AGENDA OF THE
UTAH STATE BUILDING BOARD MEETING

Wednesday, September 6, 2017
Rio Grande Building, Zephyr Room
300 S Rio Grande Street
Salt Lake City, Utah 84101
9:00 am

(Action)	1.	**Approval of Minutes from the August 21, 2017 Business Meeting and Building Board Tour**
(Action)	2.	**Five-Year Review of R23-4: Suspension/Debarment**
(Action)	3.	**Five-Year Review of R23-5: Contingency Funds**
(Action)	4.	**Five-Year Review of R23-6: Value Engineering and Life Cycle Costing of State Owned Facilities Rules and Regulations**
(Action)	5.	**Five-Year Review of R23-9: Cooperation with Local Government Planning**
(Action)	6.	**Five-Year Review of R23-10: Naming of State Buildings**
(Action)	7.	**Five-Year Review of R23-12: Building Code Appeals Process**
(Action)	8.	**Five-Year Review of R23-14: Management of Roofs on State Buildings**
(Action)	9.	**Five-Year Review of R23-21: Purpose and Authority**
(Action)	10.	**Five-Year Review of R23-24: Capital Projects Utilizing Non-appropriated Fund**
(Action)	11.	**DFCM: Update on an Alternative Building Standard for University Housing Projects**
(Action)	12.	**DHS/Utah State Developmental Center: Request for Design of a Theater Annex (Non-State Funded)**
(Action)	13.	**DNR/Division of Wildlife Resources: Fisheries Experiment Station Raceway Replacement**
(Information)	14.	**Administrative Reports for the University of Utah and Utah State University**
(Information)	15.	**Administrative Report for DFCM**
	16.	**Future Agenda Items**

Notice of Special Accommodation During Public Meetings - In compliance with the Americans with Disabilities Act, individuals needing special accommodations (including auxiliary communicative aids and services) during this meeting should notify Patty Yacks 538-3010 (TDD 538-3696) at least three days prior to the meeting. *This information and all other Utah State Building Board information is available on DFCM web site at: http://dfcm.utah.gov/dfcm/utah-state-building-board.html*

Utah State Building Board

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MEMORANDUM

To: Utah State Building Board
From: Jeff Reddoor
Date: September 6, 2017
Subject: **Approval of Minutes from the August 21, 2017 Business Meeting and Building Board Tour**

Attached for your review and approval are the minutes from the August 21, 2017 Board meeting and Tour.

Utah State Building Board

MEETING AND TOUR

August 21-22, 2017

MINUTES

Members in Attendance:
Ned Carnahan, Chair
Lisa Barrager
Joe Burgess
Chip Nelson
Gordon Snow

Guests in Attendance:

Jeff Reddoor	Building Board
Patty Yacks	Building Board
Tyson Gregory	Building Board
Mike Kelley	Attorney General's Office
Tani Downing	DAS - EDO
Ken Hansen	DAS - EDO
Michelle Brown	DAS - EDO
Jim Russell	DFCM
Bruce Whittington	DFCM
Darrell Hunting	DFCM
Jeff Wrigley	DFCM
Bob Anderson	DFCM
Col. Tyler Smith	Utah National Guard
Don Brinkerhoff	DHS
Rich Amon	USHE
Malin Francis	SLCC
Sam Steed	Snow College
Leslee Cook	Snow College
Lincoln Harmer	KW Engineering

On Monday August 21, 2017, the Utah State Building Board met prior to leaving on their Capital Facilities Tour in Room 4112 of the State Office Building, in Salt Lake City, Utah. The meeting was called into order at 8:03 a.m.

Prior to beginning with the regularly scheduled agenda Chair Carnahan shared the passing of

Board member Mr. Fitzsimmons who served for approximately seven years. The Board is grateful for Mr. Fitzsimmons expertise and deeply miss his presence.

- **APPROVAL OF MINUTES FROM THE JUNE, 7 2017 BUSSINESS MEETING**

Chair Carnahan asked for comments or corrections to the minutes from the June Business Meeting. No comments or corrections were brought forward.

MOTION: **Mr. Burgess moved to approve the minutes from the June 7, 2017 Business Meeting. The motion was second by Mr. Nelson and passed unanimously.**

- **DFCM: APPROVAL OF REVOLVING LOAN FUND FOR SNOW COLLEGE**

Mr. Wrigley presented a request for Snow College to obtain a loan for $82,114 to schedule and re-tune a majority of the airside equipment located in the Humanities Building as well as integrate chiller controls. These improvements will result in significant energy and natural gas savings. The payback for this project is 3.4 years, which Chair Carnahan commended. Mr. Wrigley also confirmed that there is contingency built into the project budget in case any unforeseen issues arise.

MOTION: **Mr. Nelson moved to approve the revolving loan fund for Snow College. The motion was second by Mr. Snow and passed unanimously.**

Director Reddoor took a moment to recognize Michelle Brown, the new Resource Steward for the Department of Administrative Services

- **UTAH NATIONAL GUARD: WEST JORDAN AIRPORT RENOVATION (NON-STATE FUNDED)**

Col. Tyler Smith presented a request to utilize federal funds to renovate the existing Army Aviation Support Facility (AASF) in West Jordan Utah at Airport #2. The facility does not meet current code for fire suppression, ADA compliance, State or Federal energy standards, storage and operational requirements, and seismic safety. There is also one large section of the facility that was previously used for a firing range and has been closed due to the inability to remove all lead contamination. All contracting will be completed through DFCM. The estimated cost for this project is $7M. The Federal Government will provide all funding for this project. Although funding is not in hand at this time, the Utah National Guard highly expects to receive funding in the very near future

MOTION: **Mr. Burgess moved to approve the Utah National Guard's request for the West Jordan Airport Renovation. The motion was second by Mr. Nelson and passed unanimously.**

- **DFCM: BATC CAPITAL IMPROVEMENT REALLOCATION REQUEST**

Mr. Hunting presented a request is to reallocate FY18 Capital Improvement funding in the amount of $350,000 that was approved for the Brigham City Campus – Facility Improvements to the HVAC-Life Safety Improvement project that was also approved using FY18 Capital Improvement funding.

The FY18 Capital Improvement Request for the Brigham City Campus – Facility Improvements was made with the understanding that Public Safety would be moving out of the building and into a new location. It has now been determined that Public Safety will not be moving into this new location and will remain in the Brigham City Center for at least another 2 years. This reallocation

will help ensure that all life safety issues related to HVAC on the main campus can be corrected at this time.

MOTION: Mr. Snow moved to approve BATC's Capital Improvement Reallocation request. The motion was second by Ms. Barrager and passed unanimously.

- **FUTURE AGENDA ITEMS**

- Next Building Board meeting is on 9/6. An alternative building standard for university housing projects will be presented at this meeting.
- State Building Board Capital Development Hearings on 10/4
- Prioritization and Business Meeting on 10/5
- Per Mike Kelley, nine Five-Year reviews need to be completed prior to November. The Board has agreed to review these in September's meeting.

- **ADJOURNMENT**

MOTION: Mr. Snow moved to adjourn the meeting. The motion was second by Mr. Nelson and passed unanimously.

The meeting adjourned at 8:26 A.M.

BUSINESS MEETING:

Board members were given last minute instruction for the tour. Director Reddoor reviewed the itinerary and distributed the FY2019 Capital Development Project List. Board Members discussed several projects from the list. Mr. Nelson requested Director Reddoor to provide information on which projects have been approved for programming as this information will be beneficial in determining prioritization. Director Reddoor also informed the Board of a meeting with USHE the afternoon of September 6 to review prioritization processes.

The Board is currently working with the Governor's Office on filling two vacancies. The first is for Mr. Fitzsimmons position, who was the AIA representative for the Board. The second is for Mr. Hunsaker's position, who represented Cache County.

THE FOLLOWING SITES WERE VISTED:

Salt Lake City – August 21

- Utah Valley University: New Business School Building
- UCAT, Mountainland Technical College: Thanksgiving Point Technology/Trades
- Salt Lake Community College: Herriman Campus General Education Building
- DHS, Division of Juvenile Justice Services: Wasatch Youth Center Replacement

Logan and Northern Utah Areas – August 22

- Utah State University: Biology & Natural Resources Renovation & Center for Languages and Cultures
- Weber State University: NORDA Engineering & Applied Science Building
- UCAT, Davis Technical College: Allied Health Building
- Utah Department of Agriculture and Food: William Spry Agriculture Building

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MEMORANDUM

To: Utah State Building Board
From: Jeff Reddoor, Building Board Director
Date: September 6, 2017
Subject: **Five Year Notice of Review and Statement of Continuation for Rule R23-4, Suspension/Debarment**
Presenter: Mike Kelley, Assistant Attorney General

The Utah Rulemaking Act, Utah Code Ann. Section 63G-3-305 requires each agency to review its rules within five years of each rule's original enactment, and then within five-year intervals. To comply with the review requirement, the agency must submit a "Five-Year Notice of Review and Statement of Continuation" for each of its rules. Otherwise, the rules will expire, become unenforceable, and will be removed from the Utah Administrative Code.

The attached Rule R23-4, Suspension/Debarment, is due for review; and therefore, the "Five Year Notice of Review and Statement of Continuation" must be filed with the Division of Administrative Rules on or before November 14, 2017.

Recommendation:
It is recommended that the Board authorize the filing of the "Five Year Notice of Review and Statement of Continuation" for Rule R23-4 at the scheduled Board meeting on September 6, 2017.

Background:
Rule R23-4, under the authority of the Board, sets forth the basis and guidelines for suspension or debarment from consideration for award of contracts by the Division of Facilities Construction and Management. This rule is authorized under Subsection 63A-5-103, which directs the Building Board to make rules necessary for the discharge of the duties of the Division of Facilities Construction and Management. A copy of Rule R23-4 is attached.

JR: cn
Attachment: Copy of Utah Administrative Code Rule R23-4

R23. Administrative Services, Facilities Construction and Management.

R23-4. Suspension/Debarment.

R23-4-1. Purpose and Authority.

(1) This rule sets forth the basis and guidelines for suspension or debarment from consideration for award of contracts by the division.

(2) This rule is authorized under Subsection 63A-5-103(1), which directs the Building Board to make rules necessary for the discharge of the duties of the Division of Facilities Construction and Management, and Subsection 63G-6-208(2), which authorizes the Building Board to make rules regarding the procurement of construction, architect-engineering services, and leases.

R23-4-2. Definitions.

(1) "Director" means the director of the division, including, unless otherwise stated, his duly authorized designee.

(2) "Division" means the Division of Facilities Construction and Management established pursuant to Section 63A-5-201.

(3) "Person" shall have the meaning provided in Section 63G-6-103.

R23-4-3. Suspended and Debarred Persons Not Eligible for Consideration of Award.

No person who has been suspended or debarred by the division, will be allowed to bid or otherwise solicit work on division contracts until they have successfully completed the suspension or debarment period.

R23-4-4. Causes for Suspension/Debarment and Procedure.

(1)(a) The causes for debarment and procedures for suspension/debarment are found in Sections 63G-6-804 through 63G-6-806, as well as Section 63A-5-208(8).

(b) Pursuant to subsection 63G-6-804(2)(e), a pattern and practice by a state contractor to not properly pay its subcontractors may be determined by the Director to be so serious and compelling as to affect responsibility as a state contractor and therefore may be a cause for debarment.

(c) A pattern and practice by a subcontractor to not honor its bids or proposals may be a cause for debarment.

(2) The procedures for suspension/debarment are as follows:

(a) The director, after consultation with the using agency and the Attorney General, may suspend a person from consideration for award of contracts for a period not to exceed three months if there is probable cause to believe that the person has engaged in any activity which may lead to debarment. If an indictment has been issued for an offense which would be a cause for debarment, the suspension, at the request of the Attorney General, shall remain in effect until after the trial of the suspended person.

(b) The person involved in the suspension and possible debarment shall be given written notice of the division's intention to initiate a debarment proceeding. The using agency and the Attorney General will be consulted by the director and may attend any hearing.

(c) The person involved in the suspension and debarment will

be provided the opportunity for a hearing where he may present relevant evidence and testimony. The director may establish a reasonable time limit for the hearing.

(d) The director, following the hearing on suspension and debarment shall promptly issue a written decision, if it is not settled by written agreement.

(e) The written decision shall state the specific reasons for the action taken, inform the person of his right to judicial or administrative review, and shall be mailed or delivered to the suspended or debarred person.

(f) The debarment shall be for a period as set by the Director, but shall not exceed three years.

(g) Notwithstanding any part of this rule, the Director may appoint a person or person(s) to review the issues regarding the suspension or debarment as a recommending authority to the Director.

KEY: contracts, construction, construction disputes
Date of Enactment or Last Substantive Amendment: March 15, 2005
Notice of Continuation: November 14, 2012
Authorizing, and Implemented or Interpreted Law: 63A-5-103 et seq.; 63G-6-103; 63G-6-804

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MEMORANDUM

To: Utah State Building Board
From: Jeff Reddoor, Building Board Director
Date: September 6, 2017
Subject: **Five Year Notice of Review and Statement of Continuation for Rule R23-5, Contingency Funds**
Presenter: Mike Kelley, Assistant Attorney General

The Utah Rulemaking Act, Utah Code Ann. Section 63G-3-305 requires each agency to review its rules within five years of each rule's original enactment, and then within five-year intervals. To comply with the review requirement, the agency must submit a "Five-Year Notice of Review and Statement of Continuation" for each of its rules. Otherwise, the rules will expire, become unenforceable, and will be removed from the Utah Administrative Code.

The attached Rule R23-5, Contingency Funds, is due for review; and therefore, the "Five Year Notice of Review and Statement of Continuation" must be filed with the Division of Administrative Rules on or before November 14, 2017.

Recommendation:
It is recommended that the Board authorize the filing of the "Five Year Notice of Review and Statement of Continuation" for Rule R23-5 at the scheduled Board meeting on September 6, 2017.

Background:
Rule R23-5, under the authority of the Board, establishes policies and procedures regarding contingency funds held by the Division. It provides guidelines for the source, use and reporting of contingency funds as provided in Title 63A, Chapter 5. This rule is authorized under Subsection 63A-5-103, which directs the Building Board to make rules necessary for the discharge of the duties of the Division of Facilities Construction and Management. A copy of Rule R23-5 is attached.

JR: cn
Attachment: Copy of Utah Administrative Code Rule R23-5

R23. Administrative Services, Facilities Construction and Management.

R23-5. Contingency Funds.

R23-5-1. Purpose.

(1) This rule establishes policies and procedures regarding contingency funds held by the Division.

(2) It provides guidelines for the source, use and reporting of contingency funds as provided in Title 63A, Chapter 5.

R23-5-2. Authority.

This rule is authorized under Subsection 63A-5-103(1)(e), which directs the Building Board to make rules necessary for the discharge of the duties of the Division of Facilities Construction and Management.

R23-5-3. Definitions.

(1) "Appropriated Funds" means funds appropriated to the Division for capital projects to be administered by the Division. This includes state funds such as the General Fund as well as proceeds from state General Obligation Bonds.

(2) "Board" means the State Building Board established under Title 63A, Chapter 5, Part 1.

(3) "Division" means the Division of Facilities Construction and Management established under Title 63A, Chapter 5, Part 2.

(4) "Non-appropriated Funds" means any funds which are provided for a project which are not Appropriated Funds.

(5) "Project Reserve" means the account provided for in Subsection 63A-5-209(2).

(6) "Statewide Contingency Reserve" means the account provided for in Subsection 63A-5-209(1)(c).

R23-5-4. Applicability.

(1) The provisions of this rule shall apply to all projects or portions of projects funded through Appropriated Funds.

(2) The provisions of this rule may by waived to the extent necessary in order to comply with specific requirements associated with the project funds such as specific legislative direction or requirements associated with state revenue bonds.

R23-5-5. General Provisions.

(1) The balances in the Statewide Contingency Reserve and the Project Reserve may be redirected to other purposes by the Legislature.

(2) New projects may not be initiated from the Statewide Contingency Reserve nor from the Project Reserve unless authorized by the Legislature. This prohibition does not apply to remedial work associated with previously authorized and completed projects.

(3) The Division may utilize any number of subaccounts required to maintain separate accounting of Appropriated Funds as required by the source of the funds.

R23-5-6. Funding of Statewide Contingency Reserve.

(1) All Appropriated Funds budgeted for contingencies shall be transferred to the Statewide Contingency Reserve upon their receipt

by the Division. This includes budget elements previously referred to as "design contingency" and "project contingency."

(2) The Division shall budget for contingencies based upon a sliding scale percentage of the construction cost.

(a) For new construction, the sliding scale shall range from 4-1/2% to 6-1/2%.

(b) For remodeling projects, the sliding scale shall range from 6% to 9-1/2%.

(c) The sliding scale shall be approved by the Board and kept on file by the Division.

(d) When projects are funded from both Appropriated Funds and Non-appropriated Funds, the amount budgeted for contingencies shall be prorated so that only that portion associated with the Appropriated Funds' share of the project is transferred to the Statewide Contingency Reserve.

(e) Any remaining balance as of July 1, 1993 of Appropriated Funds budgeted for contingencies shall be transferred to the Statewide Contingency Reserve as provided in this rule.

R23-5-7. Use of Statewide Contingency Reserve.

(1) The Statewide Contingency Reserve may provide additional funding to a project when:

(a) necessary construction costs arise on projects after the construction has been bid;

(b) costs for other elements of a project exceed the amount budgeted; or

(c) necessary costs arise which were not budgeted for.

(2) As previously directed by the Legislature, unbudgeted costs included in Subsection R23-5-6(1)(c) may include legal services, insurance, surveys, testing and inspection, and bidding costs.

(3) The Statewide Contingency Reserve may be used to fund changes in scope only if the scope change is necessary for the proper functioning of the program that was provided for in the approved project scope. The Division shall take steps as necessary to minimize the utilization of the Statewide Contingency Reserve for scope changes.

(4) With the prior approval of the Board, the Statewide Contingency Reserve may be used to fund unanticipated costs on projects funded through Non-appropriated Funds.

R23-5-8. Funding of Project Reserve.

(1) After all major construction contracts for a project have been awarded, and after setting aside adequate reserves for any remaining construction work which was not included in the construction contracts, any remaining balance of Appropriated Funds in the construction budget shall be transferred to the Project Reserve.

(2) Upon completion of the project, any residual balance of Appropriated Funds in any budget category shall be transferred to the Project Reserve; however, if the residual balance is the result of a reduction in a contract balance which had previously been funded from the Statewide Contingency Reserve, the residual balance shall be transferred instead to the Statewide Contingency Reserve.

R23-5-9. Use of Project Reserve.

The Division may utilize the Project Reserve only for the award of construction contracts which exceed the available construction budget. This may only be done after a review of other options to bring the cost within available funding and a determination that this action is necessary in order to meet the intent of the project.

R23-5-10. Reporting Requirements.

(1) The five-year building plan published annually by the Board shall include a summary report on the Statewide Contingency Reserve and the Project Reserve. This report shall include information on each Reserve summarized as follows for the most recently completed fiscal year:

(a) beginning balance;

(b) increases and decreases by type; and

(c) ending balance.

(2) At least annually, the Division shall analyze the balance in each Reserve and the projected needs based on already approved projects and determine if the balance is in excess of or less than the projected need. The results of this analysis shall be reported to the Legislature in its regular session.

(3) The Division shall report regularly to the Board on the status of the Statewide Contingency Reserve and the Project Reserve.

KEY: buildings, contingency fund*
Date of Enactment or Last Substantive Amendment: 1994
Notice of Continuation: November 14, 2012
Authorizing, and Implemented or Interpreted Law: 63A-5-209 et seq.

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MEMORANDUM

To: Utah State Building Board
From: Jeff Reddoor, Building Board Director
Date: September 6, 2017
Subject: **Five Year Notice of Review and Statement of Continuation for Rule R23-6, Value Engineering and Life Cycle Costing of State Owned Facilities Rules and Regulations**
Presenter: Mike Kelley, Assistant Attorney General

The Utah Rulemaking Act, Utah Code Ann. Section 63G-3-305 requires each agency to review its rules within five years of each rule's original enactment, and then within five-year intervals. To comply with the review requirement, the agency must submit a "Five-Year Notice of Review and Statement of Continuation" for each of its rules. Otherwise, the rules will expire, become unenforceable, and will be removed from the Utah Administrative Code.

The attached Rule R23-6, Value Engineering and Life Cycle Costing of State Owned Facilities Rules and Regulations, is due for review; and therefore, the "Five Year Notice of Review and Statement of Continuation" must be filed with the Division of Administrative Rules on or before November 14, 2017.

Recommendation:
It is recommended that the Board authorize the filing of the "Five Year Notice of Review and Statement of Continuation" for Rule R23-6 at the scheduled Board meeting on September 6, 2017.

Background:
Rule R23-6, under the authority of the Board, ensures that state owned facilities shall be life cycle cost effective. To achieve this objective, Value Engineering and Life Cycle Cost Analysis are to be used in the facility design process by the Division of Facilities Construction and Management. This rule implements Subsection 63A-5-103(1)(f) and 63A-5-206(8) and is authorized under Subsection 63A-5-103, which directs the Building Board to make rules necessary for the discharge of the duties of the Division of Facilities Construction and Management. A copy of Rule R23-6 is attached.

JR: cn
Attachment: Copy of Utah Administrative Code Rule R23-6

R23. Administrative Services, Facilities Construction and Management.

R23-6. Value Engineering and Life Cycle Costing of State Owned Facilities Rules and Regulations.

R23-6-1. Purpose.

These rules implement Subsection 63A-5-103(1)(f) and 63A-5-206(8).

It is the purpose of these rules to ensure that the state owned facilities shall be life cycle cost effective. To achieve this objective, Value Engineering and Life Cycle Cost Analysis is to be used in the facility design process by the Division of Facilities Construction and Management.

R23-6-2. Authority.

This rule is authorized under Subsection 63A-5-103(1)(e), which directs the Building Board to make rules necessary for the discharge of the duties of the Division of Facilities Construction and Management.

R23-6-3. Definitions.

(1) Division: The Division of Facilities Construction and Management.

(2) Director: Director of the Division or designee

(3) GSF: Gross Square Feet

(4) Value Engineering: A structured methodology that analyzes functional requirements, identifies alternatives to perform these functions and evaluates the alternatives using Life Cycle Costing techniques.

R23-6-4. Scope.

To the extent appropriated by the legislature, Value Engineering will be applied to achieve cost effective design solutions and informed decision making by the Division, for the following activities:

TABLE

A.	PROGRAMMING	
1.	Site Selection	as feasible
2.	Existing Facilities	Over 30,000 GSF
3.	Energy Conservation	Always
4.	New Facilities	Over 30,000 GSF
B.	DESIGN FOR CONSTRUCTION	
1.	New Construction	Over 30,000 GSF
2.	Renovation	Over 30,000 GSF
3.	Energy Conservation	Always

Only facilities which fall below these area requirements will be automatically exempted. Other projects may be subjected to Life Cycle Cost Analysis at the discretion of the Director.

R23-6-5. Special Exemption Procedures.

Upon written request by the Director, the Building Board may

issue a special exemption for a facility from meeting the Life Cycle Costing requirements of these rules. The Director's special exemption request shall include a full justification.

After reviewing the special exemption request, the Building Board will approve or disapprove the Director's request. Board approval shall be based on the findings that the public interest is best served by approval of the exemption.

R23-6-6. Methodology.

One or more methods of economic evaluation may be used as appropriate to assess the Life Cycle Cost effectiveness for each of the activities identified in Section R23-6-4. Methods may include, but are not limited to:

(1) Standard practice for measuring Total Life Cycle Cost of building systems. American Society for Testing and Materials (ASTM designation E917-93).

(2) Recommended practice for measuring Net Present Value and Internal Rates of Return for Investments in buildings and building systems. National Institute of Standards and Technology (NBSIR 83-2657).

(3) Recommended practice for measuring Simple and Discounted Payback for Investments in buildings and building systems. National Institute of Standards and Technology (NBSIR 84-2850).

(4) Standard practice for measuring Benefit to Cost and Savings to Investment Ratios for buildings and building systems. American Society for Testing Materials (ASTM E964-93).

R23-6-7. Application.

(1) The Division will issue Life Cycle Cost Guidelines for use by Fee Architect/Engineers and Consultants which will include:

(a) Rules;

(b) Basis for the calculation of Total Life Cycle Costing;

(c) Guidance on sources of data for calculation;

(d) Requirements for Life Cycle Cost analysis.

(2) The Division will issue specific instructions at the outset of each project describing the extent of Value Engineering or Life Cycle Cost analysis required for the project.

(3) The Division will use an independent Value Engineering Program to review the fee Architect/Engineer's design and use Value Engineering techniques to assist in identifying alternative viable design options to be subject to Life Cycle Cost analysis.

R23-6-8. Responsibilities.

(1) The Division shall:

(a) Manage and monitor the implementation of the Value Engineering and Life Cycle Costing program.

(b) Recommend budgets to the legislature to:

(i) Fund Value Engineering and Life Cycle Costing analysis for programming activity.

(ii) Fund Value Engineering and Life Cycle Costing analysis for Design and Construction Activity.

(c) Select suitably trained and qualified persons to conduct the Value Engineering and Life Cycle Costing Analysis program.

(d) Develop methods for evaluating, selecting, and implementing preferred alternatives from the output of the Value Engineering and Life Cycle Costing program.

KEY: construction costs, public buildings*
Date of Enactment or Last Substantive Amendment: 1995
Notice of Continuation: November 14, 2012
Authorizing, and Implemented or Interpreted Law: 63A-5-103 et seq.

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MEMORANDUM

To: Utah State Building Board
From: Jeff Reddoor, Building Board Director
Date: September 6, 2017
Subject: **Five Year Notice of Review and Statement of Continuation for Rule R23-9, Cooperation with Local Government Planning**
Presenter: Mike Kelley, Assistant Attorney General

The Utah Rulemaking Act, Utah Code Ann. Section 63G-3-305 requires each agency to review its rules within five years of each rule's original enactment, and then within five-year intervals. To comply with the review requirement, the agency must submit a "Five-Year Notice of Review and Statement of Continuation" for each of its rules. Otherwise, the rules will expire, become unenforceable, and will be removed from the Utah Administrative Code.

The attached Rule R23-9, Cooperation with Local Government Planning, is due for review; and therefore, the "Five Year Notice of Review and Statement of Continuation" must be filed with the Division of Administrative Rules on or before November 14, 2017.

Recommendation:
It is recommended that the Board authorize the filing of the "Five Year Notice of Review and Statement of Continuation" for Rule R23-9 at the scheduled Board meeting on September 6, 2017.

Background:
Rule R23-9, under the authority of the Board, provides for cooperation with local government planning efforts when siting, designing, and constructing facilities on state property. The statutory provisions that set forth the relationship between the planning and zoning authority of local governments and the construction of facilities on state property are contained in Section 63A-5-206. This rule is authorized under Subsection 63A-5-103, which directs the Building Board to make rules necessary for the discharge of the duties of the Division of Facilities Construction and Management. A copy of Rule R23-9 is attached.

JR: cn
Attachment: Copy of Utah Administrative Code Rule R23-9

R23. Administrative Services, Facilities Construction and Management.

R23-9. Cooperation with Local Government Planning.

R23-9-1. Purpose and Authority.

(1) This rule provides for cooperation with local government planning efforts when siting, designing, and constructing facilities on state property.

(2) This rule is authorized under Section 63A-5-103 which directs the Building Board to make rules necessary for the discharge of its duties and those of the division.

(3) The statutory provisions that set forth the relationship between the planning and zoning authority of local governments and the construction of facilities on state property are contained in Section 63A-5-206.

R23-9-2. Definitions.

(1) "Director" means the director of the division, including, unless otherwise stated, his duly authorized designee.

(2) "Division" means the Division of Facilities Construction and Management established pursuant to Section 63A-5-201.

(3) "Local government" means a "municipality" as defined in Section 10-9-103 or a "county" as defined in Section 17-27-103.

(4) "State property" means land owned by the State of Utah and any department, division, agency, institution, commission, board, or other administrative unit of the State of Utah; including but not limited to, the division, the State Building Ownership Authority, and state institutions of higher education.

R23-9-3. Exemption from Local Government Planning and Zoning Authority.

(1) As provided for in Section 63A-5-206, Section 10-9-105, and Section 17-27-104.5, construction on state property is not subject to the planning and zoning authority of local governments regardless of what entity will own or occupy the resulting facility. Construction on state property is not subject to local government building permit requirements, or plan reviews.

(2) This exemption does not apply to the business regulation authority of local governments except as follows.

(a) Any requirement to comply with the local government's planning or zoning ordinance in order to receive a business license or similar business permit shall be deemed to have been met through the division's determination of siting and design requirements.

(b) As otherwise provided by law.

R23-9-4. Consideration of Local Government Planning.

(1) When determining the location and design of facilities to be constructed on state property, the division shall consider input received from local governments and, as appropriate, local government planning and zoning requirements that would apply if the property were not owned by the state. This may include discussions with local government planning officials and/or a review of some or all of the following local government documents:

(a) master plan;

(b) zoning ordinance; and

(c) requirements for ingress, egress, parking, landscaping, fencing, buffering, traffic circulation, and pedestrian circulation.

(2) In any dispute regarding departures from local government requirements, the final determination shall be made by the director.

R23-9-5. Additional Requirements for Secured Facilities.

In addition to the requirements of this rule, the director shall comply with the requirements of Subsection 63A-5-206(12) regarding notice and hearings for projects involving diagnostic, treatment, parole, probation, or other secured facilities.

KEY: construction, planning, zoning
Date of Enactment or Last Substantive Amendment: March 24, 2003
Notice of Continuation: November 14, 2012
Authorizing, and Implemented or Interpreted Law: 63A-5-103

Utah State Building Board

Gary R. Herbert
Governor

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MEMORANDUM

To: Utah State Building Board
From: Jeff Reddoor, Building Board Director
Date: September 6, 2017
Subject: **Five Year Notice of Review and Statement of Continuation for Rule R23-10, Naming of State Buildings**
Presenter: Mike Kelley, Assistant Attorney General

The Utah Rulemaking Act, Utah Code Ann. Section 63G-3-305 requires each agency to review its rules within five years of each rule's original enactment, and then within five-year intervals. To comply with the review requirement, the agency must submit a "Five-Year Notice of Review and Statement of Continuation" for each of its rules. Otherwise, the rules will expire, become unenforceable, and will be removed from the Utah Administrative Code.

The attached Rule R23-10, Naming of State Buildings, is due for review; and therefore, the "Five Year Notice of Review and Statement of Continuation" must be filed with the Division of Administrative Rules on or before November 14, 2017.

Recommendation:
It is recommended that the Board authorize the filing of the "Five Year Notice of Review and Statement of Continuation" for Rule R23-10 at the scheduled Board meeting on September 6, 2017.

Background:
Rule R23-10, under the authority of the Board, defines which entities have the authority to name state buildings, and is authorized under Subsection 63A-5-103(1) (e), which directs the Building Board to make rules necessary for the discharge of the duties of the Division of Facilities Construction and Management. There are two non-substantive changes to the rule. A copy of Rule R23-10 is attached.

JR: cn
Attachment: Copy of Utah Administrative Code Rule R23-10

R23. Administrative Services, Facilities Construction and Management.
R23-10. Naming of State Buildings.
R23-10-1. Purpose.

This rule defines which entities have the authority to name state buildings.

R23-10-2. Authority.

This rule is authorized under Subsection 63A-5-103(1)(e), which directs the Building Board to make rules necessary for the discharge of the duties of the Division of Facilities Construction and Management (hereinafter referred to as the Division).

R23-10-3. Policy.

It is the policy of the Utah State Building Board that the governmental entity that holds legal title to a given facility has the authority to determine an appropriate name for that facility, if the facility is of a significant size or function and the entity deems the naming of the facility to be appropriate. Specifically, the Building Board will have responsibility for naming those buildings for which title is held by the Division or the State Building Ownership Authority. The State Board of Regents will govern the naming of buildings in the Utah System of Higher Education.

R23-10-4. Naming of Buildings Under the Authority of the Building Board.

Buildings for which the Building Board has responsibility for naming as provided for in Section R23-10-3 shall be addressed as follows.

(1) Descriptive names, such as those identifying functions housed in the building or names based on geographic location, may be determined by the entity occupying the building. For buildings that house more than one agency, the Division shall be responsible for determining the building's name. Any concerns with names under this subsection (1) shall be raised with the Building Board for final resolution.

(2) Honorary names must be approved by the Building Board. Prior to consideration by the Building Board, information shall be provided demonstrating the appropriateness of the naming request. This may include information about the individual to be honored, the desires of the individual's family, and the basis for honoring the individual by naming the specific building.

R23-10-5. Legislative Actions to Name a Building.

Any legislative action to name a building supercedes the provisions of this rule.

KEY: buildings, naming process
Date of Enactment or Last Substantive Amendment: February 4, 2003
Notice of Continuation: November 14, 2012
Authorizing, and Implemented or Interpreted Law: 63A-5-103 et seq.

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MEMORANDUM

To: Utah State Building Board
From: Jeff Reddoor, Building Board Director
Date: September 6, 2017
Subject: **Five Year Notice of Review and Statement of Continuation for Rule R23-12, Building Code Appeals Process**
Presenter: Mike Kelley, Assistant Attorney General

The Utah Rulemaking Act, Utah Code Ann. Section 63G-3-305 requires each agency to review its rules within five years of each rule's original enactment, and then within five-year intervals. To comply with the review requirement, the agency must submit a "Five-Year Notice of Review and Statement of Continuation" for each of its rules. Otherwise, the rules will expire, become unenforceable, and will be removed from the Utah Administrative Code.

The attached Rule R23-12, Building Code Appeals Process, is due for review; and therefore, the "Five Year Notice of Review and Statement of Continuation" must be filed with the Division of Administrative Rules on or before September 19, 2017.

Recommendation:
It is recommended that the Board authorize the filing of the "Five Year Notice of Review and Statement of Continuation" for Rule R23-12 at the scheduled Board meeting on September 6, 2017.

Background:
Rule R23-12, under the authority of the Board, and in accordance with Subsection 58-56-8(2), establishes procedures for the appeal of decisions made by the Building Official in regards to the application and interpretation of building codes. This rule is authorized under Subsection 63A-5-103, which directs the Building Board to make rules necessary for the discharge of the duties of the Division of Facilities Construction and Management. A copy of Rule R23-12 is attached.

JR: cn
Attachment: Copy of Utah Administrative Code Rule R23-12

R23. Administrative Services, Facilities Construction and Management.

R23-12. Building Code Appeals Process.

R23-12-1. Purpose and Authority.

(1) In accordance with Subsection 58-56-8(2), this rule establishes procedures for the appeal of decisions made by the Building Official in regards to the application and interpretation of building codes.

(2) The statutory provisions governing the application and enforcement of building codes with state facilities are contained in Title 58, Chapter 56 and in Section 63A-5-206.

(3) The State Building Board's authority to adopt rules for the Division are contained in Subsection 63A-5-103(1)(e).

R23-12-2. Definitions.

(1) Except as otherwise stated in this rule, terms used in this rule are defined in Section 63A-5-206.

(2) The following additional terms are defined for this rule.

(a) "Appeals Board" means Appeals Board convened by the Director pursuant to Section R23-12-4.

(b) "Building Code" has the same meaning as "code" as defined in Section 58-56-3.

(c) "Building Official" means the person designated by the Director or the Delegated Agency as the case may be to be responsible for the enforcement of building codes.

(d) "Day" means calendar day.

(e) "Delegated Agency" means a state entity to which the State Building Board has delegated the responsibility of administering the construction of facilities on state property when the delegated responsibility includes the role of Compliance Agency.

(f) "Director" means the Director of the Division, including, unless otherwise stated, his duly authorized designee.

(g) "Division" means the Division of Facilities Construction and Management established pursuant to Section 63A-5-201.

(h) "State Agency" means the State of Utah and any department, commission, board, council, agency, institution, officer, fund, division, office, committee, authority, laboratory, library, unit, bureau, panel, or other administrative unit of the State of Utah.

(i) "State Project" means the construction of a Facility on property owned by a State Agency.

R23-12-3. Applicability.

(1) The appeal of decisions of the Building Official for State Projects administered by the Division or a Delegated Agency shall be conducted in accordance with this rule.

(2) Other entities authorized by Subsection 63A-5-206(6) to act as Compliance Agency for a State Project are responsible for providing an appeals process. The appeals process provided for in this rule shall apply if the entity does not provide an appeals process or it fails to hear an appeal duly filed with that entity.

R23-12-4. Designation of Appeals Board.

(1) The Director shall identify a pool of individuals who are

knowledgeable of various aspects of the buildings codes and who are willing to serve on the Appeals Board when requested.

(2) When an appeal is duly filed with the Director, the Director shall appoint either three or five individuals, depending on the nature of the appeal, to act as the Appeals Board for that specific appeal. In selecting the members of the Appeals Board, the Director shall consider the portions of the building code that are in dispute.

(3) Each member or the Appeals Board shall certify that he or she does not have a conflict of interest in regards to the matter being heard.

(4) The Director shall designate one of the members to act as presiding officer of the Appeals Board.

(5) The Division shall provide administrative support to the Appeals Board and shall maintain a record of matters submitted to the Appeals Board and the resolution thereof.

R23-12-5. Authority of Appeals Board.

(1) The Appeals Board shall resolve disputes regarding the application or interpretation of the building code as it relates to a specific State Project.

(2) The Appeals Board shall not have the authority to waive requirements of the building codes or to interpret the administrative provisions of the building codes.

(3) Decisions of the Appeals Board shall be by majority vote.

(4) Decisions of the Appeals Board are final.

R23-12-6. Initial Actions for Decisions Prior to Construction.

(1) If the issue being appealed arises prior to its construction, the architect, engineer or contractor, as the case may be, shall submit a written request for interpretation to the Building Official which shall include:

(a) the basis for the requestor's interpretation of the code, and

(b) other decisions related to the application of the code that have an impact on the interpretation in question.

(2) Within 21 days of receipt of the written request, the Building Official shall provide a written decision. If the Building Official does not agree with the requested interpretation, the decision shall include the basis for his interpretation of the code.

R23-12-7. Initial Actions for Inspection Exceptions during Construction.

(1) If the issue being appealed is an inspection exception regarding work constructed, the contractor shall, within 10 days of receiving the inspection report, submit a request in writing to the Building Official for reconsideration of the inspector's exception.

(2) Within 10 days of receipt of the written request, the Building Official shall provide a written decision either reaffirming the inspector's findings or stating how the inspector's exception is modified.

R23-12-8. Appeal of Delegated Agency's Decision.

For State Projects administered by a Delegated Agency, the

following procedure shall be followed before an appeal may be heard by the Appeals Board.

(1) Within 10 days of receipt of the decision of the Building Official representing the Delegated Agency, the entity requesting the appeal shall submit the following to the Division's Building Official:

(a) a copy of the documentation required by Section R23-12-6 or R23-12-7, and

(b) a written statement explaining the basis for the appeal.

(2) Within 10 days of receipt of the appeal, the Division's Building Official shall provide a written decision either reaffirming the Delegated Agency's findings or stating how the Delegated Agency's findings are modified.

R23-12-9. Filing of Appeal and Appeals Board Action.

(1) Within 21 days of receipt of the written decision provided for in Section R23-12-6, R23-12-7, or R23-12-8, the entity appealing the decision shall submit the following documents to the Director:

(a) a letter stating that the entity is appealing a decision regarding the building code including an explanation of the basis for the appeal;

(b) a copy of the documentation required by Sections R23-12-6, R23-12-7 and R23-12-8 as applicable;

(c) other information supporting the appeal.

(2) If the Building Official did not provide a written decision, the entity shall submit an affidavit to this effect in lieu of the written decision.

(3) The Director shall convene an Appeals Board within 21 days after an appeal is duly filed.

(4) Both the entity appealing the decision and the Building Official shall be given an opportunity to present their position.

(5) A written decision of the Appeals Board shall be issued within 7 days after the appeal is heard.

R23-12-10. Time Extensions.

Upon a showing of good cause, the time periods provided for in this rule may be extended by the Director prior to the convening of the Appeals Board or by the presiding officer upon or after the convening of the Appeals Board.

R23-12-11. Forms.

The Division may establish forms to be used in the filing of an appeal.

R23-12-12. Costs of Appeal.

Each party is responsible for its own costs in the appeal process except that the Division may assess the party that loses the appeal for any costs incurred by the Appeals Board in evaluating the appeal.

KEY: appeals, building codes, construction
Date of Enactment or Last Substantive Amendment: October 10, 2002
Notice of Continuation: September 19, 2012
Authorizing, and Implemented or Interpreted Law: 58-56-8(2);

63A-5-206

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MEMORANDUM

To: Utah State Building Board
From: Jeff Reddoor, Building Board Director
Date: September 6, 2017
Subject: **Five Year Notice of Review and Statement of Continuation for Rule R23-14, Management of Roofs on State Buildings**
Presenter: Mike Kelley, Assistant Attorney General

The Utah Rulemaking Act, Utah Code Ann. Section 63G-3-305 requires each agency to review its rules within five years of each rule's original enactment, and then within five-year intervals. To comply with the review requirement, the agency must submit a "Five-Year Notice of Review and Statement of Continuation" for each of its rules. Otherwise, the rules will expire, become unenforceable, and will be removed from the Utah Administrative Code.

The attached Rule R23-14, Management of Roofs on State Building, is due for review; and therefore, the "Five Year Notice of Review and Statement of Continuation" must be filed with the Division of Administrative Rules on or before November 14, 2017.

Recommendation:
It is recommended that the Board authorize the filing of the "Five Year Notice of Review and Statement of Continuation" for Rule R23-14 at the scheduled Board meeting on September 6, 2017.

Background:
Rule R23-14, under the authority of the Board, provides for the management of roofs on state buildings to prevent damage to the roof and to improve security of state buildings. This rule is authorized under Subsection 63A-5-103, which directs the Building Board to make rules necessary for the discharge of the duties of the Division of Facilities Construction and Management. A copy of Rule R23-14 is attached.

JR: cn
Attachment: Copy of Utah Administrative Code Rule R23-14

R23. Administrative Services, Facilities Construction and Management.
R23-14. Management of Roofs on State Buildings.
R23-14-1. Purpose and Authority.

(1) This rule provides for the management of roofs on state buildings to prevent damage to the roof and to improve security of state buildings.

(2) This rule is authorized under Section 63A-5-103 which directs the Building Board to make rules necessary for the discharge of its duties and those of the division.

R23-14-2. Definitions.

(1)(a) "Agency" means each department, agency, institution, commission, board, or other administrative unit of the State of Utah.

(b) "Agency" does not mean the State Capitol Preservation Board.

(2) "Director" means the director of the division, including, unless otherwise stated, his duly authorized designee.

(3) "Division" means the Division of Facilities Construction and Management established pursuant to Section 63A-5-201.

(4) "Employee" means a person employed by the division or a responsible agency.

(5)(a) "Responsible agency" means the agency responsible for managing a state building.

(b) "Responsible agency" does not mean the division.

(6) "State building" means a building owned by an agency.

R23-14-3. Buildings Managed by the Division.

(1) The division shall maintain control of and restrict access to the roof of buildings managed by the division. The division shall allow access only to duly authorized persons as provided in this section.

(2) The division shall maintain a register of all persons granted ongoing or limited access to the roofs it manages. This shall include a list of division employees that are granted ongoing access.

(3) The register required under Subsection (2) as well as a file of the completed roof access application/agreement forms shall be retained for a period of not less than three years.

(4) In order to obtain access, a person, who is not an employee of the division, must complete and execute a roof access application/agreement form.

(5) The roof access application/agreement form shall include:

(a) the name of the person granted access, the period of time for which access is granted, the reason for the access, and any restrictions on the access;

(b) an agreement from the person granted access to accept responsibility for and pay for the repair of any damage resulting from that person's access;

(c) an agreement to hold the agency and the State of Utah harmless from any liability or claim resulting from the person's access;

(d) a statement by the person requesting access that he has obtained adequate fall protection training as appropriate for the roof to be accessed and the activity to be performed thereon;

(e) the signature of the person requesting access; and
(f) the signature of the person granting access.
(6) Any person accessing a roof must have fall protection equipment as required by any applicable authority.
(7) The access limitations of this rule may be modified or reduced in order to provide access to roofs or portions of roofs that are designed and constructed for such access.

R23-14-4. Buildings Managed by Responsible Agencies.
(1) Responsible agencies shall adopt and implement policies and procedures at least as stringent as those contained in Section R23-14-3 to provide for the control of and restricted access to roofs of buildings managed by the responsible agency.
(2) The responsible agency shall develop its own means of documenting those granted access and shall identify person(s) authorized to grant access to roofs.
(3) In applying the requirements of subsection R23-14-4(1), references to employees of the division in Section R23-14-3 shall mean employees of the responsible agency.
(4) Employees of the division shall have access to these roofs after checking in with the responsible agency. The responsible agency will not need to document access by employees of the division.

R23-14-5. Access to Capital Improvement Funds for Roofing Repairs.
(1) The division may refuse to use capital improvement funds appropriated to the division for the repair of roof damage if the responsible agency fails to implement or comply with the policies and procedures required by Section R23-14-4.
(2) The division may require a review of roof access records prior to accepting financial responsibility for the cost of repairing damage to a roof.

KEY: public buildings, security, roofs
Date of Enactment or Last Substantive Amendment: December 24, 2012
Notice of Continuation: November 14, 2012
Authorizing, and Implemented or Interpreted Law: 63A-5-103

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MEMORANDUM

To: Utah State Building Board
From: Jeff Reddoor, Building Board Director
Date: September 6, 2017
Subject: **Five Year Notice of Review and Statement of Continuation for Rule R23-21, Division of Facilities Construction and Management Lease Procedures.**
Presenter: Mike Kelley, Assistant Attorney General

The Utah Rulemaking Act, Utah Code Ann. Section 63G-3-305 requires each agency to review its rules within five years of each rule's original enactment, and then within five-year intervals. To comply with the review requirement, the agency must submit a "Five-Year Notice of Review and Statement of Continuation" for each of its rules. Otherwise, the rules will expire, become unenforceable, and will be removed from the Utah Administrative Code.

The attached Rule R23-21, Division of Facilities Construction and Management Lease Procedures is due for review; and therefore, the "Five Year Notice of Review and Statement of Continuation" must be filed with the Division of Administrative Rules on or before November 14, 2017.

Recommendation:
It is recommended that the Board authorize the filing of the "Five Year Notice of Review and Statement of Continuation" for Rule R23-21 at the scheduled Board meeting on September 6, 2017.

Background:
Rule R23-21, under the authority of the Board, as provided in Subsection 63G-6-208(2), this rule establishes procedures for the procurement of leasing of real property. The Building Board's authority to adopt rules for the activities of the Division is set forth in Subsection 63A-5-103(1) (e). The statutory provisions governing the procurement of leasing of real property by the Division are contained in Title 63G, Chapter 6; Title 63A, Chapter 5; and Title 4, Chapter 1. A copy of Rule R23-21 is attached.

JR: cn
Attachment: Copy of Utah Administrative Code Rule R23-21

R23. Administrative Services, Facilities Construction and Management.

R23-21. Division of Facilities Construction and Management Lease Procedures.

R23-21-1. Purpose and Authority.

(1) As provided in Subsection 63G-6-208(2), this rule establishes procedures for the procurement of leasing of real property.

(2) The Building Board's authority to adopt rules for the activities of the Division is set forth in Subsection 63A-5-103(1)(e).

(3) The statutory provisions governing the procurement of leasing of real property by the Division are contained in Title 63G, Chapter 6; Title 63A, Chapter 5; and Title 4, Chapter 1.

R23-21-2. New Leases.

A. Agency Request and Justification

An agency requesting leased space must submit a request and justification statement to the Division of Facilities Construction and Management (DFCM) preferably at least six months before the required date of occupancy. A space utilization program should be prepared by the agency. Assistance is available, if needed, from the staff of the DFCM. The staff of DFCM, along with the agency, will review the program and criteria for the space requested.

The justification statement should include the following:

Planned agency use

Present agency location

Proposed area or location of new lease

Any options that should be considered

Lease term

Present lease rate and what services are included

Present square footage

Requested square footage

B. Securing Space

If a new lease is required, an advertisement will be prepared by DFCM and competitive proposals will be solicited to comply with the State Procurement Code. Proposals will be reviewed jointly by the DFCM staff and the agency.

The review will include compliance to codes that are required by state and federal laws.

C. Negotiations

DFCM will negotiate, or may allow the agency to participate in the negotiations, so that space can be leased in the best interest of the agency and the state.

D. Lease Agreements

A standard lease agreement has been prepared for use by DFCM. An approved alternate may be used. The lessor, agency, and staff of DFCM should be involved in the preparation of the final written lease agreement.

E. Lease Approval and Processing

The lease will be distributed for approval signatures of the Lessor, the Agency Budget Officer, the Agency Director, the Attorney General, and DFCM.

The lease will be recorded by DFCM on a computerized lease file

for updating, renewal and control.

Approval of the Division of Finance is required to establish a payment schedule and issue a contract number.

R23-21-3. Renewal of Leases and Options.

DFCM will notify each agency at least six months in advance as to the expiration date of the lease. DFCM will consult with the agency on whether to renew an existing lease or seek new space. This will be based on space requirements and needs of the agency.

If the agency decides to renew a lease, they must submit a request to the Division of Facilities Construction and Management at least 120 days prior to the expiration date. If the leased space is conducive to the agency needs, then long-term leasing should be considered. Previously outlined procedures shall be followed for lease renewals and options that agencies may wish to exercise.

R23-21-4. Lease Advertisement Procedures and Specifications.

The Procurement Code requires that any agency wanting to lease new space must advertise for competitive proposals. Listed below, and in the following attachments, are the advertisement requirements of the Division of Facilities Construction and Management (DFCM).

A. Parties interested in submitting a proposal must complete a Schedule A, which is an Offeror/Lessor Proposal Sheet, and submit to DFCM before the advertised deadline.

B. The agency must submit to DFCM a Schedule B, which contains the Specifications for Advertisement of Space which DFCM will send to interested parties upon request. The advertisement will run for a period of three consecutive weekends. Materials required for advertisement must be received by DFCM no later than noon on Monday in order for the advertisement to be in the paper the following weekend.

R23-21-5. Non-State Tenants Utilizing State-Owned Space.

A. Request and Justification

A non-state or private company requesting to lease space in a state-owned facility must submit a request and justification statement to the Division of Facilities Construction and Management (DFCM) with reasonable notice prior to required date of occupancy. The criteria to evaluate the request of the non-state or private company shall include the following:

Planned use of the space
Proposed area or location of the lease
Any options that should be considered
Lease term
Lease rate and what services are included
Requested square footage
Projected use by a state agency of the space requested

B. Securing Space

Proposals will be reviewed jointly by the DFCM staff and the Agency.

Available space should be included in the master plan of all state agencies that is presented to the Utah State Building Board.

C. Negotiations

DFCM will negotiate, or may allow the agency(ies) to participate

in the negotiations, so that state-owned space can be leased in the best interest of the state and at such rates that are consistent with similar private facilities taking into consideration such things as location, etc.

D. Lease Agreements

Using a standard lease agreement as prepared for use by DFCM, the non-state tenant, state agency using proposed facility, and staff of DFCM shall be involved in the preparation of the final written lease agreement.

E. Lease Approval and Processing

The lease will be distributed by DFCM for approval signatures and processing.

KEY: leases, leasing services
Date of Enactment or Last Substantive Amendment: March 3, 1995
Notice of Continuation: November 14, 2012
Authorizing, and Implemented or Interpreted Law: 63A-5-103 et seq.

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MEMORANDUM

To: Utah State Building Board
From: Jeff Reddoor, Building Board Director
Date: September 6, 2017
Subject: **Five Year Notice of Review and Statement of Continuation for Rule R23-24, Capital Projects Utilizing Non-appropriated Funds**
Presenter: Mike Kelley, Assistant Attorney General

The Utah Rulemaking Act, Utah Code Ann. Section 63G-3-305 requires each agency to review its rules within five years of each rule's original enactment, and then within five-year intervals. To comply with the review requirement, the agency must submit a "Five-Year Notice of Review and Statement of Continuation" for each of its rules. Otherwise, the rules will expire, become unenforceable, and will be removed from the Utah Administrative Code.

The attached Rule R23-24, Capital Projects Utilizing Non-appropriated Funds, is due for review; and therefore, the "Five Year Notice of Review and Statement of Continuation" must be filed with the Division of Administrative Rules on or before November 14, 2017.

Recommendation:
It is recommended that the Board authorize the filing of the "Five Year Notice of Review and Statement of Continuation" for Rule R23-24 at the scheduled Board meeting on September 6, 2017.

Background:
Rule R23-24, establishes the policy of the Utah State Building Board relative to projects which are funded partially or totally by non-appropriated funds; establishing requirements for verification of funding and the timing of reimbursements to DFCM for expenditures made. This rule is authorized under Subsection 63A-5-103, which directs the Building Board to make rules necessary for the discharge of the duties of the Division of Facilities Construction and Management. A copy of Rule R23-24 is attached.

JR: cn
Attachment: Copy of Utah Administrative Code Rule R23-24

R23. Administrative Services, Facilities Construction and Management.

R23-24. Capital Projects Utilizing Non-appropriated Funds.

