



Stage 1 Business Analysis

California Department of Technology, SIMM 19A.3 (Ver. 3.0.9, 02/01/2022)

1.1 General Information

1. Agency or State Entity Name: 3860 - Water Resources, Department of

If Agency/State entity is not in the list, enter here with the [organization code](#).

[Click or tap here to enter text.](#)

2. Proposal Name and Acronym: SAP S/4HANA Upgrade

3. Proposal Description: (Provide a brief description of your proposal in 500 characters or less.)

The Department of Water Resources (DWR) is required to upgrade its legacy SAP Enterprise Resource Planning (ERP) Central Component (ECC) system to SAP's most current software version, SAP S/4HANA, and collaborate with FISCAL (AB 156) to identify and plan interfaces as appropriate. SAP ECC is DWR's ERP and management system. SAP ECC facilitates the integrated management of core business processes, functions, and resources in Financials, Controlling, Materials Management, Plant Maintenance, Project System, Portfolio and Project Management, and Human Resources. The SAP ECC is reaching end of support at the end of 2030. Continuing with SAP ECC after this time will pose a significant risk to the reliability, security, and functionality of the system.

4. Project Planning Start Date: 10/1/2025

5. Proposed Project Execution Start Date: 8/2/2027

6. S1BA Version Number: Version 1

1.2 Submittal Information

1. Contact Information

Contact Name: [Matthew Tanaka](#)

Contact Email: matthew.tanaka@water.ca.gov

Contact Phone: [916-291-1976](tel:916-291-1976)

2. Submission Type: **New Submission**

If Withdraw, select Reason: [Choose an item.](#)

If Other, specify reason here: [Click or tap here to enter text.](#)

Sections Changed, if this is a Submission Update: (List all sections changed.)

[Click or tap here to enter text.](#)

Summary of Changes: (Summarize updates made.)

[Click or tap here to enter text.](#)

3. Attach [Project Approval Executive Transmittal](#) to your email submission.

4. Attach [Stage 1 Project Reportability Assessment](#) to your email submission.

1.3 Business Sponsorship

1. Executive Champion (Sponsor)

Title: [Business Operations Deputy Director](#)

Name: [Stephanie Varrelman](#)

Business Program Area: [Business Operations](#)

Title: [State Water Project Deputy Director](#)

Name: [John Yarbrough](#)

Business Program Area: [State Water Project](#)

Title: [Agency Information Officer](#)

Name: [Kevin See](#)

Business Program Area: [California Natural Resources Agency](#)

2. Business Owner

Title: [Manager, Division of Fiscal Services and Chief Financial Officer](#)

Name: [Duard MacFarland](#)

Business Program Area: [Division of Fiscal Services](#)

Title: [Manager, Division of Human Resources](#)

Name: [Jennifer Dong Kawate](#)

Business Program Area: [Division of Human Resources](#)

Title: [Manager, Division of Business Services](#)

Name: Rhonda Pascual

Business Program Area: Division of Business Services

Title: State Water Project Chief Financial Officer

Name: Hong Lin

Business Program Area: State Water Project Planning and Financial Management

Title: State Water Project Analysis Office, Chief of Utility Operations

Name: Dave Paulson

Business Program Area: State Water Project Cost Allocation and Recovery

Title: Manager, Division of Operations and Maintenance

Name: Behzad Soltanzadeh

Business Program Area: Division of Operations and Maintenance

Title: DWR Chief Information Officer

Name: Kevin See

Business Program Area: Division of Technology Services

3. Product Owner

Title: Chief Information Officer

Name: Kevin See

Business Program Area: Division of Technology Services

TIP: Copy and paste or click the + button in the lower right corner on any section to add additional Executive Champions, Business Owners, or Product Owners with their related Business Program Areas as needed.

1.4 Stakeholder Assessment

The Stakeholder Assessment is designed to give the project team an overview of communication channels that the state entity needs to manage throughout the project. More stakeholders may result in increased complexity to a project.

1. Indicate which of the following are interested in this proposal and/or the outcome of the project. (Select 'Yes' or 'No' for each.)

State Entity Only: Yes

Other Departments/State Entities: No

Public: No

Federal Entities: No

Governor's Office: No

Legislature: No

Media: No

Local Entities: No

Special Interest Groups: No

Other: No

2. Describe how each group marked 'Yes' will be involved in the planning process.

DWR is leading, planning, and managing the project.

