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| **Commissioning party** | Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbHBlock C, Ground Floor,Hatfield Gardens, 333 Grosvenor Street, Hatfield, PretoriaTel: (012) 423 5900 |
| **Your contact for queries is:** | Email: procurement.pretoria@giz.de  |
| **Brief project title** | Green Infrastructure Options for Flood Alleviation in Response to a Changing Climate – Development of Flood Alleviation Infrastructure in the Jukskei Catchment(s) of the City of Johannesburg |
| **Project processing number** | **24.3412.4 –310.00** |
| **Contract number** | **83483095** |
| **Country of assignment** | The Republic of South Africa |
| **Period of assignment** | from 5 May 2025 until 28 February 2026 |
| **Project description and sector** | ContextThe projected climate change impacts on South Africa are expected to alter its rainfall patterns. The City of Johannesburg located in Gauteng (the smallest province) is the largest city in South Africa. It is characterised by a high level of urbanisation and densification particular in its Northern suburbs. Changes to rainfall patterns in Johannesburg will affect the already constrained stormwater infrastructure. The existing stormwater infrastructure is under strain from rapid development and deferred maintenance. This leads to disruptions particularly in areas without adequate stormwater infrastructure. Alexandra township is located in the north-eastern part of the city on the banks of the Jukskei river. The Jukskei is one of 25 catchment areas in the city of Johannesburg. The township that historically housed migrant labourers has become densely populated and attracted many low-income households. Accommodation includes informal settlements that has been encroaching on the Jukskei river including dwellings that have been built within its flood line. Extreme weather events such as intensive rainfall leads to costly damage to city infrastructure. Further increased rainfall intensity has also exposed this area and others to higher risks of flood. Increased flooding in turn is also expected to cause further erosion in the Jukskei Catchment.The City of Johannesburg has been concerned about the need for interventions in response to heavy rainfall and increased risk to life and property during extreme weather events. To this end it has considered introducing nature based and hybrid interventions upstream from Alexandra township to reduce the risk of flooding in developed and inhabited areas along the Jukskei. The City of Johannesburg (CoJ) is a member of C40 a Global Network of Mayors and participating cities. It has had access to the C40 Cities Finance Facility, CFF, ([www.c40cff.org](http://www.c40cff.org)). It has signed a Memorandum of Understanding (MoU) with the CFF through which the CFF is able to support it in the development of flood Alleviation infrastructure in the Jukskei catchment of the City of Johannesburg by providing financial and project management support to undertake this study.The objectives of this study which will inform the development of flood Alleviation infrastructure in the Jukskei catchment will be:* To assess, identify and map the potential for flooding in the Jukskei catchment.
* To clearly define the underlying causes of any increased potential for flooding, in terms of the interaction between the current characteristics of the catchment and anticipated direct climate change impacts.
* Propose solutions to address the cause of flooding identified and analysis of Nature-Based and Hybrid Solutions that could play a role in reducing flood risk and optimise possible co-benefits.
* Develop detailed flood alleviation infrastructure programme for the catchment.
* The outcome of the study will be a business case including a cost benefit analysis that will be used to secure funding from identified potential finance sources for the City.
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| **Detailed Description of Tasks and Responsibilities** | Tasks to be performed by the contractorThe contractor is responsible for providing the following services:The focus of this study will be on the Jukskei catchment in the city of Johannesburg. The study area will be limited to the portion of the Jukskei river from its point of origin to and including Alexandra township. These specialist studies are intended to inform the development of an Infrastructure programme to improve catchment management, stormwater management and disaster mitigation. Particular where the absence of flood alleviation will result in damage to property and infrastructure along this stretch of the river. The infrastructure programme will identify nature based and hybrid solutions that will assist in flood control. To this end the following specific studies are required. Review existing climate data, trends and climate change projections and models. This will include but not be limited to the IPCC reports and related data pertinent to South Africa, Gauteng and Johannesburg. This data should be used to identify and/or formulate the most suitable climate change scenarios that will inform the selection and prioritisation of interventions to be included in an infrastructure programme.Undertake a comprehensive audit of the ecological assets and infrastructure assets along the river. The audit will be document assets along the river that will be included in maps of the area. A condition assessment will be undertaken of these assets. The relationship and impact on current formal and informal land use, socio-economic activities should also be documented. This with the hydrological analysis will provide the baseline data on the current performance of the catchment and related risks. Assessment of the flooding risk will be an input to the baseline data, combined with a review of the climate change projections and hydraulic analysis to provide an analysis of potential flooding impacts, underlying causes and potential solutions.The baseline information and analysis will be used to develop a high level (conceptual design) of an infrastructure programme for the catchment. This should identify, locate potential sites and provide details on potential flood alleviation measures.

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| **Milestones/partial works** | **Deadline/place/person responsible** | **Criteria for acceptance** |
| Final Inception Report | 1.5 month after project start (Team Leader) | When accepted by the City of Johannesburg’s project implementation team as satisfying the requirements of the ToR. |
| Climate Change Projections Report | 4 Months After Project Start (Team Leader/Climate Scientist) | As above |
| Final Ecological, Infrastructure and Land use Analysis Report | 4 Months After Project Start (Team Leader/ Civil Engineer) | As above |
| Final versions Hydrological and Hydraulic Analysis report. | 5 months after project start (team leader, hydrologist, civil engineer, Geohydrologist and Hydraulic Engineer) | As above |
| Final Flood Risk Assessment | 6 months after project start (team leader, hydrologist, civil engineer, Geohydrologist and Hydraulic Engineer) | As above |
| Final versions Infrastructure Development Programme.  | 7.5 months after project start (Municipal infrastructure specialist (civil engineer with experience in water and catchment management, Landscape architect, Ecological expert, Hydrologist, Environmental economist, Urban/Town Planner) | As above |
| Final CBA of the proposed hybrid flood measures | 9 months after option implementation start | As above |

