

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)



Audit Number: AO-001580

SITE DETAILS

Site: **BAT Indonesia: Malang, Indonesia**
Address: PT. Bentoel Prima Jl. Raya Karanglo Lt 1, Banjararum, Singosari, 65153, Malang, INDONESIA
AWS Reference Number: AWS-000414
Site Structure: Single Site

CERTIFICATION DETAILS

Certification status: Certified Core
Date of certification decision: 2025-Sep-08
Validity of certificate: 2028-Sep-07

AUDIT DETAILS

Audited Service(s): AWS Standard v2.0 (2019)
Audit Type(s): Re-Certification Audit
Audit Start Date: 2025-Jun-16
Audit End Date: 2025-Jun-18
Lead Auditor: Hasudungan Sahat

Site Participants:
Mahendra Kusuma, Consultant
Alfian Nusa, Sustainability officer
Nugi Achyar, Area Sustainability Manager
Agnes Samosir, Sustainability Manager
Septinia A Dewi, Sustainability Supervisor

AUDIT TIMES

Dates	Audit from	Duration	Auditor	Description
2025-Jun-16	08:00:00 - 16:00:00	08:00	Hasudungan Sahat	
2025-Jun-17	08:00:00 - 16:00:00	08:00	Hasudungan Sahat	
2025-Jun-18	08:00:00 - 12:00:00	04:00	Hasudungan Sahat	

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

ADDITIONAL INFO

Summary of Audit Findings: During the certification audit, 1 of non-conformity and 6 observations were raised.

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 receipt of the audit report, by 06 August 2025.

The non-conformity must be closed within 90 days of the end of the audit. In order to meet this timeline, evidence is to be submitted to WSAS (within 75 days) by 01 September 2025.

The audit team recommends re-certification of BAT INDONESIA Malang at the Core level pending closure of the non-conformity.

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 the conformity of the BAT Indonesia-Malang against the AWS International Water Stewardship Standard Version 2. Bentoel Factory is located at Banjararum village, Singosari District of Malang Regency, East Java, Indonesia. As per the topographic map, Bentoel Factory is at about 430 m altitude. Bentoel is bordered by three mountains in Malang, East Java, including Mount Arjuna, Mount Kawi and Mount Bromo. These three mountains have rivers that drain water into the main river, namely Kali Brantas. In operation, the river closest to the Bentoel factory is the Kalibodo River, which is also a place for wastewater disposal that has been processed by the Bentoel factory. The latitude and longitude of Bentoel Factory are 7° 55' 1.2" S, 112° 39' 7.2" E in the southern Malang Regency. The company produces a cigarette product. The facilities owned by factories are primary and secondary processing, wastewater treatment plants, secondary wastewater plants, warehouses, offices, employee dining areas, etc. All these facilities are located in the Brantas watershed area, with a duration of the rainy season of 7-8 months. The Brantas watershed covers an area of 11,988 km², and surface water potential availability is 123,000,000 m³/year.

The audit was conducted on-site on 16-18 June 2025.

The on-site visit included reviewing documents, conducting stakeholder interviews, and assessing primary and secondary processing, liquid cigarette production, employee toilets, the wastewater treatment plant, the secondary wastewater treatment plant, and the warehouse. It also included interviews with outsourcing staff and a visit to the implementation IWRA location.

The following external stakeholders were interviewed during the audit: Malang District Environmental Office (government) and PT Bintang Pesona Jagat (Vendor for tobacco packing)

FINDINGS

Observation	6
Non-Conformity	1

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

FINDING DETAILS

Finding No:	TNR-019062
Checklist Item No:	1.3.2
Status:	Open
Finding level:	Observation
Checklist item:	Site water balance, including inflows, losses, storage, and outflows shall be identified and mapped
Findings:	While the Sankey diagram submitted for the site provides a detailed and well-structured mapping of the site's water balance, it is noted that wastewater from the BAT Singosari site (nearby site) is currently transported to the site for treatment, as stated in the Singosari site's audit evidence. However, the water balance mapping of the Malang site does not appear to account for the inflow of Singosari wastewater into the site's wastewater treatment system.
Finding No:	TNR-019063
Checklist Item No:	1.3.3
Status:	Open
Finding level:	Observation
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:	While the Sankey diagram submitted for the site provides a detailed and well-structured mapping of the site's water balance, it is noted that wastewater from the BAT Singosari site (nearby site) is currently transported to the site for treatment, as stated in the Singosari site's audit evidence. However, the water balance quantification of the site does not appear to account for the inflow of Singosari wastewater into the site's wastewater treatment system. This could lead to underrepresentation of Malang's total wastewater load, and may affect the accuracy of its discharge, treatment capacity, and recycling rate calculations.

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)



Audit Number: AO-001580

Finding No:	TNR-018970
Checklist Item No:	1.7.2
Status:	Open
Finding level:	Observation
Checklist item:	Water-related opportunities shall be identified, including how the site may participate, assessment and prioritization of potential savings, and business opportunities.
Findings:	The site has identified and prioritized water-related opportunities with a clear focus on efficiency and environmental benefits. While cost-benefit calculations were not conducted due to low water usage and minimal operational impact, to fully meet the intent of 1.7.2, the site is encouraged to include at least an estimated quantification of potential savings, even at a basic level, to complement the qualitative assessment.

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

Finding No:	TNR-018568
Checklist Item No:	2.3.2
Status:	Closed
Finding level:	Non-Conformity
Due date:	2025-Sep-16
Checklist item:	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.
Findings:	The Water Stewardship Plan demonstrates gaps in measuring progress toward the specific AWS outcomes identified in each item's classification. Items classified under "SITE - Water Quality (Items #13) and SITE WASH (Items #14)" focus on infrastructure completion and meeting minimum regulatory compliance rather than demonstrating water stewardship excellence above and beyond legal requirements (Target 13: "In-line control monitoring as per SOP" is standard WWTP operation, and Target 14: "Daily cleaning of sanitation facilities" is routine maintenance). Activities under "CATCHMENT - Water Quantity" (Items #4, #10) claim environmental value creation through tree planting and data collection but provide no clear indication of actual water quantity improvements or catchment-level water balance contributions. For example, WSP stated the target "1500 trees planted" but it is not clear how it will improve the catchment water balance. Similarly, "CATCHMENT - Water Quality" (Item #11) and "CATCHMENT - WASH" (Item #2) classifications lack measurement frameworks to demonstrate actual improvements in catchment water quality status or WASH access achievements, respectively. E.g., WASH DATA Collection: The target is "Get the WASH data of Malang", How it measure "WASH data of Malang from a formal institution is available". Insufficient measurable indicators to demonstrate how data collection contributes to achieving "Safe Water, Sanitation, and Hygiene for All. WSP contains multiple similar activities (tree planting, stakeholder engagement, water quality activities) that appear to be standalone projects rather than connected, progressive improvements that build on each other's learnings and results. The column titled "Relevant information, Lesson Learnt" only shows the date of the program without explaining what lessons were learnt at that site after the target was implemented.

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

Corrective action:

Revise the WSP to include:

Items 13: beyond compliance of WWTP through installation of Reverse Osmosis to increase quality of effluent water, not only to comply with effluent water standard, but for beyond compliance through achieving the clean water standard on several parameters. Moreover, the recycled water effluent is utilized for fishpond, nurturing the koi fish as a bioindicator of treated water quality result - Target: CONTINUOUSLY
Items 14: beyond compliance for Site WASH is to include Menstrual Hygiene Management, following SDG 6 and WHO on access for this management, through provision of Menstrual Bin on female toilets -Target: CONTINUOUSLY

Items 4 and 10: BAT is currently working together with local university to create a study on previous 1500 tree planted impact on water catchment's balance. The study will be delivered in the form of journal and impact of this action, estimated result will follow from further communication (current status is on process tendering by tendering committee in Malaysia) - Target: Mid Sept

Items 2: the collection of WASH data as an initial action, is required to do the mapping of location on which BAT could create an impactful program for a community within site physical scope of BAT. The measurement changed to "Identified site physical scope to identify potential Catchment WASH Program". - Target: Done

Items 11: The angle of water quality improvement is not only regarding impact of collected rubbish from river, but also the amplifying effect of engaged stakeholder, participants and most importantly the media reach, in order to catch the attention of more stakeholder in Malang Regency, and local people in general. This has been incorporated through Quantity of rubbish collected, and number of local social media reach as well. - Target: Done

The relevant information and lesson learnt column has been revised and is now capturing the continuous improvement progression from the initial certification to this recertification process. Several lessons learnt were taken from previous certification finding and difficulties as well. For Karanglo initiative, BAT consider the opportunity of replication to be able to address similar issues in different areas. Starting with initiative in Kalibodo river (BAT's effluent outlet) representing water quality, move to Tree Planting at UIN (upstream area) representing IWRA (cultural and religion aspect) and water quality as well, continue with Balitas (downstream) representing IWRA (economy aspect of benefit from tree planted for local communities). Initially start on BAT's effluent as nearest impact of effluent, moving to ensuring the sustainability of water quantity and quality by conducting program in the Upstream, finally continue with impact on downstream area to address catchment's issue 1 at a time (refer to current BAT's resources), and continue with other catchment's issue while maintaining the progress from previous program.

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

Evidence of implementation:

1. Updated WSP according to above explanation
2. Items 13: Koi Fishpond in Karanglo site
3. Items 14: Menstrual Hygiene Management Program
4. Items 4 & 10: PO and Quotation of Journal
5. Items 2 & 11 already in the audit's evidence of WASH program.
6. Connectivity

31.08.2025 Target and Measurement WSP updated for:

- Effluent water improvement beyond compliance
- Tree planting to secure water sources
- Increase condensate return

Finding No: TNR-018569

Checklist Item No: 3.1.1

Status: Open

Finding level: Observation

Checklist item: Evidence that the site has supported good catchment governance shall be identified.

Findings: There is missing specific evidence of direct participation in formal capacity building of agencies, ministries and other water management bodies, and formal accountability and transparency mechanisms beyond the stakeholder dialogue process.

Finding No: TNR-018941

Checklist Item No: 4.1.2

Status: Open

Finding level: Observation

Checklist item: Value creation resulting from the water stewardship plan shall be evaluated.

