ASSET DEVELOPMENT GUIDELINES FOR WATER AND SANITATION SERVICES

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FOREWORD

The Water Services Regulatory Board (WASREB) is delighted to introduce the Asset Management Guideline, which serves as a comprehensive framework for the effective development of water sector assets across Kenya. The guideline underscores our commitment in promoting sustainable infrastructure development and ensuring the long-term viability of water services.

Effective asset development and management is essential for the provision of reliable and resilient water services to communities across the country. It requires careful planning, development, maintenance, and investment to optimize the performance and lifespan of infrastructure assets while minimizing risks and costs.

The Asset Development Guideline provides water service providers with practical guidance and best practices for development of their asset portfolios efficiently and strategically. It outlines key principles, processes, and tools for asset inventory, condition assessment, lifecycle planning, and risk management, among other aspects.

By adopting the principles and practices outlined in this guideline, water service providers can enhance their operational resilience, improve service delivery, and optimize resource allocation. Moreover, effective asset development and management contributes to the overall sustainability and performance of the water sector, benefitting both providers and consumers.

As we undertake the implementation of this guideline, we encourage all stakeholders to embrace its principles and integrate them into their operations. Together, let us work towards building a water sector that is resilient, efficient, and capable of meeting the evolving needs of our communities.

CHAPTER 1: INTRODUCTION

1.1 Background

Article 43 of the Constitution of Kenya 2010 on economic and social rights entitles every Kenyan citizen to have access to clean and safe water in adequate quantities and access to reasonable standards of sanitation as a basic right. Accordingly, the Government of Kenya has set an ambitious target of universal access to water, sanitation services by 2030. To achieve this, KES 1.8 trillion in investments is needed to expand and improve water and sanitation infrastructure. This guideline presents the guiding principles meant to streamline asset development in Kenya to ensure conformity with standards, value for money, resilience, enhance collaboration among stakeholders for sustainability of services.

1.1.1 Institutional Arrangement

Article 43 of the Constitution of Kenya, 2010 acknowledges access to clean and safe water in adequate quantities and reasonable standards of sanitation as a basic human right. To achieve this right, the Fourth Schedule of the Constitution delineates the functions of water management between the National Government and County Governments.

The National Government is assigned the role of national public works, regulation of water resources and water services. The County Governments are vested with the responsibility of water service provision, sanitation management, catchment protection and county public works. The following institutions, established under the Water Act, 2016, are responsible for development of water services assets:

At National level:

i) Water Sector Trust Fund

As per the Water Act, 2016, section 114, the functions of the Fund include, but are not limited to-

- 114(b) development of water services in rural areas considered not to be commercially viable for provision of

water services by licensees;

- 114(c) development of water services in the underserved poor urban areas.

ii) Water Works Development Agency

The functions of the Water Works Development Agency under the Water Act, 2016, section 68, include-

- 68(a) undertake the development, maintenance and management of the national public water works within its area of jurisdiction;

At the County level:

iii) Water Service Providers

According to the Water Act, 2016, section 78(1), a water services provider shall be responsible for-

- (a) the provision of water services within the area specified in the license;
- (b) the development of county assets for water service provision.

iv) National Water Harvesting and Storage Authority (NWHSA)

The National Water Harvesting and Storage Authority is established under section 30 of the Water Act, 2016.

NWHSA's functions as per section 32 of the Act include-

- (a) Undertake on behalf of the national government, the development of national public water works for water resources storage and flood control;
- (b) Maintain and manage national public water works infrastructure for water resources storage;
- (e) Undertake on behalf of the national government strategic water emergency interventions during drought;

v) County Government

Asset development is a shared responsibility between the National Government and the County Governments. The latter's Department of Water plays a critical role in the development of assets.

1.1.2 Relationship Management

Effective relationship management between sector players and stakeholders in water asset development in Kenya is crucial in ensuring successful projects that meet the needs of both the community and the environment. The following are some of the strategies for managing these relationships:

1. **Stakeholder Mapping and Engagement:**
   - Identify all relevant stakeholders, including government agencies, local communities, NGOs, private sector actors, and international organizations.
   - Understand their interests, concerns, and level of influence.
   - Engage them early and consistently throughout the project lifecycle through consultations, meetings, and workshops.
2. **Clear Communication Channels:**
   - Establish clear communication channels to keep stakeholders informed about project developments, timelines, and potential impacts.
   - Utilize a variety of communication methods such as newsletters, social media, community meetings, and online platforms to reach different stakeholders effectively.
3. **Transparency and Accountability:**
   - Maintain transparency in decision-making processes and project implementation.
   - Provide accurate and timely information to stakeholders, address their concerns openly, and involve them in decision-making whenever possible.
   - Establish mechanisms for feedback and grievance redressal

to address any issues that may arise.