Period of assignment: from 5 May 2025 until 28 February 2026. Inception PhaseThe project inception phase is key to ensuring the proper foundation for the effective delivery of the project is laid and that all key stakeholders involved in the project have a common understanding of how the project will be managed to achieve its aims. The following tasks will be undertaken: a. Once the contract is signed by the contractor, an inception meeting will be held between the contractor’s team of consultants, the CFF Senior Project Advisor and City of Johannesburg’s project implementation team. This will identify key issues that need to be addressed to underpin the effective delivery of the assignment, including the project management arrangements. The contractor will write up minutes of this meeting. Please note that the contractor will be expected to minute all subsequent meetings it participates in as part of this project. b. During the inception phase the contractor will identify all existing studies and projects that have been undertaken on the portion of the Jukskei river. These will include* Stakeholder mapping and social Inclusion study commissioned for the CoJ through the CFF. The social inclusion study will be underway at the inception and be implemented concurrently with this project. The contractor will engage and collaborate with the team undertaking the social inclusion study.
* The CoJ has partnered with the World Resources Institute (WRI) and the International Institute for Sustainable Development (IISD) in an initiative aimed at scaling urban Nature based Solutions (NbS) in the CoJ. The project is called Transformative Rivers Management Programme (TRMP) Business Case City of Johannesburg. The Project has been contracted through the Scaling Urban NbS for Climate Adaptation in Sub-Saharan Africa and is currently being implemented. The contractor is required to engage and collaborate with Zutari (appointed service provider) to align the deliverables and share data between the two projects.
* The contractor will identify any other relevant studies undertaken on the Jukskei river either for CoJ or others.

The contractor will evaluate the status of these projects and the available deliverables to determine the extent to which the data and information will be able to inform this assignment. c. A draft inception report will be written reflecting the issues discussed in the inception meeting, including a revised project plan and risks to project delivery that need to be addressed. This report will also detail how social and inclusion considerations will be integrated effectively into the project. This will be supported by the contractor’s team having a workshop with the C40 CFF’s equity and inclusion team during the inception phase to explain how the C40 CFF approaches equity and inclusion issues. d. The draft inception report will also capture how the project will effectively support the cost-benefit analysis of the different flood alleviation measures identified. e. Based on the comments on the draft inception report, a final inception report will be written and approved. The milestones, timeline and responsibility for this specific service are as follows:

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| **Milestones** | **Deadline (person responsible)** |
| 2.1.1 Draft inception report, stakeholder mapping and socio-economic analysis | 1 Month after project start (team leader) |
| 2.1.2 Final inception report, stakeholder mapping and socio-economic analysis | 1.5 months after project start (team leader) |

Climate Change Review and ModellingThis study will form the baseline data that will inform the flood risk analysis and inform the type of measures that will be considered towards flood alleviation. It is intended to assist in answering the following questions regarding the Jukskei river. 1. What the existing Climate Change projections are for the catchment and what level of further review or update is required.
2. What scenarios and projections should be utilised for the stormwater and catchment management and this project? Recommend the appropriate time horizon to be used in the business case, cost-benefit analysis, and proof of concept assessments? In this first step, that will inform subsequent technical studies, the following tasks will be undertaken:
3. Review existing literature, models and their projections extracting the relevant data to construct a baseline. Expand on the selection of appropriate scenario(s) (including confidence levels) that should be used by the city of Johannesburg for climate adaptation and this project in particular.
4. Propose scenario and projections that should form the basis of proposed flood alleviation measures.

The outputs of this task must then be used to inform the other specialist assessments and studies, in particular the hydrological assessment and the climate change vulnerability and EGS assessment.

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| **Milestones** | **Deadline (persons responsible)** |
| 2.2.1 Draft Climate Change Projections methodology  | 3.5 months weeks after project start (team leader, climate scientist) |
| 2.2.2 Final Climate Change Projections methodology  | 4 months after project start (team leader, climate scientist) |

Ecological Infrastructure and Land Use AnalysisIn this study an existing situation analysis will be undertaken of the Jukskei river, it is anticipated that the following tasks will be undertaken:1. Identification, documentation and Mapping of all existing ecological and built environment assets within the catchment (with an emphasis on municipal infrastructure).
2. Identification documentation and mapping of planned relevant infrastructure e.g. stormwater ponds, parks, waste management equipment (litter booms, traps) and stations (transfer and/or recycling stations).
3. Inventory and categorization (size, typology, ownership, current use) of existing public open space in the catchment.
4. Assessment of the condition and functional performance of built infrastructure assets along the river.
5. Assessment of the state of all ecological assets (including areas affected by alien species) and the performance of ecological systems.
6. Assessment of existing river water quality (where data is available).
7. Identification of all municipal and private land in the vicinity of the river particularly where it can be used to develop flood alleviation options.
8. Development, and application of, a methodology to identify potential locations of proposed flood alleviation interventions.
9. A specific piece of work should be undertaken to clearly define and characterise the waste management issues in the catchment that affect flood and stormwater management. Identify waste management related infrastructure requirements as a part of the proposed masterplan (concept design).

All information to be captured in a spatial format compatible with the City of Johannesburg and Johannesburg Roads Agency’s GIS systems, as well as being written up in narrative reports.

