



Stage 2 Alternatives Analysis

California Department of Technology, SIMM 19B.2 (Ver. 3.0.8, 02/28/2022)

2.1 General Information

1. **Agency or State Entity Name:** 0860 - Equalization, State Board of

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

0860

2. **Proposal Name:** BOE IT Modernization (BOEM)

3. **Department of Technology Project Number (0000-000):** 0860-100

4. **S2AA Version Number:** Version 1

5. **CDT Billing Case Number:** CS0002634

Don't have a Case Number? [Click here to get one.](#)

2.2 Submittal Information

1. **Contact Information**

Contact Name: Harry Pon

Contact Email: harry.pon@cdtfa.ca.gov

Contact Phone: (916) 309-1738

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 an update or resubmission: (List all the sections that 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 [Procurement Assessment Form](#) to your email submission.
5. **Conditions from Stage 1 Approval** (Enter any conditions from the Stage 1 Business Analysis approval letter issued by CDT or your AIO):

No conditionals from Stage 1 Approval. Fully Approved.

2.3 Baseline Processes and Systems

1. Current Business Environment (Describe the current business environment of which the effort will be understood and assessed in 500 words)

In accordance with Section 19, Article XIII of the California Constitution, the BOE is responsible for the direct assessment of “state-assessed” properties. These properties include property owned or used in California by regulated railways, telecommunication companies, railroad car companies, utility companies transmitting or selling gas or electricity, and pipelines, flumes, canals and aqueducts lying within two or more counties. Using standard auditing and appraisal techniques, the BOE performs complex valuations of each taxpayer every year, as Proposition 13 does not apply. In the case of public utilities, railroads, and intercounty pipelines, the values determined are allocated among the taxing districts in which the property is located for inclusion on county assessment rolls so that taxes may be levied and collected. For private car lines (except fixed property), the values are placed on an assessment roll, and taxes are levied and collected by the BOE.

Each year, State assessees file property statements with the BOE, listing all their properties by situs with the associated costs and provide complete accounting and financial information on their properties and operations. From this and other available information, the BOE determines the value of each assessee's "unitary" property as a whole and the value of each “nonunitary” property. The values are allocated among applicable taxing districts, using the situs information provided in the taxpayer property statements. These allocated values are distributed among applicable taxing districts.

California Government Code section 15570.28 mandates that the California Department of Tax and Fee (CDTFA) provide all administrative services to BOE, including technology and infrastructure services.

This IT project proposes replacing BOE’s outdated state-assessed property’s legacy tax administration system with a modern cloud-based solution to enhance the efficiency, security, and scalability of BOE’s state assessments. The new system will integrate automation for better accuracy and compliance, streamline case management, augment data storage, enhance accessibility, reduce operational costs, and ensure seamless processing, ultimately improving taxpayer services and agency effectiveness (For more information on the Board Roll Process, please see the following link:

<https://www.boe.ca.gov/proptaxes/sappcont.htm#Description>

Tip: Current Environment costs will be asked for in the Financial Analysis Worksheet to be completed in Section 2.12.

Attach relevant documentation to email submission (i.e., business process, workflow, problem analysis, user/stakeholder list, research findings). If these types of documents are not available, please indicate “Not Available,” and explain the reason below:

Not available reason: [Click or tap here to enter text.](#)

2. Technical Context (Describe the technical environment of which the effort will be understood and assessed in 500 words)

The current BOE Board Roll Tax system is running on IBM models Z15 and Z16 mainframe systems on OS 2.4. This system is running antiquated software and is highly inefficient, requiring the agency to develop custom business processes and workarounds for basic business functions. These modified workarounds consist of network connected CDTFA/TSD servers, databases, and client laptop PCs running a long series of linked Microsoft Excel spreadsheets to perform the necessary SAPD tax and allocation computations. Since the system was developed almost 30 years ago, the valuation process is highly dependent on paper and manual processes, and the mainframe system includes restrictive templates that have not kept pace with the changing landscape of property assessment. Additionally, the mainframe system has limited capacity for modern interaction and interface, such as the inability for BOE to perform a simple address search function to find the owner of a specific property. Furthermore, BOE must use a print function to view information or obtain amounts computed by the system! With each passing year, new issues arise, leading to increased time and resource allocation for temporary fixes. This leaves staff overwhelmed and constrained by the complex maze of workarounds.

Attach relevant documentation to email submission (i.e., logical system environment diagrams, system interactions, business rules, application flows, stakeholder information, data flow charts). If these types of documents are not available, please indicate “Not Available,” and explain the reason below:

Not available reason: [Click or tap here to enter text.](#)

3. Data Management (Enter the information to indicate the data owner and custodian of the current system, if applicable.)

Data Owner Name: [Jack McCool](#)

Data Owner Title: [State Assessed Properties Division Chief](#)

Data Owner Business Program area: [State Assessed Properties Division \(SAPD\)](#)

Data Custodian Name: [Lucy Vang](#)

Data Custodian Title: [Supervising Property Appraiser](#)

Data Custodian Technical area: [SAPD \(State Assessed Properties Division\) Tax Data](#)

Security - Data Classification and Categorization [Yes](#)

Security - Privacy Threshold & Impact Assessment. [Yes](#)

4. Existing Data Governance and Data

a) Do you have existing data that must be migrated to your new solution?

Answer (Unknown, Yes, No): [Yes](#)

If data migration is required, please rate the quality of the data.

Select data quality rating: [No issues identified](#).

- b) Does the Agency/state entity have an established data governance body with well-defined roles and responsibilities to support data governance activities?

Answer (Unknown, Yes, No): [Yes](#)

If Yes, include the data governance organization chart as an attachment to your email submission.

- c) Does the Agency/state entity have data governance policies (data policies, data standards, etc.) formally defined, documented, and implemented?

Answer (Unknown, Yes, No): [Yes](#)

If Yes, include the data governance policies as an attachment to your email submission.

- d) Does the Agency/state entity have data security policies, standards, controls, and procedures formally defined, documented, and implemented?

Answer (Unknown, Yes, No): [Yes](#)

If Yes, attach the existing documented security policies, standards, and controls used to your email submission.