Findings: The site has completed all water stewardship programs with positive results but lacks a system to measure the value created from these activities. No cost-benefit analysis or financial return calculations were done. Management stated they focus on efficiency rather than cost savings and have not calculated the financial benefits of water use improvements. This is a missed opportunity to understand costs and benefits.

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)



Audit Number: AO-001580

Finding No:	TNR-018942
Checklist Item No:	4.1.3
Status:	Open
Finding level:	Observation
Checklist item:	The shared value benefits in the catchment shall be identified and where applicable, quantified.
Findings:	The site has identified shared value benefits across economic, environmental, and social categories within the catchment; however, the described assessments are predominantly qualitative and generic. While benefits are categorized appropriately, the absence of concrete quantification is a missed opportunity to better understand costs and benefits of water dtewardship efforts

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

Report Details

Report	Value
Report prepared by	Hasudungan Sahat
Report approved by	Sa-Myeong Gim
Report approved on (Date)	July.25.2025

Surveillance

Proposed date for next audit
2026-Jun-15

Stakeholder Announcements

Date of publication	Location
04/01/2025	AWS Website
20/04/2025	https://www.bentoelgroup.com/id/keberlanjutan-dan-tanggung-jawab/lingkungan-kesehatan-dan-keselamatan/alliance-for-water-stewardship
04/01/2025	WSAS Website

Audit Number: AO-001580

Catchment Information



Catchment Brantas.png

Catchment Information

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

Catchment Location

BAT Indonesia-Malang operations are located in the Batu area, situated between Mount Kawi and Mount Arjuna, which is a crucial water catchment zone within the Brantas River system. Water from this mountainous region flows through smaller rivers, merging with the Brantas and Lesti Rivers in Malang Regency. The Brantas River Basin spans 14,103 square kilometers, constituting about 25-35% of East Java, serving as the province's primary water source and a major agricultural region. BAT Indonesia - Malang operates within the Bango Sub-Catchment of the Brantas Hulu watershed, which includes Lowokwaru and Blimbing.

Water Supply and Discharge

The site sources its water entirely from groundwater, utilizing two deep wells that access the Brantas Groundwater Basin (CAT Brantas). This makes its water supply independent of the surface water from the Brantas River itself.

All wastewater from industrial processes and domestic use is managed on-site. It is first processed through a Wastewater Treatment Plant (WWTP) and a Sewage Treatment Plant (STP). The resulting effluent then undergoes an advanced purification process, including carbon filtration, ultrafiltration, and reverse osmosis. A significant portion of this highly purified water is recycled back into site operations, serving as make-up water for the cooling tower and feedwater for the boiler.

Stormwater is handled through a completely separate drainage system. It is collected and discharged directly into the nearby Kali Bodo River, a tributary of the larger Brantas River system.

Groundwater Aquifer Details

The site's water source is the Brantas Groundwater Basin (CAT Brantas), a deep aquifer system that lies beneath an impermeable layer of earth. This significant aquifer extends over 6,186 square kilometers. Its recharge primarily depends on rainfall in the high-altitude volcanic regions of Mount Kawi, Mount Arjuna, and Mount Bromo. During the rainy season, precipitation infiltrates the porous volcanic terrain of these mountains, percolating down to replenish the groundwater basin.

Water Service Providers

No water service providers are used on the site. The site operates self-sufficiently in terms of water and wastewater management and does not rely on any external water service providers.

Key Catchment Features

The site is located in a region with a tropical climate at an elevation of approximately 430 to 506 meters above sea level, which mitigates the risk of major flooding. The Bango sub-catchment is characterized by sufficient water availability, and there are no reports of water shortages.

While there are no formally designated environmentally protected areas in the immediate vicinity, the broader catchment between Mount Kawi and Mount Arjuna is recognized as an ecologically sensitive and vital area for groundwater recharge. There is also a socially and culturally protected water source known as Sumberawan located within the region. The drainage basin is not dominated by any single type of land use, such as heavy industry or intensive agriculture, but rather represents a mix of activities. Based on the map, it does not indicate the presence of any inter-basin water transfers.

Audit Number: AO-001580

Client Description and Site Details

Client/Site Background

Location and Surroundings

The site facility is located in Banjararum village, Singosari District, within the Malang Regency of East Java, Indonesia. The site is situated in a mixed-use area that includes other industries and a shopping market but is also characterized by significant agricultural activity. The immediate surroundings of the factory are defined by agricultural land to the west, a national road to the north, a supplier of printing equipment to the south, and a national road to the east.

Site Production and Water Usage

The site is a manufacturing facility for the tobacco industry, producing combustible cigarettes and e-liquid for vapor products. Water is integral to several key processes. In the primary and e-liquid production departments, water is used for cleaning equipment after production cycles. It is also used for domestic purposes across the site, including toilets, hand washing, and pantry areas. For energy production, water is used as makeup for the cooling tower and as feedwater for the boiler.

Water-Related Infrastructure

The site's water management system is comprehensive and self-contained:

- **Water Source:** The entire water supply is sourced from two on-site deep wells.
- **Wastewater Treatment:** The site operates a Wastewater Treatment Plant (WWTP) for industrial wastewater and a separate Sewage Treatment Plant (STP) for domestic wastewater.
- **Water Recycling:** Effluent from both the WWTP and STP undergoes further purification through carbon filtration, ultrafiltration, and reverse osmosis. This recycled water is then reused on-site, primarily as make-up for the cooling tower and feedwater for the boiler.
- **Energy and Cooling:** A cooling tower is present as part of the site's HVAC system, and boilers are used for energy production.
- **Stormwater Management:** There is a fully segregated drainage system for stormwater, ensuring it does not mix with industrial or domestic wastewater.
- **Fire Safety:** A dedicated water reserve is maintained exclusively for firefighting purposes.
- **Rainwater Harvesting:** The site does not currently have rainwater harvesting infrastructure.

Wastewater and Stormwater Discharge

All process and sewage wastewater is treated and recycled internally, with no direct discharge of treated effluent to external water bodies. Stormwater, however, is collected via a separate system and discharged directly into the nearby Kali Bodo River.

Site Profile

The facility covers a total area of 12.2 hectares, with a built-up area of 82,916 square meters. It employs a total of 516 people.

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

Summary of Shared Water Challenges

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The BAT factories are situated in the upstream area of Malang, surrounded by mountains on both sides. These geographical features contribute to a hydrogeological system in which groundwater flows through pore spaces and fractures, particularly along the flow path of the Brantas catchment.

The site has identified general shared challenges in the catchment.

The prominent shared water challenges are:

1. Water scarcity
2. Groundwater and surface water management
3. Biological contamination
4. Groundwater decline
5. Natural springs to dry.
6. A decrease in the volumetric flow rate

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

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 BAT Malang - Indonesia facility, known as the Karanglo Site, is located within the Banjararum village in the Singosari District of Malang Regency, East Java, Indonesia. The physical boundaries of the site encompass a 12.2-hectare area and are delineated in numerous engineering drawings.

Contained entirely within these boundaries are the site's exclusive water sources: two deep wells that are owned and managed by the company. These wells, designated as "WELL 1" and "WELL 2," provide all the water for the facility's operations. As the site relies solely on its groundwater, it does not use any external water service provider for its supply.

This water is distributed through a comprehensive, site-owned infrastructure and piping network, which is detailed in various layout maps. The infrastructure supports production processes, where water is mainly used for equipment cleaning and domestic activities. Key on-site systems include a Waste Water Treatment Plant (WWTP) for industrial wastewater, a Sewage Treatment Plant (STP) for domestic wastewater, cooling towers, and a dedicated water reserve for firefighting.

After use, wastewater is treated internally, as the site does not employ a wastewater service provider. The treated effluent from the WWTP and STP is channeled through dedicated outlet pipes to discharge points. Stormwater is managed via a completely separate drainage system. The final discharge points for both treated wastewater and stormwater are drainage gutters that lead off-site. The ultimate receiving water body for this discharge is the Kalibodo River.

The site's activities are intrinsically linked to the surrounding water catchments. It is reliant upon the Bango sub-catchment for its groundwater supply, which is part of the larger Brantas River catchment. By abstracting water from this aquifer and discharging treated effluent into the Kalibodo River, the site's operations directly affect this local and regional hydrological system.

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

Audit Number: AO-001580

Table with 2 columns: Criteria/Comment and Status. Row 1: 1.2.1 Stakeholders and their water-related challenges shall be identified... Yes. Row 2: Comment The site identified 9 primary stakeholders... 1.2.2 Current and potential degree of influence between site and stakeholder shall be identified... Yes.

Audit Number: AO-001580

Comment The site has established a process to identify stakeholders and their influence within the local water catchment. This process involved recognizing stakeholders from various sectors, including government regulators (e.g., DLH Kab Malang, PUSDA), local authorities (e.g., Head of Village Banjararum), civil society (e.g., Brawijaya University), and nearby businesses. The site held meetings with these stakeholders to discuss specific, shared water challenges related to the catchment, water sources, and receiving water bodies. Documented discussion topics included poor drinking water quality, the condition of local springs, competition for water use in the Brantas basin, and pollution in the Kalijodo River, which receives the site's treated effluent. As an outcome of this process, the site evaluated and documented the degree of influence for each stakeholder. The evaluation used a scoring system from 1 (weak) to 4 (strong) for "Influence," which is defined as the stakeholder's ability to impact the site's reputation or operations, and "Interest," defined as the stakeholder's ability to be affected by the site's operations. For example, the Environmental Body of Malang Regency (DLH Kab Malang) and the Infrastructure Owner (PUSDA) were both assigned an influence score of 3.0. The resulting data generated a stakeholder map that visually plots each entity based on its influence and interest scores.

1.3 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.

1.3.1 Existing water-related incident response plans shall be identified.

Yes

Comment The site has identified its existing water-related incident response plan. The identified document is formally titled the "WATER INCIDENT RESPONSE PLAN" (attached as "1.3.1 Response Plant Karanglo.docx"). It is a controlled document, confirmed by its version history, which tracks changes up to April 7, 2025. This formal document is managed through a structured process, evidenced by version control tracking changes in authorship and organizational structure, with the latest update being version 1.2 on April 7, 2025. A formal distribution list ensures key personnel, including the DRBU Ops Director and Head of Manufacturing, receive the plan. To maintain its relevance, the next review is scheduled for October 3, 2025. A "Site water incident team" is clearly defined, listing the names and mobile phone numbers of responsible personnel like the Engineering Manager and Sustainability Manager to ensure a rapid and coordinated response. The plan's content is comprehensive, outlining clear objectives to ensure readiness, build a planned and integrated response, and prepare for post-emergency recovery. It addresses specific disruption scenarios, such as a "Level 3 disaster," and "Scenario 'E'". The document provides detailed recovery actions for various incidents. The plan also specifies responses for other potential events, including water contamination from soil deposits, spills, and leakages. To support recovery efforts, the plan identifies external contractors for specialized pipework services.