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| **Milestones** | **Deadline (persons responsible)** |
| 2.3.1 Draft Ecological, Infrastructure and Land use Analysis | 3 months after project start (team leader, ecologist, ecologist, civil engineer, GIS Specialist) |
| 2.3.2 Final Ecological, Infrastructure and Land use Analysis.  | 4 months after project start (team leader, ecologist, ecologist, civil engineer, GIS Specialist) |

Hydrological and Hydraulic AnalysisThe objective of this study will be to provide insight on the following:1. The nature and mechanisms in which the waterway and groundwater interact, including when there are incidents of surface water flooding and raised groundwater levels.
2. The objective is to analyse and understand the hydrological and hydrogeological dynamic of the Jukskei catchment including modelling to propose and plan appropriate flood control measures (including land and ecological restoration).
3. It is anticipated that this analysis will be based on a desk top review of existing data, no primary research or field data collection is anticipated.
4. Determine if, or where infiltration and recharge from the waterway into the aquifer is significant and identify opportunities for GI and NbS to enhance this and identify associated risks.

The following tasks will be undertaken: Develop a rainfall runoff / hydrological model including scenario modelling (1:50; 1:00; 1:200) and Projected Climate Change for 2050 (Status Quo) of the catchment and waterways to understand water flow, flood extent and water quality for following scenarios: * **Baseline model** of the catchment in its current state
* **Business As Usual** scenario indicating the future state of the catchment with climate change projections without any intervention.
* **Clean scenario** climate change projections after non infrastructure interventions proposed in the Transformative Rivers Management Programme (TRMP) have been implemented.
* **Nature Based Solutions (NbS)** scenario indicating climate change projections with only the NbS implemented excluding the impact of the TRMP.
* **Ideal Scenario** indicating climate change projections with TRMP and NbS interventions implemented.

The Baseline Model and Clean Scenario will initially be modelled. The nature-based solutions and ideal scenario will be modelled after proposed interventions have been identified.

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| **Milestones** | **Deadline (persons responsible)** |
| 2.4.1 Draft of the Hydrological and Hydraulic Analysis report.  | 4 months after project start (team leader, hydrologist, civil engineer, Geohydrologist and Hydraulic Engineer) |
| 2.4.2 Final versions Hydrological and Hydraulic Analysis report. | 5 months after project start (team leader, hydrologist, civil engineer, Geohydrologist and Hydraulic Engineer) |

Flood Risk AssessmentThis portion of the study will require the following tasks to be undertaken. 1. Map existing areas that are susceptible to flooding and detail when and why this has occurred through a review of historical assessment of flooding and the associated impacts and damage in the catchment.
2. Provide a detailed analysis of how the river interacts with groundwater flows and the implications of these regarding flooding and the flood risk and management.
3. Where relevant and needed it will be necessary to revise and or update the flood lines for the catchment. This will include a review of the climate change projections as an input into this work.
4. Develop a methodology to define the flood risks associated with the catchment and opportunities to mitigate against the risk.

The Transformative Rivers Management Programme (TRMP) includes a project on the removal of invasive species and riverine health. The studies undertaken as a part of this project should determine if the removal of invasive species will have an impact on the flow of the river. The study should also consider what impact the TRMP will have on the flood risk if any.

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| **Milestones** | **Deadline (persons responsible)** |
| 2.5.1 Draft of the Flood Fisk Assessment report.  | 5 months after project start (team leader, hydrologist, civil engineer, Geohydrologist and Hydraulic Engineer) |
| 2.5.2 Final versions Flood Risk Assessment report. | 6 months after project start (team leader, hydrologist, civil engineer, Geohydrologist and Hydraulic Engineer) |

Infrastructure Programme Development: High level master planning of Hybrid and Nature based solutions This study will answer the following questions:1. What flood alleviation interventions should be implemented in terms of their ability to mitigate flooding risks for downstream communities and to optimise potential co-benefits?
2. What are their individual and overall CAPEX and OPEX requirements and what would be their benefits of NbS and Hybrid solutions compared to BaU scenario (including planned infrastructure development for the catchment) The following tasks will be undertaken:
* Develop a methodology to identity and conceptualise infrastructure interventions that can reduce flooding risk. This will include a quantitative assessment of the reduction in potential flooding impact. Methodology to include an assessment of potential co-benefits and how to optimise these co-benefits e.g. job opportunities (relating to maintenance of newly created NbS and waste management).
* Apply methodology to identify, assess and prioritise proposed locations for interventions.

On the basis of the analysis completed, detailed conceptual designs for interventions should be developed, including visual representations as well as initial assessments of their CAPEX and OPEX requirements; broad maintenance approaches to the sites; how safety and security issues will be managed; development of open space opportunities for recreational use; and the regulatory approvals that would be required for implementation.

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| **Milestones** | **Deadline (persons responsible)** |
| 2.6.1 Draft Infrastructure Development Programme.  | 7 months after project start (Municipal infrastructure specialist (civil engineer with experience in water and catchment management, Landscape architect, Ecological expert, Hydrologist, Environmental economist, Urban/Town Planner) |
| 2.6.2 Final versions Infrastructure Development Programme.  | 7.5 months after project start (Municipal infrastructure specialist (civil engineer with experience in water and catchment management, Landscape architect, Ecological expert, Hydrologist, Environmental economist, Urban/Town Planner) |

Cost-Benefit analysis of the Proposed hybrid flood interventions, including Climate Change Vulnerability Assessment The overall intention of the Cost Benefit Analysis that will be developed in this project is to build a business case for transformative urban riverine corridor management as compared to conventional management or Business as Usual scenario (including planned hybrid and nature-based infrastructure) The study will identify what areas and communities are most vulnerable to the impacts of increased flooding because of climate change. It will assess qualitative and quantitative impacts in a manner that a cost-benefit analysis can be undertaken. The cost benefit analysis will be used to assist in the analysis of options identified and selection of the preferred interventions and sites. The following tasks will be undertaken: 1. A Cost-Benefit Analysis (CBA) methodology to be used to develop this business case with the objective to determine the extent to which the value derived from the various interventions relates to the costs entailed and compared to a BaU scenario in the context of the climate projections reviewed in other studies at a horizon defined in agreement with the CoJ. The CBA will seek to determine if the costs incurred are justifiable based on the accrued benefits (including avoided costs of damage) in the context of the projected climate change.
2. The CBA should consider the dynamic nature of environmental costs, which are frequently externalised from economic analyses, and benefits and the shortfalls of conventional economic analyses in addressing these dynamics.
3. Using the baseline data developed for the other specialist studies identify and analyse the key locations, and communities, which are most vulnerable to flooding risks associated with climate change and why. This information should be captured in a spatial format that is compatible with the GIS systems being used by the CoJ.
4. Indicate clearly how this information can be effectively used to identify and develop the hybrid flood alleviation intervention concepts (see section 2.6).

