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BOARD SUMMARY*

**\* 45. Approved 2002 Board of Supervisors' Meeting Calendar.**

**45A. Accepted Final Report and considered recommendations from Emergency Energy Task Force relating to County energy consumption and generation.**

- a. Approved Energy Luminary Awards.
- b. Directed Administration to study and make recommendations on implementation of "Green Building" standards for private developments in unincorporated County, as well as construction or improvement of buildings owned or leased by the County.
- c. Directed Administration to study and make recommendations on Heat Island Reduction that primarily focus on street pavement but also identify gaps in County regulations and policies covering private developments in unincorporated County, as well as construction or improvement of buildings owned or leased by the County.
- d. Approved General Services Agency's three-year plan (FY 2003, FY 2004, FY 2005) to complete installation of "cool roofs," contingent on continued funding by Board for Backlog Facility Maintenance Program consistent with current Board policy.
- e. Directed Administration to develop a Board policy establishing energy efficient standards for new County building designs and that explicitly considers delegated energy use impacts as a formal criterion in purchasing decisions related to buildings, facility space leases, equipment and supplies that use energy unless they meet specific exemption criteria.  
  
Directed Administration to include in a Board policy an emphasis on continuing to explore solar energy and other renewable resources for energy uses.
- f. Directed Administration to explore concept of two related State legislative initiatives: a) establish a Statewide process whereby specified categories of equipment and supplies would receive energy efficiency ratings; and, b) provide either rebates and/or subsidies to the higher rated energy efficient equipment and

supplies.

- g. Directed Administration to present recommendations and options on implementing long-term public educational strategies that promote energy conservation as both a community value and organizational ethic, focusing on partnership opportunities and communication strategies involving both governmental and non-governmental resources.
- h. Directed Administration not to move forward with power generation at the possible Hedding project and **referred review and analysis of October 2001 Health and Hospital System co-generation proposal to the Administration**, retaining flexibility for both co-generation and distributed generation projects to insulate critical County operations from the vagaries of market forces.
- i. Directed the Administration to maintain current General Plan policies and zoning regulations regarding power plant siting.
- j. Directed Administration to **present a proposal at FY 2002 Mid-year Budget Review** to implement an Enterprise Energy Management System to include funding options for remaining components involving the FY 2003 Capital Budget, Building Operations Budget, and Information Technology Executive Committee Budget.
- k. Directed Administration to identify and pursue additional funding sources for continued energy conservation efforts on a pilot basis through end of FY 2004; and, delegated authority to Administration to determine appropriate staffing methods to implement this effort, ending June 30, 2004, pending Board action to continue a position.

**Referred to Administration for consideration:** Preparation of report on power plant locations and impact of new power plants disproportionately located in communities comprised predominantly of people of color and low-income households.

**County Executive**

December 4, 2001  
Agenda Item 45A

**County of Santa Clara**  
**Board of Supervisors**  
Supervisory District Three  
Supervisor Pete McHugh



Trans-ID: BOS03-01-008

DATE: December 4, 2001

TO: Board of Supervisors

FROM:

A handwritten signature in black ink, appearing to read "Pete McHugh".

Pete McHugh  
Supervisor, District 3

A handwritten signature in black ink, appearing to read "Liz Kniss".

Liz Kniss  
Supervisor, District 5

SUBJECT: EMERGENCY ENERGY TASK FORCE FINAL REPORT

**RECOMMENDED ACTION**

Accept the Final Report of the Emergency Energy Task Force and approve the following recommendations related to County energy consumption and generation.

1. Adopt and present Energy Luminary awards to the following County employees to recognize their contributions in support of the County's energy conservation program: a) Joseph Takacs, General Services Agency, Building Operations Division; b) Dennis Montero, General Services Agency, Building Operations Division; c) Steven Palmadessa, Social Services Agency; d) Darcie Metsker, Department of Correction, Correctional Center for Women (CCW), Elmwood Facility; e) Audrey Trautwein, Santa Clara Valley Medical Center; f) David Ginsborg, Office of the Assessor; g) Ponce Sia, General Services Agency, Building

Operations Division.

2. Direct staff to study and make recommendations to the Board through the Housing, Land Use, Environment and Transportation Committee (HLUET) on implementation of "Green Building" standards for both private developments in the unincorporated County as well as construction or improvement of buildings owned or leased by the County.
3. Direct staff to study and make recommendations on Heat Island Reduction that primarily focus on street pavement but also identify gaps in County regulations and policies covering private developments in the unincorporated County as well as construction or improvement of buildings owned or leased by the County where the County might incorporate strategies presented by Hashem Akbari of the Lawrence Berkeley National Laboratory as well as those found in other resources and references.
4. Approve General Service Agency's three-year plan (FY2003, FY2004, FY2005) to complete the installation of "cool roofs" on roofs that Building Operations maintains where appropriate, contingent on the Board providing continued funding for the Backlog Facility Maintenance Program consistent with current Board policy.
5. Direct staff to develop a Board policy that establishes energy efficiency standards for new County building designs and that explicitly considers the direct energy use impacts as a formal criterion in purchasing decisions related to buildings, facility space leases, equipment and supplies that use energy unless they meet specific exemption criteria.
6. Direct staff to explore the concept of the following two related State legislative initiatives and present recommendations and options to the Board through the Legislative Committee: a) establish a statewide process whereby specified categories of equipment and supplies purchased by local governments and special districts would receive energy efficiency ratings; b) provide either rebates to entities that purchase higher rated energy efficient equipment and supplies and/or subsidies to the manufacturers of the higher rated energy efficient equipment and supplies to lower the effective purchase price.
7. Direct staff to present recommendations and options to the Board through the Finance and Government Operations Committee (FGOC) on implementing a long-term public educational strategies that promotes energy conservation as both a community value and as an organizational ethic. The proposals should focus on partnership opportunities and communication strategies involving both governmental and non-governmental resources.
8. Do not move forward with power generation at the possible Hedding project and refer to staff for further review and analysis the October 2001 SCVHHS co-generation proposal with report back to both the Finance and Government Operations Committee and Health and Hospital Committee in January 2002. Retain the flexibility for both co-generation as well as

distributed generation projects in an effort to insulate critical County operations from the vagaries of market forces. The report back should also provide information on the availability of tax credits and grants to offset the funding and operation of the project.

9. Maintain current General Plan policies and zoning regulations regarding power plant siting.

10. Direct staff to present a proposal at the FY02 Midyear Budget Review to implement an Enterprise Energy Management System that identifies the number of meters with their associated cost that might be installed through June 30, 2002 and that recommends funding options for the remaining components that involve the FY03 Capital Budget, the Building Operations Budget, and the ITEC Budget.

11. Direct staff to identify and pursue additional funding sources for continued energy conservation efforts on a pilot basis through the end of FY2004 with a report at each Midyear Budget Review and during the Budget Hearings that discusses efforts and successes. To implement this effort, direct the Administration to determine the most appropriate staffing method that would end in June 30, 2004 unless the Board took action to continue a position.

### **FISCAL IMPLICATIONS**

The Energy Luminary awards are recommended at the \$100 and \$500 level and existing appropriations will be used to cover the cost of this action (Recommendation 1). To implement the pilot project through June 30, 2004 to pursue and report on additional funding sources for conservation efforts (Recommendation 11) will require one analyst position for that length of time. An unclassified analyst position working on energy conservation matters in the General Services Agency is already funded through October 2002. To fund a position from November 2002 through June 30, 2004 would cost approximately \$141,500.

The other nine proposed recommendations may lead to final Board actions on both policies and selected project initiatives that should reduce County energy consumption. Whether reduced energy consumption will lead to reduced County costs and an overall net savings to the County depends on the weather and market conditions that govern utility costs. As the recommended proposals come forward, staff will provide the General Fund costs and potential savings associated with them.

### **REASONS FOR RECOMMENDATION**

In February 2001, the Board of Supervisors established the Santa Clara County Emergency Energy Task Force. The Board assigned the Task Force the broad goal to identify policy recommendations for the full Board to consider relating to conservation and generation of

renewable and non-renewable energy resources for the County and for County facilities. Last May, the Task Force submitted an interim report containing nine recommendations intended to reduce energy use in the near term. The Board adopted these strategies.

The Task Force has evidence from five facilities where the County has an ability to measure energy usage better than these strategies and those implemented over the last few years achieved major energy reductions. Using average daily kilowatt hours consumed (adu's) as the measure of energy usage, these five facilities used almost 12,000 less adu's in June 2001 than in 2000 for over an eight percent decrease.

The percentage decreases were almost ten percent in July, over twenty-two percent in August, almost nineteen percent in September and over sixteen percent in October. Over the five month period (June through October), the total reduction in adu's was over 112,000 kilowatt hours. This level of savings is roughly equivalent to a reduction in energy demand (kilowatts) required to meet the needs of 1,100 homes. At an average cost of between ten and twelve cents per kilowatt hour, the average monthly savings resulting from this energy conservation effort ranges from \$67,000 to \$80,000.

However, limitations in the data preclude generalizations about energy consumption trends across all County facilities. As more data is evaluated, staff will be better able to assess the impact on the County's utilities budget in the General Services Agency. In the current fiscal year, the Board approved an additional \$4.7 million to support utility costs over the amount budgeted in FY 2001. Through October 28, 2001 (Accounting Period 4, or 31 percent of the fiscal year), departments covered by this account have spent \$3.7 million or only 27 percent of the budget. For next fiscal year, staff is not projecting a change in base costs for this budget allocation. This forecast may change, however, when budget development takes place in early 2002 because there will be more experience with the impacts of gas prices and winter energy use that staff will factor into the forecast for next fiscal year.