1.3.2 Site water balance, including inflows, losses, storage, and outflows shall be identified and mapped

Obs.

Audit Number: AO-001580

Comment The engineering department created a Sankey diagram to comprehensively map the site's water balance for 2025, as documented in the file "1.3.3 Map of Site Water Balance 2025 (Shankey).xlsx".

The Sankey diagram also maps water use in production across key industrial operations. Domestic water use for offices and intermediate facilities is also detailed. Water recycling and reuse pathways are clearly outlined, with substantial volumes of treated water reintroduced into processes.

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. Obs.

Comment The site quantified the water balance indicator by systematically mapping and quantifying inflows, losses, storage, and outflows for 2024 and 2025. Water is sourced exclusively from two deep wells.

Annual variance analysis for 2024 and 2025 reveals fluctuations in water usage and losses, reflecting operational challenges.

The remainder of the information has been redacted for confidentiality reasons.

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. Yes

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

Comment In 2025, the site actively conducted comprehensive monthly monitoring of its groundwater sources (Wells 1 and 2) and wastewater treatment systems (STP and WWTP) from January to May, aligning with the Ministry of Health Number 2 of 2023 regulatory framework. To ensure rigorous analysis, the site sends clean water samples from groundwater wells to Laboratorium Lingkungan Jasa Tirta 1 and forwards wastewater samples to PT. Unilab Perdana (Laboratorium Lingkungan Hidup dan Kalibrasi, Registration No. 0001/LPJ/LABLING-1/LRK/KLH).

The site strictly follows standardized protocols (national legal requirements) for sample collection, with external laboratories handling the sampling process to guarantee quality assurance. This approach ensures the analytical chain remains robust and traceable. Monitoring includes systematic tracking of key parameters, trend analysis, and prompt implementation of targeted actions whenever quality indicators show upward trends or near-threshold levels. Testing turnaround times average 13–14 days, exemplified by samples collected on April 9 and finalized reports for STP outlet analysis by May 25.

Across all five months, every monitored parameter—TSS, pH, COD, ammonia, BOD₅, oil and grease, Total Coliform, and phenol—remained within compliance limits. However, the site initiated eight monitoring actions due to emerging trends: COD rose steadily in both systems from February to May, while TSS, ammonia, BOD₅, and Total Coliform required interventions during specific months, demonstrating proactive management to sustain water quality standards.

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

Comment The site has identified potential sources of water pollution, including chemical storage areas across the WWTP, PMD, Boiler, and Central Utility areas. A list of chemical materials was compiled and reviewed during the audit. The identified sources have been mapped on the site layout, showing the location of chemical tanks and storage points. In a chemical storage, there was an MSDS Safety Handling document.

1.3.6 *On-site Important Water-Related Areas shall be identified and mapped, including a description of their status including Indigenous cultural values.* ✔
Yes

Comment The site has identified and documented four Important Water-Related Areas (IWRA) on its premises. These areas include:

1. A public river that flows through the factory grounds, equipped with an internal control gate system for agricultural irrigation and flood management.
2. A fish pond facility designated for employee use.
3. A park and garden area known as Bentoel Park.
4. Bentoel Mosque with water facilities for ablution

During the audit, the auditor confirmed that all on-site IWRAs are accessible and in good maintenance condition. Additionally, the site reports that the current status of each area is classified as "good condition." The site has completed the identification and mapping of on-site water-related areas with status descriptions. Interview and field observation data confirm that no Indigenous people reside in the site area due to the industrial location. No Indigenous cultural values were identified for the documented water resources.

1.3.7 *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.* ✔
Yes

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

Comment The site has identified and quantified a comprehensive range of annual water-related costs, including those associated with water supply, wastewater treatment, infrastructure maintenance, stakeholder engagement, and awareness activities. Relevant examples include the cost of an AWS stakeholder meeting and an awareness-raising event on water scarcity risks (Tree Planting Best Practice), which involved significant educational value. Regulatory compliance costs are minimal due to the nature of the national permitting system but are captured where applicable (e.g., deep well retribution fees). No water-related revenues were identified, which is consistent with the site's operational context.

1.3.8 *Levels of access and adequacy of WASH at the site shall be identified.*


Yes

Comment The site provides information on its WASH (Water, Sanitation, and Hygiene) facilities, which include a total of 91 toilets and 41 urinals. These consist of 49 male toilets, 41 female toilets, and 41 urinals. Each facility includes handwashing stations equipped with soap, water, and hand-drying options. Safe drinking water is available throughout the site, and feminine hygiene products are provided in all women's toilets.

All WASH facilities — including toilets, urinals, handwashing stations, and drinking water points — have been identified and mapped to ensure clear access and proper distribution across the site.

The number of facilities exceeds the minimum requirements outlined in the Regulation of the Minister of Manpower No. 5 of 2018 regarding Occupational Safety and Health in the Work Environment. For a workforce of 516 individuals, the regulation requires at least 19 toilets and 24 urinals. The site provides 91 toilets and 41 urinals, representing an increase of 479% for toilets and 71% for urinals beyond the required numbers.

WASH services are managed to ensure access to safe drinking water and appropriate waste disposal. Handwashing facilities are maintained regularly, and domestic blackwater is treated using an on-site wastewater treatment system. Toilet and washroom facilities are inspected daily and weekly to ensure they remain functional, clean, and accessible.

1.4 *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.*

1.4.1 *The embedded water use of primary inputs, including quantity, quality and level of water risk within the site's catchment, shall be identified.*


Yes

Comment The site mapped and monitored indirect water consumption from suppliers of primary inputs within the designated catchment area. The methodology used Power BI integration with catchment area maps to identify which suppliers operate within the Brantas River catchment boundaries. A total of 20 vendors were identified, with 18 located outside the catchment and one vendor (PT Bintang Pesona Jagat) as a primary supplier operating within the catchment boundaries.

For the in-catchment vendor, the site established quantitative monitoring systems for water usage. PT Bintang Pesona Jagat, functioning as a tobacco packaging company, monitors its water withdrawal through meter readings, documenting monthly usage between 226 and 384 cubic meters throughout 2024. The calculated water intensity for PT Bintang Pesona Jagat averaged 1.21 m³ per person, against a target of 1.5 m³ per person.

Key outcomes from this initiative include a thorough quantification of embedded water use from the in-catchment service provider. PT Bintang Pesona Jagat utilized 3,765 cubic meters in 2024. The monitoring process reveals water risk levels within the catchment by tracking consumption patterns and demographic changes that influence usage intensity. The vendor demonstrated notable water conservation efforts, which included employee awareness campaigns, facility maintenance protocols, and optimization measures for water usage.

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

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
Comment	The site identifies ISS as an outsourced cleaning service provider located in the Brantas River catchment area. ISS is situated at Jl. Teluk Pelabuhan Ratu No. 67 Rb, Arjosari, Blimbing District, Malang City, East Java. This location was confirmed through mapping using Power BI to overlay vendor addresses with the catchment boundaries. PT ISS is one of two vendors identified as operating within this area. ISS's water consumption is measured through flow meters installed by PDAM Malang Regency, which provide automated measurements and monthly reports. ISS implements water conservation measures tailored specifically for its operations. These measures include monthly training programs, work instructions with water-saving protocols, and the installation of conservation signage that reads "HEMAT AIR, MATIKAN KERAN JIKA TIDAK DIGUNAKAN" (Save Water, Turn Off Taps When Not in Use). ISS staff are trained on water conservation practices, and the site monitors their water infrastructure for leaks or inefficiencies. Documentation is available and includes monthly water bills, photographic evidence of meters and conservation measures, as well as training attendance records that demonstrate participation in water conservation programs by ISS personnel.	
1.5	<i>Gather water-related data for the catchment, including water governance, water balance, water quality, Important Water-Related Areas, infrastructure, and WASH</i>	
1.5.1	<i>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.</i>	 Yes
Comment	The site has identified the catchment area for water governance where it operates. Water initiatives have been included in the water stewardship plan as targets and actionable items. The site also actively engages with government, companies, universities, and non-governmental organizations in meetings and forums to address water and sustainability issues. As this year, 2025, marks the election of a new government, discussions about water policy by the authorities are still in progress, with no information related to the new water governance available. Based on the evidence document, Indonesia's Water Governance Initiative is anchored in Law No. 59 of 2024, which establishes the legal framework for the National Long-Term Development Plan (RPJPN) 2025–2045 and its operational counterpart, the National Medium-Term Development Plan (RPJMN) 2025–2029. Under the leadership of the Ministry of National Development Planning (Bappenas) as the primary responsible institution, this initiative positions water resources as a strategic sector for climate-resilient development through three core policy directions: improving water resource governance to ensure availability for public needs and economic resilience, strengthening water infrastructure through development and maintenance programs, and implementing climate change adaptation strategies specifically addressing water resource impacts. The governance framework mandates multi-stakeholder collaboration between central government, local governments, and the private sector, while operationalizing three key implementation elements: infrastructure development through the construction and rehabilitation of water management systems, institutional capacity building to enhance water resource management capabilities, and community participation in planning and management processes. Bappenas coordinates this comprehensive approach through regional coordination meetings and technical workshops, ensuring systematic alignment between the long-term "Golden Indonesia 2045" vision and practical water governance outcomes across multiple administrative levels.	
1.5.2	<i>Applicable water-related legal and regulatory requirements shall be identified, including legally-defined and/or stakeholder-verified customary water rights.</i>	 Yes

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

Comment The site has identified relevant water-related legal and regulatory requirements using a structured compliance framework outlined in Document FORM-EHS-003. This framework compiles regulations from national laws, government regulations, ministerial regulations, provincial regulations in East Java, and local regulations from Malang Regency. It also assigns compliance responsibilities to specific departments, including Sustainability, Engineering, and Plant Management.