- e) Does the Agency/state entity have user accessibility policies, standards, controls, and procedures formally defined, documented, and implemented?

Answer (Unknown, Yes, No): [Yes](#)

If Yes, attach the existing documented policies, accessibility governance plan, and standards used to the email submission.

5. Security Categorization Impact Table

Consult the [SIMM 5305-A Information Security Program Management Standard - Security Categorization Impact Table](#).

Attach a table (in PDF) that categorizes and classifies the agency/state entity's information assets related to this effort (e.g., paper and electronic records, automated files, databases requiring appropriate protection from unauthorized use, access, disclosure, modification, loss, or deletion). Each information asset for which the agency/state entity has ownership responsibility shall be inventoried and identified.

6. Security Categorization Impact Table Summary

Consult the [SIMM 5305-A Information Security Program Management Standard - Security Categorization Impact Table](#) to provide potential impact levels of the following areas:

Confidentiality: [High](#)

Integrity: [High](#)

Availability: High

7. Technical Complexity Score: 3.2

(Attach a [SIMM Section 45 Appendix C](#) with Business and Technical Complexity sections completed to the email submission.)

2.4 Requirements and Outcomes

At this time in the project planning process, requirements and outcomes should be documented and indicative of how the Agency/State Entity envisions the final solution. This shall be accomplished either in the form of mid-level requirements (predictive methodology)/business capabilities or representative epics and user stories (adaptive methodology) that will become part of the product backlog. The requirements or representative epics and user stories must tie back to the Objectives detailed in the Stage 1 Business Analysis. Regardless of which tool/method is used, an understanding of the following, at a minimum, must be clearly articulated:

- Functional requirements
- Expected user experience(s)
- Expected system outcome
- Expected business operations (e.g., How do you envision operations in the future?)
- Alignment to the project's objectives identified in Stage 1
- Product ownership (e.g., Who owns these requirements?); and
- Verification of need(s) fulfillment (e.g., How will success be measured?)

Tip: If providing requirements, the recommended range of requirements is between 50 and 100.

Attach Requirements and/or Outcomes narratives, mid-level requirements, and/or epics/user stories to submission email.

2.5 Assumptions and Constraints

Relevant assumptions and constraints help define boundaries and opportunities to shape the scope and complexity of the project.

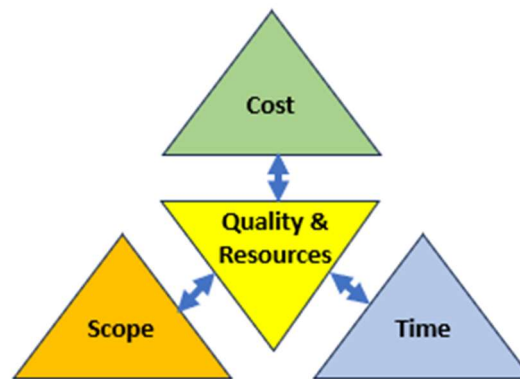
Assumption: Primary Assumptions Are the Following:

1. Project is Fully Funded to Completion
2. Project is Fully Staffed with the Right Resources Through Completion
3. The Technology Components Are Available To Create And Implement The Solution
4. The Original Project Scope is Maintained
5. Solution Training and Knowledge Transfer Will Be Provided

Description/Potential Impact: The Potential Impact to the Primary Assumptions Listed Above, Respectively, Are:

1. Without funding and money, the development expenses to implement and complete the solution for procurement and ownership cannot be paid. Without money, nothing happens.
2. Without the correct and adequate quantity of staffing personnel to the project will jeopardize the success of creating and implementing the solution. Having the wrong skill set staff will impact the correct and proper functioning of the solution and the timely delivery of the solution.
3. The solution will not be completed unless the critical technology components are available for use or purchase.
4. Without focus and commitment to the original project scope, the project will be impacted with “scope creep” of feature and function add-ons that will further impact solution functionality and completion in a timely manner.
5. Without the proper training of the users and the solution administrators, the solution will not be fully utilized to its fullest potential and its administration and maintenance will be marginalized in key updates possibly with security, proper user access, and code updates.

Constraint: The key project constraint factors are the following:



1. Time: Will the project be completed on time?
2. Quality and/or Employee Resources: The project is adequately staffed for success to produce quality results
3. Scope: Did the project meet all the Scope Requirements?
4. Cost: Did the project meet budgeted or contracted costs?

Description/Potential Impact: Potential Impact on the Above Constraints is Respectively:

5. Time Impact:
 - a. Hastily done work could introduce errors, form, fit, and function
 - b. Increased costs due to late implementation, with delayed solution gratification and ROI (Return on Investment)
 - c. The project is completed on time to use
6. Quality and/or Employee Resources Impact:
 - a. Need the right qualified employees on the project to do the work correctly and expediently
 - b. Skill ill-equipped employees will require training and impact the schedule for time to productivity
7. Scope Impact:

- a. Wander scope with add-on does not create a definitive project end point
 - b. Limited scope can also **limit** improvement discoveries during the course of solution implementation
 - c. Unnecessary or unforeseen change orders to the scope will impact cost and **possibly** the schedule completion time.
8. **Cost Impact:**
- a. Unnecessary or unforeseen change orders to the scope will impact cost
 - b. Budget limitations and funding timing due the fiscal calendar can delay payments and hinder project completion progress and schedule.

TIP: Copy and paste to add Assumptions/Constraints with Descriptions/Impacts as needed.

2.6 Dependencies

Dependencies are elements or relationships in a project reliant on something else occurring before the function, service, interface, task, or action can begin or continue.

