied to the AWF.

12 COMMEMORATIVE PLAQUES OR SIGNAGE

12.1 Whenever relevant, the grant recipient should place a permanent plaque, or some other type of large, commemorative signage, on the most visible part of the building, infrastructure or near the project site, which received funding by AWF, beside the name of the implementing agency and/or name of the project, for visitors to see.

12.2 When appropriate, the plaque or signage could contain the following sentence: “This [name of the infrastructure] was funded by the African Water Facility and NEPAD Infrastructure Project Preparation Facility” alongside the AWF logo.

13 PROMOTIONAL ITEMS

13.1 Before taking any decision on the production of such items, the Communication Officer at the AWF should be consulted.

- 13.2 Promotional items bearing the AWF logos can be distributed to support communications activities related to the project funded by AWF. This may include T-shirts, caps, pens, notebooks, USB keys, etc.

Annex 7: Draft Terms of Reference -

Integrated Urban Water Management Master Plan and Detailed Design of Priority project

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1 BACKGROUND AND OBJECTIVES

1.1 Background

The Municipality of Windhoek's boundaries were extended in 2011 to cover an area of 5130 km² that includes secondary settlements and rural areas. The population, according to the national census, was 326,000 inhabitants in 2011. Given the significant demographic growth, the population is forecasted to reach 790,000 people by 2050. In parallel, private developers are expanding vast new medium and high-class neighbourhoods' on the City outskirts, such as in Brakwater and Finkenstein areas. These poorly planned and uncoordinated developments generally display low urban density patterns that have significant cost implications for the development of municipal infrastructure. They represent major challenges for the municipality which has been trying to ensure a minimum level of planning through preparing local master plans for municipal infrastructure in the last years.

The extension of informal settlements that are happening in parallel to the new private developments is also a complex issue for the City. Poor planning makes it difficult for the City of Windhoek (CoW) to develop consistent reticulation networks, and due to the low income of the households in these areas, cost recovery is an issue. CoW has no coherent strategy to provide basic services in these uncontrolled settlements.

The Municipality has four types of water resources :

- (i) Surface water, harvested in three dams, provide about 20 Mm³ per year with a 95% assurance of satisfaction;
- (ii) Groundwater, abstracted from aquifers located hundreds of kilometres north from Windhoek, and transferred via the Eastern National Water Carrier to the Von Bach Dam, provide an average yield of 4.34 Mm³ per year. In addition, another aquifer south of Windhoek also supplies 0.5Mm³ per year.
- (iii) Reclaimed wastewater, treated to potable standards, through the Goreangab Water Reclamation Plant, can provide 7.7 Mm³ per year.
- (iv) Semi-purified wastewater, treated to irrigation standards through the Old Goreangab Water Reclamation Plant, supply 1.6 Mm³ per year for landscaping purposes.

In addition to these resources, the Municipality is also running a system of Managed Aquifer Recharge (MAR) which aims at storing water underground in the Windhoek aquifer in order to limit evaporation in surface reservoirs, and then using this resource when other resources cannot meet the demand.

Bulk surface water and groundwater supply (with the exception of the Windhoek aquifer) are operated by Namwater, a state owned enterprise in charge of providing bulk water to the municipalities and big users. The reclamation plants and the MAR system are managed by CoW.

The total water resource available is consequently about 34 Mm³, whereas the total demand (drinking water, landscaping and industry) reached 36.6 Mm³ in 2013. This deficit would amount nearly 55 Mm³ per year in 2050 with the water resources currently mobilized. Climate Change impact is most likely to increase this estimate since during the next 100 years, annual rainfall in parts of Namibia could decrease by 10% to 30%. On the long term, the Ministry of Agriculture, Water and Forestry (MAWR), in charge of planning and regulatory aspects, is considering two possible options to meet the demand: (i) transferring

water from the Okavango River to the head of the Eastern National Water Carrier and in cascade to Windhoek, (ii) desalinating water on the coast and conveying it to Windhoek. On the short and medium term, solutions will come from (i) water demand management measures, (ii) optimisation of existing facilities through reduction of water losses and (iii) increasing wastewater reclamation and managed aquifer recharge.