An email reminder system facilitates timely compliance actions, sending automated notifications for license renewals and regulatory deadlines, with annual reviews by December 25th to track regulatory validity and changes.

To ensure water rights and quality compliance, the site holds groundwater usage permits (SIPA) for Wells #1 and #2 in the Karanglo water catchment area, supported by flow meters and monthly reporting. Water quality standards are met through third-party surface water analysis, monthly groundwater testing by certified labs, and BPOM-certified drinking water suppliers.

The Wastewater Treatment Plants (WWTP) and Sewage Treatment Plants (STP) operate under valid permits, with monthly testing to comply with East Java provincial standards. The site also follows specific wastewater standards for the cigarette industry, maintaining concentrations below required levels. Compliance is ensured through valid permits, operational treatment systems, regular monitoring, and documented stakeholder verification.

Identification of stakeholder-verified customary water rights is not applicable for the site since all customary or community water rights only apply for local government at the Regency Government level.

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



Comment The site collected the catchment water balance through consultation with the Malang District Government Water Resources Public Works Department. The document titled: "PERENCANAAN STUDY NERACA TYPE II SUB KEGIATAN PENYUSUNAN POLA DAN RENCANA PENGELOLAAN SDA WS KEWENANGAN KABUPATEN/KOTA".

The water balance for the Bango Water Catchment Area (DTA) is assessed using the "Debit Mainstay F.J. Mock Method," which integrates both surface and groundwater balance components using variables such as precipitation, evapotranspiration, soil moisture, and groundwater storage. This methodology provides data that reflects the variability in water availability. For example, the 20% dependable discharge (Q-20%)—indicating a flow that was exceeded 20% of the time—reaches a maximum of 30.138 m³/sec. In contrast, the 80% dependable discharge (Q-80%), which represents a flow exceeded 80% of the time, ranges from 9.201 m³/sec in February to 2.531 m³/sec in November. These figures illustrate the annual and seasonal fluctuations in water availability within the catchment area. Water availability is notably higher during the wet season (February to April) and significantly lower during the dry season (October to November).

The analysis categorizes water usage, with irrigation accounting for approximately 80% of the total demand (for instance, **0.04–0.326 m³/sec** in specific areas like Sumber Kasin), followed by ecological flow requirements, which range from **0.01–0.02 m³/sec**. Seasonal deficits are most severe from June to September, with water availability dropping below 1.0 m³/sec in some zones. Under the Q95 reliability, critical shortages occur, such as a supply of 0.9–1.0 m³/sec compared to a demand of 2.0–3.0 m³/sec in the industrial and domestic sectors. Recommendations include optimizing water allocation (for example, prioritizing 0.01–0.05 m³/sec for ecological flows) and upgrading infrastructure to mitigate losses of 15–20% from illegal withdrawals.

The site has focused appropriately on the Bango sub-catchment, where its operations are located, within the broader Brantas basin. Based on the methodology used and the relevance of the data to the site's area of influence, the site demonstrates conformity with the indicator.

Audit Number: AO-001580

1.5.4	<i>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.</i>	 Yes
Comment	The site conducted an annual assessment of surface water quality and collected data from the local public health center (Puskesmas Karangploso) in the upstream catchment area. The benchmark for the water quality tests was based on the clean water requirements set out in the Ministry of Health Regulation No. 2 of 2023. The site supported water quality testing for the local public health center (Puskesmas Karangploso), which received its water from the municipal water services provider. The water tests, conducted for clean water analysis, included physical aspects (such as Total Dissolved Solids (TDS) and temperature), chemical aspects (including pH, iron, nitrite, etc.), and biological tests (specifically Fecal and Total Coliform). The results indicated that while the physical and chemical parameters met the clean water requirements, the biological parameters did not. Additionally, based on the water quality monitoring data collected by the site from the PAMSIMAS Donowarih catchment area (a groundwater-based local community water supply and part of the IWRAs), the 2021–2025 data (excluding 2024) show both improvements and emerging challenges across multiple water quality parameters. The biological indicators demonstrate mixed results, with total coliform levels remaining well within acceptable limits for most years but showing a concerning increase in 2025, though still below the 50.00 standard. More critically, fecal coliform contamination emerged as a significant threat in 2025, indicating potential sewage or animal waste contamination that poses direct health risks to both human populations and the aquatic environment. The physical and chemical parameters reveal the impact of stricter regulatory standards implemented through Permenkes Number 2 of 2023, which tightened several water quality thresholds. Total Dissolved Solids (TDS) levels fluctuated considerably, Temperature readings show a gradual warming trend, reaching the maximum allowable limit and suggesting potential thermal stress on aquatic ecosystems. Metal concentrations remain within acceptable ranges, though iron levels have increased over the monitoring period, while pH levels have risen, indicating a shift toward more alkaline conditions but remaining within the 6.5-8.5 acceptable range. The data indicate that while most parameters are currently managed within regulatory limits, the emerging fecal contamination and temperature increases represent significant water-related challenges.	
1.5.5	<i>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.</i>	 Yes

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

Comment The site has identified and mapped five Important Water Related Areas (IWRAs) in the catchment area. These include Sumberawan Water Source, Sumber Biru, Sumber Nagan, Kalibodo River, and Sumber Nyolo Karangploso. The information regarding these IWRAs was gathered through existing knowledge, in consultation with stakeholders, and by reviewing maps.

Sumberawan Water Source, located in Toyomarto Village, Singosari District, Malang Regency, is essential for providing clean water for irrigation and the daily needs of the local community, including the 2nd Infantry Division Kostrad Singosari and Abdurrahman Saleh Air Base. It has a significant discharge of 25-40 liters/second and features infrastructure developed by the Dutch government for water distribution. PDAM Singosari (municipal water services provider) has also expanded its network. In addition to its practical uses, Sumberawan serves as a tourist destination. The surrounding forests play a crucial role in managing rainwater, preventing erosion, and maintaining water flow. These forests are managed by Perhutani in partnership with community groups. However, risks such as pollution can impact local businesses, access to clean water, and plant growth. Decreased water quantity also affects community access and plant health.

Sumber Biru and Sumber Nagan are both popular tourist destinations known for their natural beauty and historical significance, contributing significantly to the local economy. Sumber Biru is situated near Kreweh Hamlet in Gunungrejo Village, approximately 1.5 kilometers northwest of Singosari Temple. Both Sumber Biru and Sumber Nagan provide clean water and irrigation to the communities in Sumber Biru and Candirenggo.

The Kalibodo River, a sub-watershed of the Brantas River, plays a crucial role in managing water flow from the upstream Brantas River in Batu City, helping to prevent flooding. While it is not used for daily water needs by local residents, some individuals do fish in the river, which offers social and economic advantages. Additionally, the plants along its banks serve as animal feed in Batu and help with runoff management, providing environmental benefits. The river also receives stormwater runoff from the site operations.

Sumber Nyolo, located in Ngenep Village within the Karangploso District, is another tourist attraction and a religious site that draws visitors from Malang and beyond. However, these water sources face risks such as pollution and decreased water availability, which can negatively impact economic activities, limit social access to water, and harm the environment.

The site has thoroughly assessed and documented the current state of Important Water-Related Areas (IWRAs) through physical site visits, stakeholder interviews with responsible personnel, reviews of research journals, and community consultations with HIPPAAM (Water User Association) and village officials. During the audit, the auditor visited a sample of IWRAs, specifically the Sumberawan water spring. Interviews with local residents and representatives from local agencies confirmed that the condition of Sumberawan remains good. Additionally, BAT Indonesia in Malang contributes to the protection of the Sumberawan water spring through tree planting initiatives. However, information within scientific resources, such as the National Seminar on Architecture and Spatial Planning (SAMARTA) 2017, indicates that the status water level at Sumberawan is degraded.

1.5.6 *Existing and planned water-related infrastructure shall be identified, including condition and potential exposure to extreme events.*



Yes

Audit Number: AO-001580

Table with 3 columns: ID, Description, Status. Row 1: 1.5.7, The adequacy of available WASH services within the catchment shall be identified, Yes. Row 2: 1.6, Understand current and future shared water challenges in the catchment, by linking the water challenges identified by stakeholders with the site's water challenges. Row 3: 1.6.1, Shared water challenges shall be identified and prioritized from the information gathered, Yes.

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

Comment	A total of four broad priority shared water challenges were identified through stakeholder meetings, internal assessments, and interviews with authorities in the Brantas Catchment. These challenges include water scarcity, groundwater and surface water management, evaluations of past tree planting programs, and alignment with relevant water resource policies. These overarching issues were further refined into nine specific catchment-level challenges, each linked to an initiative for action. For example, the challenge related to the risk of insufficient water supply, which affects groundwater and causes flooding downstream, highlights specific degradation risks to IWRA Sumberawan and Kalimewek. This challenge traces the problem from upstream areas (UIN area) through the catchment system to specific water resource areas, demonstrating how land use changes and reduced infiltration capacity create cascading effects throughout the catchment. Similarly, there is a challenge concerning water quality in the catchment, where positive coliform analysis has been detected in several areas. This indicates coliform contamination in deep wells within specific parts of the catchment, highlighting the need for engagement with PUSDA (the regional water authority) for remediation. Additionally, the site demonstrates how catchment-wide challenges impact the entire watershed system. One challenge is the risk to river quality caused by rubbish and water pollution, which leads to functional impairment of the river system, requiring coordinated upstream stakeholder engagement for effective remediation. Another challenge is related to PT. BPJ (the vendor of the site) reports low water availability during the summer months. Furthermore, the challenge of water scarcity indicates that the level of scarcity in the catchment is getting worse, inadequate water access.	
1.6.2	<i>Initiatives to address shared water challenges shall be identified.</i>	 Yes
Comment	The site identified 13 initiatives addressing shared water challenges. Infrastructure initiatives include increasing STP capacity from 50 to 80 m³/day and improving UF capacity in WWTP. Conservation initiatives involve tree planting in upstream areas and IWRA locations (Sumberawan and Kalimewek). Coordination initiatives include engagement with PUSDA for catchment data collection and discussions with PT. BPJ regarding water usage management. Operational initiatives cover in-line control monitoring of treatment facilities, WASH facility maintenance, and employee training on sanitation requirements. The initiatives address challenges ranging from site-specific treatment capacity limitations to catchment-wide water quality and quantity issues.	
1.7	<i>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.</i>	
1.7.1	<i>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.</i>	 Yes

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

Comment The site has identified 11 distinct water-related risks spanning the categories of water quality, quantity, WASH (Water, Sanitation, and Hygiene), and best practices. Each risk is evaluated using a standardized framework that assesses probability (likelihood of occurrence), severity (magnitude of impact), and assigns a priority scale ranging from 1 (Very High) to 5 (Very Low). The assessment considers risks affecting business operations, environmental conditions, government compliance, and catchment areas, with particular attention given to chemical contamination from storage tanks, wastewater treatment failures, excessive water withdrawal, and inadequate sanitation facilities.

