

**SAN JOSE STATE UNIVERSITY
CENTRAL PLANT, TELECOMMUNICATIONS,
AND UTILITY DISTRIBUTION UPGRADE**

Final Report

June 22, 2000

**KPMG Construction Cost Review
San Jose State University - Central Plant, Telecommunications, and Utility
Distribution Upgrade
SJ-535**

PROJECT OVERVIEW

San Jose State University's (SJSU) Central Plant, Telecommunications, and Utility project consisted of upgrades to designated campus infrastructure components. The project included the installation of two absorption chillers, removal and replacement of an 115KV substation, an underground telecommunication system, sewer improvements and associated hardscape repairs. The project also included associated hazardous materials abatement and negative exposure assessments. The construction cost of the project was \$22,754,755. This project was managed by the SJSU campus and was the first fully campus-delegated project reviewed as part of the Internal Audit construction cost review program.

KPMG reviewed project records from the following firms that were involved in the project's development and execution:

Contractor: S. J. Amoroso Construction Co., Inc. (Foster City office)
Architect/Engineer (A/E): Salas O'Brien Engineers, Inc. (San Jose)
Project Management (PM): Consolidated Construction Management

In addition to the firms above, KPMG reviewed records furnished by campus personnel.

As detailed below, incomplete campus documentation and organization of invoices and payments to the A/E did not permit reconciliation of construction records with University accounting records within the scope of our engagement.

CAMPUS RECORDS

The SJSU Department of Facilities, Development and Operations (FDO) Contracts Coordinator maintained project documentation, construction contracts/agreements, invoice copies, and other project record. Files for SJ-535 were not indexed in accordance with the CPD&C "Filing System Guide" included in the current CPD&C Construction Phase Manual (document revised May 7, 1999). The original manual was issued after the project files had been established.

SJSU did not utilize the CPM system but rather maintained hand-written ledger sheets for monitoring contractual payments. These manual ledgers began with the original contract amount, either added extra service costs/change orders and deducted invoice amounts and showed only a running balance due on the contract. This practice is ineffective for appropriate project management and industry standard cost control. Manual files are at risk of being misplaced and require an inordinate amount of time to determine or research specific spending history.

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Recommendations:

1. All future SJSU projects should be maintained in accordance with the CPD&C filing guide or by some appropriate means of organizing project documentation.
2. Until campus general accounting adopts systemwide construction accounting capabilities, FDO should develop spreadsheets and processes that provide detailed commitment and payment analyses for all projects.

Campus Response:

1. We agree. All future projects at SJSU will organize project documentation in accordance with the CPDC filing guide.
2. We agree. During the course of this project, FD&O developed an electronic spreadsheet that includes detailed revenue and expenditure data. This spreadsheet has subsequently been adopted by the University as the standard for tracking budgets on construction projects. *[Attachment A]*

CONSTRUCTION BID PROCESS

The subject project, designed by Salas O'Brien Engineers, was estimated at \$21,000,000. The original Notice to Contractors indicated an original bid date of October 9, 1997. Through addenda, the bid date was revised to October 23, 1997. Five bidders were listed on the Abstract of Bids. Four responses were received. The low bidder, S. J. Amoroso, submitted a base bid in the amount of \$18,475,000 including alternates and was awarded the construction contract on December 15, 1997. The initial specifications listed ten additive alternates, all of which were accepted and included in the construction agreement.

Additional findings related to the project bid process include:

- The Abstract of Bids was appropriately completed and signed
- S. J. Amoroso is a California Corporation
- S. J. Amoroso furnished an appropriate Payment and Performance Bond in the original contract amount as required
- The original construction period was to cover 730 calendar days
- Liquidated damages were stated to be \$2,000 per day
- Additional liquidated damages were provided for interim critical tasks or milestones as defined in the Liquidated Damages section of this report
- Notice to Proceed was given on January 15, 1998

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- Original completion was established as January 15, 2000
- Notice of Completion was recorded as August 17, 1999 (151 days early)
- There were 11 allowances established in the original bid documents. This number of allowances is higher than typical University projects

CONTRACTOR COMPLIANCE - SUBCONTRACTING PRACTICES

The "List of Proposed Subcontractors" (CM form 701.04) included work divisions. CSU General Conditions (Article 2.06-b) require that an Expanded List of Subcontractors (CM form 701.04A), verifying subcontractors licensing and insurance coverage, to be submitted within forty-eight hours of bid opening. Neither S. J. Amoroso nor SJSU Facilities Development Operations could produce this document.

