

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)



Audit Number: AO-001674

SITE DETAILS

Site: **Abbott Laboratories (Pakistan) Ltd.**

Address: Opposite Radio Pakistan Transmission Center Hyderabad Road, Landhi, 75120, Karachi, PAKISTAN

Contact Person: Muhammad Ikhlague

AWS Reference Number: AWS-000752

Site Structure: Single Site

CERTIFICATION DETAILS

Certification status: Certified Core

Date of certification decision: 2025-Oct-06

Validity of certificate: 2028-Oct-05

AUDIT DETAILS

Audited Service(s): AWS Standard v2.0 (2019)

Audit Type(s): Initial Audit

Audit Start Date: 2025-Jul-15

Audit End Date: 2025-Jul-18

Lead Auditor: Akhlaq Hussain

Site Participants:

Mr. Muhammad Ikhlague, Senior Manager EHS

Mr. Muhammad Raheel Abbasi, EHS Manager

Mr. Kanwer Omair, Head of Manufacturing

Mr. Ahsan Saddiqui, Assistant Manager - EHS

Mr. Liaqat Malik, Manager Admin

Mr. Abdul Qadoos, Head of Engineering

Mr. Sajid Sheikh, Utilities Manager

Mr. Adeel Waheed, Senior Manager Utilities

Mr. Hasnain Abbass, Assistant Manager - Engineering and Maintenance

Mr. Ch. Fakhra Ahmad, Assistant Manager - Engineering and Maintenance

Mr. Saad Sultan, Assistant Manager - EHS

Mr. Nauman Saleem, Senior Manager Engineering

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ADDITIONAL INFO

Summary of Audit Findings: During the certification audit, 12 non-conformities and 2 observation were identified.

The client is requested to submit a root cause analysis and corrective actions for each of the non-conformities to WSAS within 7 days of receiving the audit report, by 04 September 2025.

Non-conformities must be resolved within 90 days of the audit completion. To meet this deadline, evidence must be submitted to WSAS (within 75 days) before 01/10/2025.

The audit team recommends the certification of Abbott Laboratories (Pakistan) Ltd. at the Core level, pending closure of, the non-conformities.

CLOSURE OF FINDINGS AND CORRECTIVE ACTION PLAN:

The Site has successfully closed all Non-conformities.

Scope of Assessment: The scope of services covers the recertification audit for assessing conformity of Abbott Laboratories (Pakistan) Ltd against the AWS International Water Stewardship Standard Version 2.

The Sites are a pharmaceutical formulation unit producing tablets, capsules, injectables and liquid bottles. The site located in industrial settings and are walled from all sides and access controlled. The site involved in operations primarily focused on pharmaceutical formulation units include production lines producing tablets, capsules, injectables and liquid bottles., administrative offices, warehousing, utility infrastructure and support facilities. Sites use water in manufacturing processes, boilers and cooling towers. The on-Site water-related infrastructure includes on-Site borewells (4 nos. LP and 3 nos. KP). Site also has a storm water network, which collects rainwater from the site and disposes of it on rain channel. The Site has two (2) wastewater streams namely – effluent (process wastewater) and sewage (domestic wastewater). Wastewater generated on-Site is treated through the on-Site WWTP before discharging to the municipal drain Infrastructure through end-to-end pipeline network. Only a small level storm water drainage system which is collected in a rainwater pit and used in gardening finally drain in same discharge line if needed. The LP site has Approx. 1200 Employees with land area of 17 Acres whereas KP site has Approx. 250 Employees with land area of 7 Acres.

The audit was conducted onsite on 15 to 18 July 2025.

The onsite site audit included the review of documents, interviews of stakeholders, visit included the assessment of site water infrastructure, storage of potential sources of pollution and WASH facilities at site

FINDINGS

NUMBER OF FINDINGS PER LEVEL

Observation	2
Non-Conformity	12

Audit Number: AO-001674

FINDING DETAILS

Table with 2 columns: Finding details (Finding No, Checklist Item No, Status, Finding level, Due date, Checklist item) and Finding details (Findings, Corrective action, Evidence of implementation).

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Audit Number: AO-001674

Finding No: TNR-018905
Checklist Item No: 1.3.2
Status: Closed
Finding level: Non-Conformity
Due date: 2025-Oct-16
Checklist item: Site water balance, including inflows, losses, storage, and outflows shall be identified and mapped
Findings: The water balance map is incomplete, as it does not include firefighting water consumption and flows associated with the rainwater pit and associated storage and usage of rainwater.
Corrective action: Evaluate the rainwater pit and fire-fighting water system including storage capacity and estimate the usage to include and review in site water balance on quarterly basis.
Evidence of implementation: To address the incomplete site water balance map, we have evaluated the rainwater pit and firefighting water systems, including their respective storage capacities and usage. Measurements were taken during the heavy rainfall event in Karachi (August) and a scheduled firefighting exercise. Based on these evaluations, estimated water usage has been incorporated into the updated water balance map. This data will be reviewed and updated on a quarterly basis to ensure ongoing accuracy and completeness.

Finding No: TNR-018906
Checklist Item No: 1.3.3
Status: Closed
Finding level: Non-Conformity
Due date: 2025-Oct-16
Checklist item: Site water balance, inflows, losses, storage, and outflows, including indication of annual variance in water usage rates, shall be quantified. Where there is a water-related challenge that would be a threat to good water balance for people or environment, an indication of annual high and low variances shall be quantified.
Findings: Site water balance quantification does not include quantification of flows associated with the rainwater pit and associated storage and usage of rainwater.
Corrective action: Site will integrate rainwater harvesting data into the site's water balance model to reflect all water sources and flows on monthly basis.
Evidence of implementation: To address the incomplete water balance map, the site has evaluated both the rainwater pit and the firefighting water system. Firewater storage capacity was already defined, and consumption during firefighting exercise has been recorded. A measuring scale has been installed on the rainwater pit to monitor usage, particularly for gardening purposes. These evaluations and measurements will be incorporated into the site's water balance and reviewed on a quarterly basis to ensure comprehensive tracking of all water flows and usage.

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Finding No:	TNR-018907
Checklist Item No:	1.3.4
Status:	Closed
Finding level:	Non-Conformity
Due date:	2025-Oct-16
Checklist item:	Water quality of the site's water source(s), provided waters, effluent and receiving water bodies shall be quantified. Where there is a water-related challenge that would be a threat to good water quality status for people or environment, an indication of annual, and where appropriate, seasonal, high and low variances shall be quantified.
Findings:	Seasonal variations in the quality of the ultimate receiving water body have not been quantified, limiting the assessment of potential environmental impact over time.
Corrective action:	Seasonal water quality monitoring data of ultimate receiving body during distinct seasonal periods will be arranged and maintained annual basis.
Evidence of implementation:	To address the lack of quantified seasonal variations in the quality of the ultimate receiving water body (Malir River), we have initiated a structured approach to monitor and assess environmental impacts over time. Pre-monsoon water quality data has already been collected, and post-monsoon data has been sourced from published research. Additionally, historical data from various locations along the Malir River has been reviewed and analyzed for variance. Moreover, from now onward seasonal water quality monitoring will be arranged and maintained annually to ensure comprehensive environmental impact assessment. A year-long program on the Malir River collected monthly samples from January–December 2002 at 10 stations; site means showed BOD□ 235–426 mg/L and COD 567–1,497 mg/L, and the paper documents the full Jan–Dec schedule (M-1...M-10), i.e., wet vs. dry seasons were covered. ESMP-malir-final.pdf KWSSIP-1 – Karachi Water and Sewerage Services Improvement Project Study of Physical and major chemical characteristics of Malir River (within Karachi) to determine the extent of Pollution

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Finding No:	TNR-018908
Checklist Item No:	1.5.3
Status:	Closed
Finding level:	Non-Conformity
Due date:	2025-Oct-16
Checklist item:	The catchment water-balance, and where applicable, scarcity, shall be quantified, including indication of annual, and where appropriate, seasonal, variance.
Findings:	The catchment water balance does not account for annual or seasonal variations, limiting its effectiveness in reflecting true water availability and risks.
Corrective action:	Site will develop a dynamic catchment water balance model which includes annual and seasonal variance.
Evidence of implementation:	To address the limitation in the catchment water balance model, which previously did not account for annual or seasonal variations, the site has obtained and reviewed published catchment water balance data along with recent rainfall records issued by the Meteorological Department. Based on this information, the site will develop a dynamic catchment water balance model that incorporates both annual and seasonal variability to more accurately reflect water availability and associated risks.

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Finding No:	TNR-018909
Checklist Item No:	1.5.4
Status:	Closed
Finding level:	Non-Conformity
Due date:	2025-Oct-16
Checklist item:	Water quality, including physical, chemical, and biological status, of the catchment shall be identified, and where possible, quantified. Where there is a water-related challenge that would be a threat to good water quality status for people or environment, an indication of annual, and where appropriate, seasonal, high and low variances shall be identified.
Findings:	Seasonal variance in catchment water quality has not been assessed.
Corrective action:	Site will develop and implement a seasonal water quality monitoring plan for the catchment area, including defined frequency for onward assessments.
Evidence of implementation:	To address the lack of seasonal variance assessment in catchment water quality, the site has developed and initiated a seasonal water quality monitoring plan. Pre-monsoon data was already available, and post-monsoon water quality has now been arranged. Comparative analysis revealed a decrease in hardness and a significant variation in Total Dissolved Solids (TDS), with pre-monsoon values ranging from 1152 to 2562 mg/L. This monitoring plan includes a defined frequency for future seasonal assessments to ensure ongoing evaluation of environmental impact and compliance with water quality standards. Moreover, The 2002 dataset provides the clearest seasonal record: monthly sampling across the full year with TSS 102–358 mg/L, BOD 235–426 mg/L, COD 567–1,497 mg/L, and several metals detected; frequency was monthly across both dry and wet seasons. In the receiving waters (Gizri/Korangi Creek), studies note monsoon freshwater pulses versus dry-season wastewater dominance (~141.54 MGD) and associated biodiversity reduction—clear seasonal variance in water quality. ESMP-malir-final.pdf View of Physicochemical and Microbiological Characterization of Groundwater along the Banks of Malir River in Karachi, Pakistan

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Finding No:	TNR-019572
Checklist Item No:	1.5.5
Status:	Open
Finding level:	Observation
Checklist item:	Important Water-Related Areas shall be identified, and where appropriate, mapped, and their status assessed including any threats to people or the natural environment, using scientific information and through stakeholder engagement.
Findings:	Part of the list of IWRAs are water infrastructure or administrative areas. Whilst it is understandable why they were determined from the perspective of shared water challenges, for the AWS outcome of healthy important water-related areas there is scope in narrowing down the focus to those IWRAs that better meet the definition of an IWRA in the standard, in order to determine further initiatives to improve IWRAs according to status problems, threats and issues determined in the IWRA analysis.
Corrective action:	Review and refine the IWRA list to align strictly with AWS definitions, excluding infrastructure and administrative areas, and develop targeted initiatives for valid IWRAs based on identified threats and issues.
Finding No:	TNR-018911
Checklist Item No:	1.7.1
Status:	Closed
Finding level:	Non-Conformity
Due date:	2025-Oct-16
Checklist item:	Water risks faced by the site shall be identified, and prioritized, including likelihood and severity of impact within a given timeframe, potential costs and business impact.
Findings:	In the site's risk analysis, there was a lack of analysing risks stemming from shared water challenges, i.e. what kind of risks could these challenges pose to the site in short, medium or long term
Corrective action:	Integrate shared water risks into the site's formal risk assessment framework, categorizing them by: Short-term risks, Medium-term risks, Long-term risks and update the site's water risk register.
Evidence of implementation:	To address the lack of analysis of shared water challenges in the site's risk assessment, all relevant risks have now been identified and integrated into the formal risk assessment framework. These risks have been categorized into short-term, medium-term, and long-term impacts. The site's water risk register has been updated accordingly to ensure proactive management and mitigation of shared water challenges that may affect operations and surrounding communities.

