



MEETING DATE: August 6, 2007

ITEM NO: 11

COUNCIL AGENDA REPORT

DATE: JULY 6, 2007

TO: MAYOR AND TOWN COUNCIL

FROM: PAMELA JACOBS, INTERIM TOWN MANAGER *P. Jacobs*

SUBJECT: IMPROVED RADIO FREQUENCY IDENTIFICATION SELF-SERVICE
A. AUTHORIZE THE TOWN MANAGER TO NEGOTIATE AND EXECUTE AN AGREEMENT WITH "3M" FOR THE PURCHASE OF ONE RADIO FREQUENCY IDENTIFICATION SECURITY AND SELF-CHECK SOFTWARE SYSTEM AND EQUIPMENT FOR THE LIBRARY DEPARTMENT, IN AN AMOUNT NOT TO EXCEED \$131,180
B. AUTHORIZE FY2007/08 BUDGET ADJUSTMENT IN THE AMOUNT OF \$16,180 ESTABLISHING A TRANSFER OF APPROPRIATIONS FROM THE TOWN'S MANAGEMENT INFORMATION SYSTEM (MIS) FUND TO THE TOWN'S GENERAL FUND APPROPRIATED RESERVES (GFAR) CAPITAL PROJECTS FUND, BRINGING TOTAL AUTHORIZED PROJECT APPROPRIATIONS TO \$131,180 FOR THE RFID PROJECT.

RECOMMENDATION:

- 1. Authorize the Interim Town Manager to negotiate and execute an agreement with 3M for the purchase of one Radio Frequency Identification System for the Library Department, in an amount not to exceed \$131,180.
- 2. Authorize FY 2007/08 budget adjustment in the amount of \$16,180 establishing a transfer of appropriations from the Town's Management Information Systems (MIS) Fund to the Town's General Fund Appropriated Reserves (GFAR) Capital Projects Fund, bringing total authorized project appropriations to \$131,180 for the RFID project.

BACKGROUND:

RFID (Radio Frequency IDentification) is the latest technology to be used in library theft detection systems. Unlike EM (Electro-Mechanical) and RF (Radio Frequency) systems, which have been used in libraries for decades, RFID-based systems move beyond security to become

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Reviewed by: _____ Assistant Town Manager AL Town Attorney
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tracking systems that combine security with more efficient tracking of materials throughout the library, including easier and faster charge and discharge, inventorying, and materials handling.

RFID is a combination of radio -frequency-based technology and microchip technology. The information contained on microchips in the tags affixed to library materials is read using radio frequency technology regardless of item orientation or alignment (i.e., the technology does not require line-of-sight or a fixed plane to read tags as do traditional theft detection systems) and distance from the item is not a critical factor except in the case of extra-wide exit gates. The corridors at the building exit(s) can be as wide as four feet because the tags can be read at a distance of up to two feet by each of two parallel exit sensors. [The devices used for circulation and inventorying are usually called "readers" while the ones used at building exits are usually called "sensors."]

The tags or targets used in RFID systems can replace both EM or RF theft detection targets and barcodes.

The Los Gatos Public Library has used RF for over 14 years to provide security for the collection. The Library has used barcode reading self-check machines for over 6 years, to provide customers with self-service as an alternative to the lines at the staffed circulation desk.

Over the past three years, the self-check machines have become problematic. The technology supporting these machines is at a developmental dead end. The machines have been out of service regularly in the past year, so much so that the circulation percentage at these machines has dropped from 40% to less than 20%. Starting in 2006, staff researched RFID as it is used in libraries, and identified funding sources to replace the RF and barcode system. The Library Department has selected a vendor and product through a competitive bid process.

DISCUSSION

Library staff researched RFID use in libraries, visited local libraries using RFID, and has spoken to several vendors. Requests for information and price quotes, using an RFP format, were sent to vendors, and the library received five responses. These responses were analyzed using simplicity of the system, cost, experience of vendor, other successful installations, and feedback from customer currently using the vendor product. Three vendors were invited to make presentations to staff, and two vendors were chosen as final contenders. Staff established final selection criteria and selected 3M as the best provider of an RFID solution for Library self-check and security.

Problems Identified

In a business environment where customers expect self service to work, the Library's current self service does not.