The risk assessment process generates quantified outcomes, including financial impact projections and specific control measures for each identified risk. Priority ratings range from 1 to 3 across the assessed risks, with most classified as priority 2 (High). Potential costs associated with mitigation efforts vary from 24 million IDR for water pollution control to 2,000 million IDR for water quantity management programs. Each risk entry includes details on the scale of impact (site-level or catchment-level), current site conditions—such as a workforce of over 600 employees and the presence of two deep wells—and implemented control measures. These include bunding systems for chemical storage, wastewater treatment plant operations, water recycling initiatives, and waste management partnerships with third-party providers.

Timeframe considerations are addressed through defined operational parameters, regular monitoring schedules, and compliance reporting requirements to regulatory authorities.

1.7.2 *Water-related opportunities shall be identified, including how the site may participate, assessment and prioritization of potential savings, and business opportunities.*

 Obs.

Comment The site identified 14 distinct water-related opportunities through a assessment process. These opportunities were categorized into key domains: water quality improvements, water quantity management, WASH (Water, Sanitation, and Hygiene) enhancements, IWRA (Integrated Water Resources Assessment) initiatives, and implementation of best practices. Each opportunity was documented with a clear description of the associated challenge or risk, proposed implementation methods, and notes on expected outcomes.

The assessment focused on identifying actionable opportunities that support both operational efficiency and environmental compliance. Examples include optimizing wastewater treatment plant performance, implementing water conservation programs, improving chemical storage systems to prevent leaks, and engaging with the local community on shared water challenges. These opportunities are summarized in a table format, outlining specific technical solutions such as recycling treated wastewater from the WWTP for reuse, condensate recovery for boiler feed water, and cooling tower water recirculation. Each entry aligns with measurable performance indicators and regulatory compliance requirements. Potential benefits were considered based on practical improvements, such as reduced costs from avoiding chemical losses, lower water fees, decreased risk of operational disruptions due to water shortages, and fewer community concerns related to water use. However, quantification of potential cost savings from such opportunities was not presented.

During the first day of the audit, the site presented its goals related to water stewardship and the progress they have made in this area. In interviews with management, it was conveyed that the site uses water in small quantities, which has a minimal impact on operational costs. As a result, the site has not calculated the cost-benefit ratio of water usage. Instead, their approach emphasizes efficiency over cost reduction, focusing on:

- Water efficiency as the primary goal
- Environmental stewardship over financial optimization

According to the documentation, the site has demonstrated exceptional performance in water efficiency. Their target was a 35% reduction in water withdrawal by 2025, but they achieved a 71% reduction by 2024. This means they exceeded their target, achieving 203% of their goal.

1.8 *Understand best practice towards achieving AWS outcomes:
Determining sectoral best practices having a local/catchment, regional,
or national relevance.*

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

1.8.1	<i>Relevant catchment best practice for water governance shall be identified.</i>	 Yes
Comment	The site conducted a thorough investigation into the best practices with appropriate four authorities (Dinas PU SDA (water agencies), Environment Malang Agencies, Ballitas, Local Healthy Agencies), two non-profit organizations that focus on water conservation in the catchment, and one companies that have a water recycle and water quality program. The result shows: Balitas: In Malang Regency, where 90% of the area is dedicated to agriculture, agencies have established policies and publicly disclosed guidelines aimed at promoting environmental and water conservation with shared goals. Dinas PU SDA (Public Works and Natural Resources Agency): As an infrastructure agency, it provides valuable data for AWS interests. This includes mapping water sources and irrigation systems, collecting information on water shortages, conducting studies related to water supply, and monitoring water discharge in rivers and waterways. Furthermore, Dinas PU SDA is involved in programs focused on water resources planning and development, as well as the control and utilization of water resources, which will continue until 2026. Based on these practices, the site has developed actions: 'Provide employee water resource education (DigiEd)', 'Participating in Public-Private Partnerships', 'Engaging with peer organizations and stakeholders to promote water stewardship'.	
1.8.2	<i>Relevant sector and/or catchment best practice for water balance (either through water efficiency or less total water use) shall be identified.</i>	 Yes
Comment	The site conducted a thorough investigation into the best practices with appropriate four authorities (Dinas PU SDA (water agencies), Environment Malang Agencies, Ballitas, Local Healthy Agencies), two non-profit organizations that focus on water conservation in the catchment, and one companies that have a water recycling and water quality program. - Companies from other sectors have established water intake reduction targets and developed wastewater recycling systems. - The Dinas PU SDA is conducting research on the water balance of the catchment, which will be utilized for five years, beginning in 2023. The site is using these practices to "improve a water recycling rate", and "plans to conduct an impact report on the tree planting project related to the water quantity in the catchment area.	
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 conducted a thorough investigation into the best practices with the four authorities (Dinas PU SDA (water agencies), Environment Malang Agencies, Ballitas, Local Healthy Agencies), two non-profit organizations that focus on water conservation in the catchment, and one companies that have a water recycling and water quality program. - Companies from other sectors built water purification unit using reverse osmosis sytem for effluent. The site is using this practices to establish a water purification unit using reverse osmosis in their wastewater treatment plant (WWTP) and sewage treatment plant (STP) for enhanced water quality.	
1.8.4	<i>Relevant catchment best practice for site maintenance of Important Water-Related Areas shall be identified.</i>	 Yes

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

Comment

The site conducted a thorough investigation into the best practices with the four authorities (Dinas PU SDA (water agencies), Environment Malang Agencies, Ballitas, Local Healthy Agencies), two non-profit organizations that focus on water conservation in the catchment, and one companies that have a water recycling and water quality program.

- BASKOMAS:Focused on river water quality improvement and ecosystem restoration programs.
- Dinas Lingkungan Hidup Kabupaten Malang, or the Environment Agency of Malang Regency: Has implemented a comprehensive program focused on monitoring IWRA's environmental conditions and raising awareness among the community. Includes regular assessments of local ecosystems, air and water quality, and biodiversity, aiming to identify potential environmental issues early on.

The site is using this practices to establish "plan to preserve water spring and waterbodies".

1.8.5

Relevant sector and/or catchment best practice for site provision of equitable and adequate WASH services shall be identified.



Yes

Comment

The site ensures that all workers have access to safe drinking water provided by a freshwater service company, as well as bottled water. Adequate sanitation facilities are available, including bathrooms, handwashing stations, and showers, for all workers. The site accommodates both male and female workers, with separate toilets provided for each gender. Additionally, the site is linked to public health facilities in the Karangploso Villages, which gives access to clean water in those areas.

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

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 demonstrated its commitment to water stewardship through a statement endorsed by the Area Operations Director, Syed Shameel Naqvi. The statement acknowledges water as an essential resource for life, communities, and business operations. Recognizing access to water as a basic human right, the company commits to a water stewardship approach that is socially equitable, environmentally sustainable, and economically beneficial. Furthermore, the statement comprehensively covers a commitment for the site to implement and disclose progress on its water stewardship program to achieve improvements in AWS water stewardship outcomes. Additionally, the statement confirms that the implementation will align with and support existing catchment sustainability plans, that stakeholders will be engaged openly and transparently, and that the site will allocate the resources to implement the standard. The site water stewardship commitment is displayed in the lobby of the site, production areas, and via company website: https://www.bentoelgroup.com/content/dam/endmarkets/id/en/download/sustainability-and-responsibility/aws/Alliance_for_Water_Stewardship_Annual_Report_2025.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

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

Comment The site maintains a comprehensive legal compliance system managed through the EHS Department, which systematically identifies and evaluates all water and wastewater regulatory requirements applicable to Bentoel Group's operations. The process begins with the EHS Department conducting regular identification of the latest environmental legislation from both national Indonesian sources and Global BAT standards, utilizing various information channels including government gazettes, professional publications, and authorized regulatory communications. Once identified, these requirements are documented in the standardized EHS/FORM/03 register, with the EHS Department communicating new or changed requirements to relevant department managers whose operational areas are affected. The system ensures continuous monitoring through version-controlled documentation, where any changes to compliance requirements must be tracked and updated systematically by designated department managers.

The organizational structure clearly designates the Sustainability Manager and Sustainability Officer & Supervisor as the primary responsible positions for water and wastewater compliance obligations, supported by department managers who implement operational controls within their respective areas. The system encompasses comprehensive regulatory submissions, including periodic water quality testing reports for drinking water standards (following Permenkes RI No. 492/2010), environmental permit documentation and AMDAL reports submitted every six months to regulatory agencies (per PP No. 27/2012), and wastewater discharge permit applications processed through the integrated electronic business licensing system (OSS). Key outcomes include maintained compliance with groundwater usage permits and retribution payments, valid environmental licenses with regular reporting cycles, and proper documentation of all water-related permits and certificates. The system ensures that department managers retain responsibility for keeping valid licenses and implementing controls to meet regulatory deadlines, while the centralized EHS approach maintains consistency across all facility operations and regulatory interactions.

2.3 *Create a water stewardship strategy and plan including addressing risks (to and from the site), shared catchment water challenges, and opportunities.*

2.3.1 *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.*



Yes

Comment The site has a formal water stewardship strategy that defines the organization's overarching vision, mission, and goals, which is aligned with the AWS Standard. This strategy is detailed in the document titled "WATER STEWARDSHIP STRATEGY, VISION, AND MISSION". The document specifies the company's vision to "actively contribute to maintain and manage the water quality and quantity on the locations where we operate". The mission and its corresponding goals are aimed at achieving this vision through actions such as improving water efficiency, engaging stakeholders, monitoring water use, and disclosing progress toward "achieving AWS water stewardship outcomes".

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.



No

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

Comment The Water Stewardship Plan demonstrates significant gaps in measuring progress toward the specific AWS outcomes identified in each item's classification.