1.3.6 The National Climate Change Strategy & Action Plan 2013 – 2020 indicates that summer rainfall is projected to increase slightly in parts of Central and Northern Namibia, but other areas, predominantly Southern and Eastern Namibia, will receive reduced winter rainfall patterns by . The Khomas region, where the CoW is located, is projected to face increases in temperature, underground water contamination and low recharge, an increase in rainfall, but also more frequent flooding along the ephemeral rivers. The Otjozondjupa region, from where present groundwater is sourced from, is projected to have more prolonged droughts, increased flooding, low recharge / declining groundwater availability and quality, a later start and earlier ending of rainfall seasons, and an increase in seasonal rainfall. Projections from the Kavango regions suggest increases of summer rainfall and flooding. As the CoW is reliant on a variety of water resources both local and distant, climate change has substantive implications for both medium and long-term planning and investment in basic for the CoW, therefore the risks need to be incorporated within master planning.

On the wastewater treatment side, although CoW has first class water reclamation facilities, pollution do occur due to several factors: (i) the Gammams wastewater treatment plant which processes the bulk of CoW sewerage system is often over loaded, (ii) informal settlements dispose of wastewaters in ephemeral river bodies, (iii) storm water overspills from combined sewers during storm events, and (iv) some industrial effluents are not properly treated. This induces eutrophication and algal bloom in the Swakoppoort and Goreangab reservoirs, reducing water availability for the city, higher costs for treatment, and generates public health issues due to higher incidences of waterborne diseases.

Wastewater and drinking water issues are intrinsically linked in the case of Windhoek, and the City has recognized this for decades. It has been pioneering the Integrated Urban Water Management (IUWM) approach, which looks at the whole water cycle in the city through optimizing the linkages between wastewater, stormwater, potable water and energy uses. However, this genuine IUWM approach is not backed up by a sound and comprehensive master plan. The wastewater and water supply master plans are outdated, geographically and thematically fragmented and they are mainly infrastructure oriented: necessary environmental, institutional and financial aspects are absent from these documents. There is a need to provide CoW with a Master Plan with a comprehensive IUWM approach. This Master Plan should provide both a strategic vision to the City Council to ensure a sustainable development and maintenance of the facilities and an operational plan to the municipality departments for the development of the infrastructure.

1.2 Previous studies

The CoW has conducted 5 (five) major Master Plan studies in the past 15 years which could be used as a baseline for planning this study, however the Consultant should be cognisant of the changes in the study parameters from the date of these studies. The studies available are as follows;

- (i) North-West & South-West Water and Sewer Reticulation Master Plan, December 2014.
- (ii) Windhoek Bulk Water Master Plan, 2004.

- (iii) Windhoek Bulk Water Master Plan, March 2004, done in July 2008.
- (iv) Revisions to the Windhoek Bulk Water Master Plan, July 2008.
- (v) Brakwater Bulk Services, August 2010.

1.3 Objectives of the study

The objective of the study is two fold:

- (i) develop a strategic Master Plan which will assist CoW in mobilizing the necessary resources for ensuring sustainable and affordable water supply and sanitation services on a 20 year time horizon.
- (ii) Prepare at detailed design level a priority project that will be determined through the Master Plan

2 SCOPE OF THE ASSIGNMENT

2.1 General approach and phasing

The Geographical scope of the study is the Municipality of Windhoek's administrative boundaries (see annex 3). These boundaries include various type of areas:

- (iii) The urbanised areas and probable extensions in the next 20 years, including secondary settlements which are not in urban continuity with Windhoek. This type of area are called in these terms of reference 'core urban area';
- (iv) Rural areas with scattered houses or farms;
- (v) Informal settlements, which for this study are part of the core urban area, since their steady growth is a challenge to CoW.

The Mater Plan is expected to focus on the core urban area, while rural areas should be addressed in terms of strategy and mapping, but not in terms of infrastructure.

