Fiscal Year	Business Unit	Department	Priority No.
2022-23	7730	Franchise Tax Board	1

Budget Request Name	Capital Outlay Program ID	Capital Outlay Project ID

Project Title
FTB Central Office Campus Data Center Upgrades

Project Status and Type
Status: ☐ New ☒ Continuing Type: ☒Major ☐ Minor

Project Category *(Select one)*

☒CRI *(Critical Infrastructure)*	☐WSD *(Workload Space Deficiencies)*	☐ECP *(Enrollment Caseload Population)*	☐SM *(Seismic)*
☐FLS *(Fire Life Safety)*	☐FM *(Facility Modernization)*	☐PAR *(Public Access Recreation)*	☐RC *(Resource Conservation)*

Total Request (in thousands)	Phase(s) to be Funded	Total Project Cost (in thousands)
$ 25,066	Construction Phase	$ 26,683

Budget Request Summary

The Franchise Tax Board (FTB) requests $25.1 million General Fund for the data center Construction phase in 2022-23. Total project costs are estimated at $26.7 million, including Preliminary Plans $680,000, Working Drawings $937,000, and Construction $25.1 million. The construction amount includes $21.6 million for the construction contract, $1.5 million for contingency, $1 million for architectural and engineering services, and $897,000 for other project costs. Preliminary Plans began in July 2021 and were approved in January 2022. Working Drawings began in January 2022. Construction is scheduled to begin February 2023 and will be completed in January 2024. The project will consolidate the existing data centers and update HVAC systems and controls, the entire electrical infrastructure, fire protection, and the telecommunication and mechanical system to achieve mandated energy efficiency requirements.

Requires Legislation	Code Section(s) to be Added/Amended/Repealed	CCCI
☐ Yes ☒ No		

Requires Provisional Language	Budget Package Status
☐ Yes ☒ No	☐ Needed ☐ Not Needed ☐ Existing

Impact on Support Budget

One-Time Costs	☐ Yes	☒ No	Swing Space Needed	☐ Yes	☒ No
Future Savings	☐ Yes	☒ No	Generate Surplus Property	☐ Yes	☒ No
Future Costs	☒ Yes	☐ No			

If proposal affects another department, does other department concur with proposal? ☐ Yes ☐ No
Attach comments of affected department, signed and dated by the department director or designee.

STATE OF CALIFORNIA
Capital Outlay Budget Change Proposal (COBCP) - Cover Sheet
DF-151 (REV 07/21)

Prepared By	Date	Reviewed By	Date
Department Director	**Date**	**Agency Secretary**	**Date**
Department of Finance Use Only			
Principal Program Budget Analyst		**Date submitted to the Legislature**	

A. COBCP Abstract:

The Franchise Tax Board (FTB) requests $25.1 million General Fund for the data center Construction phase in 2022-23. Total project costs are estimated at $26.7 million, including Preliminary Plans $680,000, Working Drawings $937,000, and Construction $25.1 million. The construction amount includes $21.6 million for the construction contract, $1.5 million for contingency, $1 million for architectural and engineering services, and $897,000 for other project costs. Preliminary Plans began in July 2021 and were approved in January 2022. Working Drawings began in January 2022. Construction is scheduled to begin February 2023 and will be completed in January 2024. The project will consolidate the existing data centers and update HVAC systems and controls, the entire electrical infrastructure, fire protection, and the telecommunication and mechanical system to achieve mandated energy efficiency requirements.

B. Purpose of the Project:

FTB's data center is a 24 hours per day x 7 days per week, 365 days per year (24 x 7 x 365) operation that houses critical IT infrastructure allowing FTB to maintain day-to-day operations and generate revenue for the State of California. FTB currently maintains a Tier III equivalent data center (SAM Section 4982.1) that is housed in two locations in FTB's Central Office Campus in Sacramento. The 'Los Angeles Building Data Center' was commissioned in 1985 and the 'Sacramento Building Data Center' was commissioned in 2005. The total space of the two locations encompasses approximately 26,000 sf.