When we compared the List of Proposed Subcontractors to the actual subcontractors hired by S. J. Amoroso, we found that Baca & Sons Painting was not listed and was issued a subcontract in the amount of \$102,135 for painting. Although this amount was in excess of the threshold for mandatory listing, the Contractor furnished documentation indicating that the initial base painting bid (excluding alternates) was less than ½ of 1%.

Recommendations:

3. SJSU should assure that all required documentation is received and retained (Expanded List of Subcontractors).

Campus Response:

3. We agree. As stated above all future projects at SJSU will organize project documentation in accordance with the CPDC filing guide.

CONSTRUCTION CHANGE ORDERS

There were 92 change orders totaling \$4,279,755 incorporating over 300 Change Proposal Estimates (CPE) issued on the project. These changes revised the original contract amount of \$18,475,000 to \$22,754,755, a 23.16% increase. SJSU did not require A/E approvals of Owner change orders. This is a violation of CSU general requirements and specified duties included in the A/E agreement.

The SJSU Change Order Form provided for running balances of change orders and revised contract amounts. This is industry-standard practice and useful in reviewing contractor billings and we have previously recommended the adoption of this feature for

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all CSU capital projects.¹ However, the substantive changes in this form did not appear to have been reviewed by representatives of the Chancellor’s Office.

Beginning with CO #50, the “Approved Amendments” (accumulated change orders to date) was overstated by \$10,108 and, as a consequence, the “Revised Contract Amount” was also overstated by the same amount. This error was carried through to CO #82 and corrected on CO #83. CO # 91 understated the Approved Amendments and the revised contract amount by \$1,266. This error was not corrected on final CO #92. Significant change orders included the following:

CO #	Description	Amount
5	Telecommunications Upgrade for Residential Life	\$870,000
37	New Bike Enclosure Area	222,550
61	9th Street Garage - Re-Striping/Waterproofing	808,997
62	9th Street Garage Access Flooring	442,706
	Added Work	\$2,344,253
	Total Changes to Contract	\$4,279,755
	Percent of Total Changes	54.78%

Although some of the changes above could be considered “infrastructure” projects, these changes added substantial work that was outside the scope of work set forth in the original project plans.

The Contractor obtained competitive pricing for these changes.

Change Order Analysis:

The project included provisions for 11 allowances. All allowances were reconciled in Change Order No. 88. An analysis of this adjustment change order follows:

1. A \$1.4M allowance was included for payment to Pacific Gas and Electric (PG&E) or other necessary agencies to administer the regulating processes associated with a new substation. The Contractor incurred costs of \$1,415,214, an overage of \$15,214 that was paid in CO 88.
2. A \$250,000 allowance was established for unforeseen site conditions. Actual costs incurred by S. J. Amoroso were \$879 less than the allowance. This amount was returned to SJSU in CO 88.
3. An asbestos/hazardous materials allowance provided \$90,000 to cover the proper handling of unknown conditions. The original bid documents defined areas known to

¹ See SDSU-965R (FY 97-98); July 21, 1998, Recommendation 2e, p5

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- contain asbestos and lead. The allowance was made for unknown areas that could potentially be encountered. The Contractor returned \$302 in CO 88.
4. A \$60,000 “discretionary contingency” was established for unanticipated Campus/University needs. SJSU allocated \$59,664 for additional work to be performed. The \$336 savings was returned to the University in CO 88.
 5. The fifth allowance provided that \$85,000 would be available for University trades in support of the construction activities. Actual campus services amounted to \$87,174, an overage of \$2,174.
 6. A cash allowance in the amount of \$10,000 was included in the construction agreement to cover cost of temporary office relocation. This allowance had a savings of \$864, which was credited in CO 88.
 7. This allowance provided that the Contractor would pay the University \$5,500 for use of power and water during construction. \$4,287 of this allowance was spent on controls and expansion joint work. The difference was returned to the University in CO 88.
 8. A \$9,500 allowance was established to cover the cost to facilitate University partnering efforts. \$2,264 was spent, \$7,236 was credited back to SJSU in CO 88.
 9. A \$20,000 allowance provided funding for campus public relations/project coordination. It appears this allocation was spent on security, partnering meeting and Phase II of the Bike Enclosure. A \$292 savings was credited in CO 88.
 10. A cash allowance of \$40,000 was made available for campus cadet security service during low or no occupancy periods. Cadet service costs were \$243. The Contractor paid a security service company \$39,663. The \$94 savings was returned to the University in CO 88.
 11. The final allowance was \$15,000 for standby power accommodations. Costs in the amount of \$8,211 were reported against the allowance. Savings of \$6,789 were returned to the Owner in CO88.