Items classified under "SITE - Water Quality (Items #13) and SITE WASH (Items #14)" focus on infrastructure completion and meeting minimum regulatory compliance rather than demonstrating water stewardship excellence above and beyond legal requirements (Target 13: "In-line control monitoring as per SOP" is standard WWTP operation, and Target 14: "Daily cleaning of sanitation facilities" is routine maintenance).

Activities under "CATCHMENT - Water Quantity" (Items #4, #10) claim environmental value creation through tree planting and data collection but provide no quantitative measurement of actual water quantity improvements or catchment-level water balance contributions. For example, WSP stated the "1500 trees planted" target doesn't specify how much water this will retain annually or how it will improve the catchment water balance. AWS requires you to demonstrate actual water stewardship outcomes, not just activity completion.

Similarly, "CATCHMENT - Water Quality" (Item #11) and "CATCHMENT - WASH" (Item #2) classifications lack measurement frameworks to demonstrate actual improvements in catchment water quality status or WASH access achievements, respectively. E.g., WASH DATA Collection: The target is "Get the WASH data of Malang", How it measure "WASH data of Malang from a formal institution is available". Insufficient measurable indicators to demonstrate how data collection contributes to achieving "Safe Water, Sanitation, and Hygiene for All.

WSP contains multiple similar activities (tree planting, stakeholder engagement, water quality activities) that appear to be standalone projects rather than connected, progressive improvements that build on each other's learnings and results. The column titled "Relevant information, Lesson Learnt" only shows the date of the program without explaining what lessons were learnt at that site after the target was implemented.

Finding No: TNR-018568

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.*



Yes

Comment The site demonstrates systematic engagement with relevant public-sector and infrastructure agencies through multiple coordinated activities across both the 2024 and 2025 implementation periods. The process includes formal engagement with PUSDA (Regional Water Resources Management Agency) to obtain catchment water balance studies and quantified water data, collaboration with Bappeda (Regional Development Planning Agency) to secure WASH data for the Malang region, and coordination with local environmental authorities for compliance monitoring and capability-building initiatives. The site established structured communication channels with UIN (State Islamic University) for upstream conservation activities and maintained ongoing dialogue with local government bodies for tree planting programs, river cleaning initiatives, and infrastructure development projects. The engagement process incorporates formal feedback mechanisms, with documented stakeholder input and positive responses from all coordinating agencies, ensuring that mitigation strategies are developed collaboratively.

The provided documentation indicates that a collaboratively developed plan has been coordinated with public-sector agencies to address shared water challenges. Email correspondence shows efforts to gather input from stakeholders regarding these challenges, which affect the entire catchment area. Feedback from all participating agencies has been incorporated into the planning process.

The plan outlines specific interventions aimed at tackling the shared water challenges. These include catchment-wide tree planting activities, joint river clean-up efforts, coordinated water quality monitoring, and capacity-building initiatives involving multiple stakeholders. Additionally, an interview with the Environment Agency of Malang Regency confirmed that the plan features a collaborative tree-planting program in upstream areas to help address these water issues.

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

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> Q Obs.
Comment The site has demonstrated significant engagement in collaborative water governance through its Alliance for Water Stewardship (AWS) framework implementation. The company has actively participated in developing inclusive stakeholder dialogue mechanisms, as evidenced by the comprehensive Focus Group Discussion held on April 15, 2025, at Brawijaya University's Faculty of Agriculture. This multi-stakeholder platform brought together diverse participants, including government authorities (Environmental Agency of Malang Regency, River Basin Management Agency, Large River Basin Management, and Perum Jasa Tirta), local communities, women's groups, and environmental activists. Through this convening process, BAT Indonesia facilitated the identification and definition of shared water challenges within the Brantas catchment, including water scarcity, groundwater and surface water management issues, evaluation of previous tree planting programs, and coordination of authority plans and policies related to water resources management. The site approach by working through established environmental NGO partnerships, particularly with Baskomas, which serves as a key liaison facilitating broader stakeholder participation. The identified governance initiatives, including tree planting programs at water source areas in Mata Air Polaman Kalirejo and river cleanup programs in Balittas, indicate participation in regional development programs focused on natural resource protection and conservation. Additionally, BAT Indonesia's promotion of community involvement in maintaining environmental balance through sustainability development concepts, including the ESG Ambassador program for employees, suggests engagement in capacity building and promotion of innovative water stewardship practices. However, while the documentation shows strong evidence of stakeholder engagement and dialogue facilitation, there is limited specific evidence of direct participation in regulatory development, formal capacity building of government staff, data sharing beyond legal requirements, financing mechanism promotion, or formal accountability and transparency mechanisms beyond the stakeholder dialogue process.
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 No Indigenous Peoples have been identified in the site's area of operation, which is located in an industrial zone. Local residents access water through a combination of municipal supply, private wells, and community-based water providers. The site supports water-related social and cultural practices by providing deep well water for religious purposes such as wudhu (ablution before prayer). In addition, a government-issued water balance study (referenced under 1.5.3) applies the F.J. Mock methodology and includes a comprehensive groundwater analysis. This study addresses key parameters such as evapotranspiration, infiltration, consumptive use, and irrigation efficiency, and is consistent with Indonesian irrigation planning standards. It provides sufficient evidence that groundwater use by the site has been assessed in relation to broader catchment-level availability and use patterns. Given that the study confirms around 100% access to clean water in the area and no adverse impacts on local community access have been identified, the site demonstrates conformity with the indicator.
3.2 <i>Implement system to comply with water-related legal and regulatory requirements and respect water rights.</i>

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

- | | | |
|--------------|---|---|
| 3.2.1 | <i>A process to verify full legal and regulatory compliance shall be implemented.</i> | 
Yes |
| Comment | <p>The site has developed a comprehensive spreadsheet that delineates water and environmental regulatory requirements to ensure legal compliance. This procedure outlines the systematic steps undertaken by the site to adhere to relevant regulations. Additionally, it encompasses a legal matrix and supporting documentation, including licenses for deep wells and wastewater analyses. During audits, all legal documents pertaining to water requirements are thoroughly verified to confirm their validity and currency. Observations and interviews show that all documentation is current and up-to-date.</p> | |
| 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 |
| Comment | <p>No specific indigenous groups are located within the site plant catchment areas. All national and local legal requirements and regulations have been met by the operational processing plant on the site including the wastewater discharge requirements.</p> | |
| 3.3 | <i>Implement plan to achieve site water balance targets.</i> | |
| 3.3.1 | <i>Status of progress towards meeting water balance targets set in the water stewardship plan shall be identified.</i> | 
Yes |
| Comment | <p>Based on the Water Stewardship Plan (WSP) document, the site has established specific water balance targets and implemented concrete actions to achieve them. The WSP identifies water quantity risks across both site and catchment levels, with implemented programs including STP capacity increase from 50 to 100 m³/day (completed June 2024), UF capacity improvement in WWTP from 50 to 100 m³/day (completed September 2024), and loss analysis implementation that achieved 1,717 m³/year water reduction through cleaning sequence optimization. The site also conducted catchment-level water balance studies through engagement with PUSDA to obtain formal catchment water mass balance data, which was completed in November 2024 with no budget required.</p> <p>Current performance demonstrates measurable progress against the established targets. The water recycling rate increased from 41% to 42% following the UF capacity improvements, with all effluent now being recycled rather than discharged. The corporate water balance target shows 40.4% water recycling achieved in 2024 against the 30% target for 2025, and the site has implemented Water Management System Level II for enhanced monitoring and early anomaly detection. The WSP document records 100% completion status for all water quantity and quality programs implemented in 2024, with specific budget allocations totaling 4.763 billion IDR across multiple initiatives.</p> | |
| 3.3.2 | <i>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.</i> | 
Yes |

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

Comment	Although meteorological data from BMKG (2025) suggests sufficient water availability in the Malang area, catchment-specific analysis and stakeholder input indicate that water scarcity and declining groundwater levels represent an emerging shared water challenge. In alignment with this risk, the site has implemented concrete actions and annual targets to improve its water use efficiency. Key measures include: - Doubling the capacity of the STP from 50 to 100 m³/day (completed in June 2024) - Upgrading UF capacity in the WWTP from 50 to 100 m³/day (completed in September 2024) - Conducting water loss analysis and optimizing cleaning sequences, resulting in an annual reduction of 1,717 m³ - Increasing the effluent recycling rate from 41% to 42%, with all treated water reused onsite - Achieving a 40.4% recycling rate in 2024, surpassing the 2025 corporate target of 30% These actions demonstrate the site's commitment to operational efficiency and volumetric reduction, supporting long-term water resource sustainability.	
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	The site does not reallocate water savings for external benefits or uses. After conducting interviews and visiting the site, no legal issues were found. There is no diversion of water for social, cultural, or environmental purposes.	
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>	 Yes
Comment	The site has established clear water quality targets within its WSP that specify applicable water bodies, target parameters, and timescales. For catchment water quality, the site identified coliform contamination issues in deep well analysis results and set targets to engage with authorities (PUSDA) to inform them of positive coliform findings, with confirmation testing by other laboratories and verification of correct sampling methods planned for June 2025. For site water quality, the target focuses on ensuring effluent compliance with local regulations through in-line control monitoring of WWTP and STP operating parameters, with all formal laboratory analyses required to remain within regulation norms by January 2025. The site also addresses WASH facilities with targets to provide adequate sanitation access while building employee awareness, including daily cleaning of sanitation facilities and regular soap and tissue refilling, completed in March 2025. The site has implemented comprehensive actions toward these targets and provides concrete performance data. For effluent quality management, the site increased STP capacity from 50 to 100 m³/day and improved UF capacity in WWTP from 50 to 100 m³/day, achieving a water recycling rate increase from 41% to 42% with zero discharge to receiving water bodies. Deep well monitoring data from 2019-2025 shows systematic tracking of multiple parameters, including pH, turbidity, TDS, nitrates, and total coliform levels against regulatory standards. The site completed river cleaning activities involving stakeholders, collected approximately one truck of rubbish, and achieved over 80% stakeholder participation in water quality improvement events.	
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>	 Yes

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

Comment The site addresses shared water challenges through infrastructure expansion and a zero discharge strategy. The facility increased both sewage treatment plant (STP) and ultrafiltration (UF) capacity at the wastewater treatment plant (WWTP) from 50 to 100 m³/day each, while sustaining water recycling rates between 41–42% and achieving zero discharge to surface water bodies. This approach mitigates potential effects on receiving water quality, which was identified as a key concern through stakeholder engagement.