As a Tier III equivalent data center, FTB requires continuous, uninterrupted power and cooling. FTB data centers currently do not meet California executive orders and statewide energy efficiency mandates. Resources requested in this COBCP will allow FTB to comply with these standards.

Problem

The FTB Data Center houses critical IT infrastructure necessary for FTB to provide critical services to taxpayers. FTB's return and payment processing services strive for zero downtime because they are utilized by taxpayers and almost 6,000 FTB staff to process more than 25.9 million tax returns each year along with FTB compliance and service functions[1]. As a result of these efforts, the department is responsible for administering programs bringing in $170.2 billion, 82 percent of the General Fund revenue[2]. In addition, FTB is responsible to administer other critical programs such as Healthcare Mandate, Earned Income Tax Credit (EITC), and non-tax debt collections.

Inability to Meet Energy Efficiency Standards and Mandates

As noted, FTB currently has two data centers on the Sacramento campus. As technology has advanced, equipment has become more efficient and requires a smaller footprint. As a result, much of the current raised floor space has become vacant creating an inefficient operating environment. These factors continue to impede FTB's efforts to meet the Governor's executive order and related statewide energy saving mandates. At this time, FTB needs to improve compliance in the following areas:

- Governor's Executive Order B-18-12, which requires State buildings to reduce grid based energy purchased by at least 20%.

[1] The data tax return processed are based on 2020 Filing season.
[2] Revenue figures based on the 2020-21 Cash Report reported in the Department of Finance's July 2021 Finance Bulletin. Due to the filing extension of April 15, 2020 to July 2020, the total revenue collected was higher than previous years.

- Management Memo 14-09, which requires that raised floor areas have a Power Usage Effectiveness (PUE) rating of 1.5 or less.

- IT Policy Letter 10-14, which requires that state data centers reduce their overall footprint by 50%.

- 2020 DGS Sustainability Roadmap which reduces grid based energy purchases and data centers must operate within ASHRAE standards.

Equipment in Existing Data Centers are End of Life

In FTB's data centers, much of the equipment that supports the data centers is out of date and at or approaching end of life (EOL). EOL equipment is no longer supported by the manufacturer and presents a risk of failure to the department. The Los Angeles raised floor (LARF) infrastructure is 36 years old and the Sacramento raised floor (SARF) infrastructure is 16 years old. Neither have had any significant upgrades and both need to be refreshed. Since 2020, FTB experienced 22 incidents due to aging equipment. The impact to business was minimized by using manual workarounds. However, these incidents exposed risks associated with single points of failures (SPOF) and utilizing aging equipment.

Multiple Single Points of Failures in Existing Data Centers

Beginning in 2014 to date, FTB has worked with the Department of General Services (DGS) and an Energy Service Company to perform an Investment Grade Audit (IGA) of FTB data centers. The IGA reported nine SPOFs in the aging infrastructure. An equipment failure at any one of the SPOFs could result in a catastrophic failure of services and a shutdown of the data center. This would severely compromise FTB's ability to assist taxpayers with addressing tax issues such as filing tax returns or paying tax liabilities which impacts FTB's ability to collect revenue supporting California's General Fund. Recovery from a failure event could also be difficult and costly depending on the type, location, and duration of the failure and the scope of impacted systems and data.

Inability to Perform Routine Maintenance without Business Interruptions

FTB's data centers require continuous, uninterrupted power and cooling throughout the year. This requirement presents challenges when DGS needs to perform routine maintenance on the power and cooling infrastructure. Currently, in order for DGS to maintain infrastructure that supports the data center's spaces, FTB is required to either shut down data center operations or enter into costly contracts for temporary power and cooling solutions to ensure that the data center equipment is not affected by power loss or overheating. Both of these solutions present unplanned costs and potential risks to operations. Since 2020, FTB has experienced 4 incidents related to power loss and overheating. Best industry practice indicates annual infrastructure maintenance is required to keep infrastructure properly maintained.