4. **Capacity Building:**
   - Build the capacity of local communities and stakeholders to actively participate in water asset development initiatives.
   - § Provide training and education on water management, conservation practices, and the importance of sustainable development.
   - § Empower local communities to take ownership of water resources and infrastructure.

5. **Partnerships and Collaboration:**
   - Foster partnerships and collaboration among sector players, government agencies, NGOs, academia, and other relevant stakeholders.
   - Pool resources, expertise, and knowledge to address complex challenges and leverage collective strengths for more impactful outcomes.

6. **Adaptive Management:**
   - Adopt an adaptive management approach that allows for flexibility and responsiveness to changing circumstances and stakeholder needs.
   - Regularly monitor and evaluate project progress, gather feedback from stakeholders, and adjust strategies accordingly to ensure alignment with community priorities and sustainable development goals.

7. **Conflict Resolution:**
   - Anticipate and address conflicts that may arise among stakeholders regarding water asset development projects.
   - Facilitate dialogue, negotiation, and mediation processes to find mutually acceptable solutions and build consensus among conflicting parties.

8. **Sustainability and Social Responsibility:**
   - Integrate principles of sustainability and social responsibility into water asset development initiatives.

- Consider environmental, social, and economic impacts, promote equitable access to water resources, and prioritize the long-term well-being of communities and ecosystems.

By implementing these strategies, stakeholders can effectively manage relationships between sector players and stakeholders in water asset development in Kenya, leading to more inclusive, sustainable, and successful projects that benefit all parties involved.

1.1.3 Legal Mandate of WASREB

The Water Services Regulatory Board (WASREB) is a regulatory State corporation established by the Water Act, 2002; this law was repealed by the Water Act, 2016 and operationalized in April 2017. Section 70(1) of the Water Act, 2016 established WASREB with the principal object of protecting the interests and rights of consumers in the provision of water services, while ensuring other stakeholders' interests are also safeguarded.

Accordingly, WASREB sets standards and enforces regulations that guide the sector in not only ensuring that consumers are protected and have access to efficient, affordable, and sustainable services, but also providing for the financial sustainability of Water Service Providers (WSPs), by allowing financing of operations, capital cost recovery and a return on capital that services-through ongoing investments.

This asset development guideline is developed in line with the following WASREB's statutory powers and functions under section 72 of the Water Act, 2016:

72 (a) Determine and prescribe national standards for the provision of water services and asset development for water services providers

72 (f) Monitor compliance with standards including the design, construction, operation and maintenance of facilities for the provision of water services by the water works development bodies and the water services providers

72 (l) Inspect water works and water services to ensure that such works and services meet the prescribed standards

72(n) Make regulations on water services and asset development which shall include business, investment and financing plans to ensure efficient and effective water services and progressive realization of the right to water services.

1.2 Scope of the Guideline

This guideline provides a criterion for development of water and sanitation assets to ensure highest quality, value for money, and enhance collaboration between relevant institutions for sustainable water services systems.

Definition of WSS Assets

Water supply assets: means tangible and intangible assets for water supply including but not limited to dams, wells, intake works treatment plants, pump stations, reservoirs, transmission lines, distribution networks, fittings, water kiosks, standpipes and software.

Sanitation assets: means tangible and intangible assets for provision of sanitation services including sewers, pipelines and structures, manholes, pumping stations, wastewater treatment plants, on-site sanitation facilities and appurtenances used to collect, convey, transport, treat, or handle wastewater and sludge.

The development water supply and sanitation assets may vary depending on the type of asset and organization. A typical asset development project cycle includes project identification and conceptualization, preliminary planning, detailed planning and design, bidding and procurement, construction, testing and commissioning, operation and maintenance, monitoring and evaluation, decommissioning, and disposal.

In the course of asset development, factors such as safety, sustainability, cost-effectiveness, and compliance with regulations have to be considered. Effective communication and collaboration among project stakeholders who include engineers, architects, contractors, and regulatory authorities, is crucial for the success of the project.

