

August 7, 2020

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**Subject: *Construction Plant Accounts
Report 2020-09***

The final report for Construction Plan Accounts, Report 2020-09, is attached. We would like to thank all members of the department for their cooperation and assistance during the review.

Because we were able to reach agreement regarding management action plans in response to the audit recommendations, a formal response to the report is not requested.

UC wide policy requires that all draft reports be destroyed after the final report is issued. We also request that draft reports not be photocopied or otherwise redistributed.

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Attachment

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AUDIT & MANAGEMENT ADVISORY SERVICES

Construction Plant Accounts
Report No. 2020-09
August 2020

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I. EXECUTIVE SUMMARY

Audit & Management Advisory Services (AMAS) has completed a review of Construction Plant Accounts as part of the approved audit plan for Fiscal Year (FY) 2019-20. The objective of our review was to assess processes to close out construction plant accounts and the timeliness of actions to identify funds that may be able to be released back to campus accounts, and to evaluate compliance with standards developed in the prior review.

Based on our review, we concluded that processes to close out construction plant accounts were generally adequate to ensure timely identification of costs to be capitalized and refunds that can be release back to campus accounts. Management actions taken in response to our prior review appeared to have improved the efficiency of the close out process, resulting in timelier capitalization of project costs and refunds.

However, we did identify one opportunity for improvement relating to the data maintained in e-Builder. To address this finding, CPM completed the following Management Action Plan.

A. e-Builder Data Integrity

During the review, CPM conducted training for its project specialists in e-Builder data entry responsibilities, and updated and distributed an e-Builder data dictionary to serve as reference.

Our observation is described in greater detail in section V. of this report.

II. BACKGROUND

Audit & Management Advisory Services (AMAS) has completed a review of Construction Plant Accounts as part of the approved audit plan for Fiscal Year (FY) 2019-20. This report summarizes the results of our review.

Construction Plant Accounts are used to track funds associated with construction, renovations, and acquisition of capital assets. Costs associated with new construction, significant alterations or structural changes greater than \$35,000, and that result in an increase in usefulness, efficiency or life of an asset, should be capitalized (recorded in a plant account). Separate plant accounts are established for each capital project and are represented by an organizational number relating to an unexpended plant fund. Plant fund balances are used for expenditures related to activities such as land or building acquisition and construction or renovation of facilities, and may be funded by gifts, federal or state appropriations, University funds, or through external financing. Once a project is completed, plant accounts should be closed, and the remaining fund balances returned to the source in a timely manner.

General Accounting, a division of Business and Financial Services, provides oversight and management of unexpended plant funds, and is responsible for recording debt service, depreciating expenses, providing fiscal closing entries, and performing annual capitalization of buildings and structures. They work closely with Capital Program Management (CPM) to identify which expenses to capitalize over the life of a construction project. The capitalization process occurs in January for the prior calendar year. A total of \$389 million was capitalized in January 2020, which included \$343 million for campus, \$30 million for the Health System, and \$16 million in manual capitalization costs.

CPM (formerly known as Facilities Design and Construction, or FD&C) provides management and oversight for major and minor construction projects at both the UCSD campus and medical centers. Activities encompass project management, contract administration, and fiscal management. Each project is assigned to a project manager and project specialist, whose responsibilities include but are not limited to: ensuring the project is completed according to the project scope and within the established budget and timeline; ensuring that construction is in accordance with applicable building codes; issuing documentation such as the "Notice of Substantial Completion;" and performing administrative activities to close out the project. CPM utilizes e-Builder for project management tracking to implement controls over construction contract management processes and facilitate construction data analysis and reporting capabilities.

CPM charges project management staff time and associated project related expenses via a recharge mechanism. Administrative staff in the Business Office and a portion of senior management effort are included in the department's overhead funds. For FY2019-20, the total recharge amount was \$26.7 million, \$26.1 million (98%) of which represented labor cost and \$0.6 million (2%) represented miscellaneous charges such as reimbursements for project related employee mileage expense, payment for reprographics services, and internal charges for Environment Health & Safety services, parking, and transportation recharges.

