

CERTIFICATION REPORT

Alliance for Water Stewardship (AWS)



Audit Number: AO-000783

SITE DETAILS

Site: **Apple Prineville Data Center**
Address: 1600 Baldwin Road, 97754, Prineville, Oregon, UNITED STATES
AWS Reference Number: AWS-000332
Site Structure: Single Site

CERTIFICATION DETAILS

Certification status: **Certified Core**
Date of certification decision: 2024-Jan-09
Validity of certificate: 2027-Jan-09

AUDIT DETAILS

Audited Service(s): **AWS Standard v2.0 (2019)**
Audit Type(s): **Re-Certification Audit**
Audit Start Date: **2023-Nov-07**
Lead Auditor: **Monserrath Zamora**
Audit team participants:
Mark Carroll
Site Participants:

AUDIT TIMES

Dates	Audit from	Duration	Auditor	Description
2023-Nov-07	08:00:00 - 16:00:00	08:00	Monserrath Zamora	
2023-Nov-08	08:00:00 - 11:00:00	03:00	Monserrath Zamora	

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ADDITIONAL INFO

Summary of Audit Findings: A total of 1 finding were raised during the certification audit, 0 major non-conformities, 0 minor non-conformities, and 1 observation.

The audit team recommends re-certification of Apple Prineville Data Center at Core level pending approval of the corrective action plans and closure of the minor non-conformities.

Scope of Assessment: The scope of services covers the re-certification audit for assessing conformity of Apple Data Center, Prineville, Oregon against the AWS International Water Stewardship Standard Version 2.

The site is a data center that is located at 1600 SW Baldwin Rd, Prineville, OR 97754, United States of America (Latitude: 44.288 N, Longitude: 120.876 W); in the Crooked River watershed within the Deschutes basin. The campus is located in a rural commercial area in Crook County. All water is acquired from the City of Prineville, which sources municipal water from groundwater. Most of the water is used for cooling purposes and the site discharges its wastewater to the City of Prineville sanitary sewer, this water is treated at the municipal wastewater treatment plant and ultimately discharged to either the Crooked River Wetlands Complex, Crooked River (during high winter flow), Meadow Lakes Golf Course (irrigation), or pasture adjacent to the Crooked River Wetlands Complex (irrigation).

The audit was conducted onsite from November 7th to November 8th, 2023.

The onsite visit included the assessment of water related infrastructure (pumps, water tanks, data halls), storm water infiltration swales; administrative offices, restrooms and chemical storage areas.

FINDINGS

Observation 1

FINDING DETAILS

Finding No:	TNR-007235
Checklist Item No:	1.3.4
Status:	Open
Finding level:	Observation
Checklist item:	Water quality of the site's water source(s), provided waters, effluent and receiving water bodies shall be quantified. Where there is a water-related challenge that would be a threat to good water quality status for people or environment, an indication of annual, and where appropriate, seasonal, high and low variances shall be quantified.
Findings:	The site could make an effort to provide updated data of its effluent for 2022-2023.

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Report Details

Report	Value
Report prepared by	Monserrath Zamora
Report approved by	Lurdes Guerra
Report approved on (Date)	22/12/2023

Surveillance

Proposed date for next audit
2024-Nov-05

Stakeholder Announcements

Date of publication	Location
29/08/2023	https://watersas.org/wp-content/uploads/2023/08/Stakeholder-Announcement-Apple-Prineville-AWS-000332.pdf
07/09/2023	https://a4ws.org/wp-content/uploads/2023/09/AWS-000332-Apple-Prineville-2023-Stakeholder-Announcement-1.pdf https://www.limno.com/aws-certification-apple-data-center-prineville/
Comment	The stakeholder announcement was published on the following websites: WSAS, AWS and LimnoTech.

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Catchment Information



Crooked River Basin.JPG

Catchment Information

The site is located in the Crooked River watershed within the Deschutes Basin.

The water source comes from the City of Prineville and the water is withdrawn from two aquifers: Prineville Valley/Crooked Valley Floor (McAllister Slough-Crooked River and Ochocho Creek sub-basins) and Airport Area (Crooked River Basin). The groundwater in the aquifers is renewable and replenished by snowmelt and rain. The Prineville Valley Aquifer is an alluvial aquifer system and has seasonal water level fluctuations. Water levels are near the ground surface during late winter and spring, with declining levels as the summer progresses. Water levels normally recover during the course of the year. Two of the city's wells in this aquifer are artesian, while the other wells have water levels 4.5-35 feet below surface.

The Airport Area Aquifer system also has seasonal fluctuations, with water tables lowering in the summer and increasing in the winter. However, this aquifer has recently shown declining levels over multiple years. In 2018, the aquifer was noted to have declined by approximately 3.5 feet per year in the upper aquifer and approximately 1 foot per year in the lower aquifer over the previous 3 years. The City of Prineville has stated that the effects of climate change (decreasing precipitation in the region) and increased withdrawals have contributed to this water level decline.

The wastewater generated at the facility is discharged into the city sanitary sewer, this water is treated in a wastewater treatment plant and its effluent is used in three locations within the Crooked River watershed: Crooked River Wetlands Complex on the Crooked River, Meadow Lakes Golf Course (for irrigation use) and pasture adjacent to the Crooked River Wetlands Complex (for irrigation use).