1.3 Guiding Principles

This document aims to promote the adoption of integrated approaches to sustainable water and sanitation asset planning, acquisition, implementation and delivery. It presents implementing agencies with the following guiding principles for integrating quality, value for money, environmental, social and economic sustainability over the entire asset development phases.

Strategic planning: Asset development decisions should be based on strategic planning that is aligned with organizational goals and supported by relevant policies, regulations, and institutions.

Responsive and Resilience Infrastructure: Asset planning and development should be based on a good understanding of specific needs and informed by the diverse options available to meet those needs. The assessment should be carried out on whether to rehabilitate existing assets before investing in new infrastructure. Asset planning should promote synergies for improved productivity, efficiency, resilience, and sustainability.

Avoiding Environmental Impacts: Adverse environmental impacts that arise from asset development should be avoided or minimized.

Sustainable Technologies: The use of sustainable technologies and construction materials should be incorporated into infrastructure systems to minimize carbon footprints, reduce emissions, waste and other pollutants.

Equity and Inclusiveness: Water services assets should be developed in a manner that provides accessible and affordable water services equitably to all, with a view to promoting social inclusion and fostering socio-economic empowerment and protecting human rights to safe and clean water, and reasonable standards of sanitation that us envisaged in Article 43 of the Constitution.

Transparency and Participation: Asset development processes should be underpinned by transparent planning, information sharing and decision-making processes that facilitate meaningful, inclusive and participatory

stakeholder consultation. Project level grievance mechanisms should be put in place to address stakeholder complaints and concerns throughout the asset development phases.

Capacity Building: Capacity building of the workforce fosters a sense of ownership and empowers the institution to gain greater control of asset development thus enhancing sustainability. Therefore, water and sanitation projects should include a component for training the workforce especially the staff that are involved in operating and managing the installed asset(s).

Risk Management: Risk management is a critical aspect of water asset development in Kenya as it helps to identify potential threats and opportunities, mitigate adverse impacts, and maximize project success. The following are the key steps in implementing effective risk management in this context:

1. Risk Identification: Conduct a comprehensive risk assessment to identify potential threats and opportunities associated with water asset development projects. This includes environmental risks such as water scarcity, pollution, and climate change impacts, as well as social, economic, and political risks such as community opposition, funding constraints, and regulatory changes.
2. Risk Analysis: Evaluate the likelihood and potential impact of identified risks on project objectives, timelines, and budgets. Prioritize risks based on their severity and likelihood of occurrence so as to focus mitigation efforts on the most significant threats.
3. Risk Mitigation: Develop and implement risk mitigation strategies to address the identified risks and minimize their impact on project outcomes. This may involve adopting engineering solutions to reduce environmental risks, establishing contingency plans to address funding or regulatory uncertainties, or engaging stakeholders to mitigate social and political risks.

4. Risk Monitoring and Control: Continuously monitor and assess project risks throughout the project lifecycle. Implement monitoring mechanisms to track changes in risk levels, identify emerging threats, and evaluate the effectiveness of risk mitigation measures. Take proactive measures to control and mitigate risks as necessary to ensure project success.
5. Risk Communication: Foster open and transparent communication about project risks with stakeholders, including government agencies, local communities, investors, and project partners. Keep stakeholders informed about potential risks, mitigation efforts, and any changes in risk status to build trust and ensure alignment with project objectives.
6. Capacity Building: Build the capacity of project teams and stakeholders to effectively manage risks associated with water asset development. Provide training and education on risk management principles, tools, and techniques, and empower stakeholders to actively participate in identifying and addressing risks throughout the project lifecycle.
7. Adaptive Management: Embrace an adaptive management approach that allows for flexibility and responsiveness to changing risk dynamics. Regularly review and update risk assessments, mitigation strategies, and project plans based on new information, lessons learned, and evolving stakeholder priorities to enhance project resilience and success.
8. Compliance and Governance: Ensure compliance with the relevant regulatory requirements and industry standards related to risk management in water asset development. Establish clear governance structures, roles, and responsibilities for overseeing risk management activities and promoting accountability across project stakeholders.

By integrating these risk management practices into water asset development projects in Kenya, stakeholders can enhance project

resilience, minimize uncertainties, and maximize the likelihood of achieving sustainable and successful outcomes that benefit both communities and ecosystems.

