CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001583

WSAS WATER STEWARDSHIP ASSURANCE SERVICES

SITE DETAILS

Site: **BAT Indonesia - Singosari**

Address: PT. Bentoel Prima Jalan Simpang Kavaleri RT001/RW001, Desa Randuagung, Kec. Singosari, 65153, Kabupaten Malang, INDONESIA

Contact Person: Agnes Samosir

AWS Reference Number: AWS-000829

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): Initial Audit

Audit Start Date: 2025-Jun-19

Audit End Date: 2025-Jun-21

Lead Auditor: Hasudungan Sahat

Audit team participants:

Een Nuraeni, Local Auditor

Site Participants:

Mahendra Kusuma, Consultant
Nugi Achyar, Area Sustainability Manager
Agnes Samosir, Sustainability Manager
Septinia A Dewi, sustainability supervisor
Zainal Fatah, Utilities Manager
Lutfi Setiawan, Utilities Lead
Afifatul A, Sustainability
M Ahrul D, Sustainability

AUDIT TIMES

Dates	Audit from	Duration	Auditor	Description
2025-Jun-19	08:00:00 - 16:00:00	08:00	Hasudungan Sahat	Day 1
2025-Jun-20	08:00:00 - 16:00:00	08:00	Hasudungan Sahat	Day 2
2025-Jun-21	08:00:00 - 16:00:00	08:00	Hasudungan Sahat	Day 3

ADDITIONAL INFO

Summary of Audit Findings: During the certification audit. 5 non-conformities and 8 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 09 August 2025.

The non-conformities 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 05 September 2025.

The audit team recommends certification of BAT INDONESIA Singosari at Core level pending closure of the non-conformities.
CLOSURE OF FINDINGS AND CORRECTIVE ACTION PLAN:

The Site has successfully closed all Non-conformities.

Scope of Assessment: The scope of services includes the initial certification for assessing the conformity of BAT INDONESIA-Singosari against the AWS International Water Stewardship Standard Version 2. The Singosari site is located at Jalan Terusan Yonkav, Krajan, Randuagung, in the Singosari District of Malang Regency, East Java, Indonesia, at an elevation of approximately 435 meters. The site spans 14.57 hectares, with a built-up area of 31,742 square meters.

The site operates water infrastructure that includes one deep well located within its boundaries. Until June 2025, the site will send its wastewater to the BAT INDONESIA Malang Wastewater Treatment Plant (WWTP). Currently, an on-site wastewater treatment plant for industrial wastewater and a sewage treatment plant (STP) for domestic wastewater are under development, with plans for them to become operational in the fourth quarter of 2025. Additional infrastructure consists of cooling towers as part of HVAC systems, boiler feed water systems, and fire water supply systems with dedicated reserves.

The site's catchment area is part of the Welang Sub-Catchment within the larger Welang catchment. There are two plants on the site: the Dried Ice Extended Tobacco (DIET) plant and a new category plant. The DIET plant, which began production in 2016, focuses on producing expanded tobacco for internal use and export. The new category plant is set to start production in 2025, focusing on manufacturing new category cigarettes.

The audit was conducted onsite on 19-21 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: Puskesmas Singosari and Ardimulyo (community public health-goverment) and PT Genesis Teknologi Indonesia (Vendor for tobacco products).

FINDINGS

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NUMBER OF FINDINGS PER LEVEL

Observation	8
Non-Conformity	5

WSAS
2 Quality StreetNorth Berwick, EH39 4HW, UNITED KINGDOM

FINDING DETAILS

Finding No:	TNR-018540
Checklist Item No:	1.2.1
Status:	Open
Finding level:	Observation
Checklist item:	Stakeholders and their water-related challenges shall be identified. The process used for stakeholder identification shall be identified. This process shall: - Inclusively cover all relevant stakeholder groups including vulnerable, women, minority, and Indigenous people; - Consider the physical scope identified, including stakeholders, representative of the site's ultimate water source and ultimate receiving water body or bodies; - Provide evidence of stakeholder consultation on water-related interests and challenges; - Note that the ability and/or willingness of stakeholders to participate may vary across the relevant stakeholder groups; - Identify the degree of stakeholder engagement based on their level of interest and influence.
Findings:	The site began by engaging with village stakeholders through visits to local officials. This effort is part of identifying and mapping the stakeholders to be involved. While photos of these activities are available, the outcomes have not been documented in writing; they are only documented through personal notes (photo only).

Finding No:	TNR-018533
Checklist Item No:	1.3.2
Status:	Closed
Finding level:	Non-Conformity
Due date:	2025-Sep-20
Checklist item:	Site water balance, including inflows, losses, storage, and outflows shall be identified and mapped
Findings:	The site provides the Sankey Diagram to visualize the site map of the water balance. However, during the audit, it was found that the site lacks identification of outflow from the deep well to PT GTI - this has not yet been mapped.
Corrective action:	Revise the Sankey Diagram to include GTI water withdrawn from BAT's deep well - 9 Aug 2025 Confirming to GTI and revisit the Sankey Diagram after they obtain their deep well permit - 31 Dec 2025

Finding No:	TNR-018534
Checklist Item No:	1.3.3
Status:	Closed
Finding level:	Non-Conformity
Due date:	2025-Sep-20
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:	The water balance quantification for the site does not account for the water usage by PT GTI, the vendor that provides the primary sources, which draws from the same deep well as the site. Additionally, the Sankey diagram lacks clear units (e.g., m³, liters) and does not specify a timeframe.
Corrective action:	Revise the Sankey Diagram to include GTI water withdrawn from BAT's deep well - 9 Aug 2025 Confirming to GTI and revisit the Sankey Diagram after they obtain their deep well permit - 31 Dec 2025
Evidence of implementation:	Revised Sankey Diagrams with unit of measurement

Finding No:	TNR-018579
Checklist Item No:	1.3.6
Status:	Open
Finding level:	Observation
Checklist item:	On-site Important Water-Related Areas shall be identified and mapped, including a description of their status including Indigenous cultural values.
Findings:	Lack of writing evidence related to status descriptions, including operational conditions and maintenance status.

Finding No:	TNR-019207
Checklist Item No:	1.5.4
Status:	Open
Finding level:	Observation
Checklist item:	Water quality, including physical, chemical, and biological status, of the catchment shall be identified, and where possible, quantified. Where there is a water-related challenge that would be a threat to good water quality status for people or environment, an indication of annual, and where appropriate, seasonal, high and low variances shall be identified.
Findings:	While the site has successfully obtained and disclosed catchment-level water quality data, the results represent a single point in time and do not reflect seasonal or annual variance.

Finding No:	TNR-019208
Checklist Item No:	1.5.5
Status:	Open
Finding level:	Observation
Checklist item:	Important Water-Related Areas shall be identified, and where appropriate, mapped,and their status assessed including any threats to people or the natural environment, using scientific information and through stakeholder engagement.
Findings:	The information provided for the five IWRAs includes narrative descriptions that introduce each site and outline its perceived value. These descriptions and assessments are not yet supported by data, such as flows and discharges, ecological indicators, water quality test results, and formal protection classifications. Instead, they depend on general online searches rather than scientific methods. Although existing academic literature emphasizes social value and community benefits more than environmental status indicators, a gap exists where scientific data on water quality and IWRA status are available in academic journals and theses but have not been integrated into the site assessments.

Finding No:	TNR-019209
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 successfully identified and described several water-related opportunities. However, the documentation and interviews did not include an assessment or quantification of these opportunities, such as potential cost savings or efficiency gains.

Finding No:	TNR-018541
Checklist Item No:	1.8.1
Status:	Open
Finding level:	Observation
Checklist item:	Relevant catchment best practice for water governance shall be identified.
Findings:	The site has an identification document for water governance that has been implemented in the catchment policy. However, it lacks the identification of best practices that could guide its contribution to those practices.