R23-24-1. Purpose.

To establish the policy of the Utah State Building Board relative to projects which are funded partially or totally by non-appropriated funds; establishing requirements for verification of funding and the timing of reimbursements to DFCM for expenditures made.

R23-24-2. Authority.

This rule is authorized under Subsection 63A-5-103(1)(e), which directs the Building Board to make rules necessary for the discharge of the duties of the Division of Facilities Construction and Management.

R23-24-3. Background.

The Division of Facilities Construction and Management (DFCM) is charged with the responsibility of administering the design and construction of capital facilities costing over $100,000 for all state agencies and institutions regardless of funding source. The only exception to DFCM's administration is when a project is delegated to an agency or institution by the Utah State Building Board.

When projects are funded through Legislative appropriation, the funding is generally made available to DFCM prior to entering into contracts on those funds. However, many projects receive all or a part of their funding from other sources. Examples of these sources include donations, auxiliary funds, discretionary funds, reimbursed overhead, revenue bonds, and federal funds. In addition, some projects are made as a joint effort between state agencies or institutions and local governmental units. In these situations, DFCM needs to receive adequate assurance that the funding is in fact in place and that it will be reimbursed for expenditures as they are made.

R23-24-4. Policy.

The following policy will apply to all projects funded in whole or in part by non-appropriated funds.

(1) Before initiating the project, an executive having the authority to bind the agency or institution shall provide DFCM with a letter stating the funding to be provided by the agency or institution and committing to reimburse DFCM in accordance with this policy. In the case of a joint project with a non-state entity, a formal agreement shall be entered into.

(2) Prior to bidding the construction of the project, the agency or institution must provide DFCM with the following:

(a) A breakdown of the funding for the project showing the amount of cash available, the amount outstanding on legally enforceable contracts and commitments payable to the agency or institution and dedicated to the project, and the remaining difference.

(b) An explanation will be provided regarding how and when the remaining difference will be obtained. This difference may not exceed 25% of the project funding. DFCM reserves the right to require that a higher percentage of the funding be available if it determines that

this is necessary to protect the state's interests.

(c) The agency or institution may commit that it will cover the remaining difference from other funds available to it until the full funding is obtained as long as this commitment is within the legal and financial capability of the agency or institution.

(d) Any exception to this policy must be approved by the Utah State Building Board and the state Director of Finance.

(3) The agency or institution will be responsible for providing its proportionate share of the funding. If the funding sources anticipated by the agency or institution do not meet its share of costs, the agency or institution must either provide alternate sources of funding or reduce the cost of the project to bring it back within the level of available funding.

(4) Any non-monetary assets donated as a funding source must be liquidated by the institution prior to the bidding of construction. Exceptions may be granted by the Utah State Building Board and the state Director of Finance when alternate funding can be assured.

(5) It is the responsibility of the agency or institution to inform DFCM immediately of any restrictions on the funding provided, including federal grants or donor restrictions.

(6) Agencies and institutions will be required to reimburse DFCM for their share of expenditures ratably throughout the project. An exception may be made if the agency or institution is providing funding for a specific element of the project such as equipment, furnishings, or fountains. This exception will not be granted if the funding is for items which are a basic and necessary element of the construction of the project.

(7) DFCM will submit monthly billings to agencies and institutions for their share of the expenditures made. Payment will be due back to DFCM within 16 working days of the billing date or the mailing date whichever is later. DFCM will notify the state Division of Finance of any billings not paid within seven days of the due date. The Division of Finance may deduct any delinquent invoices for DFCM from the next appropriation allotment to the institutions or transfer the funds to DFCM as may be appropriate. Before taking any action, the Division of Finance will consult with the governing body or head of the agency or institution as appropriate.

KEY: buildings
Date of Enactment or Last Substantive Amendment: 1994
Notice of Continuation: November 14, 2012
Authorizing, and Implemented or Interpreted Law: 63A-5-206(5)

Utah State Building Board

Gary R. Herbert
Governor

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Salt Lake City, Utah 84114
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MEMORANDUM

To:	Utah State Building Board
Date:	September 6, 2017
Subject:	**DFCM: Update on an Alternative Building Standard for University Housing Projects**
Presenter:	Darrell Hunting, DFCM Improvement Program Manager

DFCM has been tasked to work with a team from the Board of Regents, Universities and the housing development community to identify those areas or cost drivers that make it difficult to reduce first costs and meet the 50-year standard. The intent is to develop a new 25 – 30 year standard that may be utilized for University Housing Projects.

Recommendation

Develop a 25 – 30 year standard that may be utilized for University Housing Projects.

Background:

In the interest of State Buildings and in an effort to ensure optimum life cycle cost for buildings throughout the state, buildings have generally been designed and constructed to a 50-year life cycle. The costs considered are a combination of first costs as well as the operations, maintenance and repair costs for the facility throughout its lifecycle.

While this system works well for most facilities throughout the state, there are times when it may not be optimum and alternatives may be considered. For example, in the case of university housing projects, the institution wants to construct a housing project that can fit its business model and be paid for out of the rent received from students using that facility. Historically, buildings built to a 50-year standard have had a higher first cost. This has made it difficult, if not unfeasible in many locations throughout the state to create a rent structure that will successfully pay for the bond repayment costs. As a result, student fees, book store profits or other private resources, etc., must be utilized to make the full bond payment.

Attachments:
HB 120 - Student Housing Design Requirements - Summary of Revisions
Student Housing Design Requirements with Proposed Changes

State of Utah

GARY R. HERBERT
Governor

SPENCER J COX
Lieutenant Governor

Department of Administrative Services
TANI PACK DOWNING
Executive Director

Division of Facilities Construction and Management
JAMES R. RUSSELL
Director

August 29, 2017

To: Utah State Building Board

Reference: DFCM Design Standard Student Housing

Subject: HB 120 - Student Housing Design Requirements - Summary of Revisions

Section 1 - Variances
It was widely acknowledged that while a process for requesting variances to the Design Requirements has always been in place, few knew that this was an option. This information is provided as a key component of the Design Standards document, including instructions and forms for requesting a variance to any of the design standards.

Section 2 - Codes/Laws/Rules/and Regulatory Requirements
This section outlines the statutory requirements and oversight bodies which DFCM and other state agencies are bound to. Design requirements which are in place as a result of these regulations have little opportunity for negotiation; however, discussions related to the interpretation of the statutes may be appropriate in some cases.

Section 3 - DFCM Requirements
Section 3 identifies code requirements which must be followed, but DFCM has adopted a practice of exceeding the code-required minimum in some instances because it is "the right thing to do." Transcending these code elements is now at the discretion of the institution to decide if the code-required minimum is appropriate for the intended use and if the elements fit within the project budget. Examples follow:

- Power door operators on entrances and restrooms: The ADA does not require power operators; however, DFCM has recommended them in certain areas of a given building because this better serves a sector of the population. The institution is now free to decide if they want these operators on the project or not.
- Installation of energy efficient products: The energy code requires minimum basic elements be included in the project, but DFCM has had a long-standing practice of moving well beyond this minimum. The new standard now allows for installations to be evaluated based on the life-cycle cost and consideration for a return on investment.
- Vibration limitations: The old standards were not based on defined metrics, but rather language such as "detectable by people." This was difficult to apply consistently. The new standard has several defined references which make it possible to apply consistent engineering practices. This

also makes allowances for wood structures, including flooring, which will be a tremendous benefit in being competitive with the private sector.

- Space Standards: It was decided that Utah Space Standards not not apply to student housing and should be defined as such.
- Infrastructure Flexibility: Many of the standards for infrastructure were moved from *Required* to *Recommended.* These are items such as spare electrical capacity and spare communication/data capacity. While steel conduits for electrical conductors are recommended, the new standard makes a clear distinction that lesser expensive solutions are acceptable such as metal-clad cabling (MC cable), non-metallic tubing (Smurf tube) or non-metallic sheathed cable (Romex). J-hooks are now defined as an acceptable method of managing communication/data cabling. Cross linked polyethylene (PEX) remains as an acceptable solution for culinary plumbing. Lightning protection has moved from *Required* to *Recommended.*
- Architectural Elements: Many of these standards are now listed as *Recommended.* This gives each institution the authority to decide if these standards are right for their respective project/s. For example, this includes the following building elements:
    - Roofing
    - Acoustical qualities
    - Wet area water resistance, such as showers, toilet rooms, and janitor closets.
- Structural Elements: It is now clearly noted that all construction types are acceptable: Concrete, Steel, Wood, or a combination thereof.
- Mechanical Systems: Several standards were adjusted to reflect the trend from *Required to Recommended*, and are now left to the discretion of each institution. Examples include:
    - Redundant components for heating and cooling systems
    - Fixed access via stairs to rooftop equipment
    - Equipment located in ceiling spaces and the respective access
    - Building automation systems for controlling HVAC systems
    - Central cooling and heating equipment such as chillers and boilers
    - Roof-mounted mechanical equipment
    - Types of mechanical systems used to provide HVAC (electric heat, variable refrigerant flow, unitary furnaces, etc.)

Section 4 - Landscape and Irrigation Standards

It was the consensus of the committee that changes to this section was not necessary.

Section 5 - High-Performance Building Systems

- Every project has the option to use standardized Owner Project Requirements (OPR) and Basis of Design (BOD) documents provided by DFCM. This has an opportunity to save a project extensive money and time due to reduced fees for consultants and added design time. It is expected that the design check-points outlined in the standards be adjusted based on the experience of the project team with DFCM processes.
- Many elements related to Programming, Design and Engineering documentation on a project have been moved from *Required* to *Recommended.*
- Benchmarking data in the EPA Energy Profiler system is now *Recommended* instead of *Required.*
- Transportation management plans are no longer required but are still recommended.
- Several elements of energy performance are now recommended, such as providing Energy Star Appliances when available and identifying water efficiency goals as part of the project.
- Implementation of a recycling program in the finished building is no longer required but is recommended.
- Utility metering remains required on all major utilities but is no longer required on smaller sub-points of consumption.

Student Housing DESIGN REQUIREMENTS

September 6, 2017

~~**March 31, 2105**~~

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1.0 GENERAL

1.1 General

A. These Design Requirements apply to all plans, processes, and procedures required for compliance with the Design Process.

1.2 Procedure

A. Complete the Design Requirement/Variance Form to make recommendations for additions, deletions, and changes to the Design Requirements.

B. Complete the Design Requirement/Variance Form to request approval by the Director to vary from these Design Requirements based upon the specific project needs.

C. All Design Requirement modifications require approval by the Director. If the Design Requirement is approved by the Director, then the DFCM's Designated Representative shall distribute the Design Requirements Procedure document to the appropriate project participants and shall file it in the project file.

(1) If the Design Requirement is approved by the Director and has general applicability to other projects, then the Director shall request that the proposed modifications be considered by the Utah State Building Board.

a. Verify with the DFCM person responsible for the specific professional discipline and the appropriate DFCM maintenance person that the proposed Design Requirement meets their requirements.

1.3 Hierarchy of Requirements

A. The hierarchy of requirements is as follows:

(1) Comply with the minimum requirements of all applicable laws, rules, and regulatory requirements.

a. Exceptions: Wherever there are practical difficulties involved in carrying out these provisions, the State Building Official with the approval of the Director of DFCM and/or the State Fire Marshall shall have authority to grant modifications. The modifications granted by the State Building Official shall be documented in this standard under the heading "Design Requirements."

(2) Comply with the consensus based ANSI standards for design, products, installation, and services unless the applicable laws, rules, and regulatory requirements are more stringent.

(3) Comply with the "Performance Requirements: Design Requirements" unless the ANSI standards or the applicable laws, rules, and regulatory requirements are more stringent.

(4) Comply with the Contract Documents, unless the "Performance Requirements: Design Requirements", the ANSI standards, or the applicable laws, rules, and regulatory requirements are more stringent.

1.4 Changes and Additions to Design Requirements

A. Complete the following document and submit it to the person to whom you are responsible to for ultimate decision by the Director, for requested changes/additions to the Design Requirements.

Design Requirement/Variance Change Request	
Project Name	**Date**
	DFCM Project Number
	Risk Management Number
Requested by	**Entity**
Brief Description of the Problem	
Design Requirements	
Justification	
Director Approval	**Date**
Action to Include This Design Requirement in the Design Requirements	
Professional Reviewer	**Position**
Maintenance Reviewer	**Position**
Director Approval	**Date**

2.0 CODES / LAWS/ RULES AND REGULATORY REQUIREMENTS

2.1 General

A. Comply with adopted State Codes and all other applicable Standards and Codes at the time submitted to the State Building Official, including but not limited to Section 0 through Section 0.

2.2 DFCM requirements include (but are not limited to):

A. Administrative Services: Comply with Title R23: Administrative Services, Facilities Construction and Management. Refer to http://www.rules.utah.gov/publicat/code/r023/r023.htm.

B. DFCM Services: Comply with Services requirements. Refer to http://dfcm.utah.gov. Services requirements include:

(1) Inspections and Testing, refer to http://dfcm.utah.gov/dfcm/building-official.html.

(2) Standards and Standard Project Documents, refer to http://dfcm.utah.gov/dfcm-forms.html .

(3) Roofing, Paving, and Hazardous Materials, refer to http://dfcm.utah.gov/2012-11-29-22-30-23.html.

(4) Other requirements which may be added after this document is published.

2.3 Building Code Commission

A. Comply with Utah State Construction and Fire Codes Act. Refer to Utah Code Title 15A. Enforcement of these codes is the responsibility of the State Building Official.

2.4 Fire Prevention Board

A. Comply with Fire Codes in accordance with "Laws, Rules" of the State Fire Marshal. Refer to http://publicsafety.utah.gov/firemarshal/. Enforcement of these codes is the responsibility of the Utah Fire Marshal.

2.5 Accessibility Code

A. Comply with the US Department of Justice Federal Registers – Americans with Disabilities Act. Refer to http://www.ada.gov/ and ICC ANSI A117.1.

2.6 Labor Commission

A. Comply with requirements of the Labor Commission. Refer to http://www.laborcommission.utah.gov/

(1) Boiler and Pressure Vessel Compliance Manual, Refer to http://laborcommission.utah.gov/media/pdfs/boilerelevatormine/pubs/Boiler%20Compliance%20Manual.pdf.

(2) Utah Occupational Safety and Health, refer to http://www.rules.utah.gov/publicat/code/r614/r614.htm.

(3) Elevator Rules: American National Standard Safety Code for Elevators and Escalators, ANSI/ASME A17.1 with amendments administered by Labor-Industrial Commission of Utah, Department of Occupational Safety and Health Elevator Division. Refer to http://www.rules.utah.gov/publicat/code/r616/r616-003.htm.

2.7 Department of Health

A. Comply with requirements of Department of Health. Refer to http://www.health.utah.gov.

(1) Health Care Rules, refer to http://health.utah.gov/hflcra.

(2) Utah Indoor Clean Air Act, refer to http://www.rules.utah.gov/publicat/code/r392/r392-510.htm.

2.8 Department of Environmental Quality

A. Comply with requirements of Department of Environmental Quality. Refer to http://www.deq.utah.gov.
   (1) Public Drinking Water Rules, refer to http://www.drinkingwater.utah.gov/.
   (2) Utah Division of Air Quality: R307-801, Asbestos, refer to http://www.rules.utah.gov/publicat/code/r307/r307-801.htm; Environmental Protection Agency (EPA): Regulations for Asbestos – Code of Federal Regulations Title 40, Part 61 Subpart M; and Toxic Substances Control Act PART 763 (Updated 1997) – ASBESTOS: OSHA Standards 1910.1001, 1915.1001, and 1926.1101
   (3) Underground Storage Tank Act, refer to http://www.undergroundtanks.utah.gov/.
   (4) Air Conservation Act, refer to http://www.le.utah.gov/UtahCode/section.jsp?code=19-2
   (5) Fugitive Dust Plan, Refer to http://www.rules.utah.gov/publicat/code/r307/r307-309.htm
   (6) Utah Pollutant Discharge Elimination System, Refer to http://www.rules.utah.gov/publicat/code/r317/r317.htm.
   (7) Operating Permits of the Division of Air Quality, refer to http://www.rules.utah.gov/publicat/code/r307/r307-415.htm.
   (8) For all new buildings larger than 10,000 gross square feet and renovations to existing buildings affecting more than 10,000 gross square feet that are subject to an Air Emissions permit or the State Implementation Plan (SIP), consultant shall determine the total annual natural gas consumption for the project and submit that to DFCM and the state entity associated with the project at least 90 days prior to completion of contract documents so that compliance can be confirmed with Air Emissions permits and the SIP. Failure to do so will jeopardize approval for the startup and operation of any new natural gas equipment or increases in output of existing natural gas fired equipment.

2.9 County Health Department (for the county where the facility is located)
   A. Food Service Sanitation Rules

2.10 Department of Commerce
   A. Pipeline Safety, refer http://www.rules.utah.gov/publicat/code/r746/r746-409.htm.
   B. Qualifications: Refer to the Project Participants heading of this document.

3.0 DFCM REQUIREMENTS

These requirements are enhancements of code requirements that DFCM has initiated for best practices for State owned facilities. Requirements labeled as recommended are at the discretion of the Institution and are not required but the DFCM highly recommends they be implemented. All requirements noted as recommended need to be reviewed with the Institution before proceeding.

Compliance with all applicable Codes adopted by the State of Utah as the baseline minimum standard is required.

3.1 General

A. Enhanced Accessibility

(1) "It is the policy of the Utah State Building Board that, when appropriate for the intended use of the building and achievable within the project budget, the following accessibility enhancements beyond those required by the Americans with Disabilities Act be provided for in state owned buildings and buildings leased by DFCM: (1) powered door openers for the primary entrance designated for use by people with disabilities, and (2) powered door openers for one uni-sex restroom or for one male and one female restroom in the building unless restrooms with a door-less entry are provided. This policy is not intended to limit the use of powered door openers to the standard set forth herein. This policy applies to the construction or major renovation of state-owned facilities and new leases where the entire building is being leased by DFCM. This policy is not intended to create any rights to any third parties.

(2) Determinations that this enhancement is not appropriate for the intended use of the building or not possible within the project or lease budget shall be made by the Director or his designee. Determinations of whether this enhancement to accessibility is appropriate should consider the potential of access by people with disabilities. The Director may determine that powered door openers are appropriate for the primary entrance while not warranted or not possible within the budget for access to restrooms. The Director may also determine that one or both of these enhancements are not feasible in (a) the renovation of an existing building due to its design or configuration or (b) in a leased facility due to the nature and circumstances of the lease."

B. Energy Efficient Products

(1) Select, where life-cycle cost-effective, products that are in the upper 25 percent range of the energy efficiency rating. Energy efficient products include:

a. Heating and cooling equipment;
b. Motors;
c. Lighting fixtures, compact fluorescent light bulbs, exit signs;
d. Windows, doors and skylights;
e. Roof products;
f. Food service equipment;
g. Transformers;
h. Office equipment;
i. Electronics; and
j. Appliances.

(2) Exceptions

a. Energy efficient products that have been stipulated as life-cycle cost-effective by DFCM.
b. ENERGY STAR® products that are certified and labeled through the US Environmental Protection Agency.

c. Energy Efficient Products listed items on General Service Administration, GSA Advantage website. "Energy Efficient Products" mean items that meet Federal Energy Management Program (FEMP) energy efficiency levels as required by the Federal Acquisition Regulation (FAR) Subpart 23.203, Executive Order 13123, and Executive Order 13221.

C. Energy Design Standards: See Section 5.0 High Performance Building System

D. Hazardous Materials

(1) DFCM shall procure a qualified abatement consultant during the Schematic Design phase of the Design stage. The abatement consultant shall survey all renovation and demolition projects for hazardous materials such as asbestos-containing building materials, lead-based paint, mold, universal wastes such as PCBs, CFCs, mercury, household/janitorial cleaning products, identified/unidentified containers of chemicals or products, or any other materials or waste that may be environmentally unsafe.

(2) Prior to the start of a survey by the abatement consultant, the A/E shall provide drawings at the design development phase of the design stage to the abatement consultant with sufficient information to define the building or facility areas affected by the renovation or demolition. The abatement consultant shall coordinate abatement documents with the updated Contract Documents prior to final preparation. The abatement consultant shall prepare a complying and comprehensive hazardous materials survey report identifying and quantifying all hazardous and non-hazardous building materials to include asbestos-containing building materials, lead-based paint, mold and universal wastes that affect the areas of renovation or demolition.

(3) DFCM shall procure a qualified abatement contractor to remove all hazardous materials prior to the beginning of any building demolition or renovation.

E. Vibration

(1) Design structure in accordance with the following minimum requirements for vibration:

Space Category	Vibration Sensitivity
Laboratories with equipment sensitive to vibration	Comply with manufacturer's requirements for vibration.
Offices, classrooms, and other ~~similar~~ spaces.	~~There are no vibrations from machines or traffic which are detectable by people.~~ Design shall comply with acceleration limits as recommended by the International Standards Organization (international Standard ISO 2631-2, 1989), adjusted for intended occupancy. Application of this methodology can be found in AISC Steel Design Guide Series 11, and SJI Technical Digest 5 and other design standards. This same methodology should also be applied to all types of structures. Maximum allowable floor live load deflection for wood framed floors is L/480.
~~Common Area spaces.~~	~~There is occasional movement in the floor when heavy equipment are moved nearby.~~
~~Storage spaces.~~	~~There is obvious and annoying movement when people walk by or equipment is being moved nearby.~~

F. Utah Space Standards

(1) Comply with the "Utah Space Standards," ~~August 1994~~ February 26, 2016. Refer to http://dfcm.utah.gov/dfcm-forms.html State of Utah Office Space standards do not apply to student housing.

G. Infrastructure Flexibility

(1) Interior Shear Walls: Minimize interior shear walls, bearing walls and braced frames which may disrupt future additions or modifications to the facility. Interior bearing walls

are allowed in wood framed construction; however, maintain flexibility in common spaces

(2) Spare Mechanical Space: Provide 25% spare space in pipe chases and for mechanical equipment (except air handlers).

(3) Main Electrical Room: Locate main electrical room close to transformer and near the center of the load (which is usually located near where central mechanical equipment is located). Locate panel boards in satellite electrical rooms dedicated for electrical equipment and which stack vertically in the facility.

(4) Spare Electrical Capacity: ~~Provide~~ 25% future space for additional overcurrent protection devices in panel boards and switchboards is recommended. ~~Provide~~ 25% additional load capacity in addition to the capacity required for continuous loads in panel boards and switchboards is recommended.

(5) Communication Rooms: Locate communications rooms so they stack vertically and comply with TIA/EIA standards.

(6) Spare Communication System Capacities: ~~Provide~~ 100% future space (this is not necessarily horizontal space, but may be vertical space in racks for future equipment) for cabling, data, and communications electronic equipment is recommended. Exact spare space left up to each institution.

(7) Equipment Access: In new facilities, provide access for replacement of equipment which does not require demolition.

(8) Storage Space: Provide a minimum 6' X 6' space for storage of janitorial supplies or .2% of the gross square footage, whichever is greater.

H. Standard Building Plaque is not required but should meet the following requirements if provided.

(1) For development projects provide a design for a building plaque to be mounted on a prominent wall near the entrance to the building in compliance with the DFCM plaque standard. Refer to http://dfcm.utah.gov/dfcm-forms.html

3.2 Civil

A. Paving

(1) Use untreated base course under all curbs and gutters. Use untreated base course material under all sidewalks exterior flatwork and paved areas.

(2) Untreated base course under asphalt paving: Asphalt - 8" minimum compacted base (96%)

(3) Concrete – curbs, gutters, sidewalks, exterior flatwork – Minimum 6" compacted base (96%) or minimum 4-3/4" crushed gravel.

Untreated Base Course	
Size	**% by Weight Paving Sieve**
1"	100
½"	70 to 100
#4	41 to 68
#16	21 to 41
#50	10 to 27
#200	4 to 13

(4) Surface course (asphalt) aggregate:

Surface Course (asphalt)	
Size	**% by Weight Paving Sieve**
½%	100
3/8"	70 to 100
#4	50 to 78
#16	30 to 48
#50	18 to 31

#200	7 to 13

(5) Base course (lower lift) can be ¾" asphalt if placed in more than 1 lift.
(6) Construct asphalt paving only when atmospheric temperature is above 50 degree F and underlying base is from moisture. Permit no vehicular traffic for at least 24 hours after laying asphalt pavements.
(7) Striping paint: State of Utah #780. Spread at the rate of 103-113 sf/gal. Minimum thickness shall be 7 dry mil.
(8) Tack coat all adjoining materials, i.e. previously constructed asphalt, concrete, etc. except untreated base course.
(9) Surface smoothness: variation in the finished surface must not exceed 1/8" in 10 ft. in any direction.
(10) Asphalt shall comply with Marshall Design with voids 1.5% to 3.0%
(11) Drainage: Slope all asphalt concrete paving surfaces for positive drainage a minimum of 1.5% and preferable 2%.
(12) Minimum thickness for parking areas: 3". Minimum thickness for road areas and truck traffic is 3" including dumpster access.
(13) Maximum thickness for lifts: 3"

3.3 Architectural

A. Daylight and Outside Views
(1) Daylight and outside views are desirable for all occupied spaces. The needs of some occupied spaces may require special consideration for light control.

B. New Roofing Requirements are recommended.
(1) Comply with Contractor Roofing Warranty: Include DFCM requirements. Refer to http://dfcm.utah.gov/downloads/Roofing/Contractor%20Roofing%20Warranty%20(final).pdf.
(2) Comply with Guaranty for Bituminous Roofing: Include DFCM requirements. Refer to http://dfcm.utah.gov/downloads/Roofing/Warranty%20for%20Bituminous%20Roofing%20(final).pdf.
(3) Comply with Guaranty for Single-Ply Roofing: Include DFCM requirements. Refer to http://dfcm.utah.gov/downloads/Roofing/Warranty%20for%20Single%20Ply%20Roofing%20(final).pdf.
(4) ~~Comply with the list of DFCM approved manufacturers and approved installers.~~
(5) Where manufacturer's standards show one or more possible approach for compliance to the standard, provide their most stringent approach.
(6) Eliminate conflict between roof penetrations (i.e. vents, exhausts) and roof crickets, flashing, and valleys. Consider relocating penetrations to less visible areas. Provide 18" access for replacing roofing components.
(7) In new facilities, build slope into roof structure in lieu of built-up insulation to solve roof drainage issues.
(8) Minimum slope for all roofing and waterproofing systems shall be a ¼" per foot along the longest drainage path.
(9) Do not provide the following components, unless approved by the Director: Other Roofing Components: ballasted roofs.
(10) All roofing systems and components should meet or exceed all ASTM, UL and FM requirements.
(11) Minimum 60 mil thickness required for all single ply roofs.
(12) Minimum 4-ply, type VI felts with type III asphalt for all built-up roofs.
(13) All metal associated with the roof should be color clad, use standing seam joints where possible. Follow SMACNA guidelines for all metal work.

(14) Provide reasonable access to all roof levels for maintenance personnel.
(15) Steep slope roofing should be designed as directed by the DFCM Program Manager.
(16) Comply with all other minimum standards as published by the DFCM roofing group.

C. Roofing Requirements – Please see the DFCM Roofing website for a detailed description of the latest roofing design criteria and requirements at http://dfcm.utah.gov/2012-11-29-22-30-23.html. ~~If for any reason, you are having difficulty accessing the page above, please contact DFCM immediately.~~

D. Waterproofing and Sealants
(1) Warranty: For sealant systems, guarantee both labor and materials for a minimum of two years. For waterproofing project, guarantee both labor and materials for a minimum five years.
(2) Qualifications: For Damp proofing and Waterproofing, select products that have performed successfully for a minimum 15 years and select manufacturers that have been producing materials for 15 years.

E. Acoustical Quality
(1) ~~When possible, design spaces in accordance with following minimum requirements for "Privacy."~~ The required code minimums (as adopted by the state) shall be the base line when designing spaces that require acoustic consideration. Consideration for added measures shall be dictated by the programmatic needs and use of each space. Acoustic assemblies shall be based on the STC and/or IIC ratings.

~~**Privacy**~~	
~~**Space Category**~~	~~**Measured NIC Rating**~~
~~Confidential with high voice levels~~	~~58-60+~~
~~Confidential with slightly raised voice levels~~	~~52-58~~
~~Confidential with normal voice levels~~	~~50-52~~
~~Confidential with lowered voice levels~~	~~45-50~~

~~(2) Design spaces in accordance with the following minimum requirements for "Ambient Background Noise.~~

~~**Ambient Background Noise**~~	
~~**Space Category**~~	~~**Measured NC Rating**~~
~~Critical Performing Spaces~~	~~<20~~
~~Performing Spaces, Courtrooms, Executive Offices~~	~~20-30~~
~~Sleeping, testing, or relaxing spaces~~	~~25-35~~
~~Private offices, small conference rooms, classrooms, libraries~~	~~30-35~~
~~Open offices, reception areas, cafeterias, gymnasiums~~	~~35-40~~
~~Lobbies, laboratories, maintenance shops~~	~~40-45~~
~~Kitchens, industrial shops, equipment rooms~~	~~45-55~~

F. Wet Areas:
1) It is recommended that all Gypsum wall board be moisture resistant at the following locations:
a. Toilet rooms
b. Wet walls
c. Showers/bathing areas
d. Janitor's closets

2) It is recommended that all shower and bathing areas shall be protected from water penetration at floors and walls with an approved assembly or product, such as a membrane, intended to prevent the permeation of water and/or water vapors.

3) It is recommended that the following areas shall be painted with an epoxy paint:

a. Toilet rooms
b. Wet walls
c. Showers/bathing areas
d. Janitor's closets

G. Compliance with applicable Codes as adopted by the State of Utah is required

3.4 Structural – It should be noted that Concrete, Steel and Wood are all acceptable construction types.

A. Concrete

(1) Warranty: Provide additional two-year written guarantee commencing on the date of substantial completion to promptly remove and/or repair defective concrete (pitting, spalling, cracking, honeycombing, etc.).

(1) (2) Concrete Strengths & Testing: Provide minimum compressive strength per the most current adopted version of the ACI code. as referenced in the most current version of the IBC.
Compliance with applicable Codes as adopted by the State of Utah is required. ~~measured at 28 days of 3000 psi for foundations, stem walls, piers, miscellaneous interior walls, etc., and 4000 psi minimum for all exterior flatwork, ramps, curbs, gutters catch basins, concrete pavements, interior floor slabs, elevated slabs, shear walls and columns. DFCM allows shear wall and columns to be specified in excess of 4000 psi.~~ Specify pre-cast concrete with a minimum strength of 5000 psi.

(3) Cement Types: Comply with the recommendations of the Geotechnical report. DFCM requires one of these types: Type I or Type II (both low alkali) and Type V. In southern Utah, usually select Type V. In other parts of the state select Type I or Type II (low alkali).

(4) Concrete Mix: Provide low alkali cement for all concrete in direct contact with earth. Specify water/cement rations in accordance with ACI 318. Specify number of bags of cement per/yard in accordance with C150. Provide admixtures complying with the requirements of ASTM C260 for air entrained concrete. Do not use "IA", "IIA", etc. For frost resistant concrete, the following minimum air contents are required for concrete in direct contact with soils or exposed to severe salting: for ¾" maximum aggregate size per C33, provide air content per ASTM C260 of 6-1/2%+ 1-1/2%; for 1", provide 6%+ 1-1/2%; for 1-1/2", provide 5-1/2"+1%. Water cement ratios shall be limited to 0.50. (excluding grout mixes) The slump of all concrete shall be limited to 4" unless plasticizers are used. A maximum of 10% fly ash is allowed.

(5) Testing: DFCM shall pay for testing, unless other procedures are specified. The frequency and minimum numbers of test cylinders shall be as outlined in the IBC, however at least three test cylinders must be taken from each pour related to a structural member. The intent is to not to do testing on concrete for items such as curb, gutter, sidewalk, mow strips, light pole bases, etc. Concrete testing shall not be required where allowed by the currently adopted building code.

(6) Reinforcement: Reinforce all concrete with conventional rebar or welded wire fabric. Slabs on grade supporting less than 400 psf uniform loads and no rack loads may be un-

reinforced. The sub-base for all un-reinforced slabs must be uniformly compacted with on-site observation and per requirements specified in the project specifications.

B. Wood

Comply with adopted State Codes and all other applicable Standards and Codes at the time submitted to the State Building Official.

3.5 Electrical

The latest adopted edition of the following Codes and Standards are to be considered a minimum requirement for Section 3.6. Where items contained in this section are in conflict with any of the following codes or standards, the more stringent requirement shall apply: National Electrical Code – NEC; International Building Code – IBC; International Energy Conservation Code; Illuminating Engineering Society of North America – IESNA Handbook; UL 96A; NFPA 780; Utah State Fire Marshal's Rules R710; National Fire Alarm Code – NFPA 72; and Agency/Institution Design Standards (comply with the latest edition of the design standards of the project agency or institution. If conflicts exist between DFCM and these design standards, obtain written clarification from representatives of DFCM and the agency/institution).

A. Lighting

(1) All lighting shall meet or exceed the current energy code for lighting power density, control requirements, and other requirements. All lighting shall utilize the most efficient fixtures available to meet the project requirements and budget. Incandescent lighting shall generally not be used, but may be used with the approval of the DFCM representative in the following applications: theaters/stages, television studios, and art galleries. However, in these applications, LED lighting shall be strongly considered. Exterior Lighting shall be LED unless approved by the DFCM Director. Refer to Section 5.0 for additional requirements on lighting energy requirements.

(2) Light Pollution Reduction: Use full cut-off outdoor lighting fixtures for luminaries with more than 3,000 lumens and locate so that the maximum candela value falls within the property. Provide shielding or controlled distribution for any luminaries within a distance of 2.25 times its mounting height from the property boundary so that minimal light from the luminaire illuminates past the property boundary. Interior lighting shall be positioned so that the maximum candela value does not fall outside the interior space, such as out through a window).

(3) Lighting Fixtures. Provide lenses that will not yellow due to exposure to sunlight or to the light sources in the fixture. When acrylic diffusers are specified, provide 100% virgin acrylic. Provide electronic ballast suitable for the load type, energy savings, and starting temperatures required. Provide program start ballasts if available for the lamp type. Connect equipment grounding conductor to fixture housing. ~~Provide 10% spare lamps, diffusers, or glass for each light fixture type with not less than one for less than 10 lighting fixtures.~~

(4) Interior Lighting: Provide T-8 lamps in fluorescent fixtures, except for areas requiring special lighting. Dimming of fluorescent fixtures should be avoided. Consideration shall be given to LED lighting for most applications. Provide independent safety-wires attached to structure in compliance with seismic requirements. For recessed fixtures that are removable, locate outlet box with 3' of steel flexible conduit to the fixture to aid in removing and relocating fixture.

(5) Exterior Lighting: Exterior Lighting shall be LED unless approved by the DFCM Director. Provide break-way fuses for all phase conductors for all outside pole-mounted lighting fixtures. Provide a shorting fuse insert for neutral fuse holder. Do not use common neutral multi-wire circuits for this type of lighting.

(6) Reflected Ceiling Plan Coordination: Coordinate the lighting fixture with the reflected ceiling plan for suspended, lay-in, and surface-mounted fixtures. Recessed lighting fixtures in acoustical tile ceiling shall be located centered on a single tile.

(7) Lighting Fixture Supports: Provide swivel bases for stems supporting lighting fixtures which exceed 12" in length.

(8) HID Sources: Use metal halide sources. Provide Pulse Start Metal Halide lamps and electronic ballasts. Where High Pressure Sodium sources are approved, use auto-regulating ballasts.

(9) LED Sources: Individual LEDs shall be tested in compliance with IES LM-79-08, and rated life shall be as determined by IES LM-80-08 and IES TM-21-11. The complete reports shall be available if requested. Specify high-CRI (85 or higher) sources. CRI (Ra) shall be based on CIE/IES definition using 8 color criteria. Driver and LED modules shall operate without measurable flicker below 25 kHz. Provide high power factor drivers (>.90). LED modules and drivers shall be replaceable in the field.

B. Raceways to 600 V

(1) Raceways, Fittings, and Boxes. It is recommended to provide steel raceway, fitting, and box system for all wiring, except that plastic conduit (minimum schedule 40) may be installed underground and aluminum cable trays may be installed for communications cabling. For steel raceway when installed in contact with soil, provide rigid or IMC PVC coated or wrapped raceways, fittings, etc. Provide steel raceways for penetrating structural elements (minimum 6" each side) and rigid steel conduit (PVC coated or wrapped) for bends greater than 30 degrees. Provide minimum ½" raceways except communications raceways shall be 1" minimum. Larger sizes may be required depending on users' cabling requirements. Provide flexible steel conduit (minimum ½") in short lengths where movement, vibration, misalignment, or cramped quarters exist. Provide insulated throat or equal type plastic bushings for box connections. Provide liquid-tight flexible conduit with approved moisture-tight fittings for wet, humid, corrosive, or oily locations. Provide a minimum 18" liquid-tight flexible conduit at each motor. As allowed by code NM (Romex) cable is allowed in wood frame housing construction. The use of free air communication cabling with j-hooks is allowed where accessible. Non-metallic communications raceways may want to be considered for wood framed, non-accessible areas**. Compliance with applicable Codes as adopted by the State of Utah is required.**

(2) Electrical Supports: All raceways, boxes, and conductors shall be supported independently from all other electrical or mechanical systems, directly from building structure by a listed supporting device. Provide outlet boxes with rigid support using metal bar hangers between studs.

(3) Equipment Pads. Provide concrete pads a minimum of 6" beyond the dimensions of the equipment. Extend equipment pad a minimum of 4" above finished floor or grade.

(4) Future Raceways: Provide five capped spare ¾" conduits from each section of a flush-mounted branch panel board into the ceiling and floor space. If the floor space is not accessible, provide an additional ¾" conduit from each section of a branch panel board into the ceiling. Provide 200-lb. nylon pull cord in all empty conduit, then cap raceway using a blank cover similar to adjacent wiring device covers.

(5) Underground Raceway Identification and Installation: Provide direct buried conduit in an area outside a building not less than 24" deep, with magnetic "yellow warning" ribbon 12" directly above and 6" below finished grade measured from the top of the conduit or duct bank.

(6) Do not provide the following, unless approved by the DFCM Director: exposed cable wiring; other raceways systems (electrical non-metallic tubing, aluminum conduit, die cast fittings, or steel cable trays.

C. Conductors

(1) Provide copper conductors for all wiring in sizes not less than #12 AWG.

(2) Aluminum conductors may be considered for feeders and services in sizes ~~#1/0~~ #2 and larger where approved by the ~~DFCM Director and~~ the user/agency of the project.

(3) Size conductors such that total voltage drop on feeders and branch circuits will not be greater than 5%.

(4) Metal Clad Cable. Type MC Cable is allowed only when concealed in ceilings or walls. MC Cable must be protected from physical damage and supported directly from the building or structure by use of a listed support. MC Cable home runs ~~are not allowed~~ are acceptable where approved by the user/agency of the project~~.~~ Home runs must be in conduit from the electrical panel or cabinet to the first junction or pull box unless approved as noted. MC Cable Used for Fire Alarm System Signaling or Initiation Circuits must have an overall outer coating of red.

(5) Non-metallic sheathed cable may be used only for residential single or multi-family housing unless approved by the ~~DFCM Director~~ user/agency of the project.

(6) Do not provide the following unless approved by the DFCM Director: exposed cable wiring; splices in panel board, switchboard enclosures, or in conduit bodies.

D. Grounding: Provide a separate green grounding conductor enclosed with phase conductors in all raceways on the load side of the service entrance.

E. Medium Voltage

(1) Medium Voltage Conductors: Provide copper conductors with copper tape shields and EPR insulation and copper neutral in Medium Voltage Duct banks; or, in utility tunnels or other areas without public access, provide armored cable or rigid conduit. Comply, as a minimum, with the installation requirements for Medium Voltage Cable standard NECA 600-2003. Perform Hi-Pot test after terminations have been made, but before connections have been made to buses or apparatus. Perform continuity tests of all cables after entire installation and terminations have been completed. If a cable fails to perform, replace faulty cable and retest. All tests will be recorded and submitted with O&M manuals at project conclusion.

(2) Medium Voltage Duct Banks. For above-ground or interior of buildings in non-public areas, provide rigid galvanized conduit or armored cable marked with red HIGH VOLTAGE. For underground, exterior applications, or public areas, provide concrete encased duct banks (red dye) with raceways in multi-les of two and a minimum of one spare conduit (with polypropylene pull wire) per feeder. Provide rigid metal conduit for the first 10 feet or duct bank from a facility or manhole. Provide minimum 4” raceway.

(3) Lighting Protection: Provide lightning (surge) arresters for medium voltage transformers and switchgear located above ground outside.

F. Motor Controllers

(1) Provide NEMA rated magnetic motor controllers with thermal overload relays for each phase.

(2) Variable Frequency Drives: Provide variable frequency drives suitable for the application, factory pre-wired with integral disconnect, input filter, and integral ventilation. For interior location VFDs, size ventilation for ambient temperature of 32 degrees F. to 90 degrees F. Avoid outdoor location mounted VFDs; but, if required, provide ventilation for ambient temperatures from -30 degrees F. to 120 degrees F. Fault current rating shall be sized based upon the fault current analysis of the nearest upstream overcurrent device. Include factory startup and tune to optimize life of motor.

(3) Provide a manual bypass of the VFD as part of controller where motor redundancy is not provided. For fan motor applications, coordinate with mechanical engineer to determine if a bypass should be provided.

G. Electrical Distribution

(1) Overcurrent and Ground Fault Protection: Set overcurrent and ground fault protection based upon Fault Current Protection and Coordination Study prepared by a licensed engineer. Submit study with O&M manuals.

(2) Arc Flash Analysis: For new construction and where main panel size exceeds 400 amps, provide an Arc Flash Assessment in accordance with NFPA 70E. Specify labels to be provided at each panel indicating incident energy and arch flash category level.

(3) Transformers: Provide transformers with copper or aluminum conductors. Provide transformer taps of 4 taps – 2.5% above normal and 2 taps – 2.5% below normal. Adjust voltage output to obtain the proper value at the main disconnect.

(4) Metering: Provide secondary digital metering (including demand monitoring) at the main distribution panel(s) in each facility. For secondary digital metering of services of 800 Amps or greater, include Harmonic monitoring and an option for building automation or remote monitoring.

(5) Utility Metering: Comply with serving utility's regulations, if applicable. Comply with utility's metering requirements. Include cost assessed by serving utility.

(6) Switchboards and Panel Boards: ~~Provide~~ Bus hardware installed on the bus for future over-current devices of not less than 25% minimum is recommended. Provide over-current devices in the same sequence as shown on the panel schedules or one-line diagrams.

(7) Panel Boards. Provide listed panel board construction for all branch panels and circuit breaker distribution panels. Load Centers and plug in circuit breakers may be used only in Residential Single and Multi-family residences unless approved by the DFCM Director. Key all panel boards alike and provide three keys.

(8) Circuit Breakers: Provide one-, two, or three-pole over-current devices with common handle (not field modifiable).

H. Power Quality: The A/E shall design for power quality by following either the performance-based requirements for the prescriptive-based requirements as indicated below.

(1) Performance Approach

a. The A/E shall include as a basis of design, an evaluation of potential Harmonic Risks to the Electrical Distribution System and provide a plan to mitigate these risks. The Power Quality Plan shall be approved by the DFCM representative. Power Quality Testing may be performed by the DFCM after the facility is occupied to determine the effectiveness of the Power Quality Mitigation approach.

i. The Plan shall address each of the items listed in the Prescriptive Approach below.

ii. In no case shall the voltage harmonic distortion be greater than 3% THD at the building's main service or feeder panel, and at other points in the system where sensitive loads may be adversely affected by harmonic distortion.

iii. Electrical Distribution System components shall be sized for and/or mitigate the anticipated current harmonic distortion produced by the loads on the system.

iv. The effects of the approach on the overall energy efficiency of the building shall be considered.

(2) Prescriptive Approach

a. Electrical Services

i. Services of 300 KVA or larger shall be 277/480 volt at the Service Main Disconnecting means except for those proven to be unnecessary and approved by the DFCM Director.

ii. Harmonic producing (nonlinear) loads such as lighting, VFDs, UPSs and computer rooms shall be separated or grouped as afar as reasonably cost effective.

iii. It is recommended that all panels fed from a step down transformer with 120/208V 3-phase/4-wire secondary ~~shall~~ have 200% neutral feeders.

iv. All multi-wire branch circuits shall have dedicated neutrals or oversized shared neutrals that are at least one trade size larger than the phase conductors. Circuits with shared neutral conductors shall have multi-pole breakers per the NEC.

v. Provide 277 volt lighting wherever there is a 277/480 volt wye service available.

b. Existing Electrical Services. Power Quality Testing should be performed prior to the Upgrade, Addition, or Alternation of any of the following Electrical Components or Systems, VFDs, UPSs, Step down Transformers and Generators. It shall be determined from this testing the proper equipment and method to be used that will insure that the existing system will not be adversely affected by the work to be performed. Power Quality Testing should be performed after completion to determine the effectiveness of the material and methods used.

c. Power Factor. All new Construction or Upgrade of existing Electrical Services shall meet the minimum requirement of 95% and maximum of 98% Power Factor. The DFCM representative shall approve the method and layout of Power Factor Correction Capacitors prior to installation.

d. Step down Transformers

i. All step down transformers shall be Energy Star NEMA TPI K rated or HMT with 200% neutral capability, unless proven unnecessary and approved by the DFCM representative. The K rating shall be as determined by Manufacturer recommendations for the equipment they serve.

ii. All step down transformers feeding computer rooms or areas subject to high non-linear loads shall be fed from a Harmonic Mitigating Transformer with 200% neutral.

e. Variable Frequency Drives. For motors 15 hp and larger, provide a minimum power quality performance of 12% current THD and 3% voltage THD measured at the VFD input terminals. This shall be accomplished by using Harmonic filters or a minimum of 12 pulse drive that will comply with the power quality performance requirements. For motors less than 15 hp, provide AC Line Reactors and/or DC link chokes with a minimum of 3% impedance. Provide output filtering if the motor is located more than 50 feet from the drive.

f. Lighting. Electronic Ballasts shall have <20% THD for 277 volt lighting systems and <10% THD for 120 volt lighting systems. In existing buildings were high Harmonic Currents are present, provide <10% THD ballasts.

g. Generators. For new construction, a service that is to be backed up by a generator shall be designed to have no more than 12% current THD or 3% voltage THD when measured at the point where the generator connects to the system, while loads are running on generator. For existing services to be backed up by a generator, power quality testing shall be performed to determine that there is not more than 12% current THD or 3% voltage THD and that there is not a leading power factor. If there is, it shall be corrected prior to bringing the generator on line.

h. Uninterruptible Power Supplies. Provide a minimum power quality performance of 12% current THD and 3% voltage THD measured at the UPS input terminals. Provide filtering if necessary.

i. Transient Voltage Suppression System. TVSS shall be provided for the main service of each facility with services greater than 200 amps. A second level of TVSS shall be provided for panels serving primarily computer or non-linear loads.

(3) Miscellaneous Electrical

a. Lightning Protection. If the risk analysis performed per HFPA 780 or UL 96A exceeds moderate risk, ~~provide~~ a lightning protection system is recommended. Minimum qualifications required: LPI-certified installer, designer, and inspector. Obtain a UL Master Label of LPI Label for the facility.

b. Generator Fuel Tank Size. When generators are provided, size fuel tank to comply with the needs of the facility or a minimum of 24 hours of operation at full load capacity.

c. Hazardous Classifications. Coordinate with the State Fire Marshal hazardous classifications and requirements, including class, division, and group requirements.

d. Electrical Penetrations: All mechanical or electrical penetrations of the exterior envelope must be sealed air tight to the air barrier of the exterior wall assembly. If the building does not have an air barrier then the penetrations must be sealed air tight to the existing exterior sheathing and cladding in order to prevent excess air leakage.

(4) Structured Cabling

a. Coordinate structured cabling requirements with the IT departments of DFCM, the institution, and the user groups.

b. Test all structured cabling systems to demonstrate compliance with TIA/EIA standards for the category of system selected. Include warranty and the test results in the Project Resource Manual.

(5) Fire Alarm

a. Provide addressable fire alarm systems as required by State Fire Marshal's Rules R710. The installation shall comply with the State Fire Marshal's Rules R710 and NFPA 72.

b. For DFCM-managed buildings, specify non-proprietary manufacturers. Examples of approved types are: Fire-Lite and Silent Knight. All other manufacturers shall be approved by the DFCM Director.

c. For institutional buildings, comply with the requirements of the institution.

d. Install class "A" looped systems or as approved by the Fire Marshal.

e. Fire alarm wiring shall be installed in conduit.

f. Do not use the following components unless approved by the ~~DFCM Director~~ The State fire Marshal's office or his designee and user/agency: other manufacturers, zoned fire alarm panels, ionization smoke detectors, MC Cable.

6. Miscellaneous Systems: Coordinate requirements for other systems such as security, CCTV, audio/visual, etc. with DFCM, the institution, and user groups.

3.6 Mechanical - General

A. Standards

(1) The latest editions of publications and standards listed here are intended as guidelines for design. They are mandatory only where referenced as such in the text of this chapter or in applicable codes. The list is not meant to restrict the use of additional guides or standards. When publications and standards are referenced as mandatory, any recommended practices or features shall be considered required.

a. Most recent adopted version of International Code Council
b. ASHRAE: Handbook of Fundamentals.
c. ASHRAE: Handbook of HVAC Applications.
d. ASHRAE: Handbook of HVAC Systems and Equipment.
e. ASHRAE: Standard 15: Safety Code for Mechanical Refrigeration.
f. ASHRAE: Standard 52: Gravimetric and Dust-Spot Procedures for Testing Air-Cleaning Devices Used in General Ventilation for Removing Particulate Matter.
g. ASHRAE: Standard 55: Thermal Environmental Conditions for Human Occupancy.
h. ASHRAE: Standard 62: Ventilation for Acceptable Indoor Air Quality.
i. ASHRAE: Standard 90.1: Energy Standard for Buildings Except Low-Rise Residential Buildings.
j. ASHRAE: Standard 100: Energy Conservation in Existing Buildings.
k. ASHRAE: Standard 105: Standard Method of Measuring and Expressing Building Energy Performance.
l. ASHRAE: Standard 111: Practices for Measurement, Testing, Adjusting and Balancing of Building HVAC Systems.
m. ASHRAE: Standard 113: Method of Testing for Room Air Diffusion
n. ASHRAE: Standard 114: Energy Management Control Systems Instrumentation.
o. ASHRAE: Standard 135: BACnet: A Data Communication Protocol for Building Automation and Control Networks.
p. ASHRAE: Standard 202: Commissioning Process for Buildings and Systems
q. ASHRAE: Guideline #4: Preparation of Operating and Maintenance Documentation for Building Systems.
r. American National Standards Association: ANSI Z 223.1.
s. National Fuel Gas Code Standard 54.
t. American Society of Mechanical Engineers: ASME Manuals.
u. American Society of Plumbing Engineers: ASPE Data Books.
v. Sheet Metal and Air Conditioning Contractors' National Association, Inc. (SMACNA):
w. ASHRAE HVAC System Duct Design.
x. SMACNA HVAC Duct Construction Standards: Metal and Flexible.
y. SMACNA HVAC Air Duct Leakage Test Manual.
z. SMACNA Fire, Smoke and Radiation Damper Installation Guide for HVAC Systems.
aa. Seismic Restraint Manual Guidelines for Mechanical Systems.
bb. NFPA Standard 96.
cc. ASTM A53: Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated, Welded and Seamless
dd. ASTM A74: Standard Specification for Cast Iron Soil Pipe and Fittings
ee. ASTM A106/: Standard Specification for Seamless Carbon Steel Pipe for High-Temperature Service
ff. ASTM A197: Standard Specification for Cupola Malleable Iron
gg. ASTM A234: Standard Specification for Piping Fittings of Wrought Carbon Steel and Alloy Steel for Moderate and High Temperature Service
hh. ASTM A888: Standard Specification for Hubless Cast Iron Soil Pipe and Fittings for Sanitary and Storm Drain, Waste, and Vent Piping Applications
ii. ASTM B32: Standard Specification for Solder Metal
jj. ASTM B88: Standard Specification for Seamless Copper Water Tube

kk. ASTM C564: Standard Specification for Rubber Gaskets for Cast Iron Soil Pipe and Fittings
ll. ASTM C1540: Standard Specification for Heavy Duty Shielded Couplings Joining Hubless Cast Iron Soil Pipe and Fittings
mm. ASTM D1784: Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds
nn. ASTM D2444: Standard Test Method for Determination of the Impact Resistance of Thermoplastic Pipe and Fittings by Means of a Tup (Falling Weight)
oo. ASTM D2661: Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe and Fittings
pp. ASTM D2665: Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings
qq. ASTM D3034: Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings
rr. ASTM D3212: Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
ss. ASTM E336: Standard Test Method for Measurement of Airborne Sound Attenuation between Rooms in Buildings
tt. ASTM E779: Standard Test Method for Determining Air Leakage Rate by Fan Pressurization
uu. ASTM F876: Standard Specification for Crosslinked Polyethylene (PEX) Tubing
vv. ASTM F877: Standard Specification for Crosslinked Polyethylene (PEX) Hot- and Cold-Water Distribution Systems
ww. All applicable regulations and requirements of local utility companies having jurisdiction.