The Task Force is now submitting its final report with one recommendation that honors employees who had special energy conservation ideas and ten others have the potential to:

- a) reduce long-term energy consumption by both County facilities and privately owned facilities in the unincorporated area;
- b) maintain the County's current flexibility on siting power plants under 50 megawatts;
- c) continue the review and analysis of one co-generation project that may warrant implementation;
- d) improve the County's ability to manage its energy use and identify additional strategies to fund energy conservation projects.

#### **HONORING EMPLOYEES WITH SPECIAL ENERGY CONSERVATION IDEAS**

Recommendation 1: Adopt and present Energy Luminary awards to the following County employees to recognize their contributions in support of the County's energy conservation program: a) Joseph Takacs, General Services Agency, Building Operations Division; b) Dennis Montero, General Services Agency, Building Operations Division; c) Steven Palmadessa, Social Services Agency; d) Darcie Metsker, Department of Correction, Correctional Center for Women (CCW), Elmwood Facility; e) Audrey Trautwein, Santa Clara Valley Medical Center; f) David Ginsborg, Office of the Assessor; g) Ponce Sia, General Services Agency, Building Operations Division.

Rationale: These employees have made energy savings suggestions that the Emergency Energy Task Force believes merit special recognition as "Energy Luminaries." See Attachment A for the details of their suggestions and the benefits that the County obtained.

#### REDUCING LONG-TERM ENERGY CONSUMPTION

Recommendation 2: Direct staff to study and make recommendations to the Board through the Housing, Land Use, Environment and Transportation Committee (HLUET) on implementation of "Green Building" standards for both private developments in the unincorporated County as well as construction or improvement of buildings owned or leased by the County.

Rationale: Architects and builders apply the term "Green Building standards" to those for lighting, insulation, climate control systems, and other building design elements that increase the efficiency in the use of energy for residential and non-residential buildings. The State legislature has assigned the California Energy Commission (CEC) the primary responsibility for establishing these Green Building standards. The CEC adopted and the Building Standards Commission approved emergency standards for energy efficiency effective June 1, 2001.

Local jurisdictions, however, may enact more stringent building and design standards or require earlier implementation of standards set by the State. They may do so, if they demonstrate to the State that the standards are cost effective and at least as energy efficient as the State standards. Given how much energy consumption comes from building operations, the Task Force recommends that the County consider adopting Green Building standards for both private development in the unincorporated County as well as construction or improvement of County owned or leased buildings. Since the County has choices, the Task Force further recommends that the staff study not only the State's adopted standards but those that were under State review and not adopted and those currently under State review that may be adopted. In addition, staff should survey local jurisdictions on their current standards and any pending actions to change them, as well as identify any standards that would promote the use of non-renewable energy sources and

make content and timing recommendations to the Board through the HLUET.

**Recommendation 3:** Direct staff to study and make recommendations on Heat Island Reduction that primarily focus on street pavement but also identify gaps in County regulations and policies covering private development in the unincorporated County as well as construction or improvement of County owned or leased buildings where the County might incorporate strategies presented by Hashem Akbari of the Lawrence Berkeley National Laboratory as well as those found in other resources and references.

**Rationale:** Heat Islands refer to geographical areas that generate significantly more heat than surrounding areas. Dr. Hashem Akbari, from the Lawrence Berkeley National Laboratory, presented the results of credible scientific research to the Task Force that Heat Islands lead to higher energy consumption and poorer air quality. He also presented findings that showed that cooler roofs, cooler street pavements, and more shade trees reduce Heat Islands. The County already has an extensive cool roof program (see Recommendation 4) and it has certain development requirements related to trees. Therefore, the Task Force recommends that staff study Dr. Akbari's strategies and other resources and references and make recommendations on Heat Island reduction that focus primarily on street pavement but also identify opportunities to apply these strategies to gaps in existing County regulations and policies that govern private development in the unincorporated County as well as construction or improvement of County owned or leased buildings.

**Recommendation 4:** Approve General Service Agency's three-year plan (FY2003, FY2004, FY2005) to complete the installation of "cool roofs" on roofs that Building Operations maintains where appropriate, contingent on the Board providing continued funding for the Backlog Facility Maintenance Program consistent with current Board policy.

**Rationale:** Since 1997, County staff has installed lighter colored materials on 28 County roofs encompassing 682,300 square feet. Over the next year, staff plans to treat 11 more County roofs that will complete over 50% of the total roof area maintained by General Services. Staff has identified an additional 26 projects that would add 456,680 square feet of roof area and complete 80% of the total roof area maintained by General Services. GSA staff has outlined a three-year plan in the memo from Steve Black, Building Operations Manager, dated August 6, 2001, to complete these 26 projects (Attachment B). Spreading these projects over three fiscal years uses existing County staff members more effectively and also limits any negative impacts on the other Backlog Maintenance projects. Therefore, the Task Force recommends approval of the staff plan, contingent on the Board providing continued funding to the Backlog Facility Maintenance Program that is consistent with current Board policy.



Recommendation 5: Direct staff to develop a Board policy that establishes energy efficiency standards for new County building designs and that explicitly considers the direct energy use impacts as a formal criterion in purchasing decisions related to buildings, facility space leases, equipment and supplies that use energy unless they meet specific exemption criteria.

**Rationale:** The County procures space, equipment and supplies that to varying degrees consume energy when County employees use them. The Task Force believes that how much energy these items consume when used and how much the County might pay in energy costs over the useful life of these items should become a formal and more significant part of the purchasing decision. Therefore, this recommendation asks staff to develop a Board policy that establishes energy efficiency standards for new County building designs and that explicitly considers the direct energy use impacts as a formal criterion in purchasing decisions related to buildings, facility space leases, equipment and supplies that use energy unless they meet specific exemption criteria. Since the collection of energy consumption and cost information on the alternatives under consideration for purchase have costs associated with them, staff should include criteria that if met would exempt the specific purchase from the energy efficiency analysis.

Recommendation 6: Direct staff to explore the concept of the following two related State legislative initiatives and present recommendations and options to the Board through the Legislative Committee: a) establish a statewide process whereby specified categories of equipment and supplies purchased by local governments and special districts would receive energy efficiency ratings; b) provide either rebates to entities that purchase higher rated energy efficient equipment and supplies and/or subsidies to the manufacturers of the higher rated energy efficient equipment and supplies to lower the effective purchase price.

**Rationale:** The County already has adopted a comprehensive set of legislative policy statements with regard to energy. These statements cover tax and revenue impacts, power generation, public power, conservation, protection from and notification of power outages, and protection of low-income rate payers and small businesses from rate increases. These statements also call for development of a statewide grant program to fund energy conservation and energy management equipment in local government facilities. They also support a rate structure that recognizes conservation efforts, including incentives to reduce air conditioning.

This recommendation is a companion to Recommendation 5 on making energy efficiency standards a formal and explicit criterion in purchasing decisions of supplies and equipment that use energy. Board action on such a policy would not be contingent on achieving legislative action but it would be much easier to implement and more effective if specified categories of supplies and equipment had energy efficiency ratings. These categories

would be those that local governments purchase either in high volume or in low volume but high dollar amounts and that as a group consume a great deal of energy. This concept is similar to the energy star designation for consumer products such as refrigerators. When purchasing these supplies and equipment, these ratings would allow County employees to easily identify those products that are more energy efficient. A rebate and/or subsidy program would also create a financial incentive to purchase these more energy efficient products over less energy efficient products that might have a lower initial purchase price.

**Recommendation 7:** Direct staff to present recommendations and options to the Board through the Finance and Government Operations Committee (FGOC) on implementing long-term public educational strategies that promotes energy conservation as both a community value and as an organizational ethic. The proposals should focus on partnership opportunities and communication strategies involving both governmental and non-governmental resources.

**Rationale:** Over the past few decades, American society has undergone fundamental shifts in cultural attitude and behavior on such issues as recycling of solid waste, driving under the influence of alcohol, and domestic violence. Each of these cultural shifts has involved a combination of changes in the law, market incentives, and a continuous and comprehensive education and promotion effort to achieve the shift in attitude and behavior. The Task Force recommends that the County reduce its long-term use of energy for economic, environmental, and public health reasons. Since an educational and promotional effort has historically been part of a successful comprehensive effort to modify community and County practices, the Task Force recommends that staff develop recommendations and options for implementing long-term public educational strategies that target both the general public and County employees. These strategies would promote energy conservation as both a community value and as an organizational ethic.

The proposals should focus on partnership opportunities and communication strategies involving both governmental and non-governmental resources where the County may play a variety of roles. Since there are both private and public sector organizations working to promote energy conservation by the public, the County's best role in these cases may be to act as a regional facilitator. For other strategies, the County may use a small amount of County funds to leverage or enhance the efforts of other organizations. For example, there might be a joint funding opportunity with PG&E to use VTA bus and light rail advertisements. When it comes to County employees, the County will be the direct implementer using such tactics as having a regular column in the County newsletter, adding conservation messages in new-hire briefings, and sending promotional material to employees with their paychecks.

## PURSuing LIMITED OPTIONS FOR CO- AND DISTRIBUTED GENERATION

Recommendation 8: Do not move forward with power generation at the possible Hedding Street project and refer to staff for further review and analysis the October 2001 SCVHHS co-generation proposal with report back to both the Finance and Government Operations Committee and Health and Hospital Committee in January 2002. Retain the flexibility for both co-generation as well as distributed generation projects in an effort to insulate critical County operations from the vagaries of market forces. The report back should also provide information on the availability of tax credits and grants to offset the funding and operation of the project.