The data center must be upgraded to resolve these issues related to end of life equipment, single points of failure, and inability to easily maintain infrastructure. Failure to do so will impact FTB's ability to provide reliable and stable IT services to support taxpayer's needs.

Program Need

In order to ensure that stable and reliable IT services are delivered to taxpayers, FTB requires uninterrupted data center operations that meet statewide energy mandates, and address current deficiencies related to aging equipment and SPOFs.

FTB needs to implement a series of modifications and upgrades designed to improve data center operation, reliability, and energy efficiency. These modification and upgrades include:

- Redesign and consolidate the floor spaces to ensure optimal performance and energy efficiency.
- Refresh EOL equipment.
- Add redundant power and cooling systems achieving Tier III equivalency.
- Add energy efficiency measures including hot/cold aisles, lighting sensors, and efficient battery backups.
- Update physical security of the data center space.
- Add modern accessible environmental controls.
- Add dedicated utility electrical power to data center.
- Relocate warrantied IT equipment before and during the construction phase.

These upgrades will enable FTB to provide robust and reliable IT services critical to the delivery of essential government services; optimize energy efficiency to meet executive orders and statewide mandates; and provide maximum flexibility for ongoing maintenance with minimal disruption to operations.

C. Relationship to the Strategic Plan:

This proposal supports FTB's Strategic Plan Strategic Goal #4 Operational Excellence, by modernizing our systems, hardware and software to ensure continuity of business operations. A stable and modern technology environment enables FTB to achieve its mission to help taxpayers file timely and accurate tax returns, and pay the correct amount to fund services critical to Californians. This effort also supports FTB's foundational principle to protect the privacy and security of data entrusted to us.

Relationship to Statewide Mandates

Mandates	Objective
• Executive Order B-18-12 • Management Memo 14-09 • IT Policy Letter 10-14	• Ensure optimal performance and energy efficiencies. • Reduce power consumption and carbon footprint. • Reduce grid based energy purchased by at least 20%. • Achieve a power usage effectiveness (PUE) of 1.5 or lower in raised floor areas. • Move toward Zero Net Energy (NZE) by reducing energy use as a percentage of total site usage. • Ensure FTB Data Center maintains its Tier III-equivalent data center status.

	• Maintain robust and reliable IT services critical to the delivery of essential government services. • Provide flexibility for ongoing maintenance with minimal disruption to operations. • Improve physical security of the data center space.

D. Alternatives:

1. **Approval of Capital Outlay BCP request.**

   a. Scope - This alternative will allow FTB to upgrade EOL equipment and consolidate FTB's two data centers into one redesigned energy efficient space with no SPOFs. Alternative 1 will take approximately 2 years to complete the Construction phase.

   b. Cost - $25,066,000

   c. Funding Source - General Fund

   d. Program Benefits - Addresses and mitigates risk of SPOFs, equipment failures and greatly increases energy efficiencies. FTB would be in compliance with Management Memo 14-09, bringing the PUE to 1.5 or less. In reducing the overall footprint of the data center, FTB would be in compliance with IT Policy Letter 10-14.

   e. Facility Management Benefits - All new construction will meet current building codes and energy standards. Based on the 2020 Investment Grade Audit an estimated 37% reduction in energy consumption from the data center brings FTB in compliance with Executive Order B-18-12. Increased ability to perform routine maintenance when needed because the data center is not reliant on campus power and cooling.

   f. Impact on Support Budget - None

2. Replace aging data center equipment and consolidate data centers into a single existing space.

   a. Scope – This alternative replaces FTB's aging data center equipment and consolidates data center operations into a single existing space. Because of the limited scope, this alternative would be considered the first of multiple data center projects and additional costs will be necessary for subsequent phases to fully address ongoing risks and compliance issues.

   Alternative 2 does not address critical SPOFs nor will it bring FTB into compliance with Executive Order B-18-12, Management Memo 14-09, and IT Policy Letter 10-14. As a result, FTB will continue to be at risk of operational disruptions caused by failures with shared building infrastructure and will require costly temporary power and cooling services in order for routine campus maintenance to occur without disrupting FTB operations.

