

### 3 - Central Utility Facility - Replacement of Infrastructure

**1. Program Area:**

CAPITAL IMPROVEMENTS

**2. Identify agencies and departments involved.**

The County of Orange operates a Central Utility Facility (CUF), which provides steam and cooling on a 24 hours/day, 365 days/year basis to County, City, State and Federal buildings in the Civic Center Campus. In addition, the CUF provides electrical power to most Civic Center County buildings and to two State Court buildings. Located in the Civic Center Campus are essential operations including the County jails and Coroner facility; State court facilities; County data systems; County and City administrative offices including County Board of Supervisors and Santa Ana City Council.

**3. Is the Strategic Priority new or previously identified in an earlier Strategic Financial Plan; if previously identified, indicate what has changed and why; identify any progress made in reaching the goals/expectations of the previously identified priority; and identify dollar amounts, by major object category, for any funding related to the Strategic Priority that is included in the FY 10-11 Budget.**

This is a new Strategic Priority.

**4. Provide a description of the project/program – what it is and what it will achieve. Identify how the strategic priority aligns with the mission, values, strategic initiatives and goals of the County and, if applicable, how it relates to the health and/or safety of the community.**

This project will consist of three major phases of infrastructure replacement. The original 1968 CUF is aging and replacement of equipment and piping is required for continued operation of the system.

Phase 1: The first phase will include the installation of six (6) new skid mounted primary loop chiller/absorber supply pumps and all correlated electrical feed equipment and piping systems for improved flow controls to chillers and absorbers. Also installed will be control devices; communication devices; valves and other equipment and technology required to upgrade SCADA (supervisory control and data acquisition); SCADA programming, mapping of controls and data points to be upgraded to accommodate a sequence of operations that will automate the original plant systems with the co-generation facility. These key components are essential to the plants ability to efficiently and reliably provide chilled water to Civic Center

buildings.

Phase 2: The second phase will include the removal of Chillers CR2 and CR3 and the installation of two (2) new steam turbine driven chillers and a new absorber for improved chilled water supply. The scope will additionally include SCADA integration to new chiller controls and ancillary operating equipment as well as steam turbine drives to secondary chilled water pumps, increasing plant operational efficiency. These key components are essential to the plants ability to efficiently and reliably provide chilled water to Civic Center buildings. The installation of new chillers will greatly increase our efficiency in the production of chilled water and increase our flexibility in its delivery to Campus buildings.

Phase 3: The third phase will include the replacement of the chilled water east-loop connecting Civic Center buildings with the CUF for continued reliable operation of the system. Through this project the system will be greatly enhanced with the installation of plate frame heat exchangers and new individual building chilled water pumps. All systems will be integrated with the CUF through SCADA for optimal control. This phase will be constructed in three sub-phases. Sub-phase 1 will include all design, documentation and construction bidding; installation of a portion of the piping; and installation of the steam headers. Sub-phase 2 will complete piping and correlated systems installation work. Sub-phase 3 will target the addition of new facility service connections increasing the thermal demand on plant systems. The increased thermal demand has a direct correlation to cost savings.

The CUF was constructed in 1968 and the infrastructure has exceeded its life expectancy. The existing plant is presently neither as efficient nor effective as it could be due to the inadequacy of present piping and pump design. The campus' loads have greatly increased over the last 42 years, creating diverse demands on the plant which the current design is unable to efficiently meet. The age of this system of piping and pumps additionally makes it a large liability to the stability of the plant operations. Present systems are beyond service life expectancy and are becoming a greater liability to operations. If the outdated equipment and piping are not replaced, there may be equipment failures and a significant economic impact to the County.

These three phases include highly integrated systems and equipment. Failure of any component within these three phases will cause loss of cooling, impacting the health and safety of the Public and County employees due to the lack of air conditioning in Campus buildings.

**5. Identify personnel – will the program/project require additional staffing? If so,**

**estimate the number of positions by classification.**

No additional personnel will be required.

