

San Francisco's City Construction Program: It Needs Work

June 2015



City and County of San Francisco
Civil Grand Jury, 2014-2015

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Each published report includes a list of those public entities that are required to respond to the Presiding Judge of the Superior Court within 60 to 90 days as specified.

A copy must be sent to the Board of Supervisors. All responses are made available to the public.

For each finding, the response must:

- 1) agree with the finding , or
- 2) disagree with it, wholly or partially, and explain why

As to each recommendation the responding party must report that:

- 1) the recommendation has been implemented, with a summary explanation; or
- 2) the recommendation has not been implemented but will be within a set timeframe as provided; or
- 3) the recommendation requires further analysis. The officer or agency head must define what additional study is needed. The Grand Jury expects a progress report within six months; or
- 4) the recommendation will not be implemented because it is not warranted or reasonable, with an explanation.

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EXECUTIVE SUMMARY

How can San Francisco manage a construction portfolio of over \$25 billion with inconsistent controls, insufficient systems, and an inability to consolidate citywide financial and management information?

Why does San Francisco continue to operate a contracting environment that is out of step with best practices?

Should the City be spending so much on construction without the oversight of the Board of Supervisors?

The Civil Grand Jury (CGJ) wanted answers to these questions. In this report the CGJ examines these three critical problems that have been called out in numerous City audit reports over the last few years but remain unaddressed.

In our research we discovered that the City's construction project portfolio is diverse, that some projects are very complex, and that neighborhood projects inflame the passions of San Francisco citizens. Six departments have public works contracting authority. The CGJ chose to focus primarily on the work of one of those, the Department of Public Works (DPW).

Although efforts are underway to address some of the problem areas, much work still needs to be done. Our recommendations include:

- The City needs to revise Chapter 6 of the Administrative Code to enable contractor selection on past performance in addition to the low cost bid.
- Common construction management processes addressing change orders, project closeout and compliance need to be instituted, monitored and measured.
- Construction management information must be standardized to produce citywide reports. Once consolidated information is available, citywide reports should be published for public review.
- The City's out of date technology and weak Construction Management Systems infrastructure must be addressed.
- The Board of Supervisors (BOS) must take a more active role in the oversight of construction projects.

BACKGROUND

San Francisco’s 2014 – 2023 ten-year capital plan is \$25 billion, a staggering sum by any measure. The plan principally funds infrastructure like roads and power systems, but there are also a large number of building projects. The city differentiates between “vertical” projects, e.g. buildings, and “horizontal” projects, like roads. The vertical projects can range from the highly complex and massive rebuilding of San Francisco General Hospital to a relatively small project, like the renovation of a community center at Mission Playground.

2014-2023 Capital Plan Summary	
(Dollars in Millions)	
By Service Category	Plan Total
Public Safety	\$1,376
Health and Human Services	\$1,306
Infrastructure & Streets	\$8,678
Recreation, Culture, and Education	\$1,241
Economic & Neighborhood Development	\$4,151
Transportation	\$8,228
General Government	<u>\$91</u>
Total	\$25,072 ¹

Six City departments have public works contracting authority. These departments are:

- The Port Commission (the Port)
- The Airport Commission (the Airport)
- The San Francisco Public Utilities Commission (PUC)
- Recreation and Park Department (R&P)
- The Municipal Transportation Agency (MTA)
- The Department of Public Works (DPW)

Going forward, these six areas will be referred to jointly as the “six City departments”.

In addition to DPW's own department projects, DPW manages construction projects for all non-Chapter 6 departments such as the Library, Fire Department (SFFD) and Department of Public Health.

Construction projects are funded in many ways including bond measures that taxpayers approve, federal or state funding, city general funds, private sources, or a combination of all available sources. When general obligation bond funds are used, the Citizens' General Obligation Bond Oversight Committee (CGOBOC) has the responsibility of ensuring that general obligation bond proceeds are spent properly. At recent CGOBOC meetings, the Director of Audits presented performance audits of construction practices in the City. The audits identified control weaknesses in the areas of contract change order management and the process of closing out construction contracts. After reviewing additional construction management audits, the San Francisco CGJ felt the topic warranted study, given the dollar magnitude and large number of building construction projects in process.

As the CGJ began its investigation we found that there have been 25 audits over the last seven years, which have examined various aspects of the construction management process. Some of these were citywide performance audits, while others focused on specific projects. These audits were done by employees and outside firms with specialized expertise in such assessments. Several themes emerged from these various rigorous audits.

- Construction projects always involve change orders, which authorize work to be added to or deleted from the original contract. In many instances, the change order management process was weak which could expose the City to increased cost and/or delays.
- Construction contract close out procedures are also an area of concern; a strong close out process ensures that all contractual terms are met, so deficiencies in that process could mean a risk to the city,
- In the projects that DPW manages and designs, there have been design errors that have led to avoidable cost increases.
- City construction projects lack transparency for several reasons. The systems that track projects across departments vary and do not share common data elements, preventing the consolidation or comparison of key performance metrics. Similarly, no final report is published on each project summarizing the financial, functional and operational project outcomes.
- Accountability for both large and small city construction projects resides in the department, its commission or the City Administrator, but not with the BOS. With the exception of DPW, all six City departments have commission oversight.

- The information systems infrastructure in DPW is not sufficient to handle the 535 active horizontal and vertical projects that DPW currently manages that are valued at \$5.7 billion.²
- An April 2014 audit performed by the City Services Auditor examined the City's current practice of awarding construction contracts using a single criterion, the low cost bid, a practice that ignores current best practices used by other large cities and government agencies.

Many of these factors alone suggested the need for future study, but taken together, an investigation of City construction management was clearly warranted. To make the topic manageable, we chose to focus on the building construction management process of DPW. We are confident that many of our recommendations will be applicable to other city departments and their construction projects as well.

METHODOLOGY

We reviewed many city-published sources of information in preparing this report including department websites and the San Francisco Administrative Code (the Code). The City Services Auditor (CSA) has a construction audit group that audits City construction projects and issued several audits in the last seven years. We reviewed these audits in depth, focusing on those that deal with vertical projects, management controls, and the City's current lowest cost bidder criterion for awarding construction contracts.