Allowances 7 and 9 funded work other than the original intent established in the allowances. Although this redirection did not financially impact the overall project budget, this practice did not reflect the original intent of the contractual allowances.

KPMG reviewed an additional \$2.2M of change orders and traced all subcontractor estimates to the actual subcontractor change orders. Of this sample, KPMG found:

- Change Order No. 27 included a credit for Scott Edward Electric in the amount of \$140,836. **The credit should have included a 6% fee credit in the amount of \$8,450.** It was confirmed that S. J. Amoroso received a \$149,286 credit from the subcontractor.
- Change Order No. 22 included a subcontractor (MJB Pipeline) quote in the amount of \$6,441. The CPE cover showed this as \$8,924 and was approved in the change order

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for this amount. The Contractor paid \$6,441 to the subcontractor. **This is an overpayment of \$2,483 plus \$372 for fee a total of \$3,155.**

- Owner Change Order No. 5 covered the telecommunications upgrade for Residential Life. KPMG was unable to obtain a detailed breakdown for the \$870,000 change in either the Contractor's or campus files. In response to our March 1 request for additional detail, the Contractor furnished a breakdown for the change. We found that two major subcontractors, already working on the project, submitted lump sum pricing for the respective portions of their work (Electrical and Mechanical). For the voice/data infrastructure equipment, the Contractor solicited four proposals and accepted the low bid.

Change Order Report Analysis:

KPMG received a "Proposed Change Order Log" from Consolidated CM dated January 5, 2000. The report did not reflect the last two change orders, did not indicate the reasons for change and did not include totals by reason code. KPMG was given access to the Consolidated CM website and accessed the SJ-535 project records. Although we were able to view individual proposed changes, we were not able to print a comprehensive report. On March 1, 2000, we requested the completed report. Rather than the report, we received copies of the 92 change orders. KPMG prepared the following analysis from the documentation provided:

	Type of Change	C.O. Totals	% of CO	% of Contract
4.1	Errors/Omissions from the Contract Documents	287,171	6.71%	1.55%
4.2	Unforeseeable job site conditions	293,600	6.86%	1.59%
4.3	Regulatory agency, bldg. code, safety, health	0	0.00%	.00%
4.4	Originated by the University	3,708,575	86.65%	20.07%
4.5	Unavailability of specified materials	0	0.00%	.00%
4.6	Other	- 9,591	- .22%	- .05%
	Total Change Orders	\$ 4,279,755	100.00%	23.16%
	Original Contract Amount	18,475,000		
	Total	\$22,754,755		

Recommendations:

4. SJSU should comply with CSU requirements to obtain A/E approvals for all Owner change orders.
5. CPDC should require that campuses submit proposed changes in construction forms for review. Even a modest appearing amendments to construction documentation can have serious implications in terms of the responsibility and liability of the University.
6. Change orders should accurately reflect the balance of previously approved changes and revised contract amounts.

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7. CSU policy should clarify the extent to which campuses may appropriately issue change orders for substantial work unrelated or only tangentially related to the original scope of work.
8. Allowances should be utilized for intended purposes and accounted for accordingly.
9. SJSU should consider recovering credit in the amount of \$8,450 for the credit fee not received in CO 27.
10. SJSU should consider recovering credit in the amount of \$3,155 for the overpayment in CO 22.
11. SJSU should require the project management firm to promptly submit all required project reports relating to construction data. To be of use, these reports need to be submitted timely. The owner should monitor the production of PM reporting to assure compliance.