**6. Identify cost – estimate and identify separately one-time (e.g., equipment purchases) and ongoing costs (e.g., maintenance contracts).**

Design, removal and replacement estimated at \$5,200,741 — Phase 1

Design, removal and replacement estimated at \$6,977,783 — Phase 2

Design, removal and replacement estimated at \$21,677,655 — Phase 3

**7. Identify potential funding sources (e.g., State, Federal, General Fund, fees) and any possible limitations on those sources.**

General Fund 100%

*Please refer to the attached spreadsheet for funding information.*

**8. Identify community awareness (stakeholders).**

County, City, State, and Federal government with buildings in the Civic Center Campus.

**9. Is the program/project mandated or discretionary?**

Discretionary

**10. Identify the implementation period if funding were available.**

FY 2012-13 through FY 2019-20

**Central Utility Facility - Replacement of Infrastructure**

	<b>FY 10-11</b>	<b>FY 11-12</b>	<b>FY 12-13</b>	<b>FY 13-14</b>	<b>FY 14-15</b>	<b>FY 15-16</b>	<b>FY 16-17</b>	<b>FY 17-18</b>	<b>FY 18-19</b>	<b>FY 19-20</b>	<b>FY 20-21</b>
<b>I. Cost</b>											
Structures and Improvements	0	0	383,210	4,725,235	92,296	555,401	7,807,023	10,300,338	5,016,084	4,976,591	0
<b>Agency Expense Total</b>	<b>0</b>	<b>0</b>	<b>383,210</b>	<b>4,725,235</b>	<b>92,296</b>	<b>555,401</b>	<b>7,807,023</b>	<b>10,300,338</b>	<b>5,016,084</b>	<b>4,976,591</b>	<b>0</b>
<b>II. Non-General Fund Revenue</b>											
No Revenue	0	0	0	0	0	0	0	0	0	0	0
<b>Agency Revenue Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>III. General Fund Requirement</b>	<b>0</b>	<b>0</b>	<b>383,210</b>	<b>4,725,235</b>	<b>92,296</b>	<b>555,401</b>	<b>7,807,023</b>	<b>10,300,338</b>	<b>5,016,084</b>	<b>4,976,591</b>	<b>0</b>
<b>IV. Staffing</b>											
No Positions	0	0	0	0	0	0	0	0	0	0	0

## **1 - Sheriff Capital Project Financing - MRP, Sliding Doors, and CCTV**

- 1. Program Area:**  
CAPITAL IMPROVEMENTS
- 2. Identify agencies and departments involved.**  
Sheriff-Coroner
- 3. Is the Strategic Priority new or previously identified in an earlier Strategic Financial Plan; if previously identified, indicate what has changed and why; identify any progress made in reaching the goals/expectations of the previously identified priority; and identify dollar amounts, by major object category, for any funding related to the Strategic Priority that is included in the FY 10-11 Budget.**

The Sheriff-Coroner Maintenance and Repair Plan, Central Jail Complex Sliding Doors, and Digital Closed Circuit TV (CCTV) Upgrade have previously been identified in the 2009 Strategic Financial Plan as Strategic Priorities.

On September 28, 2010, the Board continued Agenda Item #29 which was a request to approve in concept, the financing of some of the Sheriff-Coroner Capital Improvement and Maintenance Projects through the issuance of Recovery Zone Economic Development Bonds. The financing of these projects would allow the Sheriff's Department to address some of its deferred maintenance projects, proceed with the first phase of the CCTV system in the jails, and rehab critical operational features of the jails such as security doors and basic plumbing systems. Financing these projects would allow the projects to proceed during an economic period in which construction costs are low. The Board further directed staff to explore other funding options through the Annual Budget and the Strategic Financial Plan process.

The total estimated project cost is \$12.3 million. The FY 2010-11 Budget includes \$2.3 million pertaining to this Strategic Priority, which includes \$1.8 million for Maintenance and Repair Plan funded from Budget Control 104 (\$1.0 million) and Budget Control 036 (\$0.8 million), and \$0.5 million for the sliding door replacement design cost funded from Budget Control 036. The remaining \$10.0 million is requested in this 2010 Strategic Priority.

