CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001685

WSAS WATER STEWARDSHIP ASSURANCE SERVICES

SITE DETAILS

Site: **Boehringer Ingelheim Fremont Inc.**
Address: 6701 Kaiser Drive, 94555, Fremont, California, UNITED STATES
Contact Person: Shayla Bergeron
AWS Reference Number: AWS-000336
Site Structure: Single Site

CERTIFICATION DETAILS

Certification status: Certified Core
Date of certification decision: 2025-Nov-25
Validity of certificate: 2028-Nov-24

AUDIT DETAILS

Audited Service(s): AWS Standard v2.0 (2019)
Audit Type(s): Re-Certification Audit
Audit Start Date: 2025-Sep-02
Audit End Date: 2025-Sep-04
Lead Auditor: Rupa Bidap

Site Participants:
Shayla Bergeron, Senior Manager EHS
Tedd Hoffman, Project Engineer
Alex Mickikon, ERM Consultant

ADDITIONAL INFO

Summary of Audit Findings: During the surveillance audit, 5 non-conformities and 7 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 17/10/2025.

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 19/11/2025.

Key areas requiring corrective action include:
Quantifying seasonal variations in both water balance and water quality at the catchment level.
Disclosing an annual summary of water stewardship performance, including quantified progress against targets.
Strengthening stakeholder consultation and validation, particularly on performance outcomes and IWRA identification.
Expanding engagement with public-sector agencies beyond one-way email communication to demonstrate two-way dialogue and collaboration.

Key opportunities for improvement include:
Integrating budgets, milestones, and explicit links to shared water challenges within the Water Stewardship Plan.
Enhancing evidence of active stakeholder participation in catchment-level best practices.
Providing fuller disclosure of internal governance structures and roles accountable for water stewardship.
Documenting and quantifying outcomes of IWRA-related initiatives, including long-term partnerships and measurable ecological benefits.
Ensuring that disclosures of shared water challenges are supported by interactive consultation to strengthen credibility and stakeholder trust.

The audit team recommends certification at Core level, pending closure of the non-conformities.

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001685

Scope of Assessment: The scope of services covers the recertification audit for assessing conformity of Boehringer Ingelheim Fremont CA against the AWS International Water Stewardship Standard Version 2.

The Boehringer Ingelheim Fremont (BIFI) facility, located in Fremont, California, USA (hereafter referred to as “the Site”), is a biologics manufacturing facility. The Site encompasses primary production (cell culture and purification), quality control laboratories, GMP warehousing, packaging lines, utilities, and administrative offices, along with support services such as facilities and maintenance operations.

The Site is organized into several core buildings, each with distinct functions and water-related infrastructure:
- Buildings 2 and 3 – Primary Production: Upstream cell culture/media prep and downstream purification. These are the largest water users, with heavy reliance on CIP/SIP operations and connected to the Acid Waste Neutralization (AWN) skids, which process up to ~130,000 gallons per day. Both buildings are AWS-certified.
- Buildings 4 and 5 – QC Laboratories, GMP Warehouse, and Packaging: Supporting quality control, storage, and packaging functions. These are designated for future AWS certification and are moderate water users.
- Utilities and Support Areas: Cooling towers (~24% of site use), Purified Water and Water for Injection (WFI) systems (~23% of site use, supported by 3 stills), clean steam generation/HVAC (~10%), and domestic use (~3%), supporting ~370 employees daily.

Catchment and Physical Scope
The Site lies within the Lower Alameda Creek sub-watershed, which is part of the broader Alameda Creek watershed, the largest in the San Francisco Bay Area, spanning approximately 1,760 km² (680 square miles). Consistent with AWS Guidance, the Physical Scope for assessment has been delineated to focus on areas directly supplying and influenced by the Site’s operations. This includes:
Water supply provided by the Alameda County Water District (ACWD), which manages local surface water, groundwater recharge, and imported supplies.
Effluent discharge through the Union Sanitary District (USD), which treats wastewater before release into San Francisco Bay.
Stormwater runoff flowing into the Alameda Creek system and associated urban drainage networks.

The facility is located in a densely urbanized setting within the City of Fremont, Alameda County, approximately 40 km southeast of San Francisco. The region has a Mediterranean climate, with cool, wet winters and hot, dry summers. Recurring droughts and water scarcity challenges are critical regional risks, influencing water supply reliability and driving conservation measures.

The audit for Boehringer Ingelheim Fremont CA was conducted onsite on Sept 2 to Sept 4th 2025. The onsite site visit included assessment that encompassed all key areas and operations within the facility. This included manufacturing buildings, laboratories, process units, and support spaces such as locker rooms and laundry areas. Site visits covered all water inlets and outlets, including cooling towers, the boiler room, water purification systems, chemical storage areas, oil storage units, and the pH water system. Additional infrastructure assessed included dust collectors, air condensers, break rooms, and lab safety equipment such as emergency showers, eye wash stations, and spill kits.

The audit covered:
Water purification and distribution systems, including reverse osmosis, carbon beds, softeners, and Water for Injection (WFI) stills.
Utility systems, such as cooling towers (~24% of site water use), boilers, HVAC systems, and clean steam generation (~10% of use).
Production and laboratory wastewater management, including Acid Waste Neutralization (AWN) skids, capable of treating up to ~130,000 gallons per day across Buildings 2 and 3.

Stormwater and wastewater controls, with treated effluent discharged via the Union Sanitary District (USD).
Hazardous material and waste management infrastructure, including chemical storage areas, spill prevention systems, and hazardous waste storage facilities.
Domestic water and sanitation facilities, supporting ~370 employees daily.

FINDINGS

NUMBER OF FINDINGS PER LEVEL

Observation	7
Non-Conformity	5

FINDING DETAILS

Finding No:	TNR-019734
Checklist Item No:	1.5.3
Status:	Closed
Finding level:	Non-Conformity
Due date:	2025-Dec-04
Checklist item:	The catchment water-balance, and where applicable, scarcity, shall be quantified, including indication of annual, and where appropriate, seasonal, variance.
Findings:	There is a lack of quantification of seasonal variations in water balance (e.g., summer vs. winter demand, seasonal recharge and pumping cycles.)
Corrective action:	The site will conduct further research on seasonal variations of water quantity in the catchment which includes quantified values and include it in the OneNote report. The research will include the seasonal variations in groundwater levels for the Niles Cone groundwater basin, data from the ACWD in Fremont, and for the Hetch Hetchy reservoir.
Evidence of implementation:	The site has included a section in the Onenote report for seasonal variance. The section includes information on seasonal groundwater and precipation levels in the watershed area pulled from the California Department of Water Resources database and ACWD Urban Water Management Plan. Section 1.5.3 has been updated as evidence.

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)

Audit Number: AO-001685

Finding No:	TNR-019725
Checklist Item No:	1.5.4
Status:	Closed
Finding level:	Non-Conformity
Due date:	2025-Dec-04
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:	The site does not provide evidence for systematic identification of annual and seasonal high and low variances (e.g., turbidity, nitrates, suspended solids) to better understand water quality issues in the catchment.
Corrective action:	The site will conduct further research on seasonal variations of water quality from multiple sources for the San Francisco Bay and the Niles Cone groundwater basin. The research will include seasonal variations in salinity, nutrients (specifically nitrates) TDS, and chloride based on the spring and fall seasons. Multiple sources will be presented, including ACWD Groundwater Monitoring Report, USGS, and Bay Area news outlets.
Evidence of implementation:	The site has included a section in the Onenote report for seasonal variance. The section includes information on seasonal salinity, nutrient loads, turbidity, chloride and TDS levels in the watershed area pulled from ACWD groundwater monitoring reports, USGS databases, and local articles. Section 1.5.4 has been uploaded as evidence.

Finding No:	TNR-019764
Checklist Item No:	1.5.5
Status:	Closed
Finding level:	Non-Conformity
Due date:	2025-Dec-04
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 site has identified Important Water-Related Areas (IWRAs) using internal assessments and available scientific sources. However, stakeholder engagement has not yet been undertaken to validate or enrich this process. While the technical identification is complete, the assessment remains incomplete without input and confirmation from relevant stakeholders.
Corrective action:	The site will follow up to its stakeholders detailing the IWRAs BI has identified and will specifically ask the stakeholders for review and input on the IWRAs.
Evidence of implementation:	The site sent an email communication to provide information around its identifies IWRAs and request feedback on these. If/when feedback is received, the site will update its identified IWRA list taking that feedback into consideration. The email communication including the information/feedback request is uploaded as evidence.

Finding No:	TNR-019743
Checklist Item No:	2.3.2
Status:	Open
Finding level:	Observation
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:	Some activities (e.g., routine crisis management reviews) lean toward compliance rather than improvement. To move toward best practice, the WSP should integrate budgets, tie actions more explicitly to shared water challenges, and define interim milestones for long-term goals.

Finding No:	TNR-020184
Checklist Item No:	3.5.1
Status:	Open
Finding level:	Observation
Checklist item:	Practices set in the water stewardship plan to maintain and/or enhance the site's Important Water-Related Areas shall be implemented.
Findings:	While monitoring and participation in programs like Save The Bay and cleanup days provide evidence of action, the site has not yet fully quantified or formalized enhancement outcomes (e.g., metrics on habitat restored, pollutants removed, or partnerships sustained).

Finding No:	TNR-019745
Checklist Item No:	3.9.1
Status:	Open
Finding level:	Observation
Checklist item:	Actions towards achieving best practice, related to water governance, as applicable, shall be implemented.
Findings:	There is limited evidence of active stakeholder engagement in implementing catchment-level best practices.

Finding No:	TNR-020190
Checklist Item No:	3.9.4
Status:	Open
Finding level:	Observation
Checklist item:	Actions towards achieving best practice, related to targets in terms of the site's maintenance of Important Water-Related Areas shall be implemented.
Findings:	To strengthen alignment with AWS best practice, the site should document and report measurable outcomes of these activities and consider developing long-term IWRA enhancement partnership.