   Alternative 2 will take approximately 5 years for Phase 1 and an additional 5 years to complete subsequent phases (10 years total).It will result in multiple (6 to 10) anticipated and unavoidable disruptions to FTB operations while critical power and cooling components are replaced. This alternative will also be considered a temporary investment as subsequent projects will be necessary to achieve the remaining goals of Alternative 1, which include: redesign of the data center space to eliminate the SPOFs and improve energy efficiency.

b. Cost – Phase 1: $8,000,000 (Additional cost for future phases: not yet costed)

c. Funding Source - General Fund

d. Program Benefits – Limited benefits including reduced risk of failure caused by aging equipment and reduction in square footage.

e. Facility Management Benefits – Minimizes initial construction costs.

3. Do Not Approve the Request.

By not approving this request, FTB runs the risk of experiencing a catastrophic equipment failure due to SPOFs and EOL equipment. If FTB were to experience a catastrophic failure, the department would not be able to continue revenue generating operations until the data center is brought back online. Routine maintenance on the building's power and cooling infrastructure would continue to be a challenge and FTB will need to obtain costly portable power and cooling prior to maintenance. FTB will also not be able to meet executive orders and statewide mandates related to energy efficiency.

In 2021-22, a May Revise letter was approved for the preliminary plans and working drawings of the data center project. By not approving the construction phase of the project, the working plans and drawings will become outdated and may require significant revisions to resume the project again in the future.

E. Recommended Solution:

- Alternative 1- Approve full funding request to consolidate into one raised floor space, refreshing EOL equipment to eliminate all SPOFs. This alternative will bring FTB into compliance with executive orders and statewide energy efficiency mandates and reduce FTB's overall energy consumption.

- Scope - FTB's data center operations are critical to the State of California. If FTB were to experience a disruption, even for a short duration, it would cause a major financial impact. With this in mind, the scope of the data center project is to ensure that FTB's core business functions remain operational. Alternative 1 mitigates the most risk to FTB's revenue generating operations thus helping to protect the state's general fund while achieving energy efficiency goals.

- Basis for Cost Information - The estimated cost is based on a budget package prepared by DGS.

- Benefits of the Recommended Solution:

  - Provides for continuity of operations for FTB and State of California by eliminating SPOFs and refreshing EOL equipment as identified in the IGA.

  - Brings FTB into compliance with Management Memo 14-09 by greatly increasing energy efficiencies and reducing the PUE to 1.5 or less.

  - Brings FTB into compliance with IT Policy Letter 10-14 by reducing the overall footprint of the data center.

  - Brings FTB into compliance with Executive Order B-18-12 by providing an estimated 37% reduction in energy consumption from the data center.

  - Increases ability to perform routine maintenance when needed because the data center is not reliant on campus power and cooling.

- Maintains warranties on critical IT equipment for physical moves required during construction.

- Project Risks - Any construction project carries a risk of increased cost, schedule, and scope due to discovery of unknown site conditions throughout the design and construction process. In addition, there is a risk of unanticipated IT service disruptions during the construction phase of the project. Furthermore, there are potential schedule risks associated with interdepartmental coordination and possible competing priorities affecting the availability of key resources.
- Interdepartmental Coordination and/or Special Project Approvals needed:
  - DGS/Real Estate Services Division for budget, plan creation and project management functions.
  - State Fire Marshal for Fire, life safety.
  - State Architect for ADA and code compliance.
  - GovOps Agency/CDT for PAL approvals.

F. Consistency with Government Code Section 65041.1:

Does the recommended solution (project) promote infill development by rehabilitating existing infrastructure and how? Explain.

N/A

Does the project improve the protection of environmental and agricultural resources by protecting and preserving the state's most valuable natural resources? Explain.

N/A

Does the project encourage efficient development patterns by ensuring that infrastructure associated with development, other than infill, support efficient use of land and is appropriately planned for growth? Explain.

N/A