Rationale: County staff hired a consultant firm to study the feasibility of generating the electrical energy needed for the Civic Center complex. The study considered 70 West Hedding, the Sheriff's Office Building, the underground Fleet garage and the proposed parking structure and a 300,000 square foot new building scheduled for construction. The peer review of that study concludes that as a means to reduce energy costs, the self-generation system is only cost effective under the most optimistic conditions. The Task Force concurs and recommends that the Board not proceed with that project.

The Task Force, however, believes that the proposal for co-generation at Valley Medical Center should not be judged on cost effectiveness alone. The public gains a defined benefit to Valley Medical Center being self-sustaining to some degree during both natural and manmade power disruptions extending beyond the current emergency back-up generator capability. The final version of the report of the consultant hired by SCVHHS was unable to undergo a peer review prior to its scheduled Task Force meeting. At this meeting, the Task Force also asked for more information regarding the availability of tax credits and grants that would offset the funding and operation of the project. Therefore, the Task Force recommends delaying any decision on going forward with this project until staff completes further review and analysis with report back to both the Finance and Government Operations Committee and the Health and Hospital Committee in January 2002.

Recommendation 9: Maintain current General Plan policies and zoning regulations regarding power plant siting.

Rationale: The Task Force considered whether the County should identify likely parcels where power generation facilities might be built and if there needed to be any changes to County policy or zoning regulations to facilitate those efforts. The Task Force understands that the California Energy Commission has exclusive authority to certify the construction and operation of any thermal electric power plants with a generating capacity of 50 megawatts (MW) or more and related facilities. The CEC considers local land use policies and regulations in its certification process, but may override local rules.

For capacity under 50 MW, the zoning ordinances require a use permit and architecture and site approval along with certain conditions. The site must have adequate water and waste water disposal facilities. Where contiguous to a City boundary and within the city's urban service area, the proposed use must conform to the local city's General Plan and the city must annex the property unless the city waives the annexation. Staff believes the current zoning districts and General Plan designations give the County the greatest flexibility in these situations involving less than 50 MW. The Task Force agrees and therefore recommends maintaining the current ordinances and regulations regarding power plant siting.

#### PROVIDING BETTER ENERGY MANAGEMENT AND ADDITIONAL RESOURCES

Recommendation 10: Direct staff to present a proposal at the FY02 Midyear Budget Review to implement an Enterprise Energy Management System that identifies the number of meters with their associated cost that might be installed through June 30, 2002 and that recommends funding options for the remaining components that involve the FY03 Capital Budget, the Building Operations Budget, and the Information Technology Budget.

Rationale: An Enterprise Energy Management System requires three main components to function effectively: 1) monitoring devices, 2) computerized building control systems for lighting, heat and air conditioning, and 3) software that would seamlessly integrate all of these components together. Staff has developed a preliminary proposal of 73 meters, software for 500 points to be monitored or controlled, and necessary equipment that totals \$1.17 million. See the attached staff report from Building Operations, dated October 11, 2001, for details as well as the benefits of such a system.

The foundation for any energy management system is to install monitoring devices or meters. The Task Force believes that this effort to measure and manage energy use better may be important for our energy situation next summer as well as for future years. To gain that benefit next summer, the Board should strongly consider installing some meters in the first six months of 2002. To do that the Task Force recommends that staff present a proposal at the FY02 Midyear Budget Review on the number of meters that might be installed through June 30, 2002 with their associated cost. In addition, the proposal should discuss funding options for the remaining components that would be presented during the FY03 Budget process. These options might use a combination of the Capital Budget, the Building Operations Budget and the Information Technology Budget.

Recommendation 11. Direct staff to identify and pursue additional funding sources for continued energy conservation efforts on a pilot basis through the end of FY2004 with a report at each Midyear Budget Review and during the Budget Hearings that discusses efforts and successes. To implement this effort, direct the Administration to determine the most

appropriate staffing method that would end in June 30, 2004 unless the Board took action to continue a position.

**Rationale:** With the County experiencing dwindling revenue streams, outside funding sources for County programs, initiatives and services will become increasingly important. For the energy conservation projects this year, the County has applied for almost \$260,000 in rebates and grants and through early November has received over \$213,000. The County should continue to do its part in energy conservation and should build on the initial efforts so far. To do so requires staff resources to identify likely sources, complete applications, and follow-up with these sources to maximize the funds received.

Since the ongoing effectiveness of such an effort with a dedicated staff person is unknown, the Task Force recommends conducting a pilot through the end of FY2004. The General Services Agency already has an unclassified analyst position established to assist in this year's efforts and it is funded through October 2002. Since there is a County policy against extending unclassified positions over 18 months, this position would not be available for the full length of the pilot. Therefore, to implement this effort, the staff should determine the most appropriate staffing method that would end in June 30, 2004 unless the Board took action to continue a position. To help the Board evaluate the progress of this effort, the Task Force recommends that staff provide at each Midyear Budget Review and during the Budget Hearings a report that discusses efforts and successes since the last report.

## **ATTACHMENTS**

- Energy Luminary Award Nominees (Miscellaneous)
- Energy Management Systems (Miscellaneous)
- Cool Roof Three-Year Plan (Miscellaneous)

*Attachment A*

**County of Santa Clara  
General Services Agency  
Administration**



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Trans-ID: GSA12-12-401

DATE: December 4, 2001

TO: Board of Supervisors

FROM: *G.K. Carruth*  
G. Kevin Carruth  
Director, General Services Agency

SUBJECT: Adopt and Present Energy Luminary Awards

**RECOMMENDED ACTION**

Adopt and present Energy Luminary awards to the following County employees, to recognize their contributions in support of the County's energy conservation program: Joseph Takacs, General Services Agency, Building Operations Division; Dennis Montero, General Services Agency, Building Operations Division; Steven Palmadessa, Social Services Agency; Darcie Metsker, Department of Correction, Correctional Center for Women (CCW), Elmwood Facility; Audrey Trautwein, Santa Clara Valley Medical Center; David Ginsborg, Office of the Assessor; Ponce Sia, General Services Agency, Building Operations Division.

**FISCAL IMPLICATIONS**

There is no additional impact to the General Fund, over and above existing appropriations for FY2002, as a result of this action. Energy Luminary Awards are recommended at the \$100 and \$500 level. The cost of these awards will be borne by the General Fund; however, existing appropriations will be used to cover the cost of this action.

## **CONTRACT HISTORY**

Not applicable.

## **REASONS FOR RECOMMENDATION**

The following County employees have made energy savings suggestions which the Board of Supervisors' Emergency Energy Task Force believes merits special recognition as "Energy Luminaries":

Joseph Takacs, General Services Agency, Building Operations Division

Dennis Montero, General Services Agency, Building Operations Division

Provide local motion sensing control of the lighting system in the Board of Supervisors offices. Both of the above candidates co-designed and engineered a remote control system that allows the occupant to control the overhead lights by selecting a Low, Med or Hi intensity and overriding the timer when appropriate. This will result in an approximate savings annually of \$26,000 per year in energy costs.

Darcie Metsker, Department of Correction, Correctional Center for Women (CCW), Elmwood Facility

Suggests lighting controls with switching and/or motion control capabilities to various control panels at Elmwood's Correctional Center for Women (C.C.W.). Including interior public lobby, lounge, sundecks, visiting booths, interior public restrooms, men & women's locker rooms. Replace large, overhead stadium style yard lights over officer stations with less energy consuming lighting.

Steven Palmadessa, Social Services Agency

Adjust all air system automatic clocks by starting later in the morning and shutting off earlier at night by one-half hour. A total savings of one hour per day, 5 days per week x 35 units. Asking their contract janitorial service to turn off all lights when finished cleaning. Reducing lighting in all 12 restrooms. Turn off heat lamps in the atrium. Placing signs at every copy room asking people to turn off lights after they leave. Disabling unnecessary decorative lighting in hallways and waiting rooms.

Audrey Trautwein, Santa Clara Valley Medical Center

Efforts to promote using stairways instead of elevators by: Painting stairwell doors and attractive, eye catching color and paint interiors of stairwells. Advertise health and calorie usage advantage of using stairs. Post fun sayings or motivational items in stairwells, put balloons in stairwells occasionally to make them more fun. Have badge access to stairwells so

employees can use them instead of elevators.

David Ginsborg, Office of the Assessor

For holidays that fall on a work day, switch building system controls to weekend schedule, reducing energy used for lighting, heating, ventilation and air conditioning.

Ponce Sia, General Services Agency, Building Operations Division

At Main Jail North, designed a system to regularly turn off lights during peak usage hours utilizing a time clock. This system sweeps through each floor and turns off lights every two hours. If they are needed, then they are turned back on. This system sweeps during daylight hours. He has also installed 750 cell night-lights which burn 24/7 on a photocell turning them off during daylight hours. Suggested converting all 9 mechanical stairwells from incandescent bulbs to fluorescent and implemented a switching system for the main controls desk for these lights. Suggested that the 5 floors of the mezzanine deck lights be changed out from incandescent to fluorescent bulbs.

**BACKGROUND**

At the direction of the Board of Supervisors' Emergency Energy Task Force (EETF), the Energy Ideas Review Committee was established to review and evaluate employee suggestions for energy savings. Since the launch of the County Energy-Savings Suggestion Program on June 15, 2001, County employees have submitted more than 250 suggestions. Energy saving ideas have included solar power, light and motion sensors, adjusting temperatures inside of buildings, shorter work weeks, and specific changes to fixtures, equipment and lighting schedules in various County facilities.