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Finding No:	TNR-018912
Checklist Item No:	2.4.1
Status:	Closed
Finding level:	Non-Conformity
Due date:	2025-Oct-16
Checklist item:	A plan to mitigate or adapt to identified water risks developed in co-ordination with relevant public-sector and infrastructure agencies shall be identified.
Findings:	Site management verbally confirmed coordination with local authorities to address natural calamities. However, no evidence was provided to confirm that the site discussed their risk mitigation plans with relevant public-sector and infrastructure agencies, or prepared it by coordinating with them, despite the site's low elevation and significant stormwater exposure.
Corrective action:	Site will take endorsement by reviewing Site emergency response plan from public sector agencies.
Evidence of implementation:	To address the lack of documented coordination with public-sector and infrastructure agencies regarding water-related risk mitigation, the site has developed a comprehensive Emergency Response and Mitigation Plan for water risks. This plan has been reviewed and endorsed by the Landhi Association of Trade and Industry (LATI), serving as formal evidence of coordination with relevant public-sector stakeholders. The endorsement letter is attached to the CAP, confirming collaborative efforts to manage risks associated with the site's low elevation and stormwater exposure.
Finding No:	TNR-018914
Checklist Item No:	3.4.1
Status:	Closed
Finding level:	Non-Conformity
Due date:	2025-Oct-16
Checklist item:	Status of progress towards meeting water quality targets set in the water stewardship plan shall be identified.
Findings:	The site has not established water quality targets that exceed legal obligations within their AWS plan.
Corrective action:	Site will include the target of antimicrobial treatment (Project CoPER) in wastewater in AWS targets
Evidence of implementation:	To address the absence of water quality targets exceeding legal obligations within the AWS plan, the site has added a new target focused on antimicrobial treatment under Project CoPER. This includes the identification of specific limits for Active Pharmaceutical Ingredients (APIs) in the first phase, followed by their treatment in the second phase. These targets go beyond regulatory requirements and have been formally included in the updated AWS stewardship plan.

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Finding No:	TNR-018915
Checklist Item No:	3.4.2
Status:	Closed
Finding level:	Non-Conformity
Due date:	2025-Oct-16
Checklist item:	Where water quality is a shared water challenge, continual improvement to achieve best practice for the site's effluent shall be identified and where applicable, quantified.
Findings:	The AWS plan does not specify more stringent testing parameters for easy reference. Although an initiative was implemented to provide the community with safe drinking water through a filtration plant, biological contamination issues—such as TDS levels still exceed Environmental Quality Standards
Corrective action:	Site will include the stringent testing parameters (heavy Metals) for wastewater in AWS targets.
Evidence of implementation:	To address the absence of more stringent testing parameters in the AWS plan, the site has included heavy metal testing in its wastewater monitoring program. These parameters exceed legal requirements and have been formally added to the AWS targets. Additionally, the site will confirm that all wastewater testing meet the Sindh Environmental Quality Standards (SEQS) limits, ensuring compliance and enhanced water safety for both operational and ultimate receiving body.
Finding No:	TNR-018916
Checklist Item No:	3.9.3
Status:	Open
Finding level:	Observation
Checklist item:	Actions towards achieving best practice, related to targets in terms of water quality shall be implemented.
Findings:	The site has not incorporated stringent limits in their AWS plan to align with best practices beyond regulatory requirements
Corrective action:	Site will include stringent testing parameters of Antimicrobial (Project CoPER) of waste water quality in AWS plan.

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Finding No:	TNR-018917
Checklist Item No:	4.3.1
Status:	Closed
Finding level:	Non-Conformity
Due date:	2025-Oct-16
Checklist item:	Consultation efforts with stakeholders on the site's water stewardship performance shall be identified.
Findings:	Although the site is actively engaging with stakeholders, there was a lack of evidence that the site not only presented its performance, but consulted on it by soliciting feedback.
Corrective action:	Site will develop online feedback form (questionnaire) for Stakeholder and collect their through form and via email as stakeholder consultation evidence.
Evidence of implementation:	To address the lack of evidence regarding stakeholder consultation on site performance, an online feedback form was developed using Microsoft Forms. This form was shared with stakeholders via email and social media platforms, allowing them to provide input on site performance, including water-related governance and WASH issues. The completed forms and auto-generated Excel record have been attached to the CAP as formal evidence of stakeholder engagement and consultation. Microsoft Forms Abbott AWS performance- Stakeholder Feedback (Prefill) (Page 1 of 2) Abbott AWS performance- Stakeholder Feedback
Finding No:	TNR-018918
Checklist Item No:	5.1.1
Status:	Closed
Finding level:	Non-Conformity
Due date:	2025-Oct-16
Checklist item:	The site's water-related internal governance, including positions of those accountable for compliance with water-related laws and regulations shall be disclosed.
Findings:	No evidence was provided to demonstrate disclosure of the site's established hierarchy for water-related governance.
Corrective action:	Site will circulate water related hierarchy to stakeholders
Evidence of implementation:	To address the lack of evidence regarding disclosure of the site's established hierarchy for water-related governance, the governance framework has been circulated to all relevant stakeholders. This was done via email and, where email access was unavailable (e.g., community schools), through social media platforms such as WhatsApp. Stakeholder endorsement was obtained via an online feedback form, confirming that Abbott's water governance structure has been shared and acknowledged. This ensures transparency and inclusive communication across all stakeholder groups.

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Report Details

Report	Value
Report prepared by	Akhlaq Hussain
Report approved by	Gregorio Crespo
Report approved on (Date)	27/08/2025

Surveillance

Proposed date for next audit
2026-Jul-18

Comment This was the implementation audit. The next audit will be the first surveillance audit and should be planned accordingly

Stakeholder Announcements

Date of publication	Location
22/05/2025	Abbott Laboratories Global website
22/05/2025	WSAS Website
22/05/2025	AWS website
Comment	The stakeholder announcement was published on the websites of Abbott Laboratories, AWS, and WSAS eight weeks prior to the audit. This ensured sufficient notice and transparency for all relevant parties. https://www.abbott.com/content/dam/corp/abbott/en-us/documents/pdfs/transparency/Abbott-Pakistan-Site-Alliance-for-Water-Stewardship-Public-Stakeholder-Announcement.pdf https://www.abbott.com/content/dam/corp/abbott/en-us/documents/pdfs/transparency/Abbott-Pakistan-Site-Alliance-for-Water-Stewardship-Public-Stakeholder-Announcement.pdf
Comment	Four (04) stakeholders were selected for interviews and shared with the site in the audit plan. Three (03) participated in person, while the representative from Karachi Water and Sewerage Board was unavailable and requested to cancel the meeting.

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Catchment Information

Catchment Information

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The Abbott Laboratories Landhi Plant is physically located within the Sukkan sub-catchment of the Malir River Basin, which is part of the local surface and shallow groundwater system. The site's receiving water body is the municipal drainage system, which ultimately discharges into the Sukkan River, which then discharges into the Malir River downstream. Simultaneously, the plant also receives water through a piped municipal supply provided by Karachi Water and Sewerage Corporation (KWSC). This water is sourced from Keenjhar Lake, located approximately 5 kilometers to the southeast from the site, which is part of the larger Indus River Basin. Therefore, two major catchments are indeed relevant to the site:

- The Malir River Basin (local catchment)
- The Indus River Basin, via Keenjhar Lake (external supply catchment)

Malir is considered as the main catchment. It is the larger catchment within which the Sukkan River flows. It governs regional surface drainage, flood behavior, and sediment transport.

The Site operates multiple tubewells tapping in to the unconfined aquifer beneath the site. As the aquifer used is unconfined, its geographical spread can be considered to follow surface water catchment boundaries. The subsurface lithology encountered during the survey comprised layers of sand, silt, clay, and limestone up to the explored depth of 300 meters. Aquifer zones identified within this lithological profile are saturated with groundwater exhibiting a range of quality from good to saline with total dissolved solids (TDS) levels varying approximately between < 1,000 ppm and 8,000 ppm. The catchment water service providers include:

1-KWSC (Water Board) is Water service provider and the source is Kenjhar Lake as mentioned above.

2- Water Tanker Supplier for emergency and ultimate water source of tanker is also Kenjhar lake. Water and wastewater treatment is on site and treated water discharges into Sukkan River and Malir River.

The Sukkan River serves as a vital sub-catchment within the broader Malir River Basin, with considerable significance to the hydrological function and water security of the eastern Karachi region, including the industrial district of Malir and Korangi. As a seasonal watercourse, it originates in the upland areas to the northeast and flows southward, converging with the Malir River downstream. Though non-perennial in nature, its channel becomes highly active during the monsoon season and is critical for managing urban runoff and localized recharge.

The Sukkan sub-catchment is characterized by a narrow, elongated shape that cuts through a mosaic of urban development, agricultural land, and semi-natural terrain. The upper reaches include undulating terrain with mixed sandy-loamy soil, while the lower basin transitions into flatter terrain with finer alluvial silts and clays. The catchment's elevation gradient facilitates moderate surface runoff, especially after heavy rainfall.

Catchment (Malir River Basin)

The Malir River Basin is located along the southeastern boundary of Karachi and covers a total area of around 1850 square kilometres. It's an important seasonal river system that helps drain the eastern side of the city, especially during monsoon rains. The river is fed by two main streams namely – MOL and KHADDEJI along with three other tributaries KONKAR, THADDO and SUKKAN. From there the river flows southward and then westward, passing through Gizri Creek before emptying into the Arabian Sea.

The middle section of the basin is made up of a mix of natural sediment layers like coarse gravel, sandstone, claystone, and limestone, while the lower parts of the river flow through wide, shallow channels with alluvial soil deposits. As the river reaches the plains near Karachi, it spreads out and becomes braided, especially during periods of heavy rainfall. The terrain throughout much of the basin is rocky and rugged, with sandy soil and mostly sparse vegetation such as bushes and shrubs. However, the lower part of the basin is more fertile and supports orchards, grassy fields, and vegetable patches, though this greenery becomes thinner as you move further south.