**4. Provide a description of the project/program – what it is and what it will achieve. Identify how the strategic priority aligns with the mission, values, strategic initiatives and goals of the County and, if applicable, how it relates to the health and/or safety of the community.**

Sheriff-Coroner 2010 Maintenance and Repair Plan (\$3.0 Million) - Repair and Maintenance of certain facilities are required by health and safety mandates pertaining to the jails and other public safety facilities to avoid unplanned shutdown of facility functions, punitive actions by regulatory agencies and to minimize health and safety risks to staff, inmates and the public. The items identified as needing repair and upgrade include the following:

- Refurbish the shower stalls in the Central Men's jail.
- Replace the in-ground basement sewage holding tank at the Sheriff's headquarters.
- Replace the lavatory valves, waste and supply piping at the Central Men's and Women's jails.
- Waterproof and seal the pipe chases in the Central Men's and Women's jails.
- Replace the water-damaged sub-floors and refurbish showers at the Musick West Compound.
- Perform 10-year roof maintenance, reseal and renew the coatings at the Sheriff's headquarters.
- Re-coat the outdoor recreation deck at the Theo Lacy jail.
- Rehabilitate the handicap restroom and shower at the Central Men's jail.
- Restore the main steam-pressure reducing station bypass distribution and controls at the Central Men's jail.
- Replace the roof and HVAC ductwork at the Theo Lacy jail.

Central Jail Complex Sliding Doors (\$5.5 Million) - This project consists of the removal and retrofitting of existing obsolete sliding door and locking mechanisms with updated components. Originally installed in 1968, the door components have been in service in excess of 40 years and are worn and failing and replacement parts are no longer obtainable. The retrofit will ultimately include 466 sliding security doors at a cost between \$10,000 and \$11,000 per door.

Digital Closed Circuit TV Upgrade (\$3.8 Million) - The Sheriff's Department currently utilizes analog closed circuit TV (CCTV) surveillance systems that have become obsolete. Manufacturers no longer produce analog tape recording media for these systems and replacement tapes are in very limited supply. This project would convert the current analog system to a digital system. The digital upgrade will take place at the Theo Lacy Jail Facility and the Central Jail Complex and will include the installation of 18 new cameras and wiring, the conversion of 91 existing cameras to enable digital recording. At the Central Jail Complex the conversion of 349 existing cameras will enable digital recording. In addition, both facilities will receive a fiber optics communication network, new air conditioning equipment, and

infrastructure upgrades including new power transformers, panels, conduit and wiring.

**5. Identify personnel – will the program/project require additional staffing? If so, estimate the number of positions by classification.**

No additional personnel will be required.

**6. Identify cost – estimate and identify separately one-time (e.g., equipment purchases) and ongoing costs (e.g., maintenance contracts).**

Total project cost is \$12.3 million; the \$2.3 million budgeted in FY 10-11, the remaining \$10.0 million included in this 2010 Strategic Priority.

Sheriff-Coroner 2010 Maintenance and Repair Plan: \$3.0 million – FY 10-11 budget included funded of \$1.8 million. The remaining \$1.2 million will be required in FY 11-12 for the completion of project.

Central Jail Complex Sliding Doors: \$5.5 million – FY 10-11 budget included \$0.5 million. The remaining \$5.0 million will be required during FY 11-12 through FY 14-15 for the completion of the project.

Digital Closed Circuit TV Upgrade: \$3.8 million – No funds budgeted in FY 10-11, all \$3.8 million will be required during FY 11-12 through FY 13-14 for completion of the project.

**7. Identify potential funding sources (e.g., State, Federal, General Fund, fees) and any possible limitations on those sources.**

Criminal Justice Facilities Fund 104 - 40%

County General Fund - 60%

*Please refer to the attached spreadsheet for funding information.*

**8. Identify community awareness (stakeholders).**

Orange County citizens, Federal, State, and local officials visiting Sheriff-Coroner facilities, as well as County Employees working within the facilities.

**9. Is the program/project mandated or discretionary?**

These are mandated requirements to maintain safe, healthy buildings and facilities under the California Health and Safety Code, Title 15 and Title 24, and California State Fire Code and various environmental protection mandates.