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0.1 General Requirements for Single Sites, Multi-Sites and Groups	
0.1.1	<i>Eligibility Criteria</i>
0.1.1.1	<i>The site(s) occupy one catchment OR an exception has been granted.</i>
Comment	The site is located in a single catchment, the Crooked River Basin, Oregon, USA.
0.1.1.2	<i>The scope of the proposed certification shall be under the control of a single management system.</i>
Comment	The site and scope of the proposed certification is under the control of a single management system.
0.1.1.3	<i>The scope of the proposed certification shall be homogeneous with respect to primary production system, water management, product or service range, and the main market structures.</i>
Comment	The site and scope of the proposed certification is homogeneous with respect to the primary production system, water management, product range and the main market structures.

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1 STEP 1: GATHER AND UNDERSTAND

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

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

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


Yes

Comment The site has identified and mapped its physical scope, including:

-Site boundaries: the site is located in the city of Prineville, in the Crooked River Basin within the greater Deschutes River Basin.

-Water-related infrastructure, including piping network: the maps and diagrams show all water lines including: stormwater infiltration swales; industrial water lines, water storage tanks, recirculation and irrigation pipes, industrial water blowdown, fire loop, city utility service line, valves and pumps. The site has CRAH (Computer Room Air Handler) units for cooling the data halls, this kind of system is used also for air conditioning.

-The water source comes from the City of Prineville and the water is withdrawn from two aquifers: Prineville Valley/Crooked Valley Floor (McAllister Slough-Crooked River and Ochoco Creek sub-basins) and Airport Area (Crooked River Basin).

-The wastewater generated at the facility is discharged into the city sanitary sewer, this water is treated in a wastewater treatment plant and its effluent is used in three locations within the Crooked River watershed: Crooked River Wetlands Complex on the Crooked River, Meadow Lakes Golf Course (for irrigation use) and pasture adjacent to the Crooked River Wetlands Complex (for irrigation use).





-The facility has stormwater infiltration swales, those ones slow down and infiltrate the stormwater.

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

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- | | | |
|--------------|---|--|
| 1.2.1 | <p><i>Stakeholders and their water-related challenges shall be identified. The process used for stakeholder identification shall be identified. This process shall:</i></p> <ul style="list-style-type: none"> - 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. | <p>
Yes</p> |
| Comment | <p>The site has identified different stakeholders and their water-related challenges, including: local/state governments, NGO's, a peer company and a tribal group.</p> <p>The degree of stakeholder engagement based on their level of interest and influence has been identified.</p> <p>The site has presented a summary of engaging actions with the stakeholders from 2021 to 2023. Evidence of stakeholder consultation on water-related interests and challenges was provided.</p> | |
| 1.2.2 | <p><i>Current and potential degree of influence between site and stakeholder shall be identified, within the catchment and considering the site's ultimate water source and ultimate receiving water body for wastewater.</i></p> | <p>
Yes</p> |
| Comment | <p>The degree of influence between site and the stakeholders has been identified, it includes the following methods of influence:</p> <ul style="list-style-type: none"> -Key Player: active dialogue and engagement. -Involve: keep informed and explore opportunities. -Consult: anticipate needs and consult. -Monitor: minimal contact and information gathering. | |
| 1.3 | <p><i>Gather water-related data for the site, including: water balance; water quality, Important Water-Related Areas, water governance, WASH; water-related costs, revenues, and shared value creation.</i></p> | |
| 1.3.1 | <p><i>Existing water-related incident response plans shall be identified.</i></p> | <p>
Yes</p> |
| Comment | <p>The site has identified these water-related response plans:</p> <ul style="list-style-type: none"> -Water Management Plan: to minimize the risk of Legionnaires' disease by managing certain building water systems for the control of Legionella bacteria. -Apple Facility Recovery Plan (FRP): the Prineville Data Center is located in an area subject to: flooding, wildfires, severe winter storms, earthquakes, landslides and volcanic activity. While the facility does not lie within a 100-year floodplain, the surrounding city may be affected in a flood event which may limit or prohibit access to the site. While volcanic events are rare, the facility is down wind of the volcanically active Cascade Range. -Spill Prevention, Control and Countermeasure Plan (SPCC): is a comprehensive Federal/State spill prevention program that minimizes the facility's potential for discharges of oil or oil-based products into or upon navigable waters of the United States. -Crisis Management Playbook: includes fire, protests, gas explosion, earthquakes and other threats. | |
| 1.3.2 | <p><i>Site water balance, including inflows, losses, storage, and outflows shall be identified and mapped</i></p> | <p>
Yes</p> |