1.5 Business Program

1. Business Program Name: DWR Operations (Various Program Areas)

2. Program Background and Context: Provide a brief overview of the entity's business program(s) current operations.

The SAP ECC system supports key functionality for the various program areas as follows:

The Division of Fiscal Services is responsible for approving and executing fiscal management and developing overall plans to ensure adequate and timely availability of funds to finance construction and maintenance of the State Water Project (SWP). Additional responsibilities include administering local financial assistance programs under various general obligation bond laws, coordinating proposed State bonding programs with the State Treasurer's Office, and managing all other activities having a bearing on our financial management.

The Division of Business Services (DBS) provides a range of services including facilities management, office space acquisition and refurbishment, access control, property control and moving services; IT and non-IT contracting, IT and non-IT purchasing, and materials management services; printing, imaging and mailing services; records and content management; the Volunteer Services Program, merit awards and employee suggestions, vehicle accident reporting, DMV Pull Notice Program, bike share and pool vehicles.

The Division of Human Resources Office (DHR) administers the State civil service personnel system. Staff verify that every action to examine, select (hire/promote/transfer), reclassify, change pay range, discipline, demote, or separate is correct under State laws and rules and develop and recommend policies and procedures to ensure departmental compliance with the legal requirements of the State's civil service system.

The California State Water Project (SWP) is a multi-purpose water storage and delivery system that extends more than 705 miles. A collection of canals, pipelines, reservoirs, and hydroelectric power facilities delivers over four million acre-feet of clean water annually to 29 agricultural, municipal, and industrial water contractors (SWP Contractors). Planned, built, operated, and

maintained by DWR, the SWP is the nation's largest state-owned water and power generator and user-financed water system. The State Water Project helps California manage its water supply during extremes such as flooding and drought. It is also a major source of hydroelectric power deliveries for the State's power grid. The SWP Contractors are charged for SWP costs through billing components, some fixed and some variable, that are defined in the original and amended water supply contract terms. The proportion of costs charged to each SWP Contractor is based on a fair and equitable distribution of SWP costs by proportionate use factors and direct benefit of facilities.

Annually, State Water Project Divisions/Offices (under SWP Deputy Director) plan work activities and projects in the SAP Portfolio & Project Management / Resource Management (PPM/RM) system, which feeds into DWR's enterprise budgeting tool (SAP Budgeting and Planning (SBP) for the Public Sector).

Annually, the DWR State Water Project Analysis Office (SWPAO) calculates and transmits the Statements of Charges (SOCs) for all 29 SWP Contractors by July 1 for the Bill Year (subsequent calendar year), which is currently \$1.3 Billion. Annual charges are based on planned costs and a true-up of the historic costs and payments. As part of this true up process, DWR re-determines all prior year charges and applies a charge or credit with interest for the net under or overpayments made in prior years. The DWR generates SOCs based on different sets of data, which includes project and program planning projections from SAP PPM/RM and multiple methodologies using the Cost Allocation and Billing suite of tools that includes SAP Profitability and Performance Management, and Fiori. The Division of Operations and Maintenance (O&M) is responsible for ensuring safe, reliable, and predictable operation of SWP infrastructure. It manages SWP facilities, including pumping and hydroelectric plants, dams, reservoirs, aqueducts, and buildings. Sacramento headquarters staff and those located at Oroville, Delta, San Luis, San Joaquin, and Southern field divisions are responsible for the operation and maintenance of the SWP, including both routine and emergency repairs.

The DWR Division of Technology Services (DTS) provides services and support for SAP ECC and interconnected modules. DTS plans, directs, organizes, and delivers work activities for the SAP information technology functions related to: SAP system configuration, security controls, SAP Basis administration, business intelligence reporting, functional improvements, and business process alignment.

DWR first began using SAP as its enterprise resource planning (ERP) system in 1999 when it implemented SAP R/3 to standardize and provide cost-effective enterprise resource planning software. In 2006, DWR upgraded to SAP ECC which serves as DWR's enterprise resource planning and management system as well as the centralized system of records for DWR Operations. It ensures data consistency and accuracy for DWR, enhancing operational efficiency through integrated processes and workflow automation. It improves decision-making with real-time data access and comprehensive reporting. Additionally, it supports compliance and security, safeguarding sensitive information. Data is categorized into types such as Master Data (e.g., customer and product information), Transactional Data (e.g., sales and purchase orders), and Audit Logs (e.g., records of user activities and system changes). Each type serves distinct purposes in maintaining and processing business operations effectively and allows DWR to adhere with statutory policies. In addition to business and audit data, SAP maintains records of all technical information, including configuration changes, technical parameters, performance

indicators, system monitoring, data management, and other technical operational information. These records can be accessed and reviewed to address any system issues.