Campus Response:

4. We agree. All change orders on future projects will require written approval from the A/E prior to execution.
5. Prior to the start of this project the University conferred with CPDC to discuss changes to construction forms. No substantive changes, however, were proposed by the University. Rather, the revisions consisted of minor format changes, the most significant being the replacement of “The California State University” with “San Jose State University” to reflect the delegation of the project to the University. These forms have subsequently been adopted by the University as the standard for construction projects. Any changes proposed by the University in the future would be submitted to CPDC for review and comment.
6. We agree. As mentioned above, during the course of this project FD&O developed an electronic spreadsheet that includes detailed revenue and expenditure data, and is capable of tracking approved change orders and revised contract amounts. This spreadsheet has subsequently been adopted by the University as the standard for tracking budgets on construction projects.
[Attachment A]
7. We agree. It is our understanding that CPDC is currently working with the Office of General Council to provide guidance on including additional work to a project by change order that may be unrelated or only tangentially related to the original scope of work. This information will be added to SUAM by November 30, 2000.

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8. We agree. During the course of the project, FD&O developed an electronic spreadsheet that tracks revenue and expenditures, and is capable of tracking allowances. This spreadsheet has subsequently been adopted by the University as the standard for tracking budgets on construction projects. *[Attachment B]*
9. We agree. A letter requesting payment for the overcharge has been issued to the contractor. The University Accounting department will use this as a basis to initiate a University invoice. The invoice will be issued by Accounting at the end of August as part of their monthly closing process. Once invoiced, this receivable will be tracked by the Accounting department on a monthly basis. *[Attachment C]*
10. We agree. A letter requesting payment for the overcharge has been issued to the contractor. The University Accounting department will use this as a basis to initiate a University invoice. The invoice will be issued by Accounting at the end of August as part of their monthly closing process. Once invoiced, this receivable will be tracked by the Accounting department on a monthly basis. *[Attachment C]*
11. We agree. All future agreements for construction management services will include a provision for the timely submittal of all required reports relating to construction data. The submittal of these reports will be made a condition of approval for payment to the construction management firm. *[Attachment D]*

DESIGN COSTS

Salas O'Brien Engineers, Inc. was the architect of record of the SJSU project. The original design agreement in the amount of \$1,611,986 was 7.49% of the original construction estimate and was consistent with the CPD&C standard design fee schedule. SJSU accounting records of payments on this contract showed total payments to the architect of \$2,362,737. The final design fees (including extras) exceeded 10% of final construction costs.

KPMG was unable to reconcile FDO project records that tracked payments to invoice data with accounting records of total payments to the vendor. Based on conflicting data and backup detail in FDO project records, changes to the original contract were in the range of 43-46% of the original contract amount. A thorough reconciliation of FDO records and associated University accounting was beyond the scope of our review.

As shown in the table below, our examination of invoice documentation made available suggests that there was a remaining balance on the overall agreement of \$162,041. The manual FDO accounting records indicated a balance of \$100,801. (The manual report did

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not track invoices against individual extras.) The records reviewed from SJSU accounting office reported total payments of \$2,362,727, which indicated a balance due Salas O'Brien in the amount of \$6,813. KPMG could not determine if FDO files contained every invoice submitted by Salas O'Brien. Further, the SJSU accounting records only referenced payments by check number and did not list invoice detail for each check.

KPMG performed a detailed analysis of 142 design invoices and over 50 additional service authorizations made available at the time of our review. The following table summarizes the results and illustrates the difficulty in tracking A/E payments to contract obligations in using current CSU processes and systems.

Original Agreement	Commitment	Invoices	Balance
Base Contract	\$1,611,986	\$1,516,184	\$95,802
Plan Check	20,291	-	20,291
OSA (Office of the State Architect)	4,453	-	4,453
Subtotal	\$1,636,730	\$1,516,184	\$120,546
PGE Sub	15,000	15,000	-
CO 3	55,194	49,309	5,885
CO 3A	46,600	25,630	20,970
CO 6	986	247	739
CO 7	14,236	14,236	-
CO 8	201	201	-
CO 9	2,990	2,990	-
CO 10	1,270	1,270	-
CO 11	6,495	6,495	-
CO 12	1,115	1,115	-
CO 13	4,300	4,300	-
CO 14	1,850	1,850	-
CO 15	2,805	2,805	-
CO 16	2,020	2,020	-
CO 17	6,870	6,870	-
CO 18	7,660	7,660	-
CO 19	2,540	2,540	-
CO 20	2,975	2,975	-
CO 21	7,485	7,485	-
CO 22	3,820	3,820	-
CO 23	3,120	3,120	-
CO 28	6,180	4,591	1,590
CO 24	5,520	2,484	3,036
CO 25	4,820	2,169	2,651
CO 26	27,860	27,860	-
CO 29	5,009	5,009	-
CO 27	1,430	1,430	-
CO 33	3,880	1,678	2,203
CO 34	7,940	7,413	528
CO 32	151,939	152,283	(344)
CO 35	10,224	10,224	0
CO 36 Time & Material	18,175	14,023	4,153
CO 37	42,390	18,935	23,455