Dependency Element:

No.	Dependency Element	Dependency Element Description
1	Training	The vendor will train users on access, use, and navigation of the finished solution.
2	Funding Money	Funding will be available for the duration of the project.
3	ETL (Extract Transfer Load)	Account Data Migration cleanup and validation required.
4	User Accessibility	User Authentication will rely on Active Directory.
5	Project Manager	Providing a CDTFA Project Manager.
6	Resource Availability	All CDTFA and BOE project resources are available to help implement the solution
7	Contract Execution	Solution is fully implemented per the contract and is completed correctly and on time.
8.	Vendor Employee Pass COI and Security Clearance	Vendor resources, sign a conflict of interest (COI) document, pass fingerprinting security background checks, and pass CDTFA security training classes

Dependency Description:

No.	Dependency Element Description	Dependency on a specific enabling function, service, interface, task, or action to begin or continue
1	The vendor will train users on access, use, and navigation of the finished solution.	1. Vendor supplied an in-person trainer 2. Vendor provides class handout material

		3. BOE provides the coordinating venue
2	Funding will be available for the duration of the project.	1. The BCP (Budget Change Proposal) is fully funded
3	Account Data Migration cleanup and validation required.	1. Internal and External Data sources to help adjudicate account data. 2. Business rules exist for data validation 3. Data migration path from the IBM mainframe to the cloud solution is investigated and deemed possible
4	User Authentication will rely on Active Directory.	1. Set up Active Directory
5	Providing a CDTFA Project Manager.	1. Vendor provides a coordinating project manager 2. Project planning tools are compatible, i.e. use Microsoft Project software
6	All CDTFA and BOE project resources are available to help implement the solution	1. All CDTFA competing projects' resources are released to the BOEM project per schedule
7	Solution is fully implemented per the contract and is completed correctly and on time.	1. Vendor will provide a project manager and a project schedule to complete the project 2. Vendor will provide an experienced Solution Implementation Manager 3. Vendor will provide an experienced Technical Lead
8.	Vendor resources, sign a conflict of interest (COI) document, pass fingerprinting security background checks, and pass CDTFA security training classes	1. Vendor's key staff and resources must be enabled before starting project work. If they do not, the scheduled start date and time will be impacted

TIP: Copy and paste to add Dependency Elements and Descriptions as needed.

2.7 Market Research

Market Research ([CDT Market Research Guidelines](#)) determines whether products or services available in the marketplace can meet the business needs identified in this proposal. Market Research can also determine whether commercial practices regarding customizing/modifying products or tailoring services are available, or even necessary, to meet the business needs and objectives of the business.

Before undertaking a Market Research approach. Contact your PAO Manager to schedule a collaborative review to review planning to date and discuss the procurement approach.

1. Project Management Methodology: Predictive Approach (Waterfall)

2. Procurement approach recommended: Standard Procurement

3. Market Research Approach

Provide a concise narrative description of the approach used to perform market research.

1. A standard Request for Information (RFI) document was created for market response solicitation via CDTFA Acquisitions Management Section (AMS). The RFI document contained the following sections:
 - Board of Equalization (BOE) Background
 - BOE Problem Statement
 - Vendor Statement of Work
 - Solution Technical Requirements
 - Vendor Narrative Response Questions
 - Seeking Solution Guidance
 - Solution Implementations Suggestions (COTS, MOTS, SaaS, Custom, etc.)
 - Providing A Full Conceptual Solution Implementation, Rough Order Of Magnitude (ROM) Cost Estimates.
 - Providing A Rough Time Estimate To Implement The Full Solution
2. A Google search to find possible Tax Administration Providers was completed with summary assessments
3. Obtained technology approach user reference and feedback from the California State Office of Tax Appeal (OTA) in regard to their Software as a Solution (SaaS) product.

4. Market Research Artifacts

Market Research Artifacts can include internet research, collaboration with other governmental entities, or other documentation.

Market Research Summary: (See attached document for full Market Research and Artifacts Document)

Request for Information (RFI) Summary:

The BOEM project followed the Market Research Guidelines as outlined by CDT:

Market Research Lifecycle:



The objectives were defined, and corresponding methods to achieve them were developed. Subsequent research materials and tasks were completed, and the data collected and analyzed. Lastly, the market research results were documented.

The BOEM project market research was very successful, worthwhile, and the objectives were accomplished. It provided the project with a more in-depth understanding of the market providers,

alternative solutions, and solution rough order of magnitude (ROM) cost estimates, which assisted in ranking the various alternative solutions for the PAL Stage 2 Solutions Alternatives analysis.

One of the primary objectives of the project’s second RFI was to obtain ROM cost estimates for the various alternative solutions and a project solution implementation completion time estimate. The ROM cost estimates provide some “ballpark” cost estimates to facilitate our Budget Change Proposal (BCP) submission, Financial Analysis Worksheet (FAW), and alternative solutions selection.

The table below summarizes the project’s second RFI effort with nine RFI(2) vendor responses totaling 208 pages and the team’s score total for the solution alternative approach. Only four vendors provided a solution ROM cost estimate:

Vendor	City	State	Solution Approach (Platform)	Total Score	% of Total	High ROM	Low Rom
Boston Consulting Group (BCG)	Boston	MA	Hybrid (COTS + Custom)	405	89%		
IBM	San Francisco	CA	SaaS (Sales Force Modules)	396	87%		
Data Terrain	Palo Alto	CA	Full Custom (Integrate SaaS Modules)	389	85%	\$ 7,260,000.00	
OnCore-Voyatek	Rancho Cordova	CA	MOTS (Rapid Platform)	380	84%	\$ 20,800,000.00	\$ 14,300,000.00
FedTec	Reston	VA	MOTS (Pega System) with SaaS Hosting Model	372	82%	\$ 6,500,000.00	\$ 5,000,000.00
Peraton State & Local LLC	Chantilly	VA	Full Custom	350	77%		
OSaaS (Outreach SaaS)	Sacramento	CA	SaaS (Microsoft Dynamics 365 and Power Pages)	305	67%		
Chart Room	Pasadena	CA	Full Custom (Mendix)	265	58%	\$ 1,196,546.67*	
Lovable	San Francisco	CA	Full Custom	252	55%		

* Used the averaged cloud hosting cost of \$416,666.67 from the other vendors since Chartroom did not provide a hosting cost

The averaged-out solution implementation completion time estimates from the vendor responses were 18 to 24 months. The implementation completion time varies with the respective solution approach, with some shorter times.