B. Criteria

(1) Design Conditions

a. Outdoor air design criteria is from weather data tabulated in the latest edition of the ASHRAE Handbook of Fundamentals.

i. Heating design conditions: 99 percent column heating dry bulb temperature.

ii. Cooling design conditions for sensible, latent and ventilation load calculations: 1 percent column dry bulb temperature, with its mean coincident wet bulb temperatures

iii. Cooling tower selection, and dehumidification load: 1 percent dew point, with its mean coincident dry bulb temperature.

b. Occupancy:

i. Determine occupant density (persons/ft^2) from the occupancy schedule of the Program.

ii. If this information is not available, use the occupancy density values in ASHRAE 62.1.

iii. For dining areas, auditoriums, and other high occupancy spaces, base occupancy densities on the number of available seats.

iv. Base sensible and latent loads per person on the latest edition of the ASHRAE Handbook of Fundamentals.

(2) Load Calculation Software Requirements

a. Perform HVAC load calculations with a computer-based program using the latest ASHRAE Handbook of Fundamentals Heat Balance (HB) Method, Radiant Time Series (RTS) Method, or Transfer Function Method (TFM).

b. The program must be capable of calculating each zone's peak heating and cooling loads as well as the whole-building simultaneous peak load.

c. The program must calculate solar gains through fenestration, internal gains from occupants, including latent heat for cooling purposes, internal gains from lighting and equipment, outside air loads (sensible and latent) from ventilation and infiltration, and heat and moisture gains or losses through fenestration, walls, floors, and roofs.

d. Calculate the heating load without credit for occupants and internal gains.

e. Do not include safety factors in the HVAC load calculations unless specifically asked for in the Program.

(3) Temperature

a. Design for indoor setpoints specified in the Program.

b. Ensure control of dry bulb temperature range, allowing for seasonal and unoccupied set point adjustment.

c. Control surface temperatures surrounding the occupants to limit the detrimental effects of radiant temperature asymmetry. Use passive methods such as better R-values in materials, and active methods such as delivery of heating and cooling media (air, water, electricity, refrigerant) to offset undesirable surface temperatures.

(4) Humidity Control

a. Unless specific control ranges are required by the Program to protect materials or processes, humidity control is neither required nor encouraged

(5) Air Movement

a. Occupant comfort: Design to deliver air at less than 30 fpm air speed in heating and 50 fpm air speed in cooling at the occupied level.

b. Stratification: Reference ASHRAE 55 for allowable vertical air temperature stratification.

c. Airflow noise: Design to meet space and occupant noise level criteria as specified in the Program and or Section Noise Control below.

(6) Building Pressure

a. Manage the flow rates of building outdoor air, exhaust air and relief air by the HVAC equipment, reset as determined by the pressure differential of ground floor's exterior space with the outdoor, to achieve 0.02" - 0.05" wc positive building pressure when occupied.

b. Maintain positive building pressure when occupied, when outside dew point is higher than 47°F when unoccupied, and/or when specific space humidity control requirements must be maintained.

(7) Ventilation

a. Design ventilation rates to comply with ASHRAE Standard 62.1, latest edition, using the Ventilation Rate Procedure

b. Provide devices to measure and control minimum outdoor air flow for all variable air volume systems. Provide means for the outdoor air flow rate to be reported to the building DDC system.

c. Comply with all the technical requirements of Section 5.0 HPBS.

(8) HVAC Noise Control

a. Design all systems so that space RC is equal to or less than those listed in ASHRAE Applications, Noise and Vibration Control Chapter, Design Guidelines for HVAC-Related Background Sound in Rooms

b. Confirm design sound levels are achieved through field measurements in accordance with ASTM E336 "Standard Test Method for Measurement of Airborne Sound Attenuation between Rooms in Buildings"

(9) Redundancy - This is not required by code, but redundancy and low load operating conditions are still strongly recommended, but optional for each institution.

a. Provide for continuous operation through redundancy and/or modularization for facilities greater than 30,000 sf or which have critical functions or critical care residents.

b. The loss of one half or less of the design cooling or heating system for the entire facility shall be tolerated temporarily in the event of equipment failure for: heat pumps, boilers, refrigeration machinery (excluding cooling towers), and condensate pumps.

(10) Low-Load Operating Conditions (Shoulder seasons)

a. Design mechanical systems to be capable of stable operation at 10% of peak load capacity while maintaining space temperature requirements without equipment cycling that is outside of the equipment manufacturer's design and operating recommendations or that will shorten equipment life.

C. High Performance Building System

(1) Reference High Performance Building System requirements

D. Operability and Maintainability

(1) Locate mechanical rooms to take advantage of ductwork and piping proximities to major loads.

(2) Locate all mechanical equipment within the building or on the property in areas not subject to flooding and 5 feet above the 100-year flood plain.

(3) Accessible for Maintenance

a. Install equipment so that it can be safely and easily maintained and inspected.

b. Comply with OSHA and other access requirements (step height, reach length, railing and catwalks).

c. Comply with requirements for mechanical room sizes and manufacturer's recommended clearances around installed equipment.

d. ~~Provide stair access to equipment installed on roof~~. Coordinate roof equipment access with institution.

e. Provide disassembly access for all valves, piping, and equipment.

f. ~~Do not locate equipment, panels, damper motors, or other elements more than three feet above a ceiling where access is required with a ladder. Provide walkways and /or catwalks for equipment above these heights.~~ Coordinate ceiling equipment access with institution.

(4) Provide means such as overhead rails or structure for attaching winches, lifts, etc. for temporary lifting and support for removal of heavy and /or large parts.

(5) Simple/Understandable to Operate

a. Design the HVAC system design to minimize the need for overly complex control systems.

b. Clearly describe and comprehensively document the sequence of operation for the control systems in Operator's manuals, as-built documents, and by posting as-build documents within the control panels.

(6) Operations

a. Select equipment components, spare parts, and materials so that they are readily available and repairable by local technicians. Avoid special order and/or long lead items when other options are available.

E. Alterations in Existing Buildings and Historic Structures

(1) Design HVAC systems to avoid affecting other systems and historic finishes, elements, and spaces.

(2) Place exterior equipment where it is not visible. Recess equipment from the edge of the roof to minimize visibility of the equipment from grade. Alternatively, explore creating a vault for easier access to large mechanical equipment. If equipment cannot be concealed,

specify equipment housings in a color that will blend with the historic face. As a last resort, enclose equipment in screening designed to blend visually with the facade.

(3) Locate equipment with particular care for weight and vibration on older building materials.

(4) Retain original plaster ceilings in significant spaces, such as lobbies and corridors, to the extent possible and modified only as necessary to accommodate horizontal distribution. Use soffits and false beams where necessary to minimize the alteration of overall ceiling heights. In buildings containing ornamental or inaccessible ceilings, route piping and ductwork in furred wall space or exposed in the occupied building area. Consider exposed ducts in historic industrial buildings with open plan, tall ceiling, and high window spaces suited to flexible grid/flexible density treatments.

(5) If new vertical air distribution risers are required, locate adjacent to existing shafts.

(6) Select system types, components, and placement to minimize the alteration of significant spaces. In previously altered spaces, design systems to allow historic surfaces, ceiling heights, and configurations to be restored.

(7) Retain decorative elements of historic systems such as ornamental grilles and radiators where possible.

(8) Retain and enhance the performance of the original type of system where a new one cannot be totally concealed or would adversely affect historic spaces or features. For example, adapt existing radiators with modern heating and cooling units, rather than adding another type of system that would require the addition of new ceilings or other non-original elements.

(9) To the greatest extent possible, ensure that space is available to maintain and replace equipment without damaging significant features and select components that can be installed without dismantling window or door openings.

(10) Select temperature and humidity conditions that do not cause deterioration of building materials.

(11) Locate and construct all mechanical rooms so that equipment can be replaced and repaired with standard, normally available equipment, without special or custom built dimensional requirements, and minimal disassembly.

(12) Avoid locations requiring difficult lifting and / or heavy crane requirements that will interfere with occupant activities in an occupied building.

3.7 Plumbing

A. Domestic Water Supply Systems

(1) Cold Water Service

a. Cold water service consists of a pressurized piping distribution system incorporating a separate supply line from the tap in the existing outside water main to the equipment area inside the building.

(2) Materials

a. Exterior Buried

i. Copper tube: ASTM B88 Type K with wrought copper and bronze solder joint fittings in conformance with ANSI B16.22 or cast bronze solder joint fittings in conformance with ANSI B16.18.

ii. Ductile Iron Pipe Fittings and Joints, Class 150, with mechanical joints and fittings with set screw retaining glands conforming to ANSI/AWWA C110/A21.10 and ANSI/AWWA C111/A21.11.

iii. Polyvinylchloride Water Pipe, Fittings, and Joints conforming with NSF Standards #14 and #61 and cell classification 12454-A or -B per ASTM D-1784.

(a) Solvent cement to be low volatile organic compound (VOC) to meet South Coast Air Quality Management District (SCAQMD) Rule #1168.

b. Interior Buried
   i. ASTM B88 Type K annealed (soft) copper water tube with 95% tin 5% antimony solder joints using wrought fittings.
   ii. No joints below grade.

c. Interior Tube Supported by Hangers and Clamps
   i. ASTM B88 Type L hard drawn copper tube with wrought copper fittings and couplers up to 6", cast brass or bronze fittings and couplers for sizes 6" and larger.
   ii. Joints:
      (a) 95-5 Class SnSb solder
      (b) Roll-grooved couplers and fittings for 3” and larger tube.
   iii. Copper ProPress fittings conforming to material requirements of ASME B16.18 or ASME B16.22 and performance criteria of IAPMO PS 117
   iv. Crosslinked polyethylene tubing in accordance with ASTM F 876 and ASTM F 877.

d. Penetrations
   i. All mechanical or electrical penetrations of the exterior envelope must be sealed air tight to the air barrier of the exterior wall assembly. If the building does not have an air barrier then the penetrations must be sealed air tight to the existing exterior sheathing and cladding in order to prevent excess air leakage.

(3) Soil Cover
   a. For outside services greater than 6000 HDD, provide minimum cover of 48” or preferred cover of 60”. In no instance shall the minimum depth be less than the frost line.
   b. For outside services less than 6000 HDD: Provide minimum cover of 36” or preferred cover of 48”.

(4) Meters
   a. Meter water service with compound meter(s) furnished by the local department of public works.
   b. Provide double check valves on incoming service.
   c. Provide remote reading capability of meters.
   d. Sub-meter irrigation systems.
   e. Campus Water Meters.
      i. Install meter in the main mechanical room or within easy access of mechanical spaces.
         (a) If conditions do not permit inside installation, provide meter box outside.
         (b) The meter box shall be 52” x 81” x 71” high with a concrete base under the meter, but the rest of the floor shall be gravel. Top shall have recessed eyes. Top to be poured separate so it can be moved off with a crane and the eyes shall be left large enough to insert a chain by which it can be lifted. Cover to have a 24 inch locking meter lid in center. Position meter so it can be read without personnel entering the vault. Water meter indicator shall be the totalize type reading directly in gallons of water. Water meter shall be installed with valves on both sides so meter can be removed and a bypass line installed. Sleeve around pipes passing through walls of meter box.

f. Where fire sprinklers are installed, connect the fire main ahead of the meter.

(5) Gauges

a. Provide pressure gauges with gauge cocks on each side of equipment and devices which have a pressure drop, such as PRVs, strainers, and heat exchangers.

(6) Internal distribution to supply domestic cold water to all plumbing fixtures, water heaters and all mechanical make-up water needs.

(7) Design distribution system to maintain adequate pressure and flow in all parts of the system under all operating conditions.

(8) Use duplex booster pumping system if the water pressure is not adequate to provide sufficient pressure at highest, most remote fixture. Ensure that the water pressure at the fixture is in accordance with the International Plumbing Code.

(9) Completely insulate, with vapor barrier, all domestic cold water piping above ceiling and where concealed in walls, or any location where condensation could cause mold growth or damage.

(10) Provide water hammer arrestors at every branch to multiple fixtures and on every floor.

(11) Valves

a. Use ball valves with full opening ports and adequate pressure and temperature rating up to three inches in size, and butterfly valves with wheel and gear operator for 4 inches and larger.

b. Provide valves near the main with a union for all branch lines of water which supply more than one outlet or unit.

i. Provide isolation valves as necessary and provide, as a minimum, valves for each toilet group outside of the toilet room, each floor, and each branch line that is 2” or greater

ii. Provide a quarter-turn ball shutoff valve on all water supply lines on the room side of the fixture.

iii. Supply lines from the valve shall be 3/8” brass, chrome plated.

iv. Provide chases or access panels to access valves, with proper identification on or near panel.

v. Water relief valves: Connect water relief valve exhaust or discharge to nearby floor drain. Provide sump in pipe tunnels at each cleanout.

B. Hot Water Service

(1) Materials and valves: Same as cold water

(2) Generate hot water with heaters utilizing natural gas, electricity or steam as an energy source. Support selection by an economic evaluation incorporating first cost, operating costs and life cycle costs in conjunction with the HVAC energy provisions.

(3) Generate and store domestic hot water at 140°F, and temper to 120°F using a three-way mixing valve, before supplying to all plumbing fixtures.

(4) Provide secondary drain pans under water heaters and hot water tanks, piped to the nearest floor drain.

(5) Boost supply water temperature from 140°F to 180°F to dishwasher(s).

(6) Evaluate heat pump hot water heaters where possible to save energy.

(7) Ensure that hot water is available at the furthest fixture from the heating source within 15 seconds of the time of operation.

(8) Distribution system consists of a piping system which connects water heater or heaters to all plumbing fixtures as required. Circulation systems or temperature maintenance systems are included.

a. Design and balance circulation systems to less than 4 fps velocity to minimize piping erosion.

b. Control circulation systems based on water return temperature and building occupancy.

c. Monitor domestic hot water supply and return temperatures and circulation pump status by the building automation controls system.

(9) Provide water hammer arrestors at every branch to multiple fixtures and on every floor
(10) Solar Water Heating
a. If lifecycle cost effective based on Program directive or five year ROI, meet at least 30 percent of the hot water demand for each new building or building undergoing a major renovation through the installation and use of solar hot water heaters.
(11) Insulate hot water distribution systems per ASHRAE 90.1 and provide all exposed piping with PVC jacketing.
(12) Coordinate installation to allow access for maintenance and replacement.
(13) Provide combination temperature and pressure relief valve piped to adequate drain.
(14) Specify flexible connections and tie-down straps to accommodate movement during seismic events.

C. Sanitary Waste and Vent System
(1) General
a. Cast iron pipe centrifugally cast service weight (SV) soil pipe with cast iron drainage fittings conforming to ASTM A 74.
b. Joint materials and systems
i. Hub and spigot with neoprene gaskets and lubricant conforming to ASA 021 and ASTM C 564 SV pattern.
ii. Cast iron hubless pipe and fittings conforming to ASTM A 888, CISPI 301.
(a) Hubless couplings shall conform to ASTM C 1277 for standard and ASTM C 1540 for heavy duty or CISPI 310.
c. Polyvinylchloride (PVC) sewer pipe and fittings conforming to DR 35, ASTM D3034, bell and spigot type with reinforced rubber ring gasket integral with bell joint, material to meet ASTM D1784, D2444 and joint tightness in accordance with ASTM D3212.
i. Solvent cement to be low volatile organic compound (VOC) to meet South Coast Air Quality Management District (SCAQMD) Rule #1168.
(2) Buried Pipe
a. SV hub and spigot cast iron pipe and fittings
b. No-Hub standard weight cast iron pipe with either M-G couplings or heavy-duty stainless steel shielded couplings. The heavy-duty shielded couplings shall comply with ASTM C1540, with ASTM C564 neoprene gaskets,
(3) Interior Pipe Supported By Hangers and Clamps
a. Hubless cast iron pipe using hubless cast iron soil pipe couplings certified to withstand a minimum of 50 psi internal pressure, or higher if required by application.
b. Sump pump discharge shall be Schedule 40 galvanized steel pipe with NPT threaded joints and fittings.
(4) Plastic Drain, Waste and Vent Piping
a. Plastic DWV may be either P.V.C. or A.B.S. as required by code, utilizing drainage pattern fittings.
i. P.V.C. (polyvinylchloride) pipe and fittings shall conform to ASTM D2665 with a flame spread rating of 25 or less
ii. A.B.S. (acrylonitrile butadiene styrene) pipe and fittings shall conform to ASTM D2661, CS 270 65
b. Solvents for plastic piping
i. Solvents for plastic piping joints shall be certified to meet SCAQMD Rule #1168/316A. This includes but is not limited to PVC, CPVC, and ABS piping, all grades and sizes.
(5) Vent Piping and Fittings

a. Same as waste piping above.

(6) Floor Drains.

a. Provide floor drains in multi-toilet fixture restrooms, kitchen areas, mechanical equipment rooms, locations where condensate from equipment collects, and parking garages and ramps.

b. Single fixture toilet rooms do not require floor drains.

c. Provide cast iron body type floor drains with 6 inch diameter nickel-bronze strainers for public toilets, kitchen areas and other public areas.

d. Equipment Room Floor Drains

i. Trenches with grating covers with bottoms sloped to drain are preferred but not required over multiple floor drains in mechanical equipment rooms and some laboratories

e. Parking Garages

i. Large diameter tractor grates or trench drains inlets when exposed to rainfall.

f. Water Still Drains

i. Provide Kimax glass to nearest main drain from water still drains or provide glass pipe for the first 20 feet horizontally or to the floor below.

Ii. Provide cleanout at water still and at main drain line before glass is connected with soil piping

g. Provide drains indirectly connected to building drainage system for walk-in refrigerators and other places where food is stored.

h. Use deep seal traps or trap seals. Do not use trap primers.

(7) Sanitary Waste Equipment

a. Discharge specific drains in kitchen areas into a grease interceptor before connecting into the sanitary sewer in accordance with the requirements of the state health department and local authorities will determine which drains.

b. Discharge floor drains and/or trench drains in garage locations into sand/oil interceptors.

(8) Automatic Sewage Ejectors

a. Only use sewage ejectors where gravity drainage is not possible. If they are required, connect only the lowest floors of the building to the sewage ejector; for fixtures on upper floors use gravity flow to the public sewer.

b. Non-clog, screen less duplex pumps, with each discharge not less than 4 inches in diameter.

c. Connect to the emergency power system.

(9) Pipe Tunnel Sumps

a. Provide sump in pipe tunnels at each cleanout.

b. Three foot square and four feet deep with grating cover and porous walls.

c. Floor drains may be used in lieu of sump if depth of waste line is such that drains may be tied in.

(10) Waterproofing Pans

a. Provide membrane waterproofing pans for shower stalls and custodial floor sinks so they are 100% water tight.

b. Provide clamping device which clamps drain to pans.

c. Provide a mastic seal between floor drain bottom and lead or membrane so when clamping device is tightened there is a complete seal so no water can get through.

d. Do not clog weep holes.

e. Test pans by placing test plug in drain and filling with water overnight.

(11) Dishwasher Connections

a. Provide indirect connection for waste on automatic dishwashing machines. Install minimum 3” drain in an accessible location under conveyor table.

(12) Cleanouts
a. Provide cleanouts at base of each vertical rise, each turn in excess of 45 degrees and on straight runs every 50 feet.

(13) Horizontal Waste lines:
a. Provide dedicated minimum 3” horizontal waste lines with adequate cleanouts for garbage disposals and dishwashers.

D. Rainwater Drainage System
(1) Size piping system based upon local rainfall intensity, with minimum pipe size = 3”
(2) Roof Drains
a. Cast iron body type with cast iron high dome grates and membrane clamping rings.
b. Provide a separate overflow drain located adjacent to primary roof drain.
c. Overflow drains are the same drains as the roof drains except that a damming weir extension is included.
(3) Rainwater Drainage Equipment.
a. Foundation drainage system with perforated drain tile collecting into a sump containing a pumping system as required by the applicable codes shall be provided.

E. Plumbing Fixtures
(1) In compliance with the International Plumbing Code and local building codes.
(2) Apply water conservation technologies to the extent that the technologies are life-cycle cost-effective, based on criteria established in Program, or 5 year ROI
(3) Use plumbing products labeled under the EPA WaterSense program.
(4) Reference the Architectural Barriers Act Accessibility Standard (ABAAS) for plumbing fixture accessibility clearances, installation, and accessories requirements.
(5) Showers
a. Non-scald type shower valve with integral stops.
b. Vandal-proof institutional type shower heads with flow adjustment and adjustable head and spray.
c. Extend head out from wall so water does not run down wall when valve is turned off.
d. Provide watertight shower escutcheon with weep hole in bottom.
(6) Drinking Fountains
a. Refrigerated type, wall hung drinking fountains with stainless basins.
b. Provide removable grid strainer to enable cable-style cleaning without having to dismantle the fountain.
(7) Water Closets (Toilets)
a. Flushometer valve type
i. Either dual-flush or low-flow type, manually controlled. For single flush, maximum flush volume when determined in accordance with ASME A112.19.2 (1.28 gallon).
ii. For dual-flush, effective flush volume determined in accordance with ASME A112.19.14 and USEPA WaterSense Tank-Type High Efficiency Toilet Specification -1.28 gal.
iii. Exposed type flush valves with lever operator (no push buttons or floor operators), diaphragm type only.
iv. Screwdriver stop valves.
v. Concealed flush valves in restrooms subject to vandalism.
b. High Efficiency Toilets (HET) Water Closets Tank-Type
i. Do not specify unless approved by the Director

ii. If used, comply with the performance criteria of the U.S. EPA WaterSense Tank-Type High-Efficiency Toilet Specification.

(8) High Efficiency Urinals (HEU)
- a. Low-flow, flush-type fixtures.
- b. Maximum flush volume when determined in accordance with ASME A112.19.2: 0.125 gallon.
- c. Sensor valves are acceptable

(9) Public Lavatory Faucets
- a. Use metered-type faucets for lavatories. Maximum water use: 0.25 gallon per metering cycle when tested in accordance with ASME 112.18.1 / CSA B125.1.

(10) Emergency Fixtures
- a. Eyewash (0.4 gpm per fountain), face wash (3 gpm each), or shower (20 gpm each) must be tempered immediately at the fixture or group of fixtures within 25 feet to deliver tepid water between 85°F and 100°F, at 30 psi, within 10 seconds, for a minimum period of 15 minutes, and must account for temperature drop across the valve (generally 20°F) at flow.

(11) Faucets and Hose Bibs
- a. Provide non-freeze type hose bibs with shut-off valves for the lines serving the hose bib located inside facility.
- b. Provide faucet with hose attachment and vacuum breaker in each restroom so floor can be washed with clean water.
- c. Provide hose bib with vacuum breaker in mechanical rooms and chiller rooms.
- d. Provide non-freeze hose bib with vacuum breaker near cooling tower.
- e. Provide hose bibs outside building for window washing, walk and area way washdown (generally not more than 150’ on center).

F. Natural Gas Systems

(1) Service Entrance.
- a. Protect gas piping entering the building from accidental damage by vehicles, foundation settlement or vibration.
- b. Where practical, the entrance should be above grade and provided with a self-tightening swing joint prior to entering the building.
- c. Do not locate gas piping in unventilated spaces, such as trenches or unventilated shafts, where leaking gas could accumulate and explode.

(2) Gas Piping within Building Spaces.
- a. Do not route gas piping through confined spaces, such as trenches or unventilated shafts.
- b. Ventilate vertical shafts carrying gas piping
- c. Locate gas meters in a gas meter room.
- d. Use plenum rated fittings for all gas piping inside ceiling spaces.
- e. Vent all diaphragms and regulators in gas piping to outdoors.
- f. Provide seismic bracing for all gas piping within building

G. Fuel Oil Systems

(1) Fuel Oil Piping
- a. Schedule 40 black steel or black iron piping. Fittings of the same grade as the pipe material.
- b. Bronze, steel or iron valves, may be screwed, welded, flanged or grooved.
- c. Use double-wall piping with a leak detection system for buried fuel piping.

(2) Use duplex fuel-oil pumps with basket strainers and exterior enclosures for pumping the oil to the fuel burning equipment.

(3) Underground Fuel Oil Tanks
- a. Double wall, non-metallic construction or contained in lined vaults.

b. Size for sufficient capacity to provide 48 hours of system operation under emergency conditions (72 hours for remote locations).
c. Provide a leak detection system, with monitors and alarms for both
d. Provide emergency power to all components of the Fuel Oil Storage system
e. Comply with local, State and Federal requirements, as well as EPA 40 CFR 280 and 281.

3.8 HVAC Systems

A. Air Distribution Systems

(1) Supply air distribution systems are to be fully ducted to the spaces that are served.
(2) Coordinate the location of any exhaust or relief air with mechanical air intake systems to avoid short cycling
(3) Provide dedicated relief air path for all systems which introduce outside air. Exfiltration through the building envelope does not comply with this requirement.
(4) Ductwork Materials:
a. Provide rectangular and round ductwork from galvanized steel, stainless steel or aluminum.
b. Meet or exceed SMACNA and ASHRAE Standard 90.1 requirements for duct construction, installation and leakage.

(5) Volume Adjusting Devices
a. Provide devices that can be securely locked in place and are accessible for adjustment after construction.
(6) Do not provide the following components, unless approved by the Director:
a. Duct Lining in the following applications:
i. Outside air ducts,
ii. Ductwork within 10 feet downstream of any device that adds moisture to the air stream
iii. Ductwork exposed to humid air stream above 70% RH such as swimming pool applications.
b. Fiberboard ductwork.

B. Piping System

(1) Materials:
a. Steel:
i. Pipe:
(a) 2 Inch & Smaller: ASTM A53, Grade A, Schedule 40 black buttweld or continuous welded steel.
(b) 2 1/2 Inch & Larger: ASTM A53, Grade B, Schedule 40 black buttweld or continuous welded steel.
ii. Fittings:
(a) 2 Inch & Smaller: ASTM A197, Class 150 black malleable iron screwed.
(b) 2 1/2 Inch & Larger: ASTM A234, Steel butt weld, standard weight forged fittings.
b. Copper:
i. Tube:
(a) Up to 4" inclusive ASTM B88, Type L, hard drawn.
ii. Fittings:
(a) ANSI/ASME B16.23 cast brass and/or
(b) ANSI/ASME B16.29 solder wrought copper
iii. Joints:

(a) ASTM B32, solder, Grade 95 TA.

iv. ProPress option for copper tubing, fittings, and joints:

(a) Conform to material requirements of ASME B16.18, ASME B16.22, and IAPMO PS 117.

(b) Joints conform to ASME B16.18, ASME B16.22, and IAPMO PS 117.

c. Penetrations:

i. All mechanical or electrical penetrations of the exterior envelope must be sealed air tight to the air barrier of the exterior wall assembly. If the building does not have an air barrier then the penetrations must be sealed air tight to the existing exterior sheathing and cladding in order to prevent excess air leakage.

(2) Underground Pipe

a. Comply with ASTM A106.

(3) Air Vents

a. Provide suitable air vents for all heat producing equipment (converters, unit heaters, coils, etc.).

b. Provide with manual air vent valves at system high points and drain valves at system low points.

i. Furnish suitable provisions, such as access panels, to permit full access to these valves.

ii. Manual air vents shall be 3/8” globe valves with ¼” copper tubing to near floor or to locations where water may be caught in bucket.

iii. Drain valves shall be threaded for ¾” hose connections.

iv. Provide water-tight sleeve and caulking around pipe for all piping passing through floors.

(4) Valves

a. Provide valves near the main with a union for all branch lines of water or steam which supply more than one outlet or unit.

b. Ball valves with full opening ports and adequate pressure and temperature rating up to 3 inches in size, and butterfly valves with wheel and gear operator for 4 inches and larger.

c. Valves 2” and larger on systems greater than 200 degrees F shall be flanged or grooved.

d. Provide chases or access panels to access valves. Provide proper identification on or near panel.

(5) Insulation

a. Insulate piping in compliance with prevailing energy code or the requirements of the High Performance Building Standard, whichever is more stringent.

b. Provide PVC jacket on all piping exposed to view, and in mechanical rooms

c. On pipes subject to condensation, use non-permeable insulation of perm rating 0.10, such as cellular glass or preformed composite insulation system.

(6) If glycol is used for freeze protection, use propylene glycol. Do not use ethylene glycol.

C. Steam

(1) Motor Operated Steam Valve:

a. If the existing central plant serving the campus is a steam system, provide a motor operated steam valve for each new building.

b. Coordinate location with the Agency.

c. If equipment requires steam when the valve may be closed, connect equipment ahead of motor operated steam valve.

(2) Design for gravity flow of condensate in lieu of providing vacuum pumps.

(3) Provide tunnels, chases, access doors, or crawl spaces for accessing steam piping. Do not install underground or in split tile

(4) Provide properly dripped steam mains. Provide drip legs ahead of all steam pressure reducing valves and steam coils to ensure clean, dry steam at the valve.

(5) Valves

a. Low pressure steam valves shall have a 200 psi rating and allow renewable seats and discs.

b. For 100 psi steam line use 250 psi flanges and 300 psi screwed valves.

c. Provide valves near the main with a union for all branch lines of steam which supply more than one outlet or unit.

(6) Piping

a. 2” and smaller: schedule 80 black steel.

b. 2-1/2” or larger: schedule 40 black steel for low pressure steam (15 psig or less) and schedule 80 black steel for medium and high pressure steam (greater than 15 psig).

c. Condensate piping: schedule 80 black steel pipe, including underground return lines.

(7) Underground Steam Lines

a. Use pre-insulated pipe for underground steam lines, materials as noted above, with separate insulated conduits for steam and condensate return piping.

(8) Expansion Provisions

a. Provide expansion loops, swing joints, offsets, etc., for expansion of piping.

b. Do not use expansion joints except when expansion loops, offsets, swing joints, etc., are not possible due to space constraints.

c. If expansion joints are provided, provide adequate internal or external guides that are properly supported anchored.

d. Do not provide swing joints on main runs; however, swing joints may be installed on risers off the main.

(9) Pressure Reducing Stations

a. Provide pilot-operated valve for pressure reducing stations.

b. Provide a three valve bypass at all reducing stations with ample clearance to permit normal maintenance and inspection.

c. Use parallel pressure reducing stations when low demand is expected.

d. Provide safety relief valves on the low pressure side of regulator stations. Provide discharge piping to facility exterior in a safe location.

i. For pipes discharging near grade, install pipes into an eight inch concrete tie set upright in the ground (buried) over a gravel base twelve inches deep.

e. Provide pressure gauges on both the high pressure and low pressure sides of all regulator stations. Locate gauges so they will function when bypass is used.

i. Provide gauge cocks and pig-tails.

(10) Steam Meter

a. Refer to section 5.0 HPBS.

(11) If campus system hot water system is turned off during the summer, provide alternate heating system for equipment requiring a heating source.

(12) Miscellaneous Requirements

a. Provide eccentric reducers when steam piping changes pipe sizes with the flat side on the bottom of the pipe.

b. Provide water-tight sleeve and caulking around pipe for all piping passing through floors.

D. High Temperature Water
(1) Comply with the specific requirements of the high temperature water provider.

E. Natural Gas
(1) Seismic gas shut off valve:
a. Provide a seismic gas shut off for each natural gas system.
(2) Natural Gas Piping
a. Weld all concealed natural gas piping if larger than 4".
b. Install flexible connections and tie-down straps to accommodate movement during seismic events.
(3) Soil cover for outside services: Provide minimum cover of 24" or preferred cover of 36" for gas.

F. Building Automation
(1) Direct Digital Control:
a. ~~For new construction, use DDC with an open BACnet or LonTalk communication protocol in accordance with ASHRAE Standard 135.~~ Coordinate DDC requirements with institution.
b. For repair and alteration projects and new additions to existing projects, the following options are permitted:
i. Installation of DDC with the BACnet or LonTalk protocol,
ii. Integrating the existing system with customized gateways to the BACnet or LonTalk protocol.
iii. Pneumatic control as an extension of an existing system, if specifically required by operating personnel
c. Provide digital metering of electrical, hot water, steam, and chilled water sources to each facility. Refer to section 5.0 HPBS.
d. Provide flow metering devices for hot and chilled water heating systems. . Refer to section 5.0 HPBS.

(2) Zoning
a. Provide as many thermal control zones as is practical, but a minimum:
i. Provide one zone per 1,000 ft^2 of internal space.
ii. Provide one zone for every three perimeter enclosed offices.
iii. Provide a separate control zone when a room has more than one external exposure (e.g. corner office).
iv. Provide separate control zone for densely occupied spaces such as classrooms, conference rooms.
v. Provide separate control zone for unusual occupancy zones such as dining halls, computer room, entryways, etc.
vi. For perimeter radiant systems, provide Hydronic piping sub circuits to match the cooling zones.
(3) Control Valves
a. Provide characterized-type ball valves for modulating control valves up to 2-1/2"
b. Provide visual position indicators.
c. Provide control valves with stem in the vertical position.
d. If possible, provide packless valves.
(4) Dampers
a. Provide low leakage design of felt or neoprene edges for fresh air, relief, and exhaust air dampers.

b. Provide appropriate blade action for the application. Generally, provide opposed blade type for modulating control and parallel blade type dampers for mixing or on-off control.
c. Provide controls that close the fresh air dampers on fan shutdown or power failure.
d. Provide steel trunnions mounted in bronze sleeve bearing or ball bearings for damper blades. Do not exceed 48 inches in length between damper bearings.
e. Provide dampers that close substantially tight and provide substantially the full area of the opening when open.
f. Provide substantial bar or channel frames for dampers.
g. For rectangular dampers larger than four square feet in area, provide additional corner bracing.

(5) Space Temperature Sensors
a. If system supports DDC monitoring, provide solid state temperature sensors.
b. Temperature sensors in corridors, halls, restrooms and other similar unsupervised areas shall be flush mounted aspirating type with stainless steel cover.
c. Temperature sensors in public, but supervised areas shall have locking covers with concealed adjustment.
d. Temperature sensors in private offices may have exposed adjustments.
e. Avoid locating temperature sensors on outside walls or on partitions between offices.

(6) Panels
a. Provide control devices, relays, piping, wiring and terminals in cabinets, except for switches, pilot lights, and push buttons mounted on the door.
b. Provide minimum 14 gauge steel or 12 gauge aluminum.
c. Equip doors with hinges, latches, and locks
d. Secure panels to walls, columns or floors with clearances required by NEC.
e. Provide two (2) keys for each panel.

(7) Wall Mounted Control Diagrams
a. Provide plastic laminated copies of all applicable controls diagrams mounted on the wall in each equipment room.

(8) Control Wiring
a. Provide control wiring in raceway complying with the requirements of Section 3.6 Electrical.
b. Label all control wiring on each end of wire termination points and where passing at intermediate locations passing through walls, in junction / pull boxes. Labels shall match wiring diagrams.
c. Control wiring shall NOT be spliced.

G. Chilled Water System - Means of cooling should be decided by each individual institution but the following is recommended.
(1) If the peak cooling load is 300 tons or more, provide at least two equally sized chillers at 67 percent of the peak capacity.
(2) Design chilled water system for a minimum 15°F ΔT, or higher if feasible
(3) Provide adequate system volume to minimize potential for chiller short-cycling
(4) For water-cooled chillers, design entering condenser water temperature to be 75°F
(5) Provide adequate valving to isolate the offline unit without interruption of service.
(6) Evaluate primary-only pumping.
(7) Analyze a waterside-economizer cycle during the design of the chiller plant and incorporate in the design if it improves the performance.

H. Boiler Plant - Means of heating should be decided by each individual institution but the following is recommended.

(1) If the peak heating load is greater than 500 MBH, provide at least two equally-sized modular boilers sized at 67 percent of peak demand.

(2) Evaluate the use of condensing boilers where feasible.

(3) Evaluate methods to minimize pumping energy through strategies such as high ΔT, primary only pumping

(4) Provide boiler backup by redundancy or modularization.

(5) If a power burner is specified, determine the maximum allowable length of positive pressure flue.

I. Condenser Water System

(1) Provide each chiller with its own matching cooling tower or cell, and condenser and chilled water pump.

(2) In the event of multiple cooling towers, provide equalizing lines and automatic control valves to allow individual chiller/cooling tower operation.

(3) Use plastic pipe where possible

J. Roof-Mounted Equipment

(1) This is recommended that Mechanical equipment, except for cooling towers, air-cooled chillers, evaporative condensers, exhaust fans, and packaged rooftop equipment, is not permitted on the roof of the building.

(2) Provide reasonable access to roof-mounted equipment. by stairs or freight elevator. Do not use ship's ladders.

(3) Access to all roof levels needs to comply with all applicable codes and be reviewed and approved by the maintenance staff of each institution.

K. Water Treatment System

(1) Design the water treatment for closed and open hydronic systems with consideration of the operational and maintenance needs of all system equipment including such components as boilers, chillers, cooling towers, other heat exchangers, pumps, and piping.

(2) Subject to the specific requirements of the components, the performance of water treatment for closed and open systems must include:

a. Closed Systems
   i. $8.5 < pH < 10$
   ii. 100 ppm < alkalinity < 500 ppm
   iii. TDS $\leq$ 500 ppm

b. Open Systems
   i. $7.5 < pH < 9.5$
   ii. 100 ppm < alkalinity < 500 ppm
   iii. Iron content $\leq$ 3 ppm
   iv. Soluble copper $\leq$ 0.2 ppm
   v. TDS $\leq$ 500 ppm

c. The methods used to treat the systems' makeup water must follow the guidelines outlined in ASHRAE Applications Handbook.

(3) Provide BACnet or LonTalk self-contained controls for the chemical feed.

(4) Provide for one year on-site service by water Treatment Company including supply of chemicals.

(5) Provide treated water in the heating system until facility is accepted by DFCM.

L. District Steam Heating
   (1) When steam is furnished to the building, convert to hot water with a heat exchanger in the mechanical room near the entrance into the building.
   (2) Steam heating is discouraged inside the building, other than the conversion of steam to hot water in the mechanical room.
   (3) Investigate the use of district steam condensate for preheating domestic hot water.
   (4) Refer to section 5.0 HPBS.

M. Special Area HVAC Systems
   (1) Special areas such as atriums, auditoriums, entrance lobbies and vestibules, cafeterias, mail rooms, loading docks, computer and server rooms, fire pump rooms, BAS control rooms, and fire command centers may require dedicated HVAC systems, separate from all other HVAC in the building, with individual controls to condition these spaces as required.
   (2) Provide dedicated cooling units to any spaces or processes which require continuous cooling such as telecommunication and main telecommunication rooms, electrical, and server rooms.
   (3) Provide a separate dedicated air-handling system for each mail room. Airflow must maintain negative pressure in the room relative to adjacent spaces.

3.9 Automatic Sprinkler Systems

A. Provide an automatic sprinkler system in buildings when required by State Fire Marshals Rules R710. The Installation shall conform to State Fire Marshals Rule R710 and NFPA 13.

B. It is desirable that all buildings constructed by the State of Utah be equipped with an automatic sprinkler system to provide added life safety for the occupants and to protect the building from fire loss.

C. Fire sprinklers shall be considered as an integral component of building design when the availability of water supply and the cost do not make the installation prohibitive.

D. Secondary structures and small buildings or buildings with low occupant loads may be excluded from this requirement with the approval of the Director.

3.10 Components

A. Air Handling Units (AHU)
   (1) Provide DDC (BACnet or LonTalk) self-contained controls that are capable of being connected to the central BAS. Controller must have a current-sensing device that transmits information to the BAS for calculating the energy consumption of the AHU motor.
   (2) Additionally, control panel should include:
      a. fuses,
      b. high static shut off
      c. fire shut off
      d. speed reference control
      e. fan status
      f. cfm air flow measurement
   (3) Provide with mixing boxes on the return side of the AHU.

(4) Construction:
   a. Formed and reinforced, double wall insulated panels, fabricated to allow removal for access to internal parts and components,
   b. Maximum 1% leakage on the casing.
(5) Fans
   a. It is preferred that fans be direct drive centrifugal with backward inclined, SWSI airfoil wheels
   b. Be sure wheels are rated for maximum motor speed
   c. Fans for large, custom, or built up air handler units may be provided with a single, double or fan array type fan system. The fan type should be based on system performance, redundancy, maintenance and efficiency requirements, as well as owner/user preference.

B. Outdoor Air Intake Locations
(1) Locate outdoor air intakes as high as possible to minimize potential of outdoor air contamination.
(2) On buildings more than 40 feet tall, locate intakes a minimum of 40 feet above grade. On buildings less than 40 feet, the locate intakes as high as practical on the roof or on a wall.
(3) Duct outdoor air intakes directly to the AHU cabinet. Do not use the equipment room as an outdoor air intake plenum.
(4) Locate outdoor intake locations as far away from contaminate sources as possible, and not less than code required minimum. Sources include but are not limited to; generator exhaust, loading docks, vehicle garages and parking lots, sewer vents, exhaust fans, dumpsters, smoke break enclosures, etc.

C. Filtration
(1) For air handlers exceeding 10,000 cfm, provide pressure differential instrumentation across the filter bank to facilitate maintenance.
(2) Provide minimum MERV 8 filters upstream of all cooling coils and other devices with wetted surfaces per Standard 62.1- Section 5.8
(3) Provide minimum MERV 13 filters on all ventilation outdoor air intakes where the national standard for PM10 is exceeded
(4) Provide minimum MERV 13 filters on all ventilation outdoor air intakes where the national standard for PM2.5 is exceeded
(5) Specify that the Contractor replace all filters prior to building occupancy and provide one replacement set of filters for the entire facility.
(6) Provide pressure differential sensors across each filter bank. Monitor and alarm through the building automation system.

D. Cooling and Heating Coils
(1) Locate equipment and other obstructions in the air stream sufficiently downstream of the coil so that they will not come in contact with the water droplet carryover.
(2) Cooling coils
   a. Select cooling coils at or below 500 fpm face velocity.
   b. Coils with five or fewer rows may have a maximum of 12 fins per inch.
   c. Coils with six rows or more should not exceed 10 fins per inch.
   d. Provide stainless steel drain pan, piped to drain
(3) Heating coils
   a. Select heating coils, including reheat coils, at or below 750 fpm face velocity.
   b. Maintain fluid velocity below 3.5 fps.

E. Pumps

(1) Provide pressure gauge with gauge cocks as close to pump suction and discharge as possible and avoid pressure drops across valves, strainer, flexible connectors, etc.
(2) Provide suitable throttling valves on discharge side of constant speed pumps, such as globe valves, or balancing cocks. Throttling valve shall have set point position indicator and shall not be used for shutoff valve.
(3) Provide pot feeder across pump for each closed hydronic system.
(4) Variable Speed Pumps:
a. Do not install throttling valves on the discharge of a variable speed pump.
b. Utilize a venturi to measure water flow rate.

F. Boilers
(1) Use equal-sized modular boilers for hydronic heating applications. Exception: One smaller “Pony” boiler may be used to meet low load conditions.
(2) Install boilers in a mechanical room with all provisions made for breeching, flue stack, and combustion air.

G. Chillers
(1) Acceptable Compressor Range (tons)
a. scroll ≤ 200 ton
b. 100 ≤ screw ≤ 500 tons
c. 200 ≤ centrifugal
(2) Specify appropriate ASHRAE and ARI Standards and certification.

H. Accessories
(1) Provide air separators and expansion tanks for all closed hydronic systems regardless of piping arrangement.
(2) Connect air separators and expansion tanks into piping system on suction side of distribution pump.

I. Hot Water Piping and Pumps
(1) Materials acceptable for piping systems are stainless steel, black steel, cast iron and copper.
a. Size fluid velocity at less than 4 fps in Copper piping systems with temperatures above 100°F.
(2) For copper piping, brazed, soldered and press-seal (test to 300 psig) fittings are acceptable; grooved or mechanically formed T-type fittings are not acceptable.

J. Isolation of Piping at Equipment
(1) Provide isolation valves, shutoff valves, bypass circuits, drain valves, flanges, and unions for piping at equipment to facilitate equipment repair and replacement.
(2) Equipment requiring isolation includes boilers, chillers, pumps, coils, terminal units, and heat exchangers.
(3) Provide valves for zones off vertical risers, including drain valves.

K. Flexible Pipe Connectors
(1) Fabricate flexible pipe connectors from annular close pitched corrugated and braided stainless steel.
(2) Grooved pipe solutions are acceptable. Select gasket materials for each fluid type, including temperature and pressure requirements of each system.
(3) Provide flexible connectors at all pumps, chillers, cooling towers, and other rotating equipment. Exception: In-line pumps, if manufacturer recommends against or prohibits.

L. Meters, Gauges, and Flow Measuring Devices
(1) Provide each piece of mechanical equipment with instrumentation in addition to test ports to verify critical parameters, such as capacity, pressures, temperatures, and flow rates.
(2) Calibrate each meter, gauge, and flow measuring device before startup and make provisions for periodic calibration at its location.
(3) All the metering devices must be capable of transmitting information to the central BAS for monitoring and control.
(4) Refer to section 5.0 HPBS

M. Unit Heaters
(1) If a unit heater is higher than 10' AFF, use a centrifugal blower (not a propeller fan).
(2) Provide all gas or oil unit heater with a 2-stage thermostat. On call for heat, the first stage cycles the fan. The second stage fires the burner.
(3) For shop applications with heavy duty or corrosive atmospheres, provide sealed combustion units that bring combustion air from outside the space.

N. Converters
(1) Provide side inlets and side outlets for all converters.
(2) Provide pressure gauges with snubbers on the primary and secondary side of each converter.
(3) Install thermometers on the inlet and outlet of the secondary side of each converter.

O. Do not provide the following components, unless approved ~~by the Director~~ Institution:
(1) Electric resistance heat
(2) Variable Refrigerant Flow (VRF)
(3) Furnaces
(4) Coordinate HVAC equipment options with institution.

P. Air Delivery Devices
(1) Ceiling diffusers or booted-plenum slots that are used in variable air volume systems must be specifically designed for VAV air distribution.
(2) Booted plenum slots must not exceed 4 ft. in length unless more than one source of supply air is provided.
(3) Select the locations of the air delivery devices and the ranges of their outlet airflow rates to ensure that the air diffusion performance index (ADPI) values remain above 80 percent during all full load and part-load conditions, and below the specified noise level to achieve the background noise criteria, in accordance with the test procedures specified in Appendix A of ASHRAE Standard 113.

Q. Noise Control
(1) Subject to the restrictions noted elsewhere for duct lining, acoustic duct lining used in supply air systems shall be non-fiberglass material impregnated with an antimicrobial agent and covered by an internal perforated sheet metal liner.
(2) Sound attenuators should only be used if other methods of noise reduction such as duct velocity reduction, lining, and fan location are inadequate to achieve noise performance requirements.

4.0 LANDSCAPE AND IRRIGATION STANDARDS

Landscape irrigation sprinkler and emitter systems shall comply with the requirements of the ASABE/ICC 802-2014 Landscape Irrigation Sprinkler and Emitter Standard except as modified by this DFCM Design Requirements, Section 4.0

4.1 General

A. Applicability. The provisions of this section shall apply to all projects on state property that involve the development or major modification of landscaping regardless of funding source, and all other projects under the jurisdiction of the DFCM or under state mandates. This section does not apply to:
   (1) Registered Historical Sites
   (2) Sites submitted for Design Variance due to unique context. Refer to section 1.4 Changes/Additions to Design Requirements for instructions on the design variance process.

B. Site. The Design Requirements apply to all non-enclosed and non-building landscape areas within project limit lines or natural boundaries including restoration of construction damaged areas to the extent practical. Refer to section 3.2 Civil for site grading, parking requirements, sidewalks, and vehicular and service paths.

C. Purpose. A purpose of this section is to designate site landscape standards for the design of attractive, water efficient landscapes that are sensitive to the geological and historical context of the site. The DFCM envisions landscapes that will endure because they are sensitive to the cultural, social, and aesthetic values of a community; the climate, water resources, and other environmental aspects of a location; and the financial investment of installation and maintenance over the life of the landscape. It is recognized that DFCM projects cover a wide range of community sizes, locations, and climates.

D. Definitions
   (1) For irrigation related definitions, refer to the following website by the Irrigation Association: http://www.irrigation.org/defaultcontent.aspx?id=1243&terms=definitions
   (2) For planting related definitions, refer to the following website provided by Extension: https://www.extension.org/pages/63460/glossary-of-terms-water-conservation-for-lawn-and-landscape#.U_txH_mwKBQ

E. Designer(s). Architect or another licensed professional as recognized by the State of Utah to perform Landscape Architectural services and documents submitted to the DFCM including the Site Landscape Plan, Planting Plan and Irrigation Plan. Designers to meet state and local license, insurance and bonding requirements and be able to show proof of such upon demand.

F. Contractor Qualifications and Experience. The Contractor(s), sub-contractors, installers, and others providing materials or services and installing the site landscape shall meet state and local license, insurance and bonding requirements and be able to show proof of such upon demand. Contractors to be directly involved in regular meetings with owner and DFCM and site inspection.

G. Submittals
   (1) Submit all described documentation in sections 4.3 and 4.4 to the Landscape Architect for review and approval prior to construction or substantial completion as indicated.
   (2) Contractor to submit all product literature and customer service information for products used/installed on project to Landscape Architect for review and approval prior to installation.

H. Construction Inspection and Post-Construction Monitoring

(1) During construction, site inspection of the landscaping may be performed by the DFCM, the local institution or agency.

(2) During construction a mainline pressure and leak test will be conducted.

(3) Following construction an inspection shall be scheduled with the DFCM to verify compliance with the approved landscape and irrigation plans. A Certificate of Substantial Completion Form shall be completed by the Contractor or Landscape Architect and submitted to the DFCM.

(4) Following construction a Water Use Efficiency Review (Audit) will be conducted by a certified Landscape Irrigation Auditor. The auditor shall be independent of the contractor, design firm and owner/developer of the project. The water performance audit will verify that the irrigation system complies with the minimum standards required by this ordinance. The auditor shall furnish a certificate to the DFCM, Landscape Architect, and installer certifying compliance with the minimum distribution requirements and an irrigation schedule.

(5) The DFCM reserves the right to perform site inspections at any time before, during or after the irrigation system and landscape installation, and to require corrective measures if requirements of this guideline are not satisfied.

4.2 Water Allowance

A. The finished installed site landscape shall be designed to be maintained within a designated Water Allowance. Landscape water consumption must be at or below the Water Allowance for the established landscape. In order for site plantings to become established during the first year after planting, watering amounts may exceed the established Water Allowance.

B. Use the EPA WaterSense tool at the following website to create the water allowance for your site. http://www.epa.gov/WaterSense/water_budget/. It is possible that the site and planting design will need to be adjusted to fit within the Water Allowance designated. Record the water allowance in the irrigation plans with the watering schedule; see section 4.7 B.

C. For site landscapes with sports fields other justified planting or turf areas that may require more water than is designated by the Water Allowance, refer to section 1.4 Changes/Additions to Design Requirements for instructions on excusal from 4.2 A.

4.3 Landscape Design Standards

A. Create a Landscape Plan with the following Design Guidelines:

(1) Using the Water Allowance established for the sight, begin a water conscious design. Refer to the WaterSense website listed in section 4.2 to test percentages of turf and shrub areas to guide the design process.

(2) Topsoil Guidelines for Existing and Imported Topsoil

a. Imported topsoil installed on site to replace or augment existing soil on site shall be obtained from naturally drained areas and shall be fertile, friable loam suitable for plant growth. The imported topsoil shall be of uniform quality, free from subsoil stiff or lumpy clay, hard clods, hardpan, rocks, disintegrated debris, plants, roots, seeds, and any other materials that would be toxic or harmful to plant growth. Topsoil borrow shall contain no noxious weeds or noxious weed seeds.

b. Topsoil testing is required to ensure that all specifications below for either "Ideal" or "Acceptable" categories are met. Soils fall within the "Not-Acceptable" range shall not be used unless sufficient soil amendments are added to reach the approved categories.

TOPSOIL QUALITY*

Category	pH	Soluble Salts dS/m or	Sodium Absorption Ratio (SAR)	Organic Matter %	Sand %	Silt %	Clay %	Texture Class
Ideal	5.5-7.5	<2	<3	≥2.0	<70	<70	<30	Loam (L), Silt Loam (SiL)
Acceptable	5.0-8.2	<4	3 to 7 SiL, SiCL, CL 3 to 10 SCL, SL, L	≥1.0	<70	<70	<30	Sandy Clay Loam (SCL) Sandy Loam (SL) Clay Loam (CL) Silty Clay Loam (SiCL)
Not-Acceptable	<5.0 >8.2	>4	>10	<1.0	≥70	≥70	≥30	Loamy Sand (LS) Sandy Clay (SC) Silty Clay (SiC) Sand (S), Silt (S), Clay (C)

COARSE FRAGMENTS *

Category	%>2 mm (>5.0% exceeds guidelines)	Rocks Present >1.5" (>1.5" exceeds guidelines)
Ideal	≤2.0	—
Acceptable	2.1-5.0	—
Not-Acceptable	>5.0	—

TOPSOIL NUTRIENT SPECIFICATION*

Category	Nitrate Nitrogen ppm	Phosphorus ppm	Potassium ppm	Iron ppm
Ideal / Acceptable	>20	>15	>150	>10

*from "Topsoil Quality Guidelines for Landscaping", June 2002, AG/SO-02, prepared by Rich Koenig, Utah State University Cooperative Extension Soil Specialist, and Von Isaman, QA Consulting and Testing, LLC.

c. Mechanical Analysis shall be performed and shall conform to ANSI/ ASTM D 422.