When the County became aware of the energy problem faced by the State of California, General Services Agency staff as well as staff of various County departments and agencies began implementing a number of energy-saving measures. A number of changes had already been made or were underway when the Energy Suggestion Award program was announced.

All employees who participated in this program have received an "I Had A Bright Idea" magnet, as a token of appreciation for their participation in this effort along with a letter thanking them from Richard Wittenberg, County Executive. Some of the proposed ideas were more complex and are under review to determine feasibility and cost of implementation. These ideas have been designated as Energy Star award winners, and the creative suggestions of these employees were rewarded with a compact fluorescent light bulb.

For ideas that are expected to result in a more significant energy savings, the EETF has recommended special recognition — presentation by the Board of Supervisors of certificates



of appreciation as Energy Luminaries and a cash award.

### **CONSEQUENCES OF NEGATIVE ACTION**

If this action is not implemented, Energy Luminary Awards will not be presented in accordance with the recommendation of the Board of Supervisors' Emergency Energy Task Force.

### **STEPS FOLLOWING APPROVAL**

No action is required.

### **ATTACHMENTS**

- (Transmittal submitted on Nov 19, 2001 12:28:27 PM – PDF Version)



## County of Santa Clara

General Services Agency  
Facilities Department  
Building Operations Division

1555 Berger Drive #3  
San Jose, California 95112  
(408) 299-4181 #2141 FAX 297-2793



*Attachment C*

Date: October 11, 2001

To: Steve Black, Manager  
Building Operations Division

From: Lin Ortega, Manager  
Preventive Maintenance Work Center, Building Operations

Subject: **COUNTY OF SANTA CLARA ENTERPRISE ENERGY MANAGEMENT SYSTEM**

### BACKGROUND

During the last several months the County has been heavily involved in energy conservation efforts. This has been the result of the emerging energy crisis that has affected the state of California. The County has implemented various policies and has completed a multitude of energy conservation projects in efforts to decrease its power consumption and thus help decrease the need for rolling blackouts.

To date, the County has spent over \$1.3M on implementing new energy conservation policies and completing energy conservation projects, with approximately \$2.8M in additional projects waiting to be completed. The actual results of these efforts have been difficult, if not impossible to measure in most cases. For the most part, the County has relied on estimated calculations to quantify the results of the energy conservation efforts. This has created a real need for the County to have a means of measuring and quantifying the power consumed by each of its facilities.

### ANALYSIS

Having the ability to measure the actual results of the energy conservation efforts is essential because positive results provide justification to the resources and costs expended, and more importantly, it can provide a true measurement of the County's energy conservation results. It provides an opportunity for the County to tap into grants and rebates of a much larger venue than those for which it has currently qualified for. Also, it provides a management tool to better control energy costs and to allocate electrical utility budgets on a per facility basis.

From an operational and maintenance perspective, the County must have the ability to measure the quality of power that is being supplied to its buildings. This is especially critical now considering the many computer and telecommunication systems that are being installed in most facilities. These new

Board of Supervisors: Donald F. Gage, Blanca Alvarado, Pete McHugh, James T. Beall Jr., Liz Kniss  
County Executive: Richard Wittenberg

systems are more sensitive to "dirty" power. In order for the County to measure the results of its energy conservation efforts, it must be able to monitor and log the power consumption data for each facility. Many of the County's power utility accounts cover multiple buildings, making it nearly impossible to assess the power consumption from an individual facility level.

In addition to needing a means of tracking its power consumption and conservation performance, the County also requires an effective mechanism or process to curtail power during stage two or three situations (i.e., low power supply on the grid). This is especially true if the County is considering entering into an energy curtailment program agreement with the utility providers; this usually provides the County with better billing rates. This entails controlled load management of the various building systems such as lighting and heating, ventilation and air conditioning (HVAC). Controlled load management allows for automatic or manual curtailment (pre-programmed) usage of the various building systems, resulting in a lower power demand and thus reducing the peak load. This type of function can only be accomplished via an Enterprise Energy Management System (EEMS), which can provide monitoring and control functions of the different facility systems that directly affect energy consumption.

#### **ENTERPRISE ENERGY MANAGEMENT SYSTEM**

The performance of an enterprise energy management system, however, is dependant upon the necessary equipment being installed in the facilities. Figure 1 is a graphic representation of how a basic EEMS would be configured. An EEMS requires three main components in order to function effectively: 1) monitoring devices (e.g., electricity, gas, water), 2) computerized building control systems (e.g., lighting, HVAC), and 3) a software package that can seamlessly integrate all of these components together. In addition, an EEMS can be linked to other important data sources such as PG&E electronic data, and weather related data warehouses.

The installation of power meters would be the first step in pursuing the implementation of an EEMS for the County. The EEMS monitor and control the various systems that are integrated to it, and record data generated by these systems. The data gathered can then be analyzed by the system and used to produce various types of reports and trends, including degree-day power trend reports (i.e., power trend comparisons of a same building during two different days with similar environmental conditions) and energy cost comparisons. See Attachment B for a power trend comparison chart of the 70 West Hedding (West Wing) facility generated during two different days with similar weather conditions. This data was gathered using the existing meters, previously installed by Building Operations, and the Pegasys Vista software (used specifically for monitoring) interface used to monitor these meters and record their data.

#### **Power Meters**

The County currently has limited capabilities of performing power monitoring and metering functions. Power meters, which report to a central server and allow for data collection, were installed at several of the County's major facilities in the late 1990s (see Table 1 in page 3 for a list of facilities). These facilities represent nearly 1 million square feet of the County's space. These meters, with their current management software, allow the County to monitor and trend power consumption and quality, and to an extent, to measure the results of the energy conservation efforts. However, they do not allow for automatic load curtailments or other needed utilities management functions. These functions can only be accomplished via an EEMS.

Facility #	Address	City	Building Description
0102	70 West Hedding	San Jose	West Wing
0101	70 West Hedding	San Jose	East Wing
0103	190 West Hedding	San Jose	Hall of Justice
0105	200 West Hedding	San Jose	San Jose Court
5903	840 Guadalupe Parkway	San Jose	Juvenile Probation
5901	840 Guadalupe Parkway	San Jose	Juvenile Detention

Table 1  
Facilities equipped with power meters

Building Operations, considering the present and future needs, has developed, with the help of a Power Meter manufacturer's representative, a cost estimate of \$800K for the purchase and installation of 73 power monitor meters for several of the County's major facilities (see **Attachment A**). These meters would monitor approximately 134 buildings covering just over 4 million square feet. In some cases, buildings would be monitored as a group (e.g., Elmwood old complex, James Ranch, Holden Ranch). This is due to the individual buildings being too small to justify a separate meter, or the meter installations are only possible at the buildings' main electrical feeds.

There are approximately 84 additional buildings covering approximately 1 million square feet of space (County owned and leased) where additional meters could also be installed. The cost for this would be approximately \$400K. The County may choose to do this if it sees this as a feasible and advantageous investment. This would provide the County with the ability to manage electrical utilities for these facilities on an individual basis. This includes utilities budgeting and tracking on a per facility basis. Significant consideration should be given to adding power meters to these facilities if the County is looking to gain complete control and management of electrical utilities for each of its facilities.

#### **Building Systems**

As part of the annual Maintenance Action Plan (MAP), Building Operations has identified various building system upgrades and installation projects, with energy conservation and more effective systems in mind. The MAP includes, among other things, lighting controls and HVAC management systems.

#### Lighting Controls

Lighting controls have already been installed in various County facilities, including 70 West Hedding (East and West Wings), 1555 Berger Dr. complex (Buildings 1, 2 and 3), and 840 Guadalupe (Juvenile Probation Offices). These projects were completed in years past as part of Building Operations' MAP projects. FY2002 MAP includes an additional \$250,000 in lighting control system installation projects. These projects were programmed in January of 2001 during Building Operations' annual MAP development. Computerized lighting control systems can be linked to an EEMS, which in turn can use this link to perform automatic lighting curtailment functions.

#### HVAC Management Systems

Building Operations has taken a proactive approach in terms of addressing HVAC management systems. Over the last several years, Buildings Operations has been requesting that new construction, as well as major building improvement projects, include Direct Digital Control (DDC) HVAC management systems. The County currently has 15 of its major facilities (**Attachment C table 2**) equipped with fully automated computerized HVAC management systems. These are the buildings that

Building Operation can centrally monitor and control at this time, and could easily be integrated to an EEMS.

On August 17, 2000, Advanced Design Consultants (private design firm) prepared an HVAC Controls Study for GSA. The study was done to delineate a program to replace antiquated HVAC controls with state-of-the-art Andover DDC systems. The study covered 13 of the County's major facilities, and identified a project cost of \$1,229,250. Attachment C table 1 provides a list of the buildings targeted by the ADC study. The County has been using Andover controls in its facilities the last several years. Andover controls provide high quality automated systems to manage buildings' HVAC equipment.

Attachment C table 3 provides a list of additional buildings that would require their HVAC controls to be upgraded to the Andover system. These were not included in the study by ADC, and if upgraded would require additional funding. The cost to upgrade these buildings has not yet been determined.