The milestones, timeline and responsibility for this service are as follows:

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| **Milestones** | **Deadline (persons responsible)** |
| 2.7.1 Draft CBA of the proposed hybrid measures | 8.5 months after option implementation start  |
| 2.7.2 Final CBA of the proposed hybrid flood measures  | 9 months after option implementation start |

The contractor is responsible for selecting, preparing, training and steering the international and national, short and long-term experts assigned to perform the advisory tasks.The contractor provides equipment and supplies (consumables) and assumes the associated operating and administrative costs.The contractor manages costs and expenditures, accounting processes and invoicing in line with the requirements of GIZ.The contractor reports regularly to GIZ in accordance with the current AVB of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH.

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| **Milestones/partial works** | **Deadline/place/person responsible** | **Criteria for acceptance** |
| Final Inception Report | 1.5 month after project start (Team Leader) | When accepted by the City of Johannesburg’s project implementation team as satisfying the requirements of the ToR. |
| Climate Change Projections Report | 4 Months After Project Start (Team Leader/Climate Scientist) | As above |
| Final Ecological, Infrastructure and Land use Analysis Report | 4 Months After Project Start (Team Leader/ Civil Engineer) | As above |
| Final versions Hydrological and Hydraulic Analysis report. | 5 months after project start (team leader, hydrologist, civil engineer, Geohydrologist and Hydraulic Engineer) | As above |
| Final Flood Risk Assessment | 6 months after project start (team leader, hydrologist, civil engineer, Geohydrologist and Hydraulic Engineer) | As above |
| Final versions Infrastructure Development Programme.  | 7.5 months after project start (Municipal infrastructure specialist (civil engineer with experience in water and catchment management, Landscape architect, Ecological expert, Hydrologist, Environmental economist, Urban/Town Planner) | As above |
| Final CBA of the proposed hybrid flood measures | 9 months after option implementation start | As above |

Period of assignment: from 5 May 2025 until 28 February 2026. **Concept**In the tender, the tenderer is required to show how the objectives defined in Chapter 2 (Tasks to be performed) are to be achieved, if applicable under consideration of further method-related requirements (technical-methodological concept). In addition, the tenderer must describe the project management system for service provision.Note: The numbers in parentheses correspond to the lines of the technical assessment grid.**Technical-methodological concept****Strategy (1.1)**: The tenderer is required to consider the tasks to be performed with reference to the objectives of the services put out to tender (see Chapter 1 Context) (1.1.1). Following this, the tenderer presents and justifies the explicit strategy with which it intends to provide the services for which it is responsible (see Chapter 2 Tasks to be performed) (1.1.2).The tenderer is required to present the actors relevant for the services for which it is responsible and describe the **co-operation (1.2)** with them. The project Management structure integration will be achieved (1.2.1) and strategies to be adopted to secure co-operation with internal and external stakeholders (1.2.2).The tenderer is required to present and explain its approach to **steering** the measures with project partners (1.3.1) and its contribution to the **results-based monitoring system** (1.3.2).The tenderer is required to describe the key **processes** for the services for which it is responsible and create an **operational plan** or schedule (1.4.1) that describes how the services according to Chapter 2 (Tasks to be performed by the contractor) are to be provided. In particular, the tenderer is required to describe the necessary work steps and, if applicable, take account of the milestones and **contributions** of other actors (partner contributions) in accordance with Chapter 2 (Tasks to be performed) (1.4.2).The tenderer is required to describe its contribution to knowledge management for the partner (1.5.1) and GIZ and to promote scaling-up effects (1.5.2) under **learning and innovation**.**Other specific requirements**The bidder must ensure that the proposed team includes relevant experts across all sectors required to successfully coordinate, implement and achieve the above set out objectives in Section 1 and deliverables in Section 2. The bidder must have relevant experience working in South Africa and specifically the City of Johannesburg. The appointed team must be based in the City of Johannesburg or have an effective presence in the Gauteng Province for the duration of the study.**Project management of the contractor (1.6)**This project will be managed by the GIZ and City of Johannesburg (COJ). A Senior Project Advisor (SPA) based in the COJ has been appointed specifically to this project by GIZ. Technical support and contractual administration will be provided by GIZ. A Project Implementation Team (PIT), comprising relevant COJ departments and entities has been established, which will be responsible for providing additional technical guidance to the project. The tenderer is required to explain its approach for coordination with the GIZ project. In particular, the project management requirements specified in Chapter 2 (Tasks to be performed by the contractor) must be explained in detail (1.6.1).Project management requirements* The contractor is responsible for selecting, preparing, training and steering the experts (national, short and long term) assigned to perform the advisory tasks.
* The contractor makes available equipment and supplies (consumables, printing etc.) and assumes the associated operating and administrative costs.
* The contractor manages costs and expenditures, accounting processes and invoicing in line with the requirements of GIZ.
* The contractor reports regularly to GIZ in accordance with the GTCC of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH from 2022.