(1) Soil Preparation and Amendments (fertilizers). Soil preparation shall be suitable to provide healthy growing conditions for the plants and to encourage water infiltration and penetration. Soil preparation shall include scarifying the soil to a minimum depth of six (6) inches and amending the soil with organic materials and fertilizers based on the Soils Report in order to reach the "Acceptable" or "Ideal" category of soil composition from the tables in 4.3 A. 2.

(2) Plant Selection. Choose site appropriate plant material. In most cases, this is water-efficient plant material. Refer to 4.1 C. to review the vision of DFCM landscapes.

(3) Park Strips. Park Strips and other landscaped areas less than 8 feet wide shall be landscaped with water conserving plants and/or grass. Areas less than 5 feet wide shall not be planted in turf.

(4) Practical Turf Areas. Plant turf only in areas of manageable sizes and shapes. Limit turf to areas where it provides a functional benefit. Selection of appropriate turf varieties should be determined by site location, functionality and climate. Excess turf may be replaced with a variety of other low water-use plants.

a. Areas less than 5 feet wide shall not be planted in turf.

b. Areas with slopes greater than 33% shall not be planted with turf.

(5) Screening. Planting material should be used as a screening device for parking areas, service yards, transformers, and other site utilities etc. Trees in parking areas shall be selected based on reducing leaf litter and be “sap-drip” free.

(6) Mulching. Use bark or rock mulches in tree, shrub and perennial beds to conserve soil moisture and increase soil nutrients. Mulch applied at the right depth will reduce weed growth and slow erosion. Organic mulches such as bark improve soil over time.

(7) Appropriate Maintenance. Water-wise landscaping will reduce maintenance; however, it will not eliminate it. Low water-use landscapes are simply maintained differently than the average lawn. Maintain the landscape by pruning, fertilizing, watering, weeding mowing and proper deadheading of perennials and flowering plant material.

B. Submit the following to the DFCM for review and approval prior to construction:

(1) A Landscape Plan with the following indicated graphically and labeled:

a. Project name, location, designer contact information, project boundaries, project address, street names, existing and proposed buildings, walls, fences, utilities, paved areas and other site improvements

b. Locations of all proposed plant material, landscape materials, mulches, and all other site amenities

c. Plant Schedule indicating botanical name, common name, and size for trees, shrubs, perennials, groundcovers, and seed mixes

d. Proposed hardscape areas and materials within scope

e. Existing and proposed contours and spot elevations

f. Existing vegetation

g. Necessary details for landscape amenities and installation instructions

(2) Specifications

(3) Water Allowance Results Sheets(s) created from Step 3 of EPA WaterSense Tool

C. Submit the following to the DFCM for review and approval prior to substantial completion:

(1) As-Built Drawings

(2) Operations and Maintenance Plan including the following:

a. A signed and dated written description of the contractor’s one-year landscape warranty period beginning from the date of substantial completion. Include name, address, phone number and license number.

b. All product literature and customer service information for products used/installed on project.

4.4 Irrigation Design Standards

A. Create an Irrigation Plan with the following Design Guidelines:

(1) Recommended Point of Connection (POC) component installation order: 1-connection to source, 2-stop and waste valve/ or shut off, 3-filtration device, 4-pressure regulator, 5-backflow preventer, 6-quick coupler blowout, 7-master valve, and 8-flow meter – (if required).

(2) In situations of secondary water supply, provide filtration system necessary to clean water supply and protect irrigation system components. Provide accessible pressure gauges immediately upstream and downstream of the filtration device. (Non self-cleaning units)

(3) Landscape Water Meter. A separate irrigation system water meter and backflow prevention assembly that are in compliance with state code shall be installed for all new landscape irrigation systems. The landscape water meter and backflow prevention assembly shall be separate from the water meter and backflow prevention assembly installed for indoor uses. The size of the meter shall be determined based on irrigation demand.

(4) Pressure Regulation. A pressure regulating valve shall be installed and maintained by the consumer if the static service pressure exceeds 80 pounds per square inch (psi). The pressure-regulating valve shall be located between the landscape water meter and the first point of water use or first point of division in the pipe and shall be set at the manufacture's recommended pressure for sprinklers and or drip/micro systems. Pressure regulation devices may include one or all of the following: 1-pressure regulation valve at the main line POC, 2-pressure regulation device on individual sprinkler heads, 3-regulation of low volume drip/micro systems.

(5) Irrigation systems with 1" POC or 10,000 square feet and larger of landscaped area shall have a flow sensor and master valve installed. Systems with irrigated area of 1 acre and larger shall have a normally closed master valve. Where necessary, the master valve shall be capable of manual operation to allow manual use of the irrigation system. A normally open master valve is acceptable if the controller is capable to shut the valve off in event of unscheduled flow.

(6) Automatic Controller. All irrigation systems shall include an electric automatic controller with multiple programs and multiple repeat cycle capabilities and a flexible calendar program. Controller shall be programmable for multiple start times for repeat and rest periods, and shall be capable of water budget adjustment. Controller shall be able to provide separate programs for turf zones, shrub zones, and drip zones. All controllers shall be capable of temporarily shutting down the system by utilizing internal/external options (such as rain, wind, and freeze devices) and the ability to adjust run times based on a percentage of maximum ET or by use of a soil sensor. Power wire and control wire shall not be contained in the same conduit.

(7) On slopes exceeding 33%, the irrigation system shall consist of Drip Emitters, Bubblers or sprinklers with a maximum Precipitation Rate of 0.85 inches per hour and adjusted sprinkler cycle to eliminate Runoff. Lateral lines are to run parallel to slope when possible.

(8) Each valve shall irrigate a landscape with similar site, slope and soil conditions and plant materials with similar watering needs. Turf and non-turf areas shall be irrigated on separate valves. No single zone shall be designed or installed with sprinklers of differing pressure requirements or precipitation rates. (Rotors, spray heads, drip emitters, micro sprays, etc. may not be mixed within a zone.

(9) Drip Emitters or Bubblers shall be provided for each tree where practicable. Bubblers shall not exceed 1.5 gallons per minute per device. Bubblers for trees shall be placed on a separate valve unless specifically exempted by the DFCM.

(10) Sprinklers shall have matched Precipitation Rates with each control valve circuit. All sprinkler heads shall be spaced at a maximum of 50% of design performance diameter of the sprinkler. In known windy areas sprinklers are to be designed with reduced head

spacing or low angle nozzles. Spacing shall be reduced below 50% of design performance diameter when conditions demand.

(11) Check valves shall be required where elevation differences will cause low-head drainage. Pressure compensating valves and sprinklers shall be required where a significant variation in water pressure will occur within the irrigation system due to elevation differences.

(12) Drip Irrigation lines shall be placed underground or otherwise permanently covered, except for Drip Emitters and where approved as a temporary installation. Filters and end flush valves shall be provided as necessary and as per industry standards.

(13) Irrigation zones with overhead spray or stream sprinklers shall be designed to operate between 8:00 P.M. and 8:00 A. M. to reduce water loss from wind and evaporation. Drip or bubbler zones are excluded from this requirement.

(14) Program valves for multiple repeat cycles where necessary to reduce runoff, particularly slopes and soils with slow infiltration rates.

B. Submit the following to the DFCM for review and approval prior to construction:

(1) An Irrigation Plan with the following indicated graphically and labeled:

a. Project name, location, designer contact information, project boundaries, project address, street names, existing and proposed buildings, walls, fences, utilities, paved areas and other site improvements

b. Points of Connection present and future with static water pressure

c. Water meters

d. Pumps and sumps

e. Controller location(s), note manufacturer, model, size and number of stations used and central control

f. Lines and sizes, i.e. lateral, main, and pressure mains

g. Sleeve locations and sizes

h. Backflow preventers, quick couplers and hose bibs

i. Drip system pressure regulators and filters

j. Wire, i.e. control, remote control, and control wire junction boxes; label both ends and in junction box

k. Control valves, i.e. master, remote control, flush, pressure reducing, drip, etc., note station assignment, size, flow rate, pressure setting. D.U. and actual flow rates, if available from water audit for applicable valves

l. Sensors, i.e. rain, flow, and moisture

m. All sprinkler heads, rotary nozzles, bubblers, etc.

n. Capped lines and irrigation system removed or abandoned

o. Identify locations of existing utility systems encountered during installation, i.e.; gas, phone, sewer, etc.

p. Valve Schedule with flow rates in GPM for each valve

q. Watering Schedule listing valve station no. plant type, irrigation type, precipitation rate, and water times for initial plant establishment and post plant establishment

r. Irrigation Component Schedule

s. Necessary details and installation instructions

(2) Specifications

5.0 HIGH PERFORMANCE BUILDING SYSTEM (HPBS) STUDENT HOUSING

This document shows modifications to the existing HPBS that are applicable ONLY to Student Housing Projects. The HPBS applies to student housing as written with the below variations. Allowable variations from the HPBS are shown in bold red type. A definition of student housing is included in the end notes (end note 1) of this document.

The State of Utah Division of Facilities and Construction Management require each project meet a sustainable design standard. All projects must meet the following standards. In the case where a conflict arises between different sections, the more stringent requirement should apply and the Department of Facilities and Construction Management (DFCM) should be notified about the conflict.

5.1 Integrated Design Process: **Integrated design is required for student housing projects as it allows the owner to maximize the value of design and construction resulting in a building that is easier and cheaper to maintain.**

A. General Intent

(1) The process and expectations outlined in section 5.1 includes certain activities and events that are required to happen during the project. Many of the activities are not required, but their inclusion is based upon the experience of DFCM and professionals that serve DFCM. The intent thereof is to inform the project team of what should happen over the course of a project to not only meet the requirements of the HPBS but also maximize the value of design and construction efforts to DFCM and the State of Utah. **If the project uses a standard OPR/BOD developed by the Student Housing Committee each project will save money on design and consultant fees. If a project uses an original OPR/BOD then they should follow this section as written in the HPBS. A definition of a standard and original OPR/BOD is in the end notes (end notes 2,3,) of this document.**

(2) Adjustments to the process outline below, in order to best suit the needs of each project, are expected and should be discussed with the project team periodically through the project and recorded in the OPR. **The owner should utilize an Energy Engineer (EnE) for qualitative services only and describe a prescriptive path for mechanical and envelop choices as early as possible in the project. The EnE will not perform energy modelling or an LCCA. Work scope changes for the Building Envelop Commissioning Agent (BECxA) and the Commissioning Agent (CxA) will be discussed later in this document.**

a. The Owner shall directly hire the Energy Engineer, Building Envelope Commissioning Agent, and Commissioning Agent in the programming phase.

i. For Design Build projects the Energy Engineer shall provide the Energy Engineering over the course of the entire project as part of the design build team.

ii. Energy modeling and LCCA will be reviewed by the DFCM's third party reviewer.

b. The Owner, Energy Engineer, Commissioning Agent, and Building Envelope Commissioning Agent, shall provide timely input to the design team related to the OPR, BOD, and related HPBS documentation.

c. An updated BOD and OPR, including narrative of HPBS goals and strategies, shall be included in each design phase submittal to the owner. Changes from one phase to the next shall be documented as to provide a record of the development of the project.

d. An updated sustainable site plan shall be included in each design phase submittal to the owner

e. A HPBS Workshop must be completed during the first half of each phase of the project. Goals, strategies, and performance metrics must be documented in the OPR, BOD, and project documents accordingly. Additional informal HPBS Workshops shall be held to provide clear direction to the project in regards to the requirements of the HPBS. **If a standard OPR/BOD is followed, along with the prescriptive path described in 5.1.A.(2)a, the HPBS workshops will not be held. The other services of the EnE, BECxA and CxA will document the sustainable features of the building.**

i. As coordinated by the design team and DFCM Energy Program Director, each HPBS Workshop shall include, but not limited to, the following project team members:

(a) Design team members
(b) Owner
(c) Agency Project Manager
(d) DFCM Project Manager
(e) Agency Energy Manager
(f) DFCM Energy Program Director
(g) Facilities Operators, if unknown at the time, it must be clearly identified who will be in attendance to represent the interests of facility operations.
(h) Energy Engineer
(i) Commissioning Agent
(j) User group representative(s)

f. The Owner, design team, Energy Engineer, Commissioning Agent, and Building Envelope Commissioning Agent shall review each design phase submittal for compliance to the HPBS. Appropriate design phase comments shall be provided to the design team within 10 business days.

g. The design team shall conduct a building envelop systems meeting, during design development and construction documents phases, to review possible envelope strategies. Topics to review included, but are not limited to, air, thermal and moisture performance, functional performance requirements, constructability, energy efficiency, aesthesis, mock ups, and testing.

B. Programming: **This section of the HPBS is recommended but not required for student housing.**

(1) The following must be provided during the schematic design phase of the project. The design team shall provide simplified modeling iterations of various conceptual design proposals including, but not limited to, massing, orientation, glazing orientation, and glazing amount for the Energy Engineer to assess.

a. On an as needed basis, projects may be permitted an exception to this requirement, if approved by the DFCM Energy Program Director.

C. Schematic Design: **This section is not required if a standard OPR/BOD is followed, along with the prescriptive path described in 5.1.A.(2)a.**

(1) The following must be provided during the schematic design phase of the project.

a. The design team shall conduct a building systems meeting to review the possible systems applicable to the project. Agenda items to include, but not limited to, performance, LCC, first costs, operations and maintenance, and existing infrastructure integration.

i. The design team, appropriate Facilities Operators, Commissioning Agent, Agency Energy Manager and or DFCM Energy Program Director, General Contractor and appropriate subcontractors (if hired), and Energy Engineer must be in attendance.

b. DFCM Energy Program Director to sign Rocky Mountain Power's Incentive General Applications as provided by Architect

c. The Cost Estimator or General Contractor/Construction Manager must provide relevant supporting construction cost estimates to the Energy Engineer and Design Team in a timely manner.

D. Design Development: **This section is not required if a standard OPR/BOD is followed, along with the prescriptive path described in 5.1.A.(2)a.**

(1) The following must be provided during the design development phase of the project

a. The design team shall conduct a second building systems meeting to review the possible systems applicable to the project. Agenda items to include, but not limited to, performance, LCC, first costs, operations and maintenance, and existing infrastructure integration.

i. The design team, appropriate Facilities Operators, Commissioning Agent, Agency Energy Manager and or DFCM Energy Program Director, General Contractor and appropriate subcontractors (if hired), and Energy Engineer must be in attendance.

E. Construction Documents

(1) The following must be provided during the construction documents phase of the project.

a. The design team shall conduct a building controls meeting to review the possible systems applicable to the project. Agenda items to include, but not limited to, metering, controls, points, analytics and operations and maintenance.

i. The design team engineers, appropriate Facilities Operators, Commissioning Agent, Agency Energy Manager and or DFCM Energy Program Director, General Contractor and appropriate subcontractors (if hired), must be in attendance.

b. The Design Team shall coordinate all incentives and rebates as outlined in section 5.14.

c. **This section of the HPBS is recommended but not required for student housing**. The Design Team shall submit all required documentation to DFCM as part of the CD submittal. The submittal shall include, but is not limited to the following.

i. Sustainable site plan
ii. HPBS Spreadsheet
iii. Any exceptions and appeals
iv. Owner's Project Requirements
v. Basis of Design

d. **This section of the HPBS is recommended but not required for student housing.** The Energy Engineer shall submit all required documentation, per section 5.5, to DFCM as part of the CD submittal:

i. Energy Model Spreadsheet
ii. Life Cycle Cost Worksheet

e. The CxA shall submit all required documentation, per section 5.12, to DFCM as part of the CD submittal:

i. Commissioning Plan

f. The BECxA shall submit all required documentation, per section 5.13, to DFCM as part of the CD submittal:

i. Building Envelope Commissioning Plan

F. Bidding

(1) Value engineering efforts and substitution request must be evaluated in context of the HPBS, preferred operations and maintenance procedures and performance impacts over the life of the building.

(2) The General Contractor shall account for HPBS requirements including, but not limited to, functional testing, building envelope function performance testing, and building flush out, in the construction schedule.

G. Construction

(1) Submittals and shop drawings related to HPBS requirements shall be reviewed by the CxA, BECxA and Energy Engineer in the time period set forth in the construction documents. Their review does not relieve or supersede the responsibility of the design team to review the HPBS related submittals and shop drawings for compliance set forth in the construction documents.

(2) **The utility incentives will go to the building owners.** The Design Team shall provide the required incentive and rebate documentation to the DFCM Energy Program Director as outlined in Section 5.14 and related appendices

(3) BECx related performance tests shall be tracked in the weekly OAC meeting minutes.

(4) At a minimum, the BECxA shall attend, in person or via a conference call, OAC meetings monthly. Reasonable effort by other team members shall be made to discuss related issues at the beginning of each meeting

(5) A building envelope commissioning kick off meeting shall be coordinated by the general contractor and BECxA.

a. Required attendees include, but are not limited to the following: Architect, DFCM Energy Program Director. Subcontractors responsible for the following building components shall attend when applicable; masonry, insulation, air barrier, cladding, glazing, roofing and others as dictated by the envelop design.

(6) Testing of building envelope components, on the building mock up, shall be completed with acceptable results prior to installation of said components.

a. The general contractor and subcontractors responsible for the installation of the components shall attend the functional testing

b. The BECxA shall review deficiencies and possible causes of failed tests with each subcontractor prior to leaving the site on the day of the test(s).

(7) At a minimum the Commissioning Agent shall attend, in person or via a conference call, OAC meetings on a month basis.

(8) A building systems commissioning kick off meeting shall be coordinated by the general contractor and CxA.

H. Substantial Completion and Project Closeout

(1) The CxA shall coordinate with the agency Energy Manager to set up the project for benchmarking in EPA ENERGY STAR Portfolio Manager. **Benchmarking in EPA Energy Star Portfolio Manager will only be done if building owner requires it.**

a. The agency Energy Manger shall report the ECI, EUI, GHG emissions and water used per EPA ENERGY STAR Portfolio Manager in its annual energy report to DFCM.

(2) The CxA, Owner, and General Contractor shall conduct a Four Month Walk Through Performance Walk Through meeting.

(3) The CxA shall finalize the incentive and rebates per section 5.14

(4) The O&M manuals and As-Built documents must include, but is not limited to, the OPR, BOD, HPBS Worksheet, Energy Modeling Spreadsheet, Life Cycle Cost Worksheet, and Controls As-Builts.

5.2 Context Sensitive Design

A. Site Design: **This section of the HPBS is recommended but not required for student housing.**
   (1) The Design Team shall conduct a review of the local and regional planning documents pertinent to the project. These documents may include, but are not limited to:
      a. Municipal Master Plan or Land Use Plan
      b. Applicable Open Space Plans, including trail and recreation plans, municipal open space plans...
      c. Municipal, Regional or State Transportation Plan
      d. Local or Regional Stormwater Plans or Guidelines
      e. Applicable environmental regulations that may apply to the site
   (2) The project design shall reflect the community vision for the site. The building site, open space design and access points shall reflect the goals of the regional and municipal planning documents.

B. Building Design
   (1) The building shall be sited and oriented to reflect the community development patterns and vision, while responding to the site, solar access, and other climate considerations.
   (2) The building design shall reflect the community vision and vernacular design patterns.

C. The façade design shall reflect the solar access and orientation of the site through the integration of shading devices, window location, and scale. Window to wall ratios that are appropriate based on building energy performance, orientation, and interior programming shall be integrated into the design.

D. Access
   (1) Provide enhanced access from the project entry to the identified pedestrian and transit access points at the perimeter of the site.
      a. Ensure pedestrian paths are safe, accessible and maintainable by facility staff
   (2) Separate pedestrian paths from vehicular paths with landscaped barriers to the extent feasible.
   (3) **This section of the HPBS is recommended but not required for student housing.** Identify key paths on a Sustainable Site Plan drawing submitted at the Schematic, Design Development, and Construction Document phases.

5.3 Transportation Management: **This section of the HPBS is recommended but not required if the building owner requires a Transportation Management Plan**

A. Identify transportation management goals for the project to help reduce single rider vehicle impacts. This goal may be an overall percentage reduction in single-vehicle ridership, an increase in transit usage or the implementation of a carpooling program. Record this goal in the OPR.

B. Incentivize transit use through a reduction in parking stalls provided. This reduction should be based on a 10% reduction in comparison to municipal requirements or a 25% reduction based on the 4th Edition Parking Generation Guide by the Institute of Transportation Engineers.

C. Define clear, safe paths of access for pedestrians and cyclists from the public right-of-way to the building entry. Locate shower and changing rooms – as applicable – near these locations.

D. Provide a minimum of 10 secure bicycle storage locations.
   (1) After the course of one year Facility Operators shall assess the need to for additional bicycle storage racks and provide as necessary.
   (2) If the project cannot or should not meet the above requirements, provide a written justification in the OPR.

E. Provide a minimum of two reserved parking stalls for carpool vehicles and fuel-efficient, low emitting vehicles on each project.

F. Implement three of the following strategies to reduce single vehicle ridership to and from the project.
   (1) Identify transit and alternative transportation options for the users and site. Identify strategies to encourage transit ridership, such as reduced or free pass offerings.
   (2) Incentivize transit use through increased parking fees or paid parking lots.
   (3) Provide telecommuting and / or reduced work week programs to minimize single vehicle ridership to the building.
   (4) Provide shower and changing room(s) for cyclists and those who exercise mid-day.
   (5) Designate 5% or more of the total parking provided as parking stalls for low emitting/fuel efficient - locate these stalls in preferred parking locations.
   (6) Provide alternative fuel stations as applicable for the project.
   (7) Designate 5% or more of the total parking provided as parking for carpool vehicles- locate these stalls in preferred parking locations.
   (8) Demonstrate single-vehicle ridership or vehicle impact reductions through an alternative method.

G. The three strategies shall be identified in the OPR and included in to the Education and Outreach program for the building users and visitors.

5.4 Site Design: **This section of the HPBS is recommended but not required if the building owner requires a Transportation Management Plan**

A. Open Space Design
   (1) Create an open space plan that defines the usable site areas, designates open space, and identifies the landscape and hardscape areas. These specific areas shall be shown on the Sustainable Site Plan drawing, include a brief description of the anticipated level of use of each of the areas, and submit with each design review phase.
   (2) Necessary pedestrian open spaces such as sidewalks, paths, and passive and active recreation areas, shall be designated. Include transportation management areas as indicated in section 5.3
      a. Define active hardscape areas that will be used for pedestrian traffic or regular pedestrian or visitor use.
      b. Define active landscape areas that will be used by building users and visitors regularly. Identify intended uses that may occur within this landscaped area.
      c. Turf shall only be used at active landscape areas that are a minimum of fifteen feet in any direction and a minimum of 200 square feet. Exceptions to this shall be justified by local landscape and/or zoning standards. Any alternate use must be reviewed and approved by the DFCM Energy Program Director.
      d. Define aesthetic and native or natural open-space areas, as applicable
      e. Define active pedestrian hardscape areas that are used for emergency or non-active uses
   (3) The Landscape Architect shall provide an estimated maintenance schedule for the landscaped areas, with an emphasis on the reduced maintenance and reduced water consumption of the native and adapted landscaped areas.
      a. This maintenance schedule shall be included in the Operation and Maintenance Manuals for the project.

B. Landscape Water Consumption

(1) Create a site irrigation water use budget based on your location and site conditions, per the EPA Water Sense criteria.
   a. Use the EPA WaterSense Tool[1] to identify the water allowance for the site after landscaped areas have been defined. A summary of the water allowance shall be included in the Operations and Maintenance Manuals for the project.

(2) Landscape water consumption shall be at or below what is identified as the monthly water allowance for the site by the EPA WaterSense Tool. Justification for exceeding monthly water reviewed and approved by the DFCM Energy Program Director. Design and implement landscape materials and features that respond to the allocated water budget identified in section 5.4.B.1 and meet the native and adapted landscape material requirements.

(3) Landscape features shall align with the anticipated use areas defined in the in section 5.4.A Integrate an EPA WaterSense Labeled irrigation controller into the irrigation system.

C. Storm Water Design

(1) Design, construct, and maintain storm water BMPs that manage rainfall on site and prevent the off-site discharge of precipitation from the first one inch of rainfall from a 24-hour storm preceded by 48-hours of no measureable precipitation.

(2) Implement at least two BMPs from the Best Management Practices for Storm Water[2]
   a. Provide two BMP Information Sheets from the Guidance Document and a description of how the specific BMPs are implemented in the project.
   b. Identify and describe the selected strategies in the OPR, and submit with the Design Development submission.
   c. Implement one additional site performance standard as identified in items 2 through 5 on page 7-4 of the Storm Water Management Guidance Document.

D. Heat-Island Effect

(1) Plan exterior hardscape materials to reduce the urban heat island effect. Use materials with an SRI of 35 or greater for all pedestrian oriented paved surfaces and reduce the overall use of asphalt as feasible.
   a. Reduce the dimensions of 25% of parking stalls to meet compact stall requirements of 8'-6" in width and 16'-0" in length. Provide either signage or striping to indicate the compact vehicles stalls on the site.
   b. Indicate the compact parking on the Sustainable Site Plan drawing.
   c. Use concrete at all pedestrian oriented hardscape areas. Colored concrete shall not have an SRI of less than 29.

(2) Use reflective roofing to reduce the urban heat-island effect at the building. Install a reflective roof with an SRI of 78 or greater over 75% of the low slope roof areas (slopes below or equal to 2:12) for all buildings in Climate Zones three and five.
   a. Consider a tan colored, planted or ballasted roof at roofs that are visible from inside the building to reduce glare and increase occupant comfort.
   b. Darker roofs shall be considered in climate zone 6, where heat absorption may be beneficial to the overall energy use of the building.
   c. Install roofing with an SRI of 29 or greater at steep-sloped areas (slopes above 2:12)
   d. SRI values for roofing and hardscape must be included in the Sustainable Site Plan.

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[1] http://www.epa.gov/WaterSense/water_budget/

[2] Salt Lake County Engineering and Flood Control – Guidance Document for Storm Water Management – January 2012; Chapter 7. http://www.pweng.slco.org/stormwater/pdf/longswplan.pdf

E. Light Pollution Reduction

(1) Use fixtures that as low in height as feasible, to ensure light is at the appropriate location for pedestrian safety and functionality..

(2) All exterior lamps shall be LED.

(3) Lighting values greater than 0.01 fc shall not extend beyond twenty feet over the defined site boundary, except as required by the municipality for pedestrian safety.

(4) Exterior lighting shall be controlled by a photocell sensor.

(5) All interior lighting systems shall be designed and controlled to shield interior light from the exterior of the building, or include a 50% reduction in lighting output between the hours of 11:00 pm and 5:00 am.

5.5 Energy

A. Energy Performance: **If a standard OPR/BOD is followed, along with the prescriptive path described in 5.1.A.(2)a, this section of the HPBS is superseded by the qualitative work of the EnE. This document does not supersede additional requirements that each agency may have in regards to energy or sustainability performance of a building. For example – if a campus requires a LEED certification for all of its new buildings then those requirements still apply.**

B. Energy efficient appliances are required to be installed if purchased through the project and is advantageous to the building owner. Appliances purchased by tenants are subject to the agencies requirements and not addressed in this standard.

(1) All state agencies and institutions shall design new construction and major renovation, commercial and multi-family high-rise buildings (Proposed design) to achieve, if life-cycle cost-effective, an energy cost performance 20% below the energy cost performance of the corresponding Baseline design as determined by a DFCM hired Energy Engineer.

a. For the purpose of calculating the energy cost savings, include all fuel costs incurred for all systems normally specified as part of the Proposed design scope, regardless of specifying entity (interior & exterior), including receptacle and process load energy costs.

b. Energy costs for both the Baseline and Proposed designs shall be determined by using the Performance Rating Method as defined by Appendix G of *ANSI/ASHRAE/IESNA Standard 90.1-2010, Energy Standard for Buildings Except Low-Rise Residential Buildings* (with errata, without addenda).

c. The building/project Performance Rating percentage improvement shall be determined by use of the formula in paragraph G1.2 of *Standard 90.1-2010*, in terms of total energy cost, as follows.

$$\%\,Improvement = 100 \times \frac{(Baseline\ Utility\ Cost - Proposed\ Utility\ Cost)}{Baseline\ Utility\ Cost}$$

d. Buildings or projects with a conditioned floor area less than 30,000 FT^2, or less than $5,000,000 total project budget, or a projected EUI of less than 20 kbtu/FT^2/yr may, by discretion of the DFCM Energy Program Director, be exempt from section 5.5.A.1.

e. Projects exempted from section 5.5.A.1 by the DFCM Energy Program Director are required to incorporate qualitative design assist from a state hired Energy Engineer.

f. For Design Build Competitions, each shortlisted team may engage an Energy Engineer, at their own discretion and expense, to provide design assistance

during the design competition phase, to demonstrate compliance with the HPBS. The winning team's life cycle cost analysis and subsequent energy efficiency strategies will be subject to review and approval by a DFCM hired third party reviewer and DFCM Energy Program Director. At any time during the competitive proposal phase, design teams may access DFCM's third party reviewer to answer questions concerning the LCCA and adherence to the energy modeling protocol set forth in the HPBS. Contact information will be provided.

(2) If no life-cycle cost effective package of measures can be found that meets the required energy cost savings, (cost effectiveness shall be measured in aggregate at the project level, rather than each measure individually), and then the life-cycle cost effective package that comes closest to achieving the required energy cost savings may be substituted.

a. Life-cycle cost-effectiveness shall be determined using the FEMP procedure as described in 10 CFR 436 – *Subpart A – Methodology and Procedures for Life-Cycle Cost Analysis* and NIST Handbook 135 – *Life-Cycle Costing Manual for the Federal Energy Management Program - Dept. of Energy - Energy Life Cycle Cost Model – BLCC 5.*

b. Utility incentives must be included in the life-cycle cost analysis where applicable.

c. Life-cycle cost-effectiveness may be demonstrated by using one of the following methods consistently throughout the project.

i. Life-Cycle Costs

ii. Net Savings

iii. Savings-to-Investment Ratio

d. At the discretion of the DFCM Energy Program Director, the life cycle cost analysis and subsequent Energy Efficiency Measures strategy will be subjected to review and approval by an appropriate third-party reviewer, selected by the DFCM Energy Program Director.

e. All life cycle costing estimations must be provided with supporting documentation including but not limited to unit pricing, source of pricing, and labor wages.

(3) Documentation demonstrating compliance with section 5.5.A.1 must be submitted through the DFCM Energy Program Director for review and acceptance by an appropriate Submittal Reviewer, selected by the DFCM Energy (or Energy Program) Director.

a. Appeals regarding extenuating circumstances related to demonstrating compliance with section 5.5.A.1 may be submitted to the DFCM Energy Program Director, for consideration on a project/building specific basis. Appeals can only be considered if made prior to the Construction Document design phase.

b. Minimum documentation requirements for demonstration of compliance with section 5.5.A.1 are as follows, and must be based upon the drawings and specifications referenced in the final construction document bid set, including the completion of value engineering, bid alternates, and addenda.

i. All relevant project information as required by *Standard 90.1-2010-G1.4* (Reference Appendix B – Project Energy Performance Statement (link to electronic copies)

ii. All energy model input values not specified by *Standard 90.1-2010-G1.4*. Examples include, but are not limited to thermostatic settings and occupancy & equipment schedules. Software output reports may be used to demonstrate compliance with this section.

c. Coordination regarding interpretation of Appendix G methodology and protocol can be discussed between the Energy Engineer and Submittal Reviewer on an as needed basis.

d. The Submittal Reviewer shall review and discuss the energy modeling submittal with the Energy Engineer. Results of the discussion including clarifications and revisions shall be documented by the Submittal Reviewer with comments. Revisions to the energy model and revised documentation shall be provided in response. A meeting will be held with the Energy Engineer, Submittal Reviewer, and DFCM Energy Program Director, as necessary, to reconcile any outstanding issues. Final acceptance will be granted by the DFCM Energy Program Director.

e. Projects seeking credit for Energy Efficiency Measures not addressed specifically by Appendix G, at the discretion of the DFCM Energy Program Director, may do so by demonstrating savings relative to a Baseline determined through collaboration between the Energy Engineer and Submittal Reviewer.

C. Appliances and Equipment

(1) As available, provide appliances, equipment, products, and/or furnishings that meet one of the following criteria[3].

a. ENERGY STAR Qualified.

b. EPACT Registered

c. Products that meet or exceed the US Department of Energy's FEMP Energy Efficiency Recommendations

d. Rocky Mountain Power incentive, Questar Gas rebate program, or local utility company incentive/rebate approved equipment.

(2) Credit for plug & process (unregulated) loads that are associated with products complying with section 5.5.B.1 may be given credit in the Proposed design energy model by following the exceptional calculation method described in *Standard 90.1-2010, G2.5*, or through use of the procedures described in section 6.4.5 of COMNET's *Commercial Buildings Energy Modeling Guidelines and Procedures*[4].

D. Minimum requirements for new construction

(1) The building envelope requirements in *Standard 90.1-2010 Tables 5.5.1-8* or code minimum, whichever is more stringent, are mandatory.

(2) Minimum efficiency requirements of *Standard 90.1-2010 section 6.8 and section 7.8* or code minimum, whichever is more stringent, are mandatory for all new equipment covered under the standard.

(3) The building envelope requirements of *IECC C402.3.1* are mandatory regardless if the project is complying with *ASHRAE 90.1* or *IECC*.

(4) During design development the Electrical Engineer will provide a room-by-room count of installed and space-by-space allowed lighting power per *Standard 90.1-2010 Table 9.6.1*, as well as any lighting power exceptions taken per *Standard 90.1-2010 section 9.2.2.3*.

5.6 Water Efficiency

A. Meet the EPA WaterSense[5] requirements for high efficiency plumbing fixtures and appliances within the building.

[3] www.gsa.gov/eeproducts.
[4] http://www.comnet.org/mgp-manual.
[5] http://www.epa.gov/WaterSense/water_budget/

B. Once-through process water systems are not permitted. **This section of the HPBS is recommended but not required for student housing.**

C. Identify water efficiency goals and system expectations into the OPR and BOD submitted at Design Development and Construction Documents phases. **This section of the HPBS is recommended but not required for student housing.**

5.7 Materials and Resources: **This section of the HPBS is recommended but not required for student housing.**

A. Provide recycling containers and implement a recycling program in all new buildings.
(1) Recycling contains shall be collocated with the garbage bins.
(2) If co-mingled recycling is not permitted, bins must be clearly marked.
(3) At a minimum, mixed papers, cardboard, mixed plastics, and mixed metals shall be recycled.

B. Integrate water bottle filling stations at a minimum of one drinking fountain in the building.

C. Implement a construction waste management plan to divert a minimum of 75% of construction waste, by volume, from the landfill.
(1) Provide a narrative for exceptions to compliance with section 5.7.C. Narrative shall define the feasible diversion rate, by volume, and is subject to review and approval by DFCM Energy Program Director.
(2) Contractor shall track recycled content, per the HBPS Worksheet, and provide a summary of construction waste at project construction meetings to be reviewed for compliance by the Architect.

D. Sustainable Material Sourcing

(1) Identify and specify building materials that are both extracted and manufactured within 500 miles of the project site.
a. Only the value associated with the regional content, by percentage, shall contribute to the sustainable value of the product.
b. Key materials include concrete, concrete masonry, brick, stone, gypsum board, steel joists, and regionally manufactured misc. metals.
(2) Identify and specify building materials that contain recycled materials.
a. Recycled content shall be tracked as both pre-consumer and post-consumer recycled content. Only 50% of the value of the pre-consumer recycled content shall contribute toward the sustainable value of the product.
b. Only the value associated with the recycled content shall contribute to the sustainable value of the product.
c. Key materials containing recycled content include concrete, all metal containing materials, plastic containing materials, carpet, and suspended ceiling systems.
(3) 35% of building materials, by value, shall meet one or more of the above sustainable materials strategies.
a. Provide the appropriate specification sections and documentation requirements in the construction document set to ensure the contractor understands the sustainable material requirements and expectations.
b. Contractor shall track sustainable material sourcing values and product purchase verification, per the HPBS spreadsheet. The Architect shall review summary values for compliance at the project construction meetings.
(4) Only use low mercury or LED lamps in new construction projects.

5.8 Indoor Environment Quality

A. Implement an indoor air quality management plan during construction. This plan shall meet the SMACNA IAQ Guidelines for Occupied Buildings Under Construction, 2nd edition ANSI/SMACNA 008–2008.
   (1) The Contractor shall submit an Indoor Air Quality Plan to the CxA, outlining the implementation strategies to achieve the SMACNA requirements.
   (2) Implementation of this plan shall be tracked on the weekly Construction Meeting Minutes.

B. Implement a pre-occupancy air quality plan.
   (1) At the end of construction, prior to occupancy, conduct an air quality test per USGBC LEED v4 Construction Indoor Air Quality Assessment requirements.
   (2) The Test and Balance sub-contractor shall provide documentation to the Commissioning Agent demonstrating the dates and air flows achieved during the building flush.

C. All interior paints and coatings shall meet the low emitting materials standards set forth by the South Coast Air Quality Management District Rule 1113, as adopted in January 2012.

D. All interior adhesives and sealants shall meet the low emitting materials standards set forth by the South Coast Air Quality Management District Rule 1168, as adopted in January 2005.

E. All flooring systems shall be low emitting, and meet the Green Label Plus program, FloorScore, Greenguard, or the Greenguard low emitting requirements.

F. All janitor's closets, print and copy rooms, and chemical storage spaces shall be directly exhausted and constructed with a hard ceiling or walls constructed and sealed to deck.

G. Provide permanently installed entryway systems, regularly maintained walk-off mats, or a combination of the two systems. All entry carpets shall be at least 10' in length at primary entryways.

H. Office environments shall be designed with task lighting at each individual workstation.

I. 65% of all regularly occupied spaces shall either have direct access to daylight and views or indirect access through shared glazing systems at interior partitions. **The percentage of space with access (direct or indirect) is determined by the building owner in student housing.**
   (1) Complete the HPBS Sustainability Worksheet to demonstrate compliance with Section 5.8.I.
   (2) Daylighting and view strategies must be included in the OPR.

5.9 Education and Outreach Program: **This section of the HPBS is recommended but not required for student housing.**

A. Develop and implement a Building Education and Outreach Program to inform the building users of the sustainable design strategies. This program shall include a minimum of two of the following:
   (1) Digital or fixed signage describing the sustainable goals and strategies as well as behavior modifications to complement the sustainable design and construction efforts.
   (2) A brochure or pamphlet on the sustainable strategies. This shall highlight the location of specific strategies and provide resources for additional information.
   (3) Information on the building or department website highlighting the sustainable goals, strategies, and behavior modifications to compliment the sustainable efforts.

(4) Enhanced building training to ensure the building operators and users understand the systems and sustainable design strategies. This includes providing enhanced Operation and Maintenance information on the building systems and control strategies.

B. The outreach program shall address the following sustainable strategies:
(1) Context Sensitive Design
(2) Transportation Demand Management Plan and Programs
(3) Sustainable Site Design
(4) Energy Efficiency
(5) Water Efficiency
(6) Indoor Environment Quality
(7) Recycling and Material Management

C. Energy Star Tracking
(1) The Facilities Operator or Commissioning Authority shall register the building under the Energy Star Portfolio program and input and monitor energy and water consumption of the building.

5.10 Metering: **The metering requirements in student housing, per this document, are limited to a meter on all major utilities (also mandated by Legislature); water, natural gas, electricity, with meters that can report to a BAS or information management system that is used by the student housing management group. The reason for this requirement is that it provides an invaluable operating tool for the management team to find issues with excessive utility use that will decrease the cost of operating the building. Specific sections of 5.10.A. are listed below as either recommended or required, others to be considered at the agencies discretion. This document does not supersede additional requirements that each agency may have in regards to energy or sustainability performance of a building. For example – if a campus requires a LEED certification for all of its new buildings then those requirements still apply and will require additional sub-metering.**

A. Metering System Scope
(1) All state agencies and institutions shall incorporate the utility metering requirements of this section into new construction and major renovation projects. The scope of metering shall include at minimum:
a. **Recommended but not required.** Meters on each utility connected to the building, including but not limited to power, natural gas/propane, domestic water, irrigation water, chilled water, steam or condensate, and heating water, shall be provided as part of the construction project and shall be connected to an energy metering monitor network. If meters provided by utility companies can be connected to this network, these meters can serve to meet this requirement. Otherwise, separate meters will be required as part of the construction project that can connect to the meter monitoring network.
i. Irrigation metering is only required on projects where irrigation system feeds from a building or is a standalone system as part of the project.
b. **Recommended but not required.** Monitoring network for utility meters shall be connected to each meter and submeter in the building. This network shall connect to the building controls network via a dedicated automation engine device such as a JACE, NAE, or equivalent as approved by DFCM. Communication protocol on the monitoring network shall be BACnet, LON, and/or Modbus RTU and shall be coordinated with the building automation network. All devices connecting to this network shall use the selected communication protocol as their standard means of communication and shall make all data points readily available for monitoring through the network. A schematic of the monitoring network shall be included in the construction drawings.

c. Meter the entire building electrical load at the main service entrance switchboard. For projects with budgets exceeding $5,000,000, or as directed by DFCM, provide submetering of electrical loads to HVAC systems, lighting, and plug loads. For Medium Voltage switchboards at 4160 volt or higher, provide metering at each branch circuit. Multi-relays that gather metering data may be used in place of a standalone meter on branch circuits of large switchboards. Provide additional submeters for large renewable energy projects that interconnect to the building electrical panels.
   i. Submeters shall connect to the monitoring network. Connection to the monitoring network shall be through one connection point through a dedicated Building Automation node. Do not mix HVAC monitoring and Electrical metering on the same BAS node. Allow the HVAC monitoring and control to continue during maintenance on the metering side
d. Provide additional submetering for any equipment or systems exceeding the following thresholds:
   i. Electrical load exceeding 100 kW
   ii. Natural gas/propane load exceeding 1,500,000 Btu/h
   iii. Cooling tower fill and drain for cooling towers on systems with over 150 tons cooling capacity. If this information is available from chemical treatment or other systems, these systems can be included in the metering network in lieu of separate meters.
   iv. Evaporative cooling system fill and drain for evaporative cooling systems sized for 50,000 CFM or more.
   v. If individual pieces of equipment do not cross these thresholds, but they are part of systems (e.g. chiller or boiler plant) that have demands above the threshold level, provide submetering for the entire system.
   vi. Verify with agency whether any additional submetering requirements exist (billable tenants, etc.)
e. If individual pieces of equipment have internal metering capabilities that meet the requirements of this section, these points can be mapped into the meter monitoring network in lieu of external submeters.
f. Where the project is part of a campus of other buildings, coordinate with campus personnel and design standard supplements for additional metering requirements. This may include matching existing head end equipment protocol, particular standards related to specifications of equipment, and requirements for programming on the head-end system to receive the new metering signals.
g. The meter monitoring network shall be provided with graphics pages available over the web and through the building controls head end system (if provided). The graphics page shall provide a summary of the instantaneous readings of each meter, provide hourly and daily peak kW trend graphics, as well as the monthly and annual peak kW and total kW-hr readings of each meter. Provide data to allow comparisons of each month and year of the building's operation. Trends shall collect data at 15 minute intervals coincident for each meter on the network.
h. The meter monitoring network shall be provided with export capabilities of a minimum of one year of data at hourly intervals, for all metered points, with trend data required, to either CSV or SQL format.
i. Construction documents shall include schedules and locations of meters, and require submittals of meters for review by the design team, DFCM, and commissioning agent. Commissioning agent will review installation, calibration, and operation of meter system.

B. Utility Meter Requirements: **This section of the HPBS has excellent guidance for choosing and installing meters with specific characteristics. It incorporates many industry/agency lessons learned to provide long term functional meters that provide good data and do not become maintenance issues. It is highly recommended that student housing projects teams review this when selecting their utility meters.**

(1) Electric Power Meters

a. Provide digital power meters on all buildings. If there is more than one building on the project, provide separate metering for each structure.

b. Provide power meter output in the communication protocol selected for the meter monitoring network.

c. For monitoring the submeters, connect all back to a central location for interface with the Building Automation system node. Provide riser, plans, and details of wiring and conduit connections. Carefully consider how meter wiring can be routed and connected through switchboards. Consider how meters and wiring can be serviced in live switchboards. An acceptable alternate to switchboard mounting is a separate bank of meters adjacent to the switchboard.

d. Meters shall meet the ANSI standard for billable type meters. Provide meters to monitor with true RMS metering, with 0.2% accuracy.

e. Power meters shall have on board clock with date and time, and be able to record the day and time of any maximum demands or other events.

f. Monitor shall include instantaneous demand for kW, kWh, power factor PF, and shall also include maximum demand kW and total kWh.

g. Power meters shall have an on board digital display that reports measured voltage, amperage, kW, kWh, and power factor. The digital display shall be programmed and calibrated against a portable meter. Verification and commissioning is required for the monitoring network and the on unit digital display.

h. For large switchboards exceeding 2000 amp, or for medium voltage exceeding 4160 volt, provide test blocks on the face of the switchboard for testing the CT's and PT's. For medium voltage application, provide three PT's, 3 phase 4 wire system, and multiple tap CT's.

i. For main service meters, additional meter functions may be considered at the main service such as Total Harmonic Distortion, waveform capture, high speed event capture, and power analysis data. Do not provide these features for submetering unless requested by the agency or user group.

j. Where application calls for net metering, provide this function.

k. Metering and submetering data shall be coincident, with trending available independently for each individual metering point.

(2) Natural Gas/Propane Meters

a. Provide diaphragm type flow meters for sizes up to 1,000,000 Btu/h. Provide rotary type flow meters for sizes above 1,000,000 Btu/h. Accuracy on diaphragm meters shall be +/- 3% over the published flow range of the meter. Accuracy of the rotary meter shall be +/- 2% over the published flow range of the meter. Verify that maximum and minimum flow requirements for the project are suitable for the meter selected. Include requirement in the contract documents to correct meter multiplier for project gas pressure.

b. Provide a strainer upstream of all meters. Provide a bypass around meters. If meter is installed outside, route output wiring to local display inside building mechanical room. Orient pipe horizontally where meter is installed. Meter installation shall be in accordance with manufacturer's specifications. Show straight pipe requirements on contract drawings (12 pipe diameters upstream and 7 pipe diameters downstream, unless more is required by manufacturer). Strainers and bypass fittings are not to be included in the straight pipe length.

c. If the meter is provided with a dry-contact pulse output, a 4-20 mA output, or a proprietary protocol, require a controller/convertor be provided to convert the signal to the communication protocol used in the meter monitoring network.

d. Meter output to the monitoring network shall provide instantaneous flow rate as well as totalized flow rate. A local display shall be provided that shows these flow rates at the meter. Units shall be in CFH for instantaneous flow rate and 100's of cubic feet (CF) for the totalized flow rate.

(3) Domestic/Irrigation Water Meters

a. Provide positive displacement type flow meters for sizes up to 2" and direct coupled turbine type flow meters for sizes up to 20". Insertion turbine type flow meters are acceptable in sizes from 2 1/2" to 8". Accuracy on all meters shall be +/- 2% over the published flow range of the meter. Verify that maximum and minimum flow requirements for the project are suitable for the meter selected.

b. Provide a strainer upstream of all meters. Provide a bypass around meters that are installed inline. Bypasses are not required for insertion turbine meters that can be removed from the pipeline for maintenance without interrupting flow. Provide a test port downstream of meters.

c. Install meter in well-lit and easily accessible area (irrigation meters may be installed in underground meter boxes, but display shall be located inside adjacent buildings). Orient pipe horizontally where meter is installed. Meter installation shall be in accordance with manufacturer's specifications. Show straight pipe requirements on contract drawings (12 pipe diameters upstream and 7 pipe diameters downstream, unless more is required by manufacturer). Strainers and bypass fittings are not to be included in the straight pipe length.

d. If the meter is provided with a dry-contact pulse output, a 4-20 mA output, or a proprietary protocol, require a controller/convertor be provided to convert the signal to the communication protocol used in the meter monitoring network.

e. Meter output to the monitoring network shall provide instantaneous flow rate as well as totalized flow rate. A local display shall be provided that shows these flow rates at the meter. Units shall be in GPM for instantaneous flow rate and Gallons, or 10's of Gallons, or 100's of gallons for the totalized flow rate as applicable to the project size.

(4) Steam Meters

a. Provide a vortex type mass flow meter with integral density compensation. Accuracy to be +/-2% over the published range of the meter. Verify that maximum and minimum flow requirements for the project are suitable for the meter selected.

b. Provide a strainer and drip leg upstream of all meters. Provide a bypass around meters.

c. Install meter in well-lit and easily accessible area. Orient pipe horizontally where meter is installed. Meter installation shall be in accordance with manufacturer's specifications. Show straight pipe requirements on contract drawings (12 pipe diameters upstream and 7 pipe diameters downstream, unless more is required by manufacturer). Strainers and bypass fittings are not to be included in the straight pipe length.

d. If the meter is provided with a dry-contact pulse output, a 4-20 mA output, or a proprietary protocol, require a controller/convertor be provided to convert the signal to the communication protocol used in the meter monitoring network.

e. Meter output to the monitoring network shall provide instantaneous flow rate as well as totalized flow rate. A local display shall be provided that shows these flow rates at the meter. Units shall be in lb/hr for instantaneous flow rate and 1000's of lb for the totalized flow rate.

(5) Condensate Meters

a. Provide positive displacement type flow meters for sizes up to 2” and direct coupled turbine type flow meters for sizes up to 20”. All condensate meters shall be rated for operation with fluids up to 230°F. Accuracy on all meters shall be +/-2% over the published flow range of the meter. Verify that maximum and minimum flow requirements for the project are suitable for the meter selected.

b. Provide a strainer upstream of all meters. Provide a bypass around meters that are installed inline. Require that meter be installed in a low point in the piping system to ensure the pipe remains full of water. Provide a test port downstream of meters.

c. Install meter in well-lit and easily accessible area. Orient pipe horizontally where meter is installed. Meter installation shall be in accordance with manufacturer’s specifications. Show straight pipe requirements on contract drawings (12 pipe diameters upstream and 7 pipe diameters downstream, unless more is required by manufacturer). Strainers and bypass fittings are not to be included in the straight pipe length.

d. If the meter is provided with a dry-contact pulse output, a 4-20 mA output, or a proprietary protocol, require a controller/convertor be provided to convert the signal to the communication protocol used in the meter monitoring network.

e. Meter output to the monitoring network shall provide instantaneous flow rate as well as totalized flow rate. A local display shall be provided that shows these flow rates at the meter. Units shall be in GPM for instantaneous flow rate and Gallons, or 10’s of Gallons, or 100’s of gallons for the totalized flow rate as applicable to the project size.

(6) Chilled Water or Heating Water (Below 200°F)

a. On buildings that receive chilled water or heating water from a remote plant, provide a BTU meter that consists of flow meter, supply and return temperature sensors (matched pair of RTDs), and local display that calculates GPM, Btu/h, and totalizes Btu readings. The flow meter shall be an insertion turbine meter for pipe sizes from 2 ½” to 8”. For sizes larger than 8”, the flow meter shall be an electromagnetic or ultrasonic flow meter. Accuracy to be +/-2% over the published range of the meter. Verify that maximum and minimum flow requirements for the project are suitable for the meter selected.

b. Provide a strainer upstream of all meters. Provide a bypass around meters that are installed inline. Bypasses are not required for insertion turbine meters or ultrasonic flow meters that can be removed from the pipeline for maintenance without interrupting flow. Provide a test port downstream of meters.

c. Install meter in well-lit and easily accessible area. Orient pipe horizontally where meter is installed. Meter installation shall be in accordance with manufacturer’s specifications. Show straight pipe requirements on contract drawings (12 pipe diameters upstream and 7 pipe diameters downstream, unless more is required by manufacturer). Strainers and bypass fittings are not to be included in the straight pipe length.

d. Meter output to the monitoring network shall provide instantaneous flow rate, supply and return temperatures, instantaneous energy transfer rate as well as totalized flow and totalized energy transfer. A local display shall be provided that shows these values at the meter. Units shall be in GPM for instantaneous flow rate, Btu/h for instantaneous energy transfer rate, and 1,000,000’s of Btu for the totalized energy transfer. If room temperature will exceed 85°F, move display to adjacent cooler room.