Construction Project Lifecycle Phases

CPM uses the following phases of a construction project lifecycle associated with the project status in e-Builder: Active, Closeout, Audit, and Complete, which are defined in **Attachment A**. A project is considered Active when it becomes funded and is entered into e-Builder and the general ledger. It remains in an Active status during work in progress through substantial completion. The Active status may extend beyond the substantial completion phase if additional scope requirements are identified, change orders occur, or follow-on projects are added. The project will change from Active to Closeout when the project has reached substantial completion and the Certification of Substantial Completion (COSC) is signed by the CPM Associate Vice Chancellor. During this time, a number of closeout activities occur, such as completion of punch lists, recording documents, training, issuing the Notice of Acceptance and Notice of Completion, etc. The project remains in Closeout status through a 12-month warranty period. However, in the case of projects with a “design-build” delivery method, the warranty period is 24 months.

The close-out status represents the warranty period. Activities that occur during this period include issuance of the Notice of Completion, review and preparation of project close-out checklists and verification that payment has been made on all outstanding commitments. The final step in this phase is for the Project Manager to align the budget and notify Fiscal staff that the project is ready for audit. During the audit phase, CPM staff reconcile the funding and expenditures between the University's financial system and e-Builder. Once the reconciliation is complete, CPM will return any remaining funds to the client with the approval of the Associate Vice Chancellor. The project status is then changed to complete, and no further financial activity should occur within e-Builder.

Prior Audit and Corrective Actions Implemented

In August 2017, AMAS completed an advisory service review of Construction Plant Accounts as part of the approved audit plan for FY 2016-17 (AMAS Project 2017-22), the objective of which was to evaluate CPM procedures related to plant account maintenance and project management processes. As a result of that review, CPM developed a defined process (**Attachment B**) and written procedures for project closeout, and General Accounting developed written procedures for capitalizing project related costs. In addition, CPM hired a new Financial Analyst whose main responsibility is to review and audit project transactions and complete the closeout process.

III. AUDIT OBJECTIVE, SCOPE, AND PROCEDURES

The objectives of our review were to assess processes to close out construction plant accounts and the timeliness of actions to identify funds that may be able to be released back to campus accounts, and to evaluate compliance with standards developed in the prior review.

In order to achieve our objectives, we performed the following:

- Reviewed the University Accounting Manual policies and procedures pertaining to plant accounting and the capitalization process;
- Reviewed the UC Facilities Manual and flow chart relating to the process of “Substantial Completion and Contract Closeout” (**Attachment C**);
- Interviewed General Accounting personnel regarding plant accounting processes;
- Interviewed CPM personnel regarding project management processes;
- Reviewed CPM Definitions for Project Status based on the Project Details Page of e-Builder (**Attachment A**);
- Reviewed a detailed listing of construction projects provided by CPM;
- Selected a sample of projects with project statuses Closeout, Audit, and Complete for detailed testing;
- Analyzed financial transaction detail (from the Integrated Financial Information System Operating Ledger) for selected projects for capitalization costs, associated CPM recharge costs, and returned funds;
- Reviewed e-Builder information for selected samples to determine project cycle time;
- Analyzed CPM recharge expenditures for the selected projects; and
- Evaluated the effectiveness of the project capitalization process and corresponding plant account management.

Sampling and Analytic Methodology

Our sampling methodology for detailed testing included selecting the following projects, based on the CPM Definitions for Project Status:

Project Status	Total Number of Projects	Number Sampled
Closeout	81	9
Audit	24	1
Complete	685	7
Total Project Count	790	17

Our testing of the selected samples consisted of calculating project cycle time for key milestones; identifying the number of capitalization years; evaluating the appropriate capitalization transactions; and reviewing recharge transactions and project refunds.

The projects we reviewed in the Closeout and Closed phases had passed the 12-month warranty period after the COSC date, which was used to assess cycle time. Efforts were also made to select projects with a COSC dated within the timeframe that CPM’s newly developed Closeout process had been in use.

IV. CONCLUSION

Based on our review, we concluded that processes to close out construction plant accounts were generally adequate to ensure timely identification of costs to be capitalized, and refunds that can be release back to campus accounts. Management actions taken in response to our prior review appeared to have improved the efficiency of the close out process, resulting in timelier capitalization of project costs and refunds. Based on the data in our sample, we calculated an average aging period of 1.7 years for time between the COSC date and the completion of the warranty period, and an average project lifecycle of 3.8 years (**Attachment D**). For comparison, the average aging period for time between the COSC date and completion of the warranty period for the previous review’s project (2017-22) sample was 2.7 years, and the average project lifecycle was 5.2 years.

