

THE BOARD OF SUPERVISORS OF THE COUNTY OF STANISLAUS
ACTION AGENDA SUMMARY

DEPT: Chief Executive Office

BOARD AGENDA # *B-8

Urgent Routine

AGENDA DATE October 6, 2009

CEO Concurs with Recommendation YES NO
(Information Attached)

4/5 Vote Required YES NO

SUBJECT:

Approval to Issue a Request for Proposal for Design and Specifications for the Strategic Business Technology Data Center Improvements

STAFF RECOMMENDATIONS:

1. Authorize the Chief Executive Office to issue of a Request for Proposal for design and specifications for the Strategic Business Technology Data Center improvements.
2. Authorize Staff to review the proposals and recommend a selection to the Board of Supervisors for the expert planning, design and engineering team that will best meet the needs of the project.
3. Authorize the Project Manager to negotiate and sign agreements for other professional services that may be required, such as code review, estimating, and construction management for this first phase of the effort.
4. Direct the Auditor-Controller to establish a project budget of \$162,602 in appropriations and estimated revenue as detailed in the attached budget journal form for this phase of the effort.

FISCAL IMPACT:

This action would establish a budget for the design, specifications and scoping phase of \$162,602 for necessary improvements to the Strategic Business Technology Data Center. Strategic Business Technology has dedicated \$400,000 from fund balance and general operating budget for this phase and for the overall physical, mechanical, and technical improvements to the Strategic Business Technology Data Center. Recommendations regarding actual project budget funding will be developed during the design and scoping process. Recommendations for final scope, design and actual cost estimates will be returned to the Board of Supervisors prior to seeking bids for the construction.

BOARD ACTION AS FOLLOWS:

No. 2009-676

On motion of Supervisor Monteith, Seconded by Supervisor Grover

and approved by the following vote,

Ayes: Supervisors: O'Brien, Chiesa, Grover, Monteith, and Chairman DeMartini

Noes: Supervisors: None

Excused or Absent: Supervisors: None

Abstaining: Supervisor: None

1) Approved as recommended

2) Denied

3) Approved as amended

4) Other:

MOTION:

ATTEST: CHRISTINE FERRARO TALLMAN, Clerk

File No.

DISCUSSION:

On September 11, 2007, the Stanislaus County Board of Supervisors' approved the County's Business Technology Strategy. That strategy included a recommendation for the development of a comprehensive Business Continuity Plan to protect County data.

The computer revolution has paid substantial dividends in making governments and business more efficient and in enabling the delivery of services that were cost-prohibitive or impossible using non-computer-based processes. Stanislaus County has prudently continued to deploy Information Technology-based systems and capabilities to enhance service delivery to its citizens. The importance of these computer systems is critical to the County's ability to continue to provide services offered electronically and via the Internet. These systems manage crucial business and personal data, operate the software applications for the County's core business functions, and maintain the essential computer hardware on which these services and data reside.

An outage at any time of a key system, such as an email server or a payroll system, can be disastrous if the proper procedures and equipment are not in place for a timely recovery. Because of the increasing importance of information technology in service delivery, a disaster where a power outage or a fire hits a key data center, such as that managed by Strategic Business Technology, is truly one of the greater threats the County could face. A robust support system, detailed failover plans, and disaster recovery capabilities are critical to the County's ability to properly serve our primary business functions and customer needs.

The design and specifications proposed in this report are associated with a proposed effort to build out a more reliable and effective data center at the current SBT location. This improved facility would support a greater level of safety and availability of critical IT systems housed at the Data Center location. Business Continuity and Disaster Recovery have been in the forefront of all planning related to the SBT Data Center project. With any Disaster Recovery and Business Continuity Plan, redundancy of systems and data is a key.

Previously, the Strategic Business Technology Department contracted Lee Technologies to assess and compare the Data Center to current industry standards. Lee Technologies ranks data centers in four tiers. Tier 1 is the lowest rating for data centers that have up time at 99.671% and Tier 4, being the highest rating, has up time of 99.995%. The Strategic Business Technology Data Center was ranked at the lowest level – Tier 1.