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Comment	The site has identified and mapped in a schematic diagram its inflows, losses, storage and outflows. All the stormwater is infiltrated.	
	From evidence provided for indicator 1.1.1 a map shows the water infrastructure and water flows.	
1.3.3	<i>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.</i>	 Yes
Comment	The site water balance for 2022 has been quantified. The wastewater is estimated because of faulty metering (the site is in the process of installing new discharge meters, these will be operational by the end of 2023).	
	The site presented monthly water supply and wastewater data, for years 2021, 2022 and 2023. Annual variances have been quantified.	
1.3.4	<i>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.</i>	 Obs.
Comment	Water quality of the site's water source (Receiving Aquifer Baseline) has been quantified including physical and chemical parameters. The site receives water from the Airport Area wells and Crooked River Valley Floor wells, data is available from 2017 to 2022.	
	The City of Prineville supplies water to the site, a "Water Quality Report" from the city was provided and it describes testing results for 2021 and 2022 and provides information from the U.S. Environmental Protection Agency (EPA) regarding requirements for drinking water. The City of Prineville reported that the water system had no quality violations during the 2022 reporting period. The City of Prineville also operates the site's wastewater collection and treatment (NPDES permit N.101433). The city samples both influent and effluent on a daily basis; during the stakeholder interviews the City of Prineville confirmed that the water quality status is very good.	
	A supplier provides on-site water testing for Prineville water use facilities, data is from 2021, 2022 and 2023.	
	Key high and low values of the following parameters: nitrates, nitrites, ortho phosphates and conductivity for water within the site facilities between July 2022 and July 2023 have been quantified.	
	A composite of the effluent data was provided for 2019. The site stated that there have not been changes in its water supply or in its water treatment. However, the site could make an effort to provide updated data of its effluent for 2022-2023.	
1.3.5	<i>Potential sources of pollution shall be identified and if applicable, mapped, including chemicals used or stored on site.</i>	 Yes
Comment	The site has identified and mapped the potential sources of pollution, including the chemicals used or stored on site. These areas were visited during the on-site audit. The site also has spill prevention kits distributed in different areas.	
1.3.6	<i>On-site Important Water-Related Areas shall be identified and mapped, including a description of their status including Indigenous cultural values.</i>	 Yes
Comment	There are not IWRAs on-site, this was verified during the on-site audit.	

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- 1.3.7** *Annual water-related costs, revenues, and a description or quantification of the social, cultural, environmental, or economic water-related value generated by the site shall be identified and used to inform the evaluation of the plan in 4.1.2.* ✔
Yes
- Comment The site has identified and quantified water related costs associated with the operation of the facility and also has described and quantified social and economic value. The site does not have water-related revenues.
- The cost of waste water discharge and water supply was provided (refer to indicator 1.3.3). Additional project-related water costs are included in the Water Stewardship Plan.
- 1.3.8** *Levels of access and adequacy of WASH at the site shall be identified.* ✔
Yes
- Comment The site has a self-assessment tool for evaluating access to Water, Sanitation and Hygiene (WASH) at the workplace. Also, the site provided 3 maps including the distribution of eyewash stations within the facility.
- Quantification of drinking fountains, restrooms, showers, emergency showers and emergency eyewash stations per building was provided.
- The site also has a cafeteria where water is available for washing hands and there are water bottle filters as well.
- The access of WASH facilities was checked during the site visit by the auditor.
- 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 does not have any primary inputs, but energy is sourced from 100 % renewable energy in the same geographic area as the site. Consequently, other than residual water used in solar panel manufacturing or wind turbine manufacturing, there are no water-related inputs.
- 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 does not have any outsourced services.
- 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

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Comment	<p>The site has identified the following water governance initiatives:</p> <ul style="list-style-type: none"> -The Deschutes River Conservancy's Reclamation WaterSMART Water and Energy Collaborative Watershed Management Program (Deschutes River Conservancy_Water Planning Initiative.pdf; https://www.usbr.gov/watersmart/cwmp/; https://www.usbr.gov/watersmart/ewrp/index.html). -The City of Prineville's 2018 Water System Master Plan. As of October 17, 2023 a new Water System Master Plan is about to be finalized. -The Deschutes Basin Habitat Conservation Plan was completed by the U.S. Fish and Wildlife Service in 2020 (https://www.fws.gov/project/deschutes-river-basin-habitat-conservation-plan). -The Deschutes Groundwater Mitigation Program (https://www.oregon.gov/OWRD/programs/WaterRights/Permits/DeschutesGroundwaterMitigation/Pages/default.aspx). -The Deschutes River Alliance mapped the water quality and provided a 2022 report of the Lower Deschutes River basin. 	
1.5.2	<p><i>Applicable water-related legal and regulatory requirements shall be identified, including legally-defined and/or stakeholder-verified customary water rights.</i></p>	 Yes
Comment	<p>The site has identified the following water-related legal and regulatory requirements:</p> <ul style="list-style-type: none"> -Federal Regulations (relevant to catchment but not site): U.S. Environmental Protection Agency Clean Water Act; 303d Impaired Waters, Total Maximum Daily Loads; Safe Drinking Water Act. -Oregon's conventional water quality standards. -Oregon's toxics water quality standards. -Stormwater permit/fee: None. -Water pricing: the site must not exceed the peak daily use for water or wastewater per its system development capacity (SDC) credit allocation. -Water Infrastructure Emergency Response Plans: https://www.epa.gov/waterresilience/awia-section-2013 	
1.5.3	<p><i>The catchment water-balance, and where applicable, scarcity, shall be quantified, including indication of annual, and where appropriate, seasonal, variance.</i></p>	 Yes
Comment	<p>The site has quantified the water balance (in AF=Acre Foot) of the Upper Deschutes Basin, including:</p> <ul style="list-style-type: none"> -Total annual inflows -Instream demand -Irrigation demand -Municipal demand <p>The site is situated within the Crooked River basin, which is a part of the Upper Deschutes River basin.</p> <p>Seasonal variance in the Crooked River was provided, the flow is generally higher during spring runoff and lower in the summer. There are monitoring stations in the catchment with realtime data: https://www.usbr.gov/pn/hydromet/destea.html.</p>	
1.5.4	<p><i>Water quality, including physical, chemical, and biological status, of the catchment shall be identified, and where possible, quantified. Where there is a water-related challenge that would be a threat to good water quality status for people or environment, an indication of annual, and where appropriate, seasonal, high and low variances shall be identified.</i></p>	 Yes

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Comment Water quality of the catchment has been identified including physical, biological and chemical parameters.