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CO 38	6,680	6,673	8
CO 39	2,780	2,780	-
CO 40	15,921	15,922	(1)
CO 41	1,208	1,208	-
CO 42	7,787	7,787	-
CO 43 Time & Material	15,600	15,600	-
CO 44 Time & Material PGE Study	8,338	8,338	1
CO 45 Time & Material	1,990	1,295	695
CO 46	5,000	3,778	1,223
CO 49	7,250	7,155	95
CO 52	103,949	50,591	53,358
CO 54	17,460	7,350	10,110
CO 55	14,800	3,605	11,195
CO 56 Part of CO 37 and CO52		81,657	(81,657)
CO 58	8,044	8,044	0
CO 59 Time & Material	2,992	2,992	0
Central Plant Expansion		10,999	(10,999)
Duncan Hall		7,395	(7,395)
	\$2,331,428	\$2,169,387	\$162,041

While the foregoing table has been reconstructed from records found in the project files made available to KPMG, we do not represent the results as an accurate accounting of contract invoices and payments. These final results conflict with FDO project tracking efforts and neither reflect payment totals coming from University accounting.

Recommendations:

12. SJSU should prepare a comprehensive reconciliation of payments made to Salas O'Brien to confirm the base agreement and that each additional service have been appropriately paid. Additionally, the University should establish an appropriate method for tracking payments on future projects.

Campus Response:

12. FD&O has met with Salas O'Brien Engineers to review the contract, extra services, and payments to date and agree that the contract payments have been reconciled. The University did, during the course of this project, developed a method for tracking A/E payments. The spreadsheet developed for this purpose has subsequently been adopted by the University as the standard for tracking A/E projects payments. *[Attachment E]*

PROJECT MANAGEMENT SERVICES

We found that SJSU prepared a detailed Request for Qualifications (RFQ) for project management services. The RFQ was distributed to 16 firms, eight responded. SJSU

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prepared an evaluation form to award various points for seven evaluation categories. Two finalists were chosen for interviews with the Selection Committee on June 18, 1996. From the two finalists, Consolidated CM was selected. SJSU's process of firm selection conforms to industry best practices.

SJSU entered into a service agreement with Consolidated CM that provided construction management and inspection services on December 12, 1997. The agreement was executed in the amount of \$730,000, plus expenses of \$7,000. Amendments revised this amount to \$794,779, including the \$7,000 for expenses. Included in the agreement were allowances for testing, environmental monitoring and reimbursable expenses. Testing and expenses were to carry a 10% mark-up. Actual invoice review revealed that testing was billed at cost (without the required 10% mark-up), environmental monitoring was billed incorrectly with a 5% mark-up and expenses did include a 10% mark-up.

The overall PM fees represented 3.44% of the total construction cost. The cost for this service is within the expected range for such services (3-5%) and is shown in the table below with PM costs of other projects in our review database. As noted above, SJSU paid a 10% mark-up on expenses. Although the amount paid is not consequential, less than \$1,100, this allowance is not in conformance with CSU practice.

The table below places the project PM fees in the context of other projects reviewed as part of our CSU construction assurance work:

Project	Final Construction	Final PM Costs	Percentage	
LB-610	10,651,263	680,000	6.38%	
ST-462	13,040,983	501,048	3.84%	
SJ-535	22,754,755	783,431	3.44%	
SF-454	8,848,007	297,277	3.36%	
SD-965R	32,521,297	860,892	2.65%	
HU-437	8,885,916	224,243	2.52%	
SL-475	26,084,489	590,187	2.26%	
NO-496R	24,271,292	531,500	2.19%	
SF-476	27,847,804	543,477	1.95%	
LA-442	18,881,340	336,340	1.78%	Limited Scope
CO-627B	26,112,338	459,451	1.76%	Pre Completion
SM-460	12,534,361	160,643	1.28%	Limited Scope
LB-438				(Not Evaluated)
Totals	232,433,845	5,968,489	2.57%	

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The construction management/inspection agreement provided for the following hourly personnel rates:

Project Manager	\$89/hour
Construction Manager	\$83
Mechanical/Electrical Inspect	\$58
Scheduler	\$72
Telecom Inspector	\$80
General Inspector	\$58
Clerical	\$25

Three extra service amendments added \$60,838 to the original agreement.