(7) High Temperature Heating Water (Above 200°F)

a. On buildings that receive high temperature heating water from a remote plant, provide a BTU meter that consists of flow meter, supply and return temperature

sensors (matched pair of RTDs), and local display that calculates GPM, Btu/h, and totalizes Btu readings. The flow meter shall be an ultrasonic or flange to flange insertion type flow meter. Verify with DFCM or agency for each project. All components in this system shall be rated for temperatures up to 750°F. Accuracy to be +/-2% over the published range of the meter. Verify that maximum and minimum flow requirements for the project are suitable for the meter selected.

b. Provide a bypass around meters that are installed inline. Bypasses are not required for ultrasonic flow meters that can be removed from the pipeline for maintenance without interrupting flow.

c. Install meter in well-lit and easily accessible area. Orient pipe horizontally where meter is installed. Locate flow meter on return line. Meter installation shall be in accordance with manufacturer's specifications. Show straight pipe requirements on contract drawings (12 pipe diameters upstream and 7 pipe diameters downstream, unless more is required by manufacturer). Strainers and bypass fittings are not to be included in the straight pipe length.

d. Meter output to the monitoring network shall provide instantaneous flow rate, supply and return temperatures, instantaneous energy transfer rate as well as totalized flow and totalized energy transfer. A local display shall be provided that shows these values at the meter. Units shall be in GPM for instantaneous flow rate, Btu/h for instantaneous energy transfer rate, and 1,000,000's of Btu for the totalized energy transfer. If room temperature will exceed 85°F, move display to adjacent cooler room.

5.11 Data Points: **This section of the HPBS is recommended but not required for student housing.**

A. Definitions

(1) The input/outputs points list as defined in Appendix A have the following definitions:

a. Digital Input: This term is defined as binary data flow into a controller or control function. These values are "on/off", alarm or normal, 0 or 1, etc.

b. Digital Output: This term is defined as binary data flow out of a controller or control function. These values are on/off, start/stop, open/close, etc. These values are typically shown as 0 or 1, True or False, On and Off, etc.

c. Analog Input: This term is defined as analog data flow into a controller or control function. These values are associated with thermostats, thermo wells, transducers, CO2 sensors, humidity sensors, flow sensors etc. These values are typically shown in incremental values.

d. Analog Output: This term is defined as analog data flow out of a controller or control function. These values are associated with speed, position, damper actuators, valve actuators, etc. These values are typically shown as 0-100%.

e. Hardwire Interlock: This term refers to physical wiring between two devices which prevents one device from operating until the other device confirms ability to operate. These types of interlock are typically associated with a damper confirming open before a fan may start, a valve confirming open until a pump may start, etc. This does not refer to any software interlock but an actual physical connection.

f. BAS Communication: This term refers to values sent from or sent to devices which communicate over a software communication protocol such as LonWorks, BACnet, Modbus, or other software communications. These are not physical points directly wired to controllers but are typically sent over a communications protocol.

(2) The graphics points list as defined in Appendix A have the following definitions:

a. Dynamic Flow Diagrams: This refers to graphics which have animation showing digital inputs operation. These are animations are typically fan status as shown as a moving fan, pump status as shown as a moving impeller on a pump graphic, a coil status as shown as a color change in the coil color, etc.
b. Start/Stop: This refers to a digital output value as shown in textual format. These values show open/close, start/stop, as physically shown on the graphic
c. Display Status: This refers to a digital input value as shown in textural format. These values show on/off, open close, as physically shown on the graphic.
d. Display Value: This refers to both analog inputs and outputs as shown in textural format. These values show percentage open, speed, gpm, cfm, etc.
e. Adjust Value: This refers to any value that can be manipulated though the BMS system. These values can be adjusted as an override from the BMS or an adjusted set point. All controlling set points will be shown on the graphic.

(3) The other points list as defined in Appendix A have the following definitions:
a. Alarm Local: This refers to an alarm that is shown only locally on the BMS and an alarm that does not require immediate attention by staff or an alarm that is generally not detrimental to the system if it does not function correctly. Different priorities will be defined in the project requirements.
b. Alarm Email: This alarm is reserved for failures in the system which could create a great monetary expenditure to resolve if not addressed immediately. The intent is to alarm offsite personnel during unstaffed time periods to immediately come to the site to resolve the issue before further damage could be done.
c. Trend 15 Minutes: This refers to trending that needs to be setup in the system to trend every 15 minutes. The cache for these trends needs to be at least 8 weeks in storage for review by the DFCM or user groups. Trend charts shall be setup by the contractor in direction of the Cx, Engineer, or User group. It is not the intent that all points listed in the “trend 15 min” be all shown on a single chart but be separated in relation to the control of the system and the command of the system . An example is an pumping system where the lead/lag or duty/standby is shown compared to the differential pressure in the system.

B. Implementation

(1) The points list shall only be implemented in buildings that require a BMS. If a BMS system is not required or requested by DFCM then the points list will not apply in its entirety.
a. This requirement is not to alleviate Design/Build applications from providing a BMS unless it is specifically stated in the program documents that it is not required.
b. If the program documents do not addressed a BMS then it will be inferred that a BMS is required in compliance with this section.

(2) Trending will be implemented for all pieces of equipment as defined in the points list. Individual charts shall be created at direction of the Cx, Engineer, or DFCM representative. These trend charts shall be able to be access through a web interface and a single point click. The intent is not to have these charts created each time an individual logs into the system. The intent is to have these charts access through a single click.

(3) Implementation of this section is not to be applied wholly to each individual building. The intent is only individual systems as applied to the project only be followed per the stated section.

(4) Any system that is not listed in the points list shall not alleviate the design or construction team from implementing a defined points list. In the event that a system is not defined a list shall be provided to DFCM to show which points shall be implemented. The points list shall be delivered to the DFCM, user groups, and Cx by the design team before 50% CDs are created in a Design-Bid-Build or CM/GC delivery system. The points list shall

be delivered to the DFCM, user groups, and Cx by the design team before DDs are created in a Design/Build delivery system. A narrative shall be submitted to DFCM in the event compliance with section 5.11 is too stringent or costly for a given project that requires a BMS. Any waiver shall be approved by the DFCM and the user group. The waiver shall be accompanied by a descriptive reason on why the standards are too stringent or costly for the project.

a. The waiver shall not be approved when finances are not in place, only when the implementation does not prove to have a reasonable use.

5.12 Commissioning: **If a standard OPR/BOD is followed, along with the prescriptive path described in 5.1.A.(2)a, the scope of work of the CxA can be reduced in the following ways.**

A. The following industry standards provide a minimum level commissioning in to determine the scope for capital development projects.

(1) American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) ASHRAE Standard 202, Commissioning Process for Building and Systems
(2) National Environmental Balancing Bureau (NEBB) - Procedural Standards for Whole Building Systems Technical Commissioning
(3) Building Commissioning Association (BCxA) - New Construction Building Commissioning Best Practice
(4) AABC Commissioning Group Guidelines (ACG) – ACG Commissioning Guideline

B. DFCM shall determine the systems and assemblies to be commissioned, per the OPR, in the project's team's scope. The following systems must be commissioned as a minimum.

(1) Cooling systems
(2) Heating systems
(3) Steam systems
(4) Air handling systems
(5) Smoke controls systems including fans ductwork and interconnected air handling/supply systems
(6) Plumbing systems
(7) Emergency power systems
(8) On-site renewable energy systems
(9) Electrical systems
(10) Building Automation Systems (BAS), including verification of correctly installed data points and meters

C. The below following duties only pertain to mandatory systems to be commissioned. Other systems that may be commissioned shall be defined per individual project. The following duties shall be performed by the commissioning project manager and not any other individual commissioning team member:

(1) Review OPR at each design phase**, Scope reduced through streamlined review.**
(2) Review BOD at each design phase**, Scope reduced through streamlined review.**
(3) ~~Review each design phase (Programming, SD, DD, CD) submittal for compliance to HBPS Sections~~. **Review submittal for compliance to HBPS Sections in DDs and CDs.**
(4) Attend Design Meetings as necessary, including design phase review meetings, systems meetings and HPBS Workshops
(5) Conduct Commissioning Kick-off Meeting, attendees per Section 5.1
(6) Review the Commissioning Plan (prepared by other commissioning team members)
(7) Review submittals for main pieces of equipment and issue a report written by the project manager (main pieces of equipment include Boilers, Chillers, Cooling Towers, Heat

Pumps, Air Handling Units (larger than 5,00 CFM), Pumps, VFDs, Lighting Controls, Building Management System, Roof Top Units, VRF, Chilled Beams, VAV, FCU)

(8) Attend Construction Meetings (at least monthly at first install of MEP rough in)
(9) Review first installed or mock-up items
(10) Review Final Sequence of Operations as installed to ensure compliance with documentation.
(11) Review Functional Acceptance Test final test records(as performed by other commissioning team members)
(12) Review Test and Balance Report
(13) Review Commissioning Report
(14) Review Systems Manual
(15) Review Trending data (at least four weeks) for major pieces of equipment and lighting controls
(16) Follow up on the project at 3,6,9,11 months to ensure the system is performing as intended.

D. The following duties shall be performed by the commissioning agent or may be performed by the commissioning project manager and not any other individual commissioning team member:

(1) Review SD drawings**, not required**
(2) Prepare the commissioning plan
(3) Review minor submittals (minor submittals include piping, valves, plumbing equipment, other electrical equipment not defined in project managers duties, and other pieces of equipment not defined in the project manager duties)
(4) Conduct construction meetings
(5) Verify Equipment on site matches items submitted
(6) Prepare and execute PFAT checklist
(7) Prepare and execute FAT checklist
(8) Execute PT-PT checks on 100% of all of the points on the building management system
(9) Calibrate all (100%) points on PT-PT checks on the building management system, occupancy sensors, and day lighting controls.
(10) Attend Startup of major pieces of equipment and review startup reports from contractors.
(11) Review issues logs.
(12) Review Training Agendas
(13) Prepare the Commissioning Report
(14) Prepare the Systems Manual

E. The following duties shall be performed by the commissioning technicians or may be performed by the commissioning agents or may be performed by the commissioning project manager and not any other individual commissioning team member:

(1) Review all installed pieces of equipment, piping, insulation, conductors, receptacles, switches, transformers, switchgear, panel boards, switchboards, MCC, VAV, VRF, Chilled beams, FCU, Exhaust Fans, Relief Fans, etc. that they meet OPR, CD, and Manufacturer recommended instructions
(2) Assist in execution of PFAT checklist
(3) Assist in execution of FAT checklist
(4) Perform all other duties not defined in the commissioning project manager and commissioning agents responsibilities but defined in the Standards and Guidelines as defined in the Standards and Guidelines section.
(5) Prepare issues logs.

5.13 Envelope Commissioning

A. High performance building shall be commissioned in general compliance with ASTM E2813-12 *Standard Practice for Building Enclosure Commissioning*. Where conflicts arise between ASTM E2813 and this Standard, this Standard shall supersede.

B. Standard performance buildings shall be commissioned through the design phase in general compliance with ASTM E2813-12. **Student housing projects do not need to conduct a Whole Building Air Test (WBAT) unless requested by the building owner. Mock-up testing can be performed as an in-situ (first installed) in lieu of an on-site stand-alone mock-up.**
   (1) Project budget will dictate commissioning activities beyond the design phase.

C. Building Components Included in Building Envelope Commissioning
   (1) Below-grade construction including foundations, basements, and slab-on-grade that functions as part of the exterior enclosure system with utilization of waterproofing and drainage systems, but excluding structural and fireproofing systems and components
   (2) Superstructure floor and roof construction that functions as part of the exterior enclosure system.
   (3) Exterior enclosure construction, above grade, including exterior opaque walls and claddings, fenestration, sheathing, framing, insulation, air barriers, vapor barriers, drainage control layers (or Water Resistive Barriers –WRB's), RF shielding materials, and additional components of the assembly that may impact the long term performance of the enclosure.
   (4) Roofing, including roofing system, roofing insulation, air barriers, vapor barriers, roofing membranes, skylights, hatches, and other roof openings/penetrations.

D. Building Envelope Commissioning – Phases and Tasks – Design-Bid-Build

E. The overall BECx process and scope of services shall be in general accordance with the following industry standards, but with emphasis placed on ASTM E2813:
   (1) NIBS Guideline 3-2012 Building Enclosure Commissioning Process
   (2) ASTM E2813 Standard Practice for Building Enclosure Commissioning
   (3) CSA Z320-11 – Building Commissioning Standard & Check Sheets

F. The following tasks shall be included in the BECx scope of work: **If a standard OPR/BOD is followed, along with the prescriptive path described in 5.1.A.(2)a, the scope of work of the BECxA can be reduced and streamlined review of DDs and CDs.**
   (1) Pre-Design Phase
      a. The Building envelope commissioning agent (BECxA) must be engaged during or prior to the pre-design phase for all High Performance projects and during the design phase for all Standard Performance Projects.
      b. The OPR, relative to the building envelope components selected for commissioning, is documented in order to establish a baseline of performance expectations to which the actual installed performance is compared. The BECxA, with the assistance of the Owner, discusses the BOD Summary that documents the OPR for those building systems selected for commissioning. The BOD Summary reflects the underlying assumptions and requirements that become represented in the construction documents. The OPR is developed by the Owner and documented by the BECxA. Project schedule, design life, and project delivery method should all be included in the OPR. For Standard Performance projects, this task is complete in the design phase.
      c. Review of the design narratives to attain an understanding of the BOD. The Basis of Design (BOD) Document records the concepts, calculations, decisions, and product selections used in the design to meet the OPR and to satisfy applicable regulatory requirements, standards, and guidelines. The document

generally includes both narrative descriptions and lists of individual items that support the design process. The BOD Document is developed by the Architect/Engineer of Record (A/E) through a series of design narratives. The BECxA reviews the BOD statement and design narrative documentation and provides written commentary to the A/E and other members of the Commissioning Team as required.

d. Identify the scope of the BECx process. A BECx Scope Meeting will be conducted. Topics to be covered during the BECx Scope meeting include, but are not limited to, the BECx process, communication protocols, and development of OPR and BOD. The step is often accomplished with a conference call.

e. Development of the initial BECx plan. The BECxA will develop the initial BECx plan, which can either be its own entity (common) or a part of the Master Commissioning Plan (uncommon). The plan shall include key elements including, but not limited to, project schedule inclusive of BECx tasks and milestones, systems to be commissioned, roles and responsibilities of commissioning team members, means of communication and reporting of conditions and progress throughout the BECx process, and the level of documentation expected throughout the BECx process. The plan is updated periodically throughout the BECx process to reflect changing project conditions or requirements until the end of the project, when it then becomes the Project Commissioning Record.

(2) Design Phase

a. The BECxA shall review the relevant project documents to assist with the development of a building envelope that provides environmental separation. The design concepts will be evaluated against the OPR and BOD. The review will include verification that all systems to be commissioned are addressed in the BOD and fulfill the OPR such that the systems are coordinated with each other. The review shall occur a minimum of two times, including a back-check of subsequent issuances. Deliverables typically consist of written mark-ups of the architectural drawings and project specifications to be shared and discussed with the project team. The A/E provides a written response to the BECA and Owner as to how the comments will be reflected in the final bid documents. On a typical high performance project, there will be at least three in person meetings between the A/E and the BECxA

b. The BECx requirements are incorporated into the construction documents via a BECx specification sections provided by the BECxA and submitted to the A/E for review and approval. The functional performance testing requirements (including both mock-up and field testing) will be incorporated into the construction documents via a functional performance testing specification section. Both specification sections are created by the BECxA based on the requirements outlined in the OPR and BOD and submitted to the A/E for review and approval.

(3) Pre-Construction Phase

a. The A/E or Contractor shall provide all sub-contractor submittals, including material submittals, shop drawings, applicable substitution requests, and quality control documentation to the BECxA prior to commencement of building envelope construction. The BECxA will review all contractor exterior envelope submittals for compliance to the BOD, design documents, performance, and constructability, with concentration on transition details, sequencing concerns, and quality control contractual requirements. All concerns shall be forwarded, in writing, to the A/E for their review and formal response to the Contractor. All submittal and shop drawing reviews by the BECxA will occur prior to review by the A/E, when possible. When applicable, the BECxA will provide written

mark-ups of the shop drawings to the A/E. Air barrier shop drawings are required on all projects.

b. In general, the Contractor will complete CCs for all assemblies and systems prior to formal performance testing of equipment or subsystems of the given system. These checklists will be reviewed by and as needed commented on by the BECxA.

c. The Contractor will arrange and schedule a Pre-Construction Trade Orientation Meeting, prior to the commencement of the building envelope mock-up or building envelope construction, to be chaired by the BECxA. Topics covered during the meeting would include, but not necessarily be limited to, inspection and testing procedures, review of plans and specifications, review of shop drawings, construction schedule and sequencing, material selection and compatibility, and other installation concerns. This meeting may also serve as the building envelope commissioning kick-off meeting or they may be separate meetings.

d. Mock-ups of the critical envelope components shall be constructed and tested prior to the commencement of building envelope construction in order to verify the performance of the systems and to set construction standards and material selection for the duration of the project. Components required in the mock-ups will be as identified in the relevant sections of the Project Specifications and Architectural Drawings. Construction of the mock-up is to be observed and documented by the BECxA. Once completed, the Contractor will provide confirmation of completion to the BECxA and A/E. The completed mock-up will then be reviewed by the BECxA and A/E for compliance to the Contract Documents. Once the mock-up has been visually observed for compliance to the Contract Documents, the mock-up will be tested to ensure adherence to the performance requirements set forth in the Contract Documents. The testing protocol will be as identified in the Contract Documents in the Functional Performance Test Specification developed by the BECxA and approved by the A/E during the Design Phase. Should failures occur during mock-up testing, the Contractor shall investigate the source of the failure and propose a remediation strategy for review and comment by the BECxA and A/E, and install the approved repair work. The mock-up shall be retested until passing results are achieved, prior to full scale construction at the project site. Any repairs or remedial work performed on the mock-up must be documented by the BECxA. **In-situ mock up testing requires close coordination with the construction team to ensure the testing is completed on the first installation and before additional installation is complete.**

(4) Construction Phase

a. The BECxA will participate in pertinent envelope performance/installation meetings and commissioning meetings as required.

b. The BECxA will participate, in person or via conference call, at least one OAC meeting per month.

c. Upon commencement of building envelope construction and continuing throughout the construction process, on-site inspections will be conducted by the BECxA to review the Work for compliance to Contract Documents and industry standards. Deficiency logs will be generated by the BECxA and repairs tracked with the goal of having a zero punch list project.

d. The BECxA will observe or perform functional performance testing of the building envelope. The field testing protocol will be as identified in the Contract Documents in the Functional Performance Test Specification developed by the BECxA and approved by the A/E during the Design Phase. Failed tests should be retested until satisfactory results are achieved. Additional testing may be

performed as determined by the Owner, BECxA, and A/E as outlined in the functional performance test specification. Envelope components and systems shall not be installed on the building or beyond the in situ mock location until testing has demonstrated satisfactory results.

e. The BECx plan will be updated as needed, as this is a living document and may reflect new and/or reduced requirements as directed by the Owner.

f. The BECxA may participate in dispute resolution regarding exterior envelope components/systems and associated performance. The BECxA and the A/E may be relied upon during construction to evaluate compliance with the OPR; to provide and vet out alternative solutions; and to evaluate the associated risks.

(5) Post-Occupancy Phase

a. The BECxA will finalize the BECx plan and the final commissioning report with respect to the building envelope.

b. The BECxA provides appropriate training to the building maintenance personnel with respect to building envelope maintenance.

c. The BECxA will provide a site review and follow-up meeting 10 months post-occupancy. A written post-occupancy site visit report will be incorporated into the Building Envelope Commissioning Record.

G. Guidelines for performance criteria and associated functional performance testing commissioned systems/assemblies are as follows below. The BECxA may deviate from the general recommendations below to suit project needs. Section 5.16 lists Referenced Standards and Codes which can be applied to the building envelope functional performance testing plan. Appendix G has been updated to include information related to operable windows used on student housing projects.

(1) Water

a. In general, water testing on a façade surface shall be in accordance with ASTM E 1105 or AAMA 501.1. Project test pressures will be based on the wind load calculations per ASCE 7 in conjunction with the rated performance of specified products per AAMA 101 with a minimum 6.24 psf differential pressure. Water leakage shall be defined as any water that is interior to the primary plane of air tightness (whether visible or not from the interior) that is not positively drained to the exterior. Detailed water penetration resistance requirements are outlined in Appendix G.

(2) Vapor

a. A continuous vapor barrier (or vapor retarder) must be provided to all exterior opaque walls, roofing, below grade foundation walls and slabs, and slab-on-grade conditions as determined by appropriate hydrothermal analysis. This vapor barrier shall be sealed at all interfaces, fenestrations, penetrations, etc. A vapor barrier (or vapor retarder) is defined as materials with vapor permeability below 1.0 perm per ASTM E96 desiccant or dry cup method (Class I or Class II per 2012 IBC).

b. Testing is not required, but visual inspections of installed work are required. High Performance structures require vapor barriers to be included in the performance mock-up.

(3) Air

a. In general, air testing is performed in accordance with ASTM E 1186, ASTM E 783, and ASTM E 779. Detailed performance criteria are identified in Appendix G. **Whole building air leakage test is not required for student housing, unless testing is requested by the building owner**.

5.14 Incentives and Rebates: **All available utility incentives should be pursued as that is money that will go back to the building owner.**

A. Utility sponsored incentive and rebate programs when properly leveraged offer project additional cause to implement energy efficient strategies into the State's facilities. It is the intent of DFCM to obtain, in a timely manner, all possible gas and electric utility incentives and rebates for the *prescriptive or typical* measures included in their new building projects.
   (1) *Prescriptive* energy efficiency measures are defined as those that propose equipment/systems that exceed existing building energy code and have incentives or rebates paid based on the type, size, and quantities of high efficiency equipment installed.

B. This section of the HPBS and its supporting appendices provide information about the incentive and rebate process as well as guidance to project teams on how to best navigate both Rocky Mountain Power (RMP) and Questar Gas Company's (QG) programs.
   (1) As of July 1st, 2014 only RMP and QG are the only utility providers in Utah who offer whole building program incentives and rebates. Therefore this section is oriented towards the programs that they currently offer. If, at a later time, local municipal utility companies offer incentive and rebate programs, the DFCM will utilize those programs, when possible, to further energy efficiency in State's facilities.

C. Incentive and rebate opportunities shall be properly identified in the design phase of each project.

D. Possible incentive and rebate values for specific energy efficiency strategies shall be incorporated as a separate line item in the LCCA required in section 5.5.

E. In the case where the incentive and rebate program conflicts with the sections within the HPBS that conflict shall be made know to the DFCM Energy Program Director, who will then discuss the conflict with the project team.

F. The architect is ultimately responsible for the design team performing their assigned tasks and obtaining all utility incentives and rebates.

G. Custom energy efficiency measures (EEMs), are to be identified and handled by the design team by reporting them, as soon as they are identified, to the DFCM Energy Program Director who will coordinate with the proper utility.

H. Appendix H, and Appendix I provides a road map for how the project's prescriptive measure incentives are to be obtained. Deviations from the process outlined in this appendix must be approved by DFCMs Energy Program Director.

5.15 Owner's Project Requirements

A. A concise OPR must be developed by the design team and owner during the project programming phase, or by the midpoint of schematic design, for projects without a programming phase.
   (1) For projects with a programming phase, the OPR is required to be complete and included in the project program.
   (2) For projects without a programming phase the, the OPR is required to be complete and included in the schematic design review set.

B. Once the initial OPR and BOD are developed by the design team and the Commissioning Agent (CxA) has been integrated into the project, it is to be reviewed by the CxA at the SD, DD and CD submittal.

C. Changes to the OPR and BOD, from one design phase to the next, must be documented by the design team.

D. Sections that must be included in the OPR are detailed in Appendix F. Coordination with DFCM's Design Requirements[6] is required.

5.16 Referenced Standards

A. American Architectural Manufacturers Association
(1) AAMA 101-2011 North American Fenestration Standard/Specification for Windows, Doors, and Skylights
(2) AAMA 511-08 Voluntary Guideline for Forensic Water Penetration Testing of Fenestration Products
(3) AAMA 501.1-05 Standard Test Method for Water Penetration of Windows, Curtain Walls and Doors Using Dynamic Pressure

B. American Society of Civil Engineers
(1) ASCE 7 Minimum Design Loads for. Buildings and Other Structures

C. American Society of Heating, Refrigerating and Air-Conditioning Engineers
(1) ASHRAE Standard 90.1-2010 -- Energy Standard for Buildings Except Low-Rise Residential Buildings

D. ASTM International
(1) ASTM C90-14 Standard Specification for Loadbearing Concrete Masonry Units
(2) ASTM C91/C91M-12 Standard Specification for Masonry Cement
(3) ASTM C144-11 Standard Specification for Aggregate for Masonry Mortar
(4) ASTM C150/C150M-12 Standard Specification for Portland Cement
(5) ASTM C207-06(2011) Standard Specification for Hydrated Lime for Masonry Purposes
(6) ASTM C270-12a Standard Specification for Mortar for Unit Masonry
(7) ASTM C370-12 Standard Test Method for Moisture Expansion of Fired Whiteware Products
(8) ASTM C595/C595M-13 Standard Specification for Blended Hydraulic Cements
(9) ASTM C794 Test Method for Adhesion-in-Peel of Elastomeric Joint Sealants
(10) ASTM C1060 Practice for Thermographic Inspection of Insulation Installations in Envelope Cavities of Frame Buildings
(11) ASTM C1153 Practice for Location of Wet Insulation in Roofing Systems Using Infrared Imaging
(12) ASTM C1157/C1157M-11 Standard Performance Specification for Hydraulic Cement
(13) ASTM C1193 Guide for Use of Joint Sealants
(14) ASTM C1258 Test Method for Elevated Temperature and Humidity Resistance of Vapor Retarders for Insulation
(15) ASTM C1329/C1329M-12 Standard Specification for Mortar Cement
(16) ASTM C1384-12a Standard Specification for Admixtures for Masonry Mortars
(17) ASTM C1400-11 Standard Guide for Reduction of Efflorescence Potential in New Masonry Walls
(18) ASTM C1498-04a(2010)e1 Standard Test Method for Hygroscopic Sorption Isotherms of Building Materials
(19) ASTM C1715 Standard Test Method for Evaluation of Water Leakage Performance of Masonry Wall Drainage System

[6] http://dfcm.utah.gov/downloads/design_manual/design_requirements.pdf

(20) ASTM D5957-98(2013) Standard Guide for Flood Testing Horizontal Waterproofing Installations
(21) ASTM E783-02(2010) Standard Test Method for Field Measurement of Air Leakage Through Installed Exterior Windows and Doors
(22) ASTM E1105-00(2008) Standard Test Method for Field Determination of Water Penetration of Installed Exterior Windows, Skylights, Doors, and Curtain Walls, by Uniform or Cyclic Static Air Pressure Difference
(23) ASTM E1186-03(2009) Standard Practices for Air Leakage Site Detection in Building Envelopes and Air Barrier Systems
(24) ASTM E2357-11 Standard Test Method for Determining Air Leakage of Air Barrier Assemblies
(25) ASTM E2112-07 Standard Practice for Installation of Exterior Windows, Doors and Skylights
(26) ASTM E2178-13 Standard Test Method for Air Permeance of Building Materials
(27) ASTM E779-10 Standard Test Method for Determining Air Leakage Rate by Fan Pressurization
(28) ASTM E2813 Standard Practice for Building Enclosure Commissioning

E. Canadian Standards Association
(1) CSA Z320-11 – Building Commissioning Standard & Check Sheets

F. Institute of Transportation Engineers
(1) 4th Edition Parking Generation Guide

G. International Code Council
(1) AC38-2013 Acceptance Criteria for Water-Resistive Barriers
(2) 2012 International Building Code
(3) 2012 International Energy Conservation Code

H. National Institute for Building Sciences
(1) NIBS Guideline 3-2012 Building Enclosure Commissioning Process

5.17 Definitions

Baseline – The performance level used for comparison to the above standard design.

Basis of Design – Formal documentation of the primary decision-making process and assumptions behind design decisions made to meet the OPR.

Building Analytics – Software programs that utilize data provided by building management systems (BMS) to deliver automated fault detection, diagnosis and real-time performance monitoring. Applications include building commissioning, equipment fault detection, energy analysis, load profiling, facility benchmarking, asset performance tracking, and carbon and greenhouse gas reporting.

Building Commissioning - A systematic and documented process of ensuring that the owner's operational needs and performance requirements are met. Additionally the process ensures that building systems perform efficiently and building operators are properly trained. Then intent of the process is to set the stage for facility operators to operate the building as intended in the building design. A Commissioning Agent (CxA) is generally responsible for implementing the building commissioning process.

Building Envelop Commissioning - Building Envelop Commissioning (BECx) is a process involving evaluation, verification, and documentation that a building's design and construction meet defined performance expectations. BECx begins at the project inception and continues through the start of the Operations and Maintenance Phase. A Building Envelop Commissioning Agent (BECxA) is generally responsible for implementing the building commissioning process.

Cost Estimator – Consultant responsible for providing a forecast of construction cost prepared on the basis of a detailed analysis of materials and labor for all items of work. Note that this is different from preliminary estimates of construction costs based on area, volume or other conceptual estimating techniques often provided by the owner or architect.

Design Build – Design build is defined as the selection of the qualified design build entity through a competitive process which may require evaluation of the concept design and project cost, along with other criteria. The procurement of architect-engineer services and construction services by the use of a single contract with the design build provider.

Design Team – Consultants providing design services to the project, including but not limited to, Architects, Mechanical Engineers, Electrical Engineers, Civil Engineers, Landscape Architects, Acoustical Engineers, Kitchen Designers.

Direct/Site Emissions - Emissions from fuel that is directly burned at the building for heating, electricity generation or other facility operations.

General Contractor – Contractor providing construction management, cost estimating and general contracting services, including and not limited to supporting subcontractors.

High Performance Building Standard (HPBS) – The requirements and process outlined within DFCM's Design Requirements, section 5.0, that require State buildings to be designed and built in such a manner to optimize energy efficiency, durability, life-cycle performance, water efficiency, material resources, occupant comfort and productivity.

High Performance Building Standard Workshop – Formal collaboration and coordination meetings in which various goals and strategies related to the HPBS are identified and evaluated in the context of the project. See Appendix? – HPBS Workshop Suggested Agenda.

Indirect/Source Emissions - Emissions associated with energy purchased from a utility, such as emissions generated from the generation of electricity at a coal fueled power plant.

Life Cycle Cost Analysis - Life-cycle cost analysis (LCCA) is a method for assessing the total cost of facility ownership. It takes into account all costs of acquiring, owning, and disposing of a building or building system. LCCA is useful when project alternatives that fulfill the same functional requirements, but differ with respect to initial costs, operating costs and performance, have to be compared in order to select the one that maximizes net savings.

Owner – One or more of the following, DFCM Project Manager, Facility Operator, Facility Manager, DFCM Energy Program Director, Agency Energy Manager, DFCM, State Institution, State Agency, or other governmental entity for which DFCM is providing project management services.

Owner's Project Requirements (OPR) – A formal document created in the programming phase that provides a basis for the project's functional and performance requirements. This document is intended to provide an explanation of ideas, concepts and requirements that are important to the owner. It is to be initially completed by the Architect with input from the owner and other parties as necessary. See Section 5.15 – Owner's Project Requirements.

State Agency - Any state agency, board, commission, department, or division

State Institution –Institutions referring to the University of Utah, Utah State University, Southern Utah University, Weber State University, Snow College, Dixie State University, College of Eastern Utah, Utah Valley University, Salt Lake Community College, Utah College of Applied Technology, and any other university or college which may be established and maintained by the state.

5.18 Appendices

A. Data Points List – Section 5.11

B. Energy Modeling Spreadsheet – Section 5.5

C. Life Cycle Cost Worksheet – Section 5.5

D. HPBS Sustainability Worksheet – Section 5.6, 5.7, 5.8, 5.

E. HPBS Workshop Suggested Agenda – Section 5.1

F. OPR Required Sections – Section 5.15

G. Envelope Commissioning Matrix – Section 5.13

H. Incentives and Rebates Process Guidelines – Section 5.14

I. Incentives and Rebates Responsibility Matrix – Section 5.14

End Notes:

1) **Definition of Student Housing – a student housing building consists of a multi-unit housing building designated for housing students on or near an institute of higher education. If a housing building is combined with a building of another use, such as academic or research space, then this addendum to the HPBS does not apply and that project should follow the full HPBS. If a combined use building is 20% or less of other uses (or 80% or more student housing space) then it will be considered a student housing building and this addendum will apply. A typical student housing unit will include multiple kitchens, and possibly a café or cafeteria.**

2) **Definition of an original OPR/BOD – an original OPR/BOD is written specifically for one building project and includes the wants and needs of the owner/ operators of the building as understood through the programming phase of the project.**

Definition of a standard OPR/BOD – this standard OPR/BOD is a reference to the student housing committees OPR/BOD document that outlines all of the typical requirements of a student housing building. This recognizes that student housing buildings have typical features that can be documented once by the committee and therefore save time and cost for every student housing project that is built in Utah. The standard OPR/BOD will be written by the committee following the process outlined in the HPBS and has inter-changeable sections accounting for various kitchen and café/cafeteria options that can be plugged into a project as needed.

Utah State Building Board

Gary R. Herbert
Governor

3120 State Office Building
Salt Lake City, Utah 84114
Phone (801) 538-3010
Fax (801) 538-3844

MEMORANDUM

To: Utah State Building Board
Date: September 6, 2017
Subject: **DHS/Utah State Developmental Center: Request for Design of a Theater Annex (Non-State Funded)**
Presenter: Guy Thompson, USDC Superintendent
Mark Forbes, USDC Financial Manager

The Utah State Developmental Center (USDC) is requesting approval to design an annex building next to its existing auditorium/theater using Non-State funds. Funds for design will come from the Alpine Community Theater (ACT) and individual donors that will be placed into an escrow account

Attachment:
Memo from Superintendent Thompson

State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

Department of Human Services

ANN SILVERMAN-WILLIAMSON
Executive Director

Division of Services for People with Disabilities

ANGELLA D. PINNA
Division Director

Utah State Developmental Center

GUY THOMPSON,
Superintendent

MEMORANDUM

To: Utah State Building Board

From: Guy Thompson, Superintendent
Utah State Developmental Center

Subject: Construction of a Theater Annex Using Non State Funds

In accordance with UCA 63A-5-104 (3)(b), the Utah State Developmental Center (USDC) is requesting approval for the construction of an annex building (Annex) to its existing auditorium/theater using Non State funds based on the following:

- ***No State funds will be used for the design or construction of the facility***. Private funds from the Alpine Community Theater (ACT) and individual donors will be placed into an escrow account that can only be used for the design and construction of the theater.

- ***Cost of operating the Annex will be covered by revenues generated from leasing the facility***. A concession agreement will be awarded to manage both the theater and Annex. The concessionaire will promote and lease the facilities generating an estimated $30,000 per year that is deposited into the USDC Trust Fund (Fund 2201). These revenues will more than cover the ongoing OS&M costs of operating the facility.

- ***The Annex is consistent with USDC's mission and long-term master plan***. Some of the key elements of USDC's mission are *"... USDC will provide an array of services and supports that promote independence and quality of life for Utah's most vulnerable people with disabilities... "* By contract, the theater and Annex will provide multiple opportunities for USDC clients in the form of jobs and participation in community events.

- ***The Annex will not create an adverse impact on the State***. By partnering with ACT and its affiliates, the Annex will be financially self-sufficient. The nature of the USDC Trust Fund also allows for any excess funds to be used for other DSPD programs as well as acting as a future "equipment replacement fund" eliminating the need for any State funds to be used for the inevitable repair and replacement of major equipment.

All estimates used in evaluating this project have been conservative and the risks have been identified and will be mitigated through contract with the concessionaire. This project benefits the individuals living at USDC and the surrounding communities without using State funds.

Utah State Building Board

Gary R. Herbert
Governor

3120 State Office Building
Salt Lake City, Utah 84114
Phone (801) 538-3010
Fax (801) 538-3844

MEMORANDUM

To:	Utah State Building Board
Date:	September 6, 2017
Subject:	**DNR/Division of Wildlife Resources: Fisheries Experiment Station Raceway Replacement**
Presenter:	Terry Howick, DWR Assistant Chief of Aquatics

This request is to replace a raceway system and system cover at the Fisheries Experiment Station (FES) in Logan. The system was built in the 1950′s and the concrete is in poor repair. Its design is not appropriate for intended uses which include disease prevention, holding brood fish in isolation, treating those fish, and their development. The pipe and netting cover was damaged by heavy snows and wind last winter.

Background:

The Logan Fisheries Experiment Station Master Plan 2017, by JUB Engineering, calls for a 110 ft. X 110 ft. building covering 16 individual raceways which would fulfill many of our needs. Funding for the project would come from our annual legislative appropriation of $649,400, and the State Fish Hatchery Maintenance Account (SFHMA) which is funded by license dollars which has historically provided over $900,000 annually. The JUB Engineers estimate is $856,965.63 for both raceways and cover. Operations and maintenance for the facility would be covered by the SFHMA.

The brood fish supplied by this facility will have good genetics and be disease free which will protect all our other hatcheries and fish. The offspring produced by these fish would include many of our native cutthroat trout, all sportfish species utilized in our management programs, and other native fishes that are rare and endangered. The facility will be a very important link for Utah fish production.

Attachments:
Memo from Terry Howick
Project Renderings

Utah State Building Board Request

By Terry Howick

Assistant Chief of Aquatics, Utah Division of Wildlife Resources

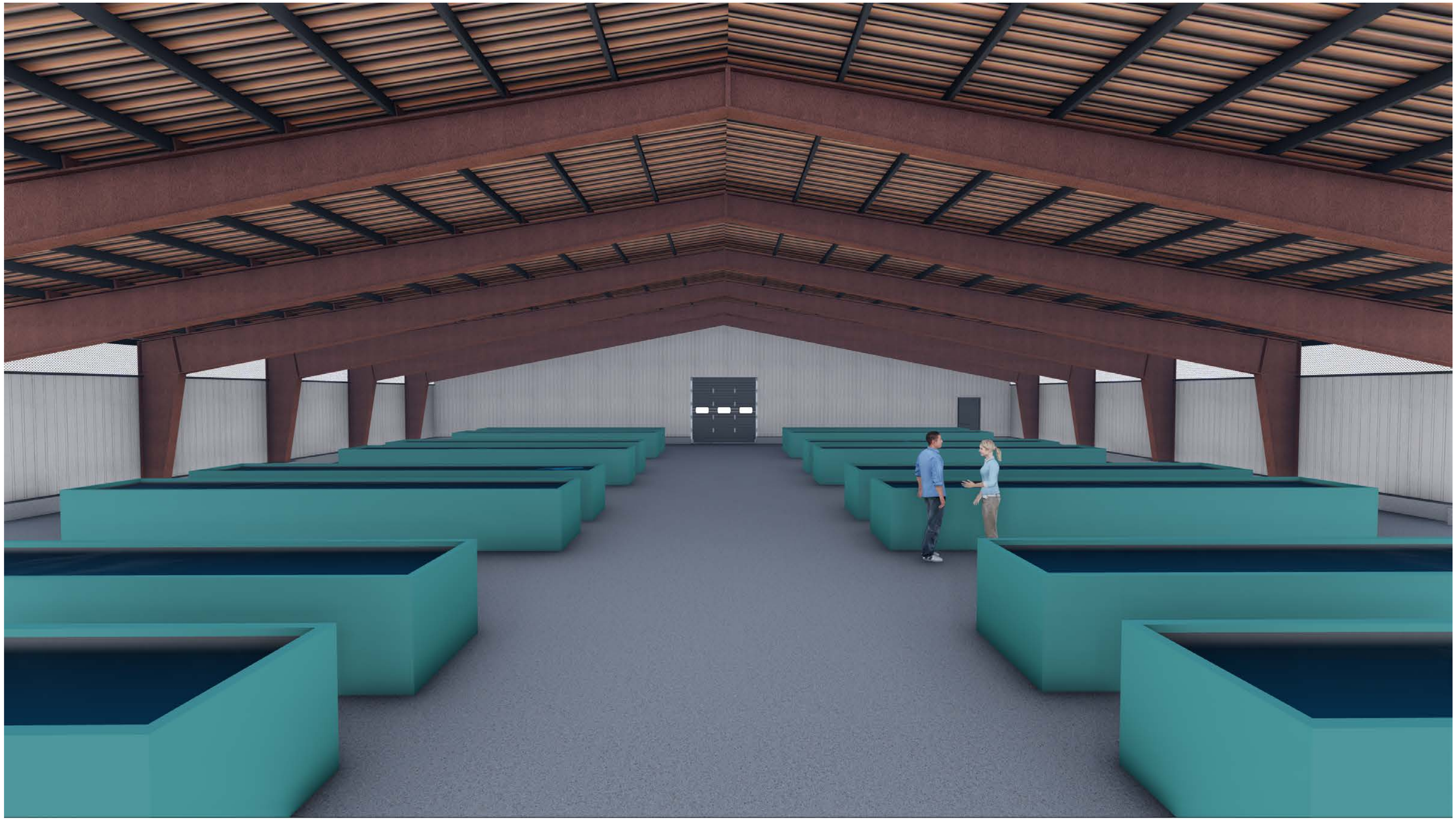
The request is to replace a raceway system and system cover at the Fisheries Experiment Station (FES) in Logan. The system was built in the 1950's and the concrete is in poor repair. Its design is not appropriate for intended uses which include disease prevention, holding brood fish in isolation, treating those fish, and their development. The pipe and netting cover was damaged by heavy snows and wind last winter.

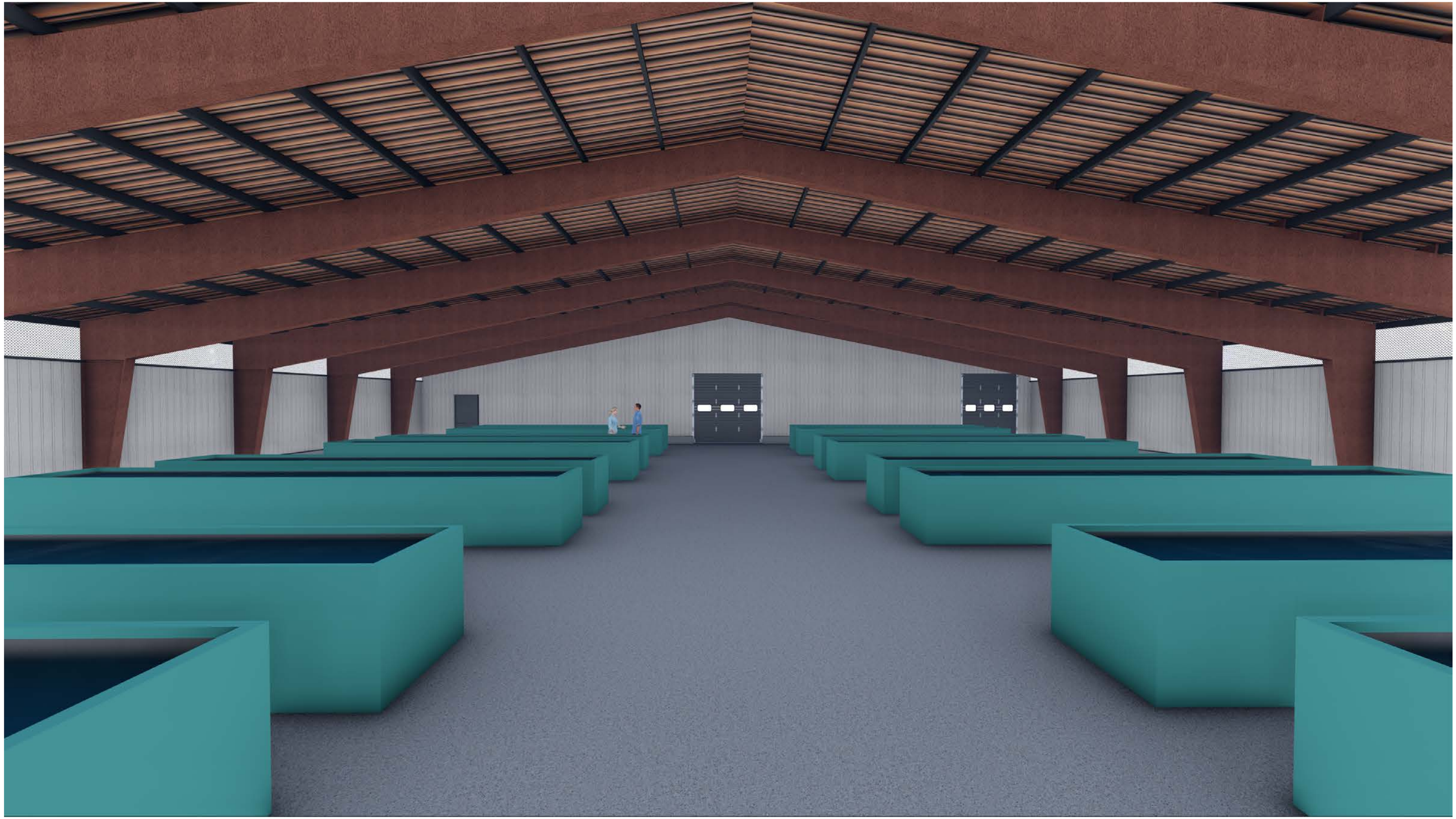
The Logan Fisheries Experiment Station Master Plan 2017, by JUB Engineering, calls for a 110 ft. X 110 ft. building covering 16 individual raceways which would fulfill many of our needs. Funding for the project would come from our annual legislative appropriation of $649,400, and the State Fish Hatchery Maintenance Account (SFHMA) which is funded by license dollars which has historically provided over $900,000 annually. The JUB Engineers estimate is $856,965.63 for both raceways and cover. Operations and maintenance for the facility would be covered by the SFHMA. The brood fish supplied by this facility will have good genetics and be disease free which will protect all our other hatcheries and fish. The offspring produced by these fish would include many of our native cutthroat trout, all sportfish species utilized in our management programs, and other native fishes that are rare and endangered. The facility will be a very important link for Utah fish production.

The roll and significance of FES is described below by Wade Cavender the Director of the station.

> *"The Fisheries Experiment Station (FES) was created in the early 1960s to provide technological development and extension support for Utah's managed fish culture programs. The mission of the Station has expanded over the years and now includes fish health management, aquatic research, specialized fish culture and policy development for the Utah Division of Wildlife. The Fish Health section at FES plays an active role in providing both laboratory services and scientific expertise in dealing with aquatic animal health throughout the State. This program provides full laboratory, diagnostic and health certification services for State fish hatcheries and wild brood populations to ensure both fish culture programs and managed free ranging fish populations are in compliance with Utah's Fish Health Policy. The Stations research program is designed to provide services geared toward addressing needs and improving efforts associated with sport fish and native species recovery programs. Most recently these efforts have been focused on fisheries management, fish culture, reservoir habitat improvement, aquatic invasive species and fish health management. The Stations fish culture program also plays an important role in addressing specialty aquaculture needs including wild brood stock development, hatchery personnel training, feed development, native species spawning and rearing techniques and sportfish production."*

Please note the attachments which contain the engineer's concepts of how this building will appear.





Utah State Building Board

Gary R. Herbert
Governor

3120 State Office Building
Salt Lake City, Utah 84114
Phone (801) 538-3010
Fax (801) 538-3844

MEMORANDUM

To:	Utah State Building Board
From:	Ken Nye, University of Utah
	Ben Berrett, Utah State University
Date:	September 6, 2017
Subject:	**Administrative Reports for the University of Utah and Utah State University**

Attached for your review are the Administrative Reports for the University of Utah and Utah State University for September 2017.

Attachments:
Report for U of U
Report for USU

August 25, 2017

Mr. Jeff Reddoor, Director
Utah State Building Board
State Office Building Room 4110
Salt Lake City, UT 84114

Subject: U of U Administrative Reports for the September 6, 2017 Building Board Meeting.

Dear Jeff:

The following is a summary of the administrative reports for the U of U for the period June 29, 2017 – August 23, 2017. Please include this in the packet for the September 6, 2017 Building Board meeting.

Professional Services Agreements (Page 1)
The Professional Services Agreements awarded during this period consist of:
13 Design Agreements, 7 Planning/ Study/Other Agreements.

Item 1; Project 21960; University Guest House Addition
Jacoby Architects was selected for the design of the University Guest House Addition which was authorized in the last legislative session.

Construction Contracts (Page 2)
The Construction Contracts awarded during this period consist of:
0 New Space Contracts, 15 Remodeling Contracts, 3 Site Improvement Contracts.

No significant items.

Report of Project Reserve Fund Activity (Page 3)

Increases:
None

Decreases:
Project 21911; North Chemistry 3rd Floor Lab System Upgrade
This transfer of $220,482 covers the difference between the construction budget and the low bid after deducting scope items that were funded entirely by the University. The scope of the project had been reduced as much as possible during design.

Balance:

Report of Contingency Reserve Fund (Page 4)

Increases:
None.

Chief Design & Construction Officer
1795 East South Campus Dr, Room 201F
V. Randall Turpin University Services Building
Salt Lake City, UT 84112-9404
(801) 581-6510
FAX (801) 581-6081

Decreases:
Balance:
Project 21224; HTW Plant – Replace Generator
The majority of this transfer of $44,166.40 is to cover the cost of a shutdown of the HTW Plant extending longer than expected as a contractor on a separate project made repairs to the HTW distribution system that had to be done while the plant was shut down and the system drained. Both projects had been funded by state funds and were therefore eligible for state contingency funds.

The balance of the draws are small and are generally for unforeseen conditions.

Representatives from the University of Utah will attend the Building Board meeting to address any questions the Board may have.

Sincerely,

Kenneth E. Nye
Deputy Chief Design & Construction Officer
University of Utah

Enclosures

cc: University of Utah Trustees
Jim Russell, Director DFCM

Professional Services Agreements

Awarded From June 29, 2017 - August 23, 2017

Item Number	Project Number	Project Name	Firm Name	Project Budget	Contract Amount
Design					
1	21960	University Guest House Addition	Jacoby Architects	$ 8,250,000	$ 472,641
2	22009	Fine Arts West Electrical Service	Envision Engineering	$ 363,600	$ 18,700
3	22010	Site Lighting Upgrade Electrical	Spectrum Engineers	$ 850,000	$ 52,950
4	22031	423 Wakara Reroof and Deck Design	Scott Evans Architects	$ 359,640	$ 25,480
5	22058	Phase Three Secondary Water System	Talisman Civil Consultants LLC	$ 2,148,494	$ 66,400
6	22087	SOD, Remodel of the GPL Space	MHTN Architects Inc	$ 164,665	$ 13,662
7	22095	UMNH Paving Replacement	Ensign Engineering and Land Surveying	$ 420,000	$ 58,000
8	22102	South Main Clinic Dental Expansion	Rather Architecture	$ 23,700	$ 3,500
9	22105	Park Building Remodel Office of Grants and Contracts	Gould Plus Architects	$ 388,770	$ 23,435
10	70126	MICU Code Bio Design	Architectural Nexus	$ 85,245	$ 82,880
11	70140	UUMC SPD ETO Sterilizer Repalcement	Architectural Nexus	$ 10,130	$ 10,130
12	70142	AIM Expansion Remodel	MHTN Architects Inc	$ 11,080	$ 11,080
13	70145	A/E Agreement - X-Ray System Replacement & Remodel	NJRA Architects Inc	$ 388,600	$ 24,948
Planning/Study/ Other					
14	21642	HTW Completion	Western Technologies	$ 8,248,220	$ 15,735
15	21642	HTW Completion	Team Industrial Services, Inc	$ 8,248,220	$ 200,000
16	21675	HTW Plant Replace Boiler #3	English Boiler LLC	$ 4,012,000	$ 143,540
17	21960	Guesthouse Geotechnical Study	Consolidated Engineering Laboratories	$ 8,250,000	$ 10,730
18	22085	Women's Soccer Stadium Relocation Feasilbility Study	Architectural Nexus	$ 52,281	$ 46,281
19	22109	390 Wakara - Biofire -A/E Building Evaluation	Dixon and Associates	$ 26,100	$ 19,000
20	22116	JHC Feasibility Study	Valentiner Crane Brunjes Onyon	$ 20,000	$ 20,000

Construction Contracts

Awarded From June 29, 2017 - August 23, 2017

Item Number	Project Number	Project Name	Firm Name	Project Budget	Contract Amount
Construction - New Space					
Construction - Remodeling					
1	21825	Student Services Building Deck Improvement	Wasatch West Contracting, LLC	$ 560,500	$ 367,901
2	21839	BEHS 025 Seismic Phase D	Hogan and Associates Construction, Inc	$ 2,415,338	$ 840,300
3	21912	Chemistry Stockroom and Stairwell Code Upgrades	Judd Construction	$ 740,332	$ 590,100
4	21920	HPER E Volleyball Locker Room	Wasatch West Construction	$ 572,517	$ 395,825
5	21950	Dumke Pre-Demo Abatement	Eagle Environmental Inc	$ 669,432	$ 334,551
6	21974	BEHS Seismic Upgrade Levels 3 and 4	Hogan and Associates Construction, Inc	$ 2,674,522	$ 1,812,700
7	21997	Huntsman Arena Scoreboard Replacement	North Ridge Construction	$ 4,150,000	$ 3,417,849
8	22004	UBSB Plaza Deck Removal and Reconstruction	North Ridge Construction	$ 3,000,000	$ 2,412,400
9	22050	MEB-Room 3555 Dedicated Chilled Water Supply	KHI Mechanical	$ 257,652	$ 168,591
10	22059	CNC Roof Replacement	Noorda Bec, Inc	$ 269,858	$ 216,177
11	22062	H&I Laboratories Remodel	Commercial Services Contractors, Inc	$ 249,691	$ 134,876
12	22078	102 Tower improvements for ITS	Wasatch Electric	$ 254,591	$ 96,940
13	22079	BEH S Hazardous Waste Removal	Xcel General Construction	$ 251,689	$ 18,200
14	22080	SKH 582 Lab Renovation	Slider Construction	$ 86,935	$ 63,878
15	22086	UMFA Totality Temporary Art Exhibit	Mark Hamilton Construction	$ 19,000	$ 15,970
Construction - Site Improvement					
16	21412	UMFA Signage and Wayfinding	Young Electric Sign Company / YESCO	$ 119,541	$ 33,051
17	21980	Parking Lots 12, 27, and 44 Repairs	Black Forest Paving	$ 575,000	$ 514,400
18	22008	Storm Water Retention Drainage Above HPER Mall	Jenson Commercial Contracting LLC	$ 770,000	$ 223,370

University Of Utah
Report Of Project Reserve Fund Activity
For the Period of June 29, 2017 to August 23, 2017

PROJECT NUMBER	PROJECT TITLE	TRANSFER AMOUNT	DESCRIPTION FOR CONTINGENCY TRANSFER	% OF CONSTR. BUDGET
	BEGINNING BALANCE	**983,007.44**		
	INCREASES TO PROJECT RESERVE FUND:			
	DECREASES TO PROJECT RESERVE FUND:			
21911	North Chemistry 3rd Floor Lab System Upgrade	(220,482.00)	Cover difference between bid and construction budget	10.28%
	CURRENT BALANCE OF PROJECT RESERVE:	**762,525.44**		

University Of Utah
Report Of Contingency Reserve Fund Activity
For the Period of June 29, 2017 to August 23, 2017

PROJ. NO.	DESCRIPTION	CURRENT TRANSFERS	TOTAL TRANSFERS FROM CONTINGENCY	% OF CONSTR. BUDGET	PROJECT STATUS
	BEGINNING BALANCE	2,107,727.47			
	INCREASES TO CONTINGENCY RESERVE FUND				
	None				
	DECREASES TO CONTINGENCY RESERVE FUND				
	NEW CONSTRUCTION				
	None				
	REMODELING				
21224	HTW Plant - Replace Generator	(44,166.40)	477,503.25	28.09%	Construction
21837	Fletcher Physics Bldg Chiller System Upgrade	(3,038.00)	23,466.00	1.17%	Construction
21827	Bldg 587 Heating & Cooling System Replacement	(14,278.00)	19,986.00	1.19%	Construction
21642	HTW Distribution Completion	(16,498.34)	556,877.40	8.28%	Construction
21828	Eyring Chemistry Southwest Tower Fumehood Upgrade	(4,475.00)	4,475.00	0.20%	Construction
21911	North Chemistry 3rd Floor Lab System Upgrade	(1,097.00)	1,097.00	0.05%	Construction
	ENDING BALANCE	2,024,174.73			

UtahState University
VICE PRESIDENT FOR BUSINESS AND FINANCE

August 25, 2017

Jeff Reddoor, Building Board Manager
Division of Facilities Construction
and Management
State Office Building Room 4110
PO Box 141160
Salt Lake City, UT 84114-1284

Dear Jeff:

SUBJECT: USU Administrative Reports for the September 2017 Building Board Meeting

The following is a summary of the administrative reports for USU for the period to 06/30/17 to 08/25/17.