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Finding No:	TNR-018542
Checklist Item No:	1.8.3
Status:	Closed
Finding level:	Non-Conformity
Due date:	2025-Sep-20
Checklist item:	Relevant sector and/or catchment best practice for water quality shall be identified, including rationale for data source.
Findings:	The site has identified the quality in the catchment area through data collection from Singosari and Ardiwulyo health centers, as well as sampling water quality tests at HIPPAM Randuagung. The results of the water quality test found that the total coliform, fecal coliform, and Fe content exceeded the regulatory limit. However, the site did not identify what good practices could address these water quality issues.
Corrective action:	BAT Indonesia – Singosari site identified journal of best practice regarding HIPPAM Management issue in Brantas Cathment, for HIPPAM in Junrejo, Kota Batu, Malang. The journal creates step to ensure HIPPAM by starting a proper socialization to the management, on which BAT Indonesia – Singosari has been done following the result of water quality (total koliform, fecal coliform, and Fe content exceeded the regulatory limit), through assistantship for the Ardimulyo Health Centres to local leader and HIPPAM Randuagung's management itself. Furthermore, regarding the solution on water quality, BAT Indonesia is going to have a workshop with DLH (environment authority) across Malang area, to explore potential of water treatment process which can be applied by the HIPPAM, referring to BAT's water treatment system and technology. The workshop is intended to create potential solution that can be applied in a grassroot stakeholders in regards with water quality. Workshop with Local Environment Authority will be held on 13 Aug 2025 at BAT Indonesia To be continued with further assistantship to Local Health Authority is still waiting for their response - target 31 Dec 2025

Finding No:	TNR-018544
Checklist Item No:	2.3.2
Status:	Closed
Finding level:	Non-Conformity
Due date:	2025-Sep-20
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 WSP plan lacks actions, a budget, and a timeline to address the water quality issues in the HIPPAM Randuagung catchment. Additionally, it does not quantify the measurements for all catchment activities. For example, in target number 10 (CATCHMENT - IWRA), the site stated the goal of increasing biodiversity and maintaining local rare plant species. However, it is unclear how this increase will be measured in terms of numbers or percentages.
Corrective action:	Water Stewardship Plan has embedded with SMART measurement, including timeline and cost associated with the program. Action related to HIPPAM on workshop with Local Environment Authority is also included.
Evidence of implementation:	Revised WSP to include targets on each plan, particularly 4 plans above.

Finding No:	TNR-019141
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. Also, the new staff responsible for the water stewardship program, along with all units contributing to it, have not yet received training on the wate stewardship standards. There is a notable lack of knowledge regarding catchment areas and the AWS (Alliance for Water Stewardship) standards during interviews.

Finding No:	TNR-019140
Checklist Item No:	3.9.3
Status:	Open
Finding level:	Observation
Checklist item:	Actions towards achieving best practice, related to targets in terms of water quality shall be implemented.
Findings:	The water quality reports for several locations (SR HIPAM Randuagung, SAB 1 HIPPAM Randuagung, and SAB 2 HIPPAM Randuagung) showed high levels of Total Coliform and Fecal Coliform (E. Coli) that exceeded government regulations. These reports explicitly concluded that the water from these sources "Does not meet the requirements as clean water." The site did not yet plan actions (possibly collective) aiming at addressing these water quality issues.

Finding No:	TNR-018547
Checklist Item No:	3.9.5
Status:	Closed
Finding level:	Non-Conformity
Due date:	2025-Sep-20
Checklist item:	Actions towards achieving best practice related to targets in terms of WASH shall be implemented.
Findings:	The site demonstrates strong, best-practice approaches to on-site WASH services by providing comprehensive facilities that exceed regulatory requirements. This includes bottled drinking water, sufficient and segregated sanitation facilities for all workers, and a dedicated female toilet in the WWTP area. All on-site facilities are well-maintained, meet Manpower Regulations, and feature clear sanitizing guides. However, the site has not yet demonstrated a best-practice approach to addressing significant health risks in its catchment area. Biological water quality testing at SAB 2 and SR revealed dangerously high levels of Total and Fecal Coliform, indicating contamination that poses a direct risk to the community's health. While a community meeting was held to discuss these findings, the proposed action of "closely monitoring" the sites does not constitute an effective measure to mitigate the contamination.
Corrective action:	BAT Indonesia – Singosari site identified journal of best practice regarding HIPPAM Management issue in Brantas Cathment, for HIPPAM in Junrejo, Kota Batu, Malang. The journal creates step to ensure HIPPAM by starting a proper socialization to the management, on which BAT Indonesia – Singosari has been done following the result of water quality (total koliform, fecal coliform, and Fe content exceeded the regulatory limit), through assistantship for the Ardimulyo Health Centres to local leader and HIPPAM Randuagung's management itself. Furthermore, regarding the solution on water quality, BAT Indonesia is going to have a workshop with DLH (environment authority) across Malang area, to explore potential of water treatment process which can be applied by the HIPPAM, referring to BAT's water treatment system and technology. The workshop is intended to create potential solution that can be applied in a grassroot stakeholders in regards with water quality. Workshop with Local Environment Authority will be held on 13 Aug 2025 at BAT Indonesia To be continued with further assistantship to Local Health Authority is still waiting for their response - target 31 Dec 2025

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Report Details

Report	Value
Report prepared by	Hasudungan Sahat
Report approved by	Sa-Myeong Gim
Report approved on (Date)	August.02.2025

Surveillance

Proposed date for next audit
2026-Jun-18

Comment: It is recommended that a surveillance audit be conducted one year from the start date of the initial audit.

Stakeholder Announcements

Date of publication	Location
03/06/2025	AWS and WSAS Website
20/04/2024	Company website (https://www.bentoelgroup.com/id/keberlanjutan-dan-tanggung-jawab/lingkungan-kesehatan-dan-keselamatan/alliance-for-water-stewardship)

Catchment Information

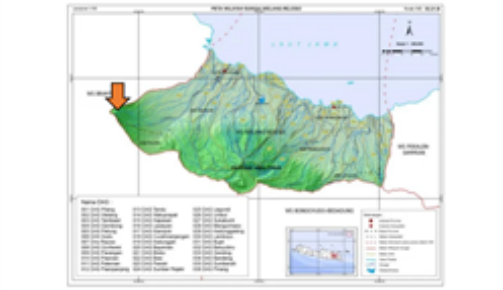

Figure 1. Catchment Area of Singosari Site BAT Indonesia, Randuagung, Singosari, Indonesia

Source:
Pattern for Management of Water Resources in the Brantas River Region 2020

BAT Singosari Catchment map.png

Catchment Information

Catchment : Welang catchment
Sub-Catchment : Welang Sub-Catchment

Welang Catchment
While the Welang Catchment is prone to frequent flooding—especially in its lower reaches such as Pasuruan City—the site itself, located in Randuagung at ~435 m above sea level, is situated on elevated terrain. Due to this topographical context, the site has not experienced direct flood impacts. Nonetheless, the broader catchment flood dynamics may still pose indirect risks to water infrastructure or stakeholder communities downstream.

Water Supply & Discharge Catchment
Water Supply: The site relies on the Welang Sub-Catchment for water supply, drawing water from a deep well located on-site.

Discharge Cathment:
The site transports its wastewater to BAT INDONESIA Malang (AWS-000414) because the wastewater treatment facilities are still under development. The site expects the WWTP and STP to be operational in Q4 2025.

Stormwater is fully segregated from wastewater lines and discharged directly into the site pond inside the site areas.

Groundwater Aquifers
Based on Aqueduct Water Risk Analysis, the aquifer at Banjararum Malang area (where the site is located) is not identified. The documents indicate that since the aquifer is not identified, inter-basin transfers are also not determined.
Catchment Water Service Providers
Not Applicable - The site does not use water service providers. All water supply comes from their on-site deep well.

Catchment Features

Water Shortage: At the Welang sub-catchment level, water availability is always above water need with no indication of water shortage.
Flooding: Randuagung is located at high altitude (400-700m above sea level, specifically ~435m for the site) and experiences no flooding. Heavy rain generates water puddles only for short periods.
Protected Areas: No environmentally protected areas in the immediate vicinity. However, there are social-culturally protected water sources in the area, such as the Polaman water source.
Inter-basin Transfers: None identified, as the aquifer system is not clearly mapped.
Climate: The catchment operates under a tropical climate.
Land Use: The drainage basin is characterized by:

No intensive agriculture
No heavy industry in the area
No significant forest cover
The site is bordered by three mountains (Mount Arjuna, Mount Kawi, and Mount Bromo) with rivers draining into the main Kali Brantas river system

The site's water source originates from the upstream area at the foot of Mount Arjuno, which feeds into the river system crossing the Singosari Site area.