Finding No:	TNR-019755
Checklist Item No:	4.3.1
Status:	Closed
Finding level:	Non-Conformity
Due date:	2025-Dec-04
Checklist item:	Consultation efforts with stakeholders on the site's water stewardship performance shall be identified.
Findings:	There was no indication that stakeholders were engaged in reviewing or providing feedback on performance outcomes.
Corrective action:	The BIFI AWS PowerPoint distributed to stakeholders will be updated to include performance outcomes. The updated presentation will then be shared with stakeholders and asked to provide feedback on listed targets and performance outcomes.
Evidence of implementation:	The BIFI AWS PowerPoint was updated to include performance against overall targets. The udpated presentation was shared with stakeholders with requests to provide feedback on targets and performance outcomes. The email communication including the updated presentation is uploaded as evidence.

Finding No:	TNR-019765
Checklist Item No:	5.1.1
Status:	Open
Finding level:	Observation
Checklist item:	The site's water-related internal governance, including positions of those accountable for compliance with water-related laws and regulations shall be disclosed.
Findings:	A fuller disclosure of governance structures would strengthen compliance.

Finding No:	TNR-019757
Checklist Item No:	5.3.1
Status:	Closed
Finding level:	Non-Conformity
Due date:	2025-Dec-04
Checklist item:	A summary of the site's water stewardship performance, including quantified performance against targets, shall be disclosed annually at a minimum.
Findings:	The site has not yet prepared or disclosed a summary of their water stewardship performance, including quantified performance against targets.
Corrective action:	The BIFI AWS PowerPoint distributed to stakeholders will be updated to include performance outcomes. The updated presentation will then be shared with stakeholders and asked to provide feedback on listed targets and performance outcomes.
Evidence of implementation:	The BIFI AWS PowerPoint was updated to include performance against overall targets. The udpated presentation was shared with stakeholders with requests to provide feedback on targets and performance outcomes. The email communication including the updated presentation is uploaded as evidence.

Finding No:	TNR-020207
Checklist Item No:	5.4.1
Status:	Open
Finding level:	Observation
Checklist item:	The site's shared water-related challenges and efforts made to address these challenges shall be disclosed.
Findings:	While the indicator's disclosure requirement is met, the lack of interactive consultation or validation limits the robustness of stakeholder engagement.

Finding No:	TNR-020192
Checklist Item No:	5.4.2
Status:	Open
Finding level:	Observation
Checklist item:	Efforts made by the site to engage stakeholders and coordinate and support public-sector agencies shall be identified.
Findings:	Engagement during the current year has not progressed beyond email updates. This limits demonstration of two-way dialogue and collaboration, which AWS views as essential for strong conformity.

Report Details

Report	Value
Report prepared by	Rupa Bidap
Report approved by	Ozge Gokmen
Report approved on (Date)	07 October 2025

Surveillance

Proposed date for next audit
2026-Sep-01

Comment September 1st 2026

Stakeholder Announcements

Date of publication	Location
21/05/2025	Boehringer Ingelheim corporate website
27/05/2025	East Bay Times newspaper

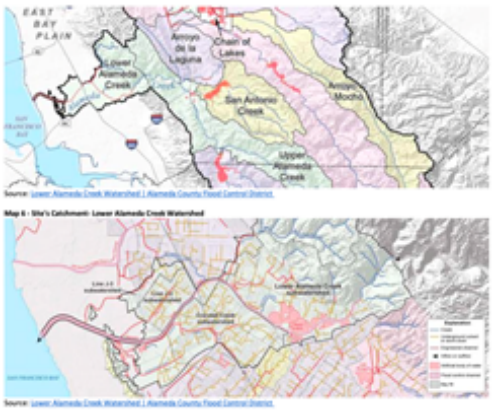
Comment The site published a formal stakeholder announcement in advance of the AWS surveillance audit, ensuring transparency and compliance with AWS requirements.

The announcement was initially issued in May 2025 through multiple channels:
Boehringer Ingelheim corporate website (May 21, 2025)
East Bay Times newspaper (May 27, 2025)

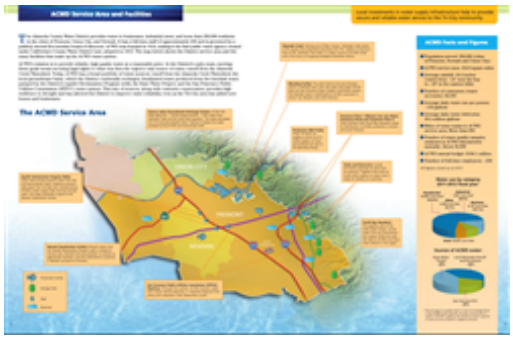
Additional notices were displayed in the site's front lobby and other internal communication platforms for the dates July 20 and July 24, 2025. Although the announcement was made well in advance, the final audit dates (September 2–4, 2025) were confirmed later following mutual consultation between the WSA audit team and the site to accommodate scheduling needs. This approach ensured that stakeholders received early notification (at least eight weeks prior) and that final audit arrangements were communicated in alignment with AWS transparency and engagement requirements.

Comment Two stakeholder interviews were held for this audit 1) Alameda County Water District, and 2) The Fremont City

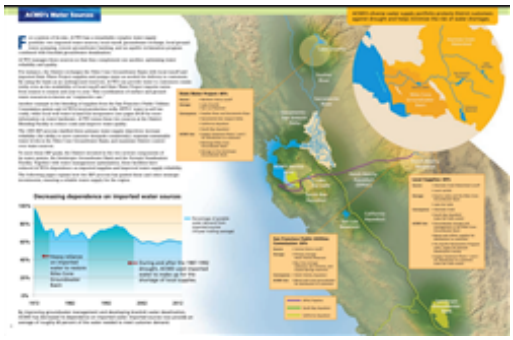
Catchment Information



Site's Catchment- Alameda Creek Watershed Image 1.png



ACWD Service Area and Facilities Image 2.png



ACWD's Water Sources Image 3.png

Catchment Information

Catchment Location and Designation
The site is located within the Lower Alameda Creek Sub-watershed, which forms part of the Alameda Creek Watershed. The Alameda Creek Watershed is the largest watershed in the San Francisco Bay Area, spanning approximately 680 square miles (1,760 km²) across Alameda, Santa Clara, San Mateo, and Contra Costa counties. The Lower Alameda Creek Sub-watershed encompasses the downstream portion of Alameda Creek, where flows converge before entering the southern San Francisco Bay near the Don Edwards San Francisco Bay National Wildlife Refuge. The watershed includes highly urbanized areas such as Fremont, Union City, and Newark, alongside remnant natural areas and riparian corridors.

The Lower Alameda Creek Sub-watershed provides the hydrological and regulatory context for the site's operations. The facility depends on ACWD for water supply and USD for wastewater treatment, while contributing to the catchment through stormwater discharges. The watershed's mix of dense urban development, ecological habitats, and managed groundwater resources makes stakeholder collaboration essential for long-term water stewardship.

Water Supply and Discharge Catchment

Water Supply: The Alameda County Water District (ACWD) is the sole municipal supplier to the site. ACWD sources its water from:
Local groundwater (Niles Cone Groundwater Basin) – recharged by Alameda Creek and managed aquifer recharge operations.
Imported water – deliveries from the State Water Project and San Francisco Public Utilities Commission (Hetch Hetchy system).
Surface water storage – managed via Quarry Lakes and recharge ponds along Alameda Creek.
Wastewater Services: Wastewater from the site is collected and treated by the Union Sanitary District (USD) at its Alvarado Wastewater Treatment Plant in Union City. Treated effluent is discharged into the San Francisco Bay in compliance with regulatory permits.
Stormwater Management: Stormwater runoff from the Fremont site is managed through the City of Fremont's municipal stormwater system under the Alameda Countywide Clean Water Program. Runoff ultimately drains into Alameda Creek and its tributaries before reaching the Bay.

Catchment Characteristics

The Alameda Creek watershed is characterized by a Mediterranean climate, with cool, wet winters and hot, dry summers, making drought a recurring regional challenge. The catchment faces water scarcity and supply reliability risks, with the Niles Cone Basin also subject to long-term concerns of saltwater intrusion. Although major flood control infrastructure has reduced historic flooding, localized urban flooding can still occur during intense storms. Water quality is safeguarded through ACWD's groundwater protection measures, Union Sanitary District's (USD) wastewater treatment compliance. The watershed also encompasses critical ecosystems, including the Don Edwards San Francisco Bay National Wildlife Refuge, riparian corridors, and Mission Peak Regional Preserve. Land use within the basin is diverse—spanning urban, industrial, and agricultural activities—with a growing emphasis on conservation, efficiency, and water recycling to ensure long-term sustainability.

Comment Lower Alameda Creek sub-watershed, part of the Alameda Creek watershed—the largest in the San Francisco Bay Area

Client Description and Site Details

BiFI Site Boundaries and Water Infrastructures .png

Client/Site Background

Site Location
The site is located in Fremont, Alameda County, California, USA, approximately 40 km southeast of San Francisco. It lies within the Lower Alameda Creek Sub-watershed, part of the larger Alameda Creek Watershed, the largest watershed in the San Francisco Bay Area.

Surroundings
The facility is situated in a light industrial/commercial area within the urbanized East Bay region. The surroundings include mixed land use, with nearby residential neighborhoods, commercial developments, and industrial zones, alongside protected natural areas in the broader watershed (e.g., Don Edwards San Francisco Bay National Wildlife Refuge, Mission Peak Regional Preserve).

Site Production
The Fremont site is a biopharmaceutical development and manufacturing facility, covering the full lifecycle from small-scale development to commercial drug substance production, fill/finish, packaging, and medical device assembly.
- Water is used extensively in cell culture (bioreactors), buffer preparation, and purification processes (chromatography).
- Significant volumes are also used for cleaning processes (CIP/SIP), as well as energy-related systems (boilers, cooling towers, HVAC, clean steam).