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- ***The machines are unreliable.*** The current self-check machines need to be booted at the beginning of each day, and after they fail during customer transactions. This transaction failure is not known until brought to staff attention by a frustrated customer. Many customers have simply stopped trying to use this equipment, increasing lines at the circulation desk.
- ***The current hardware and software is a dead-end technology.*** The vendor has stopped developing this configuration of hardware and software, and all support is on a billable basis.
- ***Library cards are difficult to scan.*** Our current machines require customers to run cards across a flatbed scanning surface in a particular orientation. Newer machines are easier to use by directing the barcode to a visible laser beam.
- ***Scanning barcodes on materials is difficult.*** Currently our barcodes are placed inside the books' back cover, which met the technology needs at the time the system was installed, 14 years ago. Customers must open the book and run the barcode in the correct direction over the flatbed scanner. Newer machines would make scanning these barcodes easier. Radio Frequency Identification (RFID) would make scanning barcodes unnecessary.
- ***Placement of receipts in book pockets is cumbersome.*** When a customer checks out a book, it is required that a metallic paper block be placed in the pocket of the book. The current security device resides behind the book pocket, and must be disabled so that the exit alarm is not triggered. If the customer fails to place a receipt slip in the pocket of each item check-out, the alarm will sound, requiring staff to stop what they are doing at the circulation desk and tend to the situation. Purchasing new self check machines without an RFID component would still require a receipt in each pocket. An RFID system would produce one receipt for the whole circulation transaction and would not require placing receipts in pockets
- ***Current speed of self-check transactions is problematical.*** RFID systems also allow a stack of books to be checked out at one time. Customers currently check out one book at a time and place an individual receipt in each item. With the malfunctioning of equipment, check-out can be a lengthy process. Often customers give up trying to help themselves and get in line to be assisted by staff.

Project Schedule

Project will take place between January and June, 2008, and the Library will remain open during installation of equipment and tagging of collection.

New self-check machines that are capable of reading barcodes will be installed as soon as possible, providing immediate relief to the problems created by the malfunctioning machines. These machines are converted to RFID use by the flick of a switch when the collection is fully tagged and ready for check-out, and the full implementation of RFID assisted check-out will be implemented.

Scope of Work

1. Award contract
 - a. Document selection criteria (Library)

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- b. Confirm validity of RFP process to date. (Library, Attorney, Finance)
- c. Select vendor
- d. Prepare staff report for Council (Library)
- e. Negotiate contract and payment schedule (Library, vendor, Attorney)
- f. Issue purchase order (Library, Finance)
2. Initiate project
 - a. Establish timeline (Library, Vendor)
 - a. Schedule implementation (Vendor, Library)
 - b. Order and receive equipment (Library)
 - c. Install equipment and software (Library, Vendor, PPW, Town IT)
3. Tag library collection – library to remain open
 - a. Use RFID tags on newly acquired items (Library staff)
 - b. Establish tagging work plan (Library staff)
 - c. Implement tagging project (Library, Volunteers)
4. Training (Vendor) – 4 hours
 - a. System administration and workflow
 - i. Circulation Supervisor
 - ii. Cataloging Librarian
 - b. Line staff
 - i. Circulation Staff
 - ii. Library Pages
 - iii. Library Assistants
 - c. Public Service staff
 - i. Principal Librarians
 - ii. Librarians
 - iii. Library Assistants
 - iv. Library Administration
5. Convert to public use of RFID as check out service
 - a. Public Assistance and Acceptance plan established (Library staff)
 - i. Schedule staff to assist the public (Library Staff)
 - ii. Recruit volunteer assistants (Volunteer Coordinator)
 - iii Train and schedule volunteer assistants (Library staff)
6. Troubleshoot system (Library Staff and Vendor)
 - a. Bug free and operational for 30 straight days. (Library staff)
 - i. Project passes from implementation to maintenance (Library staff)
 - ii. Pay vendor (Finance)

Future Implications

This RFID project is both portable and expandable in a new facility, and is the foundation for improved customer service and improved staff efficiency, such as: customer initiated check-in of items; materials handling equipment in a new or remodeled library structure; inventory capability; and e-commerce features.

RFID is fully compatible with all integrated library systems the library might choose in the future, and in fact, 3M is a partner with SirsiDynix, the provider of the Horizon, the current Library Integrated System.

CONCLUSION:

Staff recommends the Town Council authorize the Town Manager to negotiate and execute an agreement with 3M to install an RFID security and self-check system and equipment.

ENVIRONMENTAL ASSESSMENT:

Is not a project defined under CEQA, and no further action is required.

FISCAL IMPACT:

Upon approval of the budget adjustment transferring \$16,180 from the Town's MIS fund to the Town's GFAR fund, sufficient funding exists for the agreement as shown below:

LIBRARY CIRCULATION MANAGEMENT PROJECT			
	Available Budget	Proposed Budget	Available Balance
FY 2007/08 Fiscal Impact	Funding	Adjustment	
Project 400-0880	115,000	-	115,000
Transfer In from MIS	-	16,180	16,180
TOTALS	115,000	16,180	131,180
Transfer Out from MIS			
Library Server Saving		14,180	
IT Master Plan		2,000	
TOTALS		16,180	

Maintenance contract after 1st year will be approximately \$7,000, which will be a funding increase in 08/09 budget.