Professional Contracts, 16 contracts issued (Page 1)
Comments are provided on the report.

Construction Contracts, 21 contracts issued (Pages 2-3)
Comments are provided on the report.

Report of Contingency Reserve Fund (Page 4)
Thirteen projects needed funds from the contingency reserve fund during this reporting period. Based on an internal risk assessment, the University finds this fund's balance to be adequate.

Report of Project Reserve Fund Activity (Page 5)
Two projects needed funds from the project reserve fund during this reporting period. Based on an internal risk assessment, the University finds this fund's balance to be adequate.

Current Delegated Projects List (Pages 6-8)
Of USU's 89 projects, 12 are pending, 13 are in the design/study phase, 50 are in construction, 12 are substantially complete and 2 are complete. The two projects completed during this period were Roosevelt Ed Ctr. Aggie Station Remodel and Roosevelt Ed Ctr. Atrium Remodel.

Representatives from Utah State University will attend the Building Board meeting to address any questions the Board may have.

Sincerely,

David T. Cowley
Vice President for
Business and Finance

DTC/ah
c: Kimberly Henrie
Jim Russell

1445 Old Main Hill Logan, UT 84322-1445 Ph: (435) 797-1146 Fax: (435) 797-0710 www.usu.edu/vpbus

UtahState University
VICE PRESIDENT FOR BUSINESS AND FINANCE

Professional Contracts
Awarded From 06/30/17 to 08/25/17

	Project Name	Firm Name	A/E Budget	Fee Amount	Comments
1	SLC Campus Relocation	Method Studio	$95,860.00	$95,860.00	Interior architectural design services
	MISCELLANEOUS CONTRACTS				
2	Education Atrium Remodel	Brooks Design	$16,000.00	$16,000.00	Interior design and project coordination services
3	Planning & Design FY18	JUB Engineers	$175,000.00	$12,426.00	Planning for IC storm drain and irrigation system
4	Planning & Design FY18	Design West	$175,000.00	$10,000.00	Accessibility study PR Bldg
5	Planning & Design FY18	Sparano & Mooney Architecture	$175,000.00	$6,000.00	Design for skylight replacement Education Bldg
6	South Farm New Dairy Barn	Utah Testing & Engineering	$10,392.00	$5,502.00	Materials testing and inspection services
7	South Farm New Dairy Barn	West Coast Code Consultants	$10,392.00	$4,890.00	Code inspection services
8	Planning & Design FY17	Sparano & Mooney Architecture	$84,457.00	$3,400.00	Replace glazing at NEHMA
9	Aggie Village Detention System	CMT Engineering	$2,500.00	$883.00	Materials testing
10	Health, LS, Code, Asbestos FY17	Dixon Information	$132,416.00	$650.00	Bulk and air samples
11	HPER Admin/Nursing Remodel	Dixon Information	$25,000.00	$245.00	Bulk and point counts samples
12	USUE Career Center Upgrades	Dixon Information	$203,818.00	$185.00	Air samples
13	Research Greenhouse Boiler Replace	Dixon Information	$2,000.00	$130.00	Bulk and point count samples
14	VCT Tile Replacement in Hallways	Dixon Information	$156,394.00	$90.00	Air samples
15	Classroom Upgrades FY18	Dixon Information	$169,400.00	$50.00	Bulk samples
16	Univ Inn to Widtsoe Steamline	Dixon Information	$8,400.00	$35.00	Bulk samples

UtahState University
VICE PRESIDENT FOR BUSINESS AND FINANCE

Construction Contracts
Awarded From 06/30/17 to 08/25/17

	Project	Firm Name	Design Firm	Const Budget	Contract Amt	Comments
1	Stairs Replacement N Terrace	Spindler Construction	Civil Solutions Group	$501,700.00	$501,700.00	Replace stairs north of Aggie Terrace
2	HPER Admin/Nursing Remodel	Spindler Construction	CRSA	$342,157.00	$342,157.00	Remodel interior of admin area HPER
3	Medium Voltage Upgrade FY18	TEC Electric	USU Facilities Planning and Design	$1,310,155.00	$147,948.00	Upgrade switch and substation isolation
4	Eccles Bus Bldg Tower Reroof	Spindler Construction	Design West	$144,987.00	$143,909.00	Construction contract
5	Water Lab Boiler Replacement	CCI Mechanical	Sine Source	$313,762.00	$138,199.00	Retrofit boiler and pump
6	Edith Bowen Playground	Spindler Construction	Cache Landmark	$130,312.00	$130,312.00	Construct new playground
7	Parking Lot Paving FY18	Spindler Construction	CRS Engineers	$373,455.00	$108,750.00	Pave south lot at Fine Arts
8	Classroom Upgrades FY18	USU Facilities Planning and Design	USU Facilities Planning and Design	$169,400.00	$57,139.00	Remodel 7 campus classrooms
9	VCT Tile Replacement in Hallways	USU Facilities Planning and Design	USU Facilities Planning and Design	$156,394.00	$34,563.00	Install flooring
10	Sign System FY15	USU Facilities Planning and Design	USU Facilities Planning and Design	$41,483.00	$611.00	Construct concrete form & logo insert
	MISCELLANEOUS CONTRACTS					
11	VCT Tile Replacement in Hallways	Town & Country Flooring		$156,394.00	$30,380.00	Install tile and cove base Engr Lab
12	Ray B. West Reroof	Kendrick Brothers Roofing		$354,151.00	$14,210.00	Shingles for installation
13	HPER Admin/Nursing Remodel	Environmental Abatement		$25,000.00	$12,469.00	Asbestos removal of mastic and ceiling tiles
14	Water Lab Boiler Replacement	Eagle Environmental		$313,762.00	$9,107.00	Re-insulate water piping
15	Health, LS, Code, Asbestos FY17	Environmental Abatement		$132,416.00	$8,143.00	Asbestos removal Engr 107, Spectrum, AnSci 111
16	Univ Inn to Widtsoe Steamline	Environmental Abatement		$8,400.00	$5,910.00	Asbestos removal of steam supply and vault

UtahState University
VICE PRESIDENT FOR BUSINESS AND FINANCE

Construction Contracts
Awarded From 06/30/17 to 08/25/17

	Project	Firm Name	Design Firm	Const Budget	Contract Amt	Comments
17	VCT Tile Replacement in Hallways	Adrenaline Enterprises		$141,861.00	$4,934.00	Steam clean floors after abatement
18	Chilled Water Infrastructure FY16	Spindler Construction		$339,878.00	$2,698.00	Repair air shaft and install bollards
19	Research Greenhouse Boiler Repl	Eagle Environmental		$2,000.00	$1,933.00	Sheetrock disposal
20	USUE Geary Theatre Upgrades	Environmental Abatement		$167,224.00	$500.00	Asbestos removal
21	Kaysville Building Addition	Brimhall Fence Co		$2,599,566.00	$295.00	Install receiver on auto gate

UtahState University
VICE PRESIDENT FOR BUSINESS AND FINANCE

Report of Contingency Reserve Fund
From 06/30/17 to 08/25/17

Project Title	Current Transfers	Total Transfers To (From) Contingency	% to Construction Budget	Project Status	% Completed (Paid)
BEGINNING BALANCE	**$769,362.20**				
INCREASES TO CONTINGENCY RESERVE FUND					
None					
DECREASES FROM CONTINGENCY RESERVE FUND					
Medium Voltage Upgrade FY17	(40,356.03)	(40,356.03)	3.60%	Construction	53.53%
(landscape, fencing, builders and sidewalks)					
USUE Career Center Upgrades	(36,450.00)	(208,354.75)	24.98%	Construction	66.21%
(corridor ceilings)					
Concrete Replacement FY18	(36,127.47)	(36,127.47)	11.96%	Construction	59.73%
(replace water line 700 N)					
Medium Voltage Upgrade FY18	(26,797.00)	(26,797.00)	2.07%	Construction	13.25%
(install sewer manhole and change asphalt to concrete)					
Univ Inn to Widtsoe Steamline	(23,391.00)	(23,391.00)	3.04%	Construction	50.82%
(remove stainless condensate; cost of shutdown-TSC)					
PDP Air Handling Units	(17,423.78)	(36,858.32)	12.84%	Construction	90.99%
(fire/smoke dampers, electrical work and ductwork)					
Kaysville Building Addition	(13,667.35)	(27,937.37)	1.26%	Construction	74.45%
(masonry, access control, fire line, acoustics, downspout)					
OM Reroof South Wing	(13,382.92)	(42,119.92)	5.82%	Construction	72.80%
(plywood replacement and shingles for attic stock)					
USUE Geary Theatre Upgrades	(13,213.00)	(113,016.00)	2.00%	Construction	62.95%
(handrail standoffs, tile, new door and structural bracing)					
Univ Inn Slab & PTT Repair	(12,093.57)	(12,093.57)	7.81%	Construction	87.07%
(remove and replace sidewalks)					
Classroom Upgrades FY17	(8,769.00)	(8,769.00)	3.45%	Construction	52.48%
(fire sprinkler, cabinet depth updates and door relocation)					
Eccles Bus Bldg Tower Reroof	(1,077.87)	(1,077.87)	0.75%	Construction	2.10%
(cut and remove pipes)					
Medium Voltage Upgrade FY16	(1,015.85)	(93,368.63)	9.45%	Construction	99.56%
(wiring investigation and field supplies)					
ENDING BALANCE	**$525,597.36**				

UtahState University
VICE PRESIDENT FOR BUSINESS AND FINANCE

Report of Project Reserve Fund Activity
From 06/30/17 to 08/25/17

Project Title	Transfer Amount	Description	% of Construction Budget
BEGINNING BALANCE	**$729,805.96**		
INCREASES TO PROJECT RESERVE FUND			
None			
DECREASES TO PROJECT RESERVE FUND			
Stairs Replacement N Terrace	(150,000.00)	Award contract	54.90%
Water Lab Boiler Replacement	(61,268.00)	Award contract	25.17%
ENDING BALANCE	**$518,537.96**		

UtahState University
VICE PRESIDENT FOR BUSINESS AND FINANCE

Current Delegated Projects List
08/25/17

Project Number	Project Name	Phase	Project Budget
CAPITAL DEVELOPMENT/IMPROVEMENT			
A28999	Building Commissioning FY14	Sub Completion	196,296
A29004	Emergency Generator FY14	Sub Completion	250,390
A31321	Classroom/Auditorium Upgrade FY15	Construction	276,045
A31325	Emergency Generator FY15	Pending	229,872
A31328	HVAC Controls Upgrade FY15	Pending	228,311
A31333	Planning & Design FY15	Sub Completion	175,075
A31334	Sign System FY15	Sub Completion	47,193
A31335	Site & Safety Lighting	Construction	322,525
A33654	Romney Stadium Scoreboard	Construction	2,680,347
A34107	Kaysville Building Addition	Construction	3,235,269
A34283	Chilled Water Infrastructure FY16	Construction	357,878
A34284	Classroom/Auditorium Upgrades FY16	Construction	292,487
A34285	Concrete Replacement FY16	Sub Completion	243,096
A34287	Health, LS, Code, Asbestos FY16	Construction	191,004
A34290	Medium Voltage Upgrade FY16	Sub Completion	1,181,875
A34294	Planning & Design FY16	Sub Completion	129,790
A34296	South Farm Fire Lane/Hydrants FY16	Construction	498,206
A34298	UBC Infrastructure Improvements	Construction	1,193,514
A34299	Univ Inn/Widstoe Steam Line Replacement	Design	75,000
A34300	VCT Tile Replacement in Hallways	Construction	331,255
A34301	Vet Science Electrical Upgrade FY16	Design	98,753
A34468	Roosevelt Ed Ctr Aggie Station Remodel	Complete	51,770
A35569	Townhouse Stucco Proj Bldg 3	Pending	139,470
A35676	Merrill Cazier Lib Testing Ctr	Construction	2,108,650
A35677	PDP Air Handling Units	Construction	428,026
A35971	PDP Refreshment	Construction	797,129
A36118	Utility Meter Upgrades FY16	Design	91,500
A36388	North Core Utilities Replacement & Tunnel Expansion	Sub Completion	3,552,462
A36467	Old Main Reroof-Center Section	Sub Completion	766,381
A36468	Hydraulics Lab Landscape FY17	Construction	93,033

A36469	Medium Voltage Upgrade FY17	Construction	1,262,456
A36734	Classroom Upgrades FY17	Construction	286,849
A36735	Concrete Replacement FY17	Sub Completion	380,194
A36736	Bike Racks/Site Furn FY17	Construction	45,662
A36738	Health, LS, Code, Asbestos FY17	Construction	139,916
A36740	FAV Photo Lab Safety Ventilation	Construction	367,000
A36741	Planning & Design FY17	Design/Study	85,457
A36742	Univ Inn to Widstoe Steamline-Construction	Construction	1,010,799
A37078	FAV 210/215 Remodel Phase II	Sub Completion	151,007
A37302	South Farm New Dairy Barn	Construction	2,268,353
A37631	Student Living Center Snack Shop	Design	213,530
A37673	Huntsman Library Huntsman Hall	Construction	203,833
A37740	Roosevelt Ed Ctr Atrium Remodel	Complete	563,470
A38008	Blue Square Parking Expansion	Construction	546,244
A38143	Student Organic Farm Facility	Design	146,666
A38144	Bus Bldg East Office Remodel	Construction	619,748
A38594	Lillywhite Interior Remodel	Design	1,077,540
A38598	Edith Bowen Playground	Construction	413,300
A38666	Access Control FY18	Construction	482,750
A38777	IC Irrigation Trunk Line	Design	252,000
A38903	Education Suite 109 Remodel	Construction	396,434
A38923	Animal Science Math Remodel	Construction	154,110
A38970	Aggie Village Detention System	Construction	398,496
A38975	OM Reroof South Wing	Construction	776,962
A38988	Univ Inn Slab & PTT Repair	Construction	206,154
A39004	HPER Admin/Nursing Remodel	Construction	455,822
A39185	Medium Voltage Upgrade FY18	Construction	1,418,155
A39186	Planning & Design FY18	Design/Study	175,000
A39187	Health, LS, Code, Asbestos FY18	Construction	137,637
A39188	Concrete Replacement FY18	Construction	358,187
A39189	Bike Racks/Site Furn FY18	Pending	54,795
A39190	Sign System FY18	Pending	45,662
A39191	Classroom Upgrades FY18	Construction	183,907
A39192	Stairs Replacement N Terrace	Construction	528,150
A39193	NFS Lab Ventilation Replace	Pending	950,154
A39194	Parking Lot Paving FY18	Construction	415,455
A39195	Parking Lot Repair & Seal	Construction	138,027
A39196	Champ/OM Hill Sewer Line Repl	Pending	1,299,200
A39197	Water Lab Front Bridge	Construction	50,000

A39198	SE Sidewalks & Safety Lighting	Construction	782,414
A39199	Eccles Bus Bldg Tower Reroof	Construction	162,407
A39200	Water Lab Boiler Replacement	Construction	327,862
A39201	Research Greenhouse Boiler Rpl	Construction	133,443
A39202	Lighting Control Upgrade	Pending	69,209
A39203	Campus Mapping	Pending	200,000
A39204	Bio Tech Lab Controls	Pending	462,135
A39205	NR Fire Alarm Upgrade	Pending	138,418
A39206	SDL Fire Alarm Upgrade	Pending	166,101
A39207	Ray B. West Reroof	Design	414,651
A39502	SLC Campus Relocation (NEW PROJECT)	Design	4,841,276
A40010	Education Atrium Remodel (NEW PROJECT)	Design	421,681
C11368	USUE Mechanical/Lighting upgrade	Sub Completion	877,397
C11461	USUE Infrastructure/Automation Upgrade	Construction	461,857
C11508	USUE Career Center Upgrades	Construction	1,042,589
C11614	USUE Blanding Campus Mechanical FY16	Construction	45,662
C11615	USUE Geary Theatre Bldg Upgrades	Construction	6,626,130
C11709	USUE Soccer Fields	Construction	790,609
C11714	USUE Site Lighting Phase 2	Construction	230,100
C11781	USUE Blanding Housing Fire Safety	Design	170,400
TOTAL (89)			$57,286,024

Utah State Building Board

Gary R. Herbert
Governor

4110 State Office Building
Salt Lake City, Utah 84114
Phone (801) 538-3018
Fax (801) 538-3267

MEMORANDUM

To Utah State Building Board
From: Jeff Reddoor
Date: September 6, 2017
Subject: **Administrative Report for DFCM**
Presenter: Bruce Whittington, DFCM Assistant Director

The following is a summary of the Administrative Report for DFCM

Lease Report (Pages 1 - 4)
No significant items

Professional Services Agreements, 55 Agreements Issued (Pages 5 - 8)
The Professional Services Agreements awarded during this period consist of:
36 Design Agreements, 19 Planning/Study/Other Agreements.
No significant items

Construction Contracts, 45 Contracts Issued) The Construction Contracts awarded during this period consist of: (Pages 9 – 12)
2 New Space Contracts, 25 Remodeling Contracts, 7 Paving/Roofing Contracts, 11 Other.

Item #2, Matheson Courthouse Public Restrooms Valves and Fixtures Replacement
Item #7, Draper Prison Timpanogos Bldg #5 Air Handler Replacement, Lone Peak RTU
Item #11, Rio Grande Depot Repair and Restore Exterior Windows & Masonry Work
Item #36, DOT MTF Bldg Replace Air Cooled Chiller
Project Reserve Funds were used to award construction contract

Item #34, Ogden/Weber ATC Main Campus Parking Lot Upgrades
Agency funds used to award this contract

Item #39, USU Huntsman School of Business Addition/Remodel Skylights Repairs
This contract will be covered by Risk Management from a claim on the broken skylights

Report of Contingency Reserve Fund (Pages 13 – 47)
Increases
Increases are from budgeted contingency transfers and decrease change orders/modifications

Decreases, Capital Development
Capital Development started period with $3,418,464 and ended with $3,472,827, with 2 transfers to contingency totaling $1,133,663 and 14 transfers to projects totaling $1,079,300.

University of Utah Huntsman Cancer Research Facility Phase IV
This transfer of $351,012 corrects the State's share of budgeted contingency to the new revised CBE increasing the Universities share of the total budget.

Ogden Weber ATC Business Depot Bay #2 Buildout
This transfer of $35,327 covers change order #5. See attached pages #15 - 17 for details and contract summary.

University of Utah USTAR Neuroscience Research Center
This transfer of $298,513 is the final draw for this project. It corrects some prior coding on change order share between the State and the University of Utah. The project is now closed.

Dixie ATC Permanent Campus Building
This transfer of $108,436 covers the State's share of change order #10. See attached page #18 - 20 for details and contract summary.

University of Utah Infrastructure Improvements
This transfer of $79,275 covers the State's share of change orders #26 and 27, as well as the revised share of change orders #17, 19, 20 and 22. See attached pages #21 – 29 for details and contract summary.

Decreases, Capital Improvement
Capital Improvement started period with $5,501,395 and ended with $4,970,875, with 36 transfers to projects totaling $588,108 and 3 transfers to the fund of $57,588.

USDC Evergreen Bldg HVAC System Replacement
This transfer of $139,052 covers change order #4. See attached pages #30 - 32 for details and contract summary.

Unified State Lab Redesign of Specimen Processing and Technical Services Area
This transfer of $43,638 covers share of change order #2. See attached pages #33 - 37 for details and contract summary.

Governor's Mansion Basement Remodel and Main Level Kitchen Improvements
This transfer of $51,602 covers share of change order #3. See attached pages #38 - 41 for details and contract summary.

Snow College Heat Plant/Steam and Condensate Lines Upgrades
This transfer of $43,411 covers change order #3. See attached pages #42 - 44 for details and contract summary.

Capitol Hill Travel Council Bldg Exterior Stone/Waterproofing Investigations
This transfer of $39,371 covers change order #1. See attached pages #45 - 47 for details and contract summary.

Report of Project Reserve Fund Activity (Pages #48 - 52)
The development project reserve had no increases and one decrease of $71,502 ending with a balance of $1,066,122, while the capital improvement project reserve fund had multiple transfers to the fund of $1,608,482 and 7 transfers out totaling $258,564, ending with a balance of $6,051,187. The multiple transfers are due to closing many projects at the fiscal yearend deadline.

Increases
The increases reflect savings on projects that were transferred to Project Reserve per statute.

Decreases
The decreases are primarily to award construction contracts that are over budget.

This report also includes a total by Agency/Institution for increases and decreases to this reserve fund, on a rolling year basis. We will keep this updated, so you can see who has given and drawn from the Project Reserve Fund over the past year.

Contingency Reserve Fund Analysis (Pages #53- 62)
This is a quarterly report for the State Building Board, which shows an analysis of estimated future demands on the contingency reserve fund. It should be noted that this reserve fund only applies to projects funded with State General funds, education funds, or general obligation bonds. The analysis assumes that contingency funds are utilized evenly over the life of the project. In reality, some projects have greater draws early in the project and others late in the project. So it is reasonable to assume that this averages into an even utilization of the contingency budget over the life of the project. The analysis lists all open construction contracts on open projects that have contributed to and are eligible to draw from the contingency reserve fund, along with the percentage completion of the construction contract. The current projection is a deficit balance of ($998,815). This is an improvement from the June projection of a deficit of ($3,259,316).

Statewide Funds Reports (Pages #63 - 69)
No significant items

DDW:jr:ccn
Attachment DFCM Report

DFCM

Division of Facilities Construction and Management
4110 State Office Building, Salt Lake City, UT 84114
Telephone (801) 538-3017 FAX (801) 538-3267

LEASE REPORT
From 05/15/2017 to 06/15/2017

No	Agency/Location	Services	Space Type	Lease Term	Square Feet Old	Square Feet New	Cost/Sq. Ft. Old	Cost/Sq. Ft. New	Comment
NEW LEASES									
1.	17-2192 GOED Rural Development 111 West Main Street Bicknell	Full	Office	05/05/17 – 05/04/18		800		$6.75	New Lease for one year.
AMENDMENTS									
1.	09-0214 Human Services Child and Family Services 330 W 300 S Roosevelt	Full	Office	07/01/17 – 06/30/18	8,600	8,600	$19.48	$19.67	Add Lease Agreement options.
2.	95-3508 Human Services Fiscal Operations 475 W. Price River Drive Price	Full	Office	07/01/17 – 06/30/24	16,458	16,458	$13.21	$13.26	Renew Lease for 7 years.
3.	97-1003 Attorney General Child Protection 55 N University, Ste. 217&219 Provo	Full	Office	05/01/17 – 04/30/22	3,958	3,946	$16.50	$19.00	Renew Lease for 5 years.

DFCM

Division of Facilities Construction and Management
4110 State Office Building, Salt Lake City, UT 84114
Telephone (801) 538-3017 FAX (801) 538-3267

LEASE REPORT
From 05/15/2017 to 06/15/2017

No	Agency/Location	Services	Space Type	Lease Term	Square Feet Old	Square Feet New	Cost/Sq. Ft. Old	Cost/Sq. Ft. New	Comment
4.	99-0285 Public Safety Driver License 522 N 100 E Blanding	Full	Office	07/01/17 – 06/30/22	1,137	1,137	$15.04	$17.75	Renew Lease for 5 years.
5.	99-0284 Navajo Trust Administration 151 E 500 N Blanding	Full	Office	07/01/17 – 06/30/38	1,806	1,806	$15.26	$17.75	Renew Lease for 21 years.

DFCM

Division of Facilities Construction and Management
4110 State Office Building, Salt Lake City, UT 84114
Telephone (801) 538-3017 FAX (801) 538-3267

LEASE REPORT
From 06/15/2017 to 07/15/2017

No	Agency/Location	Services	Space Type	Lease Term	Square Feet Old	Square Feet New	Cost/Sq. Ft. Old	Cost/Sq. Ft. New	Comment
NEW LEASES									
1.	17-2338 Tax Commission Motor Vehicles 751 E 100 N Ste. 1500 Price	Full	Office	09/01/17 – 08/31/24		1,377		$21.64	New Lease for 7 years.
AMENDMENTS									
1.	94-2452 Human Services Child & Family Services 522 N 100 E Blanding	Full	Office	07/01/17 – 06/30/22	8,036	8,036	$17.75	$17.75	Renew lease for 5 years.

DFCM

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LEASE REPORT
From 07/15/2017 to 08/15/2017

No	Agency/Location	Services	Space Type	Lease Term	Square Feet Old	Square Feet New	Cost/Sq. Ft. Old	Cost/Sq. Ft. New	Comment
NEW LEASES									
1.	18-0332 Public Safety Emergency Management 1842 W 2770 S Unit #30 West Valley	Net	Storage	07/01/17 – 06/30/22		2,820		$5.76	New Lease for 5 years.
2.	18-0241 Environmental Quality, Air Quality 9228 W 2700 S Magna	Net	Air Monitoring Station	07/01/17 – 06/30/22		560		$0.00	New Lease for 5 years.
AMENDMENTS									
1.	11-1359 Environmental Quality, Air Quality 1250 ft. South of US 40 on 45000 West Fruitland	Partial	Air Monitoring Station	05/01/18 – 04/30/23	579	576	$1.04	$1.04	Renew Lease for 5 years.
2.									

State of Utah

Division of Facilities and Construction Management

Professional Contracts Awarded

Contract Type = P;Award Date >= 05/26/2017; and less than 08/25/2017

#	Agency	Project Contract	Contract/Contractor	Type	Budget	Award
	Miscellaneous Services					
1	Admin Serv - State Arch	17138310 1770337	Archives | Storage Vault Expansion | Mueller Morrison Hershfield Corporation	Commissioning	$60,000	$13,800
2	Southern Utah University	17176730 1770335	Building Envelope Commissioning | Morrison Hershfie Morrison Hershfield Corporation	Energy	$136,879	$23,990
3	Corrections - Cucf	17322110 1870052	Corrections | Central Utah Correctional Facility Ut Summa Energy Solutions Llc	Energy	$67,632	$23,900
4	Dfcm - Statewide Funds	12240300 1870066	Das Dfcm | Exchange Of Land Between Manti City Parc Manti City	Real Estate	$921,002	$0
5	Workforce Services	17375920 1770378	Department Of Work Force Services | Logan Wfs Remo Sanders Associates Architects	Design	$12,252	$10,175
6	Dfcm - Managed Buildings	17377310 1770401	Department Of Commerce | Heber Wells Bldg - Remodel Design Sequence	Design	$33,452	$33,452
7	Corrections - Cucf	18165110 1770407	Department Of Corrections | Central Utah Correction Whw Engineering Inc	Design	$9,382	$8,000
8	Workforce Services	18082920 1770413	Dept. Work Force Services Ogden | Dws Ogden Exhaust Whw Engineering Inc	Design	$6,848	$6,500
9	Environmental Quality	17235310 1870030	Deq Technical Support Center | Intertek - Ati | Matt Architectural Testing	Commissioning	$92,237	$20,160
10	Dfcm - Managed Buildings	18085310 1770411	Dfcm | Academy Square Ogden Hvac Upgrades | Tim K Pa Whw Engineering Inc	Design	$18,106	$14,700
11	Dfcm - Managed Buildings	18084310 1770412	Dfcm | Brigham Regional Center Hvac Rtu Replacement Whw Engineering Inc	Design	$21,087	$17,500
12	Natural Resources	18018500 1770392	Dfcm-department Of Natural Resources Administratio Van Deusen & Associates Inc	Design	$42,942	$13,940
13	Dnr - Parks & Recreation	15184510 1770380	Division Of Parks And Recreation | Dead Horse Point Gem Engineering	Insp Observ Ser	$42,970	$33,295
14	Dnr - Parks & Recreation	18017510 1770377	Division Of Parks And Recreation | Palisade State P Savage Surveying Inc Doing Business As savage Alb	Design	$15,739	$15,700

State of Utah

Division of Facilities and Construction Management

Professional Contracts Awarded

Contract Type = P;Award Date >= 05/26/2017; and less than 08/25/2017

#	Agency	Project Contract	Contract/Contractor	Type	Budget	Award
	Miscellaneous Services					
15	Dnr - Wildlife Resources	17345520 1770305	Dnr, | Fisheries Experiment Building Logan Utah | Jub Engineers Inc	Design	$35,890	$29,250
16	Corrections - Ap&p	18046120 1770419	Fy 18 Combined Orange Street And Bonneville Improv Scott P Evans Architect&assoc	Design	$29,540	$24,593
17	Dfcm - Statewide Funds	11303300 1770416	Fy 2018 Structural Plan Review Services | Pat Tomas West Coast Code Consultants dba Kimball Engineeri	Unclass Consult	$102,000	$100,000
18	Dept Of Comm & Culture	18114080 1870011	Heritage And Arts | Rio Grande Depot Boiler, Drain Crsa Inc	Design	$48,118	$48,118
19	Serv Blind/visual Impair	18047200 1770382	Office Of Education | Taylorsville Deaf Center | Bo Whw Engineering Inc	Design	$56,100	$53,500
20	Dfcm - Managed Buildings	17041310 1870002	Ogden Regional Center, East Parking Structure, Sta Ensign Engineering & Lands Surveying Inc	Design	$7,453	$10,700
21	Dfcm - Managed Buildings	18190310 1870039	Ogden Regional Center, Mechanical Improvements | Di Colvin Engineering Associates	Design	$14,803	$10,100
22	Ogden/weber Atc	17277240 1870053	Ogden Weber Applied Technology College | Campus Uti Summa Energy Solutions Llc	Energy	$15,100	$15,100
23	Corrections - Draper	15310100 1770394	Prison Relocation Property Purchase Agreement With First American Title Co	Real Estate	$25,000,000	$1,887,000
24	Utah Highway Patrol	18032550 1870049	Public Safety | Murray Highway Patrol Admin Roof R Jsr Service Llc	Design	$24,586	$18,232
25	Salt Lake Comm College	18031680 1770388	Slcc | Lhm Kgmc/mpdr Roof Replacement | Randy Mellor Architectural Nexus	Design	$31,360	$26,220
26	Salt Lake Comm College	18039680 1770391	Slcc | Lhm Matc Roof Replacement | Randy Mellor Architectural Nexus	Design	$29,469	$24,639
27	Salt Lake Comm College	18115670 1870050	Slcc | Slcc Scc Combined Mechanical Project | Taylor Whw Engineering Inc	Design	$93,208	$76,285
28	Salt Lake Comm College	18043660 1770369	Slcc Rrc Business Bldg Restrooms | Taylor Maxfield Prior & Associates	Design	$56,376	$36,515

State of Utah

Division of Facilities and Construction Management

Professional Contracts Awarded

Contract Type = P;Award Date >= 05/26/2017; and less than 08/25/2017

#	Agency	Project Contract	Contract/Contractor	Type	Budget	Award
	Miscellaneous Services					
29	Snow College	17365700 1770333	Snow College | High Tech Building Recommissioning | Kw Engineering Inc	Energy	$12,000	$12,000
30	Snow College	17369700 1870032	Snow College | Humanities Building Retrocommissioni Kilowatt Engineering Inc.	Energy	$23,500	$23,500
31	Snow College	17023700 1870020	Snow College Facilities Bldg. Hvac Upgrade | Vbfa | Van Boerum & Frank Assoc Inc	Design	$14,042	$11,100
32	Southern Utah University	18100730 1870025	Southern Utah University | University Blvd. Sidewal Sunrise Engineering Inc	Design	$50,229	$46,100
33	Southern Utah University	17176730 1870045	Testing And Inspection Services | Suu - New Busine Gem Engineering	Insp Observ Ser	$130,361	$98,195
34	University Of Utah	17271750 1870016	U Of U Health Sciences Rehabilitation Hospital Com Van Boerum & Frank Assoc Inc	Commissioning	$610,413	$495,000
35	Dept Of Transportation	17359900 1770390	Udot Salt Sheds Northern Region | Beecher Walker As Beecher Walker & Associates Lc	Design	$102,000	$62,104
36	University Of Utah	17258750 1870006	University Of Utah | Ambulatory Care Complex | Energ Perry Engineering & Logistics Plc	Energy	$455,000	$52,163
37	Schools For Deaf & Blind	18110230 1770415	Usdb | Ogden Campus 865 Gal Hot Wtr Storage Tank & Bertoldi Architects	Design	$30,122	$22,450
38	Schools For Deaf & Blind	18109230 1770414	Usdb | Ogden Campus Emergency A/v System | Jon Vance Bertoldi Architects	Design	$21,571	$19,725
39	Schools For Deaf & Blind	18111230 1770420	Usdb | Slc Libby Edwards Bldg Security Camera Syste Bertoldi Architects	Design	$15,031	$10,375
40	Bridgerland Atc	18098210 1870013	Utah College Of Applied Technology | Bridgerland At Van Boerum & Frank Assoc Inc	Design	$67,632	$50,820
41	Mountainland Atc	18168260 1770406	Utah College Of Applied Technology | Mountainland A Design Sequence	Design	$48,964	$21,450
42	Ogden/weber Atc	18171240 1770404	Utah College Of Applied Technology | Ogden/weber At Colvin Engineering Associates	Design	$37,500	$37,500

State of Utah

Division of Facilities and Construction Management

Professional Contracts Awarded

Contract Type = P;Award Date >= 05/26/2017; and less than 08/25/2017

#	Agency	Project Contract	Contract/Contractor	Type	Budget	Award
	Miscellaneous Services					
43	Southwest Atc	17169270 1870014	Utah College Of Applied Technology | Southwest Atc | Sunrise Engineering Inc	Design	$22,543	$24,700
44	Uintah Basin Atc	18012250 1770368	Utah College Of Applied Technology | Ubatc Welding Method Studio	Programming	$82,970	$64,820
45	Dept Of Transportation	18106900 1870008	Utah Department Of Transportation | Long Valley Mai Jrca Architects Inc	Design	$19,766	$16,335
46	Dot Region One	18091900 1770402	Utah Department Of Transportation | Region 1 - Serv Prior & Associates	Design	$13,209	$11,174
47	Dept Of Transportation	17360900 1770393	Utah Department Of Transportation | Southern Region Beecher Walker & Associates Lc	Design	$102,000	$50,250
48	National Guard	18202480 1870036	Utah National Guard | Camp Williams - Asp Pump Stat Bowen Collins & Associates Inc.	Design	$8,153	$8,153
49	National Guard	18177480 1870007	Utah National Guard | West Jordan Aasf Flight Line Forsgren Associates	Design	$97,850	$75,050
50	Schools For Deaf & Blind	17343230 1770373	Utah School For The Deaf And The Blind | Springvill Jacoby Architects	Programming	$85,126	$85,000
51	Developmental Center	17368410 1770352	Utah State Developmental Center | Aspen Hills - Roo Michael Baker International, Inc.	Design	$24,480	$24,640
52	Utah Valley University	18185790 1870038	Uvu | Uvu Flight School Parking | Dwight Palmer King Engineering Inc	Design	$60,624	$48,750
53	Human Services	18135400 1770396	Vernal Human Services | Fire Alarm Control Panel Re Protection Consultants Inc	Design	$7,272	$4,780
54	Weber State University	16050810 1770385	Weber State University | Lindquist Hall (social Sci West Coast Code Consultants dba Kimball Engineeri	Insp Observ Ser	$255,379	$177,340
55	Weber State University	16050810 1770326	Weber State University | Social Science (lindquist Utah New Vision Construction Llc	Commissioning	$184,678	$85,000

State of Utah

Division of Facilities and Construction Management

Construction Contracts Awarded

Contract Type = C;Award Date >= 05/26/2017; and less than 08/25/2017

#	Agency	Project Contract	Contract/Contractor	Type	Budget	Award
	Construction					
1	Natural Resources	17105500 1775416	1. Dept. Of Natural Resources | 2. Dnr Complex Secu Creative Times Inc	Const Remodel	$124,400	$124,400
2	Courts	17263150 1775444	Administrative Office Of The Courts | Matheson Thir Broderick & Henderson Construction Lc	Const Remodel	$581,700	$598,300
3	Courts	18005150 1775367	Administrative Office Of The Courts | Matheson Thir All Weather Waterproofing Inc	Roofing	$973,128	$913,800
4	Courts	17249150 1775425	Courts Department | West Jordan Courts Bldg Fire Pa Rei Electric	Const Remodel	$200,000	$180,000
5	Dfcm - Statewide Funds	12107300 1875016	Datc | Asphalt Maintenance Crackseal & Repairs | Tim Preferred Paving	Paving	$1,549,744	$44,296
6	Davis Atc	17304220 1775419	Datc Barlow Building Retaining Wall | Davis Applied R Ray Ward Construction	Const Remodel	$206,000	$206,702
7	Corrections - Draper	17256100 1775342	Department Of Corrections - Draper Prison | Timpan Tod R Packer Heating & Air Conditioning	Const Remodel	$427,809	$469,863
8	Natural Resources	17104500 1775422	Department Of Natural Resources | Dnr Complex - Ele Skyline Electric Inc	Const Remodel	$29,332	$26,500
9	Veterans Affairs	17323490 1875003	Department Of Veterans Affairs | Ogden Veterans Hom Saunders Construction Inc	Const Remodel	$410,843	$398,000
10	Dfcm - Managed Buildings	15340310 1775408	Dfcm | Provo Regional Lighting Controls Upgrade | Dw All-tech Electric	Const Remodel	$100,000	$88,195
11	Dept Of Comm & Culture	17054080 1775439	Dfcm Rio Grande Depot | Replace/repair Exterior Win Environmental Abatement Inc	Haz Mat Const	$39,130	$44,820
12	Dept Of Comm & Culture	17054080 1775391	Dfcm/arts | Rio Grande Bldg Replace, Repair Restore Abstract Masonry Restoration	Const Remodel	$276,636	$276,636
13	Juvenile Justice Services	17321430 1775411	Dhs - Djjs | Djjs Slate Canyon Youth Center Remodel Broderick & Henderson Construction Lc	Const Remodel	$971,800	$971,800
14	Administrative Services	0300 1775428	Division Of Facilities Construction & Management | Comp View	Const Remodel	$100,000	$67,934

State of Utah

Division of Facilities and Construction Management

Construction Contracts Awarded

Contract Type = C;Award Date >= 05/26/2017; and less than 08/25/2017

#	Agency	Project Contract	Contract/Contractor	Type	Budget	Award
	Construction					
15	Dfcm - Statewide Funds	17029300 1875038	Division Of Facilities Construction & Management | Rocmont Industrial Corp	Haz Mat Const	$400,205	$24,988
16	Dfcm - Managed Buildings	16002310 1775456	Division Of Facilities Construction And Management Rocmont Industrial Corp	Haz Mat Const	$79,031	$77,500
17	Dnr - Wildlife Resources	17139520 1875005	Division Of Wildlife Resources | Cedar City Storage Nichols Building Llc	Const New Space	$688,250	$680,000
18	Dnr - Wildlife Resources	15034520 1775457	Division Of Wildlife Resources | Great Salt Lake Na Hughes General Contractors Inc	Const New Space	$3,665,304	$3,623,798
19	Dixie St College Of Utah	17350640 1775402	Dixie State Univerisity | Hurricane Education Cente Perkes Roofing Inc	Roofing	$133,090	$133,090
20	Dixie St College Of Utah	18108640 1775415	Mou | Dixie State University | Water Savings Landsca Southern Utah University	Const Site Imp	$23,231	$23,231
21	Dfcm - Statewide Funds	12200300 1875010	Slc Va Nursing Home, Emergency Hx Replacement | Dep American Mechanical Systems Service	Const Remodel	$1,310,120	$58,870
22	Salt Lake Comm College	18175660 1775440	Slcc | Rrc Heating Plant Upgrades - Mou | Taylor Max Slcc Business Office	Constr Mou	$359,777	$359,777
23	Salt Lake Comm College	18161660 1875007	Slcc Rrc Rampton Tech Building Window Replacement Slcc Business Office	Constr Mou	$433,940	$433,940
24	Salt Lake Comm College	18160670 1875006	Slcc Scc Scm Basement Concrete Ramp Replacement - Slcc Business Office	Constr Mou	$169,221	$169,221
25	Dfcm - Statewide Funds	12200300 1875026	Snow College - Richfield | Emergency Boiler Repairs American Mechanical Systems Service	Const Remodel	$1,310,120	$35,277
26	Snow College	18003700 1775436	Snow College Ephraim | Stadium Handrails And Ada Up Rod Lewis Construction Llc	Const Remodel	$157,771	$126,599
27	Southern Utah University	18099730 1775431	Southern Utah University | Campus Wide Security Cam Suu Comptroller	Constr Mou	$120,250	$120,250
28	Southern Utah University	17186730 1775414	Southern Utah University | Juniper Hall - Parking L Mel Clark Inc	Paving	$505,078	$393,441

State of Utah

Division of Facilities and Construction Management

Construction Contracts Awarded

Contract Type = C;Award Date >= 05/26/2017; and less than 08/25/2017

#	Agency	Project Contract	Contract/Contractor	Type	Budget	Award
	Construction					
29	Southern Utah University	18101730 1775432	Southern Utah University | Mou - Centrum Fire Suppr Suu Comptroller	Constr Mou	$230,500	$230,500
30	Southern Utah University	18103730 1775433	Southern Utah University | Mou Science Center Data Suu Comptroller	Constr Mou	$221,133	$221,133
31	Southern Utah University	18102730 1775434	Southern Utah University | Mou Valley Farm Ada Upgr Suu Comptroller	Constr Mou	$152,510	$152,510
32	Dept Of Transportation	17066900 1775361	Udot | Orem Dot Admin Hvac Replacement | Dwight Palm Mechanical Service & Systems Inc	Const Remodel	$439,000	$438,719
33	Dept Of Transportation	17081900 1775314	Udot | Region #2 Carpenter / Landscape Building Roo All Weather Waterproofing Inc	Roofing	$18,600	$10,465
34	Ogden/weber Atc	17316240 1875014	Utah College Of Applied Technology | Ogden/weber At Post Construction Co Inc	Paving	$248,540	$261,995
35	Ogden/weber Atc	17117240 1775413	Utah College Of Applied Technology | Ogden/weber At Wasatch West Contracting	Const Remodel	$288,548	$272,055
36	Dept Of Transportation	18157900 1875021	Utah Department Of Transportation | Mtf Facility | Ralph Tye & Sons Inc	Const Remodel	$54,880	$74,751
37	National Guard	17128470 1775435	Utah National Guard | Draper Complex West Electrica Creative Times Inc	Const Remodel	$1,493,264	$1,493,264
38	Developmental Center	15223410 1775423	Utah State Developmental Center | Quail Run Lodge - Ralph Tye & Sons Inc	Const Remodel	$876,671	$820,588
39	Utah State University	11194770 1875012	Utah State University | Business Building - Skyligh Lcg Facades Inc	Const Remodel	$42,305,603	$121,677
40	Utah Valley University	17049790 1775378	Utah Valley University | Woodbury Building Elevator Thyssenkrupp Elevator Corporation	Const Remodel	$106,602	$36,000
41	Utah Valley University	17140790 1775417	Uvu | Uvu Cs Infill | Dwight Palmer Wade Payne Construction Inc	Const Remodel	$466,400	$466,400
42	Utah Valley University	17064790 1775410	Uvu | Uvu Campus Sidewalk Paver Replacement | Dwigh Overman Concrete Inc	Const Remodel	$80,000	$76,199

State of Utah

Division of Facilities and Construction Management

Construction Contracts Awarded

Contract Type = C;Award Date >= 05/26/2017; and less than 08/25/2017

#	Agency	Project Contract	Contract/Contractor	Type	Budget	Award
	Construction					
43	Utah Valley University	17141790 1775379	Uvu | Uvu Health Dental Upgrades | Dwight Palmer Dds Constructors Llc	Const Remodel	$85,575	$69,700
44	Utah Valley University	17357790 1875018	Uvu | Uvu Sorensen Center Remodel | Dwight Palmer Wade Payne Construction Inc	Const Remodel	$979,700	$979,700
45	Weber State University	17179810 1775418	Weber State University | Various Parking Lots - Asp Post Construction Co Inc	Paving	$415,306	$415,306

DFCM

Division of Construction and Management
4110 State Office Building Salt Lake City, UT 84144
Telephone (801) 538-3018 Fax (801) 538-3267

REPORT OF CONTINGENCY RESERVE FUND

Jul-17

	PROJECT TITLE		DEVELOPMENT STATE FUNDS CURRENT TRANSFERS	IMPROVEMENT STATE FUNDS CURRENT TRANSFERS	TRANSPORTATION FUNDS CURRENT TRANSFERS	TOTAL TRANSFERS FROM CONTINGENCY	% TO CONSTR. BUDGET	PROJECT STATUS	% Complete
	FY 2017 BEGINNING BALANCE		3,418,464.26	5,501,395.33	7,415.55				
	FUNDING								
17060	DNR	DWR Central Region Office Replacement	-	42,336.00	-	-	0.00%	Design	0%
	OTHER INCREASES								
08231	CUCF	192 Bed Pod Expansion	1,031,798.00	-	-	1,176,122.67	3.85%	Closeout	100%
12345	WSU	Tracy Hall Science Bldg	101,865.00	-	-	921,083.63	1.39%	Closeout	92%
15302	DFCM	Governor's Mansion Perimeter Fence	-	5,580.35	-	51,361.70	13.51%	Closeout	100%
	DECREASES								
13336	UOFU	Huntsman Cancer Phase IV	(351,012.00)	-	-	698,785.68	0.69%	Construction	92%
12222	USDC	Evergreen Bldg HVAC Replacement	-	(139,052.25)	-	310,056.83	14.63%	Closeout	91%
15226	Health	Unified Lab Speciman Preocessing Redesign	-	(43,638.30)	-	58,484.83	6.22%	Closeout	80%
17026	OWATC	Business Depot Bay 2 Buildout	(35,326.99)	-	-	99,118.53	1.97%	Construction	33%
17172	Courts	Cedar City Various Upgrades	-	(27,056.51)	-	41,653.01	9.37%	Closeout	48%
17045	UDOT	Water Runoff Retention	-	(19,069.00)	-	25,454.00	5.08%	Construction	84%
17137	Fairpark	Rodeo Arena	(13,220.00)	-	-	424,503.88	2.64%	Construction	69%
17261	Courts	Mattheson Fire Dry Pipe Main Replacement	-	(11,349.35)	-	91,608.85	26.86%	Closeout	77%
14296	SNOW	New Science Building	(10,948.00)	-	-	96,185.00	0.39%	Construction	60%
14342	DCED	Rio Grande Doors & Hardware	-	(8,716.55)	-	8,716.55	3.51%	Construction	0%
17151	DSU	Hansen Stadium Track Replacement	-	(6,122.60)	-	10,724.66	0.39%	Construction	22%
17122	DNR	Parks - Bear Lake Dock Replacement	-	(3,934.04)	-	3,934.04	0.20%	Construction	97%
17133	DVA	Landscape Parcel St George	-	(3,910.00)	-	3,910.00	1.94%	Construction	36%
17030	Corrections	Fortitude Intake Remodel	-	(3,774.34)	-	3,774.34	1.38%	Construction	0%
17024	DFCM	Heber Wells Bathroom Remodel 1,3,5,6	-	(2,899.00)	-	26,807.10	5.53%	Closeout	99%
17170	UDOT	Beaver Replace Windows/Remodel Office	-	(2,286.00)	-	15,047.00	9.02%	Closeout	87%
17273	MATC	Welding Compound Canopy	-	(1,790.60)	-	1,790.60	2.61%	Closeout	0%
17244	OWATC	Phase II Restroom Upgrades	-	(810.75)	-	810.75	0.17%	Construction	15%
	TOTAL		4,141,620.27	5,274,902.39	7,415.55				

DFCM

Division of Construction and Management
4110 State Office Building Salt Lake City, UT 84144
Telephone (801) 538-3018 Fax (801) 538-3267

Sep-17

REPORT OF CONTINGENCY RESERVE FUND

		PROJECT TITLE	DEVELOPMENT STATE FUNDS CURRENT TRANSFERS	IMPROVEMENT STATE FUNDS CURRENT TRANSFERS	TRANSPORTATION FUNDS CURRENT TRANSFERS	TOTAL TRANSFERS FROM CONTINGENCY	% TO CONSTR. BUDGET	PROJECT STATUS	% Complete
	FY 2017 BEGINNING BALANCE		4,141,620.27	5,274,902.39	7,415.55				
	FUNDING								
		NONE							
	OTHER INCREASES								
14249	UDOT	Hooper Maintenance Station	-	9,671.44	-	82,136.76	2.60%	Closed	100%
	DECREASES								
06291	USTAR	UU Neuroscience Research Center	(298,513.49)	-	-	4,965,939.55	3.08%	Closed	100%
13375	DATC	Permanent Campus Building	(108,436.30)	-	-	871,647.79	2.35%	Construction	70%
12042	U OF U	Electrical/High Temp Water Utilities Upgrades	(79,274.95)	-	-	1,632,342.41	2.03%	Construction	96%
17026	OWATC	Business Depot Bay 2 Buildout	(53,020.05)	-	-	152,138.58	3.01%	Construction	78%
14380	DFCM	Governor's Mansion Misc Improvements	-	(51,602.01)	-	127,403.37	7.33%	Construction	49%
17022	SNOW	Steam/Condensate Lines Upgrade	-	(43,411.00)	-	104,948.18	18.05%	Construction	93%
15250	CPB	Travel Council Bldg Exterior Waterproofing	-	(39,370.96)	-	39,370.96	10.89%	Construction	0%
14190	DEAF & BLIND	New SLC Building	(37,529.10)	-	-	679,297.72	4.55%	Construction	97%
15128	USU	Clinical Sevices Building	(36,396.95)	-	-	80,435.33	0.24%	Construction	45%
13020	DFCM	Unified Lab Module 2	(35,270.00)	-	-	1,102,522.00	3.03%	Closeout	96%
17122	DNR	Parks - Bear Lake Dock Replacement	-	(30,454.96)	-	34,389.00	1.74%	Construction	98%
17045	UDOT	Water Runoff Retention	-	(28,888.00)	-	54,342.00	10.26%	Construction	94%
15097	Dixie	Campus Master Plan	-	(20,779.10)	-	20,779.10	9.11%	Closed	40%
17113	DSU	Math/Science Center Improvements	-	(20,301.00)	-	20,301.00	6.34%	Construction	1%
13087	SLCC	RRC Science Bldg Window Replacement	-	(19,418.30)	-	19,418.30	1.77%	Closed	77%
14068	DHS	USDC Durable Housing Units	(14,690.71)	-	-	106,973.53	1.06%	Closeout	100%
15226	Health	Unified Lab Speciman Preocessing Redesign	-	(11,497.57)	-	69,982.40	7.24%	Closeout	96%
17043	Courts	Layton Public Area Remodel	-	(8,985.00)	-	8,985.00	30.25%	Construction	100%
18006	WSU	Replace Natural Gas Piping in Tunnels	-	(8,616.55)	-	8,616.55	3.39%	Construction	0%
15302	DFCM	Governor's Mansion Perimeter Fence	-	(6,319.31)	-	57,681.01	14.92%	Closeout	98%
15106	SLCC	Westpointe CTE Building	(4,549.70)	-	-	69,615.58	0.18%	Construction	46%
17030	Corrections	Fortitude Intake Remodel	-	(3,846.64)	-	7,620.98	2.51%	Closeout	58%
18002	Snow	Football Stadium Artificial Surface	-	(3,818.56)	-	3,818.56	0.27%	Construction	81%
17244	OWATC	Phase II Restroom Upgrades	-	(3,671.00)	-	4,481.75	0.95%	Construction	30%
17151	DSU	Hansen Stadium Track Replacement	-	(2,997.48)	-	13,722.14	0.50%	Closeout	45%
17020	Educarion	Taylorsville Deaf Ctr Chiller/Cooling Tower	-	(2,900.88)	-	12,197.77	5.62%	Construction	57%
15224	DWS	Call Ctr Rooftop Unit	-	(2,176.00)	-	23,672.75	9.34%	Closeout	98%
17253	DFCM	St Library VCT Tile Replacement	-	(2,101.00)	-	4,970.50	32.82%	Closed	100%
17021	Educarion	Libbie Edwards Rooftop Units Upgrade	-	(1,648.56)	-	13,832.51	3.22%	Construction	76%
13180	USU-EAST	Central Instructional Bldg	(1,111.81)	-	-	935,062.31	4.19%	Closeout	100%
17044	Corrections	NUCCC DVR/Camera Upgrade	-	(840.30)	-	840.30	0.40%	Closed	96%
17255	Corrections	Draper - A-West Yard Concrete	-	(55.06)	-	440.06	0.48%	Closed	0%
	FY 2017 FINAL TOTAL		3,472,827.21	4,970,874.59	7,415.55				