Water-Related Infrastructure
- Water Sources: 100% purchased from Alameda County Water District (ACWD), supplied via:
  - Blending Facility – mixes local groundwater with San Francisco Public Utilities Commission (Hetch Hetchy) imports.
  - Newark Desalination Facility – treats brackish water via Aquifer Reclamation Program wells.
- Water Treatment Facilities: On-site softeners, carbon beds, and three Water for Injection (WFI) stills.
- Production Use: Primary water use in bioreactors, purification, and cleaning systems.
- Energy Use: Cooling towers (~24% of site water use), boilers, and HVAC/clean steam (~10%).
- Wastewater Treatment: Two Acid Waste Neutralization (AWN) systems treating process wastewater for pH adjustment before discharge.
- Stormwater Infrastructure: Storm drains throughout the site; Safe Drains near production areas remain closed unless opened for controlled release.
- Fire Water: Supplied by ACWD through dedicated fire line connections.
- Other: No rainwater harvesting infrastructure reported.

Wastewater and Stormwater Discharge
- Process Wastewater: Treated via AWN systems, discharged to the Union Sanitary District (USD) wastewater treatment plant. From there, effluent is conveyed to the East Bay Dischargers Authority (EBDA) Common Outfall, discharging into San Francisco Bay.
- Non-Process Wastewater: Domestic sewage (restrooms, kitchens, purified water backwash) is also sent to USD.
- Stormwater: Discharged to Ardenwood Creek, which flows to Alameda Creek and ultimately into the San Francisco Bay.

Site Description
- Approximately 750 full-time employees work at the site.
- The campus consists of four main buildings, of which Buildings 2 and 3 (primary production) are currently AWS-certified, while Buildings 4 and 5 (QC labs, warehouse, packaging) are designated for future AWS certification
- The built-up area includes production halls, QC laboratories, GMP warehousing, offices, and utilities.

Comment Site Map - Boehringer Ingelheim

Summary of Shared Water Challenges

Summary of Shared Water Challenges
To identify and prioritize shared water challenges in the catchment, the Site conducted an annual review of regional water risks in consultation with relevant public-sector agencies, including the Bay Area Water Supply and Conservation Agency (BAWSCA), the Alameda County Water District (ACWD), and the California State Water Resources Control Board (SWRCB). These challenges were identified not only through consultation, but also by reviewing a range of official reports and strategic plans published by the institutions, including Making Conservation a Way of Life (2018), Long-Term Reliable Water Supply Strategy (2015), Groundwater Management Policy, and the Shortage Contingency Plan (2021).

Based on the analysis of these agency-driven initiatives and site-specific assessments, the following shared water challenges were prioritized:

Limited Availability of Water Resources: California's dependence on both groundwater and surface water, coupled with projected demand increases through 2040, highlights risks of over-extraction, saltwater intrusion, and tighter allocation for industrial users. This was prioritized as a high-risk challenge due to its implications for long-term supply reliability and cost escalation.

Degradation of Source Water Quality: Surface water sources in the region are listed as impaired under California standards, with exceedances in pesticides, metals, and other toxic substances. Poor water quality presents a risk of increased treatment costs, potential product quality issues, and stricter regulatory controls. This was prioritized as a high-risk challenge.

Impacts of Extreme Events: The catchment is exposed to drought, earthquakes, and flooding, creating vulnerabilities in water conveyance and storage infrastructure. Prolonged droughts intensify water availability risks, while floods or seismic activity could disrupt supply continuity. This was prioritized as a high-risk challenge given the potential for business interruption, regulatory restrictions, and penalties for non-compliance.

0.0.1 Water Source & Discharge Locations

0.01 *Have any water source or discharge locations been visited during the audit, if so, which and where? If none were visited, please provide justification.*

Yes

Comment: Yes, the source and discharge location were visited

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 site did map its physical scope in alignment with the regulatory landscape and relevant stakeholder zones of interest. The mapping includes defined site boundaries; water-related infrastructure, including network of storm water on the site along with discharge points and intel points

Site boundaries
The site is clearly defined as the BIFI manufacturing facility located in Fremont, California. The campus includes multiple buildings: 1) Buildings 2/3: Primary Production Buildings (AWS Certified), 2) Buildings 4/5: QC Laboratory, GMP Warehouse, and Packaging Line (potential for future AWS certification).

Water-related infrastructure
The site operates with significant water infrastructure supporting pharmaceutical manufacturing and utilities: Purified Water Operations & Water For Injection (WFI) systems including pre-treatment units (water softeners, carbon bed, reverse osmosis), and three stills for WFI generation.
Cooling towers that support HVAC and process cooling needs.
Acid Waste Neutralization (AWN) skids: B3A unit (30,000 gpd) and B2 unit (100,000 gpd) for managing wastewater before discharge.
Clean steam generation units for SIP cleanings and HVAC operation.

Owned water sources
The site and parent company do not own or manage any water sources. All water is procured via the municipal supply.

Water service provider
The primary water supplier is the Alameda County Water District (ACWD). ACWD sources water through a blend of local groundwater, State Water Project imports, and San Francisco Regional Water System supplies.

Discharge points and wastewater service provider
All process and domestic wastewater is discharged to the Union Sanitary District (USD). USD is responsible for collection, treatment, and permitting of site wastewater.
AWN skids ensure neutralization of acidic process wastewater prior to discharge.
Discharge points are mapped and documented as part of site permits.

Catchment context
The site is located within the Lower Alameda Creek sub-watershed, part of the larger Alameda Creek watershed—the largest in the San Francisco Bay Area. Hydrological connectivity extends downstream to San Francisco Bay. The catchment context, topography, and key water stakeholders (ACWD, USD) have been identified and documented.

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.

Yes

Comment

The site conducted a stakeholder mapping exercise through collaboration between site-level staff, corporate representatives, and third-party research led by ERM. This process resulted in a comprehensive list of relevant stakeholders, developed with deliberate attention to including comparable commercial entities in the area—such as Google and Nestlé—in order to better understand shared AWS challenges and water-related risks.

The list of stakeholders (Alameda County Water District, Union Sanitary District, Pacific Institute, City of Fremont, NGOs, associations, etc.) is comprehensive and covers water utilities, wastewater agencies, NGOs, community groups, and peer industries. Stakeholders directly linked to primary wastewater discharges are captured (e.g., Union Sanitary District, responsible for water quality control and permitting).

Receiving water-related entities (e.g., Alameda Creek Alliance, ACWCD, Save the Bay) are included, demonstrating awareness of impacts on local catchments and ecosystems.

Engagement frequency and type (inform, consult, reciprocate) are documented, which supports AWS requirements.

Inclusivity of Stakeholder Groups: Stakeholders were prioritized based on their level of partner, consult and inform.

Physical Scope Consideration: Alameda WaterCreek Watershed

Update - The site was asked confirm whether there are additional stakeholders involved in handling its wastewater discharges. - The site has confirmed that a portion of its wastewater is transported to a third-party vendor for treatment and disposal, with the Union Sanitary District identified as the primary receiving utility. In addition, an out-of-state vendor located in Oklahoma manages part of the site's wastewater through vaporization rather than direct disposal.

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

The site has developed a Stakeholder Prioritization Matrix, effectively categorizing stakeholders into Key Player, Involve, Consult, and Monitor groups based on their influence and engagement needs. The site is been able to provide specific justifications for stakeholder placement, reducing transparency in the prioritization process. Additionally, while new stakeholders have been identified, actual outreach and engagement efforts has been satisfactory.

The site has identified stakeholders across key categories, including:

Water Utility Supplier: Alameda County Water District.
Government Agencies: Union Sanitary District, City of Fremont, Alameda County Flood Control and Water Conservation District.
NGOs/Community-Based Groups: Pacific Institute, California Water Action Collaborative, Alameda Creek Alliance, Save the Bay.
Industry Associations: California Life Sciences Association (CLS), California Manufacturers and Technology Association (CMTA).
Local/Community Stakeholders: Fremont Chamber of Commerce, Hampton Place HOA.
Industry Peers: Meta, Tesla, Lam Research, Western Digital, Tyco, Safety Kleen.

The documentation provides clear analysis of stakeholders' roles and concerns. However, Influence/interest levels are sometimes marked "TBD" (e.g., Save the Bay, Alameda County Flood Control District), which indicates the mapping is not yet fully finalized.This is also due to the limited response received to the site's outreach efforts.

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

Spill kits for chemicals are strategically located near potential pollution points and are easily accessible on every floor. A third-party service provider manages the operation and maintenance of water-related systems, including incident response for sewage and related issues.

The site maintains a comprehensive Emergency Plan that covers extreme weather events such as floods, tornadoes, storms, fire outbreaks, and wildfires. In addition, the site has a Sewage Incident and Stormwater Pollution Prevention Plan (Revision April 2025), with supporting evidence available.

Supporting emergency and contingency plans include:

2019 Emergency Action Plan – to be reviewed annually (next review September 2025); covers all types of emergencies, including biohazard and chemical spills, with updated contact information.
2019 Hazardous Waste Contingency Plan – updated in March 2024; addresses severe weather, power failures, and large spills or leaks.
2019 Crisis Management Plan – updated in May 2025; includes crisis management training (January 2025) and designates a Crisis Management Team Lead.

All plans are stored on the centralized digital platform, ensuring accessibility. The site reviews and updates these plans periodically to keep them current and effective.

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

Comment

The site identified its water balance and shared evidence to show the water balance mapped for the water flow on the site. The site indicated no new changes to the water balance on the site.