We also reviewed the 2007 Management Audit of DPW prepared by the San Francisco Budget and Legislative Analyst (BLA). A section of that management audit addressed DPW's program for reporting and preventing construction design error and omission change orders. Additionally, we reviewed the 2011 BLA report on the cost of change orders and the lack of citywide change order reporting.

The CGJ interviewed representatives of the six City departments and City departments that lack contracting authority in order to understand their different perspectives on the effectiveness of the prevailing practices of managing the City's construction workload. We interviewed construction contractors including those who do both public and private construction projects, and contractors who have chosen not to bid on City work. We interviewed senior managers at the Public Works departments in other large cities to understand the practices in place in their communities, and thereby discern what issues may apply to all cities and what may be uniquely pertinent to San Francisco. As a result of these interviews we were provided with additional management reports, and data extracts from the departments.

DISCUSSION

Our investigation revealed several areas for improvement in City management of vertical construction projects. These issue areas are diverse, so we will address each separately. They are:

- The Contracting Environment
- Construction Project Management
- Department Interactions
- Information Technology
- Transparency in Reporting
- Independent Oversight
-

The Current Contracting Environment and its Complexity

1. Overview

The number of cranes seen in the San Francisco skyline is a clear indication of the scale of construction projects in our city. Although most projects are private developments, many are city projects that must compete for the same design and construction resources.

The manner in which the City secures design and contractor resources for construction projects is via a contracting process outlined in Chapter 6 of the Code . The Code specifies that the City must take the lowest cost “responsible bidder.” Additionally, bidders are required to include Local Business Enterprises (LBEs) as part of their construction team. This is a “hard bid” process, where specifications are provided to bidders with no negotiation of project scope, timing or deliverables.

Some major construction firms will not participate in a hard bid process. They see the hard bid process as structurally flawed; a process where the client does not choose a contractor based on past performance or the quality of the contractor’s work. The low cost bid process can create a perverse incentive for contractors to scrutinize project bid specifications to determine the existence of flaws or omissions in the bid specifications that would need to be addressed through lucrative contract change orders. The president of a major construction firm that had historically avoided municipal contracting via hard bids said in 2007, "The process as it has been followed is a failure every time. Why in God's name is this process still repeated?"³

2. The Construction Management General Contractor (CMGC) Approach

The construction industry moved to alternative contracting structures to counter the “old school,” hard bid environment. Private developers and contractors, realizing there was a need for greater collaboration in designing and building complex construction projects, developed contractual agreements that support specialization and collaboration.

In a “Design-Build “contract one firm provides project design and construction services. This approach is used for routine construction projects, like parking lots or correctional facilities, where specific firms specialize in a given type of structure and offer a turnkey solution, providing both the project design and construction management services. In this process, written design criteria are provided along with project requirements. The bidding firm comes back with the project design and the construction cost. The City of San Francisco has done several Design-Build projects. For example, the \$255 million Rehabilitation Detention Facility is a design-build project. Other municipalities have adopted this turnkey option as well.

In a Construction Management General Contractor (CMGC) relationship, the contractor provides input in the pre-construction phase of the project to simplify the construction process, reducing construction cost. The construction manager is paid for pre-construction planning, which includes validating the budget, and identifying construction savings that could be achieved from the redesign of certain elements of the project. The goal is to create a more efficient and cost effective construction project. The private sector contracting community also refers to this as integrated project design.

CMGC practices were adopted in San Francisco in 2007, when then Mayor Gavin Newsom, recognized the need for more collaboration in the planning of the new Academy of Sciences. Senior leadership of DPW assisted in passing an ordinance to enable CMGC practices.⁴ The City addressed these new contracting structures in its Code: Chapter 6.61 for design-build, and 6.68 for CMGC projects. Subject to two conditions, these provisions grant the flexibility to solicit either design-build or CMGC proposals to department heads authorized to execute contracts for public works projects. The project must be suitable to either process; and, most significantly, approval must be obtained by the client’s department commission. If a department has no commission, the City Administrator must approve the arrangement.

DPW has completed five construction projects using CMGC with another five projects in the active construction phase. The five active projects are the Public Safety Building, San Francisco General Hospital, the Office of the Chief Medical Examiner Building, the Moscone Center Expansion and the Veterans Building. The benefits of using the CMGC process have been demonstrated in the early results of these projects.

The Academy of Sciences rebuild was a big “win” for the City, coming in both on time and under budget. The rebuilding of San Francisco General Hospital is being coordinated by a specialist hospital contracting firm. Change orders on the largest phase of the \$882 million project, the \$673 million of new construction, were approximately 3% of total cost, a great result for a project of its size and complexity.

Some states, including Oregon and Washington, have moved to a mandatory use of CMGC practices for large-scale projects. Federal projects also use this method of contracting. A qualifications-based criteria is established for the award of the CMGC pre-construction project. Price is not a selection criterion. San Francisco, like many jurisdictions, includes

social policy goals like the use of disadvantaged business enterprises as a ratable element in the scoring process. After the highest scoring bidder has been selected, price is then negotiated.

The CGJ commends the City on its use of CMGC and design-build, processes that are being adopted as a “Best Practices” in the construction industry. The increased use of these techniques for large and/or complex construction projects will only yield benefits to the City.