Several informal settlements (slums) have developed along the banks of the Malir River, along with scattered industrial units. During the monsoon season, the river often overflows, and due to poor drainage systems, stormwater tends to accumulate and stagnate in nearby

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areas. This results in damage to infrastructure and property, especially in low-lying neighbourhoods. Another serious concern is pollution. A large volume of untreated wastewater from factories and residential areas is dumped directly into the river. This has severely degraded the water quality. Since water from the Malir River is sometimes used to irrigate crops that end up in the local food supply, this contamination poses a significant health risk to the people of Karachi.

Third Party Catchment- Keenjhar Lake (Indus River Basin)

The facility's piped municipal water comes from Keenjhar Lake, which is fed by the Indus River. This is a separate watershed, artificially connected via infrastructure. Aquifer Profile and Hydrogeological Context Landhi Area. These sections clearly distinguish between different hydrological systems influencing the site but not forming one unified watershed. Keenjhar Lake, though tranquil in appearance, owes its very existence to one of the most powerful river systems in South Asia the Indus River Basin. This basin is vast, stretching across multiple regions in Pakistan, India, China, and Afghanistan, and serves as the primary hydrological catchment for millions of people, farms, and industries. For Keenjhar Lake, the Indus is not just a distant upstream source; it is the heart of its water supply feeding the lake through a complex network of canals and barrages.

The water that reaches Keenjhar Lake doesn't come directly from rainfall in the Thatta region (where the lake is located). Instead, it is channelled from the Indus River via Kotri Barrage, located upstream. From there, canals like the Kalri Baghar Feeder carry water into the lake to maintain its levels and ensure a continuous supply to Karachi, one of the largest cities in the world.

However, what happens upstream in the Indus Basin significantly determines how much water eventually reaches Keenjhar Lake:

- Reduced snowmelt from the Himalayas, due to climate change, can lead to lower river flows.
- Irrigation withdrawals in Punjab and Sindh take up a large share of the river's flow before it reaches downstream users like Thatta and Karachi.
- Upstream dams and reservoirs, such as Tarbela and Mangla, regulate flow but can delay or reduce the volume of water released during dry seasons.
- In particularly dry years, Keenjhar Lake levels can fall significantly, leading to stress on Karachi's water supply.

Henceforth, while Keenjhar appears self-contained, it is deeply dependent on national water governance and seasonal availability within the greater Indus Basin.



Indus River Basin (via Keenjhar Lake) Map.jpg

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Malir river basin and location of Keenjhar Lake.jpg

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Client Description and Site Details

Client/Site Background

The site is located in Landhi Town , Karachi, Sindh –Pakistan. Detailed information includes The Sites are located Abbott Laboratories (Pakistan) Limited. Landhi site (LP) at opposite Radio Pakistan Transmission, Hyderabad Road, Landhi. Karachi -75120 and Korangi site (KP) at Plot #13 Main Korangi Industrial Road Karachi. The Sites are a pharmaceutical formulation unit producing tablets, capsules, injectables and liquid bottles. The site located in industrial settings and are walled from all sides and access controlled.

The site involved in operations primarily focused on pharmaceutical formulation unit includes production lines producing tablets, capsules, injectables and liquid bottles., administrative offices, warehousing, utility infrastructure and support facilities. Sites use water in manufacturing processes, boilers, cooling towers and fire-fighting water. The on-Site water related infrastructure including on-Site borewells (4 nos. LP and 3 nos. KP):

-In LP Raw water Storage Tank (1 nos. 75000 US gallons), Soft Water Tank (2 nos. 100000 US gallons, 150000 US gallons), Fire Water Tank (100000 US gallons), Effluent treatment Plant (WWTP Capacity 1920 cubic meter per day), Rainwater harvesting (1no's RWC) pit.

-In KP Raw water storage tank (1 nos. 20000 US gallons), Soft Water Tank (2 No, 60000 US gallons, 40000 US gallons), Fire water storage tank (1nos. 40000 US gallons), Effluent treatment plant (WWTP Capacity 720 cubic meter per day).

-The Site's drainage (effluent and sewer) network layout and discharge point (of WWTP) were also available. WWTP inflow and outflow points are available.

The Site has two (2) wastewater streams namely effluent (process wastewater) and sewage (domestic wastewater). Wastewater generated on-Site is treated through the on-Site WWTP before discharging to the municipal drain Infrastructure through end-to-end pipeline network. Only a small level storm water drainage system which is collected in a rainwater pit and use in gardening finally drain in same discharge line if needed. The LP site has Approx. 1200 Employees with land area of 17 Acres whereas KP site has Approx 250 Employees with land area of 7 Acres.



Site Boundries-Abbott Laboratories (Pakistan) Ltd.-Korangi Plant.jpg



Site Boundries-Abbott Laboratories (Pakistan) Ltd.-Landhi Plant.jpg

Summary of Shared Water Challenges

Summary of Shared Water Challenges

Site has identified shared water challenges with consultation of stakeholders. The identified shared water challenges in the catchment. The challenges include: Water Quality, Water Availability, WASH in catchment and surrounding areas and Poor Water Governance,

1.) Water Quality-Recent microbial testing shows that KWSC-supplied water is unsafe without treatment due to harmful microorganisms, posing health risks. Groundwater is also contaminated by industrial discharges and wastewater infiltration, threatening key aquifers. Studies highlight severe pollution in the Sukkan and Malir river basins caused by industrial waste. The Malir River shows high BOD (148 ppm) and COD (240 ppm) levels. In contrast, treated industrial effluents like Abbott's maintain much lower levels—BOD below 50 ppm and COD under 15 ppm.

2.) Water availability-In the Landhi and Korangi region, groundwater and KWSC supply serve as primary sources for irrigation, drinking, and industrial use. However, KWSC supply is insufficient, leading to overreliance on groundwater and overexploitation of aquifers. With a projected 30–50% rise in water demand over the next two decades due to industrial and residential growth, the area risks being reclassified as over-exploited. This could result in severe water shortages and increased dependency on costly tanker supplies, particularly affecting industries.

3.) WASH in catchment and surrounding areas-Sanitation and hygiene pose a significant shared water challenge for both industries and communities in the catchment area. Limited access to clean water, insufficient water supply, and poor sanitation infrastructure contribute to environmental damage and public health risks.

4.) Poor water governance-Poor water governance is a major shared challenge in the catchment area, where surface water is frequently unsafe due to a lack of effective monitoring for contamination and distribution. The issue is worsened by high water losses, illegal connections, and theft during transmission, compromising both the reliability and safety of the supply.

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1 STEP 1: GATHER AND UNDERSTAND

1.1 *Gather information to define the site's physical scope for water stewardship purposes, including: its operational boundaries; the water sources from which the site draws; the locations to which the site returns its discharges; and the catchment(s) that the site affect(s) and upon which it is reliant.*

1.1.1 *The physical scope of the site shall be mapped, considering the regulatory landscape and zone of stakeholder interests, including:*

- Site boundaries;
- Water-related infrastructure, including piping network, owned or managed by the site or its parent organization;
- Any water sources providing water to the site that are owned or managed by the site or its parent organization;
- Water service provider (if applicable) and its ultimate water source;
- Discharge points and waste water service provider (if applicable) and ultimate receiving water body or bodies;
- Catchment(s) that the site affect(s) and is reliant upon for water.



Comment The geographical area surrounding the site is influenced by the Malir River/ Sukan River Basin/ Kenjhar Lake (Indus River Basin), located approximately 5 kilometers to the southeast. The catchment basin on which the site relies on for water supply includes Kenjhar Lake and discharges in Sukan River / Malir River. Site has declared 32.7 square KM physical scope which lies with Sukkan and Malir River basin. Site has documented the catchment based on its water extraction and ultimate disposal. Site also has conducted a hydrological study on identified catchment. (attached). The site has a documented layout, water source, and basic water infrastructure. Groundwater serves as the sole water source, extracted through 4 deep wells as water inputs at Landhi site and 3 at Korangi site, these are interconnected with piping network and supply to underground tanks. The site extensively treats and re-use RO rejection. The catchment water service providers include:
1-KWSC (Water Board) is Water service provider, and the source is Kenjhar Lake as mentioned above.
2- Water Tanker Supplier for emergencies and ultimate water source of tanker is also kenjhar lake. Water and wastewater treatment is on site and treated water discharges into Sukan River and Malir River.
The site involved in operations primarily focused on pharmaceutical formulation units include production lines producing tablets, capsules, injectables and liquid bottles., administrative offices, warehousing, utility infrastructure and support facilities. Sites uses water in manufacturing processes, boilers and cooling towers. The on-Site water related infrastructure including on-Site borewells (4 nos. LP and 3 nos. KP):
The Site has two (2) wastewater streams namely – effluent (process wastewater) and sewage (domestic wastewater). Wastewater generated on-Site is treated through the on-Site WWTP before discharging to the municipal drain Infrastructure through end-to-end pipeline network. Only a small level storm water drainage system which is collected in a rainwater pit and use in gardening finally drain in same discharge line if needed.
The site's final discharge point is the Sukkan stream, which serves as the ultimate receiving water body for treated effluents. This stream eventually flows into the Malir River, linking the site's wastewater pathway to a larger and ecologically significant water system. Therefore, the quality and management of the site's discharge can directly impact on the environmental health of both the Sukkan stream and the Malir River downstream.
Abbott Laboratories Karachi affects and relies upon the Malir River Catchment, the Sukkan Stream Sub-Catchment, local groundwater aquifers, and the KWSC water supply system. These sources are interconnected and critical to both the site's operations and the surrounding community and ecosystem.

1.2 *Understand relevant stakeholders, their water related challenges, and the site's ability to influence beyond its boundaries.*

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1.2.1	<i>Stakeholders and their water-related challenges shall be identified. The process used for stakeholder identification shall be identified. This process shall:</i> - <i>Inclusively cover all relevant stakeholder groups including vulnerable, women, minority, and Indigenous people;</i> - <i>Consider the physical scope identified, including stakeholders, representative of the site's ultimate water source and ultimate receiving water body or bodies;</i> - <i>Provide evidence of stakeholder consultation on water-related interests and challenges;</i> - <i>Note that the ability and/or willingness of stakeholders to participate may vary across the relevant stakeholder groups;</i> - <i>Identify the degree of stakeholder engagement based on their level of interest and influence.</i>	 closed
Comment	The site has compiled a comprehensive stakeholder list, covering nearly all relevant categories in accordance with the standard. This includes water governance bodies, environmental authorities, internal stakeholders, industry representatives, community members, and service providers. The list details the engagement status of each stakeholder classified as engaged, planned for engagement, or not yet engaged. A summary of these engagements is documented, supported by photographic evidence and feedback on shared water challenges. Additionally, the site has shared a minute of meetings report focusing on stakeholder perceptions of the company, with particular emphasis on common water-related concerns. Finding No: TNR-018904	
1.2.2	<i>Current and potential degree of influence between site and stakeholder shall be identified, within the catchment and considering the site's ultimate water source and ultimate receiving water body for wastewater.</i>	 Yes
Comment	The site has evaluated the influence of stakeholders on its effluent management and the impact of its operations on the surrounding community. It has also documented the rationale for including each stakeholder, based on their relevance and potential influence. Additionally, the site's influence on these stakeholders has been identified, and this mutual influence is reflected in the stakeholder list, where reasons for inclusion are clearly outlined.	
1.3	<i>Gather water-related data for the site, including: water balance; water quality, Important Water-Related Areas, water governance, WASH; water-related costs, revenues, and shared value creation.</i>	
1.3.1	<i>Existing water-related incident response plans shall be identified.</i>	 Yes
Comment	The site has submitted documentation confirming that potential water-related incidents have been identified, along with brief and immediate response measures. These preparedness actions were reviewed and verified during the certification audit.	
1.3.2	<i>Site water balance, including inflows, losses, storage, and outflows shall be identified and mapped</i>	 closed
Comment	The site has mapped its water inflows and submitted the relevant documentation. It has also adequately mapped its water infrastructure, including the installation of flow meters on major water lines. Area-wise water consumption is being continuously monitored and recorded. The site tracks water inflows, losses, storage, and outflows, and has developed a comprehensive water balance for the year 2024 based on actual measurements. At the Landhi site (LP), four deep wells serve as water inputs, while the Korangi site (KP) operates three wells. These wells are connected through a piping network and supply water to underground storage tanks. Flow meters are installed at the well outlets to measure inflow. The extracted water is treated and distributed across different sections of the facility. All effluents are collected at the site's effluent treatment plant, treated, and discharged through a government drain that leads to the final receiving body. The site currently reuses only RO rejection water.	