Among the reasons that sampled projects remained in the warranty period for a period longer than the anticipated 12 months included delays in receiving final contractor billings, warranty claims that delay the project closure, and contract issues.

We also noted that plant account capitalization processes were established and monitored to ensure efficient and effective plant account management. Monthly project balance reports were shared between General Accounting and CPM to support the capitalization effort and facilitate communication between these offices.

However, we also found that data in the e-Builder details page was still incomplete, affecting transparency and the ability to provide a complete view of the project management process.

This opportunity for improvement is described in detail in the remainder of this report.

V. OBSERVATIONS REQUIRING MANAGEMENT ACTION

A.	e-Builder Data Integrity
Key information such as dates, were not consistently entered into project profiles in e-Builder to allow for more accurate reporting to CPM management of project cycle times.	
Risk Statement/Effect	
Gaps in e-Builder data affect the consistency of project status reporting and create issues in comparability between project data.	
Management Action Plan	
A.1	During the review, CPM conducted training for its project specialists in e-Builder data entry responsibilities, and updated and distributed an e-Builder data dictionary to serve as reference.

A. e-Builder Data Integrity - Detailed Discussion

Best practices for data analysis include ensuring the completeness and comparability of data. A system's reporting is made more useful if ambiguity is minimized in terms of entering information into various fields, such as dates. The information entered into a record-keeping system such as the e-Builder project details should be consistent across records and supported by underlying documentation.

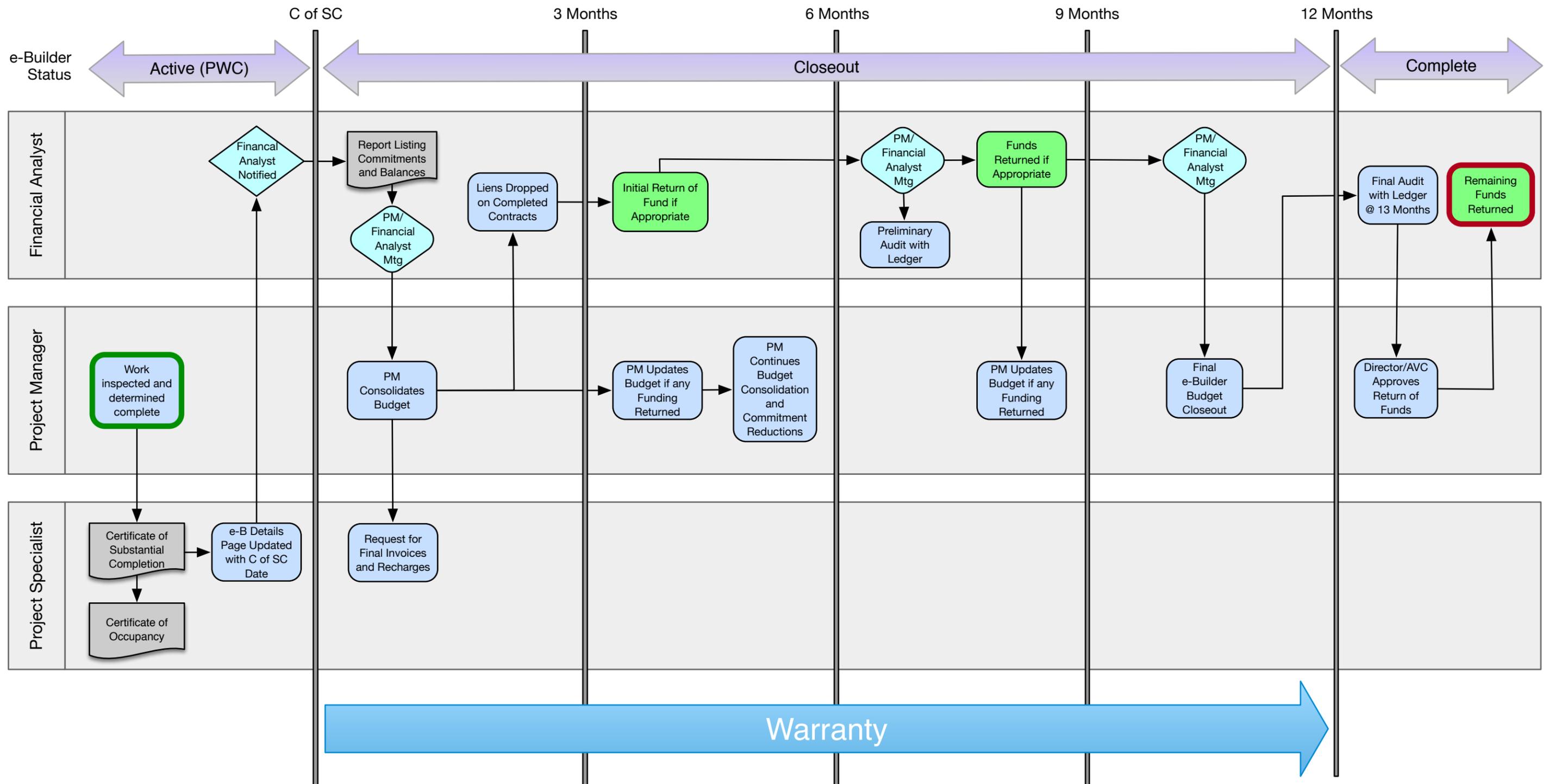
When assessing the population of projects in e-Builder, it was noted that information such as key dates (Certificate of Substantial Completion Date and Notice of Completion Date), was not consistently entered in the e-Builder details page, as the department has not historically used the system to maintain this information. For example, we reviewed project dates for 35 projects that were visible in e-Builder, 5 of which were in the "Close-out" phase and should have had a COSC in e-Builder, but did not. In e-Builder, there were no clear indicators or audit trail for when the project status changed among the different phases. Some projects initially selected as part of our sample did not have a COSC date in e-Builder.