In addition to the previously mentioned modules and tools (SAP PPM/RM, Cost Allocation and Billing, SAP Profitability and Performance Management, and Fiori), SAP ECC supports the following key integrated functionality for the business programs above:

In SAP Human Capital Management (HCM), the labor distribution and timekeeping processes are centralized, enabling efficient management of employee work hours and allocation of labor costs across department-wide cost centers while ensuring compliance with regulations. Through integrated modules, such as Organizational Management, Personnel Administration, and Time and Attendance Management, SAP HCM facilitates accurate tracking of employee data management, employee attendance, absences, leaves, position control, and projects, enhancing workforce productivity and resource utilization.

The SAP Finance and Controlling (FICO) Module serves as primary system to handle DWR's Payables business activities. These modules help to record and manage accounting data for DWR vendors. SAP FICO offers comprehensive functionality for vendor master data management, invoice processing, payment processing, accounting, reporting, and vendor relationship management. Functions include, but not limited to, are cost elements, supplier invoice, Assets, G/L Accounts, reverse non-Purchase Order (PO) invoices. The SAP ECC Accounting Modules facilitate efficient recording, tracking, and reporting of financial activities. This assists organizations in maintaining accurate financial records and complying with regulatory requirements.

The procurement features within SAP ECC, including modules like Materials Management (MM), streamline the entire procurement process. Users within the Division of Business Services (DBS) can initiate purchase requisitions, oversee requests for quotations (RFQs), generate purchase orders, and monitor procurement operations for all DWR. Functions include, but are not limited to, requisitions, warehouse stock, purchase orders, service entry against PO, material master, State Contract & Procurement Registration (SCPRS) report.

3. How will this proposed project impact the product or services supported by the state entity?

Upgrading SAP ECC to S/4HANA before the end of 2030 will ensure that DWR's enterprise resource planning system will not lose access to SAP support services which will ensure the business continuity of DWR operations. SAP will stop providing SAP ECC critical security patching at the end of 2030 which will significantly compromise the security of the ECC system. Implementing S/4HANA will ensure security patching continues unabated until at least 2040 thereby reducing the risk of an adverse security event.

TIP: Copy and paste or click the + button in the lower right corner to add Business Programs, with background and context and impact descriptions as needed.

1.6 Project Justification

1. Strategic Business Alignment

Enterprise Architect

Title: [Enterprise Solutions Architect](#)

Name: [Dana Fernandez](#)

Strategic Plan Last Updated? [9/1/2023](#)

Strategic Business Goal: [Pursue Innovative Infrastructure Solutions](#)

Alignment: [Upgrading from SAP ECC to S/4HANA is in alignment with DWR's strategic business goal of Pursuing Innovative Infrastructure Solutions. It will ensure its enterprise resource planning system transitions from SAP's legacy system to its modernized enterprise resource planning system to continue to meet the department's statutory mandates.](#)

TIP: Copy and paste or click the + button in the lower right corner to add Strategic Business Goals and Alignments as needed.

Mandate(s): [State](#)

Bill Number/Code, if applicable: [Water Code](#)

Add the Bill language that includes system-relevant requirements:

[Various](#)

TIP: Copy and paste or click the + button in the lower right corner to add Bill Numbers/Codes and relevant language as needed.

2. Business Driver(s)

Financial Benefit: [No](#)

Increased Revenue: [No](#)

Cost Savings: [No](#)

Cost Avoidance: [No](#)

Cost Recovery: [No](#)

Will the state incur a financial penalty or sanction if this proposal is not implemented? [No](#)

If the answer to the above question is "Yes," please explain:

[Click or tap here to enter text.](#)

Improvement

Better Services to the People of California: **No**

Efficiencies to Program Operations: **No**

Improved Equity, Diversity, and/or Inclusivity: **No**

Improved Health and/or Human Safety: **No**

Improved Information Security: **No**

Improved Business Continuity: **No**

Improved Technology Recovery: **No**

Technology Refresh: **Yes**

Technology End of Life: **Yes**

1.7 Business Outcomes Desired

Executive Summary of the Business Problem or Opportunity:

DWR uses SAP ECC as its ERP system which supports approximately 3800 DWR users who play a critical role in providing water to approximately 27 million Californians. SAP announced that SAP ECC will be end-of-life after 2030. If DWR fails to upgrade before then, the high risk to security, sustainability, and business continuity will be realized. Additionally, DWR must collaborate with FI\$Cal on approvals and interfaces as part of this upgrade to ensure alignment with the state's FI\$Cal mandate (AB 156).