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Finding No: TNR-018905

- 1.3.3** *Site water balance, inflows, losses, storage, and outflows, including indication of annual variance in water usage rates, shall be quantified. Where there is a water-related challenge that would be a threat to good water balance for people or environment, an indication of annual high and low variances shall be quantified.* ✓
closed

Comment The site has implemented reliable water measurement systems across its network, enabling accurate tracking of water supplied to various sections of the facility. A comprehensive water balance for the year 2024 (January to December) has been developed based on extensive metering, with nearly all water lines equipped with flow meters. The data indicates that approximately 9.9% of total extracted water is used in manufacturing processes, with precise measurements available for this portion. The remaining 91.1% is utilized for domestic purposes, such as washrooms, canteens, gardening, and other utilities.

Key highlights from the 2024 water balance are as follows:

Landhi Site:

- Total groundwater withdrawal: 301,395 m³/year
- Municipal water supply: 62,660 m³/year
- Water used in production: 36,398 m³/year
- Domestic use and losses: 161,800 m³/year
- Process discharge to ETP: 172,547 m³/year
- Water shortfall: 25,650 m³/year (6.86%)

Korangi Site:

- Total groundwater withdrawal: 123,876 m³/year
- Municipal water supply: 261 m³/year
- Water used in production: 16,041 m³/year
- Domestic use and losses: 51,566 m³/year
- Process discharge to ETP: 48,729 m³/year
- Water shortfall: 18,878 m³/year (15%)

These figures reflect the site's commitment to monitoring and managing its water use efficiently and transparently.

Finding No: TNR-018906

- 1.3.4** *Water quality of the site's water source(s), provided waters, effluent and receiving water bodies shall be quantified. Where there is a water-related challenge that would be a threat to good water quality status for people or environment, an indication of annual, and where appropriate, seasonal, high and low variances shall be quantified.* ✓
closed

Comment The site has developed and implemented a comprehensive water quality plan. It operates an on-site laboratory and engages approved third-party laboratories for external testing. Chemical analysis of water sources is conducted quarterly, effluent testing is performed bi-annually, and sludge is tested on an as-needed basis. Water quality parameters physical, chemical, and biological are regularly monitored in accordance with the Sindh Environmental Quality Standards (SEQS) under a defined Quality Monitoring Schedule. Effluent quality at the process discharge pit is also routinely tested as per the site's wastewater sampling and testing plan. The most recent monitoring report, dated 24-03-2025, confirmed that effluent quality complies with local regulatory standards.

Finding No: TNR-018907

- 1.3.5** *Potential sources of pollution shall be identified and if applicable, mapped, including chemicals used or stored on site.* ✓
Yes

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Comment	The site has identified chemicals, lubricants, and fuels as potential pollution sources and has taken appropriate preventive measures. These include the installation of secondary containment systems, availability of spill kits, and regular training for employees on handling and response procedures. Potential pollution sources have been clearly mapped on the site layout. During the site visit, it was observed that effective mitigation measures were in place, chemical and fuel storage areas were equipped with secondary containment, and spillage control arrangements were readily accessible to minimize environmental risks.	
1.3.6	<i>On-site Important Water-Related Areas shall be identified and mapped, including a description of their status including Indigenous cultural values.</i>	Yes
Comment	The site has identified one Important Water-Related Area (IWRA) on-site, a rainwater collection pit. This feature is recognized as providing ecosystem services and aligns with traditional water conservation practices. It supports sustainability goals and enhances resilience in urban planning by promoting water recharge and reducing runoff.	
1.3.7	<i>Annual water-related costs, revenues, and a description or quantification of the social, cultural, environmental, or economic water-related value generated by the site shall be identified and used to inform the evaluation of the plan in 4.1.2.</i>	Yes
Comment	The site has compiled a summary of water-related costs for the year 2024. These costs encompass the operation and maintenance of water infrastructure, energy and electricity expenses, environmental monitoring, janitorial and cleaning supplies, and wastewater disposal. Additionally, the budget includes expenditures for water-related studies and initiatives carried out within the catchment area, reflecting the site's broader commitment to responsible water management.	
1.3.8	<i>Levels of access and adequacy of WASH at the site shall be identified.</i>	Yes
Comment	Based on site visits and discussions, the site has established adequate arrangements to ensure access to safe drinking water, sanitation, and hygiene (WASH) for all workers. Separate toilet facilities are maintained for male and female employees, and the adequacy of these facilities has been assessed against legal requirements. At the Landhi site, a total of 104 toilets has been provided, 77 for males and 27 for females. Similarly, at the Korangi site, 45 toilets are available, 36 for males and 9 for females, ensuring compliance with applicable regulations.	
1.4	<i>Gather data on the site's indirect water use, including: its primary inputs; the water use embedded in the production of those primary inputs the status of the waters at the origin of the inputs (where they can be identified); and water used in out-sourced water-related services.</i>	
1.4.1	<i>The embedded water use of primary inputs, including quantity, quality and level of water risk within the site's catchment, shall be identified.</i>	Yes
Comment	The site has identified embedded water use within the catchment and has listed its main suppliers, noting that some operate within the defined catchment area. The suppliers do not use water in the product; however, they use it for potable purposes only. Annual water use provided by the site of their suppliers with the catchment. Primary origin of goods is from Karachi Pakistan and using same watershed. Communication has been established with these suppliers to align them with the AWS agenda. Among the key suppliers are packaging and PET bottle manufacturers. Based on data collected through email correspondence, the packaging supplier consumed approximately 1,200 m³ of water in 2024 for , while the PET bottle supplier used around 56,000 m³ during the same period.	
1.4.2	<i>The embedded water use of outsourced services shall be identified, and where those services originate within the site's catchment, quantified.</i>	Yes

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Comment The site has identified embedded water use within the catchment, including through its two outsourced laundry vendors, water use for potable and washing purpose. The service provider do not use water in the product; however, they use it for potable and washing (laundry) purposes only. Annual water use provided by the site of their service providers who fall within the catchment using same watershed. Regular meetings are held with both vendors to discuss water-related practices and align with the site's sustainability goals. Based on shared data, Vendor 1 consumed approximately 840 m³ of water in 2024, while Vendor 2 used around 816 m³ during the same period.

1.5 *Gather water-related data for the catchment, including water governance, water balance, water quality, Important Water-Related Areas, infrastructure, and WASH*

1.5.1 *Water governance initiatives shall be identified, including catchment plan(s), water-related public policies, major publicly-led initiatives under way, and relevant goals to help inform site of possible opportunities for water stewardship collective action.*


Yes

Comment Catchment Water Governance, Participation and Public Initiatives
Abbott Laboratories has looked at the catchment water governance and actively contributed to improving water governance within the catchment by engaging in community awareness efforts and implementing water-related improvement projects both on-site and within the broader catchment area. The site has taken a leadership role in publicly supporting initiatives that align with shared water challenges and national priorities.

Key Governance Engagements and Initiatives:

1. Alignment with National Water Policy (2018):

Abbott has identified and aligned its practices with Pakistan's National Water Policy, which promotes water efficiency, conservation technologies, and access to safe drinking water and sanitation.

2. Compliance with the Sindh Water Management Ordinance (2002):

The site recognizes the provincial ordinance as a framework for equitable water distribution and sustainable use across Sindh.

3. Awareness of the K-IV Water Supply Project:

A major government-led initiative, the K-IV project aims to increase Karachi's water supply from Keenjhar Lake. Abbott's municipal water source is part of this system, indicating its connection to broader urban water infrastructure.

4. Support for KWSC Infrastructure Rehabilitation Plans:

These plans involve upgrading pipelines, reducing leakages, and enhancing wastewater systems that contribute to improved water quality and distribution efficiency.

5. Awareness of the Malir Expressway and Urban Drainage Improvements:

Although transport-focused, this project helps manage rainwater and mitigate flooding risks, indirectly supporting water governance and resilience in the area.

Opportunities for Collective Action:

Abbott's role as both a water user and discharger of treated water positions it well to participate in collaborative stewardship. The site sees opportunities to:

- Collaborate with KWSC on sharing water quality and availability data.
- Partner with nearby industries to develop joint solutions for wastewater treatment and rainwater harvesting.
- Support local NGOs and community groups working on groundwater recharge, pollution control, and wetland preservation in the Sukkan Basin.

Through these actions, Abbott demonstrates a strong commitment to collective water management and sustainable governance within its catchment.

1.5.2 *Applicable water-related legal and regulatory requirements shall be identified, including legally-defined and/or stakeholder-verified customary water rights.*


Yes

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Comment The site has identified all applicable legal requirements and established a formal process to review compliance, as outlined in the document titled QMSOP053483/1 – SOP for Legal Requirements. Compliance is regularly assessed through the EHS Legal Gap Assessment Report. Among the identified regulations, a key legal obligation is the Sindh Environmental Protection Act (SEPA), 2014, which governs environmental protection and compliance standards in the region. Detailed information on these requirements is documented in the referenced SOP.

1.5.3 *The catchment water-balance, and where applicable, scarcity, shall be quantified, including indication of annual, and where appropriate, seasonal, variance.* ✓ closed

Comment The site has conducted a hydrological study of the Malir river catchment, which includes a detailed water balance analysis. The findings indicate that catchment water extraction exceeds natural recharge, leading to long-term water stress. While the site itself extracts less water than is recharged, the broader catchment comprising industrial, residential, and agricultural zones is facing increasing pressure due to population growth and expanding agricultural activities.

According to the study:

Annual rainfall contribution to the catchment: 555 million m³

Total annual water outflow from the catchment: 1,287 million m³

Deficit: –732 million m³/year

The Malir River, which runs through the catchment, lacks storage infrastructure, and rainfall levels in Karachi remain low. This imbalance highlights a growing scarcity of water in the catchment, further exacerbated by declining groundwater levels observed over the past several decades. The site's assessment underscores the urgent need for sustainable water management across the region.