Only four of the nine vendors utilized the optional 60-minute solution/demonstration opportunity. These vendors were:

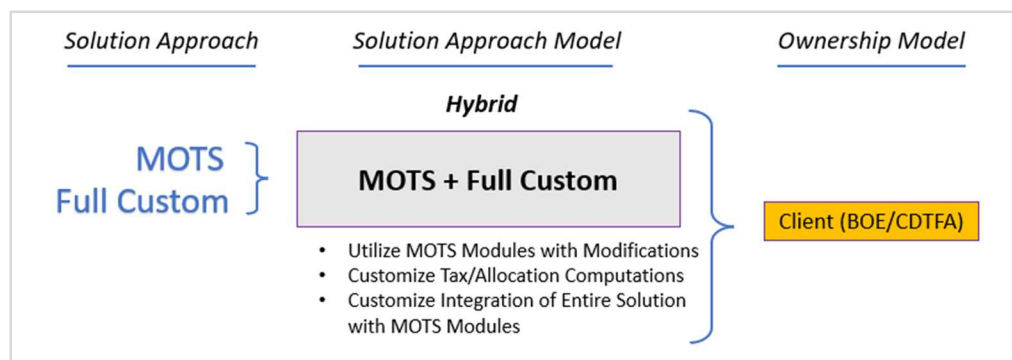
- 1) Boston Consulting Group (BCG)
- 2) Oncore/Voyatek
- 3) Data Terrain
- 4) IBM (Provide Live Demo)

Upon the team’s scoring of the technology approach responses, reviewing the aggregate scoring and reviewing the Pro’s and Con’s (see table) of the solution alternatives, COTS, MOTS, Full Custom, SaaS, Hybrid, the project decided from the scoring results for our Stage 2 alternatives with the choice of Hybrid as our primary for solution development for PAL stage 3. Hybrid aligns best for the BOEM project needs because of BOE’s unique Board Roll Unitary Allocation/Tax and Private Rail Car Tax Computations, which the project did not see any “out of the box” solution that could do this for the BOEM tax and allocation purposes, which leads to the top 3 solution alternatives:

1. Hybrid (MOTS + Custom)
2. Full Custom
3. SaaS

The Hybrid solution approach meets and aligns best with the project's requirements due to these primary reasons:

- 1) Ability to modify off-the-shelf (MOTS) software modules
- 2) Utilize custom software code to calculate SAPD (STATE ASSESSED PROPERTIES DIVISION)'s *unique* board roll of unitary values for taxation and to determine the Private Rail Car (PRC) tax with the collection thereof.
- 3) Utilize custom software code to integrate the MOTS modules and the custom tax computational software code to complete the whole solution as illustrated below:



Market Research Objectives and Approach

The BOEM IT Modernization project market research objectives were:

- Know and understand the various solution providers and their respective solution approaches for our PAL Stage 2 Alternatives Analysis and Solution approach selection via RFI:
 - Commercial Off the Shelf (COTS) Solution
 - Modified Off the Shelf (MOTS) Solution
 - Custom Design Solution
 - Hybrid (Combination of the above)
- Obtain ROM cost estimates of the various solution approaches from an RFI to assist with the project Budget Change Proposal (BCP) document completion and information for our Financial Analysis Workbook (FAW) analysis.
- Obtain solution implementation time estimates for project planning from an RFI
- Perform a Google Web Search of Various Tax Solutions Companies and Approaches
- Contact and obtain reference feedback from other California State Agencies, and feedback from any users of researched technology approaches

The RFI(2) document (described later in this document) was created by the team and administered by the California Department of Tax and Fee Administration's Acquisitions Management Section (AMS) via Cal e-Procure. The Google web searches and Stage Agency reference contacts were done by the team.

Attach Market Research artifacts to the email submission.

2.8 Viable Alternative Solutions

The CDT expects Agencies/state entities to conduct a thorough analysis of all feasible alternatives that will meet the proposal's objectives and requirements. Agencies/state entities should provide at minimum the three (3) most viable solutions, one (1) of which could be leveraging and/or enhancing the existing solution (if applicable).

1. Viable Alternative Solution #1

Name: Hybrid

Description: The solution will be created using a hybrid of cloud native services, integrating appropriate MOTS/SaaS module elements, and using custom programming to meet required business algorithms for tax calculation to complete the entire solution.

The hybrid solution will be developed using a combination of MOTS/SaaS cloud services and custom programming to satisfy business requirements.

Why is this a viable solution? Please explain:

The BOE's requirements are unique in that a single COTS or a combination of COTS products does not exist or suffice "out of the box". This hybrid solution approach is the best viable alternative as it uses editable MOTS/SaaS software modules and custom coding to solve the unique BOE computational and business requirements to complete the full integrated solution requirements. The business needs of the program are very mature and do not require regular updates. Once the system is live, the need for custom programming ends, and the long-term cost of maintaining the cloud infrastructure and services will be scaled to meet the business's needs.