The primary business drivers for this project are technology refresh and technology end of life. DWR must upgrade to SAP S/4HANA because its SAP ECC will no longer be supported by the manufacturer after 2030. If DWR does not upgrade before the end of 2030, DWR will lose access to upgrades, security patches, and support that addresses the management of service disruptions, as well as the resource management of critical operations. SAP considers SAP ECC end of life because it is built on aging technology. As we approach 2030, DWR anticipates it will become increasingly difficult to find skilled resources to support SAP ECC as more SAP practitioners will have either retired or moved on to support S/4HANA or other non-end-of-life systems.

The upgrade to S/4HANA will require significant time and resources:

- Best practices for S/4HANA include business process alignment and change management. This means that heavily customized processes are converted to standardized best practices. This process may involve redefining business processes around finance, supply chain, HR, etc.
- S/4HANA introduces a simplified data model which consolidates multiple financial tables into a single table called the Universal Journal. This means that many custom reports, integrations, data validation, and data extracts developed will need to be updated, modified, and re-tested.
- Custom ABAP code created in SAP ECC will have to undergo code remediation to ensure compatibility with S/4HANA. This code must be analyzed, updated, retested, or retired. This requires ABAP code analysis and testing.
- Prior to going live, the new S/4HANA system must be tested end-to-end (this includes Unit testing, Integration testing, User Acceptance testing, Performance/Load/Security/Data Conversion testing etc.)

- S/4HANA will require training and change management due to the changes to the user interface. SAP adopts Fiori-based User Interface which is a change from SAP ECC's SAP Graphical User Interface.
- Interfaces with other systems (e.g. 3rd party tools etc.) will need to be reconfigured and re-tested.
- DWR will be required to purchase updated licenses as part of the upgrade.
- S/4HANA Upgrades often take between 18-24 months.

Objective ID: 1. SAP ECC System Upgrade

Objective: 1.1 Upgrade aging SAP ECC hardware and software that will no longer be supported by the manufacturer.

Metric: Upgrade from ECC 6.0 to S/4HANA by the end of 2030.

Baseline: SAP ECC 6.0

Target Result: S/4HANA

Objective ID: 2. Maintain Information Security

Objective: 2.1 Ensure DWR's enterprise resource planning system can continue to receive critical security patching after 2030.

Metric: Ability to receive security patches after 2030.

Baseline: SAP ECC 6.0

Target Result: S/4HANA

Objective ID: 3. Maintain Business Continuity

Objective: 3.1 Ensure ongoing access to SAP system updates and break/fix support after 2030

Metric: Ability to use official SAP system support after 2030.

Baseline: SAP ECC 6.0

Target Result: S/4HANA

TIP: Copy and paste or click the + button in the lower right corner to add Objectives as needed. Please number for reference.

TIP: Objectives should identify WHAT needs to be achieved or solved. Each objective should identify HOW the problem statement can be solved and must have a target result that is specific, measurable, attainable, realistic, and time-bound. Objective must cover the specific. Metric and Baseline must detail how the objective is measurable. Target Result needs to support the attainable, realistic, and time-bound requirements.

1.8 Project Management

1. Project Management Risk Score: 2.0

Follow the instructions in [Statewide Information Management Manual \(SIMM\) Section 45 Appendix B Project Management Risk Assessment Preparation Instructions](#).

Attach a completed [Statewide Information Management Manual \(SIMM\) Section 45 Appendix A Project Management Risk Assessment Template](#) to the email submission.

2. Project Approval Lifecycle Completion and Project Execution Capacity Assessment

Does the proposal development or project execution anticipate sharing resources (state staff, vendors, consultants, or financial) with other priorities within the Agency/state entity (projects, PALs, or programmatic/technology workload)?

Answer: No

Does the Agency/state entity anticipate this proposal will result in the creation of new business processes or changes to existing business processes?

Answer (No, New, Existing, or Both): Existing Processes

1.9 Initial Complexity Assessment

1. Complexity Assessment (Business Score): 1.9

Follow the instructions in the [Statewide Information Management Manual \(SIMM\) Section 45 Appendix D Complexity Assessment Instructions](#).