**10. Identify the implementation period if funding were available.**

FY 10-11 through FY 14-15

**Sheriff Capital Project Financing - MRP, Sliding Doors, and CCTV**

	FY 10-11	FY 11-12	FY 12-13	FY 13-14	FY 14-15	FY 15-16	FY 16-17	FY 17-18	FY 18-19	FY 19-20	FY 20-21
<b>I. Cost</b>											
Structures and Improvements	0	9,951,000	0	0	0	0	0	0	0	0	0
<b>Agency Expense Total</b>	<b>0</b>	<b>9,951,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>II. Non-General Fund Revenue</b>											
Other Financing Sources	0	0	3,000,000	3,000,000	3,000,000	951,000	0	0	0	0	0
<b>Agency Revenue Total</b>	<b>0</b>	<b>0</b>	<b>3,000,000</b>	<b>3,000,000</b>	<b>3,000,000</b>	<b>951,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>III. General Fund Requirement</b>	<b>0</b>	<b>9,951,000</b>	<b>-3,000,000</b>	<b>-3,000,000</b>	<b>-3,000,000</b>	<b>-951,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>IV. Staffing</b>											
No Positions	0	0	0	0	0	0	0	0	0	0	0



## 2 - Central Utility Facility - New Cooling Tower and Water Pumps

### 1. Program Area:

CAPITAL IMPROVEMENTS

### 2. Identify agencies and departments involved.

The County of Orange operates a Central Utility Facility (CUF), which provides steam and cooling on a 24 hours/day, 365 days/year basis to County, City, State and Federal buildings in the Civic Center Campus. In addition, the CUF provides electrical power to most Civic Center County buildings and to two State Court buildings. Located in the Civic Center Campus are essential operations including the County jails and Coroner facility; State court facilities; County data systems; County and City administrative offices including County Board of Supervisors and Santa Ana City Council.

### 3. Is the Strategic Priority new or previously identified in an earlier Strategic Financial Plan; if previously identified, indicate what has changed and why; identify any progress made in reaching the goals/expectations of the previously identified priority; and identify dollar amounts, by major object category, for any funding related to the Strategic Priority that is included in the FY 2010-11 Budget.

This Strategic Priority was previously identified in the 2009 Strategic Financial Plan as repair or replace cooling tower, basin, and enclosure. The budget for FY 2010-11 included \$500,000 funding for engineering services for the delivery of all bid documents and drawings to the County. In FY 2011-12, the project will require a remaining \$1,436,920 for the removal of the cooling tower enclosure, increase piping size from 18” to 24”, and repairs to the existing cooling tower to enhance the life of the cooling tower and increase the efficiency of the plant operations. The removal of cooling tower façade enclosures and replacement of the piping will be required for the new cooling tower replacement. The existing cooling tower will require replacement in 6-8 years; the estimated replacement cost is \$9,687,250 starting in FY 2014-15.

**PLEASE NOTE:** Funding for this project has been included in the budgets for Capital Projects, Budget Control 036. The \$1,436,920 is included as part of county-wide projects in FY 2010-11. The \$9,687,250 is included in 036 as a separate project. The project is shown in this section to stress the critical nature of the project.

- 4. Provide a description of the project/program – what it is and what it will achieve. Identify how the strategic priority aligns with the mission, values, strategic initiatives and goals of the County and, if applicable, how it relates to the health and/or safety of the community.**

The approved FY 2009-10 Capital Improvement Budget included funding for an engineering study and a cost comparison analysis to evaluate the earthquake/structural integrity of the existing cooling tower, condenser water pumps and visual façade enclosure versus the installation of a new, modern, seismic-rated, energy efficient cooling tower, condenser water pumps and enclosure. The engineering study confirmed that the cooling tower façade enclosure did not meet current seismic codes and that the structure had evidence of deterioration further weakening the structure's ability to withstand the impact of an earthquake. The engineering study concluded that the current wood constructed cooling tower, last replaced in 1995, should have a service life of another 6-8 years with implementation of the repairs outlined in the study. The condenser water pumps and piping are over 42-years old and are no longer efficient or reliable for current plant operations. The study engineers recommend replacement of the 18" piping with 24" piping between the cooling tower pumps and the equipment in the plant. The increase in piping size will greatly increase the efficiency of the plant operations.