Agreement/Payment Analysis:

The table below summarizes the total encumbrances and costs for project management services (exclusive of pre-construction services).

Agreement	Mark-Up	Fee	Subtotal	Invoices	Difference
CM Management	Based on billing rates	694,196			
Extra Service 3	Additional CM Services	22,724	716,920	733,862	(16,942)
Testing	10% stated, No M/U charged	15,000	15,000	6,374	8,626
Environmental	No M/U stated, 5% charged	17,745	17,745	11,822	5,923
Expenses	10% stated, 10% charged	7,000	7,000	11,666	(4,666)
Extra Service 1	Roofing (w/7% Mark-Up)	3,424		3,317	107
	Telecom Inspector (w/7% Mark-Up)	18,190	21,614	8,393	9,797
Extra Service 2	Exponent/Failure Analysis (w/10% Mark-Up)	16,500	16,500	7,997	8,503
	Total Contract	794,779	794,779	783,431	11,348

Recommendations

- CPDC may wish to establish a fee structure guideline for PM services similar to that utilized for design services.

Campus Response:

- A project management fee guideline was added to SUAM in December, 1999.

LIQUIDATED DAMAGES

The contractual completion date for the final project was established as January 15, 2000, in the original Notice to Proceed. The actual Notice of Completion was filed indicating a

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completion date of August 17, 1999. Hence, there was no cause for assessment of overall liquidated damages. However, SJSU included numerous milestone dates connected with liquidated damages. The number of milestone dates exceeded those found in typical construction agreements, but served as a precautionary measure to protect the final completion date. SJSU's position is that the project progressed ahead of schedule, the milestone dates were not on the critical path and the University suffered no financial impact for any delays associated with the interim dates. Section 1790-1 of the specifications, provided for interim damages as follows:

- Engineering Building tie-in to the central chilled water plant – Completion March 15, 1998, \$1,750 per day. According to the consulting PM, Daily Inspection Reports reported the underground piping was successfully tested from existing tunnel tie-in locations on May 12, 1998. This was 58 days later than the March 15 completion requirement. We found no record that liquidated damages were assessed and no recorded change in the milestone deadline. After further discussions with the Contractor, we were informed that the University required additional tie-ins to areas not specified in original requirements.

- Central Chiller Plant Upgrade
 - Phase 1 – Completion December 1, 1998, \$1,000 per day. In response to our March request, the PM provided a Daily Inspection Report that recorded the old electric chillers CH4 and CH5 were reinstalled in the Central Plant on December 14, 1998. This is 13 days late. We found no record that liquidated damages had been assessed and no recorded change in the milestone deadline.

 - Phase 2 – Completion February 2, 1999, \$1,000 per day. The consulting PM stated that the Daily Inspection Reports recorded that pumps P1 and P2 were energized on February 2, 1999. We found documentation from the Contractor requesting a 7-day extension due to the conditions of the chillers. Chillers CH4 and CH5 were being serviced by York from February 4-8, 1999 and CH4 was fully operational by February 19, 1999. Due to existing conditions of the Owner's chillers, we found the completion date acceptable. However we found no documentation extending this phase.

 - Phase 3 – Completion March 15, 1999, \$2,000 per day. This milestone date required that chillers CH 4 & 5 were working. New chillers (CH 6 & 7) were to be installed and working on manual operation. This milestone appears to have been met.

 - Phase 4 – Completion August 1, 1999, \$1,000 per day. This phase required that the complete chiller system be ready for automatic programming and all training

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completed. This date was tied to the beginning of the school semester and was met.

- Excavation-related work
 - a. The “most difficult” excavation work as defined on the Contract Drawing required a completion of August 20, 1998, \$1,000 per day if not completed.
 - b. Unless approved, the Contractor was to reimburse the owner \$1,000/day if more than two headings (trench openings) remained open on any high occupancy period.

The excavation was completed prior to the start of the semester. Additionally, during the summer University personnel indicated that they allowed more than two open headings in order to complete work. We found no change order documenting this allowance.

- Power Outages – If encountered during a moderate or high occupancy period, \$500 per hour – According to SJSU FDO, no outages were encountered on the Infrastructure project.
- Telecommunication Outages - If encountered during a moderate or high occupancy period, \$500 per hour – According to SJSU FDO, none were encountered.
- Fire Protection System Outages - \$200 per hour/per building – According to SJSU FDO, none were encountered.