3. The Lowest Cost Bid Problem

Although some city construction projects utilize CMGC and design-build techniques, most projects are still subject to the lowest cost bid approach. For projects equal to or more than \$400,000, the Code requires the City to accept “a responsible bidder offering the lowest responsive bid.” For projects under \$400,000 the Code requires “a responsible bidder offering the lowest quotation.”⁵

Those terms are defined as follows:

- **Responsible.** A responsible bidder or contractor is one who (1) meets the qualifying criteria required for a particular project, including without limitation the expertise, experience, record of prior timely performance, license, resources, bonding and insurance capability necessary to perform the work under the contract and (2) at all times deals in good faith with the City and County and shall submit bids, estimates, invoices claims, requests for equitable adjustments, requests for change orders, requests for contract modifications or requests of any kind seeking compensation on a City contract only upon a good faith honest evaluation of the underlying circumstances and a good faith, honest calculation of the amount sought.
- **Responsive.** A responsive bid is one that complies with the requirements of the subject advertisement for bids without condition or qualification.⁶

While it would appear that the San Francisco city requirement to accept a responsible bidder offering the lowest cost responsive bid would incorporate evaluating contractor past performance in the bid selection process for fixed bid contracts, this is not the case. An April 2014 CSA citywide construction audit evaluated whether the six City departments effectively evaluate contractor past performance and utilize contractor past performance in awarding construction contracts. The audit found that “city departments do not adequately assess contractor performance and do not consider past performance in the construction award process.” The report goes on to say, “because the City does not require evaluations of contractors’ performance and, hence, there is no formal record of or method by which to judge contractor responsibility, poor-performing contractors—even contractors incapable of performing the work on which they bid—can secure additional city contracts.”⁷ Similarly, 70% of those sampled by the CSA reported that a contractor had performed poorly on a City project.⁸

Other cities have developed extensive vetting criteria for public works contractors. Five of the leading practices are summarized in the table below. Three of the six San Francisco City departments have a contractor evaluation process. However, the three departments use different contractor assessment criteria and the contractor evaluations are not used in the contract award process.

EXHIBIT 2 Summary of Leading Practices in Contractor Performance Evaluation					
	City of Los Angeles	City of New York	City and County of Philadelphia	City of Seattle	Various Federal Agencies
1. Require completion of performance evaluations	✓	✓	✓	✓	✓
2. Consider evaluations in the contract award process	✓	✓	✓	✓	✓
3. Use a standardized performance evaluation form	✓	✓		✓	✓
4. Allow contractor feedback on evaluation results	✓	✓	✓		✓
5. Maintain a centralized database/location for evaluation results.	✓	✓	✓	✓	✓

Source: Auditor's analysis of leading practices.

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Adoption of leading practices in contractor performance evaluation discourages the following contractor practices that increase construction project costs:

- Contractors purposely submitting a bid that does not provide enough money to complete a construction project knowing that the City will need to issue project change orders to fund the project to completion. Project change orders are not subject to competitive bidding and have a much greater profit margin for contractors.
- Contractors evaluating construction projects from the perspective of the project's change order potential. Contractors who use this process evaluate the City's bid packages from the perspective of what design elements are missing from the bid package that will necessitate future change orders.
- Contractors not completing a project when they have received the bulk of the project construction contract payments, thereby leaving the City to find a new contractor to complete the open items on the project punch list.

The use of past performance criteria also eliminates the revolving door of bad contractors securing city work by virtue of a lowest cost bid. The City of Los Angeles goes even further with its "Contractor Responsibility Ordinance":

Prior to awarding a contract, the City shall make a determination that the prospective contractor is one that has the necessary quality, fitness and capacity to perform the work set forth in the contract. Responsibility will be determined by each awarding authority from reliable information concerning a number of criteria, including but not limited to: management expertise; technical qualifications; experience; organization, material, equipment and facilities necessary to perform the work; financial resources; satisfactory performance of other contracts; satisfactory record of compliance with relevant laws and regulations; and satisfactory record of business integrity.¹⁰

In all there are 18 different categories that are evaluated in the Los Angeles final report. Poor results will preclude a firm from further work as will falsification of any of the survey answers.

4. The Role of “LBEs”

The City has specific social policy goals incorporated into its contracting requirements. It provides preference points in awarding contracts to those contractors who use subcontractors who may be new, small, or from disadvantaged backgrounds or neighborhoods. These diversity goals and the comprehensive statutory regulations that govern them, alter existing prime contractor and subcontractor working relationships. Many contractors are required to use subcontractors, with whom they may never have worked, to win City contracts. The contractors cannot depend on the competency of these subcontractors. All of this makes contracting with the City a very difficult process.

In particular Chapter 14 of the Code identifies the following categories of businesses that are given preference in the public building process:

LBE- Local Business Enterprise	Small LBE
MBE-Minority Business Enterprise	Micro MBE
WBE-Womens Business Enterprise	SBA-LBE
OBE- Other Business Enterprise	Non-profit LBE

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Numerous preference categories and the unique requirements of each city department create extra work and management challenges for both contractors and subcontractors. The Contract Monitoring Division (CMD) of the General Services Agency (GSA) is charged with enforcement of the requirements of Chapter 14 (B) through two separate units: a certification unit that qualifies firms for certification meeting certain prescribed criteria, and a compliance unit that “sets goals” for hiring Chapter 14 businesses in most City contracts. For example, the compliance unit will determine the preference content of each element of the construction project. There are approximately 1,700 firms that have been certified for some 270 different categories of business types for each specific project. The CGJ did not determine if the certification process included certification of contractor performance.

Additionally, there is Chapter 12, which enforces non-discrimination practices in the certification process and under the Code is enforced by the Human Rights Commission (HRC). Although the Code still places this obligation on the HRC, this function has been transferred to the CMD. Finally, there is the Office of Economic & Workforce Development, which, under Chapter 6.22(g) of the Code, administers and monitors local hiring policy for construction in the City.

Contractors doing work with the City have described the process as “byzantine.” No one questions the merit of the social goal; rather it is the complexity of meeting it that creates frustration. Some contractors are daunted by the City’s LBE requirement, since some LBE

firms possess good construction skills but lack construction management and administrative skills. When a subcontractor fails to deliver acceptable work on time, it can cause significant project delays, which can lead to a significant increase in total project cost and jeopardize the prime contractor's reputation. This has led to a reduction in the number of contractors willing to bid on City business. R&P at present has only four contractors who will bid on most of their construction projects.