A deep well monitoring program from 2019 to 2025 measures pH, turbidity, total dissolved solids (TDS), nitrates, and total coliform levels in line with regulatory standards, supporting effective water quality management.

Improvements in effluent quality are evident in groundwater monitoring data. Total coliform levels in Deep Well 1 decreased to 0 in 2024. In Deep Well 2, total coliform levels recorded in 2025, showing continued tracking of groundwater quality. Community involvement included river cleaning activities that engaged stakeholders, collected approximately one truckload of waste, and saw over 80% participation in events aimed at improving water quality.

3.5 *Implement plan to maintain or improve the site's and/or catchment's Important Water-Related Areas.*

3.5.1 *Practices set in the water stewardship plan to maintain and/or enhance the site's Important Water-Related Areas shall be implemented.*



Yes

Comment Based on the documented water stewardship activities and observation, the site implements practices to maintain and enhance Important Water-Related Areas (IWRA) through catchment-level interventions and community engagement. The site executed tree-planting programs at upstream locations, including UIN area, IWRA Sumberawan, and IWRA Kalimewek, planting 1,500 trees with 80% survival rates after six months. River cleaning activities were conducted at the Kalibodo River, removing one truck of rubbish and cleaning 1.5 kilometers of riverbank. Implementation included cultural ceremonies at IWRA Sumberawan and engaged 80% of targeted stakeholders, with media coverage reaching three local outlets. Fish seed distribution activities were carried out at the Kalibodo River crossing in the Balitas area to enhance the economic value of local fishing ponds.

On the site IWRAs level, the site helps to maintain the control gate inside the factory as well, to control:

1. Agricultural irrigation
2. Controlling floods during heavy rain

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

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

Comment	The site ensures that all workers have access to safe drinking water, which is sourced from a freshwater services provider and a local water bottling company. The water is closely monitored to ensure it meets quality standards. Additionally, the site provides adequate sanitation facilities, including bathrooms, hand washing, and shower facilities, for all workers. The water for drinking is analyzed by the freshwater service provider and the bottling company, and the results show that it is safe and meets regulations. The site maintains 91 toilets (49 male and 41 female) and 41 urinals, representing a 479% increase in toilets and a 71% increase in urinals beyond the minimum standards required by the Regulation of the Minister of Manpower No. 5 of 2018 concerning Occupational Safety and Health in the Work Environment. For a workforce of 516 individuals, the regulation mandates at least 19 toilets and 24 urinals, making the site's provision substantially above compliance thresholds. Each facility incorporates handwashing stations with soap, water, and hand-drying capabilities, while safe drinking water access is distributed throughout the site, and feminine hygiene products are supplied in all women's toilet facilities. The compliance process involves systematic facility identification and mapping to ensure proper distribution and clear access across all site areas. All WASH components, including toilets, urinals, handwashing stations, and drinking water points, have been catalogued and mapped for operational management. Water safety protocols include Legionella testing conducted at five critical sampling points: cooling tower, reject RO from WWTP and STP, make-up cooling tower from WWTP and STP, kolam, and SMD White Pilot Plant humidity sprayer systems. The testing procedures maintain documented evidence through photographic records and systematic sampling protocols to verify water quality standards across the facility's water distribution systems.	
3.6.2	<i>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.</i>	 Yes
Comment	During the visit, interviews with the site staff, and field observations, no evidence was found indicating that the site infringes upon the human right to water and sanitation. The information provided by the site and stakeholder demonstrated that their effluents do not impact anyone's ability to access water or sanitation. Additionally, there is a mosque on the site that is open for public use, including facilities for ablution, handwashing, and bathing.	
3.7	<i>Implement plan to maintain or improve indirect water use within the catchment:</i>	
3.7.1	<i>Evidence that indirect water use targets set in the water stewardship plan, as applicable, have been met shall be quantified.</i>	 Yes

Audit Number: AO-001580

Comment Action Plan #5 of the water stewardship plan outlines measures to address indirect water use targets by engaging PT Bintang Pesona Jagat (BPJ), a tobacco packaging vendor in the Brantas catchment area.

PT ISS, a cleaning services vendor, uses automated flow meters provided by PDAM Malang to monitor monthly water consumption.

Documentation indicates BPJ engagement activities concluded in July 2024, with vendor feedback confirming participation in the water stewardship program.

Both vendors implemented conservation measures such as employee awareness initiatives, facility maintenance protocols, and efficiency improvements.

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 mapped 20 vendors associated with BAT Indonesia, specifically identifying two service providers located within the Brantas catchment: ISS (Jl. Teluk Pelabuhan Ratu No.67 Rb, Arjosari, Blimbing District, Malang City) and PT Bintang Pesona Jagat (BPJ) (Jalan Raya Karanglo, Banjararum, Singosari, Malang).

Documentation includes records of communication and actions related to water management from both suppliers. Email correspondence from June 2025 indicates exchanges between the site and BPJ focused on water consumption data collection.

ISS has documented water governance procedures, which were communicated to employees for both on-site services at the site facilities and their off-site office operations.

3.8 Implement plan to engage with and notify the owners of any shared water-related infrastructure of any concerns the site may have.

3.8.1 Evidence of engagement, and the key messages relayed with confirmation of receipt, shall be identified. Yes

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

Comment The site has engaged in compliance activities related to the indicator through structured stakeholder collaboration with the Dinas PU Sumber Daya Air (Public Works and Natural Resources Agency) of Malang Regency, the responsible infrastructure authority. Engagement included direct communication with officials, including Mrs. Farid Habibah, Head of the PUSDA Agency, during which AWS BATI presented certification objectives and discussed regional water challenges. Records of this engagement include formal meetings held on February 28, 2025, supported by photographic documentation.

The engagement identified water-related infrastructure risks, such as requirements for water source mapping, irrigation system assessments, water shortage concerns from multiple sources, and river discharge monitoring. The PUSDA Agency provided support by granting access to data, studies, and reviews related to water sources and committed to calculating the catchment water balance for Malang Regency. This engagement marks the second formal interaction between the site and PUSDA Malang Regency, indicating ongoing communication on regional water challenges. The agency confirmed agreement to provide the catchment water balance calculation, which will be used for five years following governance approval.

3.9 *Implement actions to achieve best practice towards AWS outcomes: continually improve towards achieving sectoral best practice having a local/catchment, regional, or national relevance.*

3.9.1 *Actions towards achieving best practice, related to water governance, as applicable, shall be implemented.*



Yes

Comment On April 15, 2025, a Focus Group Discussion (FGD) was held at the Faculty of Agriculture, Brawijaya University in Malang. The purpose of the FGD was to identify shared water challenges within the Brantas River Basin catchment area. The discussion engaged a diverse group of stakeholders, including representatives from government authorities (such as the Environmental Agency of Malang Regency, the River Basin Management Agency, Large River Basin Management, and Perum Jasa Tirta), local communities, women's groups, and environmental activists.

During the discussion, four key water challenges were identified: water scarcity, management of groundwater and surface water, an evaluation of the previous tree planting program implementation, and the examination of authority plans and policies related to water resource management.

Additionally, on October 25, 2024, the site hosted the Bangun Bangsa Conference at the Sultan Hotel in Jakarta. One of the main topics discussed at this conference was water conservation, which covered initiatives for water savings, commitments to water recycling, approaches to water stewardship, and efforts for water resource preservation involving stakeholders from government ministries and international organizations.

3.9.2 *Actions towards achieving best practice, related to targets in terms of water balance shall be implemented.*



Yes

Comment The site has implemented a comprehensive water recycling program that has significantly improved water use efficiency. The facility's water recycling rate has increased from 0% in 2016-2020 to 38.46% by November 2024, with total water withdrawal decreasing from 306,143 m³ in 2016-2017 to 63,396 m³ in 2023-2024. The site has developed a four-phase water recycling system that processes wastewater treatment plant (WWTP) effluent through reverse osmosis technology, targeting a total contribution of 36.63% recycled water with an average daily consumption of 220 m³. The technical implementation includes recycling condensate return, HVAC water recycling, and installation of RO systems for WWTP effluent processing, contributing 42 m³/day (19%), 25 m³/day (11.36%), 8.8 m³/day (4%), and 5 m³/day (2.27%) across different phases of the recycling program.

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



Yes

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

Comment The site has implemented measures to ensure water quality, focusing on compliance with local effluent regulations through in-line monitoring of the operating parameters of both the Wastewater Treatment Plant (WWTP) and the Sewage Treatment Plant (STP). All formal laboratory analyses are required to meet regulatory standards by January 2025.

To achieve this, the site has increased the STP capacity from 50 to 100 m³ per day and improved the ultrafiltration (UF) capacity of the WWTP from 50 to 100 m³ per day. This has increased the water recycling rate from 41% to 42%, with no discharge into receiving water bodies. Deep well-monitoring data collected from 2019 to 2025 indicates systematic tracking of various parameters, including pH, turbidity, total dissolved solids (TDS), nitrates, and total coliform levels, all measured against regulatory standards.

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 In 2024, the site implemented tree planting at upstream locations, including the UIN area, IWRA Sumberawan, and IWRA Kalimewek, with 1,500 trees planted and achieving over an 80% survival rate after 6 months. The 2025 program expanded these efforts with tree planting at the Balitas upstream area involving 80 seedlings of Moringa, Sandalwood, Ficus, and Sukun trees selected for their soil stabilization properties and economic value for local communities. These activities were conducted in collaboration with multiple stakeholders, including NGO Baskomas, government agencies such as BP DAS Brantas and the Forestry Service, community groups, and environmental organizations.

The site's approach integrates IWRA maintenance with broader water conservation objectives through coordinated river cleaning and ecosystem restoration activities. The April 2025 initiative at Karangploso removed 4 tons of waste from the Kalibodo River across 4 cleaning zones, installed biopores, and released endemic fish species to enhance environmental and economic benefits for local communities. The programs achieved measurable outcomes, including 1.5 km of river cleaning, stakeholder participation exceeding 80% of targets, and media coverage across multiple local platforms. The selection of tree species focused on endemic Javanese plants that provide soil contour security while supporting community economic activities

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



Yes

Comment The site provides bottled drinking water and sufficient sanitation facilities, such as restrooms, hand-washing stations, and showers, for all workers, regardless of gender. Additionally, there is a designated female toilet in the WWTP area. All facilities meet the Manpower Regulations, and each sanitation facility has a pictogram sanitizing guide.