KPMG found that no damages were assessed for any of the interim milestone dates.

Recommendations:

14. We recommend that CSU policy be established to document critical completion dates. It is industry standard practice to issue change orders that address beneficial occupancy dates for interim milestones.

Campus Response:

14. We agree. The Contract General Conditions and SUAM both contain provisions for execution of a change order to document beneficial occupancy. It is our understanding that CPDC will strengthen SUAM to specifically include such documentation regarding contract milestones by November 30, 2000.

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MAJOR EQUIPMENT REVIEW

The initial review of Contract Documents, consisting of Project Specification, was performed in the FDO at SJSU on February 10-15, 2000.

The following specification sections were reviewed:

Division 15128	Pressure Gauges
Division 15182	Hydronic Piping
Division 15188	Pumps - Base Mounted
Division 15686	Absorption Chiller
Division 15800	Air Conditioning
Division 16272	Dry-Type Transformers
Division 16360	Package Unit Substation
Division 16424	Motor Control Centers
Division 16741	Telecommunications Cable
Division 16743	Telecom. Cabletray And Raceway

Submittal logs produced by the A/E and PM were reviewed.

Of the submittals reviewed, all were tracked from Project Specifications through submittal data and final acceptance. The equipment specified was supported with required acceptance documentation. As part of our review process, KPMG conducted a project walk-through on Friday, February 18, 2000, with representatives from campus and Consolidated PM in attendance. The intent of this walk-through was to verify that specific and approved equipment had been provided and installed by the Contractor. Of the areas selected for review, we observed that the specified manufacturers equipment had indeed been installed. Those items identified are presented below:

Division Section	Equipment Description	Specified/Approved Manufacturers
15128	Pressure Gauges	Ashcroft
15182	Hydronic Piping (chemicals)	Nalco 2819
15188	Pumps-Base Mounted	Bell and Gusset
15686	Absorption Chiller	York YPC-ST-216 (Pre-Purchase)
15800	Air Conditioning	Mitsubishi
16272	Dry-Type Transformers	GE
16360	Package Unit Substation	GE
16424	Motor Control Centers	GE
16741	Telecommunications Cable	Lucent Accumax
16743	Telecom. Cabletray and Raceways	Chatsworth

Recommendations:

None

CLOSE-OUT DOCUMENTS

As of the date of our site review, close-out documents were not in possession of SJSU, but were retained by the PM. These documents should have been turned over soon after project completion. The Contractor submitted the final invoice on February 29, 2000, 195 days after the Notice of Completion. We found this delay excessive, interfering with timely close-out of the project.

Recommendations:

15. KPMG suggests a more aggressive approach to induce the Contractor, A/E firm and the PM firm to provide required closeout documentation. This could be accomplished with “lump-sum” fee retentions for the security of final close-out documents.

Campus Response:

15. Funds are retained from the Contractor, the design professional and the project management firm until record drawings (“as-builts”) are provided in accordance with contract requirements. We understand that CPDC will add guidelines to the Project Administrative Reference Manual by November 30, 2000.



San José State
UNIVERSITY

**Office of the Vice President
for Administration
and Finance**

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San José, CA 95192-0006
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RECEIVED
University Auditor

AUG 29 2000

**The California State
University**

Date: August 28, 2000

To: Mr. Larry Mandel
University Auditor
Office of University Auditor

From: Don W. Kassing *DW*
Vice President for Administration and Finance
San José State University

Subject: *Audit Report*
Infrastructure Upgrade - Construction Project Number
SJ-535
San José State University

I am pleased that the overall audit report was positive and found general compliance with established procedures, particularly as this was the first major capital project delegated to the University. I appreciate the comments provided by the auditors and believe it will serve to strengthen our ability to successfully execute future projects. I have reviewed the report's findings with my staff from Facilities Development and Operations (FD&O), and our specific comments to the auditors' findings and recommendations follow. Please note that in those instances where recommendations have systemwide implications we have collaborated with the staff of Capital Planning Design and Construction (CPDC) from the Chancellor's Office in formulating a response.