The site is involved in developing a comprehensive water balance that accounts for all key inflows, outflows, losses (no storage). Each major flow has been identified and mapped. A scaled site map shows the physical locations of these elements, and a schematic diagram provides a clear visualization of the quantitative flows.
Water inflows include the incoming water supply. Water outflows account for wastewater discharge, cooling, sanitation etc. This approach ensures a complete and accurate understanding of water movement within the site, supporting effective water stewardship and efficiency planning.

Note: The site has increased its production activity since 2022, which has resulted in significant variation in water consumption and losses. In addition, several initiatives to improve water use efficiency and reduce losses are still in progress. The site is in the process of formalizing these measures.
Key actions such as installing water meters and exploring options for water reuse have already been initiated, with further steps planned in the coming months. Once implemented, these actions are expected to support a more balanced and sustainable water management approach.
Currently, the site survey maps provide data on water consumption, losses, and overall usage, which will continue to guide these improvements.

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.* Yes

Comment

The site has developed a comprehensive water balance that quantifies all major components—inflows, losses, storage, and outflows—in alignment with AWS definitions. Data is tracked on a monthly basis and aggregated annually, covering the period from January 2021 through December 2024.

The analysis includes a detailed breakdown of water intake, operational losses (e.g., cooling tower evaporation), and discharge volumes, with clear documentation of annual high and low variances in water use. The site utilizes ACWD's Consumption Analysis tool to track and trend these variances over time.

Updated Practice: The site has provided a complete water balance equation, applying the standard formula:
Water Outflow = Water Inflow − Loss in Volume Water

The site provides the updated water balance equation to Union Sanitary District on a semi-annual basis.

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 provided evidence of wastewater discharge permits issued by the Union Sanitary District (USD) in accordance with the Clean Water Act (NPDES permit). USD is responsible for treating the site's wastewater and discharging it into the bay. Treated wastewater is discharged via Union Sanitary District (USD) to the EBDA Common Outfall in San Francisco Bay and Hayward Marsh.

Monitoring and Testing - The site conducts water quality tests twice per year, while USD performs six tests annually, both aligned with regulatory requirements under the wastewater permit.

Supporting evidence included permits from USD, water quality reports from USD and the site, and records of updates to pretreatment permit levels. Notably, the site's wastewater discharge permit was updated in March 2025, and documentation was reviewed.

Compliance and Exceptions - Isolated exceedances recorded, including COD, suspended solids, and ammonia. A Notice of Violation was issued in 2020 for ammonia discharge due to misconnection. Corrective actions were implemented. Although suspended solids are not directly regulated under the site's permit, additional fees were assessed by USD based on the volume discharged.

Overall Water Quality Management - Water quality is appropriately quantified across all relevant categories.
The site maintains a comprehensive database of water quality results from 2018 to 2025, showing consistent performance and regulatory compliance.
No significant water-related quality challenges were identified beyond the ammonia incident, which was effectively corrected. Effluents include industrial wastewater, sanitary wastewater, and cooling/cleaning blowdown. Analysis conducted regularly per wastewater permit. Parameters measured include pH, ammonia, COD, suspended solids, metals, cyanide, oil & grease, and other pollutants.

Seasonal/annual variance is captured through ongoing monitoring but not explicitly summarized by season.

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

Yes

Comment	Point Sources: The site has mapped key point sources of potential pollution, including chemical storage areas, HAZMAT storage sites, and hazardous waste storage locations. The Spill Prevention, Control, and Countermeasure (SPCC) Plan (March 2022) identifies potential oil and chemical leak points. Evidence of potential spills and storm drain management has been provided by the site. In addition, maintenance areas such as laundry and locker room zones have been identified as potential sources of pollution. The hazardous waste storage and associated permits are inspected and regulated by the Fremont City Fire Department (CUPA), which issues the permit for hazardous waste storage. Non-Point Sources: All wastewater generated from the site is collected and discharged to the Union Sanitary District (USD). USD treats the wastewater and releases it into the Bay Area in compliance with the Clean Water Act and National Pollutant Discharge Elimination System (NPDES) requirements.	
1.3.6	*On-site Important Water-Related Areas shall be identified and mapped, including a description of their status including Indigenous cultural values.*	Yes
Comment	After the preliminary assessment conducted by the site, it was determined that there are no on-site Important Water-Related Areas (IWRAs).	
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

Annual Water-Related Costs:
The site tracks incoming water costs to Alameda County Water District (ACWD) through its Sustainability Performance Management system (SuPM). Water usage and associated costs are submitted quarterly to Corporate EHS, with data captured in Excel spreadsheets stored on the EHS Share Drive. The evience for this was assessed.

Additional water-related costs include expenditures for:
Water supply (75% of water-related costs)
Sewer discharge and capacity fees (21% of costs)
Water treatment chemicals
Wastewater containing water trucked off-site
Stormwater management
Regulatory permits and discharge fees
Energy costs estimated between $1–$2M annually
Sewer service fees
Water for Injection (WFI) study costs and assessments

Overall, the site estimates annual water-related costs at $2.18M – $3.99M. The general trend shows increased water consumption over the past five years due to increased production. ACWD-mandated incoming water rates also continue to rise annually.

Water-Related Revenues:
The site has confirmed that it does not generate any water-related revenues.

Shared Value Creation:
Through AWS implementation, the site has identified multiple social, environmental, and economic benefits from its water stewardship efforts:
Improved water-use efficiency, supporting cost savings opportunities.
Enhanced stakeholder engagement to remain informed of upcoming regulations and best practices.
Protection of reputational risk through responsible water management.
Strengthening water supply and quality assurance for site operations.

Social, Environmental, and Economic Value Creation:
Employee volunteer activities supporting local Important Water-Related Areas (IWRAs), including Don Edwards San Francisco Bay National Wildlife Refuge, Hayward Regional Shoreline, and Quarry Lakes (177 total labor hours contributed between 2023–2025).
Sharing best practices and data with external stakeholders to collectively improve water stewardship in the catchment.
Contributing to improved water governance and quality in the broader catchment area.

The site actively participates in community and industry forums to advance knowledge-sharing and strengthen collective water stewardship. For example:
Industry Advisory Committee (IAC): The site regularly engages in IAC meetings and contributes to discussions on best practices, including initiatives such as the “Blue Bags” program.

Sustainability Events: The site has participated in external sustainability events, including Water Works Inc. and the ISPE Water Purification Sustainability event. During these sessions, the site shared knowledge and raised awareness about incorporating sustainable practices that streamline environmental processes.

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

Comment	The site has conducted a detailed WASH assessment and confirms that all categories of users—including employees, operational and warehouse contractors, construction contractors, and drivers—have access to safely managed water, sanitation, and hygiene services. Key findings include: Safe Drinking Water: Filtered water and bottled water are accessible throughout the facility. The new cafeteria in Building 2 provides filtered and flavored water at no cost, with additional beverages available at subsidized rates. Construction contractors and drivers also have access to filtered or bottled water through breakrooms or construction trailers. Sanitation Facilities: Adequate toilets, urinals, and handwashing sinks are available across Buildings 2 and 3, exceeding Cal/OSHA minimum requirements. Restrooms are cleaned and maintained twice daily by janitorial staff on both day and night shifts. Facilities meet Cal/OSHA sanitation requirements for general industry (CCR, Title 8, Sections 3360–3376). Hygiene Facilities: Handwashing facilities are well equipped with soap, sanitizer, drying tools, and hygiene promotion signage. Feminine hygiene products and disposal bins are provided in all women's restrooms, serviced regularly. Coverage Data & Regulatory Reporting: The facility provides WASH provisions in line with local, state, and federal regulations. Workforce data is submitted to the Union Sanitary District (USD) as part of the PRCC semi-annual reporting process. Reports account for ~450 employees across three shifts per day, although the maximum site capacity is ~750. For compliance tracking, the site conservatively accounts for 400 employees, which remains within regulatory thresholds.
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 provided a list of primary and secondary suppliers that deliver key inputs; however, all listed suppliers are located outside the site's catchment area. None of the vendors supplying primary inputs or outsourced services are located within the site's catchment area, specifically the Alameda Creek Watershed.
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 has mapped key raw materials, identifying vendor names, volumes consumed, and locations of suppliers.
Suppliers are located outside the site's catchment.
All listed suppliers and raw materials were classified as "outside the catchment," meaning there are no immediate local catchment-level dependencies.
A note clarifies that raw material data is trade secret and not for public disclosure, but sufficient for AWS conformity assessment.

Service Providers (On-Site):
In addition to raw material suppliers, the site depends on canteen/cafeteria and laundry/locker room services that use and discharge water on-site.
Both services are integrated into site-level water management and subject to the same water quality, health, and safety standards.

The site has also identified one contracted third-party vendor responsible for the transport, treatment, and disposal of the site's wastewater. While the treatment and disposal are performed offsite, the vendor operates within the Bay Area catchment and discharges into receiving waters connected to the San Francisco Bay.
Supporting evidence includes the vendor contract, wastewater transport manifests, and Union Sanitary District permit requirements.

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 and documented all relevant catchment governance resources, including
Catchment Plans - Key ACWD planning documents include the Urban Water Management Plan (2020–2025), Integrated Resources Planning (IRP), Water Shortage Contingency Plan, and Water Efficiency Master Plan. Together, these guide supply and demand management, drought preparedness, and water efficiency, demonstrating that catchment-level governance resources are in place and actively used.

Water-Related Public Policies - Policies shaping catchment governance include the ACWD Groundwater Management Policy (focused on protection, replenishment, and quality) and California's "Making Conservation a Way of Life" framework (AB 1668 / SB 606), which sets enforceable conservation requirements.

Publicly-Led Initiatives & Goals - Regional and organizational initiatives include BAWSCA's 2015 Long-Term Reliable Water Supply Strategy and the 2018 ACWD Strategic Plan. These emphasize regional supply reliability, infrastructure resilience, emergency preparedness, and long-term sustainability, showing alignment with broader governance efforts beyond ACWD's own plans.