Evidence for water quality of the site's water source (Receiving Aquifer Baseline) and city water data from 2021, 2022 and 2023 was provided in indicator 1.3.4.

A study was carried out from 2010-2014 to determine the water quality of the Crooked River Basin, the primary water quality concerns in the catchment are high turbidity, total dissolved solids, increased temperature and high levels of nutrients (nitrates and phosphates). A 2022 Lower Deschutes River Water Quality Report confirmed that excess nutrients continue to be factor in the declining ecological health of the Lower Deschutes. This nutrient loading is primarily from high nitrogen inputs in the Crooked River and results in surface water algal growth and aquatic plant biomass accumulation in the Lower Deschutes.

An indication of annual/seasonal, high and low variances have been identified; according to the study mentioned above, the water quality most frequently reached peak values during spring or late summer (April–September). Elevated Nitrate-Nitrite levels were primarily found in the Crooked River around Prineville (McKay Creek, Lytle Creek, and Ochoco Creek) and on Pine Creek.

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.* ✔
Yes

Comment The site has identified and mapped the following IWRA's:

- Opal Springs: natural, deepwater spring in the Lower Crooked basin which supplies drinking water to Jefferson county towns, with no filtration or treatment needed.
- McKay Creek: Crooked River tributary that runs dry in the summer due to irrigation withdrawal, but is critical to the re-introduction of summer steelhead.
- Crooked River Wetlands Complex: wastewater outflow into the Crooked River, it provides 5.4 miles of trails and 2 miles of riparian improvements.
- Smith Rock: unique basalt rock formation world-renowned with climbers, situated in the Lower Crooked river. In the past 2-3 years, the Crooked River has run dry at least once through the Smith Rock Park area.

The status of the IWRA's has been assessed (<https://coinformedangler.org/2023/03/05/spring-chinook-and-crooked-river-flows/>).

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

Comment Existing water-related infrastructure has been identified including its condition.

The Water System Master Plan, City of Prineville, Oregon, 2018 is a study of the City's water system components, including the water supply, storage, and distribution systems. This WSMP includes an analysis of the existing systems and their performance, an evaluation of system needs and improvement alternatives, and development of a financial plan and project implementation plan. Potential exposure to extreme events has been identified in the same document (refer to indicator 1.5.1).

Modernization projects are taking place, especially on irrigation infrastructure as the demographics shift from rural to more urban:
<http://dbbcirrigation.com/districts/oregons-water-infrastructure-hasnt-upgraded-100-years-thin-k-time-fix/>.

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

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Comment WASH in the basin is generally not perceived to be a problem, this was confirmed by the City of Prineville during the stakeholder interview, it was mentioned that approximately, 100 % of the population in the city has access to drinking water and wastewater treatment.

One area which struggles with WASH issues is the Warm Springs Reservation, which has struggled to meet safe drinking standards and with access to running water (<https://www.opb.org/news/article/water-crisis-returns-to-warm-springs-as-virus-cases-rise/>). However, in 2023, the tribe received nearly \$30M in federal funding grants to build a new water treatment plant: <https://oregoncapitalchronicle.com/2023/05/22/federal-government-approves-more-than-30-million-for-warm-springs-burns-paiute-tribes>.

From evidence provided for indicator 1.5.1 "Prineville Water System Master Plan 2018", the city's water system serves all residential, commercial, industrial, and public customers within the city limits, with the exception of an estimated 421 residences currently served by private wells not connected to the City's water system. In addition to the customers within the city limits, the city currently serves an estimated 120 residences outside the city limits but within the UGB (the urban growth boundary).

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 were identified and prioritized through a workshop with site staff, desktop research and stakeholder meetings.

The site has identified the following shared water challenges:

- Increasing variability of surface water flows (increasing winter/spring flows, decreasing summer flows).
- Impaired water quality in the Crooked River basin.
- Water Availability/Supply.

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


Yes

Comment Initiatives to address the shared water challenges have been identified.

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 Water risks have been identified and prioritized, including likelihood and severity of impact within a given timeframe, potential costs and business impact.

The risks have been clasified as: physical, regulatory, reputational and financial risks.

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 Water-related opportunities have been identified and prioritized.

The Water Stewardship Plan contains a column that links an action back to an identified opportunity, including the cost, value creation and assessment.