CHAPTER 2: ASSET DEVELOPMENT GUIDELINE

2.1 Planning and Identification

Planning is the first stage of the asset development lifecycle. The planning stage involves the establishment and verification of the need for the asset and ensures the required resources for funding asset acquisition are made available. The agency should ensure that the asset adds value to the organisation.

The Public Finance Management Act, 2012, sections 35 and 126 require public sector entities to prepare development plans that include capital developments for each financial year. The planning for assets development shall be linked to the Strategic and Business Plans of the public and private sector entities.

Project identification is the initial step in the planning process, where potential projects are identified based on organizational needs or external demands. This involves:

- Problem Identification: A precise definition of the problem that is to be solved by the project is vital during planning. The first step of project identification is a description of the current situation that the project seeks to address. The key challenges or potential opportunities that would not be resolved without the project should be analysed. The sources of information could include National Development Plans, County Integrated Development Plans (CIDPs), Sector Investment Plan (SIP), sector policy documents, existing studies, stakeholder etc.
- Stakeholder Analysis and Consultation: Stakeholders are the individuals or organisations that are directly and/or indirectly impacted by the project. Stakeholder analysis involves the identification of stakeholders, partners, and their roles. It is crucial in problem analysis and formulation of solutions. An understanding of stakeholder interests and

continuous engagement of results are the recipes for high quality projects. . The table below provides the aspects that can be used to assess the interest of each group.

Stakeholder group	Interest in the project	Potential Impact	Potential Influence	Role in the project
Primary (direct beneficiaries e.g. end- users)				
Secondary (intermediaries to primary stakeholders e.g., professionals, consultants, experts, NGOs etc.)				
Tertiary/External e.g., policy makers, politicians, government agencies etc.				

- Formulation of Project Objectives and Strategic Alignments: Analysis of project objective encompasses a definition of outputs, expected outcomes and how they help to achieve the objectives. These objectives should be aligned with the organization's aspirations and goals, sector development plans, and other relevant development strategies.
- Project Needs Assessment: Evaluate the organization's requirements and identify projects that address them. The project needs assessment involves the following:

1) Preparation of a list of project alternatives (options) capable of achieving the project objective(s);
2) Preparing preliminary cost estimates for each of these options; and
3) Establishing a detailed plan for the preparation of the Concept Report.

2.2 Project Appraisal and Preparation

2.2.1 Feasibility Study

A feasibility study is a comprehensive assessment of the project's viability by considering various aspects. The study should cover the following key areas:

Legal Feasibility:

- Examine the legal requirements and constraints associated with the project.
- Assess the project's compliance with local, regional, and national laws and regulations.

Technical Feasibility:

- Evaluate the technical aspects of the project, including the availability of technology and expertise.
- Assess the feasibility of implementing the proposed solution from a technical standpoint.

Environmental Feasibility: Article 42 of the Constitution guarantees every person in Kenya the right to a clean and healthy environment; Article 69(2) requires people to work with the government and all other relevant actors in conserving and protecting the environment and natural resources; Articles 35 and 69(1)(d) require the participation of the public in all decision-making processes such as Environmental Impact Assessment. Environmental Impact Assessment is carried out for the following reasons:

- To identify the likely impacts (negative or positive) of a project being planned;
- To assist NEMA in deciding whether to grant or deny a license to proceed with the project;
- To identify and plan for measures that avoid, reduce or compensate for identified negative effects of the project under planning stage as well as maximize the positive impacts (benefits) of the proposed project.

The Environmental Impact Assessment shall be conducted by professional(s) registered by the National Environment Management Authority (NEMA), and shall be conducted in accordance with the Environmental Management and Co-ordination Act (Chapter 387, Laws of Kenya); Environmental Management and Co-ordination (Impact Assessment and Audit) Regulations, 2003 and other applicable regulations.

Social and Economic Feasibility:

- Assess the social impact of the project on the local communities.
- Conduct a socio-economic analysis, considering factors such as employment generation and community development.

Financial Feasibility:

- Develop a detailed financial model, including cost estimates, revenue projections, and return on investment.
- Evaluate the project's financial viability and potential risks.

2.2.2 Detailed Design

The detailed design phase involves translating the project concept into detailed engineering plans. In water and sanitation engineering projects, this phase is particularly important as it involves planning and specifying the intricate details of water-related infrastructure.