Lee Technologies indicated that the current facility does not meet industry best practices for maintaining critical data. To provide a minimum level of reliability and bring the Data Center to a Tier 2 ranking, Lee Technologies recommended a major renovation, which included an heating, ventilation, and air conditioning (HVAC) system large enough to support current and future data center needs, replacement of the existing unlimited power supply (UPS) systems with enterprise type UPS systems, installation of a diesel backup generator and automatic transfer switch to provide power

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during a loss of utility power, installation of an environmental system to monitor temperature and humidity, and installation of a dry agent fire suppression system.

Strategic Business Technology has set aside funds in prior budget cycles to plan to address some of the improvements that have come to be recognized as necessary. In analyzing approaches to implementing significant improvements in their existing Data Center, and in consulting with Chief Executive Office on how to manage this work without disrupting service, the need for a more comprehensive approach has emerged.

Included in Fiscal Year 2008-2009 budget is the use of fund balance for the purchase of Strategic Business Technology Data Center server room improvements. This includes the purchase of new servers for server upgrades, secure backup equipment needed to replace dated equipment, provide business continuity, add data storage capacity for County departments, and the purchase new server racks to provide additional growth and capacity in the Strategic Business Technology Data Center. The facility currently houses 113 file servers and other mission critical information technology systems.

Strategic Business Technology, like many Information Technology service providers, currently makes use of virtualization technologies to consolidate physical servers into virtualized services. SBT thereby reduces the number of hardware devices to be managed. In addition to virtualization, the proposed improvements to the Strategic Business Technology Data Center will plan for some future growth. The improved, more reliable, and safer data center environment will be an attractive alternative and opportunity for County departments who currently house their own server and network systems to move their critical systems into this data center. Currently, the Community Services Agency houses SBT systems in the Data Center located at East Hackett Road. After the completion of the improved SBT Data Center, SBT will be able to reciprocate, providing all of the services to any county agency interested in the benefit of co-location.

Strategic Business Technology in partnership with Chief Executive Office Capital Projects staff has developed a scope of work (Exhibit A) identifying requirements for design and specification. As these improvements are vital for emergency preparedness and disaster recovery Strategic Business Technology asks the Board of Supervisors to authorize the Chief Executive Office working with SBT to proceed with a Request for Proposal and negotiate terms and conditions of a professional service agreement to develop the design and specifications for the Strategic Business Technology Data Center improvements.

POLICY ISSUES:

The Board should consider whether having a safer and more reliable application, services and data hosting environment are consistent with the Board's stated priorities of a safe community and the efficient delivery of public services.

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STAFFING IMPACT:

The County anticipates substantial review and interaction with Strategic Business Technology and Chief Executive Office Capital Projects staff to evaluate proposals and to develop plans for improving the SBT Data Center. There are no additional staffing requirements associated with this item.

County of Stanislaus: Auditor-Controller

Legal Budget Journal

Database
Set of Books

FMSDBPRD.CO.STANISLAUS.CA.US.PROD
County of Stanislaus

Balance Type	* List - Text	Budget
Category	* List - Text	Budget - Upload
Source	* List - Text	
Currency	* List - Text	USD
Budget Name	List - Text	LEGAL BUDGET
Batch Name	Text	CP NB 09/30/09
Journal Name	Text	Budget - Upload
Journal Description	Text	Establish budget for SBT Server Room
Journal Reference	Text	
Organization	List - Text	Stanislaus Budget Org

Upl	Fund	Org	Acc't	GL Proj	Loc	Misc	Other	Debit	Credit	Period	Line Description
								incr appropriations decr est revenue (format : number : general)	decr appropriations incr est revenue	Upper case MMM-YY List - Text	Text
			62400	0000000	000000	000000	000000	14782.01		SEP-09	OWNER CONTINGENCY
			62600	0000000	000000	000000	000000	150		SEP-09	OFFICE SUPPLIES
			63000	0000000	000000	000000	000000	4250		SEP-09	PROFESSIONAL SVCS
			63430	0000000	000000	000000	000000	4698.38		SEP-09	OTHER DESIGN CONSULT
			63640	0000000	000000	000000	000000	10000		SEP-09	LEGAL FEES
			64220	0000000	000000	000000	000000	103364.25		SEP-09	ARCH & ENGR FEES
			64600	0000000	000000	000000	000000	16582.5		SEP-09	CONSTRUCTION MGR
			65000	0000000	000000	000000	000000	5000		SEP-09	PUBLICATIONS
			66210	0000000	000000	000000	000000	2500		SEP-09	BUILDING PERMITS
			74080	0000000	000000	000000	000000	1275		SEP-09	CENTRAL SVCS PRINTING
			46600	0000000	000000	000000	000000		162602.14	SEP-09	Trfr In
	5031	0048100	85850	0000000	000000	000000	000000	162602.14			Increase Appropriations