Construction Change Order
CO 005
Status: CO EXECUTED

Construction Change Order

Construction Change Order			
Description:	OWATC BDO BAY 2 R & O CONSTRUCTION MATT BOYER	**Status:**	CO EXECUTED
		Change Order Date:	May 31, 2017
		Total Amount:	$36,716.03
		New End Date:	
Capital Project:	17026240 (OGDEN/WEBER ATC BUSINESS DEPOT OGDEN BAY 2 REMODEL/BUILDOUT)		

Contractor		Original		Change	
Contractor:	39131H (R & O CONSTRUCTION CO)	**Award:**	$3,987,074.00	**Award:**	$3,987,074.00
		Change Order:	$237,945.41	**Change Order:**	$274,661.44
		Total:	$4,225,019.41	**Total:**	$4,261,735.44
Address Code:	001 (933 WALL AVE, OGDEN, UT 84404-4800)	**Start:**	Jan 6, 2017	**Start:**	Jan 6, 2017
Contract:	1775225	**End:**		**End:**	

Line Item

Line	Description	Contract Line	Component	Reason	Change Amount	New End Date
001	PCO-24 CHANGE THE PAINT BOOTH EXHAUST TO A VERTICAL DISCHARGE TO COMPLY WITH THE BUILDING CODE.	001	CONSTRUCTION	AE ERROR-CONTIN	$6,719.66	
002	PCO-026R REPLACE TWO EXISTING EXTERIOR DOORS WITH SPANDREL GLASS THAT THE AE MISSED DURING DESIGN.	001	CONSTRUCTION	AE OMISSION-CON	$11,834.95	
003	PCO #27 - CHANGE THE DOOR HARDWARE TO ALLOW FOR CARD ACCESS CONTROLS AS REQUESTED BY OWATC	001	CONSTRUCTION	AGENCY SCOPE-P	$1,389.04	
004	PCO-35 FRAME THE TOP OF BLEACHERS AND STAIRS AS THE DETAIL WAS MISSED IN THE DRAWINGS.	001	CONSTRUCTION	AE OMISSION-CON	$2,505.57	
005	PCO-36 ADD WOOD PANEL SILL & RELOCATE THE BENCH TO THE SOUTH SIDE.	001	CONSTRUCTION	AE OMISSION-CON	$645.06	
006	PCO-38 REPLACE THE STORM DRAIN CATCH BASINS TO ONES WITH LIDS. WORK REQUIRED ACCESSING THE INSIDE OF THE CATCH BASINS AND THE EXISTING ONES WERE POURED IN PLACE WITH NO ACCESS LID.	001	CONSTRUCTION	UNK COND-CONTIN	$13,621.75	

State of Utah

Division of Facilities and Construction Management

Construction Contract = 1775225

Construction Contract Summary

1775225 - Utah College Of Applied Technology | Ogden Weber Atc - Bdo Ca

Project Title:	Ogden/weber Atc Business Depot Ogden Bay 2 Remodel/buildout	**Vendor #:**	39131H
Project #:	17026240	R & O Construction Co	
Program Director:	Matt Boyer (173189)	933 Wall Ave	
Open PO's-Prj:	(1) for $250.00	Ogden, Ut 84404-4800	
Contract Name:	Utah College Of Applied Technology | Ogden Weber Atc - Bdo Ca	**Status:**	Notice To Proceed
Contract Type:	Const Remodel	**DO #:**	170114000010656
Component Group:	Construction	**Retainage #:**	8695729
Building:	09169	Ogden Weber Atc Bdo Bldg. (Owatc)	

Component: Construction (8) **Expense Budget:**

Account:

Funding Sources

Funding Source	Budget %	Appropriation	Allotment
Funding Totals:			

Payment Summary

Date	Invoice #	Status	Amount
3/9/17	17026240#1	Invoice Released	$342,290.01
3/28/17	17026240#2	Invoice Released	$839,580.45
4/24/17	17026240#3	Invoice Released	$437,420.93
5/12/17	17026240#4	Finance Allocation	$442,392.64
6/1/17	17026240#5	Finance Allocation	$921,027.75
		Total Payments:	**$ 2,982,711.78**

Retainage Summary

Date	Invoice #	Status	Amount
3/9/17	1775225#1	Invoice Released	$18,015.26
3/28/17	1775225#2	Finance Allocation	$44,188.46
4/24/17	1775225#3	Invoice Released	$23,022.15
5/12/17	1775225#4	Finance Allocation	$23,283.82
6/1/17	1775225#5	Finance Allocation	$48,475.14
		Retainage Total:	**$156,984.83**

Release Summary

Release Date	Release	Amount
	Release # 1	
	Release # 2	

Change Order Summary

Awards

Award Date	Number	Amount
12/22/2016	A001	$3,987,074.00
	Total Award:	**$ 3,987,074.00**

Change Orders

Date	Number	Status	Amount
3/27/17	CO 001	Co Executed	$174,060.24
4/20/17	CO 002	Co Executed	$24,679.81
5/17/17	CO 003	Co Executed	$19,788.64
5/17/17	CO 004	Co Executed	$19,416.72
5/31/17	CO 005	Co Executed	$36,716.03
6/27/17	CO 006	Co Requested	$43,200.83
		Change Order Total:	**$317,862.27**
		Total Amendments (Less: Award Bid Pack Changes):	$317,862.27
		Adjusted Contract Value:	**$4,304,936.27**

State of Utah

Division of Facilities and Construction Management

Construction Contract = 1775225

Construction Contract Summary

Release Summary

Release Date	Release	Amount
	Release # 3	
	Release # 4	
	Release # 5	
	Release Total:	**$ 0.00**
	Net Retainage:	**$ 156,984.83**

Contract Summary

Adjusted Contract Value:	$ 4,304,936.27
Paid to Contractor:	$2,982,711.78
Retainage to Bank:	$156,984.83
Total Paid:	$3,139,696.61
Contract Balance:	**$1,165,239.66**

Contractor Summary

Adjusted Contract Value:	$ 4,304,936.27
Paid to Contractor:	$2,982,711.78
Retainage Releases:	$.00
Total Paid to Contractor:	$2,982,711.78
Contractor Balance:	**$1,322,224.49**

Change Order % of Original:	7.97%
Percentage of Contract Paid:	72.93%

Dates		Days	
From	**To**	**Target**	**Lapsed**
1/6/17	7/28/17	203	174
Adjusted	**Substantial**	**Original**	**Days**
7/28/17		6/28/17	

Percentage of Time Lapsed: 85.71%

Reasons for Change Orders

Reason	Percent	Amount
Agency Scope-p	55.23%	$175,542.91
Ae Error-contin	2.43%	$7,731.66
Unk Cond-contin	13.70%	$43,547.34
Ae Omission-con	28.64%	$91,040.36
Total Changes (less Award Bid Packs):		**$317,862.27**

Construction Change Order
CO 010
Status: CO EXECUTED

Construction Change Order

Construction Change Order			
Description:	OCO 010 LAYTON CONSTRUCTION DXATC NEW CAMPUS BUILDING CLINT BUNNELL	**Status:**	CO EXECUTED
		Change Order Date:	May 18, 2017
		Total Amount:	$152,043.00
		New End Date:	
Capital Project:	13375290 (DIXIE ATC NEW PERMANENT CAMPUS BUILDING)		

Contractor		Original		Change	
Contractor:	66309F (LAYTON CONSTRUCTION COMPANY)	**Award:**	$90,000.00	**Award:**	$90,000.00
		Change Order:	$34,142,587.00	**Change Order:**	$34,294,630.00
		Total:	$34,232,587.00	**Total:**	$34,384,630.00
Address Code:	001 (9090 S SANDY PKY, SANDY, UT 84070-6409)	**Start:**	Oct 21, 2015	**Start:**	Oct 21, 2015
Contract:	1675094	**End:**		**End:**	

Line Item

Line	Description	Contract Line	Component	Reason	Change Amount	New End Date
001	PCO 073 - P&P BOND ADJUSTMENT	001	CONSTRUCTION	UNK COND-CONTIN	$25,492.00	
002	PCO 074 ADDITIONAL GC'S	001	CONSTRUCTION	UNK COND-PROJEC	$126,551.00	

State of Utah

Division of Facilities and Construction Management

Construction Contract = 1675094

Construction Contract Summary

1675094 - Utah College Of Applied Technology | Dixie Atc (dxatc) | New P

Project Title:	Dixie Atc New Permanent Campus Building	**Vendor #:**	66309F
Project #:	13375290	Layton Construction Company	
Program Director:	Clint Bunnell (197452)	9090 S Sandy Pky	
Open PO's-Prj:	(13) $1,406,301.86 for	Sandy, Ut 84070-6409	
Contract Name:	Utah College Of Applied Technology | Dixie Atc (dxatc) | New P	**Status:**	Notice To Proceed
Contract Type:	Constr Cmgc	**DO #:**	151104000035932
Component Group:	Construction	**Retainage #:**	8695488
Building:	17351	Dixie Atc New Permanent Campus Building	

Component:	Construction (8)	**Expense Budget:**	6811
Account:	3000-300-3339-FWB-13375290	Construction Dev New Spc	

Funding Sources

Funding Source	Budget %	Appropriation	Allotment
EDFY2016	50.00	$31,546,360.49	$0.00
OTHER AGENCY FUNDS	50.00	$10,500,000.00	$0.00
Funding Totals:	**100.00**	**$42,046,360.49**	**$0.00**

Payment Summary

Date	Invoice #	Status	Amount
11/4/15	13375290#1	Invoice Released	$21,375.00
12/14/15	13375290#2	Invoice Released	$21,375.00
1/12/16	13375290#3	Invoice Released	$21,375.00
2/29/16	13375290#4	Invoice Released	$10,687.50
3/8/16	13375290#5	Invoice Released	$10,687.50
5/23/16	13375290#6	Invoice Released	$134,164.70
7/22/16	13375290#7	Invoice Released	$380,550.58
7/22/16	13375290#8	Invoice Released	$515,659.51
9/6/16	13375290#9	Invoice Released	$575,626.84
9/6/16	13375290#10	Invoice Released	$1,360,086.41
10/24/16	13375290#11	Invoice Released	$2,305,231.99
12/20/16	13375290#12	Invoice Released	$1,907,678.44
12/20/16	13375290#13	Invoice Released	$2,542,054.81
1/17/17	13375290#14	Invoice Released	$1,807,097.64
3/16/17	13375290#15	Invoice Released	$1,828,601.55
3/28/17	13375290#16	Invoice Released	$1,540,250.48
5/12/17	13375290#17	Invoice Released	$2,013,333.28
5/12/17	13375290#18	Invoice Released	$2,712,094.01
6/27/17	13375290#19	Invoice Released	$2,409,809.75
7/18/17	13375290#20	Invoice Released	$2,393,198.07
		Total Payments:	**$ 24,510,938.06**

Change Order Summary

Awards

Award Date	Number	Amount
09/21/2015	A001	$90,000.00
	Total Award:	**$ 90,000.00**

Change Orders

Date	Number	Status	Amount
5/11/16	CO 001	Co Executed	$1,174,185.00
6/27/16	CO 002	Co Executed	$4,930,940.00
11/2/16	CO 003	Co Executed	$7,000,000.00
2/17/17	CO 004	Co Executed	$16,971,405.00
2/17/17	CO 005	Co Executed	$613,687.00
2/17/17	CO 006	Co Executed	$122,870.00
4/21/17	CO 007	Co Executed	$107,765.00
5/11/17	CO 008	Co Executed	$2,487,184.00
5/11/17	CO 009	Co Executed	$734,551.00
5/18/17	CO 010	Co Executed	$152,043.00
7/20/17	CO 011	Co Requested	$293,099.00
		Change Order Total:	**$34,587,729.00**
		Total Amendments (Less: Award Bid Pack Changes):	$34,587,729.00

State of Utah

Division of Facilities and Construction Management

Construction Contract = 1675094

Construction Contract Summary

Retainage Summary

Date	Invoice #	Status	Amount
11/4/15	1675094#1	Invoice Released	$1,125.00
12/14/15	1675094#2	Invoice Released	$1,125.00
1/12/16	1675094#3	Invoice Released	$1,125.00
2/29/16	1675094#4	Invoice Released	$562.50
3/8/16	1675094#5	Invoice Released	$562.50
5/23/16	1675094#6	Invoice Released	$7,061.30
7/22/16	1675094#7	Invoice Released	$20,028.98
7/22/16	1675094#8	Invoice Released	$27,139.97
9/6/16	1675094#9	Invoice Released	$30,296.15
9/6/16	1675094#10	Invoice Released	$71,583.50
10/24/16	1675094#11	Invoice Released	$121,328.00
12/20/16	1675094#12	Invoice Released	$100,404.12
12/20/16	1675094#13	Invoice Released	$133,792.36
1/17/17	1675094#14	Invoice Released	$95,110.41
3/16/17	1675094#15	Invoice Released	$96,242.18
3/28/17	1675094#16	Invoice Released	$81,065.83
5/12/17	1675094#18	Invoice Released	$142,741.76
5/12/17	1675094#17	Invoice Released	$105,964.95
6/27/17	1675094#19	Invoice Released	$126,832.11
7/18/17	1675094#20	Invoice Released	$125,957.78
		Retainage Total:	**$1,290,049.40**

Release Summary

Release Date	Release	Amount
	Release # 1	
	Release # 2	
	Release # 3	
	Release # 4	
	Release # 5	
	Release Total:	**$ 0.00**
	Net Retainage:	**$ 1,290,049.40**

Contract Summary

Adjusted Contract Value:	$ 34,677,729.00
Paid to Contractor:	$24,510,938.06
Retainage to Bank:	$1,290,049.40
Total Paid:	$25,800,987.46
Contract Balance:	**$8,876,741.54**

Contractor Summary

Adjusted Contract Value:	$ 34,677,729.00
Paid to Contractor:	$24,510,938.06
Retainage Releases:	$.00
Total Paid to Contractor:	$24,510,938.06
Contractor Balance:	**$10,166,790.94**

Change Orders

Date	Number	Status	Amount
		Adjusted Contract Value:	**$34,677,729.00**

Change Order % of Original:	38430.81%
Percentage of Contract Paid:	74.40%

Dates		Days	
From	**To**	**Target**	**Lapsed**
10/21/15	12/21/17	792	674
Adjusted	**Substantial**	**Original**	**Days**
12/21/17		6/30/17	

Percentage of Time Lapsed: 85.10%

Reasons for Change Orders

Reason	Percent	Amount
Bid Package	86.96%	$30,076,530.00
Dfcm Scope-cont	0.31%	$106,183.00
Agency Scope-p	1.63%	$564,447.00
Unk Cond-projec	0.37%	$126,551.00
Unk Cond-contin	0.86%	$297,559.00
Agency Scope-c	0.31%	$108,454.00
Dfcm Scope-proj	7.19%	$2,487,184.00
Agency Scope-o	0.53%	$184,795.00
Ae Omission-con	1.84%	$636,026.00
Total Changes (less Award Bid Packs):		**$34,587,729.00**

AiM

Construction Change Order
CO 026
Status: CO EXECUTED

Construction Change Order

Construction Change Order			
Description:	U OF U INFASTRUCTURE UPGRADE LAYTON CONSTRUCTION JIM RUSSELL	**Status:**	CO EXECUTED
		Change Order Date:	Jul 14, 2017
		Total Amount:	$1,134.00
		New End Date:	
Capital Project:	12042750 (UNIV OF UTAH ELECTRICAL AND HIGH TEMP WATER UTILITIES UPGRADES)		

Contractor		Original		Change	
Contractor:	66309F (LAYTON CONSTRUCTION COMPANY)	**Award:**	$25,000.00	**Award:**	$25,000.00
		Change Order:	$75,785,296.00	**Change Order:**	$75,786,430.00
		Total:	$75,810,296.00	**Total:**	$75,811,430.00
Address Code:	001 (9090 S SANDY PKY, SANDY, UT 84070-6409)	**Start:**	Jun 19, 2012	**Start:**	Jun 19, 2012
Contract:	127609	**End:**		**End:**	

Line Item

Line	Description	Contract Line	Component	Reason	Change Amount	New End Date
001	PCO-0127 RELOCATION OF MECHANICAL EQUIPMENT IN MATH BUILDING 13 AS PER ENGINEER - CONTRACTOR CONTINGENCY.	001	ADDL CONST COST	BID PACKAGE	$0.00	
002	PCO-0216 DUE TO EXISTING CONDITIONS SWITCH MH. 95 NEEDED TO BE CHANGED TO A PAD MOUNT SWITCH	001	ADDL CONST COST	UNK COND-CONTIN	$56,043.00	
003	PCO-0251 CREDIT FROM PROBST ELECTRIC FOR EXCAVATION ON A PREVIOUS PCO IN RELATION TO PECR-002	001	ADDL CONST COST	DFCM SCOPE-CONT	$(1,129.00)	
004	PCO-0256 BUILDING 065 TO BE DEMOLISHED. CONTRACTOR TO PROVIDE RTU TO OWNER AND CREDIT FOR POWER AND COMMUNICATION INSTALLATION.	001	ADDL CONST COST	UNK COND-PROJEC	$(16,907.00)	
005	PCO-0263 THE ALUMNI BUILDING SCADA IS BEING REMOVED FROM THE SCOPE DUE TO THE BUILDING BEING DEMOLISHED.	001	ADDL CONST COST	DFCM SCOPE-CONT	$(3,752.00)	
006	PCO-0264 THE DUMKE BUILDING WAS REMOVED FROM THE SCADA SCOPE.	001	ADDL CONST COST	DFCM SCOPE-CONT	$(39,236.00)	
007	PCO-0265 IT WAS DETERMINED BY THE ENGINEER TO MOVE RTU 942 ENCLOSURE SOUTH EAST.	001	ADDL CONST COST	UNK COND-CONTIN	$3,082.00	

Construction Change Order

Line Item						
Line	Description	Contract Line	Component	Reason	Change Amount	New End Date
008	PCO-0267 EXISTING SCADA CONDUITS WERE FOUND ENTERING 120/208 VOLT PULL BOX. WHICH REQUIRED INSTALLATION OF PARTITIONS INSIDE PULL BOX TO SEPARATE COMMUNICATION AND POWER.	001	ADDL CONST COST	UNK COND-CONTIN	$370.00	
009	PCO-0269 CHANGE ALL MULTI MODE FIBER CONVERTERS TO SINGLE MODE CONVERTERS TO MATCH CAMPUS WIDE CONVERTERS.	001	ADDL CONST COST	DFCM SCOPE-CONT	$2,663.00	
010	PCO-0270 PROVIDE ADDITIONAL SAFETY FENCING FOR BIKERS AND HIKERS ON TRAIL NEAR SITE.	001	ADDL CONST COST	BID PACKAGE	$0.00	

AiM

Construction Change Order
CO 027
Status: CO EXECUTED

Construction Change Order

Construction Change Order			
Description:	U OF U INFRASTRUCTURE UPGRADE LAYTON CONSTRUCTION JIM RUSSELL	**Status:**	CO EXECUTED
		Change Order Date:	Jul 14, 2017
		Total Amount:	$808,953.80
		New End Date:	
Capital Project:	12042750 (UNIV OF UTAH ELECTRICAL AND HIGH TEMP WATER UTILITIES UPGRADES)		

Contractor		Original		Change	
Contractor:	66309F (LAYTON CONSTRUCTION COMPANY)	**Award:**	$25,000.00	**Award:**	$25,000.00
		Change Order:	$75,786,430.00	**Change Order:**	$76,595,383.80
		Total:	$75,811,430.00	**Total:**	$76,620,383.80
Address Code:	001 (9090 S SANDY PKY, SANDY, UT 84070-6409)	**Start:**	Jun 19, 2012	**Start:**	Jun 19, 2012
Contract:	127609	**End:**		**End:**	

Line Item

Line	Description	Contract Line	Component	Reason	Change Amount	New End Date
001	PCO-0226 ADD NETWORK SWITCHES TO RED BUTTE AND MEDICAL SUBSTATION SWITCH GEAR LINEUPS FOR INTERFACE WITH SCADA NETWORK. ADD FIBER OPTIC CABLES BETWEEN RB1-2 AND MEDICAL 1-2 THAT WERE NOT INCLUDED IN THE PLANS.	001	ADDL CONST COST	AE OMISSION-CON	$14,113.80	
002	PCO-0229 PROBST PREFORMED WORK ON ROCKY MOUNTAIN POWER SCOPE DURING THE SHUTDOWN OF THE RED BUTTE SUBSTATION.	001	ADDL CONST COST	BID PACKAGE	$78,952.00	
003	PCO-0243 PROBST DISCOVERED TWO MANHOLE SWITCHES STILL IN SERVICE IN MH.A11. THESE WERE NOT IDENTIFIED IN THE CONTRACT DRAWINGS AND WERE UNKNOWN TO THE SPECTRUM ENGINEERS. PROBST IS ADVISED TO REMOVE THE TWO SWITCHES.	001	ADDL CONST COST	UNK COND-CONTIN	$25,954.00	
004	PCO-0266 LAYTON TO PROVIDE SUPERVISION AND MANAGEMENT FOR SCADA WORK FROM 1 JAN 2017 TO 31 DEC 2017.	001	ADDL CONST COST	BID PACKAGE	$581,001.00	

Construction Change Order

Line Item

Line	Description	Contract Line	Component	Reason	Change Amount	New End Date
005	PCO-0268 IT WAS DISCOVERED THAT THE TRANSFORMER FEED THAT IS CALLED TO BE REUSED FOR PAD 379 WILL NOT BE LONG ENOUGH FOR THE NEW SWITCH. PROBST IS INSTRUCTED TO DEMO EXISTING AND INSTALL NEW #4/0 CONDUCTORS FOR THE NEW TRANSFORMER FEED	001	ADDL CONST COST	UNK COND-CONTIN	$2,297.00	
006	PCO-0271 AS PER PR 056, PROBST WAS INSTRUCTED TO REMOVE ALL WORK ASSOCIATED WITH PAD 094.	001	ADDL CONST COST	AGENCY SCOPE-C	$(8,535.00)	
007	PCO-0274 THERE IS NOT UIT GEAR FOR RTU 13 AT THE PIPED LOCATION, EXTEND DATA CABLING TO ROOM 301 AS PER PR 61.	001	ADDL CONST COST	UNK COND-CONTIN	$971.00	
008	PCO-0275 THERE IS NO UIT GEAR FOR RTU 10 AT THE PIPED LOCATION. PROBST WILL EXTEND THE CONDUIT ROUTE TO THE 2ND LEVEL OF BUILDING 010.	001	ADDL CONST COST	UNK COND-CONTIN	$650.00	
009	PCO-0276 FOR RTU 19 AND RTU 001 ALL THE IMMEDIATE PORTS ARE FULL. EXTEND DATA CABLING TO THE 3RD FLOOR COMMUNICATIONS ROOM.	001	ADDL CONST COST	UNK COND-CONTIN	$1,914.00	
010	PCO-0277 BUILDING 372 HAS NO OPEN PORTS TO PLUG THE UIT SWITCH INTO. EXTEND RTU 372 DATA CABLING AND CONDUIT TO ALTERNATE COMMUNICATION ROOM 200 FEET AWAY.	001	ADDL CONST COST	UNK COND-CONTIN	$627.00	
011	PCO-0278 THE CHILDREN'S CANCER RESEARCH BUILDING IS CURRENTLY UNDER CONSTRUCTION. THEREFORE, AS PER PR 60, PROVIDE AND INSTALL PIPING AND CABLING FROM THE RTU TO THE LV ENCLOSURE.	001	ADDL CONST COST	UNK COND-CONTIN	$1,937.00	

Construction Change Order

Line Item

Line	Description	Contract Line	Component	Reason	Change Amount	New End Date
012	PCO-0279 DUE TO NO AVAILABLE PORTS IN UIT GEAR, PROBST WAS INSTRUCTED TO EXTEND THE DATA CABLE FOR RTU 179N TO AN ALTERNATIVE COMMUNICATION ROOM 70. THE ADDITIONAL 125 FEET OF CABLE REQUIRED A CHANGE FROM CAT 6 TO FIBER.	001	ADDL CONST COST	UNK COND-CONTIN	$1,422.00	
013	PCO-0280 IT WAS DETERMINED NECESSARY TO EXTEND RTU 179S AND 334 CABLES AND CONDUITS TO ALTERNATIVE COMMUNICATIONS ROOM 70.	001	ADDL CONST COST	UNK COND-CONTIN	$807.00	
014	PCO-0281 DUE TO EXISTING CONDITIONS IN REQUIRED THE EXTENSION OF RTU 942 DATA CABLE AND CONDUIT TO AN ALTERNATIVE COMMUNICATION ROOM 70.	001	ADDL CONST COST	UNK COND-CONTIN	$1,681.00	
015	PCO-0282 ITS WAS DETERMINED THAT IS WAS NECESSARY TO REROUTE THE FIBER BACKBONE AS PER PR 055. THE NEW ROUTE REQUIRES MORE TRAFFIC CONTROL.	001	ADDL CONST COST	UNK COND-CONTIN	$2,474.00	
016	PCO-0283 DEMO EXISTING SF6 PAD MOUNTED SWITCH AND REPLACE WITH A NEW DIELECTRIC PAD. AS PER PR 58.	001	ADDL CONST COST	AE OMISSION-PRJ	$102,688.00	

State of Utah

Division of Facilities and Construction Management

Construction Contract = 127609

Construction Contract Summary

127609 - University Of Utah | Electrical And High Temperature Water Ut

Project Title:	Univ Of Utah Electrical And High Temp Water Utilities Upgrades	**Vendor #:**	66309F
Project #:	12042750	Layton Construction Company	
Program Director:	Jim Russell (163400)	9090 S Sandy Pky	
Open PO's-Prj:	(1) for $7,614.00	Sandy, Ut 84070-6409	
Contract Name:	University Of Utah | Electrical And High Temperature Water Ut	**Status:**	Notice To Proceed
Contract Type:	Unclass Const	**DO #:**	12081666483
Component Group:	Addl Const Cost	**Retainage #:**	8694936
Building:	I0008	Uu Campus Electrical System	

Component:	Additional Construction Costs (10)	**Expense Budget:**	6816
Account:	3000-300-3336-FWA-12042750	Utilities	

Funding Sources

Funding Source	Budget %	Appropriation	Allotment
EDFY2013	100.00	$33,283,497.73	$0.00
Funding Totals:	**100.00**	**$33,283,497.73**	**$0.00**

Payment Summary

Date	Invoice #	Status	Amount
8/16/12	12042750#1	Invoice Released	$11,560.00
10/19/12	12042750#2	Invoice Released	$35,684.15
1/2/13	12042750#3	Invoice Released	$17,412.65
1/2/13	12042750#4	Invoice Released	$33,501.32
1/3/13	12042750#5	Invoice Released	$50,276.53
1/28/13	12042750#6	Invoice Released	$750,924.99
2/21/13	12042750#7	Invoice Released	$506,591.20
3/20/13	12042750#8	Invoice Released	$1,360,437.76
4/12/13	12042750#9	Invoice Released	$1,190,646.00
5/22/13	12042750#10	Invoice Released	$1,496,731.07
6/18/13	12042750#11	Invoice Released	$1,896,644.13
7/10/13	12042750#12	Invoice Released	$3,549,508.63
8/27/13	12042750#13	Invoice Released	$2,691,310.04
9/19/13	12042750#14	Invoice Released	$2,178,573.48
10/25/13	12042750#15	Invoice Released	$1,501,175.62
11/27/13	12042750#16	Invoice Released	$1,661,941.45
12/18/13	12042750#17	Invoice Released	$1,689,766.94
1/21/14	12042750#18	Invoice Released	$902,469.06
2/24/14	12042750-19	Invoice Released	$752,818.45
3/18/14	12042750#20	Invoice Released	$1,039,546.38
4/17/14	12042750#21	Invoice Released	$1,200,684.14
6/4/14	12042750#22	Invoice Released	$1,583,221.27

Change Order Summary

Awards

Award Date	Number	Amount
05/18/2012	A001	$25,000.00
	Total Award:	**$ 25,000.00**

Change Orders

Date	Number	Status	Amount
10/16/12	CO 001	Co Executed	$41,744.00
10/23/12	CO 002	Co Executed	$2,152,556.00
11/21/12	CO 003	Co Executed	$398,514.00
11/21/12	CO 004	Co Executed	$50,720.00
12/18/12	CO 005	Co Executed	$5,711,894.00
2/25/13	CO 006	Co Executed	$2,392,625.00
4/8/13	CO 007	Co Executed	$11,483,005.00
6/13/13	CO 008	Co Executed	$7,274.00
6/13/13	CO 009	Co Executed	$11,308,125.00
8/26/13	CO 010	Co Executed	$309,791.00
10/7/13	CO 011	Co Executed	$21,077.00
11/4/13	CO 012	Co Executed	$0.00
5/1/14	CO 013	Co Executed	$260,080.00
8/14/14	CO 014	Co Executed	$287,406.00

State of Utah

Division of Facilities and Construction Management

Construction Contract = 127609

Construction Contract Summary

Date	Invoice #	Status	Amount
7/15/14	12042750#24	Invoice Released	$1,813,059.32
7/15/14	12042750#23	Invoice Released	$1,239,370.54
8/21/14	12042750#25	Invoice Released	$1,682,717.90
9/24/14	12042750 #26	Invoice Released	$2,954,854.18
10/29/14	12042750 #27	Invoice Released	$1,408,080.00
11/24/14	12042750#28	Invoice Released	$2,850,586.00
1/12/15	12042750#29	Invoice Released	$1,693,740.00
1/22/15	12042750#30	Invoice Released	$2,769,704.00
3/6/15	12042750#31	Invoice Released	$1,166,537.00
3/25/15	12042750#32	Invoice Released	$2,783,996.00
5/14/15	12042750#33	Invoice Released	$1,129,063.00
5/14/15	12042750#34	Invoice Released	$1,826,106.00
6/22/15	12042750#35	Invoice Released	$1,643,126.00
7/16/15	12042750#36	Invoice Released	$3,732,509.00
8/14/15	12042750#37	Invoice Released	$1,216,880.00
9/21/15	12042750#38	Invoice Released	$1,242,638.00
10/22/15	12042750#39	Invoice Released	$1,142,760.00
11/19/15	12042750#40	Invoice Released	$1,638,797.00
12/17/15	12042750#41	Invoice Released	$890,987.00
1/27/16	12042750#42	Invoice Released	$990,421.00
3/9/16	12042750#43	Invoice Released	$678,866.00
7/21/16	12042750#44	Invoice Released	$623,799.00
7/21/16	12042750#46	Invoice Released	$1,302,532.18
7/21/16	12042750#45	Invoice Released	$629,033.00
7/22/16	12042750#47	Invoice Released	$576,207.57
7/22/16	12042750#48	Invoice Released	$419,399.35
9/6/16	12042750#49	Invoice Released	$399,883.03
10/28/16	12042750#50	Invoice Released	$158,911.20
11/16/16	12042750#51	Invoice Released	$325,296.11
12/20/16	12042750#52	Invoice Released	$595,809.57
12/29/16	12042750#53	Invoice Released	$805,706.76
4/5/17	12042750#56	Invoice Released	$443,627.91
4/24/17	12042750#54	Invoice Released	$648,268.42
4/24/17	12042750#55	Invoice Released	$289,776.40
4/24/17	12042750#57	Invoice Released	$456,582.34
5/16/17	12042750#58	Invoice Released	$400,495.95
6/27/17	12042750#59	Invoice Released	$491,583.04
		Total Payments:	**$ 71,163,135.03**

Retainage Summary

Date	Invoice #	Status	Amount
10/19/12	127609#2	Invoice Released	$1,304.85
1/2/13	127609#5	Invoice Released	$2,134.72
1/2/13	127609#3	Invoice Released	$782.35
1/2/13	127609#4	Invoice Released	$1,763.23

Change Orders

Date	Number	Status	Amount
8/27/14	CO 015	Co Executed	$33,423,895.00
1/12/15	CO 016	Co Executed	$578,543.00
5/21/15	CO 017	Co Executed	$281,062.00
7/7/15	CO 018	Co Executed	$442,468.00
8/13/15	CO 019	Co Executed	$451,709.00
4/27/16	CO 020	Co Executed	$638,213.00
4/27/16	CO 021	Co Executed	$2,034,707.00
9/28/16	CO 022	Co Executed	$178,280.00
9/28/16	CO 023	Co Executed	$2,987,010.00
5/2/17	CO 024	Co Executed	$186,858.00
5/3/17	CO 025	Co Executed	$157,740.00
7/14/17	CO 026	Co Executed	$1,134.00
7/14/17	CO 027	Co Executed	$808,953.80
		Change Order Total:	**$76,595,383.80**
		Total Amendments (Less: Award Bid Pack Changes):	$9,639,934.80
		Adjusted Contract Value:	**$76,620,383.80**

Change Order % of Original: 306381.54%

Percentage of Contract Paid: 97.35%

Dates		Days	
From	**To**	**Target**	**Lapsed**
6/19/12	12/29/17	2019	1893
Adjusted	**Substantial**	**Original**	**Days**
12/29/17		1/1/14	561

Percentage of Time Lapsed: 93.76%

Reasons for Change Orders

Reason	Percent	Amount
Award Bid Pack	694.56%	$66,955,449.00
Scope - Dfcm	0.94%	$91,006.00
Scope - Ag/inst	3.21%	$309,791.00
Omiss - Dfcm Cn	0.52%	$50,381.00
A/e Err - Dfcm	1.16%	$111,494.00
Unk Cond-contin	16.51%	$1,591,791.00
Ae Omission-prj	1.07%	$102,688.00
Unknown - Dfcm	0.87%	$83,743.00
Dfcm Scope-proj	2.99%	$288,036.00
Agency Scope-p	0.87%	$83,674.00
Agency Scope- A	4.94%	$476,288.00
	0.00%	$0.00
Unk Cond-projec	-0.12%	-$12,009.00

State of Utah

Division of Facilities and Construction Management

Construction Contract = 127609

Construction Contract Summary

Retainage Summary

Date	Invoice #	Status	Amount
1/28/13	127609#6	Invoice Released	$26,081.89
2/21/13	127609#7	Invoice Released	$26,662.69
3/20/13	127609#8	Invoice Released	$30,535.80
4/12/13	127609#9	Invoice Released	$34,491.00
5/22/13	127609#10	Invoice Released	$53,122.72
6/18/13	127609#11	Invoice Released	$99,823.38
7/10/13	127609#12	Invoice Released	$186,816.24
8/27/13	127609#13	Invoice Released	$180,231.81
9/19/13	127609#14	Invoice Released	$76,138.37
10/25/13	127609#15	Invoice Released	$79,009.24
11/27/13	127609#16	Invoice Released	$87,470.61
12/18/13	127609#17	Invoice Released	$88,935.14
1/21/14	127609#18	Invoice Released	$47,498.30
2/19/14	127609#19	Invoice Released	$39,622.10
3/18/14	127609#20	Invoice Released	$54,712.90
6/4/14	127609#22	Invoice Released	$100,844.40
7/15/14	127609#23	Invoice Released	$47,713.10
8/21/14	127609#25	Invoice Released	$70,153.30
9/24/14	127609 #26	Invoice Released	$48,940.00
10/29/14	127609 #27	Invoice Released	$74,110.00
11/24/14	127609#28	Invoice Released	$156,925.00
1/12/15	127609#29	Invoice Released	$82,250.00
1/22/15	127609#30	Invoice Released	$145,774.00
3/6/15	127609#31	Invoice Released	$61,396.00
3/25/15	127609#32	Invoice Released	$146,526.00
5/14/15	127609#33	Invoice Released	$1,189.00
6/22/15	127609#35	Invoice Released	$474,147.00
7/16/15	127609#36	Invoice Released	$196,417.00
8/14/15	127609#37	Invoice Released	$63,209.00
9/21/15	127609#38	Invoice Released	$65,402.00
10/22/15	127609#39	Invoice Released	$60,144.66
11/19/15	127609#40	Invoice Released	$86,251.00
12/17/15	127609#41	Invoice Released	$46,896.00
1/27/16	127609#42	Invoice Released	$52,127.00
3/9/16	127609#43	Invoice Released	$35,730.00
7/21/16	127609#44	Invoice Released	$31,272.00
7/21/16	127609#46	Invoice Released	$28,476.00
7/21/16	127609#45	Invoice Released	$33,107.00
7/22/16	127609#48	Invoice Released	$22,073.60
7/22/16	127609#47	Invoice Released	$30,326.25
9/6/16	127609#49	Invoice Released	$21,046.47
10/28/16	127609#50	Invoice Released	$13,757.39
11/16/16	127609#51	Invoice Released	$11,727.21

Reasons for Change Orders

Reason	Percent	Amount
Agency Scope-c	-0.09%	-$8,535.00
Bid Package	59.74%	$5,758,785.00
Unk Cond-other	0.00%	$0.00
Dfcm Scope-cont	-0.43%	-$41,454.00
Ae Omission-con	4.53%	$436,843.80
Ae Error-contin	0.73%	$70,570.00
Unk Cond	2.56%	$246,842.00
Total Changes (less Award Bid Packs):		**$76,595,383.80**

State of Utah

Division of Facilities and Construction Management

Construction Contract = 127609

Construction Contract Summary

Retainage Summary

Date	Invoice #	Status	Amount
12/20/16	127609#52	Invoice Released	$31,358.40
4/24/17	127609#57	Invoice Released	$24,030.67
5/16/17	127609#58	Invoice Released	$21,078.22
6/27/17	127609#59	Invoice Released	$25,873.29
		Retainage Total:	**$3,427,408.30**

Release Summary

Release Date	Release	Amount
12/20/16	Release # 1	$ 1,797,886.11
3/29/17	Release # 2	$ 187,104.67
3/29/17	Release # 3	$ 145,334.00
3/30/17	Release # 4	$ 179,412.62
	Release # 5	
	Release Total:	**$ 2,309,737.40**
	Net Retainage:	**$ 1,117,670.90**

Contract Summary

Adjusted Contract Value:	$ 76,620,383.80
Paid to Contractor:	$71,163,135.03
Retainage to Bank:	$3,427,408.30
Total Paid:	$74,590,543.33
Contract Balance:	**$2,029,840.47**

Contractor Summary

Adjusted Contract Value:	$ 76,620,383.80
Paid to Contractor:	$71,163,135.03
Retainage Releases:	$2,309,737.40
Total Paid to Contractor:	$73,472,872.43
Contractor Balance:	**$3,147,511.37**

AiM

Construction Change Order
CO 004
Status: CO EXECUTED

Construction Change Order

Construction Change Order

Description:	UTAH STATE DEVELOPMENTAL CENTER, EVERGREEN MECHANICAL UPGRADES DEPARTMENT OF HUMAN SERVICES LUCAS DAVIS	**Status:**	CO EXECUTED
		Change Order Date:	Jun 14, 2017
		Total Amount:	$138,900.00
		New End Date:	
Capital Project:	12222410 (USDC EVERGREEN BLDG HVAC SYSTEM REPLACEMENT,)		

Contractor		Original		Change	
Contractor:	43703H (KOH MECHANICAL CONTRACTORS INC)	**Award:**	$1,595,864.00	**Award:**	$1,595,864.00
		Change Order:	$152,085.00	**Change Order:**	$290,985.00
		Total:	$1,747,949.00	**Total:**	$1,886,849.00
Address Code:	001 (1273 W 12400 S, RIVERTON, UT 84065-4341)	**Start:**	Jun 14, 2016	**Start:**	Jun 14, 2016
Contract:	1675400	**End:**		**End:**	

Line Item

Line	Description	Contract Line	Component	Reason	Change Amount	New End Date
001	PCO #08/PR #6 - DISCOVERED DAMAGED AND MISSING DUCT IN MEDICAL WING.	001	CONSTRUCTION	UNK COND-CONTIN	$382.00	
002	PCO #09/PR #8 - WHEN ELECTRICAL SERVICE TO EVERGREEN WAS CHANGED, THE FEED TO DCFS DID NOT RE-ENERGIZE. IT WAS DISCOVERED THAT THE LINE HAD FAILED DUE TO AGE AND POSSIBLY WATER DAMAGE (40+ YEARS). THE LINE HAD TO BE REPLACED ON AN EMERGENCY BASIS.	001	CONSTRUCTION	UNK COND-CONTIN	$100,200.00	
003	PCO #10/PR #7 - PER THE CODE INSPECTOR, LIGHTING LEVELS IN THE MECHANICAL ROOM WERE DETERMINED TO BE DANGEROUS AND REQUIRED UPGRADES.	001	CONSTRUCTION	UNK COND-CONTIN	$14,182.00	
004	PCO #13/PR #9 - DURING EXCAVATION ASSOCIATED WITH THE ELECTRICAL UPGRADES, ADDITIONAL UNKNOWN BURIED CONCRETE WAS DISCOVERED AND HAD TO BE DEMOLISHED TO ACCOMPLISH THE WORK.	001	CONSTRUCTION	UNK COND-CONTIN	$24,930.00	
005	PCO #14/PR #10 - CREDIT FOR HARMONIC FILTERS IN SPEC THAT WERE NOT PROVIDED ON SMALLER VFD'S.	001	CONSTRUCTION	DFCM SCOPE-PROJ	$(794.00)	

State of Utah

Division of Facilities and Construction Management

Construction Contract = 1675400

Construction Contract Summary

1675400 - Utah State Developmental Center | Evergreen Building | Mechan

Project Title:	Usdc Evergreen Bldg Hvac System Replacement,	**Vendor #:**	43703H
Project #:	12222410	Koh Mechanical Contractors Inc	
Program Director:	Lucas Davis (166306)	1273 W 12400 S	
Open PO's-Prj:	(1) for $9,691.00	Riverton, Ut 84065-4341	
Contract Name:	Utah State Developmental Center | Evergreen Building | Mechan	**Status:**	Notice To Proceed
Contract Type:	Const Remodel	**DO #:**	160824000003327
Component Group:	Construction	**Retainage #:**	8695623
Building:	00640	Evergreen/Cottage	

Component:	Construction (8)	**Expense Budget:**	6400
Account:	3000-300-3336-FXA-12222410	Remodel & Improve Curernt Expense	

Funding Sources

Funding Source	Budget %	Appropriation	Allotment
GFFY2013	100.00	$813,666.00	$0.00
Funding Totals:	**100.00**	**$813,666.00**	**$0.00**

Payment Summary

Date	Invoice #	Status	Amount
9/6/16	12222410#1	Invoice Released	$210,900.00
10/11/16	12222410#2	Invoice Released	$432,228.62
11/9/16	12222410#3	Invoice Released	$186,968.32
12/9/16	12222410#4	Invoice Released	$407,918.11
12/29/16	12222410#5	Invoice Released	$162,014.20
3/1/17	12222410#7	Invoice Released	$58,025.05
3/1/17	12222410#6	Invoice Released	$161,393.60
		Total Payments:	**$ 1,619,447.90**

Retainage Summary

Date	Invoice #	Status	Amount
9/6/16	1675400#1	Invoice Released	$11,100.00
10/11/16	1675400#2	Invoice Released	$22,748.88
11/9/16	1675400#3	Invoice Released	$9,840.43
12/9/16	1675400#4	Invoice Released	$21,469.38
12/29/16	1675400#5	Invoice Released	$8,527.06
3/1/17	1675400#6	Invoice Released	$8,494.40
3/1/17	1675400#7	Invoice Released	$3,053.95
		Retainage Total:	**$85,234.10**

Release Summary

Release Date	Release	Amount
	Release # 1	

Change Order Summary

Awards

Award Date	Number	Amount
05/26/2016	A001	$1,595,864.00
	Total Award:	**$ 1,595,864.00**

Change Orders

Date	Number	Status	Amount
10/14/16	CO 001	Co Executed	$64,742.00
11/30/16	CO 002	Co Executed	$67,509.00
12/20/16	CO 003	Co Executed	$19,834.00
6/14/17	CO 004	Co Executed	$138,900.00
		Change Order Total:	**$290,985.00**
		Total Amendments (Less: Award Bid Pack Changes):	$290,985.00
		Adjusted Contract Value:	**$1,886,849.00**

State of Utah

Division of Facilities and Construction Management

Construction Contract = 1675400

Construction Contract Summary

Release Summary

Release Date	Release	Amount
	Release # 2	
	Release # 3	
	Release # 4	
	Release # 5	
	Release Total:	**$ 0.00**
	Net Retainage:	**$ 85,234.10**

Contract Summary

Adjusted Contract Value:	$ 1,886,849.00
Paid to Contractor:	$1,619,447.90
Retainage to Bank:	$85,234.10
Total Paid:	$1,704,682.00
Contract Balance:	**$182,167.00**

Contractor Summary

Adjusted Contract Value:	$ 1,886,849.00
Paid to Contractor:	$1,619,447.90
Retainage Releases:	$.00
Total Paid to Contractor:	$1,619,447.90
Contractor Balance:	**$267,401.10**

Change Order % of Original:	18.23%
Percentage of Contract Paid:	90.35%

Dates		Days	
From	**To**	**Target**	**Lapsed**
6/14/16	1/30/17	230	380
Adjusted	**Substantial**	**Original**	**Days**
1/30/17	4/19/17	12/16/16	

Percentage of Time Lapsed: 165.22%

Reasons for Change Orders

Reason	Percent	Amount
Ae Omission-con	3.47%	$10,103.00
Ae Error-contin	0.93%	$2,698.00
Unk Cond-other	22.25%	$64,742.00
Unk Cond-contin	73.62%	$214,236.00
Dfcm Scope-proj	-0.27%	-$794.00
Total Changes (less Award Bid Packs):		**$290,985.00**

Construction Change Order
CO 002
Status: CO EXECUTED

Construction Change Order

Construction Change Order			
Description:	VDC CO #2 DOH UNIFIED LAB CLEAN AREA DELINEATION REMODEL TIM CHRISTENSEN	**Status:**	CO EXECUTED
		Change Order Date:	May 25, 2017
		Total Amount:	$149,972.82
		New End Date:	May 13, 2017
Capital Project:	15226390 (UNIFIED LAB REDESIGN OF SPECIMAN PROCESSING AND TECHNICAL SERVICES AREA)		

Contractor		Original		Change	
Contractor:	82665A (VALLEY DESIGN & CONSTRUCTION)	**Award:**	$756,066.00	**Award:**	$756,066.00
		Change Order:	$33,643.23	**Change Order:**	$183,616.05
		Total:	$789,709.23	**Total:**	$939,682.05
Address Code:	001 (825 EAST 3000 NORTH, SUITE D, LAYTON, UT 84041)	**Start:**	Sep 21, 2016	**Start:**	Sep 21, 2016
Contract:	1775096	**End:**		**End:**	May 13, 2017

Line Item

Line	Description	Contract Line	Component	Reason	Change Amount	New End Date
001	PCO 001.1 CHANGE DOOR FRAMES AND HEIGHT FROM 7' TO 8'	001	CONSTRUCTION	AE ERROR-CONTIN	$1,328.25	Jan 21, 2017
002	PCO 011.1 PATCH AND REPAIR WALL AT NORTH VESTIBULE	001	CONSTRUCTION	UNK COND-CONTIN	$224.25	
003	PCO 012.1 ADD HAND SINK IN CORRIDOR 120	001	CONSTRUCTION	AE ERROR-CONTIN	$2,173.50	Jan 25, 2017
004	PCO 013.1 INSTALL GLASS PANEL IN DOOR IN RM #155 BY STAIRWELL	001	CONSTRUCTION	AGENCY SCOPE-P	$1,270.75	
005	PCO 014.2 ADD A BOTTLE FILLER TO NEW WATER COOLER	001	CONSTRUCTION	DFCM SCOPE-PROJ	$2,553.86	Jan 29, 2017
006	PCO 015.1 EXISTING STORAGE RACK SYSTEM TO BE REMOVED AND REINSTALLED IN NEW LOCATION	001	CONSTRUCTION	AGENCY SCOPE-P	$500.25	
007	PCO 016 REMOVE AND REPAIR WALL BETWEEN CORRIDOR 158 & 120	001	CONSTRUCTION	AGENCY SCOPE-P	$2,374.21	Feb 2, 2017
008	PCO 019.2 NEED TO CHANGE FROM FLUSH MOUNT TO VERTICAL: 6 RECEPTACLES AND 6 COM STATIONS TO ISLANDS IN ROOM # 155	001	CONSTRUCTION	UNK COND-CONTIN	$1,510.34	Feb 3, 2017
009	PCO 020.2 NEW HAND SINK	001	CONSTRUCTION	AE ERROR-CONTIN	$707.25	
010	PCO 021.1 PLASTIC LAMINATE WALL CAPS ON WING WALLS AND COLUMNS	001	CONSTRUCTION	AGENCY SCOPE-P	$552.00	
011	PCO 023.1 PROVIDE END PANELS FOR ISLAND CABINET CONFIGURATION	001	CONSTRUCTION	AE OMISSION-CON	$1,104.00	

Construction Change Order

Line Item						
Line	Description	Contract Line	Component	Reason	Change Amount	New End Date
012	PCO 025.1 REINSTALL EXISTING GLASS PANELS AS REQUESTED BY AGENCY	001	CONSTRUCTION	AGENCY SCOPE-P	$1,613.45	
013	PCO 026.1 FURNISH AND INSTALL 60 LF OF POLISHED STAINLESS STEEL CHAIR RAIL	001	CONSTRUCTION	DFCM SCOPE-PROJ	$546.25	
014	PCO 027.1 PROVIDE 2 NEW DEDICATED RECEPTACLES FOR NEW FREEZER	001	CONSTRUCTION	AE OMISSION-CON	$1,201.75	
015	PCO 030.1 PROVIDE NEW KITCHEN COUNTER TOP	001	CONSTRUCTION	AE ERROR-CONTIN	$323.15	
016	PCO 031.1 PROVIDE NEW EPOXY TOP IN CORRIDOR SIDE ROOM #155	001	CONSTRUCTION	AE OMISSION-CON	$1,357.00	
017	PCO 032.2 ADD NEW CARD READERS AND DOOR HARDWARE	001	CONSTRUCTION	AE OMISSION-CON	$28,462.42	Feb 17, 2017
018	PCO 033.2 ADD 13 CHAIRS IN SPECIMEN RECEIVING ROOM 155	001	CONSTRUCTION	AGENCY SCOPE-P	$9,158.05	
019	PCO 034.2 RELOCATE ELECTRICAL TRANSFER SWITCH FROM EXTERIOR TO INTERIOR AS REQUESTED BY FM COORDINATOR	001	CONSTRUCTION	DFCM SCOPE-PROJ	$7,634.26	
020	PCO 035.1 PROVIDE WALK IN FREEZER. THIS WAS ALWAYS WANTED AND WAS ORIGINALLY LISTED AS A BID ALTERNATE BUT CONTRACTOR DIDN'T LIST A PRICE DUE TO LACK OF INFO PROVIDED IN BID DOCUMENTS.	001	CONSTRUCTION	DFCM SCOPE-PROJ	$56,688.50	Mar 19, 2017
021	PCO 036.1 SEAL AND BUFF FLOORS	001	CONSTRUCTION	DFCM SCOPE-PROJ	$2,794.50	Mar 21, 2017
022	PCO 037.1 CHANGE FROM STAND ALONE HVAC UNIT TO RECONFIGURATION TO PUT ROOM ON EXISTING SYSTEM	001	CONSTRUCTION	DFCM SCOPE-PROJ	$8,682.87	Apr 19, 2017
023	PCO 038 NEW LINEAR FLUORESCENT LIGHTING. ROTATE SINK AND MODIFY CABINET.	001	CONSTRUCTION	AE ERROR-CONTIN	$5,246.39	
024	PCO 039.3 AUTOMATED HEATING/AC ROLLING RACKS FOR WALK IN FREEZER	001	CONSTRUCTION	AGENCY SCOPE-P	$2,655.00	
025	PCO 041.3 INSTALL MOTORIZED BLINDS AND A MANUAL BLIND	001	CONSTRUCTION	AGENCY SCOPE-P	$5,752.30	May 8, 2017