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 and documented all applicable water-related legal and regulatory requirements. These include, but are not limited to:

Wastewater Discharge Limits
Industrial General Permit (No Exposure Certification)
Federal Water Pollution Control Act, Section 403
Cal/OSHA, CCR Title 8, Sections 336–3366

The site maintains an active compliance program to monitor these obligations, track regulatory updates, and ensure all operational practices remain consistent with current legal requirements. Regular reviews and monitoring are conducted to support ongoing conformity and minimize compliance risks.

The ACWD and USD both operate under well-defined state and federal regulatory frameworks, primarily the California Water Code and Title 40 of the U.S. Code of Federal Regulations (CFR). These frameworks establish legal requirements for water supply, wastewater discharge, and water quality compliance and not override, any recognized customary or Indigenous water rights.

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

closed

Comment

The site has outlined includes,
- Catchment definition and sources - The site clearly defines the Lower Alameda Creek Watershed and identifies surface and groundwater sources, including the Niles Cone Groundwater Basin, Newark Aquifer, Alameda Creek, Lake Del Valle, and imported sources from SFPUC and the State Water Project.
- Water balance quantification - The ACWD Urban Water Management Plan (2020–2025) and IRP projections are cited, showing water supply vs. demand under normal, dry-year, and multiple dry-year conditions.
- Annual demand and supply projections - Future trends are quantified (e.g., supply projected by 2040) with indication of potential shortfalls thereafter.
- Groundwater dynamics - Historical water levels and risks of saltwater intrusion are analyzed. Conjunctive use of surface and groundwater is described, along with recharge mechanisms.
- Shortage planning - The 2021 Water Shortage Contingency Plan details staged restrictions (20–30% shortages) and enforcement measures (AMI monitoring, fines, allocation by customer type).
- Conservation measures - Water Efficiency Master Plan documents long-term efficiency gains, with strategies to sustain conservation.

Finding No: TNR-019734

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

closed

Comment

The site substantially meets AWS 1.5.4 by identifying and partially quantifying water quality across physical, chemical, and biological parameters for both local and imported sources. Impaired waters and regulatory listings are clearly referenced.
Catchment Sources Covered - Groundwater (Niles Cone Basin, AHF/BHF sub-basins) and surface water (Alameda Creek, State Water Project reservoirs, Hetch Hetchy, San Francisco Bay) are described in detail.

The site provided evidence of regulatory compliance with USD-issued wastewater permits (NPDES), including the most recent pretreatment permit update in March 2025. Water quality is monitored and quantified across effluent, stormwater. Testing frequency is appropriate, with the site conducting sampling twice per year and USD conducting six tests annually, consistent with permit conditions.

The site maintains a comprehensive database of water quality results (2018–2025), demonstrating consistent compliance and effective corrective action management. Continued attention to suspended solids management would further strengthen performance under this indicator.The site has defined water quality as a shared water, however, there is absence of annual/seasonal variance data. There is a mention of turbidity/nitrate increases in rainy seasons, but not systematically quantified (no seasonal time-series). Additionally, for impaired sources (e.g., Alameda Creek, Oroville), annual/seasonal pollutant variability is not detailed.

Finding No: TNR-019725

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.*

closed

Comment

Six IWRAs are identified within the Alameda Creek watershed and wider catchment:
Don Edwards San Francisco Bay National Wildlife Refuge
Hayward Regional Shoreline
Eden Landing Ecological Reserve
San Francisco Bay/Estuary (Ramsar Site)
Coyote Hills Regional Park
Alameda Creek

The site has identified and documented catchment-level water governance, challenges, and opportunities by reviewing a range of scientific research, official reports, and planning documents issued by mapped stakeholders. Key sources include ACWD's Urban Water Management Plan, Groundwater Management Policy, BAWSCA's Long-Term Reliable Water Supply Strategy, and California's "Making Conservation a Way of Life" legislation, among others.

The majority of the information used in this assessment is drawn from peer-reviewed research, published studies, and authoritative governance documents, ensuring that the findings are scientifically robust and aligned with regional and state-level policy frameworks. These sources are not complemented by direct/indirect stakeholder engagement, which provides verification and contextual insights into shared water challenges.

Finding No: TNR-019764

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

Yes

Comment

The site has identified existing and planned water-related infrastructure in the catchment. This includes ACWD facilities related to water distribution, natural tidal marshes, and flood control channels, as documented in the Alameda County Water District Urban Water Management Plan (2020–2025) and other official sources.

The Union Sanitary District (USD) infrastructure has also been mapped, with specific reference to wastewater pipelines and planned improvements to the treatment plant. Both ACWD and USD facilities are recognized as potentially exposed to extreme weather events, including flooding, tidal surge, drought, and seismic activity.

At the site level, the BIFI facility infrastructure has been reviewed to assess vulnerabilities and implications of extreme events, ensuring that potential risks to site operations and local catchment conditions are considered. This indicate an awareness of regional water infrastructure and potential impacts on IWRAs, reflecting the site's ongoing efforts to stay informed about developments in the catchment area.

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

Yes

Comment

The site has provided information on the availability of WASH (Water, Sanitation, and Hygiene) services within the catchment, referencing official records and public data sources. The information includes accessibility of water and sanitation facilities at the state level (California) and for the Bay Area region.

The assessment was conducted primarily through desk-based research and publicly available records. While this provides a baseline understanding of WASH conditions, the site has not yet engaged directly with local agencies, NGOs, or community organizations to substantiate and verify this information.

At present, the scope of WASH data covers state and regional levels but does not provide sufficient granularity for Alameda County specifically.

UPDATED - The site provided the information and evidence for the catchment area using the WRI Aqueduct Risk Atlas.

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	Shared water challenges for the Lower Alameda Creek Sub-watershed have been identified and prioritized based on information from ACWD, BAWSCA, SWRCB, and related public agencies. Water Availability Context - California's reliance on a combination of groundwater and imported surface water creates vulnerability to overexploitation, particularly in the Alameda Creek watershed where saltwater intrusion into the Niles Cone Basin is a long-term concern. Risks - Rising demand through 2040 may increase competition among users, trigger stricter regulations, raise water costs, and necessitate investment in alternative sources. Priority - High – water supply reliability is critical to community needs, agriculture, and industrial continuity. Water Quality Context - Catchment surface waters are listed as impaired under the State Water Resources Control Board (SWRCB), with exceedances of pesticides, metals, and other contaminants. Risks - Poor input water quality can increase treatment requirements, raise operating costs, or necessitate new wastewater treatment facilities. Non-compliance risks could also escalate under regulatory scrutiny. Priority - High – input and discharge water quality directly affect product integrity, compliance, and site operating costs. Extreme Events (Drought, Flooding, Seismic Events) Context - Regional droughts are intensifying due to climate variability, while flooding remains a concern despite significant flood control infrastructure. Additionally, seismic events pose risks to water conveyance and groundwater systems. Risks - Prolonged droughts may drive water allocations, restrictions, or fines. Flooding and earthquakes could damage infrastructure, disrupt supply, or compromise treatment capacity. Priority - High – extreme events exacerbate water availability and quality risks and require ongoing mitigation and planning.
1.6.2	*Initiatives to address shared water challenges shall be identified.*	Yes

Comment

The site has identified initiatives that directly align with its three priority shared water challenges. These initiatives address efficiency (water availability), compliance and stewardship (water quality), and resilience (extreme events).

Shared Challenge - Over-extraction, groundwater depletion, and projected demand increase through 2040.
Install additional site water meters to improve monitoring and detect inefficiencies.
Establish the “More Green Team” to drive awareness and implement water-saving practices.
Conduct Cooling Tower Water Feasibility Study to identify opportunities for reducing cooling water use.
Launch calibration efficiency projects to minimize unnecessary water losses.

2. Poor Water Quality
Shared Challenge - Catchment surface waters exceed state standards for pesticides, metals, and toxic substances.

Maintain the BI Clean Water Index at 100% with no reportable incidents.
Complete EHS impact assessments for all new projects to prevent water quality risks.
Ensure wastewater discharges consistently comply with USD and federal permit limits.
Participate in community awareness events (e.g., ACWD World Water Day).

3. Extreme Events (Droughts, Earthquakes, Flooding)
Shared Challenge - Risk of damage to infrastructure and disruption of supply.

Review and update Crisis Management Plan annually, including emergency preparedness.
Conduct annual crisis simulations and training for staff.
Explore membership in CWAC (California Water Action Collaborative) to strengthen external partnerships.
Develop contingency measures (e.g., allocations, budgets, emergency supply planning).

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 conducted a comprehensive assessment of water-related risks, covering availability, quality, wastewater discharges, extreme weather events, important water-related areas, compliance obligations, and rising costs. Each risk has been analyzed in terms of likelihood, severity, timeframe, and estimated financial impact, with prioritization using a risk matrix.

Key high-priority risks include:

Water availability – rising demand, drought, and over-extraction risks.
Extreme events – drought, flooding, and earthquakes with potential for major disruption.
Incident response – spill or emergency events that could create operational and reputational impacts.

Medium-level risks were identified for water quality, wastewater discharges, and sensitive water-related areas, while lower-level risks relate to data gaps in the water balance and incremental cost increases. Risks are linked to previous indicators (e.g., 1.3.4, 1.5.4, 1.5.6), showing integration.

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

Yes

Comment

The site demonstrates a structured process to identify and prioritize opportunities across efficiency, innovation, partnerships, resilience, and leadership. These initiatives align with shared water challenges and providing measurable value to both the site and the catchment.

Water Efficiency & Cost Savings (High Priority): Initiatives to reduce consumption through enhanced metering, efficiency projects, and reuse deliver cost reductions, regulatory compliance, and contribute directly to a sustainable water balance.

Technology & Innovation (Medium–High Priority): Exploration of advanced treatment technologies, monitoring systems, and waterless production methods strengthens resilience, lowers regulatory risk, and improves operational performance.