Campus Records

Recommendations:

1. We agree. All future projects at SJSU will organize project documentation in accordance with the CPDC filing guide.
2. We agree. During the course of this project, FD&O developed an electronic spreadsheet that includes detailed revenue and expenditure data. This spreadsheet has subsequently been adopted by the University as the standard for tracking budgets on construction projects.
[Attachment A]

Contractor Compliance – Subcontracting Practices

Recommendations:

3. We agree. As stated above all future projects at SJSU will organize project documentation in accordance with the CPDC filing guide.

Construction Change Orders

Recommendations:

4. We agree. All change orders on future projects will require written approval from the A/E prior to execution.
5. Prior to the start of this project the University conferred with CPDC to discuss changes to construction forms. No substantive changes, however, were proposed by the University. Rather, the revisions consisted of minor format changes, the most significant being the replacement of “The California State University” with “San Jose State University” to reflect the delegation of the project to the University. These forms have subsequently been adopted by the University as the standard for construction projects. Any changes proposed by the University in the future would be submitted to CPDC for review and comment.
6. We agree. As mentioned above, during the course of this project FD&O developed an electronic spreadsheet that includes detailed revenue and expenditure data, and is capable of tracking approved change orders and revised contract amounts. This spreadsheet has subsequently been adopted by the University as the standard for tracking budgets on construction projects. [*Attachment A*]
7. We agree. It is our understanding that CPDC is currently working with the Office of General Council to provide guidance on including additional work to a project by change order that may be unrelated or only tangentially related to the original scope of work. This information will be added to SUAM by November 30, 2000.

8. We agree. During the course of the project, FD&O developed an electronic spreadsheet that tracks revenue and expenditures, and is capable of tracking allowances. This spreadsheet has subsequently been adopted by the University as the standard for tracking budgets on construction projects. [*Attachment B*]
9. We agree. A letter requesting payment for the overcharge has been issued to the contractor. The University Accounting department will use this as a basis to initiate a University invoice. The invoice will be issued by Accounting at the end of August as part of their monthly closing process. Once invoiced, this receivable will be tracked by the Accounting department on a monthly basis. [*Attachment C*]
10. We agree. A letter requesting payment for the overcharge has been issued to the contractor. The University Accounting department will use this as a basis to initiate a University invoice. The invoice will be issued by Accounting at the end of August as part of their monthly closing process. Once invoiced, this receivable will be tracked by the Accounting department on a monthly basis. [*Attachment C*]
11. We agree. All future agreements for construction management services will include a provision for the timely submittal of all required reports relating to construction data. The submittal of these reports will be made a condition of approval for payment to the construction management firm. [*Attachment D*]

Design Costs

Recommendations:

12. FD&O has met with Salas O'Brien Engineers to review the contract, extra services, and payments to date and agree that the contract payments have been reconciled. The University did, during the course of this project, develop a method for tracking A/E payments. The spreadsheet developed for this purpose has subsequently been adopted by the University as the standard for tracking A/E projects payments. [*Attachment E*]

Project Management Services

Recommendations:

13. A project management fee guideline was added to SUAM in December 1999.

Liquidated Damages

Recommendations:

14. We agree. The Contract General Conditions and SUAM both contain provisions for execution of a change order to document beneficial occupancy. It is our understanding that CPDC will strengthen SUAM to specifically include such documentation regarding contract milestones by November 30, 2000.

Close-out Documents

Recommendations:

15. Funds are retained from the Contractor, the design professional and the project management firm until record drawings (“as-builts”) are provided in accordance with contract requirements. We understand that CDPC will add guidelines to the Project Administrative Reference Manual by November 30, 2000.

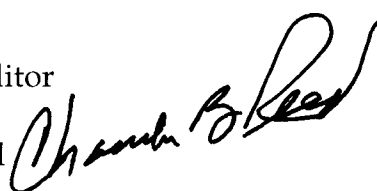
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SAN JOSE
SAN LUIS OBISPO
SAN MARCOS
SONOMA
STANISLAUS

August 30, 2000

MEMORANDUM

TO: Larry Mandel
University Auditor

FROM: Charles B. Reed 

SUBJECT: KPMG Peat Marwick Draft Final Report on the *Central Plant, Telecommunications, and Utility Distribution Upgrade Project* at San Jose State University

In response to your memorandum of August 30, 2000, I accept the response as submitted with the draft final report on the *Central Plant, Telecommunications, and Utility Distribution Upgrade, San Jose State University*.

CBR/cw

Enclosure

cc: Dr. Robert L. Caret, President