Client Description and Site Details

Client/Site Background

Site Location
Location: Singosari site is located at Randuagung village, Singosari District, Malang regency, East Java, Indonesia.
Site Surroundings
The site is located in Randuagung Village in Malang Regency, East Java Province. The village has:

Population of 16,480 people across 518 hectares
Divided into 4 hamlets: Gondang, Krajan, Randutelu, and Karang Kunci
The area appears to be a mix of residential and light industrial, with the site surrounded by other industrial facilities as shown in the satellite image

The Singosari Site consists of 2 plants:
NC (New Category) Plant
DIET Plant

Water Use in Production: Water is used for production processes, cooling tower make-up water, and boiler feed water.
Water-Related Infrastructure

Water Sources: Single deep well (although there are two) located inside the site premises

Water Treatment Facilities:

WWTP (Waste Water Treatment Plant) for industrial wastewater
STP (Sewage Treatment Plant) for domestic wastewater
Advanced purification system: carbon filter, ultrafiltration, and reverse osmosis

Production Water Use: Deep well water supplies all production needs
Energy Facilities Water Use:

Cooling tower make-up water
Boiler feed water

Wastewater Treatment (still in development not yet running):

WWTP for industrial wastewater
STP for domestic wastewater
Water used in treatment processes for equipment cleaning and flocculation

Cooling Towers: Present as part of HVAC unit
Rainwater Harvesting: None - no rainwater harvesting infrastructure
Stormwater Management:

Stormwater is fully segregated from wastewater lines
Separate drainage system for stormwater

Fire Water: Supplied from water system and stored in dedicated fire water reserves
Other: No other significant water usage identified

Wastewater and Stormwater Discharge
Wastewater:

Industrial wastewater processed by WWTP
Domestic wastewater processed by STP

Effluent undergoes further purification (carbon filter, ultra filtration, reverse osmosis)
Purified water is recycled back into the system

Stormwater:

Completely segregated from wastewater lines
Rainwater is directly discharged into water body
Used for gardening/soil conditioning

Site Description Summary

Size: 14.57 hectares
Employees: 77 employees
Built-up Area: 31,742 m²
Altitude: Approximately 435 meters above sea level.
Industrial area with neighboring companies including PT Genesis Technology Indonesia, other manufacturing facilities, and mixed residential-industrial surroundings

Summary of Shared Water Challenges

Summary of Shared Water Challenges
The specific challenges within the catchment were identified through articles, stakeholder interviews, and reports. The site summarized these into six shared water challenges:
1. Water scarcity.
2. Inadequate WASH.
3. Water quality.
4. Natural springs to dry.
5. A decrease in the volumetric flow rate.
6. Groundwater decline.

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.*	Yes

Comment

The Singosari Site is located at Jalan Terusan Yonkav, Krajan, Randuagung, Singosari District, Malang Regency, East Java Indonesia, at approximately 435 meters altitude. The site covers 14.57 hectares with a built-up area of 31,742 square meters.

Water-Related Infrastructure
The site operates water infrastructure consisting of one deep well located within the site boundaries. Until June 2025, the site sent wastewater to BAT INDONESIA Malang WWTP. The on-site waste water treatment plant (WWTP) for industrial wastewater and sewage treatment plant (STP) for domestic wastewater are currently under development, with expected operational status in Q4 2025. Additional infrastructure includes cooling towers as part of HVAC units, boiler feed water systems, and fire water supply systems with dedicated reserves.

Water Sources
The site relies on a single deep well (although there are two) as its primary water source, located within the site boundaries and owned by the organization. No municipal water supply connections or external water service providers are utilized.

Discharge Points and Receiving Water Bodies
Until June 2025, wastewater was discharged to BAT INDONESIA Malang WWTP. The on-site WWTP and STP are under development with planned operation in Q4 2025. Once operational, industrial wastewater will be processed through the on-site WWTP and domestic wastewater through the on-site STP, with effluent undergoing further purification including carbon filtration, ultrafiltration, and reverse osmosis for water recycling. Stormwater systems are segregated from wastewater lines and discharge directly into the drainage system that terminates in an on-site pond. No rivers are present within a 5-kilometer radius of the site.

Catchment Mapping
The site is located within the Welang Sub-Catchment, part of the larger Welang Catchment system. The Welang Catchment (DAS Welang) extends across Malang, Pasuruan, and Kota Pasuruan regions in East Java. The catchment is classified as a perennial river system flowing year-round, with the watershed area draining into Kali Brantas as the main river.
The site's upstream water source originates from the foot of Mount Arjuno, with the facility positioned between three mountains: Mount Arjuna, Mount Kawi, and Mount Bromo. Within the 10-kilometer physical scope, multiple water sources are present, including Sumber Kemado spring, Umbulan spring, Eyang Djunggo spring, and Nyolo spring. The site operates at high altitude (400-700 meters above sea level) with no historical flooding experience, though heavy rainfall generates temporary water accumulation. The catchment maintains water availability above demand levels with no identified water shortage conditions.

The site has defined their groundwater aquifer through local data sources. The aquifer definition includes: (1) Regional aquifer characterization using official government hydrogeology maps of Malang Regency that classify the site's aquifer as medium to high productive with flow rates >10 liters/second along the Brantas river path; (2) Site-specific aquifer parameters documented in the Indonesian groundwater extraction permit showing defined aquifer depth range of 100-157 meters below mean tide level; (3) Detailed hydrogeological characteristics including static water levels at multiple depths (100 s/d 109; 110 s/d 119; 120 s/d 132; 133 s/d 157 mbmt), well specifications, and sustainable extraction capacity of 400 m³/day; and (4) Precise aquifer location coordinates (-7.522455 LS, 112.401209 BT) in Desa Randuagung, Singosari, Malang.
The design of wastewater of the site was 100% recycled, and stormwater is discharged into plant drainages and goes to the site storage pond that will become soil infiltration. In WWTP/STP BAT Indonesia Malang, the treated wastewater is also 100% recycled and not discharged into a water body. The BAT Indonesia Malang does not charge any revenue for handling wastewater from BAT Singosari. As all are managed in the same BAT Group and by the same person with BAT Indonesia Malang.

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

1.2.1	*Stakeholders and their water-related challenges shall be identified. The process used for stakeholder identification shall be identified. This process shall:* *- Inclusively cover all relevant stakeholder groups including vulnerable, women, minority, and Indigenous people;* *- Consider the physical scope identified, including stakeholders, representative of the site's ultimate water source and ultimate receiving water body or bodies;* *- Provide evidence of stakeholder consultation on water-related interests and challenges;* *- Note that the ability and/or willingness of stakeholders to participate may vary across the relevant stakeholder groups;* *- Identify the degree of stakeholder engagement based on their level of interest and influence.*	Obs.

Comment

The site identified 9 primary stakeholders, covering the following categories: health authorities (Puskesmas Ardimulyo and Puskesmas Singosari), local government authorities (Head of Randuagung Village), environmental agencies (Dinas Lingkungan Hidup Kabupaten Malang), provincial water management agencies (PUSDA), community-based water organisations (HIPPAM), environmental NGOs (Baskomas), military institutions (PUSDIKLATKER TNI AL), and private sector companies (Genesis Teknologi Indonesia). The identified stakeholders were documented across multiple engagement reports spanning November 2024 to May 2025. PUSDA is considered representative of the site's water sources as the provincial public works and water resources agency overseeing water resource management that managed all catchments that pass to Malang Regency. Dinas Lingkungan Hidup represents the receiving water bodies as the local environmental authority responsible for water quality regulations and pollution control within the catchment area.

The site engaged with the Randuagung Village community through the village head, Mr. Subadi, to explore water-related challenges in the catchment. Through this engagement, the site identified concerns about water availability as the biggest problem due to geological issues preventing borehole drilling in limestone areas, borehole water quality issues affecting approximately 50% of sources with brown or yellow discolouration and odour problems, and increasing costs of clean water access through HIPPAM services. The site also engaged PUSDIKLATKER TNI AL regarding Indigenous communities around the Kemado Spring area, identifying limited awareness of proper sanitation and hygiene practices and the vulnerability of the culturally and economically significant Kemado Spring's sustainability.

The engagement included multiple approaches: individual stakeholder meetings with health centers (Ardimulyo Health Center on April 30, 2025; Singosari Health Center on November 10, 2024), government agencies (PUSDA on February 28, 2025; Dinas Lingkungan Hidup on May 20, 2025), community consultations with village authorities (Randuagung Village Head on January 15, 2025), and a multi-stakeholder meeting on May 16, 2025, that brought together the head of Randuagung Village (Mr. Subadi), the head of HIPPAM (Mr. Nasihan), and a representative from Ardimulyo Health Center (Mrs. Irma) to discuss the AWS Program and shared water challenges. Each engagement documented specific water-related challenges, including Total Coliform levels reaching 101 MPN/100mL exceeding regulatory standards in Desa Tamanharjo, Desa Baturetno, and Kelurahan Losari; septic tank contamination of water wells in Desa Tasikmadu; seasonal water quality fluctuations during rainy season; and competition for water resources during dry seasons among industrial, agricultural, and domestic users.

A stakeholder engagement effectiveness assessment was documented showing varying participation levels: 100% effectiveness achieved with Puskesmas Singosari, Baskomas, and HIPPAM; 80% effectiveness recorded for Randuagung District head, Dinas Lingkungan Hidup, PUSDA, PUSDIKLATKER TNI AL, and GTI.

A Stakeholder Power, Interest, and Engagement Matrix was created for the identified stakeholders.

1.2.2	*Current and potential degree of influence between site and stakeholder shall be identified, within the catchment and considering the site's ultimate water source and ultimate receiving water body for wastewater.*	Yes

Comment

Based on the stakeholder mapping documentation, the site identified varying degrees of influence between the site and stakeholders within the Brantas Watershed catchment. The analysis considered stakeholders' ability to impact site operations and their exposure to water-related effects from site activities.