Details about additional reportingIn addition to the milestones and associated deliverables lined out, the contractor must undertake / submit the following: * Inception meeting and report (as per activity 2.0).
* Project summary emails every two weeks.
* Monthly progress meetings (in person, hybrid or online as agreed) on the implementation status of the project (meetings planned and facilitated by the contractor and all meeting minutes to be created by the contractor).
* Final report (format to be agreed) including all deliverables, specialist study reports, maps, drawings, photos, data, models and anything else generated or obtained through this project.
* Presentation of preliminary deliverables to the Project Implementation Committee on one occasion.
* Presentation of final deliverables to the Project Implementation Committee.

The tenderer is required to draw up a **personnel assignment plan** with explanatory notes that lists all the experts proposed in the tender; the plan includes information on assignment dates (duration and expert months) and locations of the individual members of the team complete with the allocation of work steps as set out in the schedule (1.6.2).Details about backstoppingThe tenderer is required to describe its backstopping concept. The following services are part of the standard backstopping package, which (like ancillary personnel costs) (1.6.3) must be factored into the fee schedules of the staff listed in the tender in accordance with Section 3.3.1 of the GIZ AVB:* Service-delivery control
* Managing adaptations to changing conditions, including expert change / replacement.
* Ensuring the flow of information between GIZ and field staff.
* Assuming personnel responsibility for the contractor’s experts, personal and sub-contractors.
* Process-oriented technical-conceptual steering of the consultancy inputs.
* Securing the administrative conclusion of the project
* Ensuring the flow of information between GIZ and field staff.
* Process-oriented technical-conceptual steering of the consultancy inputs.
* Ensuring compliance with reporting requirements.
* Providing specialist support for the on-site team by staff at company headquarters.
* Sharing the lessons learned by the contractor and leveraging the value of lessons learned on site.

The contractor must guarantee the presence of a senior technical person in charge throughout the duration of the contract. If the senior person has to take leave from the project, a period of at least one (1) month notice is required, in which the senior person must work parallel with the next person (senior consultant with similar expertise and equal years of experience) appointed to be able to transfer skills and knowledge. The newly appointed senior consultant must provide a detailed CV which must be approved by GIZ to facilitate contractual amendments before work is undertaken by the new resource. Personnel conceptThe tenderer is required to provide personnel who are suited to filling the positions described, on the basis of their CVs (see Chapter 7), the range of tasks involved and the required qualifications.The below specified qualifications represent the requirements to reach the maximum number of points in the technical assessment.4.1 Team Leader**Tasks** * Overall responsibility for the project and the sub-consultants / team members (in terms of quality of deliverables and deadlines).
* Coordinating and ensuring communication with GIZ, CoJ and others involved in the project.
* Provide leadership in the development, implementation and evaluation of project outputs which will contribute positively to the improved ability of the CoJ to manage flooding risks in the Jukskei.
* Personnel management identifying the need for short-term assignments within the available budget, as well as planning and steering assignments and supporting local and other short-term experts (if any).
* Support the continuous stakeholder engagement and management of processes over the project duration.
* Regular reporting in accordance with inception report and deliverables.
* The team leader may also fulfil a dual role as an expert/lead in any of the specialist technical tasks, for the institutional recommendations and implementation and financing framework development – this should be clearly stated and motivated by the bidder.

**Qualifications** * Education/training (2.1.1): University qualification, post-graduate (Masters) qualification in appropriate technical field (Stormwater management/ Engineering / Environmental Management / Climate Science / Sustainable Development / Urban Planning / Landscape Architecture / Environmental Economics).
* Language (2.1.2): Excellent spoken and written English. Fluency in isiZulu should be highlighted.
* General professional experience (2.1.3): Fifteen (15) years of professional experience in the Water / Engineering / Environmental Management / Climate Science / Sustainable Development / Urban Planning / Landscape Architecture / Environmental Economics sectors. 2 years’ experience in cost-benefit analysis.
* Specific professional experience (2.1.4): Ten (10) years of experience in developing and implementing transversal urban, regional or strategic programmes involving local government. Five (5) years of experience in climate change adaptation and / or riverine management projects.
* Leadership/management experience (2.1.5): Ten (10) years of management / leadership experience as project team leader of a multi-disciplinary team of experts or manager in a company.
* Regional experience (2.1.6): Five (5) years of experience in similar projects in South Africa, with three (3) years of experience in stakeholder engagement and management for both governmental and non-government (Business, Civil Society / Community-based Organisation, etc.) stakeholders. Experience working on projects for local government, or the City of Johannesburg.
* Development Cooperation (DC) experience (2.1.7): Not applicable.
* Other (2.1.8): PrSciNat, PrEng or equivalent.

4.2 Expert 1: Hydrologist**Tasks** * Lead the flood risk assessment specialist study, including the hydrological and geohydrology assessments.
* Contribute to the other specialist studies as appropriate, including the climate change vulnerability assessment and the ecological, infrastructure and land use analysis.
* Contribute to the identification and conceptualisation of potential flood interventions and where NbS can be used.
* Participate in the stakeholder engagement planning and facilitation.
* Support the coordination of communication with GIZ, partners and others involved in the project.
* Regular reporting in accordance with deadlines.

**Qualifications** * Education/training (2.2.1): University qualification, post-graduate qualification (Masters) in Water Management / Engineering / Environmental Science (or equivalent) with an emphasis on hydrology / hydrological modelling.
* Language (2.2.2): Excellent spoken and written English.
* General professional experience (2.2.3): Ten (10) years of general professional experience in the Water / Engineering / Environmental Management / Climate Science / Sustainable Development / Urban Planning sectors.
* Specific professional experience (2.2.4): Ten (10) years of specific professional experience in hydrological projects, competency in the use of PCSWMM, HECRAS stormwater / flood modelling tools and software.
* Leadership/management experience (2.2.5): Not applicable
* Regional experience (2.2.6): Ten (10) years of experience in hydrology projects in South Africa, of which five (5) years is in projects in the Gauteng Province. 2 years’ experience working on projects for local government.
* Development Cooperation (DC) experience (2.2.7): Not applicable.
* Other (2.2.8): PrEng, PrSciNat or equivalent.