5. Revisions to Chapter 6

At present, a city work group has been formed to identify administrative and substantive changes that should be made in Chapter 6 of the Code. In phase I the work group proposed 43 technical changes to the BOS this spring. In phase II of the project, the work group will be proposing that Chapter 6 of the Code be modified to include contractor performance as an additional criterion in awarding fixed bid construction contracts. In the current lowest bid environment, it is possible for a contractor with a track record of poor quality work and failure to meet delivery schedules to win new construction contracts merely because it was the lowest bidder. It is often difficult for DPW supervisory personnel to collaborate with low bid contractors under these circumstances.

Even though performance is not a criterion in the lowest bid environment in San Francisco, the City has a process for excluding contractors from bidding on new construction. The process is called debarment. A contractor can be debarred due to "willful" misconduct in any aspect of the bidding process, from submitting false information in the proposal to failure to comply with the terms of the contract.¹²The City debarment process is difficult, and currently no City contractors are debarred or prevented from bidding on new construction projects, regardless of how many notices of non-compliance they have received from the City.

The CSA issued a Citywide Construction audit report in May of 2014 that provides anecdotal examples of City projects where construction contractors performed poorly. The report found that poor-performing contractors have more non-compliance notices, higher project soft cost (non-construction costs) and more change orders than high performing contractors. One example cited in the audit report is an Airport contractor who received 59 non-compliance notices for improper work on a \$14 million contract to construct a bridge at the Airport.¹³ It is not clear why such a contractor was not considered for debarment, a process that does not appear to be used to protect the City from poorly performing contractors.

We encourage the BOS to amend Chapter 6 of the Code to include consideration of contractor past performance in awarding fixed bid construction contracts and to implement the change swiftly.

Construction Project Management

Project management controls are very important for ensuring project quality and for managing construction project costs. We reviewed two important areas of construction

project control: change order management and project construction contract close-out procedures. Additionally, we looked at the consequences of non-compliance with these and other policies.

1. Change Order Management

Large construction projects will have many hundreds of change orders. An illustrative list appears below.¹⁴

Project	Total Cost	# Of Change Orders
San Francisco General Hospital	\$ 887 million	607
Public Safety Building	\$ 243 million	389
North Beach Branch Library	\$ 14 million	116
Bayview Branch Library	\$ 14 million	102
Palega Recreation Center	\$ 14.4 million	175
Mission Dolores Park	\$ 18million	103

The change order process generates many documents that need to be managed and routed for approval and signoff. It starts with a contractor preparing a proposed change order which leads to a negotiation process and an independent cost analysis for change orders over \$20,000. Once a change order has been approved, it requires a contract modification. These require authorizing signatures as well as, in some cases, revised architectural plans or engineering specifications. All of the change order documents need to be managed, so that approvals can be tracked, contract revisions can be noted, and key documents can be retrieved as needed.

The following examples taken from many CSA audit reports demonstrate that management processes for change orders are department specific, not citywide, and are frequently ignored in practice.

The April 2014 CSA audit of change orders on the \$243 million Public Safety Building project found:¹⁵

- DPW documented proposed change orders, but, contrary to departmental procedures, did not document the negotiations for those exceeding \$20,000.
- DPW did not prepare the required independent cost estimates for proposed change orders exceeding \$20,000, so had no negotiating leverage when the contractor submitted revised costs.
- Proposed change orders requesting time extensions did not contain sufficient supporting documentation, increasing the risk of possible approval of unwarranted time extensions.

The CSA issued about 20 change order audit reports over the last four years. The audits highlighted significant procedural problems that can be improved with all city departments

using the same change order procedures, greater adherence to existing change order policies and the implementation of citywide change order management reports. The audits found control weaknesses in large and midsize construction projects.

The CSA April 2013 Audit of the PUC \$39.2 million Alameda Siphon #4 found that 40% of project change orders were issued and 47 % were approved after substantial completion of the construction project. Approving change orders after the contractor has completed the work is contrary to the intent of the change order management process.

Change orders are a fact of life in construction; some are due to unforeseen building conditions and regulatory requirements, while other change orders are avoidable

Two types of avoidable change orders are design errors and omissions and client requested changes during construction. It is important to report all types of change orders and to ensure that avoidable change orders receive a higher level of management scrutiny. DPW has a stated goal of limiting error and omission change orders to 3% of total project cost. The extent to which they are achieving that 3% standard is not clear. The CGJ believes this should be a citywide standard that should be reported and enforced for all construction projects.

The Alameda Siphon project had 196 change orders totaling \$6.8 million or 21 percent of the original contract value. A sample of 40 of the 196 change orders found that modifications were required because of: 6 design error, 6 design omission, 12 differing site conditions, 8 owner-requested, 3 regulatory requirement and five other category change orders.¹⁶

A CSA April 2013 audit of two midsize construction projects, the \$10.8 million Chinese Recreation Center and the \$4.6 million Mission Clubhouse and Playground renovation, found significant department policy violations. Change orders for the Mission Clubhouse and Playground renovation amounted to \$642,103 or 14 percent of the original contract value. Change orders for the Chinese Recreation Center amounted to \$1,587,540 or 15 percent of the original contract value.¹⁷ The audit found the following departmental policy violations:

- R&P has no published change order processes or procedures.
- DPW did not adequately record pertinent information on all change orders.
- DPW did not obtain independent estimates for change orders of more than \$20,000 as required by written procedures.
- Both R&P and DPW each allowed an increase to contractor markups without a contract modification as called for by the contract.
- A majority of contractor change order requests that included a project time extension did not meet contract requirements, and some change order requests were submitted late.
- In some instances, contractors did not adhere to change order pricing requirements.

An October 2011 BLA report to the BOS evaluated the frequency and cost to the City of contract change orders for large construction and professional service contracts. The report surveyed ten City departments and reviewed 218 construction and professional service contracts over \$5 million entered into between Fiscal Year 2006-07 and September 2011. The report findings were that 107 or 49.1% of the large construction and professional service contracts had change orders with a total cost of \$295.2 million, a staggering sum. One of the recommendations in the report was to have the BOS request that all City departments maintain contract information in a uniform manner and that the information be summarized and regularly reported to the BOS. We concur with this recommendation.