CPM has recently overcome some of its staffing issues and is making efforts to maintain consistency in terms of e-Builder data entry. While CPM does have operating procedures that are distributed to staff that directs them to enter all required information and dates, it appears some CPM staff have not complied with those directives, contributing to inconsistencies in the e-builder data.

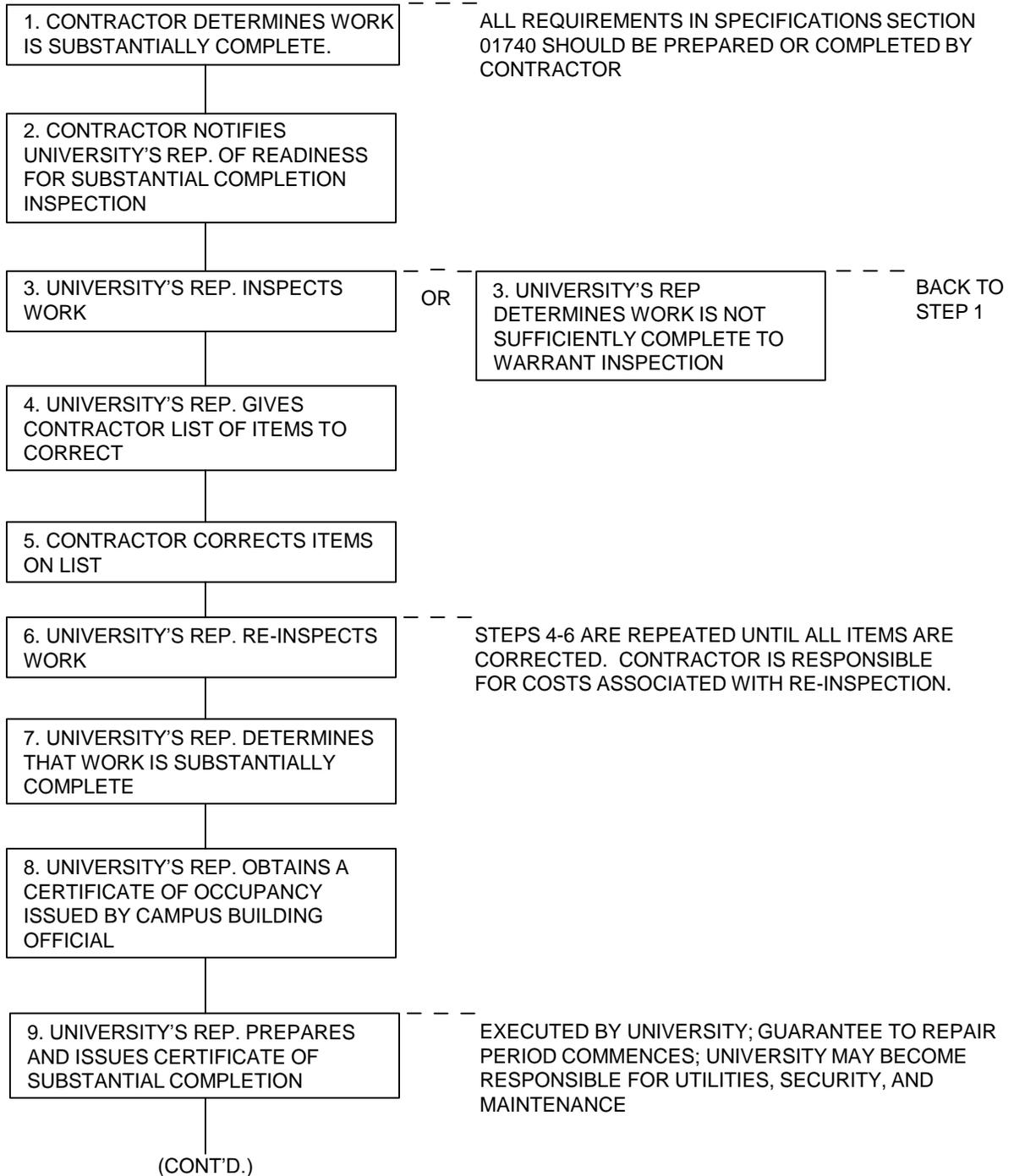
e-Builder Project Statuses

e-Builder Project Status	Funding Status	Project # Assigned at Project Creation in e-Builder?	Kronos Status	e-Builder Status Update: Responsible Party	Status Description
FUTURE	Non Funded	Yes	Non-Billable	CPM/ DDS Leadership	Project status is designated as FUTURE when the potential to become a fully funded project exists, including P3s, Level 1 charters, projects listed on the 10 year plan, visionary projects expressed by Chancellor's Office, or those in early discussions with Campus Leadership. Solely designated at the direction of CPM/ DDS Leadership.
FEASIBILITY	Funded	Yes	Billable	Project Specialist/ Project Manager	Project status is designated as FEASIBILITY when projects are in a pre-approval status, funded preliminary projects, a study, a work order and/or used for strategic future planning of workload and resources.
ACTIVE	Funded	Yes	Billable	Project Specialist/ Project Manager	Project status is designated as ACTIVE when client has provided funding and authorization to proceed. Project remains this status through the issuance of the Certificate of Substantial Completion at which time the project status will be updated to CLOSEOUT.
CLOSE-OUT	Funded	Yes	Billable	Project Specialist/ Project Manager	Project status is designated as CLOSEOUT when the Certificate of Substantial Completion is issued. The project will remain in this status through the end of warranty and completion of close-out actions by the PM. Once final budget entries are entered and approved. Project status will be updated to AUDIT by Fiscal Personnel.