PUSDA and DLH Kabupaten Malang represent the highest influence stakeholders with scores of 4.0. PUSDA holds significant authority over water resource management within the Brantas catchment, controlling water allocation decisions during dry seasons and basin-level governance. DLH Kabupaten Malang maintains high influence as the local environmental authority responsible for water quality regulations, pollution control, and compliance enforcement within the catchment area.

Medium-high influence stakeholders (scores 3.0-3.5) include health centers, military institutions, environmental NGOs, media, and private sector partners. Ardimulyo and Singosari Health Centers exercise medium influence through regulatory oversight of community water quality testing and WASH program implementation. PUSDIKLATKER TNI AL demonstrates medium influence due to control over the Kemado Spring area and Indigenous community engagement. BASKOMAS Malang and local media (Malang Post) hold medium-high influence through environmental advocacy and public opinion formation. Genesis Teknologi Indonesia maintains medium influence as an integrated supplier sharing the same water resources within the catchment.

Low-medium influence stakeholders (score 2.0) comprise academic institutions and community representatives. Universitas Brawijaya serves as an academic partner for water challenge identification. Community groups, including residents participating in tree planting and WASH programs, village leadership (Kepala Desa Randuagung), and HIPPAM, represent water users with limited individual influence but collective operational impact. HIPPAM specifically manages water supply to 682 households, creating indirect effects on site operations.

The interest levels reveal an inverse relationship with influence in several cases. Community-based organizations demonstrate the highest interest levels (3.0) as they are directly affected by water quality and availability. Government regulatory bodies show moderate interest (2.0) as they oversee compliance rather than being directly impacted by operations. Business networks display medium interest (2.5) due to operational interdependencies within the shared catchment area. This distribution creates a stakeholder landscape where those most affected by water-related impacts have limited ability to influence site operations, while those with the greatest influence maintain professional rather than personal stakes in water management outcomes.

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," which involves the loss of production for up to six weeks, and "Scenario 'E'," which details a failure of the water supply from deep wells. The document provides detailed recovery actions for various incidents. For example, if a main pipe is damaged within the factory, the plan outlines steps for investigation, isolation, and repair, estimating a total restoration time of 12 hours. The plan also specifies responses for other potential events, including water contamination from soil deposits, overflows at the WWTP and STP, chemical spills, and boiler 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*

No

Comment

Based on the water balance Sankey diagram provided, the site demonstrates partial compliance with the water flow mapping indicator. The site developed a comprehensive water balance visualization that maps water flows throughout the facility operations.
The process followed involved creating a Sankey diagram that tracks water from source through various treatment processes, production uses, and facility operations. The diagram identifies incoming water sources from both external withdrawal and internal recycling systems. Water treatment components are mapped, including reverse osmosis, ultrafiltration, and condensate recovery processes that prepare water for different uses across the facility. Production water flows are tracked through multiple operational areas, including ARTHERMIS operations, DIET PLAN facilities, production areas, and hangar operations. The mapping extends to non-production uses such as utilities, cooling tower operations, gardening activities, pantry facilities, and wastewater treatment processes. The diagram shows water distribution throughout the facility infrastructure, including production zones, domestic facilities, restrooms, lobbies, guard houses, security facilities, and outdoor landscaping areas. The water recycling and reuse flows are clearly identified within the system, demonstrating how treated water returns to the process in a closed-loop configuration. Storage components are mapped, including multiple reservoirs and distribution tanks that support the various operational requirements throughout the site.
However, the audit identified a significant compliance gap. The water flow mapping lacks identification of outflow from the deep well to PT GTI, which represents an external water transfer not captured in the current diagram.

Finding No: TNR-018533

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.*

No

Comment

Based on the water balance Sankey diagram provided, the site shows partial compliance with the water flow mapping indicator. During the audit, it was revealed that the water flow mapping does not include the outflow from the deep well to PT GTI. This external water transfer is missing from the current Sankey diagram, resulting in an incomplete picture of all onsite water flows.

Finding No: TNR-018534

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

Comment

The site analyzed two deep wells in Randuagung, conducted by the Environmental Laboratory of Perum Jasa Tirta I in April-May 2025, revealing groundwater sources of exceptional chemical and physical purity. Both GLT I and GLT II wells demonstrate remarkable characteristics with crystal-clear water showing minimal coloration, no detectable taste or odor, and extremely low turbidity levels that rival premium bottled water standards. The chemical analysis is particularly impressive, with all heavy metals (iron, manganese, mercury, arsenic, cadmium, lead, and zinc) registering below detection limits, indicating excellent natural filtration and protection from industrial contamination. The mineral content shows optimal balance with moderate hardness levels, beneficial fluoride concentrations, and very low sulfate levels, while maintaining stable neutral to slightly alkaline pH values that are ideal for both consumption and industrial applications.
The microbiological analysis completes the positive assessment profile, showing both wells meet Indonesian health standards for bacterial safety. Additionally, no E. coli contamination was detected in either well, confirming the absence of fecal contamination and indicating properly protected groundwater sources.
Based on the water quality data from the two deep wells at Singosari, variances occurred in multiple parameters between 2024 and 2025. All measured parameters remained within the Ministry of Health Number 2 of 2023 regulatory standards during both years.
The site checks and monitors the water quality of the deep well once a year. According to Minister of Health Regulation No. 2 of 2023, there are no specified timelines for tobacco industry water quality testing, allowing for flexibility in adopting risk-based monitoring approaches that are appropriate for tobacco manufacturing processes. However, environmental compliance mandates for the site (tobacco companies) require that wastewater quality analyses, before discharging into water bodies, be conducted monthly, and the results must be submitted to the relevant Environmental Agencies.
The site transports its wastewater to BAT INDONESIA Malang because the installation of the Wastewater Treatment Plant (WWTP) and Sewage Treatment Plant (STP) on-site is still in progress. According to data from BAT INDONESIA Malang, there are no wastewater discharges into ultimate water bodies. All wastewater is recycled and reused. Laboratory analyses indicate that all parameters meet the required standards, and the treated wastewater is comparable to clean water.

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 and has compiled a list of chemical materials available during the audit. At every point that could potentially cause pollution, the site provides spill kits. Additionally, some points are also guarded by a ban wall to prevent spillage from spreading directly to the environment. 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.*

Obs.

Comment

The Singosari Site has identified and documented several Important Water-Related Areas (IWRA) on its premises. These areas include:

1. A fish pond facility with a volume of 10 m³.
2. Public toilet facilities equipped with two closed sitting toilets, two urinals, and one washbasin for road users and general community access.

The site has completed the basic identification and mapping of on-site water-related areas. However, comprehensive status descriptions, including operational conditions and maintenance status, are not available. Based on the available information, no Indigenous cultural values have been identified or documented for these 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

Comment

The site identifies and quantifies its annual water-related costs and provides a monetary quantification of social, cultural, and environmental water values, as evidenced by the document "1.3.7 Annual Water Related Cost (1)" Information from staff interviews confirms the site does not generate water-related revenues, as water is not used for commercial purposes, which aligns with their stated commitment to water stewardship.
Also, the site has identified water-related cost as below:
1. Cost of stakeholder engagement (Forum Group Discussion cost)
2. Regulatory compliance costs such as Effluent analysis cost, Deep well retribution ABT (permit fee)
3. Water stewardship activity cost (Ceremonial Mata Air Polaman: awareness programs)

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 38 toilets and 13 urinals. These consist of 24 male toilets, 14 female toilets, and 13 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 95 individuals, the regulation requires at least 12 toilets and 13 urinals. The site provides 38 toilets and 13 urinals, representing an increase of 317% for toilets, 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 has identified a total of 26 vendors associated with its operations, of which 25 are located outside the catchment area. One vendor, PT Genesis Teknologi Indonesia (PT GTI), is a global strategic partner of BAT that supplies raw materials and operates within the designated boundaries. PT GTI utilizes the same water sources as the site, specifically from deep wells 1 and 2 at the Singosari plant. The site diligently monitors and tracks the water consumption used for various purposes at the GTI Plant, including production, restroom facilities, pantry services, gardening, security, and prayer areas (Mushola). Comprehensive data regarding the water usage by PT GTI is available for review.

1.4.2 *The embedded water use of outsourced services shall be identified, and where those services originate within the site's catchment, quantified.*

Yes

Comment

The site identifies PT ISS as an outsourced cleaning service provider located outside the catchment area.