Finding No: TNR-018908

1.5.4 *Water quality, including physical, chemical, and biological status, of the catchment shall be identified, and where possible, quantified. Where there is a water-related challenge that would be a threat to good water quality status for people or environment, an indication of annual, and where appropriate, seasonal, high and low variances shall be identified.* ✓ closed

Comment The site has collected information on the water quality of its effluent-receiving bodies, specifically the Sukkan stream and Malir River. This includes data on both surface and groundwater quality, sourced from various organizations, published studies, and its own downstream water quality analyses. Overall, the water quality within the catchment is generally assessed as "good," though surface and shallow groundwater sources are affected by sewage contamination. The interpreted data suggest that groundwater quality ranges from "good to marginal." However, it is noted that identification of seasonal or annual variations in water quality was not provided.

Finding No: TNR-018909

1.5.5 *Important Water-Related Areas shall be identified, and where appropriate, mapped, and their status assessed including any threats to people or the natural environment, using scientific information and through stakeholder engagement.* 🔍 Obs.

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Comment	The site has comprehensively identified all Important Water-Related Areas (IWRAs) within the catchment through consultations with stakeholders, including government departments, NGOs, and the local community. This assessment was supported by Geoscience Associates and water resource experts, who conducted physical site visits and interviews with local residents. A total of 12 IWRAs have been identified, each evaluated for its relevance, condition, and potential risks. Identified IWRAs within the Catchment: 1. Kalri Baghar Feeder Canal (K-IV): Main municipal water source for Karachi via KWSC. 2. Groundwater Recharge Zone: Sandy-loamy soil beneath the site allows limited groundwater recharge. 3. KWSB Distribution Line: Supplies treated municipal water to the industrial area. 4. Municipal Drainage Network: Handles wastewater from the site and surrounding areas but often remains overburdened. 5. Sukkan River Tributary Channel: Receives stormwater runoff; currently in degraded condition. 6. Nullahs and Open Drains: Serve as informal drainage paths, prone to contamination. 7. Urban Slum Settlements (Katchi Abadis): Vulnerable downstream communities exposed to water contamination and flood risk. 8. Industrial Corridor (Landhi Industrial Area): Area of high water competition and significant pollution risk. 9. Vegetative Strips & Orchards: Agricultural areas that rely on informal water sources. 10. Sukkan Sub-Catchment (Malir Basin): Manages surface runoff and limited groundwater recharge relevant to the site. 11. Malir River (Main Basin): Final receiving body for catchment runoff and discharges. 12. Keenjhar Lake (Source Catchment): A key reservoir supplying water to Karachi via KWSC. Each IWRAs has been documented with descriptions, current status, and associated risks. The assessment also took into account culturally significant sites and local context, ensuring that the identified areas reflect both environmental and community perspectives.	
1.5.6	<i>Existing and planned water-related infrastructure shall be identified, including condition and potential exposure to extreme events.</i>	 Yes
Comment	The site has adequately identified both existing and planned water-related infrastructure within the catchment. This includes detailed information on water supply systems, sanitation networks, and associated services. In addition, the site has gathered data on trends and the potential occurrence of extreme events, such as droughts and flooding, which may impact water availability and quality. Efforts by government authorities to mitigate these risks such as infrastructure upgrades, drainage improvements, and emergency response planning have also been documented and considered as part of the site's water stewardship strategy.	
1.5.7	<i>The adequacy of available WASH services within the catchment shall be identified.</i>	 Yes

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Comment	The site has assessed WASH (Water, Sanitation, and Hygiene) conditions within the catchment and identified several key challenges, including poor drinking water quality, limited water availability, inadequate hygiene practices, and a deficient sanitation system. These issues are particularly pronounced in underserved and rural areas of the catchment. The assessment referenced multiple reliable sources, including a survey conducted by the relevant department with support from UNICEF. Data was derived from the Multiple Indicator Cluster Survey (MICS) Sindh 2014, with results published in 2018. Raw datasets were obtained from the Punjab Bureau of Statistics and UNICEF. The key findings include: • Access to water on premises: Overall – 72%, Urban – 81.5%, Rural – 63.5% • Access to sufficient quantity of water: 86% • Access to improved water sources: 89% WASH Reference Sources: 1. Malir Basin Profile (JICA, NIO, SUPARCO) – For catchment and topographic context 2. Literature Review – Supporting data and historical context 3. JICA Reports on Karachi Water Supply & Drainage Master Plan (2008, 2013) – Referenced for aquifer conditions, hydrogeology, and system vulnerabilities 4. Karachi Water and Sewerage Corporation (KWSC) – For infrastructure mapping and the Keenjhar water supply linkage This comprehensive assessment provides critical insight into the current WASH conditions and supports the site's broader efforts in water stewardship and community engagement.	
1.6	<i>Understand current and future shared water challenges in the catchment, by linking the water challenges identified by stakeholders with the site's water challenges.</i>	
1.6.1	<i>Shared water challenges shall be identified and prioritized from the information gathered.</i>	 Yes
Comment	The site has identified and engaged key stakeholders related to water within the catchment to understand and address shared water-related challenges. Through consultations, local communities and other stakeholders highlighted the following major concerns: • Water Quality: Concerns over the poor quality of municipal water supply. • Water Scarcity: General depletion of available water resources across the catchment. • Water Governance: Issues related to inadequate drainage systems and lack of clarity in water supply management. • WASH-Related Issues: Persistent problems with access to clean water, sanitation, and hygiene infrastructure. These insights have been incorporated into the site's water stewardship planning to ensure more inclusive and responsive actions.	
1.6.2	<i>Initiatives to address shared water challenges shall be identified.</i>	 Yes
Comment	The site has identified and documented various initiatives to address shared water challenges, which are clearly linked to actions outlined in its Water Stewardship Plan. These initiatives cover both on-site improvements and broader catchment-level efforts, with some already implemented and others planned. Key initiatives include: 1. Ongoing consultations with Karachi Water and Sewerage Corporation (KWSC). 2. Provision of water coolers and filtration systems for the local community. 3. Collaboration with Hisaar Foundation (NGO) to assess and improve WASH conditions in nearby communities. 4. Public and stakeholder awareness sessions focused on water-related issues. 5. Beach clean-up drives to reduce pollution and protect water bodies. 6. Engagement with KATI, LATI, and SEPA to address water governance, water quality, and wastewater treatment challenges. 7. Awareness sessions with local farmers on WASH practices. 8. Support for local industry-led initiatives to establish water filtration plants within the catchment community. These actions demonstrate the site's commitment to collaborative water management and sustainable stewardship within the catchment.	

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- 1.7** *Understand the site's water risks and opportunities: Assess and prioritize the water risks and opportunities affecting the site based upon the status of the site, existing risk management plans and/or the issues and future risk trends identified in 1.6.*
- 1.7.1** *Water risks faced by the site shall be identified, and prioritized, including likelihood and severity of impact within a given timeframe, potential costs and business impact.* ✔ closed
- Comment The site has prioritized risks by evaluating their likelihood, severity of impact within a specific timeframe, potential costs, and overall business implications. Among these, the aging of water infrastructures such as old and deteriorating pipelines has been identified as a high-priority risk due to its potential to disrupt water supply and increase maintenance costs.
Finding No: TNR-018911
- 1.7.2** *Water-related opportunities shall be identified, including how the site may participate, assessment and prioritization of potential savings, and business opportunities.* ✔ Yes
- Comment The site is actively pursuing opportunities to improve its water balance by reducing overall water consumption. Key initiatives identified include:
- Reusing reverse osmosis (RO) rejects water.
 - Collecting and reusing rainwater.
 - Planning to implement wastewater recycling systems.
 - Optimizing water pressure to minimize consumption.
 - Conduct awareness campaigns on WASH to encourage water-saving behaviors.
- These efforts reflect the site's commitment to sustainable water management and conservation.
- 1.8** *Understand best practice towards achieving AWS outcomes: Determining sectoral best practices having a local/catchment, regional, or national relevance.*
- 1.8.1** *Relevant catchment best practice for water governance shall be identified.* ✔ Yes
- Comment The site actively engages local communities, neighboring industries, and government authorities to promote effective water governance. Some of the best practices implemented include:
- 1.) Conducting awareness sessions on the Alliance for Water Stewardship (AWS) to inform stakeholders, facilitate consultations, and encourage collaboration on water-related initiatives within the catchment.
- 2.) Developing and sharing a comprehensive Water Stewardship Plan with stakeholders during consultation meetings to ensure transparency and collective action.
- 3.) Enhancing on-site water monitoring and measurement systems to improve regulation, optimize consumption, and support informed decision-making.
- 1.8.2** *Relevant sector and/or catchment best practice for water balance (either through water efficiency or less total water use) shall be identified.* ✔ Yes

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Comment	The site has identified several best practices within the catchment to improve water balance, including: 1. Reusing RO reject water for flushing and other appropriate uses to reduce overall water demand. 2. Implementing sensor-based faucets in personal facilities at the Landhi site to conserve water. 3. Installing rainwater collection and harvesting systems on-site to supplement the water supply and support catchment water balance. 4. Adopting drip irrigation for gardening and plantation areas to enhance water-use efficiency.	
1.8.3	<i>Relevant sector and/or catchment best practice for water quality shall be identified, including rationale for data source.</i>	 Yes
Comment	The site has identified several best practices within the catchment to improve water quality, including: 1. Enhancing water inflow quality through treatment methods such as chlorination and sanitization of bore wells and storage tanks before their use in productive and non-productive applications. 2. Providing and installing water coolers with filtration units to ensure the community has access to safe, high-quality drinking water. 3. Reusing treated wastewater for flushing and other non-potable purposes wherever feasible to reduce freshwater demand. 4. Voluntarily conducting regular raw water quality testing, despite not being a legal requirement, to proactively monitor and maintain water safety.	
1.8.4	<i>Relevant catchment best practice for site maintenance of Important Water-Related Areas shall be identified.</i>	 Yes
Comment	Based on the site-provided document "Water Related Best Practices," the site has adopted key practices to support good water governance, including: 1. Incorporating borewell maintenance such as periodic sanitization into the Standard Operating Procedures (SOPs) for water management. 2. Conducting regular maintenance of rainwater collection pits to ensure they function effectively and maintain water quality.	
1.8.5	<i>Relevant sector and/or catchment best practice for site provision of equitable and adequate WASH services shall be identified.</i>	 Yes
Comment	The site has implemented several best practices to ensure the provision of WASH (Water, Sanitation, and Hygiene) services, including comprehensive arrangements to guarantee access to safe drinking water, sanitation, and hygiene for all employees. Additionally, the site uses a self-assessment tool to regularly evaluate WASH facilities at the workplace, covering water supply, sanitation, and hygiene infrastructure. Key best practices include: 1. Installing chilled water coolers with filtration units in public parks and schools within the neighboring community to provide safe drinking water. 2. Partnering with an NGO to conduct independent assessments that identify community needs for clean water and handwashing facilities. 3. Ensuring proper shower facilities for employees and providing access to safe water for their domestic use.	

