



JUDICIAL COUNCIL OF CALIFORNIA

COURT FACILITIES
ADVISORY COMMITTEE

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COURT FACILITIES ADVISORY COMMITTEE: COURTHOUSE COST REDUCTION SUBCOMMITTEE MEETING

MINUTES OF OPEN MEETING

November 4, 2014

10:00 AM–4:00 PM

Judicial Council of California – San Francisco Office

**Subcommittee
Members Present:**

Hon. Jeffrey W. Johnson, Chair
Hon. Donald Cole Byrd
Hon. Keith D. Davis
Hon. Samuel K. Feng
Ms. Melissa Fowler-Bradley
Hon. William F. Highberger
Hon. Gary R. Orozco
Mr. Kevin Stinson
Mr. Thomas J. Warwick

**Subcommittee
Member Absent:**

Mr. Stephen Castellanos, FAIA

Others Present:

The following Judicial Council staff was present:
Ms. Keby Boyer, Communications
Ms. Eunice Calvert-Banks, Real Estate and Facilities Management
Ms. Gisele Corrie, Capital Program
Ms. S. Pearl Freeman, Capital Program
Ms. Nora Freiwald, Capital Program
Mr. William J. Guerin, Capital Program
Mr. Clifford Ham, Capital Program
Ms. Donna Ignacio, Capital Program
Mr. Chris Magnusson, Capital Program
Ms. Kristine Metzker, Capital Program
Mr. Raymond Polidoro, Capital Program
Ms. Kelly Quinn, Capital Program
Mr. Nick Turner, Real Estate and Facilities Management
Mr. Malcolm Frankin, Office of Security
Ms. Laura Sainz, Real Estate and Facilities Management

OPEN MEETING

Call to Order and Roll Call

The chair called the meeting to order at 10:00 AM, and Ms. Kristine Metzker, staff to the subcommittee, took roll call.

DISCUSSION AND ACTION ITEMS

Item 1

Riverside County—New Indio Courthouse: 50 Percent Design Development

Hon. Jeffrey W. Johnson, CCRS chair, introduced the project's 50 percent design development presentation indicating it was a follow-up to the May 2014 CCRS meeting during which the 100 percent schematic design development presentation was presented and approved. Although the project was approved to proceed with design development, the subcommittee mandated four directives of the project team. The project team presented responses to each of the directives listed below:

- Provide study information on the durability of louvered glass system.
 - The project team provided samples of the louvered glass system for the members to view. Similar to all insulated glass, there will be a 10 year warranty on the proposed glass system. The louvers are made of aluminum and have a marginal impact on the weight. The louvers are designed to reflect the light out and up.
- Complete further research on the HVAC system alternatives.
 - Four options were presented to the subcommittee. The project team recommended that Option 3-Air Cooled Chiller was the preferred option. According to the team, although the option has a higher first cost, it has the lowest life cycle cost, lower operations and maintenance cost, greatest return on investment, lowest carbon emissions and is smaller in size and runs quieter compared to the other options.
 - Although the recommendation is Option 3, the project team informed the subcommittee that this option also has a premium above the budget that is currently not included, which results in additional cost to the budget.
- Provide cost analysis of a mechanical penthouse versus impact of leaving HVAC equipment exposed.
 - Further research was conducted by the project team to review whether or not a penthouse would be beneficial for housing the HVAC equipment. Research included evaluating the pros and cons, as well the \$500,000 cost associated with including the penthouse. After further review, the project team recommended that the penthouse be included in the project.
 - Although the recommendation was to include the penthouse, the project team confirmed that the project budget cannot accommodate the additional cost.
- Research on what solar power programs are available.
 - The project team conducted further research on photovoltaic panels for the project; specifically through roof installation and parking lots suspended by

parking canopies. The analysis included that roof installation has a payback of 55 years and the parking canopies has a payback of 64 years.

- Based on this economic analysis, the project team did not see it feasible to install photovoltaic panels.