Approach

Increase staff – new or existing capabilities: No

Modify the existing business process or create a new business process: Yes

Reduce the services or level of services provided: No

Utilize new or increased contracted services: No

Enhance the existing IT system: No

Modify Statute/Policy/Regulations: No

Please Specify: NA

Create a new IT system: Yes

Other: No Specify: NA

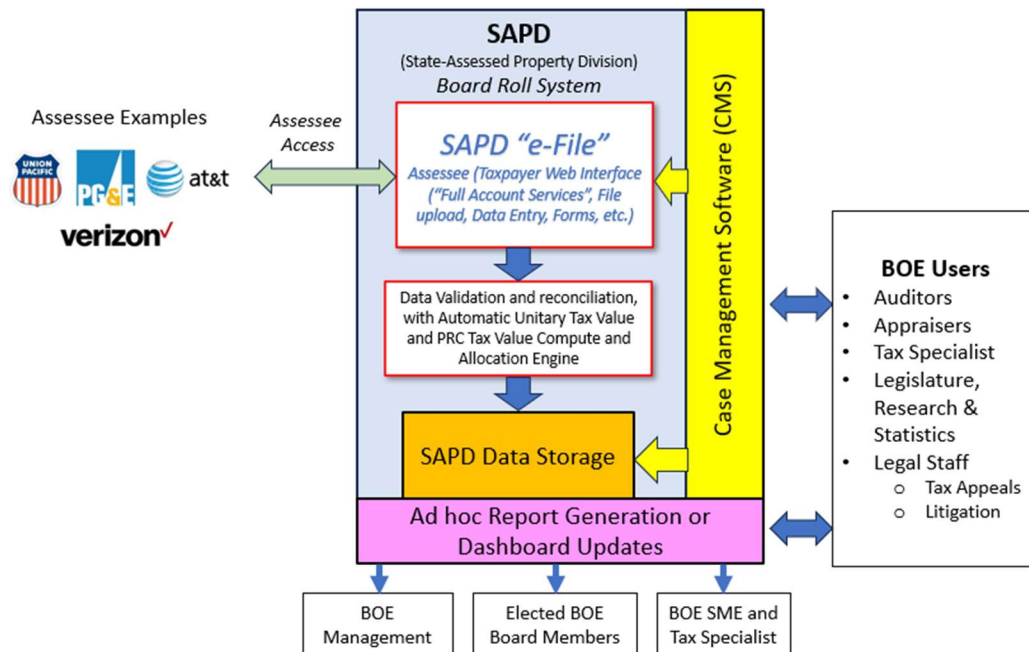
Architecture Information

Business Function(s)/Process(es):

SAPD (STATE ASSESSED PROPERTIES DIVISION) Board Roll
 Private Railroad Car
 Real Property Appraisal

TIP: Copy and paste or click the + button in the lower right corner to add business processes with the same application, system, or component; COTS/Cloud Technology or custom solution; runtime environment; system interfaces, data center location; and security.

Conceptual Architecture



COTS/SaaS/Cloud Technology or Custom: COTS/SaaS/Cloud Technology

Name/Primary Technology: **Hybrid/** MOTS-SaaS Software Modules with Custom Software Coding Implemented and Hosted in a **Cloud Native Technology**

TIP: Copy and paste or click the + button in the lower right corner to add system software information if the application, system, or component uses additional system software.

Explain Existing System Interfaces:

- Direct Interface and User Access to the IBM mainframe computer
- Interface to designated printers
- Interfaces to CDTFA/TSD Servers
- Microsoft Office 365 Hosted Applications and Services

Explain New System Interfaces:

1. Access Interfaces For The User Interface (UI) To The New Solution’s Functional Components, Such As The Case Management And Data Visualization Components
2. Interfaces To The Computer Layer, Tax Computational Engine, And Processing Framework

3. Data Import/Export Pipelines (FTP- File Transfer Protocol)
4. ETL (Extract, Transfer, Load) Interfaces For Data Migration
5. API's (Application Programming Interface) To Various Data Sources
6. Engines For Workflows
7. GIS (Geographic Information System)
8. Public Web Portal Access To The New E-File System
9. Services Layer
10. Security/User Access Layer
11. Storage Layer, Data Warehouse, Database(s)
12. Data Visualization Layer

Data Center Location of the To-be Solution: Agency/state entity operated by agency/state entity

If Other, specify: NA

Security

Access

Public: Yes

Internal State Staff: Yes

External State Staff: No

Other: No Specify: NA

Type of Information (Select Yes or No for each to identify the type of information that requires protection. See the SAM Section 5305.5 for more information.)

Personal: No

Health: No

Tax: Yes

Financial: Yes

Legal: No

Confidential: Yes

Other: No Specify: NA

Protective Measures (Select Yes or No to identify the protective measures used to protect information.)

Technical Security: Yes

Physical Security: Yes

Backup and Recovery: Yes

Identity Authorization and Authentication: Yes

Other, specify: Disaster Recovery

Total Viable Alternative #1 Solution Cost (copy from FAW – Executive Cost Summary tab, cells E7 through E11):

Planning Costs: \$299,395

One-Time (Project) Costs: \$15,274,560

Total Future Ops. IT Staff OE&E Costs: \$668,262

Total Proposed Cost: \$16,124,216

Annual Future Ops. Costs (M&O): \$668,262

2. Viable Alternative Solution #2

Name: Full Custom

Description: The solution will be a custom-coded build in a cloud-native solution environment. It will fulfill the extensive business processes, analysis, and unique tax computational needs that will re-architect the applications and databases to a new solution.

The solution will be custom developed in a cloud environment to satisfy business and security requirements.

Why is this a viable solution? Please explain:

The BOE's requirements are unique, and a single COTS product or a combination of COTS products does not exist or suffice "out of the box". The full custom solution approach is a viable alternative because it uses full custom coding designed and tailored to address the specific BOE business needs, unique computation calculations, and business support requirements.

The program's business needs are very mature and do not require regular updates. Once the system is live, however, some specific data for the Board Roll will need to be adjusted annually. These custom software code changes may be done by the CDTFA/TSD applications support team or may require ongoing vendor interaction to make annual changes to the system on behalf of the program, depending on the total cost of ownership model chosen.

The BOE's requirements cannot be satisfied using a single COTS or a combination of COTS products. The full custom solution approach is a viable alternative because it is developed to satisfy specific and unique BOE requirements. The programs are very mature and do not require regular updates. Once the system is live, the need for custom programming will be minimal, and the long term cost of maintaining the system will be scaled to meet the business needs.