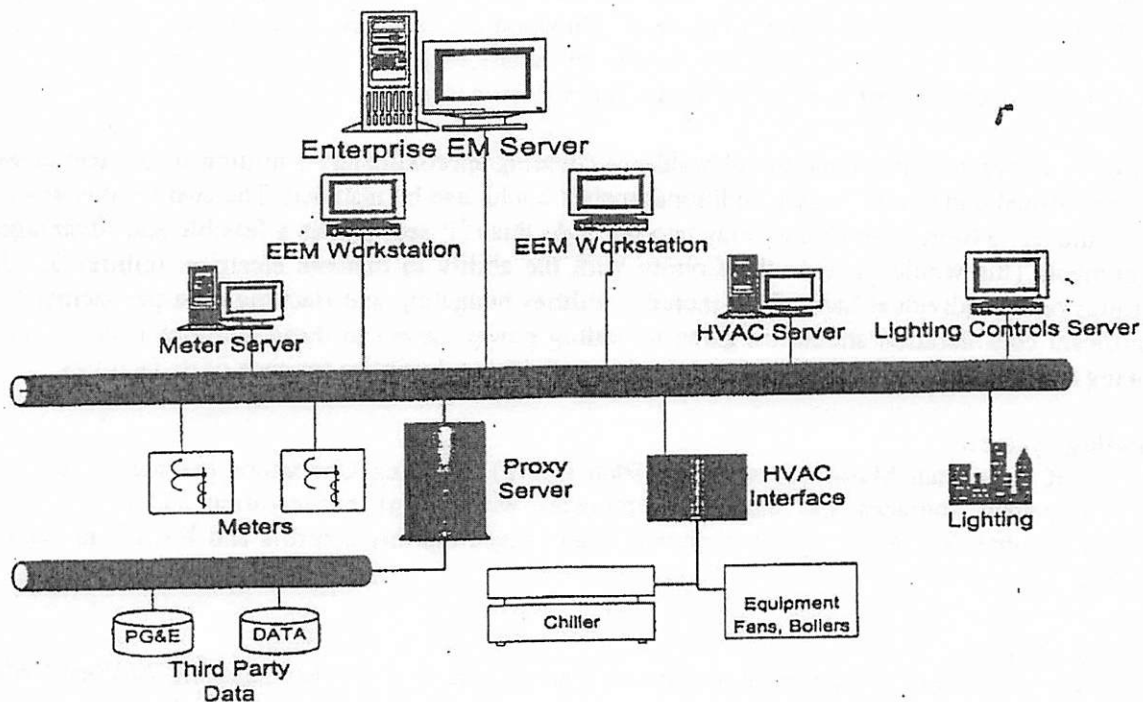


Figure 1  
Basic representation of an Enterprise Energy Management System

#### EEMS Software Packages

EEM Systems provide the software gateway to allow building systems to communicate via a common language. The EEMS acts as a translating device that can decipher, record and control a variety of different building automation systems. Due to the sophisticated nature of these products, the costs tend to be high. The common approach used by the various suppliers of these systems to assess costs is three tiered: 1) consulting and integration design services, 2) software product costs (licensing), and 3) yearly software maintenance costs. The costs also vary greatly depending on the number of points purchased; the more points purchased, the lower the cost per point. These systems typically do not include any hardware as part of the package (e.g., application servers, field monitoring devices).

"Points" refer to a specific device or system parameter that will be monitored or controlled, and not necessarily the device itself. Each device or system to be monitored or controlled may have multiple "points".

GSA has learned that at least two other Counties (Sacramento and Los Angeles) are already in the process of deploying EEMS in their organizations, and that in fact they had done research on the various providers of these types of systems. Both of these Counties opted to use Silicone Energy as their provider of choice. The County of Los Angeles will be integrating 5000 points, and the County of Sacramento will be integrating 300 points.

In the case of Los Angeles County, their total cost for 5000 points, including consulting, integration, design, software costs, and software annual maintenance, was reported to be \$917,710. County of Sacramento, reports their total cost for integrating 300 points was \$230,160. These costs do not include field equipment or computer hardware.

It is estimated that the County of Santa Clara would require at least 500 points in order to properly manage their existing systems plus the additional 73 meters that are listed in Attachment A. The number of points may raise significantly upon completing a thorough evaluation of the County's systems and needs.

Assuming the County requires 500 points, and considering the costs incurred by Sacramento and Los Angeles Counties for their respective EEMS, Santa Clara County could be contemplating costs in excess of \$300,000. This does not include any hardware necessary to make the system functional (e.g., pc applications servers, power monitors, HVAC and lighting management systems). If 750 points are needed the total cost would be in the range of \$450,000.

## **FISCAL IMPACTS**

In order to address the possible fiscal impacts that a project of this magnitude could have upon the County and GSA, it is important to understand the various budgeting subcategories within the project itself. The EMMS, assuming the County opts to undertake such project, would involve: 1) technology products and services (e.g., software, PCs, electronic data gathering equipment, consulting), 2) maintenance upgrades/replacements relating to facilities' equipment, and to an extent, 3) capital improvements (e.g., adding new lighting control or HVAC systems). These three categories are typically funded by three different sources: Information Technology Executive Committee (ITEC), Building Operation's maintenance action plan (MAP), and Capital Improvements.

### **ITEC**

Funding for the identified 73 power meters and the EEMS software (350 points) can be requested (via required application process) from ITEC. This would include hardware, software, installation, and consulting and integration services.

#### **One-Time Costs**

EMMS Software cost:	\$350,000
Power Meters cost:	\$800,000
Auxiliary EQ. Costs:	\$20,000
Total Estimated Cost:	\$1,170,000

#### **Recurring Costs**

EEMS annual maint. cost: \$20,000  
Staff annual cost: \$85,000 (estimated)

#### MAP

Building Operations, through its yearly MAP planning has, and will continue to address the replacement of older inefficient HVAC systems throughout the County's facilities, with more energy efficient and technologically compatible systems. These are systems that can seamlessly integrate to an existing EEMS. The replacements of these systems, has been an evolving process that has, and will continue to occur on a yearly basis. As older systems are replaced with newer ones, they can be integrated to an EEMS.

For the purposes of funding, this portion of the overall EEMS could be funded by Building Operations' yearly MAP budget, therefore having no additional fiscal impact.

#### Capital Improvements

Lighting control system installations have been funded by Building Operations in years past, however, because these systems are considered new additions to facilities they should be funded by Capital Improvement funds. Buildings Operations, in a conscientious effort to reduce energy consumption and provide better lighting management for the building occupants, has allocated \$250,000 from its FY02 MAP funds to the installation of these systems, and will proceed with the completion of such projects.

Regardless of the funding source (Capital Improvements or Building Operations' MAP) this will be an evolving process that will have no additional fiscal impacts.

#### RECOMMENDATIONS

Considering the critical need for the County to have a means of more effectively managing its electrical utilities funding, and to track energy consumption and power quality in its facilities, it is recommended that the County EETF approve the following request:

1. Permission to proceed with ITEC funding request for the installation of 73 power meters and the purchase and installation of an EEMS software package for the sum of \$1,170,000 for one-time funds, and \$105,000 in ongoing funds.