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- 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 Relevant catchment best practices for water governance have been identified:
- Multi-stakeholder participation in water-related initiatives. This means continuing water-specific stakeholder engagement and identifying opportunities for collaboration. Existing multi-stakeholder initiatives like the Deschutes Basin Water Collaborative and the newer Crooked River Partnership will inform best practice for all stakeholders in the basin. The site plans to consult and be informed by initiatives developed through its existing stakeholders who are members of these forums.
 - Implementing aquifer storage and recovery project with the City of Prineville.
 - Evaluating with the city whether it is feasible for the site to participate in or receive recycled wastewater for cooling purposes.
 - Partnering with the City of Prineville to complete the Airport Water Line Project to improve water pressure.
 - Improve metering of all on-site systems.
- 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 identified the following relevant sector/catchment best practices for water balance:
- Efficient water use and replenishment of 100% of water consumption (evaporation), ensuring a net zero impact in the basin (as discussed by the World Resources Institute: <https://files.wri.org/d8/s3fs-public/volumetric-water-benefit-accounting.pdf>).
 - Achieve at least six cycles of concentration and to replenish water that is consumed (Department of Energy: <https://www.energy.gov/femp/best-management-practice-10-cooling-tower-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 identified the following as relevant sector and/or catchment best practices for water quality:
- Zero liquid discharge (this is a rare and expensive outcome).
 - On-site stormwater control.
 - Minimizing chemical use in water treatment.
 - Ensuring that site discharge does not contribute to water quality challenges in the catchment: the site doesn't have to comply with any discharge permits.
- 1.8.4** *Relevant catchment best practice for site maintenance of Important Water-Related Areas shall be identified.* ✔
Yes
- Comment The site identified the following catchment best practice for catchment maintenance of Important Water-Related Areas:
- Habitat restoration and maintenance for Spotted Frog and salmon/steelhead reintroduction.
- 1.8.5** *Relevant sector and/or catchment best practice for site provision of equitable and adequate WASH services shall be identified.* ✔
Yes





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- Comment The site has identified the following as relevant sector and/or catchment best practices for provision of equitable and adequate WASH:
- Provision of safely managed WASH services to employees on-site and support to surrounding communities (<https://wash4work.org/wash-pledge/>; <https://sdgs.un.org/goals/goal6>).
 - The site provides free sanitary products.
 - There is a Mother's room available with a shower on-site.
 - The auditor identified that water bottle filters are available to team members to fill up personal water bottles.

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2	STEP 2: COMMIT & PLAN - Commit to be a responsible water steward and develop a Water Stewardship Plan	
2.1	<i>Commit to water stewardship by having the senior-most manager in charge of water at the site, or if necessary, a suitable individual within the organization head office, sign and publicly disclose a commitment to water stewardship, the implementation of the AWS Standard and achieving its five outcomes, and the allocation of required resources.</i>	
2.1.1	<i>A signed and publicly disclosed site statement OR organizational document shall be identified. The statement or document shall include the following commitments:</i> <ul style="list-style-type: none"> - 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	A signed site commitment to water stewardship by the Site Manager has been identified. This commitment is posted at the publicly accessible guard shack to the site.	
2.2	<i>Develop and document a process to achieve and maintain legal and regulatory compliance.</i>	
2.2.1	<i>The system to maintain compliance obligations for water and wastewater management shall be identified, including:</i> <ul style="list-style-type: none"> - Identification of responsible persons/positions within facility organizational structure - Process for submissions to regulatory agencies. 	 Yes
Comment	The site provided a spreadsheet that lists any water related compliance obligations. Outlines the compliance obligations, responsible people, and process for submission to regulatory agencies. Refer to indicator 1.3.1 for detailed information of the Spill Prevention, Control and Countermeasure Plan (SPCC).	
2.3	<i>Create a water stewardship strategy and plan including addressing risks (to and from the site), shared catchment water challenges, and opportunities.</i>	
2.3.1	<i>A water stewardship strategy shall be identified that defines the overarching mission, vision, and goals of the organization towards good water stewardship in line with this AWS Standard.</i>	 Yes
Comment	The site has identified a strategy including the mission, vision and goals.	
2.3.2	<i>A water stewardship plan shall be identified, including for each target:</i> <ul style="list-style-type: none"> - How it will be measured and monitored - Actions to achieve and maintain (or exceed) it - Planned timeframes to achieve it - Financial budgets allocated for actions - Positions of persons responsible for actions and achieving targets - Where available, note the link between each target and the achievement of best practice to help address shared water challenges and the AWS outcomes. 	 Yes

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Comment The site has presented its Water Stewardship Plan including 9 targets linked with the 5 AWS outcomes. The plan includes for each target:

- How actions will be measured and monitored
- Actions and description
- Planned time-frames to achieve actions/targets
- Financial budgets allocated for actions
- Positions of persons responsible for action
- The link between each action and the achievement of best practice.

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 Plans to mitigate/adapt water risks developed in co-ordination with relevant public-sector have been identified:

- City of Prineville Water System Master Plan (the most recent plan is from 2018): refer to indicator 1.5.1.
- Apple Facility Recovery Plan (FRP): refer to indicator 1.3.1.
- Spill Prevention, Control and Countermeasure Plan (SPCC): refer to indicator 1.3.1.
- Source vulnerability report for the site that highlights water risks for the site.