4.3 Expert 2: Civil Engineer **Tasks** * Participate in the Ecological Infrastructure and Land Use Analysis.
* Lead in the detailed concept development for the flood alleviation interventions identified.
* Contribute to the identification and conceptualisation of the flood alleviation interventions (including incorporating NbS elements), and the development of the catchment programmes, including basic CAPEX and OPEX costing.
* Contribute to other specialist studies as required.
* Identify and characterise the approval requirements, and associated processes, of the concepts identified.
* Participate in the stakeholder engagement planning and facilitation.
* Support the coordination of communication with GIZ, partners and others involved in the project.
* Ensuring safety and security issues are addressed in the design of any concepts developed.
* Regular reporting in accordance with deadlines.

**Qualifications** * Education/training (2.3.1): University qualification, post-graduate qualification in Civil Engineering.
* Language (2.3.2): Excellent spoken and written English.
* General professional experience (2.3.3): Ten (10) years of experience working in the landscape architecture field.
* Specific professional experience (2.3.4): Five (5) years of experience working on urban public open space landscape architect projects including those that involve riverine and / or wetland corridors, interface between riparian communities, public spaces, municipal infrastructure (e.g., stormwater) and aquatic ecosystemsLeadership/management experience (2.3.5): not applicable.
* Regional experience (2.3.6): 2 years Relevant project work in the Gauteng Province and City of Johannesburg.
* Development Cooperation (DC) experience (2.3.7): Not applicable.
* Other (2.3.8): Registration with The South African Institution of Civil Engineering (SAICE).

4.4 Expert 3: Landscape Architect.**Tasks** * Participate in the Ecological Infrastructure and Land Use Analysis
* Participate in conceptual design of NbS and Hybrid solutions
* Participate in Infrastructure Programme design
* Identify and characterise the approval requirements, and associated processes, of the concepts identified.
* Participate in the stakeholder engagement planning and facilitation.
* Contribute to the flood risk assessment.
* Contribute to the identification and conceptual design of NBs and Hybrid solutions.

**Qualifications** * Education/training (2.4.1): University qualification, post-graduate qualification in Landscape Architecture, Engineering.
* Language (2.4.2): Excellent spoken and written English.
* General professional experience (2.4.3): Ten (10) years of general professional experience in the Urban Planning.
* Specific professional experience (2.4.4): Five (5) years of experience working on urban public open space landscape architect projects including those that involve of the following riverine and / or wetland corridors, interface between riparian communities, public spaces, municipal infrastructure (e.g., stormwater) and aquatic ecosystems.
* Leadership/management experience (2.4.5): Not applicable.
* Regional experience (2.4.6): Ten (10) years of experience in projects in South Africa, of which five (5) years in urban planning in the Gauteng Province. 2 years’ experience working on environmental projects for local government.
* Development Cooperation (DC) experience (2.4.7): Not applicable.
* Other (2.4.8): Registration with the South African Council for the Landscape Architectural Profession (SACLAP)).

4.4 Expert 4: Geo-hydrologist **Tasks** * Contribute to the flood risk assessment.
* Contribute to the climate change vulnerability assessment.
* Contribute to the identification and conceptualisation of the NbS elements proposed.
* Support the coordination of communication with GIZ, partners and others involved in the project.
* Regular reporting in accordance with deadlines.

**Qualifications** * Education/training (2.5.1): University qualification, post-graduate qualification (Masters) in Water Management / Engineering / Environmental Science (or equivalent) with an emphasis on hydrology / hydrological modelling.
* Language (2.5.2): Excellent spoken and written English.
* General professional experience (2.5.3): Ten (10) years of general professional experience in the Water / Engineering / Environmental Management / Climate Science / Sustainable Development / Urban Planning sectors.
* Specific professional experience (2.5.4): Ten (10) years of specific professional experience in hydrological projects, competency in the use of PCSWMM, HECRAS stormwater / flood modelling tools and software.
* Leadership/management experience (2.5.5): Not applicable
* Regional experience (2.5.6): Ten (10) years of experience in hydrology projects in South Africa, of which five (5) years is in projects in the Gauteng Province. 2 years’ experience working on projects for local government.
* Development Cooperation (DC) experience (2.5.7): Not applicable.
* Other (2.5.8): PrEng, PrSciNat or equivalent.

Soft skills of team membersIn addition to their specialist qualifications, the following qualifications are required of team members:* Team skills
* Initiative
* Communication skills
* Socio-cultural skills
* Efficient, partner- and client-focused working methods
* Interdisciplinary thinking

Short-term expert pool 1 with minimum 3, maximum 4 membersFor the technical assessment, an average of the qualifications of all specified members of the expert pool is calculated. Please send a CV for each pool member (see below Chapter 7 Requirements on the format of the bid) for the assessment.**Climate Scientist*** + - Lead and undertake the climate change projections review task.
		- Lead the Climate vulnerability assessment.
		- Support the coordination of communication with GIZ, partners and others involved in the project.
		- Regular reporting in accordance with deadlines.

**Urban Planner.** * Lead the Land Infrastructure and Land Use analysis process.
* Contribute to the flood risk and climate change vulnerability assessment.
* Identify and characterise the approval requirements, and associated processes, of the concepts identified.
* Contribute to the identification and conceptualisation of NbS elements.
* Participate in the stakeholder engagement planning and facilitation.
* Support the coordination of communication with GIZ, partners and others involved in the project.