# Attachment A

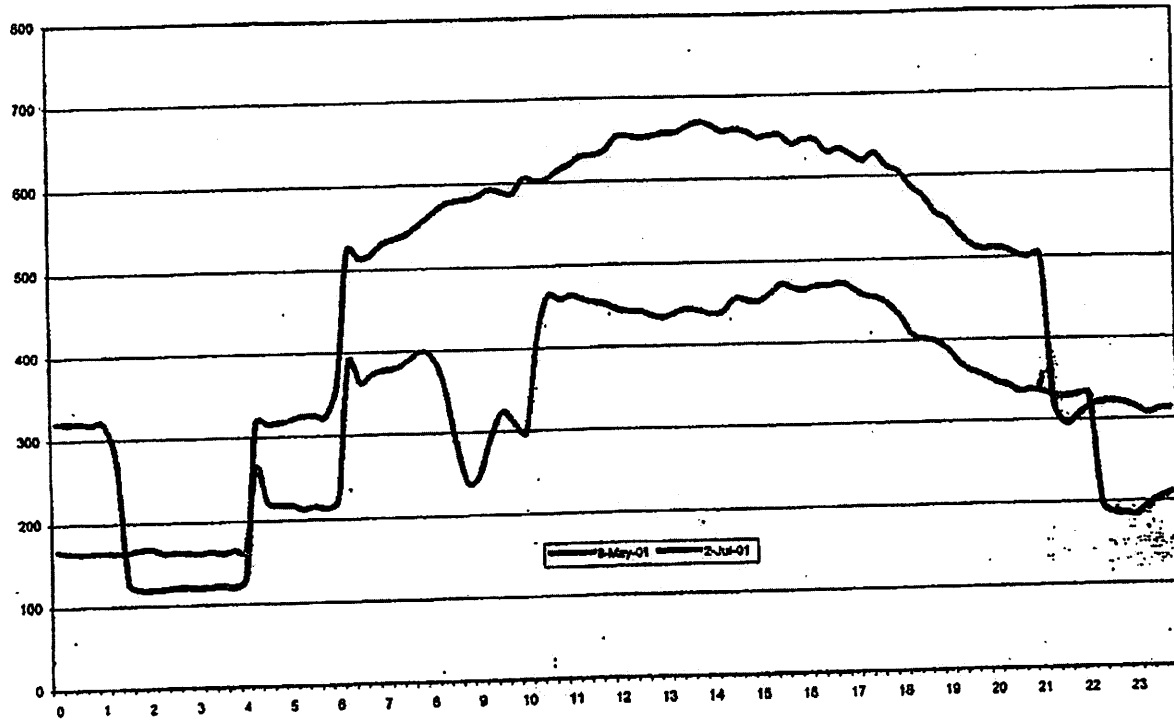
Address	Facility	Count
5601 1553 Berger Dr.	County Service Ctr - Bldg 1	9
5602 1555 Berger Dr	County Service Ctr - Bldg 2	included above
5603 1555 Berger Dr	County Service Ctr - Bldg 3	included above
5401 1505 Schallenberger Rd	Roads & Airports	included above
104 180 San Pedro St.	Main Jail South (Old Jail)	2
114 150 W. Hedding St.	Main Jail North	4
5900 840 Guadalupe Pkwy	Juvenile Hall/Probation	2
121 171 W. Hedding St.	Civic Center Visitor Paid Parking Garage	1
501 2700 Carol Dr.	GSA Communications Main Bldg	1
502 2700 Carol Dr.	GSA Communications Service Bldg	1
403 90 W. Younger St.	GSA - Fleet Garage	1
406 950 N. San Pedro	GSA Fleet Management	included above
407 90 W. Younger St.	GSA-Garage Gas Station	included above
6100 701 S. Abel St.	Elmwood - 54 Buildings	15
960 4525 Union Ave.	Childrens' Shelter - 13 Buildings	10
5100 19050 Malaguerra Ave.	James Ranch - 23 Buildings	1
5200 19050 Malaguerra Ave.	Holden Ranch - 18 Buildings	1
1301 298 W. Bernal Rd.	Muriel Wright Girls Ranch	1
2110 590 E. Middlefield Rd.	Men's Work Furlough Center	1
500 2090 Evans Ln.	Women's Residential Center	1
209 191 N. First St.	Downtown Superior Court	1
203 161 N. First St.	Old Courthouse	1
916 976 Lenzen Ave.	Park Alameda Facility	1
935 850 Thornton Way	Medical Examiner/Coroner	1
3101 80 W. Highland Ave.	South County Office Building	1
3115 12425 Monterey Rd.	South County Court Complex	1
730 2101 Alexian Dr	Alexian Drive Complex	1
1309 9500 Malech Rd.	Mariposa Lodge	1
704 1989 McKee Rd.	East Valley Health	1
2401 605 W. El Camino Real	Sunnyvale Municipal Court	1
2403 660 S. Fair Oaks Ave.	Fair Oaks Mental & Public Health Clinic	1
2507 1095 Homestead Rd.	Santa Clara Municipal Court	1
2904 14205 Capri Dr.	Los Gatos Municipal Court	1
707 1991 McKee Rd.	East Valley Mental Health	1
710 101 Jose Figueres Ave	East Valley Pavilion - Mental Health SNF	1
713 101 Jose Figueres Ave	Mental Health SNF-modular (vacant)	1
711 1993 McKee Rd.	VMC-East Valley Clinic	1
2005 231 Grant St.	North County Mental Health	1
2006 270 GRANT St.	North County Office Building	1
2902 375 Knowles Dr.	West Valley Mental Health	1
2906 14205 Capri Dr.	Temporary Court Room	1
3102 12370 Murphy Ave.	South County Animal Shelter	1

Proposed power meter installation sites.



## Attachment B

West Wing Power Trend Comparison  
Between May 8th and July 2nd, 2001



## Attachment C

### ADC HVAC Controls Study

Facility #	Address		Building Description	Estimated Cost
0501	2700 Carol Drive	San Jose	County Communications	\$182.5K
0104	180 West Hedding	San Jose	Main Jail North	\$34K
0114	150 San Pedro	San Jose	Main Jail South	\$23K
6188	701 S. Abel St.	Milpitas	Elmwood W-2	\$74.35K
6189	701 S. Abel St.	Milpitas	Elmwood W-3	\$40.75K
6180	701 S. Abel St.	Milpitas	Elmwood W-4	\$105.2K
6170	701 S. Abel St.	Milpitas	Elmwood M-2	\$47.75K
6171	701 S. Abel St.	Milpitas	Elmwood M-3	\$56.25K
6191	705 S. Abel St.	Milpitas	Elmwood M4	\$91.5K
6192	705 S. Abel St.	Milpitas	Elmwood M5	\$91.5K
6160	701 S. Abel St.	Milpitas	Elmwood M-8	\$115.75K
0103	190 West Hedding	San Jose	Hall of Justice	\$277.4K
2006	270 Grant rd.	Palo Alto	North County Court	\$89.3K

Table 1  
ADC study subject facilities

### Andover Equipped Facilities

Facility #	Address		Building Description	Andover Controlled	Comments
0101	70 West Hedding East Wing	San Jose	East Wing	X	Completed
0102	70 West Hedding West Wing	San Jose	West Wing	X	Completed
0404	55 West Younger St.	San Jose	Sheriffs	X	Completed
5602	1555 Berger Dr. # 2	San Jose	Building 2	X	Completed
5603	1555 Berger Dr. # 3	San Jose	Building 3	X	Partial
0935	850 Thornton Way	San Jose	Medical Examiners	X	Completed
5903	840 Guadalupe Parkway	San Jose	Probation	X	Completed
6185	701 S. Abel St.	Milpitas	Programs	X	Completed
6184	701 S. Abel St.	Milpitas	West Gate	X	Completed
6193	701 S. Abel St.	Milpitas	Administration	X	Completed
6187	701 S. Abel St.	Milpitas	Medical/Processing	X	Completed
6186	701 S. Abel St.	Milpitas	Support Services	X	Completed
0209	190 North Market St.	San Jose	Superior Court	X	Completed
0105	200 West Hedding	San Jose	San Jose Municipal Court	X	Partial installation only
2401	605 West El Camino Real	Sunnyvale	Sunnyvale Municipal Court	X	Completed

Table 2  
Andover equipped facilities.

## Attachment C (cont.)

### Additional Building Requiring Andover Upgrade

Facility #	Address		Building Description	Andover Controlled	Upgrade Required	Comments
5908	840 Guadalupe Parkway	San Jose	New Administration	NO	X	Interface w/Andover
5904	840 Guadalupe Parkway	San Jose	New Detention	NO	X	Interface w/Andover
0704	1991 McKee Rd.	San Jose	East Valley Clinic	NO	X	Interface w/Andover
3101	80 Highland	San Martin	Park Alameda Health	NO	X	Interface w/Andover
0916	976 Lenzen Ave.	San Jose	Park Alameda Clinic	NO	X	Convert to Andover
3115	80 Highland	San Martin	South County Clinic	NO	X	Interface w/Andover
2403	660 Fair Oaks Ave.	Sunnyvale	Fair Oaks Clinic	NO	X	Convert to Andover
2507	1095 Homestead Rd.	Santa Clara	Santa Clara Court	NO	X	Interface w/Andover
0105	200 West Hedding	San Jose	San Jose Municipal Court	NO	X	Convert floors to Andover
2904	14205 Capri Rd.	Los Gatos	Los Gatos Court	NO	X	Interface w/Andover

**Table 3**  
Facilities in need of Andover Controls upgrade.



## County of Santa Clara

General Services Agency  
Facilities Department  
Building Operations Division

1555 Berger Drive #3  
San Jose, California 95112  
(408) 299-4181 FAX 297-2476



August 6, 2001

TO: G. Kevin Carruth, Director  
General Services Agency

FROM: Steve Black, Manager *St. Black*  
Building Operations Division

SUBJECT: Santa Clara County Cool Roof Program

### Cool Roof Installation—Planned Roll Out

At the June 8, 2001 EETF it was requested that a GSA plan for completing the installation of the balance of the Cool Roofs in the County be prepared. The attached spreadsheets outline the General Services Agency, Building Operations Division's current status on installing cool roof products on County buildings maintained by GSA.

The first sheet entitled *Completed Roof Projects*, lists the roofs on County buildings that have been covered with this light or white colored material since 1997. These materials are either an actual roof membrane where a new roof was being installed or a sealer coating that was applied to roofs to extend their life. Building Operations had installed these lighter colored materials on 28 County roofs encompassing 682,300 square feet of roof. (42% of total roof area maintained by GSA)

The second spreadsheet entitled *Scheduled Roof Projects* lists the buildings that are programmed for installation with the cool roof material over the next year by Building Operations. This will expand our program to another 11 County roofs and add 172,500 square feet of roof to our program at a cost of \$1,047,600. (52% of total roof area will then be completed) These projects are funded through the FY 2001 and FY 2002 Backlog Program.

The third Spreadsheet entitled *Backlog Projects*, lists the future identified roofing projects that will be programmed as funds and resources become available and the workload can be managed. These identified projects will further expand the cool roof application an additional 456,680 square feet of roof at a cost of \$2,584,000. This is a prioritized list and GSA Building Operations has programmed \$900,000 (plus or minus) per year of the Backlog funds for these roof repairs and replacements. If this staged programming continues as planned it will not negatively impact other Backlog Maintenance priorities. If additional funds and resources are approved specifically for this purpose the Cool Roof Program could be escalated. Under the current plan, project priorities 1 through 6 on the attached spreadsheet would be completed in FY2003, project priorities 7 through 14 would be completed in FY 2004 and project priorities 15 through 26 would be completed in FY 2005.

To compress this schedule using existing resources much of this work would need to be contracted in order to avoid hiring staff and then subjecting them to layoffs at the end of an aggressive work schedule. Contracting \$2,584,000 of additional work this fiscal year would require the addition of two Contract Managers and one additional Roof Inspector position to manage the contracted work and construction process. One-time staffing costs for 18 month assignments would add \$415,689 to the project costs. The total one-time cost to escalate the completion of the cool roof installations in FY 2002 would be about \$3,000,000.