AUDIT	Funded, no longer incurring costs	Yes	Non-Billable	Fiscal Personnel	Project Status is designated as AUDIT when final budget entries are approved. Project remains in this status until the project financial audit is completed. Project status will be updated to COMPLETE by Fiscal Personnel.
COMPLETE	Funded, No longer incurring costs	Yes	Non-Billable	Fiscal Personnel	Project status is designated as COMPLETE once final accounting audit is conducted, and funds returned to client at the direction of the Associate Vice Chancellor.
CANCELLED	Funded	Yes	Non-Billable	Fiscal Personnel	Project status is designated as CANCELLED at the request of the client and with approval of a CPM Sr. Director. The project is not planned for further progress, funds returned to client, and final accounting and audit completed by Fiscal Personnel. Project status will be updated to CANCELLED at this time by Fiscal Personnel.
HOLD	Funded	Prior Status will dictate	Non-Billable	Fiscal Personnel	Project status is designated as HOLD at the direction of the Sr. Director. Project was previously in ACTIVE or FEASIBILITY status. Project activity is temporarily suspended due to outside factors: i.e. funding challenges, change of direction, etc... and PM has indicated all outstanding bills have been paid and no more staff time will be billed. Project status will be updated to HOLD at this time by Fiscal Personnel.
RESOURCES	Non Funded	No	Non-Billable	e-Builder Admin Team	Project status is designated as RESOURCES when the project contains training materials, program and system related information. Status designated at the discretion of the e-Builder Admin Team.
OBSOLETE_CLOSED	OBSOLETE	OBSOLETE	Non-Billable	N/A	NO LONGER IN USE Fiscal Personnel will manage all current projects in CLOSED status.