Applicable Design Manuals

The following design manuals (subject to revision from time to time) shall be used as technical guidelines in the detailed design of water and sanitation infrastructures:

i. Practice Manual for Water Supply Services in Kenya (MoWI, 2005)

ii. Practice Manual for Sewerage and Sanitation Services in Kenya (MoWI, 2008)

iii. Practice Manual for Small Dams, Pans and Other Water Conservation Structures in Kenya, Second Edition (MoWI, 2015).

The project's designer is allowed to use internationally acceptable best practices to suit the project needs and local conditions. The design shall incorporate last mile connections, elements of climate resilience, and the new technologies that can increase efficiency in water supply and sanitation systems.

The implementing agency on its part shall ensure that stakeholders are adequately involved during the design stage. The stakeholder may include county government, water service provider(s), local communities etc.

2.2.3 Acquisition/Procurement of Assets

The outright acquisition of new assets shall ensure efficient, effective and value-for money. For public entities, the procurement of goods, works and services shall be guided by the Public Procurement and Asset Disposal Act, 2020, applicable regulations as well as other legislation.

Regulations 115 of the Public Finance Management (PFM) Regulations, 2015 (National government) and 114 of the Public Finance Management (PFM) Regulations, 2015 (County governments) require all goods, works and services to be procured according to an approved procurement plan.

Construction Contract Documents

The implementing agency shall prepare the specifications for the project and carry out all procurement of goods, works and services needed. The

contract and tender process that best fits with the specific features of the project shall be selected to protect and, if possible, optimize Value for Money (VfM).

The bidding documents for procurement of works, which include General Conditions of Contract and Particular Conditions of Contract, may be aligned to the International Federation of Consulting Engineers (FIDIC) contract. FIDIC Contract is an international engineering contract that governs the construction of engineering projects. The contract is based on the principle of simplicity, equality for parties involved, transparency to minimize disputes and to ensure a fair distribution of risks. The bidding documents may be prepared as per the financier Standard Bidding Documents for Procurement of Works (SBDW) i.e., The World Bank, African Development Bank etc.

2.3 Project Implementation

2.3.1 Contract Management

The objective of contract management at implementation phase is to proactively manage the contract so as to avoid or minimize the impact of risks and threats during the construction phase associated with changes, claims and disputes. In this phase, it is important to monitor compliance with construction requirements.

Generally, the implementation/construction phase involves the following tasks:

- Establishment of governance and a contract management team;
- Contract administration, including the development of a contract management manual;
- Oversight and managing site handover, permits and design;
- Monitoring compliance and performance during construction;
- Managing delays;
- Managing communication and stakeholders;

- Managing changes (due to change orders), claims (due to retained or shared risk events), and disputes;
- Administrating payments during construction; and
- Commissioning/acceptance and start of operations.

The implementing agency or project manager shall ensure that all parties involved have clearly defined roles and responsibilities to ensure the project runs flawlessly and cohesively.

The agency shall collaborate in the entire implementation phase with respective County Government(s), the water service provider(s), and other relevant stakeholders in the area where the asset(s) is being developed.

In the event that the Water Works Development Agency is the implementing organ and the project being undertaken is to be handed over after commissioning pursuant to the Water Act, 2016, section 69, it shall provide technical services and capacity building during the implementation phase to county governments and water services providers within its area as may be requested pursuant to the Water Act, 2016, section 68. This will ensure a seamless handover, improve the project's acceptance to the beneficiary party or agency, and in return improve the sustainability of the infrastructure system during operation and maintenance phases.

The assets shall be developed in strict adherence to the quality, time and cost requirements as per the following:

Construction Management:

- Implement a construction management plan to oversee and coordinate construction activities.
- Monitor progress, costs, and adherence to the project schedule.

Quality Control and Assurance:

- Implement quality control measures to ensure that construction materials and workmanship meet specified standards.

- Conduct inspections and testing as per the quality plan.

Health and Safety:

- Prioritize health and safety measures for construction workers and the surrounding community.
- Implement safety protocols and conduct regular safety inspections.

Environmental Management:

- Implement environmental protection measures to minimize the project's impact on the ecosystem.
- Address erosion control, waste management, and other environmental considerations.

Procurement and Logistics:

- Manage the procurement of construction materials and equipment.
- Ensure timely delivery and proper storage of materials on-site.

Community Engagement:

- Maintain communication with local communities and stakeholders.
- Address any concerns or disruptions caused by construction activities.

Construction Documentation:

- Keep detailed records of construction activities, including daily logs, progress reports, and as-built drawings.
- Document any deviations from the original design and their resolutions.