Aside from addressing the mandates listed above, the project team also provided the 50 percent design development summary report, updated site plan, elevations and floor plans, project schedule update and project cost estimate and budget review. Initially the project team reported that the project was on budget yet two items recommended during the presentation, an upgraded HVAC system and a mechanical penthouse, were not included in the budget.

Action: The CCRS did not approve the 50 percent design development review. The subcommittee requested the following of the Riverside—New Indio Courthouse project team:

1. Study options and provide a cost analysis for the HVAC system and the addition of a mechanical penthouse and provide a life cycle cost analysis for each option.

The information is required prior to the next design review milestone for the project.

Item 2

Imperial County—New El Centro Courthouse: 50 Percent Design Development

Ms. Kristine Metzker introduced the project's 50 percent design development presentation indicating it was a follow-up to the May 2014 CCRS meeting during which the 100 percent schematic design development presentation was presented and approved. Although the project was approved to proceed with design development, the subcommittee mandated four directives of the project team. The project team presented responses to each of the directives listed below:

- Review and redesign the current exit route for the in-custody bus so it does not enter the parking lot.
 - The project team presented the original exit route and three options to the members. After reviewing with the Judicial Council security staff, it was recommended that the best option was the original plan with some revisions, which included removing all parking in the exit path to avoid in-custody vehicles being blocked by other vehicles. This exit route allows for a short and direct route for in-custody vehicles to enter and exit the site. This also preserves the site for parking and maintains a clear route for fire and/or emergency vehicles to/through the site.
- Research the feasibility of having solar installed by an outside party at no charge.
 - The project team conducted further research on photovoltaic array over parking areas. Based on the analysis, the total payback is 67 years and therefore, the project team did not see it feasible to install photovoltaic panels.
- Revisit the court set design by following the 1,700 SF courtroom layout and reorient access to the jury deliberation so it is not off the public corridor.

- The courtrooms have been revised to reflect a 1,700 SF courtroom layout which resulted in creating a larger spectator area (without increasing the gross floor area of the courtroom). This shortened the depth of the well and decreased the size of the court security officer's desk.
- The project team also relocated the jury deliberation rooms to be accessed from the Secure Circulation. This change moved the IDF and Electrical rooms to the previous locations of the jury deliberation rooms, which were located along the public corridor.
- Use durable flooring surfaces at the second floor public areas.
 - Flooring at the second floor public areas will be a durable material, similar to the material used in the first floor public areas.

The project team also provided the 50 percent design development summary report, updated site plan, elevations and floor plans, project schedule update and project cost estimate and budget review.

Action: The CCRS—with no abstentions and the exceptions of Judge Highberger as an Ex-Officio, non-voting member and Mr. Stephan Castellanos who was absent—voted unanimously on the following motion:

1. The 50 percent design development report be accepted—confirming the project is within budget, scope and schedule and all CCRS directives have been addressed, including those issued prior to the CCRS meeting of May 7, 2014—and the project team move forward with completion of design development of the preliminary plans phase, which includes the submittal of the 100 percent design development report to the subcommittee prior to obtaining the State Public Works Board approval.

Item 3

Electric Vehicle Charging Stations

Ms. Kristine Metzker introduced Ms. Laura Sainz, Judicial Council Manager, and Hon. Benjamin Davidian, Judge with Superior Court of Sacramento County, who facilitated the discussion.

Ms. Sainz provided background information on the policy issues regarding electric vehicle charging stations. She informed the group that there has been a rise in the number of electric vehicle users in courthouses, which has then in turn brought in observations to the use of courthouse outlets at existing facilities in order to charge these electric vehicles. Some courts have implemented their own/self funded programs, i.e. Superior Court of Sacramento County.