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

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

Yes

Comment

The site has identified the catchment area for water governance where it operates. 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. The site initiatives are through documentation of three specific regional development programs that present collective action opportunities. The Regional Development Program for Tree Planting in Water Sources Area creates tree-planting opportunities in Mata Air Polaman Kalirejo Kecamatan Lawang (Lahan milik TNI AL), directly relating to water source protection through vegetation management. The Regional Development Program for Natural Resource Protection and Conservation establishes a river clean-up program in Balitas, Kabupaten Malang, Jawa Timur, addressing water quality improvement through direct river restoration activities. The third initiative focuses on promoting community involvement in maintaining environmental balance within sustainable development concepts, including an ESG Ambassador position for BAT Indonesia Employee, indicating corporate participation in environmental stewardship activities. The site's documentation captures catchment-related plans through the water sources area tree planting program, water-related public policies through the natural resource protection program, and publicly-led initiatives through the community involvement program.

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

Yes

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.
Customary or community-based water rights, while not specifically identified at the site level, are embedded within Indonesia’s national legal framework. The 1945 Constitution and Law No. 17 of 2019 (Articles 3 and 8) recognize traditional water rights (e.g., ulayat rights), as long as they do not conflict with other legislative provisions. In this context, the auditor confirmed that these rights are regulated at the national level and already incorporated within the site's legal compliance framework.

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

Yes

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 determines the mainstay discharge at designated control points. This methodology provides data that reflects the variability in water availability. Based on a 2023 study of the Welang Catchment Area (DTA Welang), a distinct seasonal pattern of water availability emerges, leading to periods of significant water scarcity. Based on the provided document and interview during the audit, the F.J. Mock method, used for calculating water balance, considers both surface water balance and groundwater balance. The model incorporates precipitation, evapotranspiration, soil, and groundwater storage. It explicitly states that "The Mock method has two principal approaches for calculating surface runoff that occurs in rivers, namely the water balance above ground surface and the underground water balance, both based on rainfall, climate, and soil conditions."
The analysis reveals that while the region experiences a water surplus during the wet season in the early months of the year, a sharp decline in water availability during the drier months results in deficits. This fluctuation is critical for managing water resources, as the primary demand comes from agricultural irrigation, which is vulnerable to these seasonal shortages.

The impact of this seasonal variance differs across the catchment's various sub-basins. Larger sub-catchments, such as Watugel and Gapuk, consistently maintain a water surplus throughout the year, indicating a degree of resilience against the dry season. However, smaller sub-catchments demonstrate a clear vulnerability. For example, the Sumber Manggis area faces water deficits from August through October, when water demand exceeds the available supply. Similarly, the water balance charts for Sumber Tundo and Sumber Pecaton show availability dipping below demand during the dry period, underscoring the seasonal water scarcity that challenges the region.

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

Obs.

Comment

The site identified local catchment water quality data managed by the community association "HIPAM SUMBER SONGO" in Randuagung Village, which supplies water to 682 households through two reservoirs (SAB 1 and SAB 2).
On May 19, 2025, water quality testing was conducted by the Malang Regency Health Office at three points: Reservoir 1 (SAB 1), Reservoir 2 (SAB 2), and a household tap. Results were issued on June 3, 2025.
The site participated in a community meeting on June 16, 2025, to discuss the results with local health and governance representatives.

In 2024, catchment-level groundwater quality was assessed through a community-based monitoring initiative in Malang Regency, involving 15 households across the villages of Ardimulyo, Randuagung, and Toyomarto. The monitoring was conducted by the local public health agency (Puskesmas) and evaluated key water quality parameters, including physical (e.g., turbidity, temperature), chemical (e.g., TDS, pH, fluoride, iron, manganese, nitrate, nitrite), and biological indicators (e.g., E. coli and total coliform).
The results showed that most parameters met applicable standards. However, total coliform levels exceeded the acceptable threshold in 11 out of 15 samples, indicating a potential health risk.
However, as the available data reflects a single point in time, annual or seasonal variance in water quality could not be determined.

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

Obs.

Comment

The site has identified and mapped five Important Water Related Areas (IWRAs) in the catchment area. Which are: Polaman Water Source, Sumberawan Water Source, Sumber Biru, Sumber Nagan Water Source, and Sumber Kemado.
The status of each site and associated threats are assessed through descriptions of their economic, social, and environmental roles.

Polaman Water Source:
Identification and Mapping: Identified as the Polaman Water Source, located 5 km west of Pasar Lawang, on Jalan Indrakila, Polaman, Kalirejo Lawang, Malang, within a 5-hectare protected forest area.
Status and Threats: Used as a water source for Lawang district, supplying water to residents and generating income for Malang regency. It also functions as a recreational area with bathing pools and a fish breeding area, attracting street traders and facilitating economic activities. The area is natural, with lush trees and plants, and supports wild animals like monkeys. Local beliefs connect the name "Polaman" to a place for keeping fish. Cultural activities and ceremonies are conducted at this site. Its role in balancing the ecosystem of flora, fauna, soil, and human living is noted.

Sumberawan Water Source:
Identification and Mapping: Identified as Sumberawan Water Source, located in Toyomarto Village, Singosari District, Malang Regency.
Status and Threats: Serves as a clean water source for irrigation and daily needs of Toyomarto Village and surrounding areas, with a water discharge of 25-40 liters/second. The Dutch government developed sluice gates, dams, and canals for water distribution, now used by Kostrad, Abdurrahman Saleh Air Base, and Singosari BLK. PDAM Singosari expands its distribution network. It is also a tourist spot. The surrounding forests regulate water systems, reduce erosion, and are managed by Perhutani in collaboration with the community to ensure protection.

Sumber Biru and Sumber Nagan Water Source:
Identification and Mapping: Sumber Biru is located near the highway to Kreweh Hamlet, Gunungrejo Village, approximately 1.5 km northwest of Singosari Temple and 6-7 km from Singosari Market. Sumber Nagan has a swift and clear spring. Both are used as tourist spots.
Status and Threats: Sumber Biru offers natural panoramas and bird songs. The historical value of Sumber Biru attracts visitors. Some water from these sources is used for clean water and irrigation for residents of Sumber Biru and Candirenggo.

Sumber Kemado:
Identification and Mapping: Located in Bedali village, Polaman, 2.66 km from Bentoel Singosari, within Polaman Village, Lawang, Malang Regency. It lies at the foot of Mount Arjuna.
Status and Threats: Historically, it was a bathing place for the Singhasari Kingdom's royal family. The spring has continuous water flow forming clear, cold bathing pools. It is considered a sacred site by the local community, who conduct annual traditional ceremonies during the Javanese new year (Suro). Economically, it supplies clean water to PDAM Lawang Branch, serves as a primary irrigation source for rice fields, and formed an artificial lake used as a public fishing pond. Its roles in water supply, agriculture, and recreation contribute to its value.

The information provided for the five IWRAs includes narrative descriptions that introduce each site and outline its perceived value. These descriptions and assessments lack critical evidence-based data, such as flow and discharge measurements, ecological indicators, water quality test results, and formal protection classifications. Instead, they depend on general online searches rather than scientific methods. Although existing academic literature emphasizes social value and community benefits more than environmental status indicators, a gap exists where scientific data on water quality and IWRA status are available in academic journals and theses but have not been integrated into the site assessments.

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

Yes

Comment

Since both BAT Malang and Singosari are located in the same Singosari Subdistrict, the two sites share the shared infrastructure and information related to policy and activity.
The site has identified and mapped eleven water-related infrastructures. It has also mapped the risk exposure that can impact the catchment areas, including drought, water scarcity, flooding, flash floods, and water quality.
In 2024, the Malang Regency Public Works and Water Resources Agency achieved significant milestones in water infrastructure management, with 59.83% of primary and secondary irrigation channels maintained in good condition. This rehabilitation effort included repairing 2,587.46 km of irrigation channels and reinforcing 485.28 km of riverbanks to prevent erosion and flooding.
Additionally, 101.41% of the technical irrigation network met operational standards, reflecting improved efficiency in water distribution. These results were supported by rehabilitating 974.25 km² of embung (small dams) and constructing 761.28 km of flood protection infrastructure, such as dikes and drainage systems, to mitigate climate-related risks. The agencies also planned in 2025 to rehabilitate the Drainage System Infrastructure with targeting 134 drainage systems to be built and rehabilitated to good condition.

1.5.7 *The adequacy of available WASH services within the catchment shall be identified.*

Yes

Comment

The site has a comprehensive collection of information on WASH, which is sourced from public information available through village governments and provincial statistical data. The data includes the percentage of households categorized by the characteristics of their domestic wastewater, communal sanitation facilities, and access to clean water (WASH).

According to government statistical data from 2024, 97.94% of households in Malang Regency have access to drinking water. The sources of drinking water for these households are as follows: 20.36% use piped water, 22.48% use pumped water, 12.66% use bottled water, 15.27% use protected wells, 0.56% use unprotected wells, 27.57% rely on protected springs, and 1.1% use unprotected springs.

In terms of sanitation and hygiene, the data indicates that residents are aware of proper practices, as no one is reported to defecate in rivers or open areas. In 2024, 95.01% of households in Malang Regency have their own sanitation facilities, while 3.10% use shared or communal facilities, 0.12% use public facilities, and 1.77% lack access to sanitary facilities.