Partnerships & Engagement (Medium Priority): Collaboration with ACWD, BAWSCA, CWAC, and NGOs on conservation and education enhances stakeholder relationships, builds reputational value, and advances shared water stewardship goals.

Resilience Building (High Priority): Investments in infrastructure upgrades, drought contingency measures, and crisis management training improve preparedness for extreme events and reduce potential business interruption.

Reputation & Compliance Leadership (Medium Priority): Maintaining the BI Clean Water Index at 100% and active participation in public initiatives such as World Water Day reinforce regulatory compliance, position the site as a leader in stewardship, and enhance brand reputation.

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

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

Yes

Comment

The site recognizes that effective water stewardship requires alignment with both internal actions and catchment-level governance practices. In addition to operational measures, the site actively promotes awareness and collective action through initiatives such as the World Water Day “Fix Leaks at Your Home” campaign, Earth Week conservation events, and the public reveal of the AWS Plaque at the site entrance. These activities demonstrate transparency, education, and community engagement, which are core elements of good water governance.

At the catchment level, alignment with catchment governance frameworks—such as ACWD’s Groundwater Management Policy and BAWSCA’s Long-Term Reliable Water Supply Strategy—offers opportunities for the site to actively contribute to shared priorities like groundwater protection, drought resilience, and efficiency improvements.

The site has identified best practices that include alignment with the Alameda County Water District’s Urban Water Management Plan, the Groundwater Management Policy, and the Bay Area Water Supply and Conservation Agency’s (BAWSCA) Long-Term Reliable Water Supply Strategy. These frameworks emphasize efficiency, drought preparedness, groundwater protection, and long-term regional reliability.

Additionally, the site has extended outreach to neighboring technology companies, including Tesla and Nestlé, to explore opportunities for collaboration on water-related initiatives such as runoff management, infrastructure improvements, and conservation projects. While no responses have yet been received, this effort reflects the site’s commitment to expanding partnerships that address shared water challenges and strengthen collective catchment stewardship.

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 and adopted relevant sector and catchment best practices that support improved water balance and efficiency.

Cooling Tower Reuse Feasibility: A dedicated study was conducted to evaluate the reuse of backwash water from carbon beds and softeners in cooling towers. This initiative demonstrates the site's commitment to sectoral best practice in efficiency and reuse.

PEX/PNEC Assessments: The site conducts Predicted Environmental Concentration / Predicted No Effect Concentration assessments on a three-year cycle, in line with recognized sector practice for managing water quality and minimizing potential impacts of site operations.

Catchment-Level Engagement: The site is exploring membership in the California Water Action Collaborative (CWAC) to participate in regional stewardship initiatives. While formal membership has not yet been established, this represents a forward-looking effort to align with catchment best practices such as groundwater recharge and regional demand management.

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

Yes

Comment

The site has included activities that indirectly support water quality improvements, such as PEX/PNEC assessments every three years with degradation testing follow-up. This reflects sector best practice in evaluating potential contaminants and reducing risks. By conducting PEX/PNEC studies once in every three years. (not mandatory under all regulatory frameworks), the site is going beyond compliance

The WSP also includes actions around cooling tower efficiency and feasibility studies, which contribute to water quality by reducing chemical inputs and improving treatment efficiency.

The site references ACWD-led initiatives (Urban Water Management Plan, Water Efficiency Master Plan), which include water quality management and conservation measures in the Alameda Creek watershed. This demonstrates some awareness of catchment-level practices, though they are framed more broadly around efficiency and governance. Additionally, the IWRAs cleanup and restoration projects you listed (Don Edwards NWR, Hayward shoreline.) support evidence for sector and/or catchment best practice for water quality.

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

Yes

Comment

The site has identified Hayward Marsh, Eden Landing Ecological Reserve etc. as Important Water-Related Areas (IWRAs) within the catchment. Best practices relevant to their maintenance include:

Regulatory protections for impaired waters under the California State Water Resources Control Board (SWRCB).
Regional restoration projects led by the Alameda County Flood Control & Water Conservation District, including tidal marsh and wetland recovery efforts.
Conservation and public access initiatives such as the Coyote Hills and Patterson Ranch restoration projects that safeguard habitat and biodiversity.

These practices demonstrate alignment with catchment-level stewardship priorities for maintaining ecological and cultural values of IWRAs. While the site has documented relevant best practices, there is limited evidence of direct participation in IWRA maintenance. To address this, the site is planning to participate in a Save the Bay volunteer opportunity in December 2025, focused on tree planting and ecological restoration. This represents a positive step toward strengthening alignment with catchment-level best practices through direct action.

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 demonstrated a clear commitment to ensuring equitable access to safe drinking water, sanitation, and hygiene (WASH) for all workers. In addition to meeting internal WASH requirements, the site has taken proactive steps to engage external stakeholders and explore opportunities for collaborative WASH initiatives within the broader community. These efforts support the site's alignment with catchment-level water stewardship and contribute positively to social impact objectives.

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 established a formal commitment to water stewardship, signed by site leadership, which demonstrates accountability at the highest level. This commitment is disclosed in the lobby where it is easily accessible to visitors and stakeholders. In addition, the commitment is publicly available on the company website and has been communicated internally to all employees. This ensures both transparency and broad internal awareness of the site's dedication to sustainable water management.	
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 has a designated individual appointed to oversee water-related compliance, with a clear process in place outlining responsibilities and submission timelines. For wastewater disposal, the site maintains a documented process and has provided evidence of a valid permit as well as frequent water quality testing, conducted in compliance with USD regulatory requirements. A system is in place to track training for the EHS team responsible for water compliance. This system records water quality tests, permits, and training completion to ensure ongoing accountability. The compliance framework remains consistent and is further supported by an internal compliance calendar tracker. This tool specifies compliance responsibilities for water and wastewater systems, identifies the responsible person for each task, and maintains records of recent submissions. The site has also detailed its submission process, which requires uploading information through the regulator's designated portal, in line with current water regulatory expectations. Additionally, storm drain management is overseen through the Veeva Quality System, which tracks compliance tasks. EHS team members working within this platform are appropriately trained to manage their responsibilities.	
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 developed a formal water stewardship strategy that clearly outlines its goal, mission, and vision. This strategy is actively used by all BiFi personnel responsible for implementing the site's water stewardship plan. The plan defines roles and responsibilities, including those of the management team, who are accountable for oversight, resource allocation, and funding required for implementation.

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.
Obs.

Comment The Water Stewardship Plan (WSP) demonstrates alignment with AWS Indicator 2.3.2. It sets out measurable targets, defines actions, assigns responsibilities, and provides timeframes. Monitoring mechanisms are in place, and links to AWS outcomes are established. This shows that the site has a structured and transparent approach to water stewardship improvement.

Assessment -
SMART Targets: Clear, measurable goals such as water use reduction and efficiency studies.
Monitoring Systems: Progress is tracked using BI databases, meters, and feasibility reports.
Responsibilities: Specific individuals and teams are assigned ownership of each target.
Timeframes: Completion deadlines and, in some cases, annual reviews are included.
Alignment with AWS Outcomes: Targets are linked to governance, balance, quality, and IWRA objectives.

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

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

Comment The site has established a documented Crisis Management Plan (CMP), reviewed annually, that addresses both water supply and water quality risks along with other crisis scenarios.

Engagement with Public Agencies: The site has initiated coordination with external stakeholders, including the ACWD and the Fremont Fire Department, and has plans to participate in crisis simulation exercises. This demonstrates intent to integrate external partners into the site's risk management framework.
Communication Linkages: The site is included on ACWD's communication list, ensuring it receives periodic operational and maintenance updates, which support timely responses to water-related risks.
Hazardous Materials Planning: The site also maintains a Hazardous Materials Business Plan (HMBP), addressing risks such as spills, contamination, and fire. This plan has been reviewed and accepted under the CUPA (Certified Unified Program Agency) framework and approved by the Fremont Fire Department.

The CMP is comprehensive and includes dedicated planning for flood and drought scenarios, as well as measures to address large-scale crises such as tsunamis that could impact long-term water availability.

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.* ✓ Yes

Comment: The site demonstrates active engagement in catchment governance through participation in community and regulatory forums, including ACWD's World Water Day and the Coastal Cleanup initiative. It has initiated dialogue with the Catchment Water Advisory Committee (CWAC) and shared both a Draft Feasibility Study Report and its Water Stewardship Plan with external stakeholders. These actions reflect cooperation with catchment bodies, data sharing, and outreach that strengthen transparency and support collective water stewardship efforts at the catchment level.

The site also evaluated its Crisis Management Plan on an annual basis, reinforcing governance, preparedness, and alignment with catchment-level expectations.

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: The site's sole source of water is the ACWD, the municipal authority with exclusive jurisdiction over the allocation of water resources in the area. BIFI's water withdrawals are supplied directly by ACWD and remain fully within the legal water rights and entitlements established by the district. This demonstrates compliance with regulatory requirements and ensures that the site's water use respects the catchment's legal framework.

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 established a comprehensive system to ensure compliance with all applicable water-related legal and regulatory obligations.

Documented evidence demonstrates adherence to USD wastewater management requirements, including a formal submission dated June 2025, semi-annual water quality results submitted on 06 June 2025, and independent USD-conducted testing on 20 May 2025. These confirm compliance with permit conditions and external regulatory oversight.

Compliance is further supported by structured management systems: Veeva Vault for documentation, Velocity EHS for compliance calendars and regulatory tracking, and SAP platform for spill prevention and recurring inspections. In addition, environmental monitoring is in place for inlet water quality, with Water for Injection (WFI) monitoring pending confirmation by the site team.

Collectively, these measures demonstrate the site's strong governance framework for meeting legal and regulatory water compliance obligations.

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: The site has acknowledged that it does not hold any water rights nor is it a signatory to any water rights agreements within the catchment area. Consequently, the site is not subject to any legally binding measures related to water rights.