The Master Plan will be elaborated with an Integrated Urban Water Management approach. Integrated Urban Water Management is a concept which looks at the whole water cycle in the city through optimizing the linkages between wastewater, potable water, storm water and energy. CoW has been pioneering this approach in Africa since 1968 with the commissioning of the first plant reclaiming waste water to potable standards. The Consultant will look at optimising and expanding the current re-cycling systems in order to improve CoW resilience to climate change and make the best value of sludge.

The integrated approach requires a sound *consultation with all the stakeholders*, and the Consultant shall liaise with them formally through the Consultative Committee and informally through interviews and meetings as needed.

The Master Plan will be (i) a strategic document, providing a vision for the sustainable development and operation of water supply and sanitation facilities in the next 20 years, from the technical, institutional, financial and environmental perspective and (ii) an Operational document, determining the required works, costs, impacts and sequence of investments.

It shall be backed up by a thorough economic and financial analysis and a detailed financing strategy. These two aspects are critical and should not be underestimated by the Consultant which should propose the right experts or partner for these themes.

The technical scope of the Master Plan corresponds mainly to the bulk infrastructure for water and sanitation services. Bulk infrastructure is here defined as the facilities and infrastructure under CoW responsibility from the water treatment / reclamation plant to XXX for water supply and from YYY to the wastewater treatment plant and sludge recycling facilities for the wastewater services.

The detailed design will be developed for a priority investment not yet identified. It is estimated that the cost of this investment should be around Euro 25 to 30m. Another consultant will prepare an Environmental and Social Impact Assessment (ESIA) in parallel to this contract. The Consultant will have to liaise closely with the ESIA consultant, provide all data and drawings required for carrying out the ESIA and address proposal of modification of the project for avoiding or mitigating impacts.

2.2 Phase 1: integrated diagnosis

2.2.1 Confirmation of the core urban area

The Spatial Development Framework¹⁸ being currently under preparation, the Consultant shall work during phase 1 and 2 based on a tentative framework to be defined with the Department of Urban and Transport Planning. Based on this tentative framework, the Consultant will propose the delimitation of the core urban area (see 2.1) to CoW for validation. When approved, the Consultant shall finalise the study based on the validated Spatial Development Framework.

2.2.2 Water balance reconciliation

The Consultant shall develop a water balance reconciliation over the next 20 years. This will include but not be limited to:

- (i) Water demand forecast for domestic, industrial and landscaping uses;
- (ii) Assessment of water resources availability, taking into consideration reclaimed water, semi-purified water, groundwater resources (based on available data), Namwater current resources and the new projects being considered: transfer from the Okavango river and desalination option;
- (iii) Based on the above, development of a water balance over the next 20 years, identification of gaps and reconciliation.
- (iv) Impact of increasing reclaimed/ semi purified water or developing a water demand management / water conservation programme on the water balance and ultimately on the designed flow of the

¹⁸ 'Planned Strategic Environmental Assessment for Windhoek Town and Townlands'

Okanvango River or desalination options. In other words, how can investments in the municipal facilities and sensitization measures help reducing the cost of the planned water augmentation projects over the medium and longer term horizon.

This reconciliation will be developed considering:

- (i) The pollution risk on Windhoek's aquifer: the Consultant shall prepare a risk analysis on the aquifer, a classification of zones associated with level of risk within the protection area and assess the impact of pollution risks thereof on the water balance,
- (ii) Impact of CBD (Central Business District) planned densification on the waste water resources within the CBD,

2.2.3 Climate change risk assessment

Based on available studies, the consultant, shall prepare a climate change risk assessment including:

- (i) **Quantifying** the probable effects of climate change (increase of temperature and modification of rainfall patterns) on local water demand, water resource sources and the water balance: This quantification will be based on existing studies results regarding the climate change effects on temperature and rainfall across the different regions from which water is received. If these results are not sufficiently accurate, the consultant shall undertake a sensitivity analysis based on possible scenarios determined through existing studies.
- (ii) Assess the vulnerability of existing facilities to extreme climatic events, mainly floods. In particular, the Consultant shall identify the risk to strategic facilities such as water or wastewater treatment plants being flooded and the consequences of floods on Windhoek's aquifer quality. This assessment will be based on a mapping of historic floods and development of local mathematic models to assess the level of water in the strategic facilities located in flood prone areas.