Approach

Increase staff – new or existing capabilities: No

Modify the existing business process or create a new business process: Yes

Reduce the services or level of services provided: No

Utilize new or increased contracted services: No

Enhance the existing IT system: No

Modify Statute/Policy/Regulations: No

Please Specify: NA

Create a new IT system: Yes

Other: No Specify: NA

Architecture Information

Business Function(s)/Process(es):

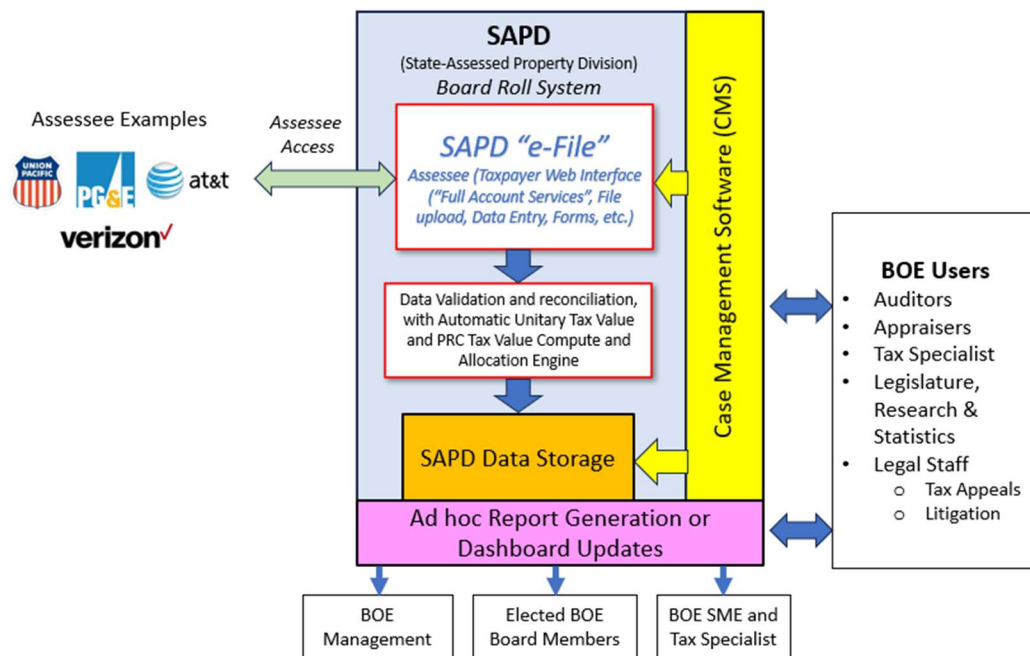
SAPD (State Assessed Properties Division) Board Roll

Private Railroad Car

Real Property Appraisal

TIP: Copy and paste or click the + button in the lower right corner to add business processes with the same application, system, or component; COTS/Cloud Technology or custom solution; runtime environment; system interfaces, data center location; and security.

Conceptual Architecture



COTS/SaaS/Cloud Technology or Custom: Custom

Name/Primary Technology: Custom / Custom Software Coding Implemented and Hosted in a Cloud Native Technology

TIP: Copy and paste or click the + button in the lower right corner to add system software information if the application, system, or component uses additional system software.

Explain Existing System Interfaces:

Direct Interface and User Access to IBM mainframe computer
Interface to designated printers
Interfaces to CDTFA/TSD Servers
Microsoft Office 365 Hosted Applications and Services

Explain New System Interfaces:

1. Access Interfaces For The User Interface (UI) To The New Solution's Functional Components, Such As The Case Management And Data Visualization Components
2. Interfaces To The Computer Layer, Tax Computational Engine, And Processing Framework
3. Data Import/Export Pipelines (FTP- File Transfer Protocol)
4. ETL (Extract, Transfer, Load) Interfaces For Data Migration
5. API's (Application Programming Interface) To Various Data Sources
6. Engines For Workflows
7. GIS (Geographic Information System)
8. Public Web Portal Access To The New E-File System
9. Services Layer
10. Security/User Access Layer
11. Storage Layer, Data Warehouse, Database(s)
12. Data Visualization Layer

Data Center Location of the To-be Solution: Agency/state entity operated by agency/state entity

If Other, specify: NA

Security

Access:

Public: Yes

Internal State Staff: Yes

External State Staff: No

Other: No Specify: NA

Type of Information (Select Yes or No for each to identify the type of information that requires protection. See the SAM Section 5305.5 for more information.)

Personal: No

Health: No

Tax: Yes

Financial: Yes

Legal: Yes

Confidential: Yes

Other: No Specify: NA

Protective Measures (Select Yes or No to identify the protective measures used to protect information.)

Technical Security: Yes

Physical Security: Yes

Backup and Recovery: Yes

Identity Authorization and Authentication: Yes

Other, specify: Disaster Recovery

Total Viable Alternative #2 Solution Cost (copy from FAW – Summary tab, cell AL33):

Total Proposed Cost: \$19,786,276

3. Viable Alternative Solution #3

Name: Software as a Solution (SaaS)

Description: The solution will utilize Software as a Service by leveraging existing functionality, available SaaS software modules, and using existing configuration as the standard approach to the solution. The solution is also cloud-based.

The solution will be developed using Software as a Service to satisfy business requirements, tax and allocation computations, and supporting business needs.

Why is this a viable solution? Please explain:

The BOE's requirements are unique, where a single COTS or a combination of COTS products does not exist or suffice "out of the box." The SaaS solution approach is a viable alternative, as it uses a variety of SaaS software solution modules in the SaaS provider library for a possible "plug-and-play" solution to satisfy the BOE business, tax and allocation computations, and supporting business needs.

The business needs of the program are very mature and do not require regular updates. Once the system is live, there will be a need to adjust some specific data annually for the Board Roll. This will require ongoing vendor interaction to make annual changes to the system on behalf of the program.

Approach

Increase staff – new or existing capabilities: No

Modify the existing business process or create a new business process: Yes

Reduce the services or level of services provided: No

Utilize new or increased contracted services: No

Enhance the existing IT system: No

Modify Statute/Policy/Regulations: No

Please Specify: NA

Create a new IT system: Yes

Other: No Specify: NA

Architecture Information

Business Function(s)/Process(es):