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.*

1.6.1 *Shared water challenges shall be identified and prioritized from the information gathered.*

Yes

Comment

The site complied with the shared water challenges identification indicator through a comprehensive stakeholder engagement approach. They conducted Focus Group Discussions (FGDs) using both offline and online formats to maximize participation from all relevant stakeholders on 15 March 2025. The process culminated in a formal "Share Water Challenge Discussion" session themed around synergizing with stakeholders for continuous water conservation improvement, ensuring a structured and inclusive approach to challenge identification.

The process identified and prioritized five critical shared water challenges: rapid development impacts causing land subsidence and flood risks, inadequate WASH standards compliance, limited catchment quantity and quality assessments, and undefined Important Water Related Areas (IWRA). Each identified challenge was systematically paired with specific follow-up actions, ranging from government engagement for environmental impact considerations to coordinating stakeholder efforts for catchment assessments and proposing IWRA identification programs.

1.6.2 *Initiatives to address shared water challenges shall be identified.*

Yes

Comment

The site identified 17 initiatives to address shared water challenges. These initiatives are categorized by their classification to AWS Outcomes and include actions such as discussing and engaging with stakeholders on insufficient water supply and flooding. The site plans to conduct workshops and FGDs with stakeholders to discuss shared water challenges and strengthen AWS implementation.
Other initiatives include collecting WASH data and providing inputs to related stakeholders due to insufficient WASH access by the community. Feedback will be provided to authorities regarding the reduction in soil infiltration from rapid development to address potential landslides or flooding. The site also plans to communicate with the PAMSIMAS program regarding WASH infrastructure that does not meet standards and provide feedback to authorities on identified issues.
To address limited studies on catchment quantity, the site will explore possibilities to quantify catchment water and coordinate with stakeholders like PUSDA. Similarly, for water quality, the site will explore getting data in cooperation with the Public Health Center. The identification of Important Water Related Areas (IWRAs) will involve working with stakeholders such as USAID.
The site will engage GTI to consider water stewardship from the design phase and beyond. For high GTI cost proposals on water-related monitoring, the site will explore using the same vendor as BAT. Input will be provided to stakeholders regarding water quality not meeting standards due to waste disposal.

1.7 *Understand the site's water risks and opportunities: Assess and prioritize the water risks and opportunities affecting the site based upon the status of the site, existing risk management plans and/or the issues and future risk trends identified in 1.6.*

1.7.1 *Water risks faced by the site shall be identified, and prioritized, including likelihood and severity of impact within a given timeframe, potential costs and business impact.*

Yes

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 has identified water-related opportunities, categorized under themes such as water quality, quantity, WASH, IWRA (Integrated Water Resources Assessment), and Best Practices. These opportunities are documented in a tabular format with columns specifying risks/challenges, mitigation actions, coordination requirements, and regulatory references. For example:

Water Quality : Mitigation actions include implementing bounding systems for chemical storage (e.g., diesel, HCL, NaOH) to prevent leakage, operating wastewater treatment plants (WWTP) and sewage treatment plants (STP) per SOPs, and conducting regular effluent analysis under PerMenKes No. 32/2017 and PerMenLHK No. 68/2016 standards. Coordination is specified with utility managers, engineering teams, and EHS (Environmental Health and Safety).
Water Quantity : Actions include forming an Enercon team to reduce water usage, monitoring water balance studies, and measuring deep well capacity (m^3) to address watershed quantity risks. Coordination is noted with utility managers and plant teams via DMS Enercon meetings.
WASH : Compliance with PerMenKes No. 3/2014 for sanitation, conducting feasibility assessments, and maintaining facilities in coordination with ISS (Integrated Support Services) and the community.
Best Practices : Opportunities such as condensate reuse for boiler feed water, WWTP effluent recycling, and tree planting to improve water infiltration are listed. Participation involves technical adjustments (e.g., steam trap checks, flow meter installations) and coordination with utility, engineering, and EHS teams.
IWRA : Initiatives like achieving zero waste to landfill, supporting catchment WASH improvements, and employee engagement through environmental volunteer programs are documented.
The list includes participation methods (e.g., technical measures, stakeholder coordination, compliance with regulations) but does not explicitly quantify potential savings or business opportunities (e.g., volume reduction targets, cost savings from reuse projects). Prioritization is implied through thematic categorization and alignment with regulatory requirements but lacks a formal ranking system (e.g., high/medium/low priority). The document references studies (e.g., water balance, WASH feasibility) and operational adjustments (e.g., condensate return targets) as actionable steps, though financial or operational metrics for savings are not detailed.

The site's focus on water efficiency and environmental stewardship has resulted in a significant and verifiable reduction in water withdrawal, exceeding its stated goal. The AWS Standard, however, requires a comprehensive assessment of both risks and opportunities. The site's current approach, which prioritizes efficiency to the exclusion of a cost-benefit analysis, does not fully meet this requirement. The absence of a quantified assessment of opportunities represents a gap against the standard's expectation for a complete and holistic analysis.

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

1.8.1 *Relevant catchment best practice for water governance shall be identified.* Obs.

Comment

The site has an identification document for water governance that has been implemented in the catchment policy. However, it lacks the identification of best practices that could guide its contribution to those practices.

1.8.2 *Relevant sector and/or catchment best practice for water balance (either through water efficiency or less total water use) shall be identified.* Yes

Comment

The site has identified a best practice for achieving water balance through efficiency and conservation, based on data collected from research journals.

Based on the provided documents, there is clear evidence of water balance practices that would be considered best practices within the context of the sites and their catchment area. The primary practice identified, as detailed in documents like "1.8.2 Jurnal Skripsi_Konservasi Sumber Air & Sumberdaya Ikan di Sumber Polaman Kelurahan Kalirejo.pdf," is water replenishment through a combination of re-vegetation and engineered solutions. The reforestation efforts around the water sources, specifically using plants like kemiri trees, are a key component of this approach. This method is intended to increase the ground's capacity for water absorption. Complementing this, the construction of small dams or water absorption barriers below these planted trees, as described in the same document, serves to slow the flow of rainwater. This allows for greater infiltration into the soil, directly contributing to the recharge of the water source and local community wells. Furthermore, the documents detail a practice of prohibiting the taking of fish from the water source, which, while not a direct water balance practice, supports the overall health and integrity of the ecosystem that is vital to the water source's sustainability.

The document titled "BP Water balance_managing Sumberawan for communities.pdf" highlights that in the Sumberawan spring management case study in Toyomarto Village, Malang Regency, the community implemented comprehensive water conservation practices including community-based water management through HIPPAM (Himpunan Pengguna Pemakai Air) organization, water quality monitoring systems, protective infrastructure around water sources through reservoir construction, and integrated forest management for watershed protection. The spring serves multiple uses including domestic water supply for village communities, regional water distribution through PDAM (Regional Water Company), and agricultural irrigation, with a discharge capacity of 25-40 liters per second.
The water balance practices demonstrated relevance to broader catchment management through multi-stakeholder coordination and sustainable resource allocation. The management approach incorporated three key conservation components: protection (31.81% of activities including water source security, quality monitoring, and community education), preservation (27.27% including tree planting around springs, waste management, and forest conservation), and utilization (40.90% covering domestic supply, livestock, home industry, aquaculture, and agricultural irrigation). These practices addressed watershed-level sustainability by maintaining forest cover for natural water recharge, implementing community-based governance structures for equitable water distribution, and establishing monitoring systems to ensure long-term resource viability across multiple user sectors.

1.8.3 *Relevant sector and/or catchment best practice for water quality shall be identified, including rationale for data source.*

No

Comment

The site has identified the quality in the catchment area through data collection from Singosari and Ardiwulyo health centers, as well as sampling water quality tests at HIPPAM Randuagung. The results of the water quality test found that the total coliform, fecal coliform, and Fe content exceeded the regulatory limit. However, the site did not identify what good practices could address these water quality issues.

Finding No: TNR-018542

1.8.4 *Relevant catchment best practice for site maintenance of Important Water-Related Areas shall be identified.*

Yes

Comment	The documents that the site provides relevant catchment best practices for the maintenance of Important Water-Related Areas. They identify catchment-level practices such as integrated forest management, reforestation with species like kemiri trees, and broader watershed protection. Specific site maintenance approaches are also documented, including tree planting, waste management, security measures, reservoir construction, and ongoing monitoring. Furthermore, the documents illustrate a multi-stakeholder coordination framework through organizations like HIPPAM and PDAM, which connects site-level maintenance to a wider watershed management strategy. This is all structured within a three-component conservation framework of protection, preservation, and utilization, which offers a structured methodology for maintaining these critical water-related areas within their catchment context. With this site planned: - Introducing fish seeds and planting trees in the IWRAs. - Water conservation through tree planting program in Polaman water spring

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 has confirmed that all workers have access to safe drinking water, supplied by a freshwater service company, as well as bottled water. Adequate sanitation facilities are available for all workers, including bathrooms, handwashing stations, and showers. At the catchment level, the site has identified government programs, such as tree planting initiatives, aimed at water conservation.	