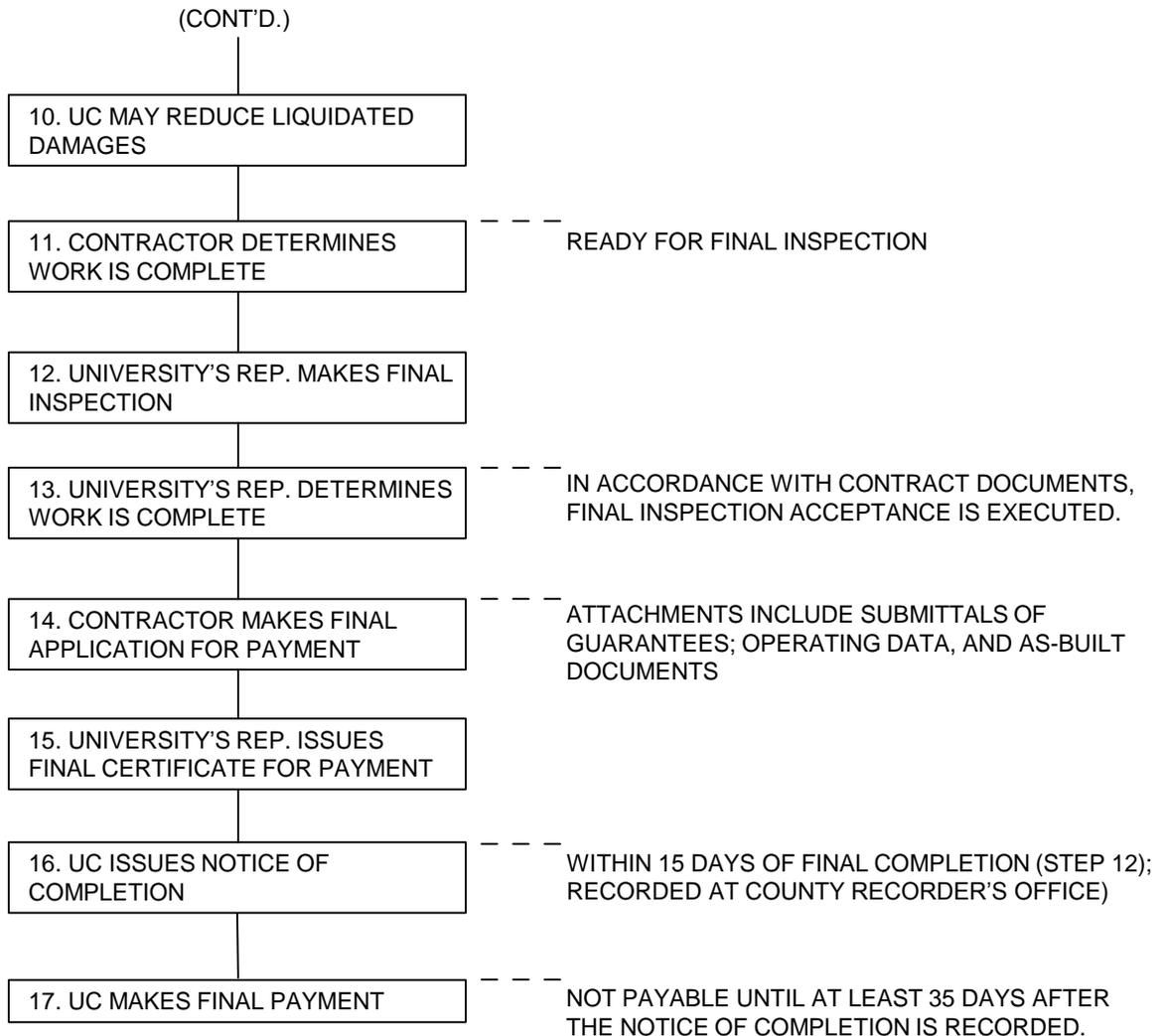
Plant Account Closeout Process and Incremental Return of Funds



FLOW CHART: SUBSTANTIAL COMPLETION AND CONTRACT CLOSEOUT (Reference: [FM5:18](#))



FLOW CHART: SUBSTANTIAL COMPLETION AND CONTRACT CLOSEOUT
(Reference: [FM5:18](#))