Ms. Sainz informed the subcommittee that the executive branch has taken an aggressive approach to supporting electric vehicle chargers, which is an overall policy issue within their branch and helps implements Executive Order B-18-12, “State agencies shall identify and pursue opportunities to provide electric vehicle charging stations, and accommodate future infrastructure where most cost-effective and appropriate.”

Ms. Sainz reported that electric vehicle charging stations were presented during the Trial Court Facility Modification Advisory Committee in May 2014. The committee, at that time, adopted guidelines that identified courts could fund and install electric vehicle chargers through the court funded process. The required infrastructure for an existing facility can be expensive and the charging technology varies depending on the type of car. Another issue is determining who should have access to the electric vehicle chargers, i.e. judges, staff and /or public.

Although the advisory committee adopted guidelines for existing facilities, the issue of electric vehicle chargers for the new courthouses still needed to be addressed. Ms. Sainz informed the group that providing the infrastructure to address changing technology for electric vehicles is less expensive to include during design and construction, when compared to retrofitting an existing facility. The cost during construction is minimal. There needs to be further discussion as to what would be included in the “infrastructure” for the electric vehicle chargers, which could potentially include the dedicated circuit large enough to handle charging requirements, whether or not the chargers are going to be on a separate meter, and/or space for the charger and/or actual charger.

The subcommittee questioned the maintenance costs related to the electric vehicle charging stations, which would include electricity costs. Ms. Sainz confirmed that the electricity and charging for the electricity is one of the major issues. She informed the group that there are two different chargers – dumb and smart chargers. Dumb chargers allow anyone to use the charger and charge their vehicle; where as smart chargers restrict the users. An access card is required to use the smart charger. The smart charger user pays a license and an ongoing monthly fee for accessing the smart charger. Ms. Sainz pointed out that the dumb charger is much less expensive than the smart charger. Currently, these chargers are typically leased from private companies.

Ms. Sainz recommended that the inclusion of vehicle charging stations be addressed in the next update of the Trial Court design standards.

Ms. Sainz introduced Judge Davidian, who provided background on how electric charging stations were installed in an existing courthouse at the Superior Court of Sacramento County. There the solution was to provide an electric vehicle charging station in the basement of the building. There is a meter, which reads the gross amount of power used to charge vehicles. An annual payment is charged to each judicial officer using the chargers that is based on the number of miles the user travels to the courthouse.

Mr. Malcolm Franklin, Judicial Council Senior Manager, was concerned as to whether or not there was a way to restrict the use of charging spaces for only electric vehicles, i.e. parking regulations. The subcommittee questioned as to whether or not there would be any issues with looking at the possibility of stubbing electricity for adjacent parking locations for jury, etc. considering that this would be a consideration for the future. Mr. Clifford Ham, Judicial Council Principal Architect, confirmed that this is something that could be reviewed. The subcommittee also suggested exploring solar powered charging stations.

Action: The CCRS—with no abstentions and the exceptions of Judge Highberger as an Ex-Officio, non-voting member and Mr. Stephan Castellanos who was absent—voted unanimously on the following motion:

1. Judicial Council staff to update the Trial Court Design Standards to:
 - Require that infrastructure (conduit only, not charging stations, meters, or wiring) be included in all capital outlay projects;
 - Address where infrastructure would be installed (i.e. secure parking, staff, public); and
 - Address implementation issues, i.e. on how to police the spaces.

INFORMATION ONLY ITEMS (NO ACTION REQUIRED)

Info 1

Solar Power Options for Judicial Council Facilities

Ms. Sainz presented the solar power options available for Judicial Council facilities—new and existing. For capital projects, solar is usually considered early in the project as part of the integrated design. Solar/Photovoltaic costs must be included in the overall project budget. The assumption is that the photovoltaic system is something that is owned by the Judicial Council and is part of the facility. Ms. Sainz pointed out that the Judicial Council is not eligible for the Federal Tax Incentive related to solar. When evaluating an existing facility, the project teams need to determine whether or not it even makes sense to consider solar. Ms. Sainz elaborated on what items should be evaluated when pursuing solar for existing facilities and in capital projects.