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2	STEP 2: COMMIT & PLAN - Commit to be a responsible water steward and develop a Water Stewardship Plan	
2.1	<i>Commit to water stewardship by having the senior-most manager in charge of water at the site, or if necessary, a suitable individual within the organization head office, sign and publicly disclose a commitment to water stewardship, the implementation of the AWS Standard and achieving its five outcomes, and the allocation of required resources.</i>	
2.1.1	<i>A signed and publicly disclosed site statement OR organizational document shall be identified. The statement or document shall include the following commitments:</i> - That the site will implement and disclose progress on water stewardship program(s) to achieve improvements in AWS water stewardship outcomes - That the site implementation will be aligned to and in support of existing catchment sustainability plans - That the site's stakeholders will be engaged in an open and transparent way - That the site will allocate resources to implement the Standard.	 Yes
Comment	The site has established a formal commitment to water stewardship, documented and endorsed by Director Operations, Mr. Moien Ahmad Khan. This commitment statement comprehensively addresses the key aspects of the Alliance for Water Stewardship (AWS) Standard, reflecting the site's alignment with international best practices. Additionally, the site adheres to a corporate-wide Water Stewardship Policy, which has been implemented across all company locations and is deemed satisfactory in scope and content. Both the policy and the commitment statement are publicly accessible on the company's website, ensuring transparency and availability to all interested stakeholders. https://www.abbott.com/content/dam/corp/abbott/en-us/documents/pdfs/transparency/AWS-Commitment-EPO-Landhi.pdf	
2.2	<i>Develop and document a process to achieve and maintain legal and regulatory compliance.</i>	
2.2.1	<i>The system to maintain compliance obligations for water and wastewater management shall be identified, including:</i> - Identification of responsible persons/positions within facility organizational structure - Process for submissions to regulatory agencies.	 Yes
Comment	The site has clearly defined a hierarchy for managing legal compliance related to water. The applicable legal requirements are documented by the Water Governance Framework team under the AWS (Alliance for Water Stewardship) initiative, including designated roles and responsibilities. Mr. Muhammad Ikhlaque, Senior Manager EHS, holds primary responsibility for the identification, evaluation, and ongoing monitoring of water-related legal requirements. He is supported in this role by the broader EHS team, ensuring comprehensive oversight and adherence to all applicable regulations and standards.	
2.3	<i>Create a water stewardship strategy and plan including addressing risks (to and from the site), shared catchment water challenges, and opportunities.</i>	
2.3.1	<i>A water stewardship strategy shall be identified that defines the overarching mission, vision, and goals of the organization towards good water stewardship in line with this AWS Standard.</i>	 Yes

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Comment The Site's Water Strategy is focused on achieving and maintaining a water-secure catchment, both now and into the future. This will be accomplished by ensuring continuous regulatory compliance, adopting and implementing recognized best practices, and fostering active collaboration with key stakeholders. Through this approach, the Site aims to safeguard the community, cultural, environmental, and economic values associated with water resources.

To deliver on this strategy, the Site proactively engages relevant stakeholders and takes a leading role in initiating and supporting water stewardship projects that address the critical water-related challenges identified within the catchment area.

- 2.3.2** *A water stewardship plan shall be identified, including for each target:*
- *How it will be measured and monitored*
 - *Actions to achieve and maintain (or exceed) it*
 - *Planned timeframes to achieve it*
 - *Financial budgets allocated for actions*
 - *Positions of persons responsible for actions and achieving targets*
 - *Where available, note the link between each target and the achievement of best practice to help address shared water challenges and the AWS outcomes.*



Yes

Comment The Site has identified a comprehensive set of water stewardship initiatives in the AWS plan aligned with the core outcomes of the AWS Standard. These initiatives focus on key areas including water governance, sustainable water balance, water quality, WASH (Water, Sanitation, and Hygiene), and indirect water use. The actions address both on-site operations and catchment-level concerns, reflecting a holistic approach to water stewardship.

In support of these efforts, the Site has developed a Water Stewardship Plan, which clearly outlines the targets, assigned responsibilities, timelines, and anticipated benefits of each initiative, ensuring structured implementation and measurable progress toward sustainable water management.

- 2.4** *Demonstrate the site's responsiveness and resilience to respond to water risks*

- 2.4.1** *A plan to mitigate or adapt to identified water risks developed in co-ordination with relevant public-sector and infrastructure agencies shall be identified.*



closed

Comment The Site's water sources, and associated risks have been independently identified, without sole reliance on public sector or infrastructure agencies. However, to enhance water governance and mitigate infrastructure-related risks, Site management is actively engaged with the Water & Sanitation Authority. This collaboration supports improved transparency, shared responsibility, and sustainable management of water infrastructure within the catchment.

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3	STEP 3: IMPLEMENT - Implement the site's stewardship plan and improve impacts	
3.1	<i>Implement plan to participate positively in catchment governance.</i>	
3.1.1	<i>Evidence that the site has supported good catchment governance shall be identified.</i>	 Yes
Comment	Site management actively participates in improving water governance within the catchment. The following actions demonstrate alignment with good governance practices: •Regular engagement with key stakeholders including LATI (Landhi Association of Trade and Industry), KATI (Korangi Association of Trade and Industry), SEPA (Sindh Environmental Protection Agency), and neighboring industries. •Tree plantation drive in 2024 in collaboration with SEPA, held in the Korangi Industrial Area to promote environmental sustainability. •Ongoing dialogue with Karachi Water and Sewerage Corporation (KWSC) to support integrated water resource management and infrastructure planning.	
3.1.2	<i>Measures identified to respect the water rights of others including Indigenous peoples, that are not part of 3.2 shall be implemented.</i>	 Yes
Comment	Although there are no specific legal or regulatory obligations related to customary or non-regulatory water rights under Indicator 3.2.3, the site has voluntarily recognized and respected the community's right to access safe drinking water. In line with this commitment, the site has installed, operates, and maintains water cooler units ensuring both functionality and water quality to support the local community's access to clean and safe drinking water.	
3.2	<i>Implement system to comply with water-related legal and regulatory requirements and respect water rights.</i>	
3.2.1	<i>A process to verify full legal and regulatory compliance shall be implemented.</i>	 Yes
Comment	The site has clearly defined the hierarchy for legal compliance responsibilities related to water. Applicable legal requirements are documented in the List of Legal Compliance (attached), along with the designated roles and responsibilities of relevant team members. The Site Utility Manager and the Site EHS Lead are jointly responsible for the identification, monitoring, and ongoing compliance with water-related legal obligations. No instances of non-compliance have been identified in the past several years. Legal compliance is regularly evaluated through a structured compliance assessment process and is also a standing agenda item in the monthly Management Review Meetings.	
3.2.2	<i>Where water rights are part of legal and regulatory requirements, measures identified to respect the water rights of others including Indigenous peoples, shall be implemented.</i>	 Yes

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Comment Although no specific legal requirement applies in this case, the selection of the project site was guided by a needs-based, inclusive stakeholder identification process. Consistent with international best practices, stakeholders and their water-related challenges were identified through community consultations, field visits, and coordination with local education authorities and community leaders.

The Federal English Government Boys Secondary School No.01, located in Umar Marvi Goth, Quaidabad, Bin Qasim Town, was prioritized based on its critical WASH (Water, Sanitation, and Hygiene) deficiencies and the high number of underserved students. The selection process ensured the inclusion of vulnerable groups and incorporated diverse stakeholder perspectives, particularly those of children, teachers, and support staff. The project will directly benefit the school community through the installation of a dedicated handwashing facility and the rehabilitation of three school washrooms, thereby enhancing hygiene, dignity, and the overall learning environment.

3.3 Implement plan to achieve site water balance targets.

3.3.1 Status of progress towards meeting water balance targets set in the water stewardship plan shall be identified.



Yes

Comment The site produces a variety of products and operates multiple processes, with a clear target set for maintaining a balanced annual water use measured in cubic meters (m³). To support this goal, the site has implemented numerous initiatives aimed at improving water balance both onsite and within the broader catchment. Key initiatives include:

- 1.) Steam Condensate Recovery – Estimated savings of 7,000 m³ per year.
- 2.) Optimization of Pressure in Piping Network – Estimated savings of 60,000 m³ per year.
- 3.) Reuse of RO Rejected Water for Flushing – Estimated savings of 7,800 m³ per year.
- 4.) Reuse of Treated Water for Flushing – Estimated savings of 30,000 m³ per year.
- 5.) Optimization of Chemical Dosing and Monitoring to safely increase cycles of concentration (COC) and reduce water losses – Estimated savings of 40,000 m³ per year.
- 6.) Installation of Sensor-Based Faucets in personal facilities – Estimated savings to be determined.
- 7.) Repair and Maintenance of Rainwater Collection Pits to ensure readiness for rainwater harvesting – Estimated savings of 250 m³ per year.
- 8.) Development of Cooling Tower Blowdown Water Recovery and Treatment System at Korangi Plant (KP) – Estimated savings of 4,000 m³ per year.
- 9.) Installation of Recycling Plant for Wastewater Reuse in Gardening Applications at KP – Estimated savings of 30,000 m³ per year.

In addition to these quantitative water savings, the Water Stewardship Plan also outlines qualitative and quantitative value creation, tracking current progress and strategies to meet the site's water balance targets.

3.3.2 Where water scarcity is a shared water challenge, annual targets to improve the site's water use efficiency, or if practical and applicable, reduce volumetric total use shall be implemented.



Yes

Comment The site is in a water-scarce region where the catchment's water balance is under significant stress. In response, the site has set a target to reduce water consumption by 15% in 2025 compared to the baseline year of 2024.

To achieve this goal, the site has implemented several initiatives to minimize raw water use, including comprehensive water metering across different plant areas. Additionally, the site has tracked and quantified raw water extraction over recent years, with annual volumes recorded as follows:

- 2022: 496,470 m³
- 2023: 571,919 m³
- 2024: 494,624 m³

These measurements provide a clear baseline and support ongoing efforts to optimize water efficiency.