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3	STEP 3: IMPLEMENT - Implement the site's stewardship plan and improve impacts	
3.1	<i>Implement plan to participate positively in catchment governance.</i>	
3.1.1	<i>Evidence that the site has supported good catchment governance shall be identified.</i>	✔ Yes
Comment	Evidence that the site has supported good catchment governance has been identified. Some examples of ongoing activities are: -Improve metering of all systems. -Improve water availability and resiliency.	
3.1.2	<i>Measures identified to respect the water rights of others including Indigenous peoples, that are not part of 3.2 shall be implemented.</i>	✔ Yes
Comment	There are no non-regulatory water rights to consider. It should be noted that downstream of the site is the Confederated Tribes of Warm Springs, an indigenous people that utilize water from the greater Deschutes basin. A map of the Deschutes basin with in-stream water rights was provided. The site also does not exceed the peak daily use for water or wastewater per its system development capacity (SDC) credit allocation. This was confirmed with the City of Prineville during the stakeholder interviews.	
3.2	<i>Implement system to comply with water-related legal and regulatory requirements and respect water rights.</i>	
3.2.1	<i>A process to verify full legal and regulatory compliance shall be implemented.</i>	✔ Yes
Comment	Refer to evidence provided for indicator 2.2.1, columns E-G demonstrate the confirmation that the full legal and regulatory compliance has been implemented.	
3.2.2	<i>Where water rights are part of legal and regulatory requirements, measures identified to respect the water rights of others including Indigenous peoples, shall be implemented.</i>	✔ Yes
Comment	Water rights are not part of the site's legal and regulatory requirements, as water is supplied by the City of Prineville.	
3.3	<i>Implement plan to achieve site water balance targets.</i>	
3.3.1	<i>Status of progress towards meeting water balance targets set in the water stewardship plan shall be identified.</i>	✔ Yes
Comment	Status of progress towards meeting water balance targets have been identified. The site is supporting sustainable water balance by: -Improve site water efficiency. -Reduce impact on seasonal water stress: implemented project to shave seasonal peak demand impact. -Improve basin water availability: Recycled Water Project feasibility study was completed in July 2023.	

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3.3.2	<i>Where water scarcity is a shared water challenge, annual targets to improve the site's water use efficiency, or if practical and applicable, reduce volumetric total use shall be implemented.</i>	 Yes
Comment	The site has set 1 goal to improve the site water efficiency.	
3.3.3	<i>Legally-binding documentation, if applicable, for the re-allocation of water to social, cultural or environmental needs shall be identified.</i>	 Yes
Comment	The site does not have a legally binding document for reallocation of water to social, cultural and environmental needs.	
3.4	<i>Implement plan to achieve site water quality targets</i>	
3.4.1	<i>Status of progress towards meeting water quality targets set in the water stewardship plan shall be identified.</i>	 Yes
Comment	<p>Status of progress towards meeting water quality targets have been identified and evidence of implementation was provided for these actions:</p> <ul style="list-style-type: none"> -Maintain the frequency of chemical storage monitoring protocols. -Reduce chemical use status. -Improve water availability and resiliency. 	
3.4.2	<i>Where water quality is a shared water challenge, continual improvement to achieve best practice for the site's effluent shall be identified and where applicable, quantified.</i>	 Yes
Comment	<p>The site has identified water quality as a shared water challenge. Continual improvement to achieve best practice for the site's effluent has been identified in the Water Stewardship Plan:</p> <ul style="list-style-type: none"> -Reduce chemical use: new UV light/ozone generation system. This would eliminate need for chemical treatment (less chemicals used in the water treatment that could have long term impacts of water quality). Refer to evidence provided for indicator 3.4.1. 	
3.5	<i>Implement plan to maintain or improve the site's and/or catchment's Important Water-Related Areas.</i>	
3.5.1	<i>Practices set in the water stewardship plan to maintain and/or enhance the site's Important Water-Related Areas shall be implemented.</i>	 Yes
Comment	<p>The site is supporting catchment IWRA's by:</p> <ul style="list-style-type: none"> -Engage in IWRA restoration to improve and maintain the Spotted Frog Habitat or salmon/steelhead habitat. The site is evaluating further replenishment work. 	
3.6	<i>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.</i>	
3.6.1	<i>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.</i>	 Yes