The approved FY 2010-11 Capital Improvement Budget included funding for engineering services for the delivery of all bid documents and drawings to the County for its ownership and use in the competitive bid process to complete all required work.

The cooling tower and condenser water pumps are critical components in the highly integrated utility system that provides cooling water to major plant systems. These systems provide electricity, heating and air conditioning for many buildings located in the Civic Center Campus. This project follows a planned repair and structural stabilization project at the cooling towers which is planned to occur in 2011.

If the cooling tower system or the condenser water pumps were to have a major failure, the entire Civic Center Campus would revert to Southern California Edison for primary electrical service. The delivery of steam for heating and chilled water for cooling would be impacted due to the lack of condensing water supply from the cooling tower for the cooling of ancillary equipment. Failure of either the cooling tower or the condensing water pumps would impact the health and safety of the Public and County employees due to the lack of air conditioning and heating in the buildings.

- 5. Identify personnel – will the program/project require additional staffing? If so, estimate the number of positions by classification.**

No additional personnel will be required.

**6. Identify cost – estimate and identify separately one-time (e.g., equipment purchases) and ongoing costs (e.g., maintenance contracts).**

(A) Estimated cost to remove of the existing cooling tower enclosure, increase piping size from 18” to 24”, and repair to the existing cooling tower is estimated at \$1,436,920 starting in FY 2011-12.

(B) Replacement of the existing cooling tower plant is estimated at \$9,687,250 starting in FY 2014-15.

**7. Identify potential funding sources (e.g., State, Federal, General Fund, fees) and any possible limitations on those sources.**

General Fund 100% - This Strategic Priority is currently recommended for funding in the budget for Capital Projects, Budget Control 036 and doesn't require additional funding at this time. Please see the “Capital Projects” section of the 2010 SFP.

*Please refer to the attached spreadsheet for funding information.*

**8. Identify community awareness (stakeholders).**

County, City, State, and Federal government with buildings in the Civic Center Campus.

**9. Is the program/project mandated or discretionary?**

Discretionary

**10. Identify the implementation period if funding were available.**

(A)FY 2011-12 – Existing cooling plant repair, piping, and removal of enclosure

(B)FY 2014-15 through FY 2015-16 – New cooling tower

<b>Central Utility Facility - New Cooling Tower and Water Pumps</b>											
	<b>FY 10-11</b>	<b>FY 11-12</b>	<b>FY 12-13</b>	<b>FY 13-14</b>	<b>FY 14-15</b>	<b>FY 15-16</b>	<b>FY 16-17</b>	<b>FY 17-18</b>	<b>FY 18-19</b>	<b>FY 19-20</b>	<b>FY 20-21</b>
<b>I. Cost</b>											
Structures and Improvements	0	0	0	0	0	0	0	0	0	0	0
<b>Agency Expense Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>II. Non-General Fund Revenue</b>											
Revenue – See Footnote Below	0	0	0	0	0	0	0	0	0	0	0
<b>Agency Revenue Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>III. General Fund Requirement</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>IV. Staffing</b>											
No Positions	0	0	0	0	0	0	0	0	0	0	0

**NOTE:** Even though this project meets the criteria for reporting as a strategic priority, the total cost of this project and funding proposals are included in the Capital Project Section of the 2010 Strategic Financial Plan to relate it to other Central Utility Projects. To avoid duplication of costs, amounts are shown here for informational purposes only and are not included Strategic Priorities costing. The strategic priority is included in this section to highlight the critical nature of the project.

Costs included in the Strategic Priority Narrative and in the Capital Projects Budget are summarized below:

FY 2011-12, Capital Projects, Countywide	\$ 1,436,920
FY 2014-15, Capital Projects, Cooling Tower	\$ 4,911,595
FY 2015-16, Capital Projects, Cooling Tower	\$ 4,775,655
<b>Total Project Cost</b>	<b>\$11,124,170</b>