2. Contract Close Outs

CSA audit reports examined a second important construction management process, the process used to closeout contractor construction contracts. The construction contract closeout formally ends the construction phase of a capital project and ensures that all contractual and legal obligations have been fulfilled before final payment is released to the contractor. Ensuring compliance with all closeout procedures assures the City that the contractor used city resources appropriately and completed the work in accordance with contract terms. There were a number of DPW and non-DPW contract closeout audits where City departments were found to have skipped some of the contract closeout procedures. In the closeout audits, two recurring findings were that the departments failed to use a contract closeout check list, a construction industry best practice, and the departments were unable to provide adequate documentation that specific aspects of the construction contract had been fulfilled.

The July 2013 closeout audit of the contract for the \$583 million Laguna Honda Hospital Replacement Program found that DPW was unable to verify its compliance with eight of 34 applicable closeout procedures. Similarly, the July 2012 closeout audit of the \$332,000 contract for Chinatown Public Health Center ADA Improvements Phase II found that DPW did not require the contractor to comply with the following six closeout procedures:¹⁸

- Submit all change orders before work was 95 percent complete.
- Advise the City of pending insurance changeover requirements.
- Notify the City in writing that the work was substantially complete and ready for inspection.
- Submit consent of surety to final payment.
- Submit a certified copy of the punch list of remedial items to be completed or corrected, stating that each item has been otherwise resolved for acceptance by the City.
- Notify the City in writing that all punch list items of remedial work were completed and the work was ready for final inspection.

That said, contract close outs can be problematic, because departments rely on the contractor to fulfill all contract requirements. In the current construction-boom

environment in San Francisco, some contractors just walk away from the final payment and move on to another project, rather than deal with the final paperwork. Other jurisdictions have experienced this same problem. Portland, Oregon is evaluating a larger hold back provision in the contract to reduce this behavior.

Department Interactions

1. The DPW Architecture and Engineering staff

As mentioned earlier, DPW, has one of the most diverse construction portfolio in the City. Not only does it manage its own projects, it also works with other City departments as needed. The Port, MTA and R&P rely on DPW for general construction. DPW has expertise in remodels, seismic retrofitting, hydraulics and new construction. R&P, SFFD and the Police Department have hundreds of buildings that need to be remodeled or replaced. These include 220 city parks, 82 recreation centers, 51 fire stations and 12 police stations. The PUC relies on DPW for specific expertise around hydraulics.

DPW manages both building (vertical) and road and sewer (horizontal) construction projects with a FY2014-2015 budgeted architecture and engineering staff of 531 full time equivalent (FTE) employees . Most of the salaries and benefits of these employees are charged to the individual construction projects (capitalized) and not to DPW’s operating budget. DPW manages about 41% of the budgeted citywide 1,286 FTEs.

	Annual	Annual
	Salary	Salary
	Ordinance	Ordinance
	F2014-2015	F2015-2016
	Budgeted	Budgeted
	<u>FTEs</u>	<u>FTEs</u>
DPW- Architecture Bureau	252.0	258.9
DPW- Engineering Bureau	278.7	287.6
DPW- Total Arch+ Engineers FTEs	530.7	546.5
	41%	41%
Airport- Bureau of Design and Construction	167.3	181.7
MTA -Capital Programs & Construction	156.4	158.9
Port - Engineering and Environmental	26.5	26.5
PUC- Engineering	389.0	394.0
Recreation and Parks- General Fund work order fund	16.0	16.0
Citywide total	1,285.9	1,323.7
F2015-2016 % increase in FTEs		37.8
F2015-2016 increase in FTEs		2.9%

There may be an opportunity for San Francisco to better utilize the 1,286 budgeted FTEs who are currently spread among the six City Departments. We recommend the City have the CSA benchmark San Francisco's citywide construction management staff organizational structure against comparable cities.

DPW's staffing structure contrasts with the staffing of large construction firms. Historically, construction firms maintained a deep staff of trades people and specialists. Large contracting firms along with cities like Portland observed that the variety of construction projects creates a mismatch between the skills required for current projects and the skills of their staff. The result is duplicate labor costs when outside firms are retained. As competitive conditions demanded more cost effective approaches and nimble operations, construction firms and cities like Portland eliminated internal specialist departments and developed relationships with subcontracting firms. Interviewees shared that few major cities maintain a large public works staff of specialty design and engineering employees.

2. Disparate Policies and Systems

Since the six City Departments manages its own construction projects, it is not surprising they have developed their own department-specific construction processes and systems. When more than one city department works on a construction project, it is impossible to combine department construction information, because data is captured and/or defined differently. For that reason it is difficult to produce citywide construction project reports. CSA audits found that DPW and R&P project change orders were difficult to coordinate, because individual departmental systems and departmental operating procedures were not aligned. R&P lacks a written change order policy and DPW's systems are incompatible with R&P's workflow for processing change orders.

3. Errors and Omissions

City departments that utilize DPW for architecture and design work assume a risk that they would not otherwise have if the city department retained an outside firm. City departments cannot sue DPW for design and omission errors. A DPW design error or omission forces its City clients to reduce the scope of a project or find additional funding for completion. DPW acknowledges that there have been issues on some projects, but maintains that all clients are made whole; some client departments interviewed by the CGJ would disagree.

4. Recreation and Park

One of the six City Departments, R&P, warrants highlighting, because DPW manages all R&P vertical projects and because R&P projects elicit a lot of citizen input. Although R&P has expertise in the landscape aspects of construction, it often needs to rely on DPW for structural projects, from playground centers to tennis courts to bathrooms.