2	STEP 2: COMMIT & PLAN - Commit to be a responsible water steward and develop a Water Stewardship Plan	
2.1	*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.*	
2.1.1	*A signed and publicly disclosed site statement OR organizational document shall be identified. The statement or document shall include the following commitments:* *- 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's water stewardship commitments are displayed in the entry office of the site, the lobby, production areas, and via the company website: https://www.bentoelgroup.com/content/dam/endmarkets/id/en/download/sutainability-and-responsibility/aws/Alliance_for_Water_Stewardship_Annual_Report_2025.pdf.	
2.2	*Develop and document a process to achieve and maintain legal and regulatory compliance.*	
2.2.1	*The system to maintain compliance obligations for water and wastewater management shall be identified, including:* *- Identification of responsible persons/positions within facility organizational structure* *- Process for submissions to regulatory agencies.*	Yes

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

Comment	The submitted Water Stewardship Plan (WSP) does not fully meet the requirements of AWS Indicator 2.3.2. Several key elements are missing or insufficiently defined for catchment-related targets: 1. Lack of specific actions, timelines, and budget: For water quality challenges in the HIPPAM Randuagung catchment, the plan does not include concrete actions to address the identified biological contamination issues, nor does it specify a timeframe for implementation or allocate financial resources. 2. Unclear measurement and monitoring indicators: Several targets, such as Target 10 (CATCHMENT – IWRA), lack quantifiable indicators. For example, while the site states an intention to "increase biodiversity and protect rare plant species," the plan does not explain how this will be measured—such as through a baseline biodiversity index, target number of species, or percentage increase. ***Finding No: TNR-018544***

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	Based on the water-related risks identified in the site's comprehensive assessment, the site has developed a structured engagement plan with relevant public-sector and infrastructure agencies to address and mitigate these specific risks during the 2024-2025 implementation periods. To mitigate risks related to inadequate water data and catchment understanding, the site engages formally with PUSDA (the Regional Water Resources Management Agency) to obtain critical catchment water balance studies and detailed water data necessary for informed decision-making. Given the site's location on Navy land and associated governance risks, the site collaborates with PUSDIKLATKER TNI AL (the Navy) to secure essential WASH data for the Malang region and ensure proper coordination protocols. To address compliance risks and build local capacity for shared water challenges, the site coordinates systematically with local environmental authorities, implementing regular monitoring procedures and supporting targeted capacity-building initiatives that directly respond to the identified water stewardship risks.

3	STEP 3: IMPLEMENT - Implement the site's stewardship plan and improve impacts

3.1 *Implement plan to participate positively in catchment governance.*

3.1.1 *Evidence that the site has supported good catchment governance shall be identified.* 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.

However, 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.

3.1.2 *Measures identified to respect the water rights of others including Indigenous peoples, that are not part of 3.2 shall be implemented.* 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 *Implement system to comply with water-related legal and regulatory requirements and respect water rights.*

3.2.1 *A process to verify full legal and regulatory compliance shall be implemented.* Yes

Comment

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.

3.2.2	*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.*	Yes
Comment	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.	
3.3	*Implement plan to achieve site water balance targets.*	
3.3.1	*Status of progress towards meeting water balance targets set in the water stewardship plan shall be identified.*	Yes
Comment	The WSP for the Singosari site establishes several water balance targets. One key target is the reduction of water withdrawn for production, with a goal of achieving 100% reduction by June. To this end, the site has implemented actions such as developing a water stewardship standard for water recycling, which is reported as functional and contributing to environmental and social value creation. Regarding water quality in the catchment area, the WSP aims to maintain it through initiatives like WASH (Water, Sanitation, and Hygiene) education and consistent water quality monitoring. These activities are intended to raise awareness about hygiene and sanitation practices. Furthermore, to enhance biodiversity within the catchment, the site is conducting tree planting and bird protection efforts on the Randusagung landfill, focusing on cultural-religious watering areas. Performance data against the targets is provided. The ESG progress report (3.3.1. Progress towards meeting water balance target_Singosari.pdf) shows the site achieved a 35% reduction in water withdrawn by 2024, meeting the 2025 target. The same report shows the site achieved a 40.4% water recycling rate by 2024, exceeding the 2025 target of 30%. Monthly performance data (Water Performance.pdf) tracks water withdrawn (m^3) and water intensity (m^3/MCE).	
3.3.2	*Where water scarcity is a shared water challenge, annual targets to improve the site's water use efficiency, or if practical and applicable, reduce volumetric total use shall be implemented.*	Yes
Comment	Water scarcity has been identified as a shared water challenge in the Singosari catchment, particularly during the dry season when competition arises among industrial, agricultural, and domestic users. In response, the Singosari site has established water balance targets in its Water Stewardship Plan (WSP), including a key target to reduce water withdrawn for production by 100% by June. To achieve this, the site implemented a water stewardship standard for internal water recycling, contributing to both environmental and social value creation. According to the 2024 ESG progress report (3.3.1. Progress towards meeting water balance target_Singosari.pdf), the site achieved a 35% reduction in water withdrawals and a 40.4% recycling rate—surpassing the 2025 target of 30%. Monthly tracking of water withdrawals and water intensity (m^3/MCE) is also in place, as shown in the Water Performance report.	
3.3.3	*Legally-binding documentation, if applicable, for the re-allocation of water to social, cultural or environmental needs shall be identified.*	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	*Implement plan to achieve site water quality targets*	
3.4.1	*Status of progress towards meeting water quality targets set in the water stewardship plan shall be identified.*	Yes

Comment

The site has established clear water quality targets within its Water Safety Plan (WSP), specifying the applicable water bodies, target parameters, and timescales. At the site level, the implemented action focuses on water efficiency based on the volume of water withdrawn. From January to April 2025, the site aims to maintain water usage below 400 m³ per month. The wastewater generated on-site is delivered to BAT Indonesia in Malang. To improve water quality, BAT Indonesia has increased the capacity of its Sewage Treatment Plant (STP) from 50 m³/day to 100 m³/day and enhanced the Ultrafiltration (UF) capacity in the Wastewater Treatment Plant (WWTP) from 50 m³/day to 100 m³/day. This has resulted in an increase in the water recycling rate from 41% to 42%, with zero discharge to receiving water bodies.

At the catchment level, the site has donated 700 trees of native species to Randuagung Village, located in the Malang Regency, near PT Bentoel Prima's Singosari site.

3.4.2 *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.*

Yes

Comment

The site delivers wastewater to BAT Indonesia Malang. Based on observations and interviews, BAT Indonesia Malang has implemented measures to improve water quality in its effluent through infrastructure expansion and a zero discharge strategy. The facility has doubled the capacity of both the sewage treatment plant (STP) and ultrafiltration (UF) at the wastewater treatment plant (WWTP) from 50 m³/day to 100 m³/day each. It has maintained water recycling rates between 41% and 42% while achieving zero discharge into surface water bodies. This approach helps mitigate potential impacts on the quality of receiving water, which was identified as a key concern during stakeholder engagement.

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

The site implementation of practices to maintain and enhance a site's Important Water-Related Areas by involvement in the Green Charity 3.0 Program. The tree-planting activity at TPA Randuagung, a waste processing facility, addressed environmental conditions in a water-related area. The site donated 700 native tree species selected for their established ability to prevent soil erosion and improve groundwater quality. This action aligns with BAT Indonesia's stated commitment to water conservation and water quality around waste processing areas, consistent with Alliance for Water Stewardship (AWS) principles. The specific tree species contribute to soil stability, reduce rainwater runoff, and facilitate groundwater absorption, impacting the water cycle in the vicinity.
The TPA Randuagung facility serves regional waste management and has been temporarily closed due to capacity and environmental issues. Additionally, the site contribution supported the reopening of the facility and addressed environmental concerns that affect water quality. This engagement in a location critical for waste management, and near one of BAT Indonesia's operational sites, contributes to water stewardship efforts.

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

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

Yes

Comment

The site provides information on its WASH (Water, Sanitation, and Hygiene) facilities, which include a total of 38 toilets and 13 urinals. These consist of 24 male toilets, 14 female toilets, and 13 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 95 individuals, the regulation requires at least 12 toilets and 13 urinals. The site provides 38 toilets and 13 urinals, representing an increase of 317% for toilets, 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.

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

Yes

Comment

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.