Totals: 325204.28 162602.14

Explanation:
ESTABLISH BUDGET FOR THE SBT SERVER ROOM PROJECT

Requesting Department	CEO	Data Entry	Auditors Office Only
NORMA BAKER	<i>Patricia...</i>		<i>John...</i>
Signature	Signature	Keyed by	Approved By
9/30/09	10/2/09		10/2/09
Date	Date	Date	Date

REQUEST FOR PROPOSALS FOR ARCHITECTURAL SERVICES
STANISLAUS COUNTY'S SBT SERVER ROOM UPGRADES
SCOPE OF WORK

Background

Stanislaus County Strategic Business Technology (SBT) Department has a critical need for physical improvements to the SBT Server Room to ensure business continuity in time of emergency. In order to accomplish this goal, SBT Server Room Expansion – located at 801 11th Street, Fourth Floor in downtown Modesto will need to have a complete set of design documents and specifications prior to going out to bid for construction. SBT will provide input for the data and communications systems to the consultant.

The construction will include the remodeling of the County-owned space to reconfigure existing space and construct a server room. The facility design shall include UPS, HVAC, UPS, Fire Suppression system, electrical, backup generator, etc. with equipment and specifications that are appropriately “sized” to what will be installed in this facility. The County will design the data and communication systems and equipment. The Architect will coordinate its design with that of the County.

The Architect will design temporary secure walls as necessary for the continuous operation of the existing server equipment during construction. The County working with the County Architect will prepare a plan for transition to the new space. The Architect may be required to include temporary designs to facilitate the transition.

Required outcome to include:

Assessment of the existing space, including the proposed new location, the existing server room, and existing cubicle/office space

- 1) Design a **floor plan** to optimize the new server room space for rack positioning, keeping adequate aisle space to allow County technical staff unobstructed servicing of the system (front and back), clear passage for personnel, and proper air flow.

- 2) Include the opportunity to temporarily block off or partition some of the space that would not be required initially, but needed as the SBT Data Center grows in capacity. The facility will house 120-130 servers initially. This would allow the option to easily remove the partition and eliminate unnecessary operating cost. Develop options and meet with CEO/Capital Projects and department staff to evaluate options for increasing space utilization efficiency on the fourth floor of the 801 11th Street Building.

- 3) Develop a plan for the development of improvements which accommodates the continuous operations of the existing staff and data center operations throughout the construction phase. Review the concept plan with County staff, and explore options for the temporary relocation of staff as necessary during the implementation of the project. The implementation strategy must consider maintaining continuous, uninterrupted operation of computer operations and must be coordinated and approved in advance with the County Strategic Business Technology department.

- 4) Prepare **architectural details** relating the rating assemblies of walls and ceilings for the proposed server room remodel. Address ADA issues within server room area. Perform structural evaluation, provide structural design and structural calculations as required to implement the new requirements for mechanical, electrical and plumbing (MEP). Prepare all specifications and related details.
- 5) Develop a plan for management of the construction activities which minimizes operational impact to other occupants of:
 - 801 11th Street Building, including weekday business of the Superior Court, Adult Probation division, access/egress, utilities, HVAC, and security access;
 - Gallo Center for the Arts; specifically for service, support, loading/unloading, access, power and all utilities; and avoidance of disruption by noise or vibration during performance times. County to assist with coordination of schedules in advance.
- 6) Redesign the identified **cubicle area** to provide proper number of cubicles, equipment work space, and storage space in accordance with approved Stanislaus County workstation standards, and subject to the review and approval of the allocation of these standards within the remodeled space.
- 7) All coordination pertaining to construction, access, impacts to other departments, users or the public, and impacts to the Gallo Center for the Arts, traffic or parking must be coordinated in advance with the County Chief Executive Office, Capital Projects Divisions in addition to any other required authorities or entities.
- 8) Using County developed data and communications designs, calculate the proper amperage, kilowatts, and KVA needed to accommodate a continuous 3 phase 208 volt power load for stable power to critical County data systems 24 hours per day, 365 days per year, including times of utility power outage and/or disaster.
 - Provide proper amount of power to racks under normal utility and emergency power conditions. Preferably, one primary conduit dropped down from ceiling with all power distribution units (PDUs) running along the back of the racks. Goal is to reduce the number of conduits having to be dropped from the ceiling. Provide the design for all required devices, equipment, feeders, switchgear including grounding and testing. Prepare related details, calculations and specifications.
 - Include a **lighting design** that provides adequate energy efficient illumination for servicing and monitoring equipment. Incorporate the lighting into the construction, mechanical, and electrical drawings.
 - Calculate the proper capacity requirement of the **Uninterruptible Power System (UPS)**, which is a large capacity UPS in a small footprint designed for data centers to optimize the available space in the proposed server room. The system shall include an automatic transfer switch that can identify that a utility power failure has occurred and transfer the load.