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3.3.3	<i>Legally-binding documentation, if applicable, for the re-allocation of water to social, cultural or environmental needs shall be identified.</i>	 Yes
Comment	There are no applicable legal obligations regarding water reallocation. The site does not transfer or re-allocate water to other parties or areas.	
3.4	<i>Implement plan to achieve site water quality targets</i>	
3.4.1	<i>Status of progress towards meeting water quality targets set in the water stewardship plan shall be identified.</i>	 closed
Comment	The site has established actions to maintain and monitor water quality targets for both raw (source) and effluents water. Third-party water quality monitoring is conducted bi-annually, covering both raw water and effluent streams. All results have consistently remained within acceptable regulatory norms. The most recent independent assessment confirmed full compliance with local wastewater discharge standards. Additionally, effluent quality reports are submitted quarterly to the Environmental Protection Agency (EPA). While the site has not set water quality targets beyond legal requirements in its AWS Plan, several proactive initiatives have been implemented to improve and maintain water quality: 1.) Installation of Flow Meters (CoPER Project): Flow meters have been installed to monitor antimicrobial compounds in effluents, enabling targeted treatment and improved management of potentially harmful substances. 2.) Voluntary Bore Water Testing: Quarterly testing and maintenance of bore wells are carried out despite not being a regulatory requirement, demonstrating the site's commitment to improving raw water quality. 3.) Condensate Reuse from AHUs: Condensate water from Air Handling Units (AHUs) is collected and reused in cooling towers. This high-quality water improves the cooling tower water quality, reduces blowdown frequency, lowers water consumption, and minimizes maintenance needs. Finding No: TNR-018914	
3.4.2	<i>Where water quality is a shared water challenge, continual improvement to achieve best practice for the site's effluent shall be identified and where applicable, quantified.</i>	 closed
Comment	The site has established actions to maintain and monitor water quality targets for both groundwater (source) and effluent. Third-party quality monitoring is conducted on a quarterly basis, and all results to date have remained within acceptable regulatory limits. The site has implemented internal practices aimed at the continual improvement of effluent quality. These include adherence to applicable legal requirements as well as internal quality parameters that are more stringent than regulatory standards. Monitoring data confirms that effluent discharge remains compliant with local environmental regulations. However, while these enhanced internal requirements are being followed in practice, they have not yet been formally updated or incorporated into the site's AWS Plan as revised water quality objectives. Finding No: TNR-018915	
3.5	<i>Implement plan to maintain or improve the site's and/or catchment's Important Water-Related Areas.</i>	
3.5.1	<i>Practices set in the water stewardship plan to maintain and/or enhance the site's Important Water-Related Areas shall be implemented.</i>	 Yes

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Comment The actions directly respond to the status issues and threats identified for these IWRAs, ensuring that targeted measures are in place to address challenges, reduce risks, and promote long-term resource sustainability. The site has established clear practices within its Water Stewardship Plan to maintain and enhance its identified Important Water-Related Areas (IWRAs), both within the site boundary and the surrounding catchment. These efforts are aimed at supporting sustainable water resource management and mitigating water-related risks.

A total of 12 IWRAs have been identified within a 32.7 km radius of the site, mapped through a structured assessment of the physical scope and hydrological relevance:

IWRAs Identified in the Catchment

1. Kalri Baghar Feeder Canal (K4): Primary municipal water source for Karachi via KWSC.
2. Groundwater Recharge Zone: Sandy-loamy soils beneath the site allow for limited recharge.
3. KWSB Distribution Line: Supplies treated municipal water to the industrial zone.
4. Municipal Drainage Network: Manages wastewater from the site and surrounding areas; frequently overburdened.
5. Sukkan River Tributary Channel: Receives storm runoff; currently environmentally degraded.
6. Nullahs and Open Drains: Informal drainage channels prone to contamination.
7. Urban Slum Settlements (Katchi Abadis): Downstream, flood-prone, and vulnerable to water quality issues.
8. Industrial Corridor (Landhi Industrial Area): Faces high water demand and pollution risks.
9. Vegetative Strips & Orchards: Local agriculture zones reliant on informal water sources.
10. Sukkan Sub-Catchment (of the Malir River Basin): Governs local runoff and recharge dynamics.
11. Malir River (Main Basin): Ultimate receiver of catchment runoff and discharges.
12. Keenjhar Lake: Major source reservoir supplying Karachi via KWSC.

Site Actions Related to IWRAs

The site has developed targeted actions aligned with its IWRAs, including:

- Periodic maintenance and cleaning of the rainwater collection pit to ensure functionality and reduce runoff burden.
- Consultation with local industry associations (KATI and LATI) regarding effluent impact findings; feedback contributed to the ongoing Combined Treatment Plant Project.
- Donation of saplings from the site's in-house nursery to local communities and government bodies to promote green infrastructure and improve soil-water retention capacity.

These actions are part of a broader strategy to maintain the ecological and community value of shared water resources within the catchment.

3.6 *Implement plan to provide access to safe drinking water, effective sanitation, and protective hygiene (WASH) for all workers at all premises under the site's control.*

3.6.1 *Evidence of the site's provision of adequate access to safe drinking water, effective sanitation, and protective hygiene (WASH) for all workers onsite shall be identified and where applicable, quantified.*


Yes

Comment The site has implemented comprehensive measures to ensure access to safe drinking water, sanitation, and hygiene (WASH) for all employees in alignment with legal and best practice standards. A dedicated self-assessment tool is regularly utilized to evaluate the adequacy and condition of workplace WASH facilities, including water supply, sanitation, and hygiene.

Key provisions include:

- Separate toilet facilities for male and female employees, with the number of units assessed and aligned with applicable legal requirements.
- A total of 149 toilets have been installed across the facility, comprising 113 for males and 36 for females, ensuring equitable access and privacy.
- Safe drinking water is made available throughout the premises via 39 designated drinking water points, including the provision of bottled water to guarantee potable quality.

These actions reflect the site's commitment to maintaining a healthy, safe, and dignified working environment for all personnel.

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- 3.6.2** *Evidence that the site is not impinging on the human right to safe water and sanitation of communities through their operations, and that traditional access rights for indigenous and local communities are being respected, and that remedial actions are in place where this is not the case, and that these are effective.* ✔
Yes

Comment No incidents or evidence of human rights violations related to water and sanitation were identified during the audit process or stakeholder interviews. Recognizing the broader challenges in the catchment area, including poor drinking water quality, water scarcity, and weak water governance, the site has proactively undertaken community-focused initiatives. As part of its commitment to support human rights to safe and clean drinking water, the site has installed and is operating five water filtration plants. These are strategically located within the site boundary and in local schools, providing reliable access to safe drinking water for surrounding communities. This initiative reflects the site's role in contributing to the well-being of vulnerable populations beyond its operational boundaries.

- 3.7** *Implement plan to maintain or improve indirect water use within the catchment:*

- 3.7.1** *Evidence that indirect water use targets set in the water stewardship plan, as applicable, have been met shall be quantified.* ✔
Yes

Comment The site has engaged with its key suppliers, primarily packaging providers and secondary laundry service providers, to gather information on their water consumption. The data collection was conducted via email and the site has retained documented evidence of the actions undertaken by these suppliers.

Supplier Water Usage and Reduction Targets:

1. Packaging Suppliers
 - Annual Water Consumption (YTD): 56,000 m³ and 12,000 m³ respectively
 - Water Reduction Targets: 20 m³/year and 35 m³/year by 2026
2. Laundry Service Providers
 - Annual Water Consumption: 840 m³ and 816 m³ respectively
 - Water Reduction Targets: 20 m³/year and 16 m³/year by 2026

These efforts demonstrate the site's commitment to addressing indirect water use across its supply chain. In addition, the site is certified under an Environmental Management System (EMS), which supports the monitoring of water consumption, identification of high-usage areas, and exploration of opportunities for water savings within operational processes.

- 3.7.2** *Evidence of engagement with suppliers and service providers, as well as, when applicable, actions they have taken in the catchment as a result of the site's engagement related to indirect water use, shall be identified.* ✔
Yes

Comment The site has actively engaged its suppliers and service providers in water conservation initiatives. As part of this effort, the site is collecting water consumption data from these stakeholders to better understand and manage indirect water use. In addition to supply chain engagement, the site has implemented several projects aimed at improving water efficiency and contributing to water conservation within the catchment area. Key initiatives include:

1. Reuse of RO Rejected Water for gardening purposes, reducing reliance on fresh water for non-potable applications.
2. Awareness Programs focused on water conservation, encouraging responsible water use practices among employees and contractors.
3. Installation of Low-Pressure Water Taps to minimize water wastage in facility restrooms and wash areas.
4. Reuse of Air Conditioning Condensate Water for plantation and landscaping, promoting efficient water reuse.

These actions reflect the site's commitment to holistic water stewardship, encompassing both internal operations and its broader impact on the catchment.

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3.8	<i>Implement plan to engage with and notify the owners of any shared water-related infrastructure of any concerns the site may have.</i>	
3.8.1	<i>Evidence of engagement, and the key messages relayed with confirmation of receipt, shall be identified.</i>	 Yes
Comment	The site's water sources, and associated risks have been identified as independent of public sector or infrastructure agencies. However, site management remains actively engaged with Karachi Water and Sewerage Corporation (KWSC) to support improved water infrastructure governance. In addition, the site is collaboratively involved with Korangi Association of Trade and Industry (KATI) and the Sindh Environmental Protection Agency (SEPA) on initiatives related to the Combined Effluent Treatment Plant (CETP). These engagements reflect the site's proactive approach to strengthening collective water management and addressing catchment-level water challenges through public-private collaboration.	
3.9	<i>Implement actions to achieve best practice towards AWS outcomes: continually improve towards achieving sectoral best practice having a local/catchment, regional, or national relevance.</i>	
3.9.1	<i>Actions towards achieving best practice, related to water governance, as applicable, shall be implemented.</i>	 Yes
Comment	The site actively engages local communities, neighboring industries, and government authorities to promote effective water governance and stewardship. Several best practices have been implemented as part of this collaborative approach: 1.) Stakeholder Awareness and Collaboration The site has conducted awareness sessions with key stakeholders on the Alliance for Water Stewardship (AWS) Standard, aimed at promoting water stewardship practices and fostering collaboration on water-related challenges within the catchment. The most recent session was held on 17 June 2025 with neighboring industries and suppliers. 2.) Sharing of Water Stewardship Plan The site shared its Water Stewardship Plan during stakeholder consultation meetings held on 8 November 2024 and 17 June 2025. These sessions provided a platform for dialogue, feedback, and collective planning for sustainable water management. 3.) On-site Monitoring and Efficiency Improvements To enhance water efficiency and ensure sustainable water use, the site has implemented advanced monitoring and measurement initiatives: • Real-Time Water Quality Monitoring System: Installed to improve water treatment efficiency, ensure compliance with quality standards, and minimize water losses. • Flow Meter Installation: Flow meters have been installed at both Landhi (LP) and Korangi (KP) sites to accurately monitor inflow and outflow, thereby enhancing the accuracy of the site's water balance and enabling data-driven water management decisions.	
3.9.2	<i>Actions towards achieving best practice, related to targets in terms of water balance shall be implemented.</i>	 Yes

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Comment The site has adopted and implemented several best practices aimed at improving water efficiency both within its operations and across the wider catchment. These initiatives support the site's water stewardship goals and contribute to sustainable water management:
1.) Reuse of RO Reject Water
A project has been successfully completed to reuse Reverse Osmosis (RO) reject water for flushing and other non-critical applications. This initiative significantly reduces the demand for freshwater at the site.
2.) Sensor-Based Faucets for Conservation
The site has installed sensor-based faucets in personal hygiene facilities at the Landhi Plant (LP) to minimize water wastage and promote responsible water use among workers.
3.) Rainwater Harvesting Systems
Rainwater collection and harvesting systems have been implemented onsite to supplement the water supply, particularly contributing to improved catchment water balance during seasonal rainfall periods.
4.) Drip Irrigation for Landscaping
To maximize irrigation efficiency, the site has adopted drip irrigation systems for all gardening and plantation activities. This method ensures minimal water loss through evaporation and runoff while maintaining green areas.