Testing and Commissioning:

- Conduct testing of all components to ensure they function as intended.
- Commission the system to make it fully operational.
- Verify the functionality of pumps, pipelines, treatment plants, and other infrastructure.

Training and Capacity Building:

- Provide training to operators and maintenance staff on the operation and maintenance of the water infrastructure.
- Build local capacity for ongoing system management.

Performance Monitoring:

- Implement a system for monitoring the performance of the water project.
- Set up routine inspections and maintenance schedules.

Handover and Acceptance:

- Conduct a formal handover of the completed project to the client or relevant authorities.
- Ensure that all necessary documentation and training have been provided.

Post-Construction Evaluation:

- Evaluate the overall success of the construction phase.
- Identify any lessons learned for future projects.

Regulatory Compliance:

- Ensure compliance with all relevant regulations and permits.
- Obtain necessary approvals for the completed project.

Operation and Maintenance Planning:

- Develop a comprehensive plan for the ongoing operation and maintenance of the water infrastructure.
- Establish protocols for routine maintenance, repairs, and system upgrades.

Monitoring and Evaluation:

- Implement a monitoring and evaluation framework to assess the long-term performance and impact of the water project.
- Gather feedback from users and stakeholders.

2.3.2 Commissioning and Handover

Commissioning and handover mark the final stages of the implementation

phase, where the constructed infrastructure is formally tested, verified, and transferred to the client or operator for ongoing management. These phases involve a series of activities to ensure that the water project is fully functional, meets design specifications, and can be operated and maintained effectively.

The following are the key steps in the commissioning and handover of water projects:

Pre-Commissioning Activities:

- Conduct pre-commissioning inspections to ensure that all construction and installation work is completed to specifications.
- Verify that safety measures are in place for commissioning activities.
- Confirm that all necessary permits and approvals are obtained.

Functional Testing:

- Perform functional testing of individual components and systems to ensure they operate as intended.

Integrated System Testing:

- Test the entire system as an integrated unit.
- Verify the functionality of interconnected components and systems.

Performance Testing:

- Conduct performance testing to ensure that the project meets design criteria and performance standards.
- Evaluate flow rates, pressure, water quality, and other relevant parameters.

Water Quality Testing:

- Perform comprehensive water quality testing to ensure that the treated water meets regulatory standards.
- Conduct sampling and analysis at various points in the distribution system.

System Optimization:

- Optimize control systems and operational parameters for efficiency and reliability.
- Address any issues identified during testing and make necessary adjustments.

Training and Capacity Building:

- Provide training to the operators and maintenance staff on the operation and maintenance of the water infrastructure.
- Ensure that the personnel responsible for the day-to-day management of the system are familiar with its operation.

Documentation and As-Built Drawings:

- Complete and organize all necessary project documentation, including operation and maintenance manuals, record drawings, and as-built drawings.
- Ensure that all changes made during construction are accurately reflected in the documentation.

Final Inspections:

- Conduct final inspections to verify that the water project complies with design specifications, safety standards, and regulatory requirements.
- Address any outstanding issues or deficiencies identified during inspections.

Commissioning Report:

- Prepare a comprehensive commissioning report documenting the entire commissioning process.
- Include details of tests conducted, results, and any corrective actions taken.

Formal Acceptance:

- Seek formal acceptance from the client or relevant authorities.
- Ensure that all contract requirements and specifications have been met.

Handover Ceremony:

- Organize a formal handover ceremony to symbolize the transfer of the water project from the construction team to the client or operator.
- Invite key stakeholders, community representatives, and project team members to participate.

Operation and Maintenance Planning:

- Review and finalize the operation and maintenance plan.
- Provide the client with a detailed schedule for routine maintenance, inspections, and emergency procedures.

Transition Period Support:

- Offer support during the initial period of operation to address any teething issues.
- Maintain open communication channels for feedback and assistance.

Post-Handover Monitoring:

- Implement a post-handover monitoring system to track the performance and reliability of the water project.
- Address any issues promptly and continue to provide support as needed.

Documentation Archiving:

- Archive all project documentation in a secure and accessible manner for future reference.
- Ensure that the client or operator has access to all relevant information.

The commissioning and handover phases are critical for the successful project transition from construction to operation and maintenance. The implementing agency shall ensure there is effective communication and collaboration during these phases for its long-term sustainability.