- Determine the proper **HVAC** system and capacity, including climate control and the optimal air flow for keeping the servers cool.
- Determine the proper **Back Up Generator-Diesel** requirements and capacity to provide emergency power to all devices in SBT's server room, plus additional critical network and telecom components located in the building's basement and wiring closets. The generator should be able to run continuously up to 24 hours without refueling to provide flexibility during times of crisis.
- Specify the proper **Dry Agent Fire Suppression System** providing detail on specific control panels, Clean Agent material, photoelectric smoke and thermal heat detectors, 120 volt fire/smoke dampers, dry contacts for HVAC shutdown, and all electrical and mechanical materials necessary for completion and meet state and local regulatory compliance.
- Provide for **Fiber Optic Cable Management** that is practical and will allow for easy moves, adds, and changes by County technical staff.

9) Specify the necessary **security** access to the Server Room and office space.

Other Requirements:

The Project shall be developed and designed in accordance with the latest issue of applicable codes, laws, regulations, and professional standards in effect as of the date of approval of the authorities having jurisdiction.

Consultant shall not, unless otherwise permitted in writing by County, propose or recommend any design that has the effect of shifting design responsibilities from Consultant to a contractor, through performance specifications or any other means unless otherwise agreed to in writing by the County. Performance specification will be allowed only when necessary to preclude single vendor sources.

Consultant shall not, unless otherwise permitted in writing by the County, specify unique, untested, proprietary or sole source equipment, systems or materials. Whenever proprietary or sole source design or equipment is used, the Consultant's design will allow for periodic maintenance and replacement of parts, equipment or systems to be performed normally and without excessive cost or time.

Consultant's design shall provide that surfaces, fixtures and equipment are readily accessible for maintenance, repair or replacement by ladders, power lifts, cat walks, and the like without exceeding the design loads of the floors, roofs, ceilings, and that such access shall be in conformance with Cal OSHA.

Performance of services will require Consultant to work with, meet with, and attend meetings with County staff: tenants, with other governmental agencies, with

Contractors, and with such other consultants as Consultant determines necessary, to the extent reasonably necessary for the design of the Project.

Work performed by Consultant shall conform to the requirements of the California Business and Professions Code. As referenced in Section 6703.1 of such Code, "Responsible Charge" for the work shall be with a Registered Consultant, Civil Engineer, Structural Engineer, Mechanical Engineer, and Electrical Engineer Licensed by the State of California.

Consultant shall provide to the County a written list of governmental regulations, licenses, permits, and any other type of applicable restriction and associated requirements for the completion of the work and its incorporation into the Project.

Add Alternates:

ADD ALTERNATE; Provide cost effective option and design for a **Solar Electric Power System** to offer high quality, reliable power generation technology for the server room. By partnering with the sun, solar energy can supply local power for on- and off-grid applications with zero noise pollution and air emissions. Solution should feature heavy duty anodized frames and weather-resistant junction boxes for easy and safe field interconnection. It would be good if the initial design could consider either adding solar energy now or designed to add easily at a later point.

ADD ALTERNATE; Determine whether a **raised floor** would be a more cost effective means that would contain cabling, cooling, and power below the racks and out of sight, which would enable staff to easily modify cabling and power without disrupting current activities. If feasible within the existing and modified space, incorporate the raised floor into the construction and electrical drawings. If a raised floor is not feasible or cost effective, all cabling should be above the racks coming from the ceiling.

ADD ALTERNATE; Provide cost effective option and design for a Back Up Generator - Biodiesel. Determine the proper requirements and capacity to provide emergency power to all devices in SBT's server room, plus additional critical network and telecom components located in the building's basement and wiring closets.