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

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

Yes

Comment

The site has identified a total of 26 vendors associated with its operations, of which 25 are located outside the catchment area and 1 vendor, PT Genesis Teknologi Indonesia (PT GTI), operates within the designated boundaries. PT GTI utilizes the same water sources as the site, specifically from deep wells 1 and 2 at the Singosari plant. The site diligently monitors and tracks the water consumption used for various purposes at the GTI Plant, including production, restroom facilities, pantry services, gardening, security, and prayer areas (Mushola). Comprehensive data regarding the water usage by PT GTI is available for review.

According to the water records, PT GTI consumed an average of 2,400 to 5,500 m^3 of water per month for production, and 366 m^3 per month for domestic use.

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 identifies PT ISS as an outsourced cleaning service provider located outside the catchment area.

PT 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.

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

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 welang sub-catchment. 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 best practice for achieving water balance through treeplanting and installation of biopore at the upstream area (Kemado Spring in Polaman Bedali Region) to increase water absorption and 'Conduct tree planting on the Randuagung landfill area to improve the water quality on the water stream near landfill area (which also near the local fresh water distribution).

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

Comment: In the site level:
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.

In Catchment level:
A socialization event to discuss the water test results was held on June 16, 2025, at the Randuagung Village Hall. Attendees included representatives from the site, the Ardimulyo community health center (pkm), the Randuagung Village Office, and HIPPAM.
The water supply system in Desa Randuagung, managed by the HIPAM SUMBER SONGO association, serves 682 households through two reservoirs (Tandon 1 and Tandon 2). To assess water quality, the UPT Laboratorium Kesehatan of Malang Regency Health Office conducted tests on May 19, 2025, sampling three points: Reservoir 1 (SAB 1), Reservoir 2 (SAB 2), and a household connection (SR). Physical and chemical analyses revealed that SAB 1 exceeded the iron limit (0.53 mg/L vs. 0.2 mg/L max) but met other standards, including pH (6.6). SAB 2 and SR complied with all physical and chemical parameters.

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

Comment: The site implemented tree planting at the upstream area of Kemado Spring in the Polaman Bedali Region, incorporating a cultural ceremony to raise awareness among local people as an action to maintain environmental values in IWRAs.

3.9.5 *Actions towards achieving best practice related to targets in terms of WASH shall be implemented.* — No

Comment: In site level:
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.

At the catchment level, comprehensive biological testing highlighted significant differences in water quality among the sites. SAB 1 demonstrated excellent water safety by meeting established standards for both Total and Fecal Coliform levels. However, the results for SAB 2 and SR raised serious concerns, as both sites recorded elevated contamination levels.

These troubling findings were the focus of an important community meeting held on June 16, 2025. Attendees included local authorities, health representatives, and members of HIPAM, all coming together to discuss the alarming levels of contamination and strategize on effective measures to enhance water safety for the community. In response to the discussions and insights provided by stakeholders during the meeting, a decision was made to closely monitor the affected sites in the upcoming assessment to ensure that necessary steps are taken to address these health risks and improve water quality.

Finding No: TNR-018547

WSAS
2 Quality StreetNorth Berwick, EH39 4HW, UNITED KINGDOM

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

Based on the data provided for the Singosari site, performance is evaluated through monthly tracking of water-related metrics.

For the period from December 2024 to April 2025, the site recorded its total production, volume of water withdrawn, and volume of water recycled and reused. From this data, two key performance indicators were calculated: water intensity and water recycling rate.

The provided file includes this performance data but does not contain the site's specific quantifiable targets for water intensity or water recycling rate. Therefore, a direct comparison of the measured performance against the planned targets is not possible from the document. The document also contains a "2025 (LE)" column, which indicates a latest estimate for the full year's performance.

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

Yes

Comment

The site demonstrates concrete value creation through quantifiable environmental improvements. The biopore installation project at Kemado Spring produces a calculated water absorption rate of 0.0035 m^3/s per biopore unit, with 51% efficiency at 100 cm depth, resulting in 0.175 m^3/s total absorption capacity across 100 biopores. The site has constructed water containment ponds to control rainfall and prevent flooding while installing Wastewater Treatment Plant (WWTP) and Sewage Treatment Plant (STP) systems that enable water recycling capabilities and reduce overall water withdrawal requirements.
The site creates social value through infrastructure development and educational programs. Sanitation facilities, including toilets, handwash stations, and urinals, have been established to meet regulatory requirements for both employees and public access, addressing inadequate sanitation in the area. Educational programs on personal hygiene and sanitation have been delivered to household representatives in the catchment area, targeting knowledge gaps in surrounding communities. The site also preserves local biodiversity through targeted planting of rare indigenous species, specifically ficus varieties identified as locally rare in Kabupaten Malang, at culturally significant water spring locations.
Value creation evaluation occurs through specific measurement protocols, including stakeholder surveys, water quality testing results, infrastructure capacity assessments, and participant counts in educational programs.

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

Yes

Comment

The site has conducted an evaluation of shared value benefits within the catchment area, identifying six distinct water-related benefit categories that affect various stakeholders. The evaluation encompasses environmental, social, and economic dimensions, documenting both quantitative infrastructure contributions and qualitative community benefits.
The assessment identifies specific benefits, including public access to improved drainage infrastructure along Simpang Kavalery Street, where community members can utilize rainwater seepage, stormwater discharge management through on-site drainage systems, and maintenance of cultural and tourism activities around multiple water sources near the Singosari site. The evaluation also documents the site's connection to upstream water supply systems, including contributions from Gunung Banyak Forest and Polaman Water Source that supply the broader Malang groundwater system, while acknowledging shared groundwater usage with neighboring industries in the catchment area.

4.2 *Evaluate the impacts of water-related emergency incidents (including extreme events), if any occurred, and determine the effectiveness of corrective and preventative measures.*

4.2.1 *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.*

Yes

Comment: According to the documentation, interview, and annual review, there have been no water-related emergency incidents in the past 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 *Evaluate stakeholders' consultation feedback regarding the site's water stewardship performance, including the effectiveness of the site's engagement process.*

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

Yes

Comment: As this is the initial certification for the site, the most recent communication with stakeholders regarding the water stewardship program was held on March 15, 2025, during a stakeholder forum meeting. The site records the feedback from stakeholders as material for planning the Water Stewardship Program for the next year or as points for revision.

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

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

Yes

Comment: 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.

5	STEP 5: COMMUNICATE & DISCLOSE - Communicate about water stewardship and disclose the site's stewardship efforts

5.1 *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.*

5.1.1 *The site's water-related internal governance, including positions of those accountable for compliance with water-related laws and regulations shall be disclosed.* ✓ Yes

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 *Communicate the water stewardship plan with relevant stakeholders.*

5.2.1 *The water stewardship plan, including how the water stewardship plan contributes to AWS Standard outcomes, shall be communicated to relevant stakeholders.* ✓ Yes

Comment: The site communicated about the WSP plan during the stakeholder meeting on 15 March 2025. Communication was done through visits to the stakeholder office, emails, and messages. Documentation from this meeting is available.

5.3 *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.*

5.3.1 *A summary of the site's water stewardship performance, including quantified performance against targets, shall be disclosed annually at a minimum.* ✓ Yes

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 *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.*

5.4.1 *The site's shared water-related challenges and efforts made to address these challenges shall be disclosed.* ✓ Yes

Comment

The site has thoroughly documented its water-related challenges and implemented actions through a Focus Group Discussion (FGD) for Alliance for Water Stewardship (AWS) held on March 15, 2025, at the Faculty of Agriculture, Brawijaya University, Malang, Indonesia. This event is detailed in the provided PDF titled "5.4.1 Water Governance_FGD to define shared water challenge.pdf". Through this collaborative forum, the site systematically identified and documented four agreed-upon shared water challenges within the Brantas catchment area: water scarcity, groundwater and surface water management issues, review of previous tree planting program implementation, and authority plans and policies related to water resources management. The site has disclosed this documentation through formal FGD proceedings that included both offline participation at the university venue and online access via Zoom meetings, with comprehensive attendance records and bilingual documentation (English and Indonesian) to ensure accessibility. The comprehensive report includes discussion summaries, stakeholder involvement, key outcomes, and photographic evidence are available.

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 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

The site has engaged several public-sector agencies to implement the following activities:

1. Conduct tree planting in the Randuagung landfill area to improve water quality in the nearby water stream, which is also close to the local freshwater distribution center. This effort is a collaboration with the Environment Agency of Malang Regency.

2. Coordinate with PUSDA, the infrastructure owner, which provides data for Agricultural Water Supply (AWS) purposes. This includes mapping water sources, irrigation mapping, data on water shortages, and providing studies related to water sources and water discharge in rivers or watercourses. PUSDA can also assist in measuring data on drought conditions affecting water sources.

3. Partner with the Ardimulyo Health Center, which is assigned by the Ministry of Health to monitor and provide training to communities. This training focuses on issues such as poor water quality conditions due to environmental factors and inadequate water management practices that do not comply with government regulations.

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
Comment	Initial audit	