The three attached spreadsheets represent approximately 80% of the roof surfaces maintained by Building Operations. The remaining roofs are either too small to be effectively included in the program, a type of roof that is not conducive to the application of the cool roof material (e.g., non-heated or cooled space, red tile roofs or shingles), the roof is too new to be currently considered for a re-roof—re-seal process or roofs that have not yet been identified as needing re-roofing maintenance.

### **Cool Roof Rebates**

Attached is the California Energy Commission (CEC) Cool Savings Program Guidelines as of June 26, 2001. The Cool Roof Program and rebate qualifications are outlined within these guidelines. GSA Building Operations has currently applied for 56,000 square feet of qualifying cool roof projects. The rebate amount will be determined after the CEC performs their inspections. The rebate back to the County is in the range of \$8,000 to \$11,000. Building Operations is developing projects for the FY 2002 Cool Roof program which will add an additional 120,500 square feet of cool roofs to the program. Rebates, if funding is still available, are anticipated to be approximately \$18,000. If the balance of the planned cool roof installations (456,000 square feet) were to qualify for the cool roof program, under today's rebate guidelines, the County would expect to receive approximately \$68,000 in additional rebates.

## **Proposed Cool Roof Regulations**

It is proposed under the California 2001 Building Energy Standards regulations that effective January 1, 2003 it will be mandatory for cool roof products to be installed on all new non-residential construction within California. These new requirements are being proposed under Section 118 of the 2001 Building Energy Standards. The certification criteria, testing and labeling standards are outlined in Section 10-113 of the regulations and also proposes that the Cool Roof Rating Council (CRRC) be designated as the entity responsible for administering the State's cool roof labeling and certification program, provided that the CRRC meets specified criteria. Copies of both sections of the proposed regulations are attached for reference. These are currently only proposed regulations and as such could change as the State's program progresses. Additionally, the entity that will administer this program, the CRRC, still needs to meet the criteria of Section 10-113 of the regulations before they can begin establishing the specific reflectance and emittance standards of the cool roof roofing material. The cool roof material the County is currently installing meets or exceeds all the currently identified reflectance and emittance standards of today's cool roof program guidelines. The County is also reaping the benefits of energy savings by the application of cool roof products. However, until the regulations are adopted and the entity to administer the State's cool roof program is selected and meets the criteria of the regulations, the actual certification and testing criteria will not be known.

It is highly likely that the proposed regulations will be adopted, the CRRC will meet the criteria of the regulations and current reflectance and emittance standards will be adopted by the CRRC. However, until this process is in place we will not know if the cool roof products we are installing will meet these new future criteria. There is no impact to our continued installation of the materials we are currently using. The only adjustment that may be needed in the future is to switch to the new standard by Building Operations if the standards change. The roofs that are completed or will be completed will continue to provide energy savings throughout their useful life and will not need any additional retrofitting if new standards are adopted.

cc: Susan Phillips  
Bob Whitehair



## SCHEDULED ROOF PROJECTS

FAC #	Building	ST #	Address	ElectricAcctNo	Bldg Use	Bldg Footage	Roof Footage	Floor #	Color	Date Scheduled	Date Completed	Comments	Estimate
6101	ELMWD REHAB CNTR-OLD ADMIN/SUPPORT SVCS ADMIN	701	S. ABEL ST.	CVP2885851	OFFICE	5,300	4,000	1	WHITE/LT.GREY	5/1/2001		SPRAY WHITE COLD PROCESS	\$32,000.00
6149	ELMWD REHAB CNTR-OLD PROCESSING BLDG.	701	S. ABEL ST.		JAIL	18,900	7,500	1	WHITE EPCM	5/1/2001		COLD PROCESS WHITE	\$18,500.00
6149	ELMWD REHAB CNTR-CCW-MEDIUM-M EST NO/SO	701	S. ABEL ST.		JAIL	5,000	5,000	1	WHITE GRAVEL	5/2/2001		COLD PROCESS WHITE	\$18,000.00
1309	ALCOHOL RECOVERY - MARIPOSA LODGE	9500	MALECH RD.		HOUSING	23,748	30,000	2	WHITE GRAVEL	8/1/2001		SINGLE PLY WHITE	\$144,000.00
3206	SSA CHILD PROTECTIVE SERVICES	7350	ROSANNA ST.		OFFICE	4,850	5,500	1	WHITE CAPSHEET	8/1/2001		SINGLE PLY WHITE	\$85,000.00
9112	SOUTH COUNTY MENTAL HEALTH	80	W. HIGHLAND AVE.		OFFICE	24,000	24,000	1	WHITE CAPSHEET	7/1/2001		COLD PROCESS WHITE	\$108,000.00
0935	MEDICAL EXAMINER/CORONER	850	THORNTON WAY.	HVP4319532	OFFICE	20,300	14,000	1	WHITE HYPALON	8/1/2001		SINGLE PLY WHITE	\$280,000.00
0103	HALL OF JUSTICE	180	W. HEDDING ST.		COURT	138,900	19,100	4	WHITE CAPSHEET	9/1/2001		COLD PROCESS WHITE	\$218,000.00
0707	EAST VALLEY MENTAL HEALTH	1901	MCKEE RD.		CLINIC	10,000	8,200	1	WHITE CAPSHEET	5/1/2002		COLD PROCESS WHITE	\$87,000.00
1301	MURIEL WRIGHT GIRLS RANCH-ADMIN / DORMS	296	W. BERNAL RD.		JAIL	20,800	28,600	1	Single Ply Torch Down	8/1/2001		COLD PROCESS WHITE	\$60,000.00
1302	PROBATION-MURIEL WRIGHT GIRLS RANCH-CLASSROOM	296	W. BERNAL RD.		MODULAR	1,440	28,600	1	Single Ply Torch Down	8/1/2001		COLD PROCESS WHITE	

Subtotal Sq. Ft.

271,038 172,800

Total Estimate: \$1,047,600.00



# STATE OF NEW YORK

NAME	RESIDENCE	EDUCATION	EXPERIENCE	REMARKS
JOHN J. BROWN	NEW YORK	B.S. 1955	1955-1957	...
JAMES E. SMITH	NEW YORK	B.S. 1958	1958-1960	...
ROBERT L. JONES	NEW YORK	B.S. 1960	1960-1962	...
WILLIAM H. MILLER	NEW YORK	B.S. 1962	1962-1964	...
CHARLES F. GARCIA	NEW YORK	B.S. 1964	1964-1966	...
DAVID A. ROBERTS	NEW YORK	B.S. 1966	1966-1968	...
STEPHEN M. LEE	NEW YORK	B.S. 1968	1968-1970	...
ANDREW K. WHITE	NEW YORK	B.S. 1970	1970-1972	...
CHRISTOPHER B. HARRIS	NEW YORK	B.S. 1972	1972-1974	...
ANTHONY J. KING	NEW YORK	B.S. 1974	1974-1976	...
JOSEPH R. WILSON	NEW YORK	B.S. 1976	1976-1978	...
DAVID L. BROWN	NEW YORK	B.S. 1978	1978-1980	...
WILLIAM F. JONES	NEW YORK	B.S. 1980	1980-1982	...
CHARLES M. SMITH	NEW YORK	B.S. 1982	1982-1984	...
ROBERT A. MILLER	NEW YORK	B.S. 1984	1984-1986	...
STEPHEN J. GARCIA	NEW YORK	B.S. 1986	1986-1988	...
ANDREW M. ROBERTS	NEW YORK	B.S. 1988	1988-1990	...
CHRISTOPHER L. LEE	NEW YORK	B.S. 1990	1990-1992	...
ANTHONY K. WHITE	NEW YORK	B.S. 1992	1992-1994	...
JOSEPH F. HARRIS	NEW YORK	B.S. 1994	1994-1996	...
DAVID R. KING	NEW YORK	B.S. 1996	1996-1998	...
WILLIAM J. WILSON	NEW YORK	B.S. 1998	1998-2000	...
CHARLES D. BROWN	NEW YORK	B.S. 2000	2000-2002	...
ROBERT E. JONES	NEW YORK	B.S. 2002	2002-2004	...
STEPHEN F. SMITH	NEW YORK	B.S. 2004	2004-2006	...
ANDREW G. MILLER	NEW YORK	B.S. 2006	2006-2008	...
CHRISTOPHER H. GARCIA	NEW YORK	B.S. 2008	2008-2010	...
ANTHONY L. ROBERTS	NEW YORK	B.S. 2010	2010-2012	...
JOSEPH M. LEE	NEW YORK	B.S. 2012	2012-2014	...
DAVID N. WHITE	NEW YORK	B.S. 2014	2014-2016	...
WILLIAM O. HARRIS	NEW YORK	B.S. 2016	2016-2018	...
CHARLES P. KING	NEW YORK	B.S. 2018	2018-2020	...
ROBERT Q. WILSON	NEW YORK	B.S. 2020	2020-2022	...