3.9.3 Actions towards achieving best practice, related to targets in terms of water quality shall be implemented. Q Obs.

Comment The site has identified and adopted several best practices within the catchment area aimed at enhancing water quality. Collaborative efforts with relevant authorities have been established to ensure the sustained operation of free-of-cost clean water filtration plants serving nearby community areas.
Key initiatives include improving the quality of water inflows through effective treatment methods such as chlorination and the sanitization of bore wells and storage tanks before the water is directed for both productive and non-productive uses.
Specifically:
1. Installation of Water Filtration Units: The site has provided and installed five water coolers equipped with filtration systems across its boundary and in community facilities, including schools and parks, ensuring access to safe and high-quality drinking water for local residents.
2. Reuse of Treated Wastewater: Treated wastewater is reused for flushing and other non-potable applications wherever feasible, reducing freshwater demand and promoting sustainable water management.
3. Voluntary Raw Water Quality Testing: Although not legally mandated, the site has proactively initiated regular raw water quality testing. Water samples are collected from four distinct locations within the catchment, with the most recent tests conducted on 14 May 2025, demonstrating a commitment to ongoing water quality monitoring.

3.9.4 Actions towards achieving best practice, related to targets in terms of the site's maintenance of Important Water-Related Areas shall be implemented. Yes

Comment The site has undertaken several activities within the catchment that represent best practices related to Important Water-Related Areas (IWRAs). These implemented actions include:
• Incorporation of borewell maintenance, including periodic sanitization, into the Standard Operating Procedures (SOPs) for comprehensive water management.
• Regular upkeep and cleaning of rainwater collection pits to maintain their functionality and ensure water quality.
• Conducting tree plantation initiatives in collaboration with SEPA, with the most recent activity carried out in July 2024, followed by a sapling donation event for workers on June 5, 2025.

3.9.5 Actions towards achieving best practice related to targets in terms of WASH shall be implemented. Yes

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Comment The site has established robust arrangements to ensure all employees have access to safe drinking water, sanitation, and hygiene (WASH). A self-assessment tool is utilized to regularly evaluate WASH facilities at the workplace, covering water supply, sanitation, and hygiene provisions. Key projects completed include:

- I. Installation of chilled water coolers with filtration units in public parks and schools within the neighboring community.
- II. Collaboration with an NGO to conduct an independent assessment identifying the community's needs for clean water and handwashing facilities.
- III. Provision of adequate shower facilities for employees along with access to safe water for their domestic use.

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4 STEP 4: EVALUATE - Evaluate the site's performance.	
4.1	<i>Evaluate the site's performance in light of its actions and targets from its water stewardship plan and demonstrate its contribution to achieving water stewardship outcomes.</i>
4.1.1	<i>Performance against targets in the site's water stewardship plan and the contribution to achieving water stewardship outcomes shall be evaluated.</i> ✓ Yes
Comment	The site continuously monitors its performance against the AWS Plan, with quarterly reviews documented in the AWS progress reports. To date, 19 targets have been successfully evaluated and completed, while 3 projects are currently ongoing or planned for implementation in 2026. The overall performance of the Water Stewardship Plan for the year 2025 will be formally reviewed during the annual EHS Council meeting scheduled for December 2025.
4.1.2	<i>Value creation resulting from the water stewardship plan shall be evaluated.</i> ✓ Yes
Comment	The site has documented value creation through financial savings associated with each project outlined in the Water Stewardship Plan. To date, the implementation of various water-saving initiatives has resulted in cumulative savings of approximately USD 97,000 per year (equivalent to PKR 27.4 million).
4.1.3	<i>The shared value benefits in the catchment shall be identified and where applicable, quantified.</i> ✓ Yes
Comment	The site has evaluated shared value benefits arising from the actions outlined in its Water Stewardship Plan. These benefits encompass environmental, social, cultural, and economic value creation both on-site and within the catchment. Through active engagement with relevant stakeholders, the site has addressed shared water-related challenges and demonstrated compliance with the AWS indicator. Quantified shared value benefits achieved through key initiatives include: • Steam Condensate Recovery Project – Saved 7,000 m³/year of water (Financial benefits) • Pipeline Pressure Optimization Project – Saved 60,000 m³/year (Financial benefits) • Real-Time Water Quality Monitoring – Saved 2,000 m³/year (Financial benefits and long-term water security) • RO Reject Water Reuse – Saved 7,800 m³/year (Financial benefits) • Increased Cycle of Concentration (COC) in Cooling Towers – Saved 40,000 m³/year (Ecosystem service improvement) • AHU Condensate Recovery – Saved 3,500 m³/year (Enhancement of natural capital and ecosystem services) • Flow Meter Installations – Improved water consumption monitoring and strengthened long-term water security These initiatives collectively represent the site's commitment to sustainable water management and the creation of shared value within its operational footprint and the surrounding catchment.
4.2	<i>Evaluate the impacts of water-related emergency incidents (including extreme events), if any occurred, and determine the effectiveness of corrective and preventative measures.</i>
4.2.1	<i>A written annual review and (where appropriate) root-cause analysis of the year's emergency incident(s) shall be prepared and the site's response to the incident(s) shall be evaluated and proposed preventative and corrective actions and mitigations against future incidents shall be identified.</i> ✓ Yes

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Comment The site has established a documented Situation-Problem-Investigation-Next Step (SPIN) procedure to manage all types of emergencies. This procedure includes conducting a root cause analysis, determining the risk level, implementing corrective and preventive actions, setting deadlines, assigning responsibilities, and tracking the status of actions on a monthly basis.

Additionally, the site has a dedicated Emergency Preparedness and Corrective/Preventive Action Procedure in place to ensure readiness and effective response.

While there have been no water-related emergencies, a minor fire incident occurred on the outskirts of the facility in February 2025. The site has shared comprehensive documentation of the incident, including reporting and investigation records, demonstrating compliance with its emergency response protocols.

4.3 Evaluate stakeholders' consultation feedback regarding the site's water stewardship performance, including the effectiveness of the site's engagement process.

4.3.1 Consultation efforts with stakeholders on the site's water stewardship performance shall be identified. closed

Comment The site is actively engaged with its stakeholders on the Alliance for Water Stewardship (AWS) agenda. This includes raising awareness among stakeholders about the site's AWS-related actions and performance. The most recent stakeholder meeting was held on June 17, 2025, during which the site's water stewardship performance was presented. Additionally, the performance report was shared via email with all relevant stakeholders, including those who were unable to attend the meeting.

Finding No: TNR-018917

4.4 Evaluate and update the site's water stewardship plan, incorporating the information obtained from the evaluation process in the context of continual improvement.

4.4.1 The site's water stewardship plan shall be modified and adapted to incorporate any relevant information and lessons learned from the evaluations in this step and these changes shall be identified. Yes

Comment The site has updated its Water Stewardship Plan to incorporate key insights and lessons learned from evaluations. The revised plan, shared by the client, highlights modifications made based on experience and continuous improvement throughout the AWS journey. I. The most recent update was made on May 29, 2025, including adjustments to project timelines, updates to KPIs, refined project details, and the addition of value creation elements. II. The site demonstrates a strong commitment to continual improvement by regularly reviewing and updating the Water Stewardship Action Plan. III. All revisions are managed through structured version control, and a detailed change history is maintained to ensure transparency and accountability.

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5 STEP 5: COMMUNICATE & DISCLOSE - Communicate about water stewardship and disclose the site's stewardship efforts	
5.1	<i>Disclose water-related internal governance of the site's management, including the positions of those accountable for legal compliance with water-related local laws and regulations.</i>
5.1.1	<i>The site's water-related internal governance, including positions of those accountable for compliance with water-related laws and regulations shall be disclosed.</i> ✓ closed
Comment	The Senior Manager EHS is responsible for ensuring compliance with water-related legal requirements, while ultimate accountability lies with the Director of Operations. Based on site comments, the AWS Legal Compliance hierarchy and the site's AWS Team structure were communicated to stakeholders during consultation and disclosure meetings. However, the site has not maintained supporting records of these disclosures, such as emails, website publications, or notice board postings. Finding No: TNR-018918
5.2	<i>Communicate the water stewardship plan with relevant stakeholders.</i>
5.2.1	<i>The water stewardship plan, including how the water stewardship plan contributes to AWS Standard outcomes, shall be communicated to relevant stakeholders.</i> ✓ Yes
Comment	The site maintains active engagement with its stakeholders regarding its Alliance for Water Stewardship (AWS) plans and performance. A dedicated stakeholder consultation session was organized where the site's AWS performance, shared water challenges, and corresponding mitigation measures were thoroughly discussed. Furthermore, the site sustains ongoing communication with stakeholders, including industrial partners, suppliers, government agencies, and non-governmental organizations through letters, emails, and both physical and virtual meetings. During these interactions, updates on the site's water stewardship initiatives and performance are shared, covering activities within the site boundaries as well as efforts in the broader catchment area.
5.3	<i>Disclose annual site water stewardship summary, including: the relevant information about the site's annual water stewardship performance and results against the site's targets.</i>
5.3.1	<i>A summary of the site's water stewardship performance, including quantified performance against targets, shall be disclosed annually at a minimum.</i> ✓ Yes
Comment	The site's water stewardship journey has been summarized and shared with stakeholders and public officials during consultation sessions. Additionally, the site maintains ongoing communication with a broad range of stakeholders, including industrial partners, suppliers, government agencies, and non-governmental organizations through letters, emails, as well as physical and virtual meetings.
5.4	<i>Disclose efforts to collectively address shared water challenges, including: associated efforts to address the challenges; engagement with stakeholders; and co-ordination with public-sector agencies.</i>
5.4.1	<i>The site's shared water-related challenges and efforts made to address these challenges shall be disclosed.</i> ✓ Yes
Comment	The site has formally communicated its shared water challenges to stakeholders through structured engagement sessions. Additionally, the site has proactively shared details of these challenges and the corresponding mitigation efforts with stakeholders via email communications.

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5.4.2	<i>Efforts made by the site to engage stakeholders and coordinate and support public-sector agencies shall be identified.</i>	 Yes
Comment	The site has actively engaged with stakeholders and collaborated closely with public-sector agencies as part of its Alliance for Water Stewardship (AWS) agenda. It has presented its initiatives to foster stakeholder involvement and to coordinate and support public-sector efforts. Several of these activities have also been discussed and discussed during stakeholder engagement meetings.	
5.5	<i>Communicate transparency in water-related compliance: make any site water-related compliance violations available upon request as well as any corrective actions the site has taken to prevent future occurrences.</i>	
5.5.1	<i>Any site water-related compliance violations and associated corrections shall be disclosed.</i>	 Yes
Comment	No water-related non-compliances have been reported. The site representative confirmed that there have been no water-related violations in the recent past.	
5.5.2	<i>Necessary corrective actions taken by the site to prevent future occurrences shall be disclosed if applicable.</i>	 Yes
Comment	The site representative confirmed that there have been no water-related violations in the recent past.	
5.5.3	<i>Any site water-related violation that may pose significant risk and threat to human or ecosystem health shall be immediately communicated to relevant public agencies and disclosed.</i>	 Yes
Comment	The site representative confirmed that no water-related violations have occurred in the recent past.	

Previous Findings

	<i>All non-conformities raised in the previous audit have been satisfactorily closed.</i>	 N/A
Comment	This assessment represents the site's initial certification.	