3.3 *Implement plan to achieve site water balance targets.*

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

Yes

Comment

The site demonstrates clear progress toward its 2030 water balance goals, with robust monitoring systems, consistent compliance, and transparent reporting mechanisms in place.

The site has set a SMART target to reduce water use by 5% by 2030 (relative to the 2020 baseline). Progress is monitored through BI's environmental reporting system, supported by actions such as the installation of additional water meters.

The site also maintains a 100% Clean Water Index, confirmed through regular monitoring and sampling. Annual compliance testing includes eight samples, all of which consistently meet regulatory standards.

Oversight and governance are reinforced through the annual review of the Crisis Management Plan and stewardship targets, ensuring that progress is continuously evaluated.

In addition, the Opsphere digital dashboard provides real-time tracking of water withdrawals, year-to-date regional withdrawals (Fremont, USA), and the Clean Water Index, strengthening transparency and performance oversight.

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

Yes

Comment

The site has established a quantified reduction target (5% by 2030, relative to 2022), and efficiency projects (e.g., CIP reduction) are underway. Evidence confirms that actions and monitoring systems are in place to support progress toward this target.

Evidence from the Review (2024):

The site has set a target to reduce water use by 5% compared to the 2022 baseline.
Progress to date: The review notes actions are being implemented, but overall water withdrawals have increased by 10% since 2022, largely due to increased production demand.
Efficiency initiatives identified include the CIP Final Rinse Reduction Project, projected to reduce ~590,000 liters of water per year.
The report highlights that additional water efficiency opportunities need to be identified, recognizing that overall reduction is challenging under current operating conditions.

The site has established a long-term water reduction target and is implementing efficiency initiatives; however, it has not defined explicit annual targets. While a water balance equation has been developed to map the site's volumetric water use, this has not yet been translated into measurable annual percentage-based reduction goals.

The site has justified its position that it will not create separate targets beyond corporate goals. The site has a long-term water reduction target and ongoing efficiency initiatives, but without defined annual targets, In addition, the site has outlined and provided evidence of initiatives implemented locally that enhance water efficiency at the site level.

3.3.3 *Legally-binding documentation, if applicable, for the re-allocation of water to social, cultural or environmental needs shall be identified.*

N/A

Comment

The site does not possess any legally binding agreements or obligations related to the reallocation of water for social, cultural, or environmental purposes. Consequently, there are no such reallocation measures in place at this time.

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 set a clear water quality target (maintain BI Clean Water Index at 100%) with a defined scope (wastewater discharges, San Francisco Bay catchment). Supporting evidence includes: 1) Documented monitoring and permit compliance, 2) Annual recertification of the Clean Water Index, and 3) Demonstrated compliance with regulatory wastewater quality standards.

The site has set a target to maintain the BI Clean Water Index at 100%, updating assessments when major changes occur. Progress remains at 100% (ongoing), with no new products introduced in 2024, minimizing water quality risks. The site ensures zero discharge of pharmaceuticals above effect levels, preventing API releases into San Francisco Bay. Wastewater quality is regularly monitored and reported to USD, with compliance testing validating adherence to permit conditions throughout the year.

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 has established robust systems for monitoring, reporting, and managing wastewater effluent. Best practices are demonstrated through the maintenance of zero API discharge, regular compliance testing and regulatory reporting, and efficiency projects that reduce both water use and effluent load. However, while these initiatives show ongoing improvement, the site has not yet defined quantified continual improvement targets for effluent quality (e.g., measurable reductions in pollutant load or treatment performance beyond regulatory compliance and water-use efficiency).

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.* Obs.

Comment: The site has identified the Alameda Creek watershed as an IWRA, recognizing its critical role as the source of water supplied through ACWD.

IWRA considerations are included in the site's annual stewardship reviews, ensuring that watershed dependencies and risks are monitored consistently.

The site has participated in catchment-level stewardship activities, including:

Coastal Cleanup Day (2024): Supporting removal of waste and debris, reducing pollution risks to local water bodies.

Save The Bay Initiative: Engagement in watershed protection and habitat restoration activities that directly enhance the health of the San Francisco Bay, which receives discharges from the Alameda Creek watershed.

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

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

Comment	The site has implemented and maintains Water, Sanitation, and Hygiene (WASH) facilities.These facilities are adequately provisioned and regularly maintained to ensure safe and hygienic conditions for all employees. Adequate access to safe drinking water, sanitation, and hygiene (WASH) facilities is provided for all workers onsite. The calculation method used to assess WASH access was appropriate, reflecting the total workforce on-site and demonstrating sufficient coverage and compliance with health and safety standards.	
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	The site has demonstrated that its operations do not infringe upon the human right to safe water and sanitation (WASH) through several lines of evidence: • On-site WASH facilities are well-maintained and fully accessible to all employees, with no reported issues related to water availability or quality. Regular inspections and adherence to occupational health and safety standards ensure continuous access to safe drinking water, sanitation, and hygiene services within the facility. • At the catchment level, no significant WASH challenges have been identified and further validated through a catchment-level analysis using tools such as the WWF Water Risk. Available information indicates that public WASH infrastructure in the region is stable and functional. • The site does not extract from or discharge into any community water systems used for drinking or sanitation, significantly reducing the risk of negatively affecting public access or water quality.	
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 no indirect water use within its immediate operations. At the corporate level, the organization has committed to engaging its supply chain on GHG emissions, but there is no current engagement on water-related issues.	
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	As the suppliers operate beyond the catchment boundary, no direct actions within the catchment have resulted from this engagement, and none are required under the current applicability of the indicator.	
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 documented evidence of stakeholder engagement, including communication with relevant internal and external parties on water stewardship activities. Records confirm that key messages were relayed to stakeholders and acknowledged through confirmation of receipt, ensuring transparency and accountability.

Alameda County Water District (ACWD): coordination on water supply, quality, and crisis management.
U.S. Department of State / Regulatory Authorities (USD): compliance submissions and water quality reporting.
Fremont Fire Department / City of Fremont: emergency preparedness, hazardous materials business planning, and crisis response.
Community and NGO partners (e.g., Save The Bay, Coastal Cleanup): environmental stewardship and catchment-level initiatives.

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.*

Obs.

Comment

The site has taken meaningful steps toward implementing best practices in water governance. It has carried out awareness and engagement activities such as World Water Day's "Fix Leaks at Home" campaign, Earth Week events, and the AWS plaque reveal, all of which strengthen transparency and internal awareness. Internally, the site has advanced governance by appointing a water sustainability officer, establishing the More Green Team, and undertaking feasibility studies including cooling tower water reuse. Progress is also visible in operational actions such as meter installation, crisis management reviews, and completed studies, showing that commitments are moving beyond planning into practice.

The site actions demonstrate strong internal alignment and forward-looking intent, there is limited evidence of active stakeholder engagement in implementing catchment-level best practices.

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 several actions aligned with its water balance targets. In particular, it has committed to reducing water use by 5% compared to 2020 levels.

Sectoral Best Practices Implemented
- The site has conducted a cooling tower reuse feasibility study, assessing opportunities to recycle backwash water into cooling tower operations. This represents a sectoral best practice aimed at improving water balance and reducing overall withdrawals.
- Routine PEX/PNEC assessments (every three years) are carried out, with degradation testing as follow-up. These actions align with responsible sectoral practices to minimize water-related risks and ensure safer reuse/discharge pathways.
- Installation of additional water meters and tracking water flows in detail reflects best practice in monitoring water balance at the site level.
- Completed projects (e.g., improving cycles of concentration in cooling towers) have already reduced water use and demonstrated quantifiable efficiency gains.

Emerging Catchment Alignment
The site has expressed interest in joining the California Water Action Collaborative (CWAC), which would connect its efforts with regional initiatives on water balance and resilience. This demonstrates intent to move beyond internal practices into collective action.

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

Yes

Comment

The site has implemented multiple actions aligned with its water quality targets: maintaining the Clean Water Index, ensuring zero API discharges, and reducing water/effluent load through efficiency projects. These initiatives demonstrate progress toward best practice by exceeding compliance and supporting proactive stewardship at the catchment level.

The site continues to maintain 100% Clean Water Index certification, with recertification completed in 2024.

No pharmaceutical discharges above effect levels detected, ensuring that APIs are not released into the San Francisco Bay catchment.

Wastewater effluent quality is monitored through semi-annual submissions to USD and independent compliance testing, with full permit compliance confirmed for 2024.

Projects such as the CIP Final Rinse Reduction initiative are expected to reduce water withdrawals by ~590,000 liters annually, further supporting water quality and efficiency.

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.*

Obs.

Comment

The site has identified Alameda Creek watershed as its key IWRA, recognizing its importance as the source of water supplied by ACWD. The WSP references the integration of IWRA considerations into stewardship planning, with updates included in the annual review cycle. Targets in the plan include engagement in at least one volunteer/community initiative annually to support watershed stewardship.

Evidence - The review documents site participation in Coastal Cleanup Day (2024), contributing to the removal of waste and protection of local waterways.
Engagement in the Save The Bay initiative was also noted, supporting habitat restoration and conservation in the San Francisco Bay, which receives discharges from the Alameda Creek watershed.

Assessment - The site has implemented practices that support its IWRA through annual community engagement and cleanup/restoration initiatives. While these actions align with best practice expectations for stewardship and demonstrate a proactive approach, evidence of quantified ecological outcomes (e.g., volume of waste removed, habitat restored, area enhanced) is not yet systematically documented.

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

Yes

Comment

The site has set a target to ensure 100% access to safe drinking water, sanitation, and hygiene services for all employees. The WSP outlines that WASH compliance is evaluated against USD, CAL OSHA, and Union Sanitary District standards, with provisions reviewed annually. Monitoring includes the maintenance of adequate WASH facilities on-site, supported by records and periodic reporting.