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Comment	<p>The site's provision of adequate access to safe drinking water, effective sanitation, and protective hygiene (WASH) for all workers onsite has been identified and quantified (refer to indicator 1.3.8).</p> <p>The site complies with all local and state building, plumbing, and sewer codes. There is potable water, flushable toilets, and showers available for use on site.</p> <p>This was verified during the on-site tour.</p>	
3.6.2	<p><i>Evidence that the site is not impinging on the human right to safe water and sanitation of communities through their operations, and that traditional access rights for indigenous and local communities are being respected, and that remedial actions are in place where this is not the case, and that these are effective.</i></p>	 Yes
Comment	<p>The site does not have direct withdrawal from source water bodies and does not discharge wastewater directly to water bodies, and thus is not impinging on the human right to safe water and sanitation of communities.</p> <p>The site is in compliance with the water use allocation.</p>	
3.7	<p><i>Implement plan to maintain or improve indirect water use within the catchment:</i></p>	
3.7.1	<p><i>Evidence that indirect water use targets set in the water stewardship plan, as applicable, have been met shall be quantified.</i></p>	 Yes
Comment	<p>The site does not have any primary inputs or outsourced services, as such there is no Indirect water use target in the WSP (refer to indicators 1.4.1 and 1.4.2).</p>	
3.7.2	<p><i>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.</i></p>	 Yes
Comment	<p>The site has stated that Apple does engage with its suppliers globally, but those engagements do not directly relate to this site. The site did not identify consistent indirect water use. Therefore, indirect water use targets were not included in the water stewardship plan.</p>	
3.8	<p><i>Implement plan to engage with and notify the owners of any shared water-related infrastructure of any concerns the site may have.</i></p>	
3.8.1	<p><i>Evidence of engagement, and the key messages relayed with confirmation of receipt, shall be identified.</i></p>	 Yes
Comment	<p>The site has engaged with the following owners of shared water-related infrastructure (refer to indicators 1.2.1 and 3.3.1):</p> <ul style="list-style-type: none"> -City of Prineville. Also there is evidence of the communication between the site and the city. -North Unit Irrigation District (NUID): there is only 'shared' infrastructure. There is no direct physical connection between the irrigation district's infrastructure and the municipal infrastructure that supports the data center. NUID identified concerns around the viability of their water rights, which are junior, in drought years. They provided some background on a feasibility study they are doing to switch to a different diversion location, which would be more efficient and improve the middle Deschutes flows. 	
3.9	<p><i>Implement actions to achieve best practice towards AWS outcomes: continually improve towards achieving sectoral best practice having a local/catchment, regional, or national relevance.</i></p>	

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3.9.1	<i>Actions towards achieving best practice, related to water governance, as applicable, shall be implemented.</i>	 Yes
Comment	<p>The catchment best practice for water governance is multi-stakeholder participation in water-related initiatives. Actions taken towards achieving best practice include (refer to indicators 3.1.1 and 3.3.1):</p> <ul style="list-style-type: none"> -Evaluating with the city whether it is feasible for the site to participate in or receive recycled wastewater for cooling. -Partnering with the City of Prineville to improve water pressure. -Improve metering of all on-site systems. 	
3.9.2	<i>Actions towards achieving best practice, related to targets in terms of water balance shall be implemented.</i>	 Yes
Comment	<p>Actions towards achieving best practice, related to targets in terms of water balance have been implemented (refer to indicator 3.3.1):</p> <ul style="list-style-type: none"> -Reduce impact on seasonal water stress by shaving seasonal peak demand. -Improve basin water availability by evaluating possibility of wastewater reuse. 	
3.9.3	<i>Actions towards achieving best practice, related to targets in terms of water quality shall be implemented.</i>	 Yes
Comment	<p>Actions towards achieving best practice, related to targets in terms of water quality have been implemented (refer to indicators 3.1.1, 3.4.1 and 3.8.1):</p> <ul style="list-style-type: none"> -Increase the frequency of chemical storage monitoring protocols. -Reduce chemical use: began testing UV light/ozone generation system and monthly dip slides, this would eliminate need for chemical treatment. -Improve water availability and resiliency: partner with the City of Prineville to eliminate a single point of failure that could impact the entire Airport Area of the City of Prineville's water system and improve water flows and pressures that would improve water quality and fire flow challenges. 	
3.9.4	<i>Actions towards achieving best practice, related to targets in terms of the site's maintenance of Important Water-Related Areas shall be implemented.</i>	 Yes
Comment	<p>The site is supporting catchment IWRA's by (refer to indicator 3.5.1):</p> <ul style="list-style-type: none"> -Engage in IWRA restoration to improve and maintain the Spotted Frog Habitat or salmon/steelhead habitat. 	
3.9.5	<i>Actions towards achieving best practice related to targets in terms of WASH shall be implemented.</i>	 Yes
Comment	<p>The site has implemented the following best practices for provision of equitable and adequate WASH (refer to indicators 1.3.8 and 3.6.1):</p> <ul style="list-style-type: none"> -A site self-assessment of WASH capacity: exceeding local WASH requirements. -The site provides free sanitary products. -There is a Mother's room available with a shower on-site. -The auditor identified that water bottle filters are available to team members to fill up personal water bottles. 	

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4 STEP 4: EVALUATE - Evaluate the site's performance.	
4.1	<i>Evaluate the site's performance in light of its actions and targets from its water stewardship plan and demonstrate its contribution to achieving water stewardship outcomes.</i>
4.1.1	<i>Performance against targets in the site's water stewardship plan and the contribution to achieving water stewardship outcomes shall be evaluated.</i>
Comment	<p>Performance against targets in the site's water stewardship plan and the contribution to achieving water stewardship outcomes have been evaluated. The site has identified 3 different categories to evaluate performance: moderate performance, discontinuing objective/target and in progress/evaluation.</p> <p>From the site's Water Stewardship Plan: The metrics used to evaluate each item are listed, performance against the targets is listed, evaluation of progress is, and linkage to water stewardship outcomes is.</p> <p>The site did the evaluation of the water stewardship plan 2022-2023, this was shown during the audit.</p>
4.1.2	<i>Value creation resulting from the water stewardship plan shall be evaluated.</i>
Comment	<p>Value creation resulting from the water stewardship plan has been evaluated.</p> <p>From the site's Water Stewardship Plan: Describes the value created from the actions in the plan. Describes the costs and resources that went towards achieving this target.</p>
4.1.3	<i>The shared value benefits in the catchment shall be identified and where applicable, quantified.</i>
Comment	<p>The shared value benefits in the catchment have been identified.</p> <p>From the site's Water Stewardship Plan: Describes the shared value created for the catchment from the actions in the plan.</p>
4.2	<i>Evaluate the impacts of water-related emergency incidents (including extreme events), if any occurred, and determine the effectiveness of corrective and preventative measures.</i>
4.2.1	<i>A written annual review and (where appropriate) root-cause analysis of the year's emergency incident(s) shall be prepared and the site's response to the incident(s) shall be evaluated and proposed preventative and corrective actions and mitigations against future incidents shall be identified.</i>
Comment	There have been no water related emergency incidents at the site over the past year.
4.3	<i>Evaluate stakeholders' consultation feedback regarding the site's water stewardship performance, including the effectiveness of the site's engagement process.</i>
4.3.1	<i>Consultation efforts with stakeholders on the site's water stewardship performance shall be identified.</i>