STATE OF NEW YORK

# COMPLETED COOL ROOF PROJECTS

Fac #	Building	Address	City	Zip	Slab Use	Slab Area	Roof Footage	Floor Footage	Floor #	Color	Date Scheduled	Date Completed	Comments	Estimate
0102	CODE WEST WARE	70 W. HEDDING ST. - WEST	SAN JOSE	95110	OFFICE	100,050	20,000	20,000	6	LT. GRAY	2000		NEW SPRING COOL PROCESS / PM	
0104	MAIN JAIL SOUTH - DOC	180 W. HEDDING ST.	SAN JOSE	95110	JAIL	113,300	10,300	10,300	4	LT. GRAY	2000		NEW SPRING COOL PROCESS / PM	
0200	DOWNTOWN SUPERIOR COURT	NORTH FIRST ST.	SAN JOSE	95110	COURT	70,100	20,300	20,300	6	LT. GRAY	1999		NEW SPRING COOL PROCESS / PM	
0100	SAN JOSE JAILFAS MUNICIPAL COURT	300 W. HEDDING ST.	SAN JOSE	95110	COURT	70,100	20,300	20,300	6	LT. GRAY	1999		NEW SPRING COOL PROCESS / PM	
0406	SHOPS DEPARTMENT	50 W. YOUNGER ST.	SAN JOSE	95110	OFFICE	87,400	46,700	46,700	2	WHITE	2000		FOAM	
0002	QSA COMMUNICATIONS-SERVICE BLDG.	CAROL DR.	SAN JOSE	95128	OFFICE	28,500	20,500	20,500	1	WHITE	1999		NEW SPRING COOL PROCESS / PM	
0704	EAST VALLEY HEALTH	MCNEE RD.	SAN JOSE	95116	CLINIC	18,000	18,000	18,000	1	WHITE	1997		BURCAP	
0700	ALDAM DR. COMPLEX	ALDAM DR.	SAN JOSE	95116	OFFICE	17,300	10,000	10,000	1	WHITE	2000		NEW SPRING COOL PROCESS / PM	
2500	NORTH COUNTY MENTAL HEALTH	GRANT ST.	PALO ALTO	94300	CLINIC	6,000	6,000	6,000	1	LT. GRAY	1999		NEW SPRING COOL PROCESS / PM	
3004	NORTH COUNTY OFFICE	GRANT ST.	PALO ALTO	94300	OFFICE	6,000	6,000	6,000	1	LT. GRAY	1999		NEW SPRING COOL PROCESS / PM	
3110	PROBATION WORK FURNITURE CENTER	E. HEDDING RD.	MT. VIEW	94043	JAIL	33,110	12,740	12,740	4	WHITE	2000		NEW SPRING COOL PROCESS / PM	
3404	FAIR OAKS MENTAL HEALTH CENTER	E. FAIR OAKS AVE	SUNNYVALE	94087	CLINIC	6,000	6,000	6,000	1	LT. GRAY	1999		NEW SPRING COOL PROCESS / PM	
2804	LOS GATOS MUNICIPAL COURT	CAPRI DR.	LOS GATOS	95030	COURT	12,000	12,000	12,000	1	WHITE	1999		NEW SPRING COOL PROCESS / PM	
3101	SOUTH COUNTY MAIN BLDG.	W. HIGHLAND AVE	SAN MARTIN	95046	OFFICE	17,000	17,000	17,000	1	WHITE	2001		NEW SPRING COOL PROCESS / PM	
3118	SO COUNTY COURT COMPLEX	HIGHLAND AVE	SAN MARTIN	95046	COURT	24,500	24,500	24,500	1	WHITE	2001		NEW SPRING COOL PROCESS / PM	
6101	JAMES RANCH-ADMINISTRATION BLDG	MALAGUERBA AVE	MORGAN HILL	95037	OFFICE	30,000	30,000	30,000	1	LT. GRAY	2000		NEW SPRING COOL PROCESS / PM	
6106	JAMES RANCH-COURTNEY	MALAGUERBA AVE	MORGAN HILL	95037	JAIL	2,000	2,000	2,000	1	LT. GRAY	2000		NEW SPRING COOL PROCESS / PM	
6121	JAMES RANCH-COVERED WALKWAY	MALAGUERBA AVE	MORGAN HILL	95037	SUPPORT	18,000	18,000	18,000	1	LT. GRAY	1997		NEW SPRING COOL PROCESS / PM	
6201	HOLDEN RANCH-ADMINISTRATION	MALAGUERBA AVE	MORGAN HILL	95037	OFFICE	32,000	32,000	32,000	1	LT. GRAY	2000		NEW SPRING COOL PROCESS / PM	
6204	HOLDEN RANCH-COURTNEY / REC ROOM	MALAGUERBA AVE	MORGAN HILL	95037	JAIL	3,000	3,000	3,000	1	LT. GRAY	2000		NEW SPRING COOL PROCESS / PM	
6301	JUVENILE HALL-KITCHEN/SHOP	QUADALUPPE PKWY.	SAN JOSE	95110	OFFICE	20,000	20,000	20,000	1	LT. GRAY	1997		NEW SPRING COOL PROCESS / PM	
6302	JUVENILE HALL-KITCHEN/SHOP	QUADALUPPE PKWY.	SAN JOSE	95110	SCHOOL	2,400	2,400	2,400	1	LT. GRAY	1995		NEW SPRING COOL PROCESS / PM	
6444	BLUARD REHAB CENTER-MT. OLD WOLF MAIN BLDG	E. ADEL ST.	SAN JOSE	95110	JAIL	16,200	16,200	16,200	1	WHITE	1997		NEW SPRING COOL PROCESS / PM	

Subtotal Sq. Ft. 1,280,137 682,328

## BACKLOG ROOF PROJECTS - ESTIMATED

Priority	FAC #	Building	St. #	Address	Bldg Use	Bldg footage	Roof footage	Floor #	Date Scheduled	Date Completed	Estimate
1	0121	CIVIC CENTER PARKING 40g	171	W. YOUNGER ST.	GARAGE		800	1			\$10,000.00
2	0916	PARK ALAMEDA 455	976	LENZEN AVE.	CLINIC	74,300	24,900	4			\$383,000.00
3	3109	SOUTH COUNTY MEDICAL 120	60	W. HIGHLAND AVE.	OFFICE		6,700	1			\$108,000.00
4	2902	WEST VALLEY HEALTH 63	375	KNOWLES DR.	CLINIC		8,240	1			\$130,000.00
5	6602	COUNTY SERVICE CENTER-BUILDING #2	1555	BERGER DR.	OFFICE	242,300	68,300	4			\$210,000.00
6	6904	JUVENILE HALL-GYMNASIUM	840	GUADALUPE PKWY.	OFFICE	9,548	107,000	4			\$107,000.00
7	5902	JUVENILE HALL-KITCHEN/SHOP	840	GUADALUPE PKWY.	OFFICE	21,879	21,879	1			\$163,000.00
7	5905	JUVENILE HALL-OSBORNE SCHOOL (CLASSROOM)	840	S. ABEL ST.	SCHOOL	2,400	21,879	1			
8	6109	JAMES RANCH-KITCHEN & DINING	18050	MALAGUERRA AVE.	SUPPORT	3,848	3,848	1			\$41,000.00
9	6110	JAMES RANCH-RECREATION HALL	18050	MALAGUERRA AVE.	SUPPORT	7,171	7,171	1			\$28,000.00
10	6111	JAMES RANCH-OFFICE/CLASSROOMS/SHOPS	18050	MALAGUERRA AVE.	OFFICE	7,689	7,689	1			\$54,000.00
11	0209	DOWNTOWN SUPERIOR COURT	191	NORTH FIRST ST.	COURT	124,800	35,000	7			\$80,000.00
12	6185	ELMWD REHAB CNTR-NEW PROGRAMS BLDG/SHOPS	701	S. ABEL ST.	SUPPORT	33,374	17,000	2			\$163,000.00
13	6187	ELMWD REHAB CNTR-MEDICAL/PROCESSING	701	S. ABEL ST.	OFFICE	43,070	28,439	2			\$200,000.00
14	6183	ELMWD REHAB CNTR-NEW ADMINISTRATION BLDG.	701	S. ABEL ST.	OFFICE	34,920	34,920	1			\$300,000.00
15	6134	ELMWD REHAB CNTR-CARPENTRY SHOP (OLD BLOCK HOUSE)	701	S. ABEL ST.	SUPPORT	3,691	3,691	1			\$3,000.00
16	0114	MAIN JAIL NORTH - DOG	160	W. HEDDING	JAIL	325,000	35,193	10			\$352,000.00
17	0407	GSA-GARAGE GAS STATION	80	W. YOUNGER ST.	OFFICE	60,000	948	1			\$8,000.00
18	6111	ELMWD REHAB CNTR-DINING HALL (OLD KITCHEN)	701	S. ABEL ST.	SUPPORT	11,055	11,055	1			\$94,000.00
19	6114	ELMWD REHAB CNTR-EAST GATE	701	S. ABEL ST.	OFFICE	100	100	1			\$1,000.00
20	6127	ELMWD REHAB CNTR-SHOP (OLD CLOTHING)	701	S. ABEL ST.	SUPPORT	1,780	1,780	1			\$21,000.00
21	6146	ELMWD REHAB CNTR-CHAPEL (LIBRARY)	701	S. ABEL ST.	OFFICE	2,331	2,331	1			\$28,000.00
22	6104	JAMES RANCH-VOCATIONAL EDUCATION	18050	MALAGUERRA AVE.	OFFICE	5,288	5,288	1			\$34,000.00
23	6107	JAMES RANCH-TRAINING ROOM & FREEZER	18050	MALAGUERRA AVE.	SUPPORT	2,657	2,657	1			\$16,000.00
24	6113	JAMES RANCH-MAINTENANCE	18050	MALAGUERRA AVE.	SUPPORT	1,820	1,820	1			\$20,000.00
25	6114	JAMES RANCH-SUPERINTENDENT'S HOUSE	18050	MALAGUERRA AVE.	HOUSE	2,818	2,818	1			\$30,000.00
26	6117	JAMES RANCH-TOOL ROOM 15	18050	MALAGUERRA AVE.	SUPPORT	1,600	1,500	1			\$11,000.00

**Subtotal Sq. Ft.**

**1,022,879 456,884**

**Total: \$2,584,000.00**