R&P has a team of nine specialists including project managers, senior planners, architects and landscape architects. Some are specialists in areas like irrigation or ADA²⁰ access. They work with DPW on a Memorandum of Understanding where the R&P project manager is the point person on the job, responsible for maintenance of the project budget and schedule. Of their 70 active projects, 20% are vertical projects and 80% of all projects are under \$1million. These small projects require extensive public meetings because the community is more likely to become involved with a neighborhood park remodel than a pumping station. Indeed a recent *San Francisco Chronicle* article detailed the renovation of the 760 square foot restroom in Washington Square Park that had an extensive community review process and ultimately cost \$1.2 million, which was 20% over budget.²¹

DPW provides the design services for R&P, however the cost is often higher than what an outside designer would charge. For small projects, this higher design fee represents a significant portion of the project budget. Once designed, DPW manages the construction using its resident engineer team. They handle contractor selection, from the small universe of contractors willing to do R&P projects. The DPW engineer and R&P project manager coordinate the completion of the project. Lack of clarity in this shared role structure leads to problems of accountability for various aspects of the project.

Information Technology

DPW's current systems environment is complicated and obsolete. More than 20 years ago, DPW developed an AS 400 system to manage construction project data at a level that was more granular than what was available from the City's financial system FAMIS. DPW uses the Electronic Job Order Accounting System (EJOA) to manage budgets and adherence to timelines and interfaces with FAMIS in a rudimentary way. EJOA cannot handle on-line change order management or project updates. These limitations led one manager to say that they "need to keep really good email trails of decisions." That said, it should be noted that several contractors commented on the strong attention to detail of the DPW staff, despite their lack of adequate information systems.

Things are no better in other areas of the City. The Department of Public Health, for example, reports that it does not maintain electronic records of originally approved construction contract amounts at all, thus preventing comparison with amended or modified amounts, unless a manual review of individual contract document files is made.

FAMIS, the citywide financial system, is targeted for replacement in FY 2018.²² DPW recognizes the need for common construction project data architecture and improved project reporting and is developing DPW construction management system specifications as part of the FAMIS project team. We commend DPW for recognizing the problem and developing a department plan to address the problem. Individual City departments recognize the need for new systems to better control an ever increasing project workload. If the City does not provide leadership, departments will be required to act independently which will perpetuate the existing lack of integrated citywide construction project reporting.

The problem is a citywide problem that should be addressed through the development of a citywide information technology plan that addresses (i) the coordinated replacement of the citywide financial system (FAMIS), and (ii) the adoption of citywide construction procedures, including the implementation of a citywide construction management system. Replacing FAMIS may improve some reporting, but it is a financial system, not a construction management application.

As described earlier, DPW lacks an electronic document management system to catalog, store and retrieve the requisite documentation for change orders. As a result, the engineering and architecture bureaus within DPW have their own document management processes. Similarly, there is no centralized database in the City that provides for monitoring contract change orders. Instead, the information must be obtained from individual departments, each of which records and reports the information differently, making a consolidated roll-up of citywide construction information impossible.

We recommend that the Department of Technology (DT) retain a consulting firm with extensive construction management system expertise to develop citywide systems requirements for the implementation of a flexible system that thousands of city construction project employees will be able to use to better manage construction efforts. However, the need for a construction management system is not addressed in the 2016 Information and Communication Technology (ICT) plan for Fiscal Years 2016-2020. It is unacceptable for the City to propose to spend in excess of \$25 billion dollars over the next ten years when the City lacks both citywide construction procedures and a citywide construction management system.

Transparency and Reporting

Understandably, the lack of integrated management systems and failure to follow common policies and procedures in managing construction projects makes it impossible to get an up-to-date snapshot of the current status of all active construction projects in the City. In the current environment, the BLA and the CSA must use a labor-intensive sampling process to get citywide information instead of using citywide reports.

We found it difficult to work with individual DPW construction project reports when more than one City department was involved in a construction project. For projects where DPW is providing specific project services like engineering but not managing the entire project, DPW project reports only have engineering project cost information. DPW reports that summarize multiple construction projects are difficult to use because DPW often is not providing the same client services for all construction projects.

The lack of citywide policies and the inconsistent application of existing policies make it impossible to create citywide reports that summarize key construction performance metrics like notices of non-compliance, change orders, actual construction soft costs

(design, architecture, engineering, etc.) and a comparison of actual project cost to budgeted project cost. It is impossible to prepare a citywide report of actual construction expenses for all six City departments, as evidenced by the inability of the CSA to include actual citywide construction costs in their May 2014 construction audit report. The current situation where there are no citywide construction reports that compare actual project spending to original budget for completed projects violates both common sense and basic good management practice. Allowing the current situation to continue when the majority of the \$25 billion ten-year Capital Plan spending is for construction is unacceptable.

Government construction projects are different from private construction projects, because they are public projects and subject to many levels of oversight that do not exist in the private world. Public projects should be subject to citizen oversight and the oversight of many City Departments. For example, the CMD, (as mentioned earlier) reviews the LBE component of construction projects. Construction project managers need to deal with reporting requirements that are unique to each City department that oversees a specific aspect of a construction project. Government construction projects also have more stringent project documentation and approval requirements. The City has allowed each of the six City departments to define and implement departmental solutions rather than establishing a citywide standard. This silo problem mirrors the city’s information technology problem that was addressed in the 2011-2012 Civil Grand Jury report, *Déjà vu All Over Again*. The solution for both problems requires the city to develop a citywide plan and give one city department the responsibility for designing and implementing citywide solutions.

Developing a citywide construction reporting solution is a difficult task, because departments like the PUC and the Airport have a few very large construction projects that span many years. The Port, MTA, R&P, and DPW have many small construction projects. 376 or 70% of the 535 active DPW projects have a budget of less than \$3 million dollars. Identifying and implementing an enterprise construction management system that fits departments with large and small projects is difficult. Nonetheless, the current lack of citywide construction policies and procedures and the inability to generate accurate citywide construction reports needs to be addressed.