**Ecologist** * + - Contribute to the ecological, infrastructure and land use analysis.
		- Contribute to the climate change vulnerability assessment.
		- Contribute to the identification and conceptualisation of the NbS elements proposed.
		- Identify and characterise the approval requirements, and associated processes, of the concepts identified.
		- Support the coordination of communication with GIZ, partners and others involved in the project.
		- Regular reporting in accordance with deadlines.
		- Participate in the stakeholder engagement planning and facilitation.

**Qualifications of the short-term expert pool 1** Education/training (2.6.1): * One (1) expert with university post-graduate qualification (Masters) in Climate Science (or equivalent).
* One (1) expert with university qualification, post-graduate qualification (Masters) in the Urban and Regional Planning, or Development Planning, or town and Regional Planning
* One (1) expert with university post-graduate qualification (Honours) in Ecology /Biodiversity / Environmental Science / Environmental Management (or equivalent).
* One (1) expert with university post-graduate qualification (Masters) in Water Management / Engineering / Environmental Science / Geology / Geohydrology (or equivalent).

Language (2.6.2): * Excellent spoken and written English for all five (5) experts.

General professional experience (2.6.3): * One (1) expert with ten (10) years of general professional experience in the Climate Science / Sustainable Development
* Three (3) experts with ten (10) years of general professional experience in Development / Urban Planning.
* Three (3) experts with ten (10) years of general professional experience in the Environmental and Biodiversity Management

Specific professional experience (2.6.4): * One (1) expert with ten (10) years of experience in climate modelling and analysis / projection and developing and / or implementing climate strategies and programmes and three (3) years of experience in climate change vulnerability assessment. Expert should have specific experience of how to incorporate climate change scenario work into flood risk assessment and/or hydrological modelling.
* One (1) expert with ten (10) years of experience in urban and town planning in an urban environment.
* One (1) expert with ten (10) years of experience working as an Environmental / Biodiversity / Ecologist in the Gauteng Province.

Regional experience (2.6.5): * One (1) expert with ten (10) years of relevant experience in climate projects in South Africa, of which five (5) years in projects in Gauteng Province and / or the City of Johannesburg.
* One (1) expert with five (5) years of relevant experience on engineering projects in Gauteng Province and / or City of Johannesburg.
* One (1) expert with ten (10) years of environmentalist / ecologist / biodiversity specialist working experience in the Gauteng Province.
* One (1) expert with ten (10) years of experience on hydrology and geo-hydrology projects in South Africa, of which five (5) years in projects in the Gauteng Province and/or the City of Johannesburg.

Development Cooperation (DC) experience (2.6.6): * Not applicable.

Other (2.6.7): * One (1) expert registered with the South African Council for Natural Scientific Professions (SACNASP) or similar.
* One (1) expert with environmental professional registration, for example as an Environmental Assessment Practitioner (EAP) under EAPASA or under SACNASP as an Environmental Scientist.
* One (1) expert registered with the South African Council for Planners (SACPLAN)

Short-term expert pool 2 with minimum 3, maximum 4 membersFor the technical assessment, an average of the qualifications of all specified members of the expert pool is calculated. Please send a CV for each pool member (see below Chapter 7 Requirements on the format of the bid) for the assessment.**Development Economist*** + - Lead the employment potential work analysis.
		- Contribute to the climate change vulnerability assessment.
		- Contribute to the identification of and conceptualisation of the flood alleviation interventions and the associated NbS elements.
		- Participate in the stakeholder engagement planning and facilitation.
		- Contributes to the CBA.
		- Contribute to institutional assessment and elaboration of the implementation and financing framework.
		- Regular reporting in accordance with deadlines.

**GIS Practitioner** * + - Assist the team with required mapping, data analysis, hydrological model establishment, spatial representation of data and information and preparation of masterplan outputs (maps, drawings etc).
		- Support the coordination of communication with GIZ, partners and others involved in the project.
		- Regular reporting in accordance with deadlines.

**Cost Benefit Analysis Specialist*** Lead the Cost Benefit Analysis.
* Contributes to the elaboration of the implementation and financing framework.
* Regular reporting in accordance with deadlines.

Qualifications of the short-term expert pool Education/training (2.7.1): * One (1) expert with university post-graduate qualification (Masters) in Economics / Development Economics/ Environmental Economics (or equivalent).
* One (1) expert with a suitable university qualification in Geomatics / Geoinformatics / Environmental or Geographical Science (or equivalent).
* One (1) expert with university post-graduate qualification (Masters) in Business/Finance/ Commerce (or equivalent).

Language (2.7.2):* Excellent spoken and written English for all five (5) experts.

General professional experience (2.7.3): * One (1) expert with ten (10) years of general professional experience in Economics Development Economics / Environmental Economics or equivalent sectors.
* One (1) expert with ten (10) years of general professional experience in Geoinformatics/ Geomatics or Geographic Sciences or equivalent sectors.
* One (1) expert with ten (10) years of general professional experience in Business/Finance/commerce or equivalent sectors.

Specific professional experience (2.7.4):* One (1) expert with ten (10) years of experience Economics/Development Economics or Environmental Economics.
* One (1) expert with five (5) years’ experience in GIS, geo spatial modelling.
* One (1) expert with ten (10) years of experience working in financial analysis and modelling/ business cases or cost benefit analysis.

Regional experience (2.7.5): * One (1) expert with ten (10) years of relevant experience in economic development in South Africa, of which five (5) years in projects in Gauteng Province and / or the City of Johannesburg.
* One (1) expert with five (5) years of working experience in Geographic Information Systems (GIS) systems and/or equivalent in the Gauteng Province.
* One (1) expert with five (5) years’ experience in Business Case development and cost benefit analysis in South Africa.

Development Cooperation (DC) experience (2.7.6): * Not applicable.