Based on the Water Stewardship Plan documentation, the site implements actions toward WASH best practices through systematic assessment and infrastructure improvement processes. In March 2025, the site conducted socialization programs with employee representatives and established regular toilet inspection and maintenance protocols for sanitation facilities. The implementation involved daily cleaning of sanitation facilities, daily checks and refills of soap and tissues, and ensuring the number of toilets and urinals meets local regulatory requirements. The program required a budget of 10 million IDR and was completed with positive feedback from employee representatives regarding sanitation access.

The site follows a structured approach that includes WASH surveys to ensure adequacy of access and addresses insufficient access to toilets and urinals, alongside low employee awareness of WASH importance. The process involves providing adequate sanitation access while building employee awareness about WASH importance through representative engagement. The implementation achieved 100% completion status with measurable outcomes, including compliance with local regulations for sanitation facilities, establishment of daily maintenance routines, and provision of necessary hygiene supplies. The site also plans future WASH initiatives for 2028, targeting remote indigenous populations, indicating expansion of WASH access beyond immediate facility boundaries.

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

4 STEP 4: EVALUATE - Evaluate the site's performance.

4.1 *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.*

4.1.1 *Performance against targets in the site's water stewardship plan and the contribution to achieving water stewardship outcomes shall be evaluated.*



Yes

Comment The site implements a structured tracking system using a multi-column spreadsheet format that documents baseline measurements, quantifiable targets, and actual achievements for each water stewardship action, tracking monthly progress from February 2024 through December 2025 with dedicated columns for target setting, measurement methodology, implementation schedules, budget allocation, and spending records. The system provides numerical performance comparisons using measurable indicators, including STP capacity baseline of 50 m³/day measured against the target of 90 m³/day with actual achievement of 80 m³/day, UF capacity increases from 50 to 100 m³/day, and recycling rate improvements from 41% to 42% with the elimination of discharge to receiving water bodies. Each target links to specific AWS outcome categories with documented connections between individual actions and water stewardship objectives. At the same time, the progress documentation records 100% completion rates for implemented targets, actual spending compared to allocated budgets ranging from 10 million to 3.99 billion IDR, stakeholder participation data, and measured environmental and operational outcomes that capture both specific target achievements and quantified contributions to water stewardship goals through documented capacity improvements, regulatory compliance records, and measurable environmental restoration activities.

4.1.2 *Value creation resulting from the water stewardship plan shall be evaluated.*



Obs.

Comment The site maintains comprehensive investment tracking of over 4.8 billion IDR across water stewardship activities and documents value creation in environmental, social, and business categories. The value descriptions include specific operational metrics such as "STP capacity increase from 50 to 80 m³/day" and "improved recycling rate", but do not translate these improvements into financial terms. Budget allocations and spending records show 100% alignment between planned and actual expenditures, yet no formal cost-benefit analysis framework exists to demonstrate return on investment.

The documentation records operational achievements, including recycling rate increases from 41% to 42%, complete discharge elimination, and enhanced treatment capacity from 50 to 80 m³/day. These improvements are not quantified financially despite representing measurable outcomes. The site provides concrete operational descriptions beyond generic phrases. But it lacks the financial cost-benefit analysis component, with no documentation of cost savings, revenue generation, or return on investment calculations for water stewardship investments.

4.1.3 *The shared value benefits in the catchment shall be identified and where applicable, quantified.*



Obs.

Comment The site has identified shared value benefits across economic, environmental, and social categories within the catchment; however, the assessment lacks the quantitative metrics required by the AWS Standard. The descriptions provided are predominantly qualitative and generic, missing essential quantitative data such as monetary values for economic benefits, volumetric measurements for water-related impacts, participant numbers for social programs, and measurable outcomes for environmental initiatives like tree planting. While benefits are categorized appropriately, the absence of concrete quantification prevents full compliance with the standard's requirement for specific, measurable benefit descriptions beyond generic phrases.

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

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
Comment	As per the documentation, interview, and annual review, there have been no water-related emergency incidents in the last 10 years. All events are logged in the online plant portal application, which is accessible only to the EHS staff. Any emergency response is also discussed in EHS meetings. The site has accident reporting and emergency response procedures in place.	
4.3	<i>Evaluate stakeholders' consultation feedback regarding the site's water stewardship performance, including the effectiveness of the site's engagement process.</i>	
4.3.1	<i>Consultation efforts with stakeholders on the site's water stewardship performance shall be identified.</i>	Yes
Comment	The site demonstrates and documents a system for evaluating feedback on water stewardship performance, which includes systematic records of interactions with stakeholder groups such as government agencies (PUSDA, Dinas Lingkungan Hidup), health centers, village authorities, NGOs, and private sector partners. These interactions, conducted through direct visits, site invitations, and structured meetings, are quantitatively assessed with documented ratings between 80% and 100%. Evidence indicates stakeholder input is incorporated into the Water Stewardship Plan, as shown by a Forum Group Discussion at Brawijaya University, where multiple stakeholder types identified and agreed upon five shared water challenges. The site's performance communication includes findings on difficult issues, such as coliform contamination discussed with BPJ, river pollution challenges with Balittas, and infrastructure limitations with PUSDA. Furthermore, the site tracks specific outcomes from these interactions, including receiving WASH data from Karangploso Health Center and catchment water balance calculations from PUSDA, which is approved for five years of use.	
4.4	<i>Evaluate and update the site's water stewardship plan, incorporating the information obtained from the evaluation process in the context of continual improvement.</i>	
4.4.1	<i>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.</i>	Yes
Comment	According to an interview with the site and the documented evidence of the Water Stewardship Plan, it has been verified that the site satisfactorily meets the requirement to provide an updated WSP that includes relevant information and insights from evaluations. Documentation confirms that there are two separate versions of the plan, dated December 10, 2024, and May 1, 2025, which indicates a systematic revision process. The May 2025 version incorporates findings from evaluations, notably adding a risk item to address catchment water quality issues with positive coliform analysis, reflecting lessons learned from ongoing monitoring efforts. A review of the documentation showed that actual implementation dates, accurate expenditure data, and stakeholder feedback have been systematically included in the revised plan, with changes traceable through updated budget allocations and implementation timelines. The evidence verifies that the WSP effectively adapts based on program outcomes, stakeholder engagement, operational lessons learned, and identifiable changes.	

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001580

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>	
Comment	The organizational structure of AWS, along with its water governance policies, is documented internally and externally. These documents outline the positions within the company and their corresponding responsibilities regarding water stewardship and compliance with relevant regulations. The public can access reports outlining the company's efforts in these areas on our website's sustainability page. The public can access reports outlining the company's in website: https://www.bentoelgroup.com/id/keberlanjutan-dan-tanggung-jawab/lingkungan-kesehatan-dan-keselamatan/alliance-for-water-stewardship	
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>	
Comment	The site publishes an annual sustainability report shared with relevant stakeholders. This report details the implementation of the site's water stewardship program. Records indicate that the site has consistently engaged with a diverse range of stakeholders, including government agencies (e.g., Dinas PU SDA), local authorities (e.g., the Village Head of Banjararum), research institutions (e.g., BRMP TAS), and community organizations (e.g., Pamsimas Donowarih). During these engagements, the site communicated key aspects of its AWS (Alliance for Water Stewardship) certification efforts, discussed shared water challenges, and highlighted specific initiatives, such as tree planting, reforestation, and fish seed stocking programs. These activities were conducted as part of the Water Stewardship Program (WSP) over the past year and continue into the present.	
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>	
Comment	The site summarized their water management performance on-site, including how they measured up against set targets. This information is available to the public via the company's website. The link address can be accessed at this link: https://www.bentoelgroup.com/id/keberlanjutan-dan-tanggung-jawab/lingkungan-kesehatan-dan-keselamatan/alliance-for-water-stewardship	
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>	

Audit Number: AO-001580

Comment The site implemented documented actions for each identified water challenge. Interventions for each challenge are outlined in the Water Stewardship Plan, which details assigned personnel, budgets, timelines, and measurable outcomes.
To address catchment-level water quantity issues, the site implemented tree planting programs in upstream areas, including UIN, IWRA Sumberawan, and Balitas. These efforts included planting 1,500 trees, with a survival rate exceeding 80%, and cleaning approximately 1.5 km of river.
Water quality issues were managed through coordinated river cleaning activities involving upstream stakeholders, which resulted in the collection of approximately one truckload of rubbish. Concerns regarding water quality, such as coliform contamination in deep wells, led to engagement with PUSDA authorities to establish monitoring and verification protocols.
These activities were documented and reported by three news platforms (ikoneksi.com, agroredaksi.com, monwnews.com) between April 29 and May 1, 2025. The reports detailed stakeholder involvement, outcomes, and follow-up plans, which include routine river monitoring, household waste management support, and environmental education initiatives.

5.4.2 Efforts made by the site to engage stakeholders and coordinate and support public-sector agencies shall be identified. Yes

Comment The site engaged with and supported public sector agencies in the Brantas catchment area through a structured and coordinated approach. Between March 2024 and May 2025, the site identified nine key stakeholder groups, including various local and provincial government agencies, and established systematic engagement processes. These processes included stakeholder mapping, scheduled consultations, documented communication, and joint planning sessions aimed at addressing shared water challenges. These efforts helped identify priority issues, including uneven WASH access, declining water quality, and seasonal water scarcity. As a result, stakeholders established ongoing initiatives such as joint water monitoring, upstream conservation projects, and data-sharing protocols for water use reporting with provincial authorities.

5.5 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.

5.5.1 Any site water-related compliance violations and associated corrections shall be disclosed. Yes

Comment No water-related emergency incident and no violation reported in the last 10 years

5.5.2 Necessary corrective actions taken by the site to prevent future occurrences shall be disclosed if applicable. Yes

Comment There have been no water-related compliance violations and no associated corrections required.

5.5.3 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. Yes

Comment There have been no water-related compliance violations and no associated corrections required.

Previous Findings

All non-conformities raised in the previous audit have been satisfactorily closed. N/A