Construction Plant Accounts
Audit Management Advisory Services Project 2020-09
Attachment D - Testing Summary for Project Status Close-Out, Audit, Complete

Sample #	Plant Account #	Project Title	Project Status	Date of Certificate of Substantial Completion	Cert to Last Entry Date (End)	Total Project Period	Cert to End period %	Capitalized in FY18/19	Refund Amount	Refund Date	Length of Time Between CSC and Refund Date (Years)	Brief Explanation/Status - CSC > 1 Yr (original)
S1	966629	C5242 Campus Point Parking Structure Surface (966629)	Complete	1/31/2019	1.0	2.2	46%		\$ 7,274	2/7/2020	1.0	Warranty period ends 1 year from issuance of certificate of substantial completion; project closure complied with department protocol.
S2	965020	4916 MCLJ TH EP Lab Equipment Replacement (965020)	Close-Out	3/8/2019	1.1	3.9	28%	C				Warranty period ended 3/8/20 (the beginning of the stay at home order related to COVID-19). Project currently being reviewed and audited in accordance with department protocol.
S3	962470	4917 Robinson Bldg Complex - GPS Renovation (962470)	Close-Out	11/13/2018	1.4	3.6	39%	C				The project received Substantial Completion in 2018 but remained open to address project system issues that were identified by Facilities Management through the course of commissioning the facility. An incremental and iterative approach was implemented to address these issues and funds were held within the project should more comprehensive remedial action be required. This process occurred in a linear fashion and in "waves" over the last 24+ months and is ongoing at this time.
S4	967778	4921 MCLJ Shiley Elevator Controls Replacement (967778)	Close-Out	3/22/2018	1.3	4.8	27%	C				Close-out process delayed due to workload of PM and understaffing of fiscal. Project has since been reconciled, funds in process of being returned.
S5	966176	4901 Eckart Building Fire Safety	Complete	9/21/2017	2.6	5.5	48%					This project is one of 19 funded by a "pot" of money from the State. A balance from one project is moved to the next project when it's ready to move forward. Funds moved 9/22/16 and 10/11/19.
S6	962450	4930 CSC EMF Expansion (962450)	Close-Out	12/5/2018	1.3	3.5	39%					Extended warranty issues, contractor rework required and minor stakeholder requests. Anticipate full close-out July, 2020.
S7	966400	C5129 Tuolumne Apt Phase 2	Complete	9/12/2017	2.1	3.0	71%	C	\$ 476,735	10/17/2019	2.0	Delay in reconciling and receiving final contractor billing led to delay in return of funds.
S8	966622	5009 Osler Parking Structure (966622)	Close-Out	10/10/2018	1.7	4.3	39%					This is a design-build project that has a 2-year warranty period; warranty ends later this year.
S9	966006	5010 Gilman Road Utilities Expansion (966006)	Close-Out	9/7/2017	2.8	5.0	55%					Funds being held for additional work in accordance with CalTrans/SANDAG agreement; awaiting further direction from Treasury Office

Construction Plant Accounts
Audit Management Advisory Services Project 2020-09
Attachment D - Testing Summary for Project Status Close-Out, Audit, Complete

S10	966094	5168 EC Recreation Area Temp Field	Complete	6/2/2017	2.7	3.0	91%	C	\$ 244,328	5/10/2019	1.0	This project had a warranty claim that delayed the project closure. Return of funds occurred May, 2019.
S11	962820	5052 Center for the Future of Surgery Hybrid (962820)	Close-Out	6/13/2019	1.0	2.8	35%					Warranty period ending this month; project currently being closed in compliance with department protocol.
S12	963160	5166 Urey Hall Barreiro Laboratory Relocation (963160)	Close-Out	4/16/2019	1.0	3.2	30%					Warranty work remains underway; systems not meeting environmental control desired by researcher. Project to be closed once work is accepted by client.
S13	962760	5130 MTF Densification-2nd Floor, West Wing (962760)	Complete	10/30/2017	2.3	3.0	77%	C	\$ 49	1/24/2020	2.0	Per Fiscal Manager, we experienced a technical glitch with the capital software that took months to resolve with the vendor. A significant portion of funds were returned to the client throughout the project. Project reconciled, \$49.20 was the final balance returned 1/20. While there was a technical glitch, the client department did not suffer financially in waiting for the resolution.
S14	963080	5262 Outback Adventure Relocation (963080)	Close-Out	4/15/2019	1.0	2.3	45%		\$ 25,000	4/9/2019	0.0	This is a design-build project that has a 2-year warranty period; warranty ends 4/21.
S15	967768	C4914 MCH 410 Dickinson	Complete	7/17/2017	2.0	4.2	47%	C	\$ 265,870	10/18/2018	1.0	Funds returned 10/18, in compliance with department protocol. Dates reflected in "last entry" columns are unrelated to project closure.
S16	962410	4863 CSE Bldg Addition & Renovation	Complete	8/10/2017	2.6	5.7	46%	C				Contract issues at the end of the project delayed close-out; in addition PM (now retired) was not efficient in entering system actions. Project funds fully expended, no impact to client.
S17	966211	4516 MCH CP Steam Line Replacement (966211)	Audit	10/30/2018	1.3	4.7	27%	C				Project currently in final stages of closeout. Warranty expired Fall, 2019 when Fiscal department was understaffed and unable to complete timely audits.