The site's WASH focus has remained within its operational boundaries because employees already have 100% access to safe drinking water, sanitation, and hygiene services, verified through regular regulatory compliance and independent testing. The site is located in a developed urban setting (Fremont, California) where public WASH infrastructure is well established and overseen by municipal agencies such as ACWD and the Union Sanitary District.

As a result, there has been no material gap or unmet community WASH need identified in the immediate catchment that would warrant direct site-level intervention. Instead, the organization has prioritized maintaining full internal compliance and supporting broader community engagement initiatives (e.g., Save The Bay, Coastal Cleanup) that align more closely with catchment water stewardship priorities.

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

4.1 *Evaluate the site's performance in light of its actions and targets from its water stewardship plan and demonstrate its contribution to achieving water stewardship outcomes.*

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

Comment

The site has systematically evaluated its performance against WSP targets, with results documented in the 2024 review.

Water Use - 5% reduction by 2030 relative to 2020 baseline. Supported by efficiency measures such as the CIP Final Rinse Reduction Project. However, total withdrawals increased by ~10% since 2022 due to higher production volumes.

Water Quality - BI Clean Water Index maintained at 100%, with certification and recertification in 2024. Zero API discharges above effect levels confirmed.

WASH - All employees maintained access to safe drinking water and sanitation, with compliance verified by USD testing and CAL OSHA requirements.

IWRAs - Engagement in at least one catchment stewardship initiative annually (e.g., Save The Bay, Coastal Cleanup). Engagement documented in Coastal Cleanup Day and Save The Bay, demonstrating contribution to catchment-level outcomes.

Observation – Wastewater Stakeholder Mapping:
In the prior review, it was noted that the site had not yet confirmed whether stakeholders beyond the Union Sanitary District (USD) were involved in the handling of wastewater discharges. This created a gap in fully mapping all relevant stakeholders linked to wastewater management.
Update - The 2024 Annual Review confirms that the Union Sanitary District remains the sole authority responsible for receiving, treating, and disposing of the site's wastewater. No additional water utilities or agencies were identified as part of the wastewater management chain. This clarification resolves the previous uncertainty and strengthens the site's stakeholder mapping.

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

Comment	The site has evaluated value creation resulting from its Water Stewardship Plan (WSP) through a combination of operational, environmental, and community-focused initiatives: Operational value – measurable water savings have been achieved through efficiency projects such as the CIP Final Rinse Reduction initiative, delivering approximately 590,000 liters/year in water savings. These contribute directly to cost avoidance, resource efficiency, and alignment with long-term corporate water reduction goals. Environmental value – maintenance of the Clean Water Index at 100%, compliance with wastewater permits, and stormwater management contribute to ecological protection within the Alameda Creek watershed. Community and partnership value – participation in Save The Bay and Coastal Cleanup Day demonstrates the site's contribution to catchment-wide environmental stewardship and enhances its social license to operate. While value creation has been identified and evaluated for site-controlled initiatives (e.g., quantified CIP savings, compliance assurance), broader ecological and community outcomes are not independently quantified by the site, as they are delivered through external stakeholder-led programs.	
4.1.3	*The shared value benefits in the catchment shall be identified and where applicable, quantified.*	✓ Yes
Comment	The site has identified and implemented several activities that deliver shared value to the catchment: Environmental benefits – reduced withdrawals, improved water efficiency, waste removal, and habitat restoration. Regulatory benefits – strong partnerships with ACWD and USD supporting compliance and local governance. Community benefits – volunteer engagement in cleanup and stewardship initiatives. Observation - Quantification exists for some initiatives (e.g., 590,000 liters/year water savings), but other shared value benefits (e.g., volume of waste removed during cleanup, habitat restored through Save The Bay) are not yet systematically measured. Update - The site has identified shared value benefits through initiatives such as water efficiency projects, participation in Save The Bay, and Coastal Cleanup Day. While volumetric water savings can be quantified internally (e.g., ~590,000 liters/year from the CIP Final Rinse Reduction).The site has limited ability to independently quantify ecological or community outcomes of external catchment initiatives, as these are led by third parties and measured at broader program levels. Instead, the site demonstrates conformity by aligning with recognized community and environmental initiatives, supporting catchment-wide benefits, and quantifying outcomes where it has operational control (e.g., internal water efficiency projects).	
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	No emergency water-related incidents occurred during the reporting period; therefore, a root-cause analysis was not required. Nonetheless, the site maintains documented procedures for incident response and has systems in place to evaluate and address incidents should they arise in the future. The site uses an incident software management system platform to track any incident-related data, conduct root-cause analyses, and record preventative and corrective actions. This ensures that, in the event of an incident, the site can systematically investigate causes, document outcomes, and implement mitigation measures.

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

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

closed

Comment: The site did not provide evidence of consultation with stakeholders on its water stewardship performance. While the site prepared a WSP and shared updates on the status of activities and initiatives, there was no indication that stakeholders were engaged in reviewing or providing feedback on performance outcomes.

Finding No: TNR-019755

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

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

Yes

Comment: The water stewardship plan has been updated to reflect relevant findings and lessons learned from performance evaluations, stakeholder consultations, and internal reviews. Documented changes demonstrate a commitment to adaptive management and continuous improvement in alignment with AWS Standard outcomes.
The site demonstrates that its WSP is a living document, updated annually to reflect lessons learned from evaluations:
Efficiency actions have been adjusted in response to production-related water use increases.
Water quality and community engagement practices have been reinforced as ongoing targets.

No stakeholder feedback was received on the shared WSP. While the plan was communicated externally, no comments, guidance, or suggested revisions were provided by ACWD, USD, or community partners. While updates are documented, the process could be strengthened by more clearly highlighting which changes were made year-on-year in a revision log or summary table.

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.* — Obs.

Comment: A public article was published, indicating that EHS personnel are responsible for the site's water sustainability initiatives. The site has also communicated governance responsibilities during verbal engagements, ensuring stakeholders are generally aware of the accountable team. However, there is no formal disclosure of the governance structure (e.g., organogram or written framework) that clearly sets out accountability roles for water-related compliance and stewardship.

The current approach demonstrates improvement compared to previous audit cycles, but publicly available evidence remains insufficient to fully satisfy the indicator.

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 water stewardship plan has been communicated to relevant stakeholders, and there is clear evidence that the plan outlines how it contributes to the AWS Standard outcomes. Communication has been carried out through appropriate stakeholder engagement activities and documented materials, ensuring transparency and alignment with the indicator's intent.

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.* — closed

Comment: The site did not disclose a summary of its water stewardship performance, including quantified performance against targets, on at least an annual basis. However, the site did provide disclosure on the status of activities and initiatives under the WSP.

Finding No: TNR-019757

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.* — Obs.

Comment: The site has disclosed its shared water-related challenges (water availability, water quality, and extreme events) to stakeholders, primarily through the Water Stewardship Plan (WSP) and email communications. Evidence of disclosure was provided during the audit. However, the majority of engagement has been limited to one-way communication (email updates), with no structured validation or consultation on outcomes of initiatives implemented to address these challenges.

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

Comment

The site has made efforts to engage with various stakeholders, including public-sector agencies. Initial outreach included both phone calls and email communications, which resulted in positive responses from agencies such as ACWD, who provided guidance on clean-up initiatives that were subsequently incorporated into the site's Water Stewardship Plan (WSP).

However, in the current reporting period, evidence of implementation beyond email updates was not provided. Engagement has been limited to one-way communication via WSP updates, without records of more collaborative or interactive activities (e.g., workshops, joint projects, or formal consultations).

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

The site has not received any significant water-related compliance violations during the reporting period. If a violation were to occur, the site has established procedures to promptly investigate, identify corrective actions, and report these directly to the regulating agency (e.g., USD, ACWD) in line with California regulatory requirements.

The site's external communications department has determined that proactively publicizing violations beyond regulatory reporting could create reputational risks for the business. Instead, the site ensures transparency through compliance with state and federal reporting processes. In California, such records are publicly accessible through formal requests to the regulatory agencies, ensuring that stakeholders can obtain this information independently.

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

Yes

Comment

As reported under Indicator 5.5.1, the site did not experience any significant water-related compliance violations during the reporting period. Consequently, no corrective actions were required or disclosed. However, the site has established systems (Velocity EHS, Veeva Vault, SAP) to ensure that if a violation occurs:

A root-cause investigation is conducted,
Corrective and preventative actions (CAPAs) are identified,
Actions are tracked to closure, and
Results are reported to the relevant regulatory authority (e.g., Union Sanitary District, ACWD).
This process ensures that corrective actions will not only be taken but also disclosed through regulatory reporting mechanisms,

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 were no water-related violations posing significant risk to human or ecosystem health identified during the audit. The site has protocols in place to immediately notify relevant public agencies and disclose such incidents, should they occur.

Previous Findings	
All non-conformities raised in the previous audit have been satisfactorily closed.	Yes
Comment	In the previous audit cycle, the site made attempts to address identified non-conformities; however, several gaps remain: Catchment-Level Initiatives: While the site participated in external activities such as Save The Bay and Coastal Cleanup Day, it was unable to independently evaluate or map ecological outcomes from these initiatives. As these programs are conducted and measured by external organizations, the site's role was limited to participation rather than quantification of impacts (e.g., habitat restored, waste removed). Water Stewardship Plan (WSP) Targets: Previous audit guidance emphasized the need to qualify and translate WSP targets into measurable, site-level indicators. The site clarified that water reduction and efficiency targets are set at the corporate level by Boehringer Ingelheim's global sustainability team and are not cascaded as site-specific KPIs. Instead, the Fremont site reports its contributions toward these global goals (e.g., volumetric water savings through efficiency projects) but does not set or track additional independent site-level targets. Corporate Alignment: The site emphasized that its approach is to work toward Boehringer Ingelheim's global sustainability goals, rather than duplicating targets at the site level. Progress is demonstrated through operational improvements (e.g., Clean-in-Place water savings) that contribute toward achieving these global commitments.