2.2.4 Water supply Facilities

The consultant will prepare a comprehensive technical assessment of existing water supply facilities with the purpose of determining the main issues in terms of design and maintenance. This will include but not be limited to:

- (i) Infrastructure mapping with the aid of CoW's GIS where applicable and considered adequate¹⁹; Maps will be provided in A0 format to get a comprehensive view of the municipal bulk infrastructure and in A3 format for local zooms. In both cases, existing and planned urban areas and main geographical features should appear so as to allow the reader to make the necessary links with the urban dynamic and locate the facilities. Areas with present on-site sanitation will also be mapped.
- (ii) Determination of the access rates per neighbourhood,

¹⁹ See annex 2 for more details on CoW's GIS

- (iii) Assessment of the adequacy of the infrastructure design: can the facility provide a good level of service if properly operated and maintained. This diagnosis will require to check supply, storage and distribution capacities, pressure zones per sector and identify limitations.
- (iv) Assessment of Non Revenue Water and water losses per sector: these indicator are not available and the consultant shall propose a specific methodology for this purpose in its technical proposal.
- (v) Assessment of water quality at source and client: A limited number of quality analysis should be carried out where data are not available.
- (vi) Assessment of the state of the infrastructure and of the adequacy of the operation and maintenance: are the facilities well operated and maintained?

For this purpose, the Consultant shall update the existing hydraulic model (WADISO²⁰) developed for the bulk water infrastructure or alternatively create a new model. In both cases, the Consultant shall run calibration tests to validate the model. The hydraulic model is to be cascaded down to reticulation levels within pressure zones but not end user nodes. Provision of modelling training to CoW engineers where required.

2.2.5 Waste Water Facilities

The consultant shall prepare a comprehensive technical assessment of existing wastewater facilities with the purpose of determining the main issues in terms of design and maintenance. This will include but not be limited to:

- (i) Infrastructure mapping with the aid of CoW's GIS where applicable and considered adequate; Maps will be provided in A0 format to get a comprehensive view of the municipal bulk infrastructure and in A3 format for local zooms. In both cases, existing and planned urban areas and main geographical features should appear so as to allow the reader to make the necessary links with the urban dynamic and locate the facilities. Areas with on-site sanitation will also be mapped.
- (ii) Determination of the access rates per neighbourhood,
- (iii) Assessment of the adequacy of the infrastructure design: can the facility provide a good level of service if properly operated and maintained. This diagnosis will require to check sewers conveyance capacity, wastewater influent and effluent quality at WWTP, WWTP current state and process efficiency and identify limitations. A limited number of effluent quality analysis might be necessary to complete available data.
- (iv) Assessment of the state of the infrastructure and of the adequacy of the operation and maintenance: are the facilities well operated and maintained? The main sewers will be inspected by CCTV in order to determine their state; the types and effects of infiltrations and leakages will be assessed. A specific CCTV report will be attached to the phase 1 report.

²⁰ See annex 2 for more details on WADISO

- (v) Assessment of sludge recycling value chains (Gammam's Waste to Energy Facility and bio-solid facilities) in terms of regulatory compliance and efficiency.

For this purpose, the Consultant shall develop a hydraulic (mathematic) model of the bulk sewer infrastructure. The software shall be transferred to CoW at the end of the study with 6 user licences. The consultant shall specify in its technical proposal the main features of the model. The hydraulic model will be calibrated based on filed data to be measured if need be by the consultant. It should be cascaded down to reticulation levels within drainage zones but not end user nodes. The Consultant shall provide a modelling training to CoW engineers in Windhoek.

2.2.6 The case of informal settlements

Informal settlements are steadily growing around Windhoek and CoW has less data on these areas than on formal urban areas. In order to get sufficient data to elaborate a proper diagnosis of the situation in the informal settlements, the Consultant shall carry out a household survey based on a sampling to complete the available information and determine:

- (i) Effective access rate by type of services (stand pipes, HH connection, onsite sanitation, sewer, etc.);
- (ii) % of functional infrastructure;
- (iii) Type of sludge collection
- (iv) General assessment of the level of service; Users satisfaction
- (v) Impact on the household of unsatisfactory services (health, time spend to fetch water, work absenteeism, etc.);
- (vi) Household ability to pay depending on the level of service provided;
- (vii) Any other required information.