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Comment The site has developed "Stakeholder Disclosure Emails" and these have been sent to those stakeholders that were engaged as part of the A4WS process (refer to indicator 1.2.1). These emails include a description of the site's water stewardship objectives and progress/performance. The draft letter template is compact and provides a high-level summary of activities.

The site has had meetings with different stakeholders to discuss the description of the physical scope of the site's catchment, origin of the water use, discharge water, shared water challenges, opportunities for collective action, and the site's water stewardship plan.

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 During the on-site audit the changes of previous Water Stewardship Plans were shown and the site made some changes to the current plan which are reflected in red.

The site's water stewardship plan has been updated as part of the recertification process. The plan will be updated throughout the year.

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5 STEP 5: COMMUNICATE & DISCLOSE - Communicate about water stewardship and disclose the site's stewardship efforts	
5.1	<i>Disclose water-related internal governance of the site's management, including the positions of those accountable for legal compliance with water-related local laws and regulations.</i>
5.1.1	<i>The site's water-related internal governance, including positions of those accountable for compliance with water-related laws and regulations shall be disclosed.</i>
Comment	The "Stakeholder Disclosure Emails" contains a section on who is responsible for the different aspects of delivering the AWS scheme (refer to indicators 1.2.1 and 4.3.1). The site manager is responsible for the day-to-day water onsite stewardship-related activity and operations.
5.2	<i>Communicate the water stewardship plan with relevant stakeholders.</i>
5.2.1	<i>The water stewardship plan, including how the water stewardship plan contributes to AWS Standard outcomes, shall be communicated to relevant stakeholders.</i>
Comment	"Stakeholder Disclosure Emails" have been sent to those stakeholders that were engaged as part of the A4WS process. These emails include a description of the five AWS outcomes and the site's water stewardship objectives and progress/performance (refer to indicators 1.2.1 and 4.3.1).
5.3	<i>Disclose annual site water stewardship summary, including: the relevant information about the site's annual water stewardship performance and results against the site's targets.</i>
5.3.1	<i>A summary of the site's water stewardship performance, including quantified performance against targets, shall be disclosed annually at a minimum.</i>
Comment	"Stakeholder Disclosure Emails" have been sent to those stakeholders that were engaged as part of the A4WS process. These emails include a summary of the site's water stewardship performance, including quantified performance against targets (refer to indicators 1.2.1 and 4.3.1).
5.4	<i>Disclose efforts to collectively address shared water challenges, including: associated efforts to address the challenges; engagement with stakeholders; and co-ordination with public-sector agencies.</i>
5.4.1	<i>The site's shared water-related challenges and efforts made to address these challenges shall be disclosed.</i>
Comment	"Stakeholder Disclosure Emails" have been sent to those stakeholders that were engaged as part of the A4WS process. These emails include the site's shared water challenges and the efforts to address them (refer to indicators 1.2.1 and 4.3.1).
5.4.2	<i>Efforts made by the site to engage stakeholders and coordinate and support public-sector agencies shall be identified.</i>
Comment	Efforts made by the site to engage stakeholders are recorded in the Stakeholder Engagement Log, and that include public-sector agencies (refer to indicator 1.2.1). Also evidence of engagement with the city of Prineville was provided in indicator 3.3.1. These efforts were confirmed during the stakeholder interviews.

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5.5	<i>Communicate transparency in water-related compliance: make any site water-related compliance violations available upon request as well as any corrective actions the site has taken to prevent future occurrences.</i>	 Yes
5.5.1	<i>Any site water-related compliance violations and associated corrections shall be disclosed.</i>	 Yes
Comment	There has not been any water-related compliance violations made by the site.	
5.5.2	<i>Necessary corrective actions taken by the site to prevent future occurrences shall be disclosed if applicable.</i>	 Yes
Comment	There are not corrective actions taken because the site hasn't made any water-related compliance violations.	
5.5.3	<i>Any site water-related violation that may pose significant risk and threat to human or ecosystem health shall be immediately communicated to relevant public agencies and disclosed.</i>	 Yes
Comment	There has not been any water-related compliance violations made by the site.	

Photographic Evidence from Audit


Yes

Previous Findings

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