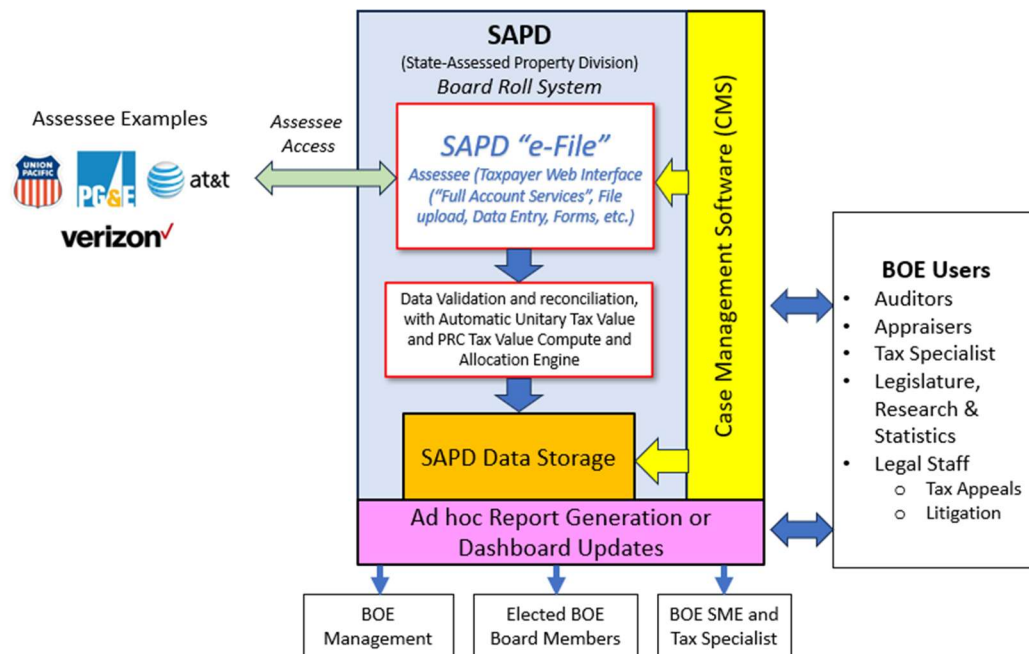
SAPD (State Assessed Properties Division) Board Roll

Private Railroad Car

Real Property Appraisal

TIP: Copy and paste or click the + button in the lower right corner to add business processes with the same application, system, or component; COTS/Cloud Technology or custom solution; runtime environment; system interfaces, data center location; and security.

Conceptual Architecture



COTS/SaaS/Cloud Technology or Custom: COTS/SaaS/Cloud Technology

Name/Primary Technology: SaaS

TIP: Copy and paste or click the + button in the lower right corner to add system software information if the application, system, or component uses additional system software.

Explain Existing System Interfaces:

Direct Interface and User Access to the IBM mainframe computer
Interface to designated printers
Interfaces to CDTFA/TSD Servers
Microsoft Office 365 Hosted Applications and Services

Explain New System Interfaces:

1. Access Interfaces For The User Interface (UI) To The New Solution's Functional Components, Such As The Case Management And Data Visualization Components
2. Interfaces To The Computer Layer, Tax Computational Engine, And Processing Framework
3. Data Import/Export Pipelines (FTP- File Transfer Protocol)
4. ETL (Extract, Transfer, Load) Interfaces For Data Migration
5. API's (Application Programming Interface) To Various Data Sources
6. Engines For Workflows
7. GIS (Geographic Information System)
8. Public Web Portal Access To The New E-File System
9. Services Layer
10. Security/User Access Layer
11. Storage Layer, Data Warehouse, Database(s)
12. Data Visualization Layer

Data Center Location of the To-be Solution: Commercial data center

If Other, specify: NA

Security

Access:

Public: Yes

Internal State Staff: Yes

External State Staff: No

Other: No Specify: NA

Type of Information (Select Yes or No for each to identify the type of information that requires protection. See the SAM Section 5305.5 for more information.)

Personal: No

Health: No

Tax: Yes

Financial: Yes

Legal: Yes

Confidential: **Yes**

Other: **No** Specify: **NA**

Protective Measures (Select Yes or No to identify the protective measures used to protect information.)

Technical Security: **Yes**

Physical Security: **Yes**

Backup and Recovery: **Yes**

Identity, Authorization and Authentication: **Yes**

Other, specify: **Disaster Recovery**

Total Viable Alternative #3 Solution Cost (copy from FAW – Summary tab, cell AL50):

Total Proposed Cost: **\$27,671,584**

2.9 Project Organization

Project planning includes the process of identifying how and when specific labor skill sets are needed to ensure that the proposed project has sufficient staff with the appropriate knowledge and experience by the time the project moves into execution. All staff identified in the following sections should be included in the Financial Analysis Worksheet to be completed in Section 2.12.

1. Project Organization Chart:

Attach the Project Organization Chart to your email submission.

2. Is the department running this project as a matrixed or projectized organization?

Projectized

In each of the following sections, provide a concise description of the approach to staffing the proposed project, including contingencies for business/program, IT, or administrative areas to maintain ongoing operations in conjunction with the proposed project.

1. Administrative

Joint administrative oversight and guidance from the Board of Equalization, Executive managers and CDTFA Technology Services Division (TSD) managers, and the project manager.

2. Business Program

State Assessed Properties Division

3. Information Technology

CDTFA/TSD will provide all necessary IT and application support resources.

4. Testing

Solution Platform Testing will be done in collaboration with the Vendor Tester Lead and CDTFA/TSD Test and Platform Administrative Personnel.

User Acceptance Testing (UAT) will primarily be conducted by BOE employees, with some CDTFA employees. The estimated UAT team participants will be 85% BOE and 15% CDTFA.

5. Data Conversion/Migration

Data Conversion and migration strategy and plan will done in collaboration with the selected vendor. The vendor will implement the data conversion and migration plan.

6. Training

The vendor will provide training and knowledge transfer. The users, technical administrative staff, support staff, and the project desire an in-person classroom training environment with a paper-bound guide/manual.

7. Organizational Change Management

See the Master Project Management Plan (PMP) Document

8. Resource Capacity/Skills/Knowledge for Stage 3 Solution Development

This narrative should include the experience level and quantity of procurement, contract management, and budget staff who will be responsible for the Stage 3 Solution Development.