The Consultant shall detailed in its technical proposal the methodology proposed for this survey.

In addition, the consultant shall map the main infrastructure with the aid of CoW's GIS where applicable and considered adequate and assess the state of the infrastructure through visual inspections.

The sludge collection value chain will be analyzed in detail, and questions will be added in the survey for this purpose. In addition to the survey, focus groups or interview of the main stakeholders of the value chain will be carried out. The Consultant shall analyze the role and level of structuration of the various actors of the value chain, assess how sludge are collected, transported and disposed of or recycled and evaluate the environmental and public health impacts of the current system.

The Consultant shall also assess generic alternatives to improve level of service (types of sanitation, alternatives for water supply), etc.

2.2.7 Institutional and regulatory assessment

The Consultant shall review the institutional and regulatory framework applicable to the management of water and sanitation by CoW, with the objective of answering to the following questions:

- (i) Is CoW's institutional set-up for water facilities management efficient for a sustainable management of water and sanitation services? Are there other options / improvements that should be considered?
- (ii) Is CoW compliant with the regulatory framework for water and sanitation?
- (iii) Is the regulatory framework conducive to wastewater and sludge recycling? For protecting Windhoek's local strategic water resources?
- (iv) What are the gaps?

The Consultant does not need to provide a comprehensive review of the water and sanitation national institutional and regulatory framework, but should rather focus on what is applicable to the management of water and sanitation services by a municipality and the recycling of wastewater and sludge.

2.2.8 Environmental and public health impacts

The Consultant will assess and map the environmental and public health impacts of the sanitation services in the Municipality. Impacts on waterborne diseases prevalence, surface and groundwater quality, and ecosystem degradation will be looked at in particular. This assessment shall be carried out through collection and review of existing studies and data, field visits, interviews of resource persons and water quality analysis to complete available data.

Appointment of a consultant to conduct the Environment Impact Assessment in absence of the strategic environmental assessment that is planned by the Client, and the consultant to work closely with the latter consultant (whichever the case) and their planning and assessments should conform to the EIA consultants requirements.

2.2.9 Financial sustainability

The Consultant shall undertake a thorough financial analysis aimed at answering to the following questions:

- (i) What is the costs and revenues structure for the water and sanitation services?
- (ii) Is the water budget ring-fenced?
- (iii) Cost recovery: are the Opex covered by the revenues? And to which level are Capex also borne by the tariff?
- (iv) Tariff structure: Is the tariff structure adapted to the specific context of CoW (large informal settlements, water scarcity, expensive water reclamation infrastructure, bulk supplier tariffs)?

- (v) Is the current financial set-up sustainable?

In addition, in order to inform the tariff structure revision in phase 3, the Consultant shall propose in its technical proposal a methodology to assess the users' ability to pay for the water and sanitation services.

2.2.10 Proposition of scenarios

Based on the above, the Consultant shall propose three comprehensive scenarios describing a sustainable future. The objective of the scenarios will be to help CoW screen the possible options before developing the Master Plan. Each scenario should:

- (i) Reconcile water demand and water resources over the next 20 years based on (i) Namwater projects and (ii) a set of measures including optimization of water reclamation, water demand management/ conservation, groundwater recharge, etc.
- (ii) Propose a coherent bulk development strategy, in line with the spatial development framework under discussion and strategic environmental assessment. This strategy should (i) propose a certain level of service in the informal settlements, (ii) propose centralized / decentralized options for the new developments, (iii) map sewer / onsite sanitation areas.
- (iii) Propose a recycling strategy regarding wastewater and sludge, and a sludge value chain strategy for the informal settlements and rural areas.
- (iv) Propose an institutional set-up for the management of the facilities,

The proposed scenarios (to be detailed, studied and compared during phase 2) will be validated by the steering committee before launching phase 2. They should be contrasted on some of the main above listed criteria. For example, one scenario could be based on maximizing water conservation and water demand management measures another one could be based on decentralized sanitation systems for new developments or on a new institutional set-up.

