

County of Santa Clara

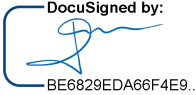
Facilities and Fleet Department

2310 North First Street, Suite 200
San Jose, California 95131-1011
(408) 993-4600



Date: November 25, 2020

To: Board of Supervisors
Jeffrey V. Smith, County Executive

From: Jeffrey D. Draper, Director of Facilities and Fleet 

Subject: Off- Agenda Report Relating to Control Measures for Capital Project Costs & Change Orders

At the September 23, 2020 Health and Hospital Committee (HHC) meeting (Item No. 8), at the request of Supervisor Ellenberg, the HHC directed Administration to provide an off-agenda memo relating to the control measures being utilized to cover overages for capital projects.

Cost growth on hospital projects is inherent and difficult to control. Renovation projects are particularly challenging and constitute the bulk of current County health system capital projects in terms of number. Examples include the Women and Children's Center, Burn Unit expansion, Emergency Department (ED) expansion, seismic compliance projects, imaging improvements, etc. Further, cost controls for new buildings are also difficult. There are many contributing factors:

- **Planning:** Just like it is wise to measure twice before cutting, it is smart to do a thorough job of planning a construction project. On average, projects take three or more years to design, permit, and build. During the planning period, the County continues to push its managers to modernize and improve service delivery. Similarly, technology changes at an ever-increasing pace. If the stakeholders are not visionary at the start of planning and designing a facility, it is unlikely that service delivery will be the most modern at the time of project completion. Once construction begins, changes quickly become costly and impact the schedule of delivery.
- **For renovation projects, inaccurate as-built drawings:** Design teams base their construction documents on as-built drawings that have likely not been updated over time as user modifications were made to accommodate changing programs and services. It is not practical, or cost-effective, to shut down all or portions of the hospital currently in operation to allow design teams access to identify existing conditions and update as-built drawings.
- **During renovations, non-conforming work (work not meeting current California Building Code) when areas are opened and accessible:** The Office of Statewide Hospital Planning and Development (OSHPD) requires all non-conforming work identified, whether part of the project or not, to be corrected. This could arise due to critical code changes or unpermitted work performed since the last completed permitted job. All construction not covered by the approved construction documents must be

designed and submitted back to OSHPD for review and approval. This process further generates additional design and permit fees, project delays, as well as change orders to the contractor.

- Lengthy OSHPD review times before permit approval as well as review times for any post-approval documents leads to significant delays in project delivery and result in adjustments to the project cost for inflation and an increase in contractor general condition costs.
- **Construction in an operating hospital adds extra costs related to infection prevention:** Typically, in a hospital construction project work on the plumbing system is involved, and/or unforeseen hazards like asbestos-containing materials are encountered. Both situations may require mitigation work and produce additional costs and delays.

The Administration is pursuing many strategies to reduce cost growth on construction projects. Strategies include:

- **Improved planning:** Working with service teams and technology to ensure design documents include the most recent updates.
- **Increased upfront design and field inspections:** This will help mitigate unforeseen change orders and code corrections. Further, technological innovations, such as the use of recent 3D camera technology that captures existing conditions has improved the County's ability to document existing conditions.
- Better contingency estimations based on experience.
- **Using Design-Build (DB) and Construction Manager at Risk (CMAR) project delivery methods:** DB offers advantages over Design-Bid-Build (DBB) because one firm handles the project from beginning to end, minimizing changes for missed cues, scheduling snafus and miscommunication. CMAR helps control costs because the general contractor participates during the design phase of a project. This provides the contractor with the opportunity to inspect current conditions and identify unknowns that will then be included in the trade bidding and be captured in the guaranteed maximum price. Additionally, the CMAR will carry some of the risk for changes due to conditions that should have been identified during the preconstruction phase.

cc: Chief Board Aides
Miguel Marquez, Chief Operating Officer
James R. Williams, County Counsel
Megan Doyle, Clerk of the Board of Supervisors
Mary Ann Barrous, Agenda Review Administrator