Average Year:	3.8	1.7
Average of Close-Out projects:	3.7	1.4
Average of Complete projects:	3.8	1.4
Prior project 2017-22 Average of Complete projects	5.2	2.7

**Construction Plant Accounts
Report 2020-09
Attachment D (continued) – Testing Summary**

For the period of February 2017 to June 2020, CPM had refund activity of \$54.1 million across 198 project plant accounts. The table below illustrates refund amounts between the campus and medical center projects.

	<i>Refund Amount (millions)</i>				
Location/Year	2017	2018	2019	2020	Total
Campus	\$19.6	\$8.5	\$5.4	\$0.0	\$33.5
Medical Center	\$6.2	\$10.4	\$1.9	\$2.1	\$20.6
Total	\$25.8	\$18.9	\$7.3	\$2.1	\$54.1

	<i>Project Plant Accounts Refunded</i>				
Location/Year	2017	2018	2019	2020	Total
Campus	78	23	8	0	109
Medical Center	28	65	7	2	102
Total	106	88	15	2	211¹

Source: Finlink Operating Ledgers

Capitalization Costs

Our testing showed an average of 1.7 years in the Closeout process for the selected projects. From the table below, three projects (S3, S9, S13) were capitalized three times and one project (S9) was capitalized four times. It was also disclosed that an average of 98% of construction costs were capitalized in the first two years. Consideration may be given to identifying a reasonable threshold for the number of capitalizations per project type to establish a guideline for consistent capitalization management.

Complete Projects	Year 1	Year 2	Year 3	Year 4	Total Capitalization	Year 1	Year 2	Year 3	Year 4	Total %
S1	1,047,726				1,047,726	100%	0%			100%
S2	2,597,293	192,580			2,789,873	93%	7%	0%		100%
S3	4,684,965	414,199	18,047		5,117,211	92%	8%	0%	0%	100%

¹ Note that some plant accounts had refunds over multiple years.

**Construction Plant Accounts
Report 2020-09
Attachment D (continued) – Testing Summary**

Complete Projects	Year 1	Year 2	Year 3	Year 4	Total Capitalization	Year 1	Year 2	Year 3	Year 4	Total %
S4	434,116	123,964			558,080	78%	22%	0%	0%	100%
S5	44,812,927				44,812,927	100.0%	0.0%	0%		100%
S6	3,282,209	455,513			3,737,722	88%	12%	0%	0%	100%
S7	8,719,597	691,101			9,410,698	93%	7%			100%
S8	40,486,023	619,838			41,105,861	98%	2%	0%	0%	100%
S9	1,551,211	166,282	21,688	91,383	1,830,564	85%	9%	1%	5%	100%
S10	426,196	19,477			445,673	96%	4%	0%	0%	100%
S11	4,112,183				4,112,183	100%	0%	0%	0%	100%
S12	5,086,605				5,086,605	100%	0%	0%	0%	100%
S13	478,664	57,385	44,902		580,951	82%	10%	8%	0%	100%
S14	2,593,073				2,593,073	100%	0%	0%	0%	100%
S15	795,812	41,317			837,129	95%	5%	0%	0%	100%
S16	5,784,442	44,696	(875)		5,828,263	99%	1%	0%	0%	100%
S17	4,346,758	126,086			4,472,844	97%	3%	0%	0%	100%
Average						94%	4%	1%	0%	