If considered more relevant, the Consultant could as an alternative elaborate scenarios for each themes: water balance reconciliation, bulk infrastructure, water demand/conservation measures and water reclamation, sludge recycling, institutional set-up, etc.

2.3 Phase 2: comparison of scenarios

The Consultant shall undertake a comprehensive comparison of the scenarios. Each scenario will be detailed from the institutional, technical, environmental, financial and economic perspective, including high level mapping and costing. This will include but not be limited to:

- (i) Detailed water balance reconciliation, showing in particular the effect of the water conservation / water demand management measures and wastewater reclamation investments;
- (ii) Climate Change resilience and water security of the scenario: the Consultant should propose an indicator to qualify the level of resilience to climate change impacts of the scenario.
- (iii) Service level strategy per type of area (core urban area, informal settlements, rural areas);

- (iv) High level mapping of the bulk infrastructure;
- (v) CAPEX and OPEX estimate;
- (vi) Revision of the tariff structure to ensure cost recovery and financial sustainability (and water demand management if need be), based on various level of subsidies to be set with CoW;
- (vii) High level costs benefits analysis: at this stage the costs benefits analysis should not necessarily be carried out in economic prices. It should however estimate direct and indirect costs and benefits such as reduction of waterborne diseases, water supply security and non interruption of service for firms, broad estimate of savings expected on the expensive water augmentation programmes from Namwater, reduction of time dedicated to fetching water, electricity import substitution, fertilisers import substitution, main environmental impacts whose cost can be quantified, etc. The economic internal rate of return shall be estimated.
- (viii) Institutional set-up for the implementation, operation and maintenance.

The scenarios will be compared through a multi-criteria analysis. This analysis will include weighted technical, environmental, social, climate change resilience, financial and economic criteria which shall be discussed with CoW prior to developing the analysis.

The scenario to be developed in Master Plan will be selected by the Steering Committee. The Steering Committee might propose an optimized scenario mixing features of different scenarios.

2.4 Phase 3: development of the Integrated Urban Water Management Master Plan

Based on the Steering Committee decisions, the Consultant shall first optimize the selected scenario, or merge various scenarios and develop the Master Plan. This will include but not be limited to:

- (i) Refined water balance reconciliation, showing in particular the effect of the water conservation / water demand management measures and wastewater reclamation investments;
- (ii) Develop a guideline for development within the aquifer protection;
- (iii) Concept design of the new bulk infrastructure, rehabilitation and improvement of the existing ones in the core urban area. This will include facilities related to sludge recycling.
- (iv) Informal settlements: Determine an adequate level of service taking into consideration the population ability to pay, the temporary nature of informal settlements and possible cross subsidies with formal urban sectors. This level of service should be described in terms of type and density of access to water and type and density of sanitation facility. Propose a structuration of and support to the sludge collection, transport and recycling value chain.
- (v) Rural areas: determine the strategy to ensure an adequate level of service;
- (vi) General mapping of the proposed investments for the whole Municipality, detailed mapping per sector; Concept design drawings.
- (vii) Detailed description of accompanying measures: water demand management, water conservation, aquifer protection and development policy, etc.

- (viii) Costing of CAPEX and OPEX per geographical sector in order to facilitate for CoW investment programming and funding mobilisation.
- (ix) Phasing of the developments in line with the spatial development framework and strategic environmental assessment under preparation,
- (x) Refinement of the Economic analysis carried out in phase 2: updating costs and benefits and using economic price through conversion factors.
- (xi) Institutional structuration: propose an adequate institutional structuration, which may depend on the type of investments. Assess which investment are conducive to be implemented under a Public Private Partnership scheme.
- (xii) Gender and youth strategy: detail measures to ensure an equitable implementation of the master plan.
- (xiii) Detailed financial analysis and financing strategy: propose and justify a tariff structure and financing strategy for the master plan to ensure the financial viability of CoW water and sanitation sector. The tariff structure should be consistent with the proposed water demand management measures and with the users' ability to pay. The financing strategy should be based on a mix between tariff increase, loans, grants (from the Government or from municipal cross subsidies scheme), and any other innovative financing instrument.