Ms. Sainz also provided information on the payback analysis. She informed the subcommittee that including a solar system on projects is extremely expensive and therefore determining how to pay for it has been issue. In order to pay for the smallest system possible, the building needs to be as energy efficient as possible. The item to consider is determining when the costs will break even when compared to utility costs, which will depend on the utility provider and rate structure. There are different funding sources that will pay for the ongoing utility costs and for the solar system.

Ms. Sainz reiterated most of the discussion regarding solar has been based on a Judicial Council owned system where the Judicial Council purchases, installs and maintains the system and pays for the repairs. Ms. Sainz introduced the power purchase agreement option which is a 20 year lease. This option involves a private party. The private party owns, installs, manages, maintains, and repairs the system over the 20 year period. The private party will bid on the site based on the potential to sell electricity back to the grid. They then offer the client a power purchase agreement. Ideally, the cost of electricity the private party is selling the client is less than what the client would be paying the local utility. The subcommittee questioned what the cost difference would be from the Judicial Council owning the system versus through the power purchase agreement. Ms. Sainz responded that it would be extremely expensive if the Judicial

Council owned the system. The cost through the power purchase agreement would be considerably less. The private party is able to take advantage of the Federal Tax Incentive as well as having the option of selling back to the grid.

The subcommittee also questioned whether the power purchase agreement would be feasible on new construction for bond funded projects. Ms. Sainz confirmed that a power purchase agreement could be a possibility if the site itself was purchased with cash and the system was located on the site, not on the building.

Action: The CCRS—with no abstentions and the exceptions of Judge Highberger as an Ex-Officio, non-voting member and Mr. Stephan Castellanos who was absent—voted unanimously on the following motion:

1. Recommend exploring options with “obvious” projects, i.e.
 - Size of building
 - Climate
 - Utility Provider
 - Early in design phase
 - Consider whether a power purchase agreement will be cost effective
2. Continue to report back to committee
 - Analysis impacts on building envelop, mechanical systems, etc.
 - Potential break even analysis

Info 2

Discussion of HVAC Systems

Ms. Kristine Metzker introduced this item and Mr. Ham who facilitated the discussion with Mr. Nick Turner, Judicial Council Manager, Mr. Gary Brennen, Co-President from Syska Hennessy Group, and Mr. Robert Bohlin, Senior Vice President also from Syska Hennessy Group.

Mr. Turner provided some background on where the typical court building HVAC system is identified, which is 10 percent of the total construction cost, 20 percent of total operations and maintenance and life-cycle expense, and is 40-50 percent of total building energy consumption.

Mr. Bohlin briefly summarized for the group that the HVAC systems are included in the relevant chapters of the Trial Court Facilities Standards. He also added that the HVAC information in the design standards is very specific to building size and addresses suitability for building climate.

There are different climate zones identified for the state of California. Mr. Bohlin pointed out that the climate is very important in terms of peak cooling load calculation temperatures, peak heating load calculation temperatures and the averages within each of the climate zones from a temperature banding perspective. Mr. Bohlin elaborated on free cooling in the context of climate zones, which is using the economizer capability of HVAC system to bring a 100 percent outside air into the building to provide the thermal comfort inside the building. Therefore, the outside

temperature is suitable without turning on a chiller or a mechanical refrigeration to provide cooling inside the space. He elaborated on the number of free cooling hours by climate zone for three systems: Variable Air Volume (VAV), Underfloor Air Distribution (UFAD) and Thermal Displacement Ventilation (TDV).

Mr. Bohlin discussed how HVAC planning is affected by geometry and massing. Geometry and massing is important because HVAC equipment sizes, equipment locations, system types, and energy consumption costs are impacted.