Attach a completed [Statewide Information Management Manual \(SIMM\) Section 45 Appendix C Complexity Assessment Template](#) to the email submission.

NOTE: Business complexity is initially completed in PAL Stage 1. Technical complexity is initially completed in PAL Stage 2.

2. Noncompliance Issues: Indicate if your current operations include noncompliance issues and provide a narrative explaining how the business process is non-compliant.

Programmatic regulations: No

HIPAA/CIIS/FTI/PII/PCI: No

Security: No

ADA: No

Other: No

Not Applicable: No

Noncompliance Description:

[Click or tap here to enter text.](#)

3. Additional Assessment Criteria

If there is an existing Privacy Threshold Assessment/Privacy Information Assessment, include it as an attachment to your email submission.

How many locations and total users is the project anticipated to affect?

Number of locations: [47 primary DWR offices](#)

Estimated Number of Transactions/Business Events (per cycle):

General Accounting Branch Transactions:

Payables Office

FY 2024/2025	Count	Amount
EFT Claims	270	\$ 2,223,551,985
Processed Invoices - Contracts Pay	27894	\$ 3,558,800,165
Processed Invoices - Accounts Pay	19235	\$ 127,787,007
Manual Claims	18725	\$ 1,682,062,938
Salary Advance	510	\$ 3,548,486
Travel Advance	862	\$ 823,044
Payroll Accounts Receivable	1480	\$ 1,061,206

Governmental Accounting Office

FY 2024/2025	Count	Amount
AR reimbursable invoices	813	\$ 92,415,577
AR non-reimbursable invoices	5151	\$ 941,037,008
AR customer refunds	14	(\$195,187.52)
Deposits (for 3,022 checks)	2834	\$ 567,652,507
Bank Wires	2130	\$ 2,135,892,929
Remittances	2020	\$ 2,537,548,007

Enterprise Accounting Branch Transactions - FY 2024/2025

Invoice Types	Total # of Invoices	Total Invoice Amount
Power	62	\$ 28,540,206
Misc	204	\$ 41,874,281
Refunds	172	\$ (102,971,240)
Encroachment Permits	43	\$ 1,377,271.00
Leases	78	\$ 625,262.58
Statement of Charges (SOC)	140	\$ 1,186,181,235.00
Grand Total	699	\$ 1,155,627,015.96

Division of Human Resources Transactions - FY 2024/2025

- Processed approximately 1100 hiring actions
- Processed approximately 200 leave of absence/return actions
- Processed approximately 200 reorganization actions
- Processed approximately 200 change in contract or work location actions
- Processed approximately 300 separation actions
- Approximately 100 retirement actions
- Approximately 5100 change in pay actions
- Reclassed 300 positions
- Processed approximately 500 salary advances
- Processed approximately 1500 Accounts Receivables

Approximate number of internal end-users: 3800

Approximate number of external end-users: 0

1.10 Funding

Planning

1. Does the Agency/state entity anticipate requesting additional resources through a budget action to **complete planning** through the project approval lifecycle framework? **No**

If Yes, when will a budget action be submitted to your Agency/DOF for planning dollars?

[Click or tap to enter a date.](#)

2. Please provide the Funding Source(s) and dates funds for planning will be made available:

Project Implementation Funding

1. Has the funding source(s) been identified for **project implementation**? **Yes**

If known, please provide the Funding Source(s) and dates funds for implementation will be made available:

[General Fund and Enterprise Fund](#)

Will a budget action be submitted to your Agency/DOF? **Yes**

If "Yes" is selected, specify when this BCP will be submitted: Fall 2026

2. Please provide a rough order of magnitude (ROM) estimate as to the total cost of the project:
[Between \\$50 Million and \\$100 Million](#)

End of agency/state entity document.

Please ensure ADA compliance before submitting this document to CDT.

When ready, submit Stage 1 and all attachments in an email to ProjectOversight@state.ca.gov.

Department of Technology Use Only

Original "New Submission" Date: [02/13/2026](#)

Form Received Date: [02/13/2026](#)

Form Accepted Date: [02/13/2026](#)

Form Status: [Complete](#)

Form Status Date: [02/13/2026](#)

Form Disposition: [Approved](#)

If Other, specify: [Click or tap here to enter text.](#)

Form Disposition Date: [02/13/2026](#)

Department of Technology Project Number (0000-000): [3860-093](#)