2.5 Phase 4: detailed design of a priority project

The Consultant will propose a priority project, or set of priority projects, mounting around Euro 25 to 30m for developing a detailed design. The proposal shall be based on criteria such as a broad costs/benefits analysis, number of user served, cost per user, etc.

TO BE COMPLETED BY COW

3 DATA AND SERVICES TO BE PROVIDED BY THE CLIENT

The following available data can be viewed by the tenderers at the Engineering Services Division (63 – 65 Pullman Street). This information will only be made available to the appointed consultant. After the completion of the project all the data must be returned by the appointed consultant to the Client.;

- (i) Available studies: see annex 2
- (ii) Electronic contour plans of the part of the project area that is available for planning purposes only.
- (iii) Cadastral drawings of parts of Windhoek that are available, the areas not incorporated should be covered under the consultant's scope of works if need be.

No further facilities, equipment or personnel shall be provided by the Client, and all such requirements (i.e. vehicles, communications and equipment etc.) must be provided by the consultant for his own use during the course of the Project.

It is the responsibility of the consultant to obtain positions of all existing services (i.e. municipal and private water supply lines) as accurate as possible before commencing with any planning, investigations and assessments. The existing services must be shown in the final submission of the master plan. The consultant is further required to consult all relevant departments to obtain the necessary information in order to complete the master plan. All associated cost should be included in the fees to complete the final master plan. This will also include the cost for any additional surveys if required. No additional fees will be accommodated separately, thus it's crucial for the fees to be all inclusive

The Consultant shall operate their own project office if need be and shall bear all accommodation, local transportation, Visas, and other costs necessary to carry out the assignment.

4 ORGANISATION, COORDINATION AND MANAGEMENT

4.1 Implementation Arrangement

4.1.1 Project Implementation Unit (PIU)

A Project Implementation Unit (PIU) headed by a Project Manager is established under Infrastructure Water and Technical Services (INF). The main responsibility of the Project Manager is to oversee the implementation of all aspects of the Project and be fully responsible for its day to day management. The PM will report and oversee the activities of the consulting firm and facilitates the support and inputs required from the other municipal departments and external stakeholders.

4.1.2 Project steering and consultation

A Steering Committee that consists of 5 CoW personnel composed of the various concerned municipal divisions and chaired by the Strategic Executive: INF will provide guidance to the project team and Consultant, review the Consultant's outputs and validate the reports. The final Master Plan report shall be approved by the Municipal Council.

A Stakeholders' Consultative Committee will be established in order to get a feed-back from the main stakeholders at the major phases of the Master Plan.

The consultant will attend both instances meetings and prepare power point presentations.

The number of SC and CC meetings to be determined by the PIU, but will be a minimum of one meeting per each milestone of the project.

A Technical Advisory Panel composed of technical specialist will review the reports and provide guidance to the PIU and Steering Committee.

4.2 Deliverables

The main reporting requirements are summarised as follows:

- i. Inception Report and presentation, refining the study methodology and calendar;

- ii. Interim phase 1 report, including CCTV report and surveys reports: this report will detail the progress of phase 1 and raise points where CoW guidance is needed;
- iii. Integrated Diagnosis Report and presentation (phase 1 report), including CCTV report and surveys reports;
- iv. Comparison of scenario Report and presentation (phase 2 report);
- v. Master Plan (phase 3 report).
- vi. Detailed design report for priority project

All reports shall be submitted in draft and final form. Draft reports will be submitted in soft copy only, except for the drawing and plans which shall be submitted in A0 hard copies and a soft copy. Final reports will be submitted in 5 hard copies and a soft copy. Soft copies shall be submitted in Microsoft Word, Microsoft Excel, and AutoCAD 2010 format.

All reports should include annexures with maps. Maps will be provided in A0 format to get a comprehensive view of the municipal infrastructure and in A3 format for sector zooms. In both cases, existing and planned urban areas and main geographical features should appear so as to allow the reader to make the necessary links with the urban dynamic and locate the facilities.