Mr. Bohlin provided examples of central plant systems: water-cooled chiller plant, air-cooled chiller plant, packaged equipment and district chilled water plants. He also provided examples of conventional comfort cooling options which include variable air volume (with reheat) and fan coil units. He introduced innovative comfort cooling options which include displacement ventilation/UFAD, radiant cooling/heating slabs and surfaces, chilled beams and sails (active and passive), ground source cooling/heat rejection, variable refrigerant floor/volume (VRF/VRV) and natural ventilation.

Mr. Ham confirmed that project teams will focus on the following criteria when reviewing HVAC systems: flexibility/adaptability, reliability, serviceability/maintainability, affordability, and sustainability.

Info 3

Enhanced Seismic Performance

Ms. Kristine Metzker introduced this item and Mr. Ham who facilitated the discussion with Mr. Dominic Campi, Principal from Rutherford & Chekene and Mr. Peter Lee, Director from Skidmore Owings and Merrill. The team's primary focus was on business continuity by providing an understanding on how earthquakes affect court facilities, as well as identify a process that allows staff to consider the seismic performance criteria based on vulnerability, risk and consequence of business interruption to the superior court facility, caused by seismic activity at the individual building site.

Mr. Ham provided background information on the Trial Court Facilities Standards which requires that a choice be made between normal or enhanced seismic performance criteria.

Mr. Lee elaborated on the intent of seismic performance objective in the standards, which included the following:

- Normal seismic performance objective—intended to be the code-minimum design criteria. The emphasis here is on cost-effective and well designed solutions.
- Enhanced seismic performance objective—better than the code-minimum design criteria. The level of performance is not well-defined.
- Design goal is to achieve better performance without significant cost increases.
- Emphasis is on non-structural components where majority of damage is expected.

- Life-cycle costs analysis to help inform the long-term decision making.

Mr. Campi provided additional information regarding building code earthquake performance goals. According to the code, the goal is to design a building with an acceptable level of public safety for the community. He also added that part of the goal is to try to have as few buildings (less than 10 percent) collapse in the maximum expected earthquake shaking and try to protect loss of life at extreme events. When reviewing court buildings, there is already some degree of enhanced performance as courts are recognized as being a public assembly occupancy. The code requires for public assembly occupancies with more than 300 people that the building be designed to be stronger and stiffer than a typical building to try to reduce the damage that occurs. Mr. Campi elaborated on some examples of earthquake damage and what it causes, as well earthquake damage prevention.

Mr. Lee explained that a new initiative that establishes an Earthquake Performance Rating System which is scheduled to be launched under the newly formed US Resiliency Council. The system defines three dimensions addressing earthquake safety, repair cost and functional recovery or the time to regain function. He also elaborated on the process and functional recovery rating which is still in the process of being finalized.

Mr. Lee discussed the some of the considerations in design of Judicial Council court buildings, which included identifying key project criteria and vulnerabilities, evaluate functional recovery and relative cost impacts, and integrating seismic performance objective into the courthouse design process. He also described the relationship between seismic risk assessment and life-cycle cost analysis on normal versus the enhanced seismic performance. The risk assessments involve many uncertainties and assumptions. It is important to emphasize that the relevant performance in comparing the normal versus enhanced is relatively good performance. There are a lot of assumptions in all earthquake analysis, but there are also clear indications on which system is performing better than another system.

Mr. Ham proposed that at the end of programming/ site selection, the project advisory group, architectural team, and capital program office make a recommendation after having evaluated the criteria and vulnerabilities about whether or not enhanced seismic performance should be evaluated for the project; having to do with the susceptibility to building interruption and problems that particular court might have. During schematic design, if looking at enhanced seismic design performance , multiple systems are put forth conceptually, estimated, run through the process that FEMA has modeled and during design development the life-cycle cost analysis is run and if beneficial to the Judicial Council, then the team determines whether to go with enhanced or normal.

A D J O U R N M E N T

There being no further business, the meeting was adjourned at 3:00 PM.

Approved by the subcommittee on February 23, 2015.