Other (2.7.7): * Not applicable

The tenderer must provide a clear overview of all proposed short-term experts and their individual qualifications.

|  |  |  |
| --- | --- | --- |
| **Milestones/partial works** | **Estimated expert days for orientation** | **Deadline/place/person responsible** |
| Inception Report | 15.5 | One Month from Contract Start date/ City of Johannesburg/ Team Leader |
| Climate Change Projections report | 28 | 2 Months from Contract Start/ City of Johannesburg/ Team Leader and Climate Scientists |
| Ecological Infrastructure and Land Use Analysis Report | 112 | 3 Month from Contract Start/ City of Johannesburg/ Team Leader (and core team) |
| Hydrological and Hydraulic Analysis | 78 | 4 Month After Start / City of Johannesburg/ (Team Leader, Hydrologist, Geo Hydrologist) |
| Flood Risk Assessment | 62 | 5.5 month after start/ City of Johannesburg/ (Team Leader, Hydrologist, Geo Hydrologist) |
| Infrastructure Programme Development Report | 64.5 | 7.5 Months after start/ City of Johannesburg/ (Team Leader/ Civil Engineer, Urban Planner, GIS Specialist)  |
| Cost Benefit Analysis | 34 | 9 months after start/ City of Johannesburg/ (Team Leader, CBA Specialist, Development Economist)  |

Inputs of GIZ or other actorsGIZ and/or other actors are expected to make the following available:* Any official letters required to support the project’s implementation.
* Access to all relevant data including, but not limited to, the following: spatial data; maps; and reports.
* Introductions as required to relevant stakeholders.

Please note that the City of Johannesburg is unable to provide any venues as part of this project and therefore the contractor should make provision to provide these.Requirements on the format of the tenderThe structure of the tender must correspond to the structure of the ToRs. In particular, the detailed structure of the concept (Chapter 3) should be organised in accordance with the positively weighted criteria in the assessment grid (not with zero). The tender must be legible (font size 11 or larger) and clearly formulated. It must be drawn up in English (language).The complete tender must not exceed 20 pages (excluding CVs). If one of the maximum page lengths is exceeded, the content appearing after the cut-off point will not be included in the assessment. External content (e.g. links to websites) will also not be considered.The CVs of the personnel proposed in accordance with Chapter 4 of the ToRs must be submitted using the format specified in the terms and conditions for application. The CVs shall not exceed 4 pages each. They must clearly show the position and job the proposed person held in the reference project and for how long. The CVs can also be submitted in English (language).Outsourced processing of personal dataThere will be no outsourced processing of personal data as part of this assignment.  |
|  |  |
| If you are interested in implementing the above project, please complete the following document and return it by no later than **11th March 2025** to the following email address ZA\_Quotation@giz.de Please enter “Expression of interest” and the contract number 83483095 in the subject line when returning this form. **If you do not receive further correspondence in this regard from us by 30.04.2025, please consider your EoI as unsuccessful.****Please note:** **Do not send a copy of your EoI to my email address as it will lead to your EoI being disqualified.** |

**Expression of Interest (to be completed)**

We herewith declare our interest in bidding in the scheduled GIZ invitation to tender below:

Brief project title Green Infrastructure Options for Flood Alleviation in Response to a Changing Climate – Development of Flood Alleviation Infrastructure in the Jukskei Catchment(s) of the City of Johannesburg

Project processing number **24.3412.4 – 310.00**

Contract number **83483095**

Country of assignment The Republic of South Africa

Period of assignment 5 May 2025 to 28 February 2026

Deadline for submission 11th March 2025

Per email to ZA\_Quotation@giz.de

To ensure efficient processing, please observe the notes at the end of this document.

1. Company name and address

|  |
| --- |
|  |

1. Average turnover

|  |  |  |  |
| --- | --- | --- | --- |
|  | 2021 | 2022 | 2023/24 |
| Average annual turnover for the **last three financial years** |  |  |  |

1. Number of employees

|  |  |  |  |
| --- | --- | --- | --- |
|  | Average 2022 | Average 2023 | Average 2024 |
| Permanent staff |  |  |  |
| Staff on limited term project contracts  |  |  |  |

1. Brief company profile (max 20 lines)

|  |
| --- |
|  |

1. Reference projects in the last 3 years in the sector and/or in the region

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Project title and client | Focus/scope of tasks | Region | Period | Order value in ZAR |
|  |  |  |  |  |
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|  |  |  |  |  |
|  |  |  |  |  |

1. Overview of the Expert(s)

|  |  |  |
| --- | --- | --- |
| Name of the Expert | Function (as mentioned above) | Reserved for GIZ: CV enclosed? |
|  |  |  |
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1. Brief profile and name of key staff member for backstopping the above project at your company

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|  |
|  |

1. Contact person for queries:

|  |  |
| --- | --- |
| Name: |  |
| Email: |  |
| Tel:  |  |

We herewith affirm that the above data is true and complete

**Notes on completing the expression of interest**

* Please submit your expression of interest to max. four pages **in PDF format ONLY to** ZA\_Quotation@giz.de **by 11th March 2025**
* Please submit CVs to the above-mentioned personnel specifications (**in PDF format ONLY)**.
* If you are declaring your interest within the framework of a consortium, **please supply the details requested above for each partner separately and name the lead partner**.
* **Participating more than once in same tender is not allowed and it will lead to your EoI as well as that of the company where you appear more than once being disqualified. The responsibility rests with the companies to ensure that their partners/experts are not bidding/participating more than once in same tender.**
* **Only companies with local presence in ZA are allowed to participate in this tender as it is being run locally in South Africa.**

**Kindly note that:**

* The evaluation criteria for the EoI (EoI Assessment Grid) has been uploaded
* GIZ is yet to do a shortlist and only the shortlisted bidders will be requested to submit a technical and price proposal for this assignment.
* We are looking forward to receiving your EoI.