Contractual schedule

The study will be implemented in parallel over a 20 months period from the date of consultancy contract signing. The contractual schedule for deliverable submission is provided in the table below:

Event	Schedule
Contract signing date	M
Inception report	M+1,5
Draft interim phase 1 report	M+5
Draft phase 1 report (Diagnosis)	M+8
Draft phase 2 report (Scenarios)	M+13
Draft phase 3 report (Master Plan)	M+18
Draft phase 4 report (Detailed design)	M+23

All final reports shall be submitted one month after reception of the Client's comments, the Client being allowed one month for review of documentation and providing comments. The deliverable dates constitute progress milestones and delays thereof without extension granted by the PM will be dealt with under the Contract.

4.3 Composition of the Study Team

4.3.1 The Consultant's required key staff

The Consultant is expected to provide in its proposal key staff listed below. Key staff is indicative of the main expertise required for the assignment, but the Consultants may propose other team members based on the needs of the assignment so as to cover all themes mentioned in the ToR. When the same expert has several domains of skills enabling for occupying several positions, the corresponding CV must clearly show such capabilities through education background and experiences. The Consultant will determine the number and levels of professional and support staff required to complete the assignment effectively, efficiently and on time. Brief descriptions of key staff and their responsibilities under the assignment and their qualifications and experiences required for the assignment is as follows:

- (i) **Team Leader/Water Planner Engineer (TL):** The Team Leader will be responsible for the overall planning and implementation of the consultancy services including team management and coordination; He/she should have as a minimum a MSc. in Water Resources Engineering or any related field and 15 years of international experience, partly in Africa, related to water and wastewater planning, upstream project preparation and have a track record of leadership in managing multi-disciplinary teams. An experience in integrated urban water management approaches will be an asset.

- (ii) **Groundwater specialist:** He/she should have as at minimum a MSc. in hydrogeology or any relevant field and 10 years of experience related to water planning, climate change, and aquifer management. Knowledge of the Namibian hydrogeological context will be an asset.
- (iii) **Water Supply Engineer (Professional Engineer):** He/she should have as a minimum a MSc. in water engineering or any relevant field and 10 years of experience related to water planning and upstream project preparation. An experience in integrated urban water management approaches will be an asset.
- (iv) **Wastewater Engineer (Professional Engineer):** He/she should have as a minimum a MSc. in wastewater engineering or any relevant field and 10 years of experience related to wastewater planning and upstream project preparation. An experience in integrated urban water management approaches will be an asset.
- (v) **Process engineer (Professional Engineer):** He/she should have as a minimum a BSc in water engineering or any relevant field and 5 years of experience related to feasibility and detailed design studies.
- (vi) **Environmentalist:** He/she should have as a minimum a MSc in environmental science or any relevant field and 10 years of experience related to strategic environmental and social assessments, ESIA and planning.
- (vii) **Financial specialist / PPP financial expert:** He/she should have as a minimum a MSc in finance or any relevant field and 10 years of international experience related to project finance, financial analysis of water project, tariff structure.
- (viii) **Project economist:** He/she should have as at minimum a MSc in economics, project economics or any relevant field and 10 years of international experience in project economic appraisal and costs benefits analysis in particular in the water sector.
- (ix) **Institutional specialist:** He/she should have as at minimum a MSc. in Law or any relevant field and 10 years of international experience related to institutional assessment and regulatory review for basic services and infrastructure projects.

4.3.2 Non Key experts

The Consultant may propose a list and CVs of non-key expert.

Annex 1: list of available studies

Existing Master Plans

- North-West & South-West Water and Sewer Reticulation Master Plan, December 2014.
- Windhoek Bulk Water Master Plan, 2004.
- Windhoek Bulk Water Master Plan, March 2004 done in July 2008.
- Revisions to the Windhoek Bulk Water Master Plan, July 2008.
- Brakwater Bulk Services, August 2010.

Prefeasibility study:

The augmentation to the water supply of the Central Area of Namibia and the Cuvelai. Interim report 3- Preliminary Design and costing. 2016 . LCE and SCE