The following table lists the resources planned to assist with the stage 3 solution development:

No.	Resource	Skills/Knowledge Level	Quantity Needed
1	Project Manager (PM)	<ul style="list-style-type: none">Experienced Senior PM with a minimum of 3 managed projects	1
2	Procurement Officer or Analyst	<ul style="list-style-type: none">Experienced and Strategic With Traditional RFP ProcurementsExperienced Contractor WriterTalented "No Holds Bar" Negotiator for all Discussions	1
3	Technology Manager	<ul style="list-style-type: none">Senior Manager with Platform and Cloud Hosting Knowledge	1
4	Business Owner	<ul style="list-style-type: none">Senior Managers or Chiefs with in-depth knowledge of business workflows and business rules	2

5	Subject Matter Experts (SME) / Business Analyst (BA)	<ul style="list-style-type: none"> • Subject Matter Experts in Tax and Allocation Calculations • Subject Matter Experts in private rail car tax and collection thereof • Subject Matter Experts with detailed knowledge of business workflows and business rules 	3
6	Enterprise Cloud Architect	<ul style="list-style-type: none"> • Senior enterprise cloud architect with hosting, interface, and security knowledge 	1
7	Data Owner	<ul style="list-style-type: none"> • Senior manager or chief with business and program oversight • Knows the business's data types and needs 	1
8	Data Steward	<ul style="list-style-type: none"> • Senior SME with in-depth knowledge of the business's data structure to help define the data dictionary and metadata strategy. 	2
9	Security/Network Architect	<ul style="list-style-type: none"> • Senior Security Architect from Perimeter Defense, Identity & Access, to Business Core Security Protocols Knowledge with Real Time Detection, Threat Intelligence, Incidence Response, Compliance Audit, and Security Analytics. • Senior Networking Specialist to design and examine the physical and logical structure of the network to optimize computer and internet /telephony communication network speed, efficiency, and security. 	1

2.10 Project Planning

1. Project Management Risk Assessment

Updated Project Management Risk Score: [5.5](#)

Attach Updated PM Risk Assessment to your email submission. [SIMM Section 45A](#)

2. Project Charter

Is your project charter approved by the designated Agency/state entity authority and available for the Department of Technology to review? **Choose:** 'Yes,' 'No,' or 'Not Applicable.' If 'No' or 'Not Applicable,' provide the artifact status in the space provided.

[Project Charter \(Approved\): Yes](#)

Status: NA

Attach a copy of the Project Charter to your email submission.

3. Project Plans

Are the following project management plans or project artifacts approved by the designated Agency/state entity authority and available for the Department of Technology to review?

Choose: 'Yes,' 'No,' or 'Not Applicable.' If 'No' or 'Not Applicable,' provide the artifact status in the space provided.

Note: For Low to medium complexity and cost projects, discuss with your PAO manager the option of submitting a Master Project Management Plan in place of individual plans.

The PAO manager agreed that a master project management plan was suitable for the size of the BOE Modernization project. Please see the attached BOEM PMP document.

[Scope Management Plan \(Approved\)](#): Choose an item.

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

[Communication Management Plan \(Approved\)](#): Choose an item.

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

[Schedule Management Plan \(Approved\)](#) : Choose an item.

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

[Procurement Management Plan \(Approved\)](#): Choose an item.

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

[Requirements Management Plan \(Approved\)](#): Choose an item.

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

[Stakeholder Management Plan \(Draft\)](#): Choose an item.

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

[Governance Plan \(Draft\)](#): Choose an item.

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

[Contract Management Plan \(Draft\)](#): Choose an item.

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

[Resource Management Plan \(Draft\)](#): Choose an item.

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

[Change Control Management Plan \(Draft\)](#): Choose an item.

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

[Risk Management Plan \(Draft + Risk Log\)](#): Choose an item.

Status: Click or tap here to enter text.

[Issue and Action Item Management Plan \(Draft + Issue Log\)](#): Choose an item.

Status: Click or tap here to enter text.

[Cost Management Plan \(Approved if planning BCP approved\)](#): Choose an item.

Status: Click or tap here to enter text.

4. Project Roadmap (High-Level)

Attach a high-level Project Roadmap showing remainder of planning phase and transition into execution phase to the email submission.

- a) Planning Start Date: [7/6/2026](#)
- b) Estimated Planning End Date: [9/30/2027](#)
- c) Estimated Project Start Date: [7/20/2026](#)
- d) Estimated Project End Date: [12/17/2027](#)

2.11 Data Cleansing, Conversion, and Migration

If in Section 2.3 (above) the answer to the question “Do you have existing data that must be migrated to your new solution?” was marked “Yes,” please complete this section.

The California Department of Technology recommends having a Data Consultant start data cleansing, conversion, and migration activities as soon as possible.

Identify the status of each of the following data activities. If “Not Applicable” is chosen, explain why the activity is not applicable or if “Not Started” is chosen, explain when the activity will start and its anticipated duration:

1. Current Environment Analysis: **Not Started**

The project will coordinate with the selected vendor per the project schedule.

2. Data Migration Plan: **Not Started**

The project will coordinate with the selected vendor per the project schedule.

3. Data Profiling: **Not Started**

The project will coordinate with the selected vendor per the project schedule.

4. Data Cleansing and Correction: **Not Started**

The project will coordinate with the selected vendor per the project schedule.

5. Data Quality Assessment: Not Started

The project will coordinate with the selected vendor per the project schedule.

6. Data Quality Business Rules: Not Started

The project will coordinate with the selected vendor per the project schedule.

7. Data Dictionaries: Not Started

The project will coordinate with the selected vendor per the project schedule.

8. Data Conversion/Migration Requirements: Not Started

The project will coordinate with the selected vendor per the project schedule.

2.12 Financial Analysis Worksheets

Attach [F.2 Financial Analysis Worksheet\(s\)](#) to the email submission.

End of agency/state entity document.

Please ensure ADA compliance before submitting this document to CDT.

When ready, submit Stage 2 and all attachments in an email to ProjectOversight@state.ca.gov.

Department of Technology Use Only

Original “New Submission” Date: [06/27/2025](#).

Form Received Date:[07/22/2025](#).

Form Accepted Date: [07/22/2025](#).

Form Status: [Completed](#)

Form Status Date:[1/9/2026](#)

Form Disposition: [Approved](#)

Form Disposition Date: [1/9/2026](#)