DPW active construction projects - November 2014		
	# of projects	% of total
Cost of individual projects		
Over ten million dollars	46	9%
Three million to ten million dollars	113	21%
Under three million dollars	<u>376</u>	<u>70%</u>
	535	100%

This the problem needs to be addressed to enable citizen oversight of individual construction projects. Access to information on individual construction projects is not currently possible, because there are no final reports issued for each completed

construction project which report original, budgeted project cost and actual project cost as well as key performance indicators like the actual number, type and cost of project change orders. According to interviewees, other cities produce reports and/or maintain websites that provide detailed information on construction projects. The people of San Francisco deserve the tools to monitor construction spending that is funded by bonds the voters were asked to approve. Until the City implements citywide construction polices and reporting standards supported by a citywide construction management system, meaningful information about construction projects will not be available to the citizens of San Francisco.

Lack of Independent Oversight

Five of the six City departments report to an independent commission. For example, the PUC Commission and the R&P Capital Committee are required under Chapter 6 of the Code to review project change orders when the cumulative cost of change orders for an individual project exceeds 10% of budgeted project cost. DPW client department projects, like those for SFFD and SFPD, are subject to the same commission change order oversight. DPW's own projects are not subject to the same independent oversight; there is no DPW Commission.

The BOS plays no role in the approval, ongoing reporting or oversight of any construction project. The jury was told that the BOS was not given a role in approving construction contracts to prevent politicizing the process. However, the failure of the BOS to exercise regular oversight over citywide construction spending needs to be examined. The CGJ cannot find any reason why the BOS should not exercise oversight authority after a contract has been awarded. A BLA audit noted the lack of scrutiny:²³

- Construction contracts are not subject to BOS approval, whereas professional services contracts over \$10 million do require BOS approval. The BOS must approve non-construction change orders greater than \$500,000.
- By comparison, in three other large jurisdictions in California, the threshold amount for a governing body approval was from \$25,000 to \$250,000, with some variances for construction and certain other contracts. Therefore, there is significantly less scrutiny of contracts required by the BOS for contracts with a value of less than \$10 million.

Several BLA recommendations addressed the oversight issue, including (i) lowering the contract approval threshold to a number consistent with other cities, and (ii) changing the change order approval threshold to a cumulative amount as opposed to the current single change order threshold of \$500,000.

Perhaps the most important recommendation, and the one with which the CGJ is in total agreement is this:

The Board of Supervisors should request that all City departments maintain contract

information in a uniform manner, recording original contract amounts, each change order and change in contract value, and final contract amounts, to be summarized and regularly reported to the Board of Supervisors.²⁴

We interviewed employees in other large cities and found that all of the cities had independent oversight of public works construction projects. All of the cities we researched required that construction project change orders that exceeded a specific threshold require city council approval. Other large U. S. cities have implemented independent oversight of construction projects through the creation of an independent department of contract management in their DPW department. This unit monitors DPW construction project adherence to city policies. In these cities, the contract management department is independent and does not report to DPW architects, engineers or project managers.

The lack of BOS oversight of all City construction contracts and the lack of independent oversight of DPW department construction projects should be remedied.

FINDINGS

Based on the discussion above, we have the following findings:

- F1. DPW should be commended for its adoption of the CMGC and design-build structures in large-scale projects and the Chapter 6 workgroup should be commended for working to streamline the construction contracting process in the City.
- F2. The current lowest bid-contracting environment is not optimal for the City, since it increases costs due to additional project change orders, and it reduces the number of quality contractors willing to bid on City projects.
- F3. The complexity of the contracting environment, especially as it relates to LBEs, reduces the pool of contractors willing to do business with the City, thereby limiting vendor selection.
- F4. Change orders are not managed uniformly across departments, which exposes the City to increased project costs.
- F5. Construction contract close out procedures are not followed, which can result in the City not receiving the services it contracted to receive.
- F6. The variety of construction projects in the City creates a mismatch between the design and engineering skills required for current projects and the skills of the staff, resulting in duplicate labor costs when outside firms are retained and excess capacity when there is a decline in construction activity.
- F7. The lack of integrated construction management systems and the failure to follow centralized construction management policies and procedures prevents the City from generating citywide construction reports.
- F8. The City does not have an independent management group reviewing citywide construction performance reports and monitoring adherence to change orders and construction contract close out policies and procedures.
- F9. San Francisco City departments do not issue final reports on construction projects that are readily available to its citizens.

RECOMMENDATIONS

- R1. None
- R2. The BOS should amend Chapter 6 of the Administrative Code to require contractor performance as an additional criterion for awarding construction contracts.

- R3. The CGJ recommends that the proposed Chapter 6 amendment make past performance a construction award criterion for all future City construction contracts including LBE subcontracts.
- R4. The Office of the Controller should implement a standardized change order management policy and require all City departments to adhere to the new change order policy.
- R5. The Office of the Controller should implement a standardized construction contract closeout policy and require all City departments to adhere to any new policy.
- R6. The BOS should request BLA or CSA to benchmark the City’s design and engineering workforce organizational structure against comparable cities and issue a report within a reasonable timeframe.
- R7. The Mayor should allocate financial resources in the current City budget to fund the Department of Technology hiring a consulting firm with extensive construction management expertise to develop citywide system requirements for the implementation of a construction management system.
- R8. Within a reasonable timeframe, the BOS should either request the CSA or BLA, or retain an outside firm, to benchmark the independent construction management structure of other cities and develop recommendations applicable to San Francisco.
- R9. The BOS should require each City department to issue final project construction reports within nine months of project completion for all construction projects and for the reports to be posted on each department’s website.

REQUEST FOR RESPONSES

Pursuant to Penal Code section 933.05, the grand jury requests responses as follows:

Findings	Recommendations	Response Required
F1. DPW should be commended for its adoption of the CMGC and design-build structures in large-scale projects and the Chapter 6 workgroup should be commended for working to streamline the construction contracting process in the City.	None	
F2. The current lowest bid-contracting environment is not optimal for the City, since it increases costs due	R2. The BOS should amend Chapter 6 of the Administrative Code to require contractor performance as an additional	BOS

<p>to additional project change orders, and it reduces the number of quality contractors willing to bid on City projects.</p>	<p>criterion for construction contracts.</p>	
<p>F3. The complexity of the contracting environment, especially as it relates to LBEs, reduces the pool of contractors willing to do business with the City, thereby limiting vendor selection.</p> <p>F4. Change orders are not managed uniformly across departments, which exposes the City to increased project costs.</p>	<p>R3. The CGJ recommends that the proposed Chapter 6 amendment make past performance a construction award criterion for all future City construction contracts including LBE subcontracts.</p> <p>R4. The Office of the Controller should implement a standardized change order management policy and require all City departments to adhere to any new change order policy.</p>	<p>BOS Mayor</p> <p>BOS Mayor Office of the Controller</p>
<p>F5. Construction contract close out procedures are not followed, which can result in the City not receiving the services it contracted to receive.</p>	<p>R5. The Office of the Controller should implement a standardized construction contract closeout policy and require all City departments to adhere to any new policy.</p>	<p>BOS Mayor Office of the Controller</p>
<p>F6. The variety of construction projects in the City creates a mismatch between the design and engineering skills required for current projects and the skills of the staff, resulting in duplicate labor costs when outside firms are retained and excess capacity when there is a decline in construction activity.</p>	<p>R6. The BOS should request the BLA or CSA to benchmark the City's design and engineering workforce organizational structure against comparable cities and issue a report.</p>	<p>BOS Mayor Office of the Controller DPW</p>
<p>F7. The lack of integrated construction management systems and the failure to follow centralized construction</p>	<p>R7. The Mayor should allocate financial resources in the current City budget to fund the Department of Technology hiring a consulting firm</p>	<p>BOS</p>

<p>management policies and procedures prevents the City from generating citywide construction reports</p>	<p>with extensive construction management expertise to develop citywide system requirements for the implementation of a construction management system.</p>	<p>Mayor Office of the Controller DPW</p>
<p>F8. The City does not have an independent management group reviewing citywide construction performance reports and monitoring adherence to change orders and construction contract close out policies and procedures.</p>	<p>R8. The BOS should either request the CSA or BLA, or retain an outside firm, to benchmark the independent construction management structure of other cities and develop recommendations applicable to San Francisco.</p>	<p>BOS Mayor Office of the Controller</p>
<p>F9. San Francisco City departments do not issue final reports on construction projects that are readily available to its citizens.</p>	<p>R9. The BOS should require all City departments to issue final project construction reports within nine month of project completion for all construction projects and for the reports to be posted on each department’s website.</p>	<p>BOS Mayor Office of the Controller</p>

Reports issued by the Grand Jury do not identify individuals interviewed. Penal Code section 929 requires that reports of the Grand Jury not contain the name of any person or facts leading to the identity of any person who provides information to the Grand Jury.

GLOSSARY

Change Orders – Work that is added or deleted from the original scope of work for a contract

Close Out Procedure – The process by which an awarding agency ensures that all provisions of the contract have been fulfilled

Construction Management General Contractor - A process whereby an owner engages a contractor during the design process to provide input into the constructability of the design

Design-Build - A method to deliver a construction project where the design and construction are delivered by the same entity

Punch list - A list of tasks to be completed at the end of a construction project

Turnkey Solution - An approach that can be immediately implemented in a given business process

ACRONYMS

BLA – Budget and Legislative Analyst

BOS – Board of Supervisors

CGJ – Civil Grand Jury

CGOBOC – Citizens’ General Obligation Bond Oversight Committee

CMD – Contract Monitoring Division

CSA – City Services Auditor

DT – Department of Technology

DPW – Department of Public Works

FTE – Full-Time Equivalent

HRC – Human Rights Commission

LBE – Local Business Enterprise

MTA - Municipal Transportation Agency

PUC – San Francisco Public Utilities Commission

R&P – Recreation and Park Department

SFFD – San Francisco Fire Department

ENDNOTES

¹ One SF – Building Our Future: The City and County of San Francisco Proposed Capital Plan, FY2016 – 2025.

² Department of Public Works, Project/Client Table, November 2015.

³ J.K. Dineen, “Reinvention as Usual, *The San Francisco Business Times*, April 27, 2008.

⁴ Ibid.

⁵ San Francisco Administrative Code, Chapter 6, Section 20 (A) & (B).

⁶ San Francisco Administrative Code, Chapter 6, Section 6.1 (K) & (L).

⁷ City and County of San Francisco, Office of the Controller - City Services Auditor, *Citywide Construction: Adopting Leading Practices Could Improve the City’s Construction Contractor Bid Pool*, May 20, 2014, 3.

⁸ Ibid., D-2.

⁹ Ibid., 4.

¹⁰ City of Los Angeles, Ordinance #173677, Article 14, Contractor Responsibility Program, Sec 10.40.2.

¹¹ The San Francisco Administrative Code, Section 14B.

¹² Grounds for Debarment, Section 28.3, administrative.sanfranciscocode.org.

¹³ Office of the Controller - City Services, Auditor, May 20, 2014, op.cit. 11.

¹⁴ City and County of San Francisco, Budget and Legislative Analyst Report, *Evaluation of Contract Change Orders for Large Construction and Professional Services Contracts*, Oct. 17, 2011.

¹⁵ Office of the Controller - City Services Auditor, May 20, 2014, P3.

¹⁶ San Francisco Public Utilities Commission: Alameda Siphon Number 4 Construction Management, April 2014, P 10.

¹⁷ City and County of San Francisco, Office of the Controller – City Services Auditor, *Recreation and Park Department: Chinese Recreation Center and Mission Clubhouse and Playground Construction Management- The Change Management Process Requires Some Improvements*, April 3, 2013. P 6.

¹⁸ Ibid.

¹⁹ City and County of San Francisco, Office of the Controller, Annual Salary Ordinance.

²⁰ Americans with Disabilities Act

²¹ John King, “In Washington Square, no ordinary Restroom”, *San Francisco Chronicle*, 5/27/2015.

²² City and County of San Francisco, Proposed Information and Communication Technology (ICT) Plan Fiscal Years 2016-2020. 59.

²³ City and County of San Francisco, Budget and Legislative Analyst Report, *Evaluation of Contract Change Orders*, Oct. 17, 2011. P 3.

²⁴ Ibid.