Construction Change Order
CO 002
Status: CO EXECUTED

Construction Change Order

Line Item

Line	Description	Contract Line	Component	Reason	Change Amount	New End Date
026	PCO 042 ADD A CONCRETE APRON AND BOLLARD NEAR DOUBLE DOORS THAT OPEN TO GENERATOR YARD	001	CONSTRUCTION	DFCM SCOPE-PROJ	$3,558.27	May 13, 2017

State of Utah

Division of Facilities and Construction Management

Construction Contract = 1775096

Construction Contract Summary

1775096 - Doh | Unified Lab Clean Area Delineation Remodel | Tim Christe

Project Title:	Unified Lab Redesign Of Speciman Processing And Technical Services Area	**Vendor #:**	82665A
Project #:	15226390	Valley Design & Construction	
Program Director:	Timothy Christensen (184130)	825 East 3000 North	
Open PO's-Prj:	(3) for $18,997.24	Layton, Ut 84041	
Contract Name:	Doh | Unified Lab Clean Area Delineation Remodel | Tim Christe	**Status:**	Notice To Proceed
Contract Type:	Const Remodel	**DO #:**	161024000006657
Component Group:	Construction	**Retainage #:**	8695698
Building:	10849	Unified State Lab Facility Module One	

Component:	Construction (8)	**Expense Budget:**	6400
Account:	3000-300-3339-FXA-15226390	Remodel & Improve Curernt Expense	

Funding Sources

Funding Source	Budget %	Appropriation	Allotment
GFFY2017	100.00	$1,278,484.83	$0.00
Funding Totals:	**100.00**	**$1,278,484.83**	**$0.00**

Payment Summary

Date	Invoice #	Status	Amount
10/28/16	15226390#1	Invoice Released	$34,287.47
11/16/16	15226390#2	Invoice Released	$106,189.81
1/26/17	15226390#3	Invoice Released	$290,874.88
1/26/17	15226390#4	Invoice Released	$159,195.28
3/9/17	15226390#5	Invoice Released	$90,453.02
3/28/17	15226390#6	Invoice Released	$16,349.78
5/12/17	15226390#7	Invoice Released	$13,138.48
6/27/17	15226390#8	New	$32,589.47
		Total Payments:	**$ 743,078.19**

Retainage Summary

Date	Invoice #	Status	Amount
10/28/16	1775096#1	Invoice Released	$1,804.60
11/16/16	1775096#2	Invoice Released	$5,588.95
1/26/17	1775096#4	Invoice Released	$8,378.70
1/26/17	1775096#3	Invoice Released	$15,309.22
3/9/17	1775096#5	Invoice Released	$4,760.66
3/28/17	1775096#6	Invoice Released	$860.51
5/12/17	1775096#7	Invoice Released	$691.50
6/27/17	1775096#8	New	$1,715.24
		Retainage Total:	**$39,109.38**

Change Order Summary

Awards

Award Date	Number	Amount
09/01/2016	A001	$756,066.00
	Total Award:	**$ 756,066.00**

Change Orders

Date	Number	Status	Amount
3/14/17	CO 001	Co Executed	$33,643.23
5/25/17	CO 002	Co Executed	$149,972.82
		Change Order Total:	**$183,616.05**
		Total Amendments (Less: Award Bid Pack Changes):	$183,616.05
		Adjusted Contract Value:	**$939,682.05**
		Change Order % of Original:	24.29%
		Percentage of Contract Paid:	83.24%

Dates		Days	
From	**To**	**Target**	**Lapsed**
9/21/16	5/13/17	234	281
Adjusted	**Substantial**	**Original**	**Days**
5/13/17	4/26/17	12/31/16	
		Percentage of Time Lapsed:	120.09%

State of Utah

Division of Facilities and Construction Management

Construction Contract = 1775096

Construction Contract Summary

Release Summary

Release Date	Release	Amount
	Release # 1	
	Release # 2	
	Release # 3	
	Release # 4	
	Release # 5	
	Release Total:	**$ 0.00**
	Net Retainage:	**$ 39,109.38**

Contract Summary

Adjusted Contract Value:	$ 939,682.05
Paid to Contractor:	$743,078.19
Retainage to Bank:	$39,109.38
Total Paid:	$782,187.57
Contract Balance:	**$157,494.48**

Contractor Summary

Adjusted Contract Value:	$ 939,682.05
Paid to Contractor:	$743,078.19
Retainage Releases:	$.00
Total Paid to Contractor:	$743,078.19
Contractor Balance:	**$196,603.86**

Reasons for Change Orders

Reason	Percent	Amount
Ae Omission-con	25.44%	$46,705.06
Agency Scope-p	23.24%	$42,672.71
Ae Error-contin	5.33%	$9,778.54
Dfcm Scope-proj	44.91%	$82,458.51
Unk Cond-contin	1.09%	$2,001.23
Total Changes (less Award Bid Packs):		**$183,616.05**

AiM

Construction Change Order
CO 003
Status: CO EXECUTED

Construction Change Order

Construction Change Order			
Description:	1. CHANGE ORDER #03 2. GOVERNOR'S MANSION 3. BASEMENT REMODEL & MECHANICAL UPGRADES 4. BRAD DEMOND	**Status:**	CO EXECUTED
		Change Order Date:	Jul 12, 2017
		Total Amount:	$73,844.89
		New End Date:	Aug 8, 2017
Capital Project:	14380310 (GOVERNOR'S MANSION MAIN LEVEL KITCHEN REMODEL, BASEMENT REMODEL AND MECHANICAL UPGRADE)		

Contractor		Original		Change	
Contractor:	85807A (ENTELEN DESIGN - BUILD)	**Award:**	$1,228,704.00	**Award:**	$1,228,704.00
		Change Order:	$140,782.81	**Change Order:**	$214,627.70
		Total:	$1,369,486.81	**Total:**	$1,443,331.70
Address Code:	001 (8707 SANDY PARKWAY, SANDY, UT 84070)	**Start:**	Mar 31, 2017	**Start:**	Mar 31, 2017
Contract:	1775313	**End:**		**End:**	Aug 8, 2017

Line Item

Line	Description	Contract Line	Component	Reason	Change Amount	New End Date
001	PCO #04 - ADDITIONAL FIRE ALARM SCOPE REQUIRED TO ENCOMPASS THE ENTIRE BASEMENT.	001	CONSTRUCTION	UNK COND-CONTIN	$3,329.25	
002	PCO #06 - CHANGE IN APPLIANCE PACKAGE.	001	CONSTRUCTION	AGENCY SCOPE-P	$9,125.07	
003	PCO #07 - COST TO PROVIDE NEW AIR SEPARATOR.	001	CONSTRUCTION	AGENCY SCOPE-P	$3,185.24	
004	PCO #08 - MATERIAL SHOWED UP DIFFERENT THAN ANTICIPATED AND MODIFICATIONS IN THE FIELD WERE NEEDED IN ORDER TO KEEP THE SCHEDULE INCLUDING REMOVING THE HEATING COIL AND FIELD INSTALL IT DIRECTLY INTO UNIT.	001	CONSTRUCTION	UNK COND-CONTIN	$1,752.31	
005	PCO #10 - REMOVAL OF UNFORESEEN J-BOXES IN THE CEILING AND INSTALL A SOLID PIECE OF CONDUIT.	001	CONSTRUCTION	UNK COND-CONTIN	$539.58	
006	PCO #11 - COST TO CHANGE FROM A SHOWER ONLY TO A BATHTUB WITH A SHOWER.	001	CONSTRUCTION	AGENCY SCOPE-P	$1,447.22	
007	PCO #12 - UNFORESEEN CHANGES REQUIRED IN THE BASEMENT FRAMING.	001	CONSTRUCTION	UNK COND-CONTIN	$1,220.01	
008	PCO #13 - UNFORESEEN CONDITION - PRICE TO ADD STEEL FRAMES IN BASEMENT.	001	CONSTRUCTION	UNK COND-CONTIN	$11,073.69	

Construction Change Order

Line Item						
Line	Description	Contract Line	Component	Reason	Change Amount	New End Date
009	PCO #13 - DTS REQUESTED SPECIFIC CHANGES TO THE ENTERTAINMENT CENTER POWER.	001	CONSTRUCTION	AGENCY SCOPE-P	$901.40	
010	PCO #15 - FABRICATE AND INSTALL GLASS SHOWER DOOR.	001	CONSTRUCTION	AGENCY SCOPE-P	$1,719.25	
011	PCO #16 - REMOVE OLD GLASS AND PROVIDE PRIVACY GLASS IN WINDOW AND BEDROOM DOOR.	001	CONSTRUCTION	AGENCY SCOPE-P	$1,355.56	
012	PCO #17 - UNFORESEEN CONDITION TO ADD ROCK WOOL FIRE STOP IN BASEMENT AT WAINSCOT.	001	CONSTRUCTION	UNK COND-CONTIN	$537.66	
013	PCO #18 - UNFORESEEN CONDITION TO PROVIDE ADDITIONAL ACCESS PANELS FOR NEW MECHANICAL HOT AND CHILLED WATER VALVES AND BURIED EXISTING ELECTRICAL J-BOXES.	001	CONSTRUCTION	UNK COND-CONTIN	$24,077.45	Aug 7, 2017
014	PCO #19 - SUPPLY AND INSTALL A JACUZZI TUB.	001	CONSTRUCTION	AGENCY SCOPE-P	$4,509.14	
015	PCO #20 - DUE TO CONDITION OF WALLS, HAT TRACK SHOT TO WALL DIDN'T ALLOW FOR PROPER FINISH SO WALLS REQUIRED REMOVAL OF SHEETROCK AND RE-FRAMING USING STUDS TO GET STRAIGHT PLUMB WALLS.	001	CONSTRUCTION	UNK COND-CONTIN	$2,246.28	Aug 8, 2017
016	PCO #21 - IRREGULARITIES IN TOILET ROOM 13 REQUIRED WALL FURRING.	001	CONSTRUCTION	AE ERROR-CONTIN	$1,057.98	
017	PCO #22 - COSTS TO PROVIDE CEILING PANELS FOR NEW MECHANICAL HOT AND CHILLED WATER VALVES AND BURIED EXISTING J-BOXES.	001	CONSTRUCTION	AE OMISSION-CON	$5,767.80	

State of Utah

Division of Facilities and Construction Management

Construction Contract = 1775313

Construction Contract Summary

1775313 - 1. Dfcm - Governor's Mansion | 2. Governor's Mansion Basement

Project Title:	Governor's Mansion Main Level Kitchen Remodel, Basement Remodel And Mechanical Upgrade	**Vendor #:**	85807A
Project #:	14380310	Entelen Design - Build	
Program Director:	Brad Demond (195937)	8707 Sandy Parkway	
Open PO's-Prj:	(5) for $60,292.76	Sandy, Ut 84070	
Contract Name:	1. Dfcm - Governor's Mansion | 2. Governor's Mansion Basement	**Status:**	Notice To Proceed
Contract Type:	Const Remodel	**DO #:**	170403000015108
Component Group:	Construction	**Retainage #:**	8695746
Building:	01655	Governors Mansion	

Component:	Construction (8)	**Expense Budget:**	6400
Account:	3000-300-3338-FXA-14380310	Remodel & Improve Curernt Expense	

Component:	Construction (8)	**Expense Budget:**	6137
Account:	3000-300-3338-FXA-14380310	Pro Services	

Funding Sources

Funding Source	Budget %	Appropriation	Allotment
GFFY2016	100.00	$738,147.36	$0.00
Funding Totals:	**100.00**	**$738,147.36**	**$0.00**

Payment Summary

Date	Invoice #	Status	Amount
4/24/17	14380310#1	Invoice Released	$101,438.12
6/27/17	14380310#2RE	Invoice Released	$478,782.58
8/8/17	16003310#3	New	$349,903.68
8/8/17	16003310#4	New	$240,727.52
8/16/17	16003310-5	New	$145,797.52
		Total Payments:	**$ 1,316,649.42**

Retainage Summary

Date	Invoice #	Status	Amount
4/24/17	1775313#1	Invoice Released	$5,338.85
6/27/17	1775313#2RE	Invoice Released	$25,199.08
8/8/17	1775313#4	New	$12,669.87
8/8/17	1775313#3	New	$18,415.98
8/16/17	16003310#5	New	$7,673.57
		Retainage Total:	**$69,297.35**

Change Order Summary

Awards

Award Date	Number	Amount
03/16/2017	A001	$1,228,704.00
	Total Award:	**$ 1,228,704.00**

Change Orders

Date	Number	Status	Amount
4/28/17	CO 001	Co Executed	$24,036.81
5/24/17	CO 002	Co Executed	$116,746.00
7/12/17	CO 003	Co Executed	$73,844.89
8/23/17	CO 004	Co Mgmt Review	$22,414.49
		Change Order Total:	**$237,042.19**
		Total Amendments (Less: Award Bid Pack Changes):	$237,042.19
		Adjusted Contract Value:	**$1,465,746.19**

State of Utah

Division of Facilities and Construction Management

Construction Contract = 1775313

Construction Contract Summary

Release Summary

Release Date	Release	Amount
	Release # 1	
	Release # 2	
	Release # 3	
	Release # 4	
	Release # 5	
	Release Total:	**$ 0.00**
	Net Retainage:	**$ 69,297.35**

Contract Summary

Adjusted Contract Value:	$ 1,465,746.19
Paid to Contractor:	$1,316,649.42
Retainage to Bank:	$69,297.35
Total Paid:	$1,385,946.77
Contract Balance:	**$79,799.42**

Contractor Summary

Adjusted Contract Value:	$ 1,465,746.19
Paid to Contractor:	$1,316,649.42
Retainage Releases:	$.00
Total Paid to Contractor:	$1,316,649.42
Contractor Balance:	**$149,096.77**

Change Order % of Original:	19.29%
Percentage of Contract Paid:	94.56%

Dates		Days	
From	**To**	**Target**	**Lapsed**
3/31/17	8/8/17	130	147
Adjusted	**Substantial**	**Original**	**Days**
8/8/17		6/30/17	

Percentage of Time Lapsed: 113.08%

Reasons for Change Orders

Reason	Percent	Amount
Unk Cond-contin	31.42%	$74,483.71
Agency Scope-p	60.08%	$142,421.74
Ae Error-contin	0.45%	$1,057.98
Ae Omission-con	8.05%	$19,078.76
Total Changes (less Award Bid Packs):		**$237,042.19**

AiM

Construction Change Order
CO 003
Status: CO EXECUTED

Construction Change Order

Construction Change Order			
Description:	ADDITIONAL CONTROLS AND LEVEL CONTROLLERS FOR THE BOILERS MSS, INC. CRAIG WESSMAN	**Status:**	CO EXECUTED
		Change Order Date:	Jun 28, 2017
		Total Amount:	$43,411.00
		New End Date:	Jun 30, 2017
Capital Project:	17022700 (SNOW COLLEGE HEAT PLANT/STEAM AND CONDENSATE LINES UPGRADES)		

Contractor		Original		Change	
Contractor:	26566J (MECHANICAL SERVICE & SYSTEMS INC)	**Award:**	$249,613.00	**Award:**	$249,613.00
		Change Order:	$32,353.00	**Change Order:**	$75,764.00
		Total:	$281,966.00	**Total:**	$325,377.00
Address Code:	001 (1055 SOUTH 700 WEST, SALT LAKE CITY, UT 84104)	**Start:**	Aug 10, 2016	**Start:**	Aug 10, 2016
Contract:	1775005	**End:**		**End:**	Jun 30, 2017

Line Item

Line	Description	Contract Line	Component	Reason	Change Amount	New End Date
001	PCO-07 REPAIR TO THE EXISITING OIL GUNS. THE GUNS WERE FOUND TO NEED REPAIRS ON TWO BOILERS.	001	CONSTRUCTION	UNK COND-CONTIN	$6,480.00	Jun 30, 2017
002	PCO-08 REPLACE LOW WATER CONTROLLERS ON THE BOILERS TO COMPLY WITH THE BOILER CODE	001	CONSTRUCTION	UNK COND-CONTIN	$6,884.00	
003	PCO-09 THE VALVE ON BOILER #3 NEEDED TO BE REPLACED TO MEET THE BOILER CODE	001	CONSTRUCTION	UNK COND-CONTIN	$8,199.00	
004	PCO-010 ADD LEVEL CONTROLLERS TO CONDENSATE TANK TO BETTER CONTROL THE BOILER FEED SYSTEM	001	CONSTRUCTION	UNK COND-CONTIN	$18,756.00	
005	PCO-011 REPLACE THE MAG. STARTER ON ONE BOILER BLOWER MOTOR	001	CONSTRUCTION	UNK COND-CONTIN	$1,820.00	
006	PCO-012 PROVIDE CONDENSATE PUMP SHUT-DOWN CONTROLS. THERE WERE NO CONTROLS AND THIS WILL SHUT OFF THE PUMPS WHEN THEY ARE NOT NEEDED.	001	CONSTRUCTION	UNK COND-CONTIN	$1,272.00	

State of Utah

Division of Facilities and Construction Management

Construction Contract = 1775005

Construction Contract Summary

1775005 - Snow College - Ephraim Campus | Central Heat Plant - Steam Bo

Project Title:	Snow College Heat Plant/steam And Condensate Lines Upgrades	**Vendor #:**	26566J
Project #:	17022700	Mechanical Service & Systems Inc	
Program Director:	Craig Wessman (111056)	1055 South 700 West	
Open PO's-Prj:	(2) for $8,000.00	Salt Lake City, Ut 84104	
Contract Name:	Snow College - Ephraim Campus | Central Heat Plant - Steam Bo	**Status:**	Notice To Proceed
Contract Type:	Const Remodel	**DO #:**	161004000005710
Component Group:	Construction	**Retainage #:**	8695651
Building:	01794	Heat Plant	

Component:	Construction (8)	**Expense Budget:**	6813
Account:	3000-300-3340-FXA-17022700	Remodel	

Funding Sources

Funding Source	Budget %	Appropriation	Allotment
EDFY2017	100.00	$553,409.00	$0.00
Funding Totals:	**100.00**	**$553,409.00**	**$0.00**

Payment Summary

Date	Invoice #	Status	Amount
10/11/16	17022700#1	Invoice Released	$6,111.42
10/11/16	17022700#2	Invoice Released	$75,246.17
12/9/16	17022700#4	Invoice Released	$68,687.76
12/9/16	17022700#3	Invoice Released	$117,822.35
8/8/17	17022700#5	New	$41,240.45
		Total Payments:	**$ 309,108.15**

Retainage Summary

Date	Invoice #	Status	Amount
10/11/16	1775005#2	Invoice Released	$3,960.32
10/11/16	1775005#1	Invoice Released	$321.65
12/9/16	1775005#3	Invoice Released	$6,201.18
12/9/16	1775005#4	Invoice Released	$3,615.15
8/8/17	1775005#5	New	$2,170.55
		Retainage Total:	**$16,268.85**

Release Summary

Release Date	Release	Amount
	Release # 1	
	Release # 2	
	Release # 3	
	Release # 4	

Change Order Summary

Awards

Award Date	Number	Amount
07/08/2016	A001	$249,613.00
	Total Award:	**$ 249,613.00**

Change Orders

Date	Number	Status	Amount
9/27/16	CO 001	Co Executed	$21,807.00
11/15/16	CO 002	Co Executed	$10,546.00
6/28/17	CO 003	Co Executed	$43,411.00
		Change Order Total:	**$75,764.00**
		Total Amendments (Less: Award Bid Pack Changes):	$75,764.00
		Adjusted Contract Value:	**$325,377.00**

Change Order % of Original: 30.35%

Percentage of Contract Paid: 100.00%

Dates		Days	
From	**To**	**Target**	**Lapsed**
8/10/16	6/30/17	324	380
Adjusted	**Substantial**	**Original**	**Days**
6/30/17	6/6/17	9/30/16	

Percentage of Time Lapsed: 117.28%

State of Utah

Division of Facilities and Construction Management

Construction Contract = 1775005

Construction Contract Summary

Release Summary

Release Date	Release	Amount
	Release # 5	
	Release Total:	**$ 0.00**
	Net Retainage:	**$ 16,268.85**

Contract Summary

Adjusted Contract Value:	$ 325,377.00
Paid to Contractor:	$309,108.15
Retainage to Bank:	$16,268.85
Total Paid:	$325,377.00
Contract Balance:	**$.00**

Contractor Summary

Adjusted Contract Value:	$ 325,377.00
Paid to Contractor:	$309,108.15
Retainage Releases:	$.00
Total Paid to Contractor:	$309,108.15
Contractor Balance:	**$16,268.85**

Reasons for Change Orders

Reason	Percent	Amount
Dfcm Scope-proj	16.25%	$12,312.00
Unk Cond-contin	67.94%	$51,476.00
Ae Omission-con	15.81%	$11,976.00
Total Changes (less Award Bid Packs):		**$75,764.00**

AiM

Construction Change Order
CO 001
Status: CO EXECUTED

Construction Change Order

Construction Change Order			
Description:	1. CHANGE ORDER #01 2. CPB - TRAVEL COUNCIL BLDG 3. EXTERIOR STONE RESTORATION 4. BRAD DEMOND	**Status:**	CO EXECUTED
		Change Order Date:	Jul 13, 2017
		Total Amount:	$26,754.96
		New End Date:	
Capital Project:	15250050 (TRAVEL COUNCIL BLDG EXTERIOR STONE/WATERPROFING INVESTIGATION)		

Contractor		Original		Change	
Contractor:	VC0000132815 (WASATCH WEST CONTRACTING)	**Award:**	$334,900.00	**Award:**	$334,900.00
		Change Order:	$0.00	**Change Order:**	$26,754.96
		Total:	$334,900.00	**Total:**	$361,654.96
Address Code:	001 (P.O. BOX 160442, CLEARFIELD, UT 84016)	**Start:**	May 10, 2017	**Start:**	May 10, 2017
Contract:	1775376	**End:**		**End:**	

Line Item

Line	Description	Contract Line	Component	Reason	Change Amount	New End Date
001	PCO #02 - UNFORESEEN - REMOVAL OF EXISTING VERTICAL STONE VENEER AT THE PERIMETER REVEALED THE STONE IS LOOSE AND/OR FALLING OFF. THE STONE NEEDS TO BE REMOVED AND RESET.	001	CONSTRUCTION	UNK COND-CONTIN	$39,370.96	
002	PCO #03 - CREDIT FOR SEALER SUBSTITUTE.	001	CONSTRUCTION	UNK COND-PROJEC	$(12,616.00)	

State of Utah

Division of Facilities and Construction Management

Construction Contract = 1775376

Construction Contract Summary

1775376 - 1. Capitol Preservation Board | 2. Travel Council Bldg Exteri

Project Title:	Travel Council Bldg Exterior Stone/ waterprofing Investigation	**Vendor #:**	VC0000132815
Project #:	15250050	Wasatch West Contracting	
Program Director:	Brad Demond (195937)	P.o. Box 160442	
Open PO's-Prj:	(1) for $3,349.00	Clearfield, Ut 84016	
Contract Name:	1. Capitol Preservation Board | 2. Travel Council Bldg Exteri	**Status:**	Notice To Proceed
Contract Type:	Const Remodel	**DO #:**	170522000017640
Component Group:	Construction	**Retainage #:**	
Building:	00496	Office Of Tourism (Council Hall)	

Component: Construction (8) **Expense Budget:**

Account:

Funding Sources

Funding Source	Budget %	Appropriation	Allotment
Funding Totals:			

Payment Summary

Date	Invoice #	Status	Amount
		Total Payments:	

Retainage Summary

Date	Invoice #	Status	Amount
		Retainage Total:	

Release Summary

Release Date	Release	Amount
	Release # 1	
	Release # 2	
	Release # 3	
	Release # 4	
	Release # 5	
	Release Total:	**$ 0.00**
	Net Retainage:	**$ 0.00**

Contract Summary

Adjusted Contract Value:	$ 361,654.96
Paid to Contractor:	$.00
Retainage to Bank:	$.00
Total Paid:	$.00
Contract Balance:	**$361,654.96**

Contractor Summary

Adjusted Contract Value:	$ 361,654.96

Change Order Summary

Awards

Award Date	Number	Amount
04/26/2017	A001	$334,900.00
	Total Award:	**$ 334,900.00**

Change Orders

Date	Number	Status	Amount
7/13/17	CO 001	Co Executed	$26,754.96
		Change Order Total:	**$26,754.96**
		Total Amendments (Less: Award Bid Pack Changes):	$26,754.96
		Adjusted Contract Value:	**$361,654.96**

Change Order % of Original:	7.99%
Percentage of Contract Paid:	0.00%

Dates		Days	
From	**To**	**Target**	**Lapsed**
5/10/17	6/30/17	51	107
Adjusted	**Substantial**	**Original**	**Days**
6/30/17		6/30/17	

Percentage of Time Lapsed: 209.80%

State of Utah

Division of Facilities and Construction Management

Construction Contract = 1775376

Construction Contract Summary

Paid to Contractor:	$.00
Retainage Releases:	$.00
Total Paid to Contractor:	$.00
Contractor Balance:	**$361,654.96**

Reasons for Change Orders

Reason	Percent	Amount
Unk Cond-contin	147.15%	$39,370.96
Unk Cond-projec	-47.15%	-$12,616.00
Total Changes (less Award Bid Packs):		**$26,754.96**

DFCM

Division of Construction and Management
4110 State Office Building Salt Lake City, UT 84144
Telephone (801) 538-3018 Fax (801) 538-3267

REPORT OF PROJECT RESERVE FUNDS ACTIVITY

Jul-17

PROJ #	DEPT	PROJECT TITLE	STATE FUNDS-DEVELOPMENT	STATE FUNDS-IMPROVEMENT	DOT FUNDS	DESCRIPTION	% of Constr. Budget
		BEGINNING BALANCE	1,137,624.28	4,701,268.50	968,448.86		
		INCREASES TO PROJECT RESERVE FUND:					
17019410	DHS	USDC - Infrastructure Phase III		344,521.04		Project Residual	14%
15185510	DNR	PARKS - Goblin Valley Access Road Fencing		115,255.00		Project Residual	85%
15214660	SLCC	RRC - Applied Technology Bldg Chilled Water Line		93,575.83		Project Residual	46%
17229900	DOT	DOT-Maint Test Fac Paint Ceiling Walls Ovrhead Doors Car & Prep Shop		44,047.00		Project Residual	46%
17046310	DFCM	DFCM - Tax Commission Replace Elevator Hydraulic Piping		43,796.00		Project Residual	51%
15212150	COURTS	COURTS - Matheson Secure Holding Cells Plumbing Repairs		38,631.50		Project Residual	5%
14058050	CPB	CPB - Capitol Hill Mormon Battalion Repairs & Upgrades		31,320.02		Project Residual	3%
13157410	DHS	USDC - TLC Bldg HVAC System Replacement Design		24,810.57		Project Residual	6%
13302100	DOC	DRAPER PRISON - Olympus Bldg HVAC Upgrade		23,254.34		Project Residual	6%
15004790	UVU	Mckay Ed Bldg Replace Multi Zone Air Hander Units & Zone Dampers		16,793.25		Project Residual	9%
15088710	SNOW	South Admin Bldg Replace 120 Ton Chiller		13,763.01		Project Residual	4%
15130260	MATC	Office Remodel - Orem		12,066.70		Project Residual	2%
15005790	UVU	Gunther Trades/Liberal Arts/Sparks Auto Spring 2015 HVAC Improve		8,041.36		Project Residual	1%
17039150	COURTS	COURTS - Brigham City Courts Bldg DVR & Camera Upgrade		6,615.55		Project Residual	3%
17057030	ABC	ABC - Admin Bldg Stove Hood Installation		718.00		Project Residual	3%
		DECREASES TO PROJECT RESERVE FUND:					
17063510	DNR	PARKS - Goblin Valley Overlook Restroom Replacement		(20,667.00)		To Award Construction Contract	5%
14097790	UVU	Woodbury Business/Pope Science Bldg Replace AHU Replacements		(140.00)		Return Funds To Project For Final Inspection	0%
14089310	DFCM	Ogden Regional Fire Sprinkler Deficiencies/Fire Pump Replacement		(116.50)		Return Funds To Project For Final Inspection	0%
		ENDING BALANCE	1,137,624.28	5,497,554.17	968,448.86		

DFCM

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REPORT OF PROJECT RESERVE FUNDS ACTIVITY

Sep-17

PROJ #	DEPT	PROJECT TITLE	STATE FUNDS-DEVELOPMENT	STATE FUNDS-IMPROVEMENT	DOT FUNDS	DESCRIPTION	% of Constr. Budget
		BEGINNING BALANCE	1,137,624.28	5,497,554.17	968,448.86		
		INCREASES TO PROJECT RESERVE FUND:					
17017660	SLCC	Redwood Rd - Rampton Tech Bldg Restroom Remodel		133,043.79		Project Residual	13%
15182790	UVU	Health Professions Bldg Air Handler Improvements		110,652.18		Project Residual	33%
17016260	MATC	Additional Parking		82,350.90		Project Residual	9%
17077660	SLCC	Redwood Rd - TB Emergency Generator Replacement		61,638.19		Project Residual	25%
15225390	Health	Unified Lab Biosafety Cabinets & Drains		60,915.76		Project Residual	13%
17112100	UDC	Draper - Timpanogas No. Star Bldgs 2 and 4 Control Room Remodel		47,405.50		Project Residual	19%
15205900	UDOT	SL NW Station 2430 Replace Overhead Doors, Reconstruct Serivce Pit		39,297.00		Project Residual	52%
13087660	SLCC	Redwood Rd - Science & Industries Bldg Window Replacement		36,561.11		Project Residual	3%
15277370	Fairpark	Market and Sheep Barn Window and Door Replacement		29,597.80		Project Residual	8%
17001810	WSU	Utility Tunnel Repairs Phase VI		25,502.53		Project Residual	9%
15119010	Agriculture	Ogden Grain Lab Basement Remodel		22,161.00		Project Residual	11%
17106370	Fairpark	Multiple Bldgs Deferred Maintenance A/C and Exhaust Replacement		21,118.25		Project Residual	12%
17120900	UDOT	Richmond Replace Floor Drains & Drain System		18,427.16		Project Residual	18%
17261150	Courts	Matheson Courthouse replace Fire Dry Pipe Mains		18,310.80		Project Residual	6%
14237730	SUU	Bennion Bldg Elevator Modernization		13,402.40		Project Residual	14%
13305100	UDC	Draper - Timpanogas & No. Point Star Bldgs 1-4 control room remodel		13,276.50		Project Residual	5%
17012790	UVU	Replace Fan Coil Units Hall of Flag/Admin/GT 609 & 338		9,477.41		Project Residual	2%
17050120	UDC	Northern Utah Comm Correctional Center HVAC Controls Upgrade		7,275.70		Project Residual	24%
17161290	DXATC	South Perimeter Fencing and Gates		6,018.00		Project Residual	12%
17174310	DFCM	Richfield Regional Exterior Lighting Upgrades		5,587.25		Project Residual	22%
17121900	UDOT	Huntsville - Install New Septic System		4,644.66		Project Residual	5%
15044810	WSU	Marriot Allied Health Bldg Controls Upgrades to DDC		4,323.98		Project Residual	1%
17008710	Snow	Richfield - Exterior Fenes Stration Windows		3,812.50		Project Residual	2%
15206900	UDOT	Roosevelt Station 3435 Replace Trench Drain		3,229.00		Project Residual	13%
17173150	Courts	St George - Upgrade Cooling Tower		2,829.00		Project Residual	4%
17149640	DSU	Fire Alarm Upgrade - Various Bldgs		2,206.33		Project Residual	1%
17170900	UDOT	Beaver Station - Replace Window & Remodel Office		1,698.75		Project Residual	1%
15192100	UDC	Draper - Uinta and Oquirrh Smoke Evacuation System Repairs		1,530.75		Project Residual	0%
15098640	DSU	Graphic Information System Campus Mapping		1,432.00		Project Residual	1%
17280640	DSU	Campus Wide Metering		851.72		Project Residual	1%
17159640	DSU	Burns Arena and Cox Auditorium Re-Commissioning		720.86		Project Residual	2%

17182200	Education	Office of Education Bldg Boiler Replacement		622.25		Project Residual	0%
14231730	SUU	Science Bldg Elevator Modernization		475.90		Project Residual	0%
15163730	SUU	Medium Voltage Upgrade Phase III		232.00		Project Residual	0%
17273260	MATC	Welding Compound Canopy		204.00		Project Residual	0%
17148640	DSU	Exterior Lighting Project		141.00		Project Residual	0%
17155640	DSU	South Administration Bldg Refurbish		116.00		Project Residual	0%
17147640	DSU	Campus Fire Lane and Sidewalk Repairs		112.02		Project Residual	0%
15096640	DSU	Science Bldg Elevator Modernization		40.00		Project Residual	0%
17154640	DSU	Cox, Burns Arena Replace Sewage Ejectors		31.00		Project Residual	0%
		DECREASES TO PROJECT RESERVE FUND:					
17128470	UNG	Draper - Headquarters Replace Electrical Service Distribution		(173,270.00)		To Award Construction Contract	11%
13049770	USU	Brigham City Regional Campus Academic Building	(71,502.00)			Return Funds for additional payment	1%
15223410	DHS	USDC - Quailrun Lodge HVAC Replacemtn		(61,699.00)		To Award Construction Contract	7%
15225390	Health	Unified Lab Biosafety Cabinets & Drains		(2,600.00)		Return Funds for additional payment	1%
17019410	Health	USDC - Infrastructure Phase III		(71.50)		Return Funds for additional payment	0%
		FY 2017 FINAL ENDING BALANCE	**1,066,122.28**	**6,051,186.62**	**968,448.86**		

DFCM

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4110 State Office Building Salt Lake City, UT 84144
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Sep-17

12 MONTH PROJECT RESERVE FUNDS ACTIVITY

DEPT	STATE FUNDS-DEVELOPMENT	STATE FUNDS-IMPROVEMENT	DOT FUNDS
INCREASES TO PROJECT RESERVE FUND:			
ABC Total	-	61,211.99	-
Agriculture Total	-	22,161.00	-
BATC Total	-	12,296.00	-
Courts Total	420,508.58	96,274.85	-
CPB Total	-	403,208.29	-
DATC Total	-	4,686.73	-
DFCM Total	-	156,734.12	-
DHS Total	-	548,756.50	-
DNR Total	-	372,840.19	-
DOC Total	-	23,254.34	-
DOT Total	-	44,047.00	-
DPS Total	-	57,277.47	-
DSU Total	-	15,420.86	-
DWS Total	-	31,283.92	-
DXATC Total	-	9,707.00	-
Education Total	-	622.25	-
FAIRPARK Total	-	66,543.55	-
Health Total	-	143,305.18	-
JJS Total	-	97,043.16	-
MATC Total	-	94,621.60	-
OWATC Total	-	189,952.91	-
SLCC Total	-	339,986.84	-
SNOW Total	-	17,917.39	-
SUU Total	0	50,144.43	-
TAX Total	-	125,144.18	-
UDC Total	-	114,467.09	-
UDOT Total	-	73,711.40	-
UNG Total	-	19,303.50	-
USU Total	101,768.43	-	-
UVU Total	-	309,963.20	-
WSU Total	-	82,424.57	-

DFCM

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Sep-17

12 MONTH PROJECT RESERVE FUNDS ACTIVITY

DEPT	STATE FUNDS-DEVELOPMENT	STATE FUNDS-IMPROVEMENT	DOT FUNDS
DECREASES TO PROJECT RESERVE FUND:			
Courts Total	-	(18,725.00)	-
CPB Total	-	(30,503.00)	-
DAS Total	(500,000.00)	-	-
DATC Total	0	(26,720.00)	-
DCC Total	-	(63,005.00)	-
DEQ Total	(500,000.00)	-	-
DFCM Total	-	(95,659.50)	-
DHS Total	(1,000,000.00)	(116,450.79)	-
DNR Total	-	(739,896.00)	-
DPS Total	-	(9,256.00)	(32.50)
DSU Total	-	(200,000.00)	-
DVA Total	-	(21,921.00)	-
Fairpark Total	(250,000.00)	-	-
Health Total	-	(2,671.50)	-
SLCC Total	-	(440.00)	-
Snow Total	-	(200,000.00)	-
SUU Total	-	(300,000.00)	-
UDCD Total	-	(8,017.00)	-
UDOT Total	-	(900.00)	-
UNG Total	(131.50)	(173,270.00)	-
USU Total	(71,502.00)	-	-
UVU Total	-	(96,726.00)	-
WSU Total	-	(65.00)	-

OTHER ITEMS

OTHER	To DFCM Admin per 2016 SB#6 Item #17	(200,000.00)

CONTINGENCY FUND ANALYSIS

Sep-17

AGENCY	DESCRIPTION	% COMPLETE	CONSTRUCTION BUDGET	AUTHORIZED CONTINGENCY AMOUNT	DRAWS FROM CONTINGENCY	AUTHORIZED MINUS DRAWS	PROJECTED CONTINGENCY NEEDS	PROJECTS STATUS
NEW CONSTRUCTION								
USTAR	UU Neuroscience Research Center	100%	161,170,104	3,469,589	4,965,940	(1,496,351)	-	Closed
CUCF	192 Bed Pod Expansion	100%	30,520,801	1,453,400	1,176,123	277,277	4,297	Closeout
USU	Business Bldg Addition/Remodel	100%	45,741,970	456,048	648,840	(192,792)	1,286	Closeout
U OF U	Electrical/High Temp Water Utilities Upgrades	96%	80,294,784	2,162,281	1,632,342	529,939	78,184	Construction
UVU	New Classroom Building	99%	48,006,044	2,182,997	3,524,771	(1,341,774)	18,674	Closeout
U OF U	Crocker Science Center	76%	48,281,707	1,745,571	761,369	984,202	412,958	Construction
WSU	Tracy Hall Science Bldg	93%	66,416,335	2,168,774	921,084	1,247,690	152,692	Closeout
DFCM	Unified Lab Module 2	96%	36,385,525	1,539,471	1,102,522	436,949	56,864	Closeout
USU	BRC Academic Bldg	99%	14,559,301	277,495	292,114	(14,619)	1,483	Closed
USU-EAST	Central Instructional Bldg	100%	22,337,974	742,090	935,062	(192,972)	-	Closeout
UOFU	Huntsman Cancer Phase IV	92%	100,937,722	623,522	698,786	(75,264)	49,321	Construction
DATC	Permanent Campus Building	70%	37,095,252	1,116,851	871,648	245,203	331,609	Construction
DHS	USDC Durable Housing Units	100%	10,082,899	285,851	106,974	178,877	953	Closeout
DEAF & BLIND	New SLC Building	97%	14,917,023	576,126	679,298	(103,172)	15,042	Construction
SNOW	New Science Building	74%	24,163,062	777,673	96,185	681,488	198,949	Construction
USU	Fine Arts Complex Addition	71%	21,623,853	227,273	69,912	157,361	65,559	Construction
DHS	Weber Valley Youth Center	31%	20,522,735	712,411	-	712,411	490,681	Construction
SLCC	Westpointe CTE Building	46%	39,033,019	1,758,561	69,616	1,688,945	957,948	Construction
DPS	Box Elder Consolidation	0%	18,891	62,438	-	62,438	62,438	On Hold
UVU	Performing Arts Building	12%	48,361,800	1,097,932	(81,526)	1,179,458	969,014	Construction
USU	Clinical Sevices Building	45%	33,778,584	272,378	80,435	191,943	149,864	Construction
Parks	Dead Horse Point Campground	21%	3,888,864	262,990	-	262,990	209,016	Construction
OWATC	Business Depot Bay 2 Buildout	78%	5,047,066	347,800	152,139	195,661	75,697	Construction
Fairpark	Rodeo Arena	79%	16,225,460	405,468	424,504	(19,036)	86,528	Construction
DAS	Archives - Vault Expansion	0%	15,750	192,723	-	192,723	192,723	Design
USU	Bio Life Sciences Bldg	4%	15,378,706	1,331,555	-	1,331,555	1,284,859	Design
SUU	New Business Building	28%	174,945	281,060	-	281,060	201,077	Design
DEQ	Tech Support Center	2%	5,463,148	267,642	-	267,642	262,472	Design
SUBTOTAL		65%	950,443,322	26,797,970	19,128,136	7,669,834	6,330,189	
REMODELING								
CPB	Capitol Hill Signage Improvements	3%	123,005	11,685	-	11,685	11,381	Design
State Hospital	Slate Canyon Spring Development	100%	216,658	54,996	-	54,996	-	On Hold
USDC	Evergreen Bldg HVAC Replacement	91%	2,119,600	84,792	310,057	(225,265)	7,287	Closeout
CPB	DUP Compressor/Water Cooled Condensor	100%	265,323	30,898	2,724	28,174	-	Closed

CONTINGENCY FUND ANALYSIS

Sep-17

AGENCY	DESCRIPTION	% COMPLETE	CONSTRUCTION BUDGET	AUTHORIZED CONTINGENCY AMOUNT	DRAWS FROM CONTINGENCY	AUTHORIZED MINUS DRAWS	PROJECTED CONTINGENCY NEEDS	PROJECTS STATUS
SLCC	RRC Science Bldg Window Replacement	77%	1,097,202	89,609	19,418	70,191	20,508	Closed
DHS	USDC TLC Bldg HVAC Replacement	100%	364,514	32,644	21,724	10,920	-	Closed
CPB	Capitol Hill Security Camera Upgrades	95%	949,242	34,508	86,397	(51,889)	1,750	Closed
UDC	Draper - Olympus HVAC Upgrade	100%	925,576	64,391	49,363	15,028	(0)	Closed
UDC	Draper - Wasatch & Oquirrh Control Room Intercon	100%	238,662	19,717	8,997	10,720	-	Closed
UDC	Draper - Timp 1-5 Control Room Remodel	99%	196,915	20,000	-	20,000	102	Closed
DHS	USDC Infrastructure	100%	4,662,315	266,358	71,318	195,040	-	Closeout
SLCC	SCC Proximity Locks	74%	1,369,182	106,539	-	106,539	27,870	Construction
CPB	Mormon Battalion Repairs	99%	1,657,351	76,970	101,542	(24,572)	715	Closed
UVU	Wolverine Ctr Skin Replacement	91%	245,028	12,000	1,440	10,560	1,059	Closed
Courts	Matheson Security System Replacement	100%	853,989	72,299	42,776	29,523	-	Closeout
UBATC	Exterior Door Replacement	100%	500,612	42,172	29,139	13,033	0	Closeout
OWATC	Bus Bldg Chiller/Boiler Soft Water Systems	100%	422,389	39,030	1,295	37,735	-	Closeout
WSU	Campus Master Plan	32%	500,000	-	-	-	-	Construction
WSU	Stewart Library Infrastructure	89%	16,495,976	76,457	1,881	74,576	8,694	Construction
Parks	Bear Lake Marina Dock Replacement	100%	1,696,472	70,380	-	70,380	-	Closeout
DFCM	Ogden Reg Fire Sprinkler Deficiencies/Pump	99%	93,864	10,475	4,984	5,491	148	Closed
DFCM	Ogden Reg HVAC	100%	1,332,404	106,325	78,379	27,946	164	Closeout
UDC	NUCCC Fire Alarm Upgrade	100%	50,450	4,880	-	4,880	-	Closed
UNG	West Jordan Armory Upgrade	99%	1,895,701	165,000	52,522	112,478	1,009	Closeout
ABC	Roy Combined Projects	11%	39,776	1,630	-	1,630	1,449	Design
SUU	ADA Concrete Replacement	62%	179,624	-	-	-	-	Closeout
SUU	Fire Lane Approach Upgrades	96%	99,790	-	-	-	-	Closed
SUU	Auditorium Stage Lift	100%	109,068	-	5,556	(5,556)	-	Closeout
UDOT	Hooper Maintenance Station	100%	3,160,531	78,853	82,137	(3,284)	-	Closed
SLCC	RRC VAV/AHU	100%	480,197	35,145	34,116	1,029	-	Closed
SLCC	RRC Library Chiller	100%	195,449	19,468	6,297	13,171	-	Closed
SLCC	SCC Main Bldg HVAC Controls	100%	388,812	37,912	17,749	20,163	-	Closeout
DHS	USH Rampton Electronic Door Control	100%	157,392	20,000	-	20,000	-	Closeout
UNG	W Jordan PV Project	100%	650,000	47,725	48,070	(345)	-	Construction
DCED	Rio Grande Bldg Security Upgrade	100%	15,127	4,289	-	4,289	-	Construction
DCED	Rio Grande Doors & Hardware	33%	248,140	18,328	8,717	9,611	12,189	Construction
ABC	Store #14 Door Hardware Modification	0%	12,632	1,200	-	1,200	1,200	Design
Archives	Dry Sprinkler Modificarions	0%	65,570	9,734	-	9,734	9,734	Design
CPB	Reclad Dome Windows	0%	60,000	5,700	-	5,700	5,700	Design
CPB	Repaint Capiton Window Sills	100%	24,977	15,200	-	15,200	-	Design
DFCM	Governor's Mansion Misc Improvements	49%	1,738,706	89,728	127,403	(37,675)	45,789	Construction
Wildlife	Flaming Gorge Bunkhouse	100%	418,656	26,202	75,043	(48,841)	-	Closed
UVU	McKay Bldg Air Handlers & Zone Dampers	100%	743,823	50,063	-	50,063	-	Closed
UVU	Gunther Bldg HVAC Uimprovements	100%	799,984	63,556	44,881	18,675	-	Closed

CONTINGENCY FUND ANALYSIS

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AGENCY	DESCRIPTION	% COMPLETE	CONSTRUCTION BUDGET	AUTHORIZED CONTINGENCY AMOUNT	DRAWS FROM CONTINGENCY	AUTHORIZED MINUS DRAWS	PROJECTED CONTINGENCY NEEDS	PROJECTS STATUS
SLCC	RRC- Applied Tech Window & Door Replacement	98%	725,869	54,768	15,393	39,375	1,301	Closeout
UVU	Pope Science Building Remodel	90%	1,576,894	50,442	-	50,442	4,974	Closed
DNR	DWR - Hardware Ranch Water System	100%	365,464	25,123	9,361	15,762	68	Construction
Fairpark	Grand Bldg Restrooms Remodel	100%	220,983	24,185	10,343	13,842	-	Closeout
Wildlife	GSL Nature Center	0%	3,623,798	59,707	-	59,707	59,707	Construction
Courts	Mattheson Elevator Modernization	49%	2,668,444	195,808	-	195,808	98,969	Construction
DFCM	Provo Regional Elevator Modernization	48%	664,749	73,796	-	73,796	38,054	Construction
DWR	Hatcheries Radon Testing & Mitigation	20%	617,980	55,134	611	54,523	44,085	Construction
UDOT	Various Shops Pit Repairs	100%	286,472	16,035	18,161	(2,126)	-	Closeout
WSU	Marriot Bldg Controls Upgrade	98%	382,206	26,869	25,567	1,302	509	Closed
TATC	Maintenance Garage	100%	315,939	17,865	12,008	5,857	-	Closed
DATC	Motorsports Shop & Classroom Upgrade	100%	238,920	20,916	-	20,916	-	Closed
DATC	ADA Restroom Upgrades	97%	730,534	77,978	3,864	74,114	2,110	Construction
Courts	Juvenile Court Remodel	99%	554,813	32,871	112,977	(80,106)	262	Closeout
DFCM	Rampton Irrigation Controllers Replacement	100%	134,199	11,840	4,288	7,552	0	Closed
DFCM	Academy Square Misc Repairs	100%	13,814	3,553	-	3,553	-	Closeout
DWS	Ogden South Safety Upgrades	0%	16,075	1,527	-	1,527	1,527	Construction
DFCM	Ogden Regional Carpet Replacement	94%	250,631	23,810	-	23,810	1,507	Closeout
DFCM	Ogden Redional DVR/Camera Upgrades	100%	39,275	7,593	-	7,593	-	Closeout
DWS	Richfield Mechanical Systems	99%	211,728	28,535	1,059	27,476	143	Closeout
SNOW	South Admin Chiller Replacement	100%	296,199	27,583	-	27,583	-	Closed
Dixie	Electrical Metering	100%	69,453	5,861	-	5,861	-	Closed
Dixie	Smith ComputerCenter	100%	659,785	38,046	30,998	7,048	-	Closed
Dixie	Science Bldg Elevator	0%	23,290	1,954	-	1,954	1,954	Closed
Dixie	Campus Master Plan	40%	228,167	21,273	20,779	494	12,718	Closed
Dixie	GIS Campus Mapping	0%	207,722	17,583	-	17,583	17,583	Closed
Dixie	Smith Center/Burns Arena Asphalt Improvements	98%	315,195	24,424	26,058	(1,634)	402	Closed
SNOW	Richfield North Boundary Fence	0%	1,046,094	13,578	-	13,578	13,578	Construction
DPS	DLD/DMV Draper Landscaping	100%	125,979	10,693	5,609	5,084	-	Construction
WSU	Wattis Bldg Controls	97%	2,891,301	104,658	34,032	70,626	3,492	Closed
UDOT	Richmond Water Line	100%	351,336	23,504	130,903	(107,399)	-	Closeout
BATC	West Campus Infrastructure	100%	562,281	56,736	20,359	36,377	0	Closeout
UNG	Logan Armory Water Heating/Piping	100%	156,938	14,852	3,892	10,960	-	Closed
DNR	DWR-Fisheries Experiment Station HVAC	98%	69,062	6,781	1,047	5,735	103	Closed
Agriculture	Ogden Grain Lab Basement Remodel	100%	156,566	15,597	9,869	5,728	-	Closed
WSU	Browning Center Seating Replacement	77%	1,112,310	70,988	-	70,988	16,278	Closed
MATC	Welding Renovation	97%	612,239	46,228	21,138	25,090	1,301	Closed
DHS	JJS Decker Oake Fire Alarm/ Telephone	100%	61,500	12,534	-	12,534	-	Closed
CPB	Capitol, Senate, House Bldgs Ice Guard System	54%	70,539	9,106	-	9,106	4,159	Closeout
DHS	JJS Slate Canyon Sewer Improvements	5%	170,883	16,234	-	16,234	15,420	Closed

CONTINGENCY FUND ANALYSIS

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AGENCY	DESCRIPTION	% COMPLETE	CONSTRUCTION BUDGET	AUTHORIZED CONTINGENCY AMOUNT	DRAWS FROM CONTINGENCY	AUTHORIZED MINUS DRAWS	PROJECTED CONTINGENCY NEEDS	PROJECTS STATUS
Dixie	ADA Concrete Replacement	76%	151,922	12,742	-	12,742	3,064	Construction
SUU	Shops Restroom Expansion	99%	573,983	28,734	32,464	(3,730)	228	Closed
SUU	Music Bldg Air Handler	99%	95,709	13,924	-	13,924	93	Closeout
SUU	Classroom Bldg Chiller	99%	182,914	15,048	3,358	11,690	146	Closeout
SUU	Med Voltage Upgrade Phase III	99%	174,956	14,658	-	14,658	145	Closed
SUU	Water Line Metering Installation	80%	164,154	28,735	-	28,735	5,858	Construction
SUU	Fire Alarm Replacement - Various Bldgs	56%	90,998	6,645	17,818	(11,173)	2,915	Construction
SUU	Classroom Bldg Air Handler	0%	199,985	4,886	-	4,886	4,886	Construction
SUU	Library Bldg Automation	100%	76,485	6,840	-	6,840	-	Closed
SUU	Institutional Residence HVAC Controls	67%	32,393	2,541	-	2,541	851	Closeout
SUU	Liberal Arts Center Windows	86%	209,797	17,736	-	17,736	2,566	Closeout
SUU	Conference Ctr Lighting System	8%	87,628	7,182	-	7,182	6,616	Construction
SUU	Campus Wide Transformers Replacement	62%	174,856	14,755	-	14,755	5,651	Closeout
Wildlife	DWR-Mammoth Hatchery Electrical System	96%	118,640	11,722	-	11,722	438	Closed
UVU	Student Activity Center Bleachers	100%	2,167,232	102,000	226,392	(124,392)	0	Closeout
Parks	Scofield Madsen Bay Restroom Replacement	1%	322,368	26,632	-	26,632	26,360	Design
UVU	Business Bldg Stair Replacement	100%	101,830	8,352	220	8,132	-	Closed
UVU	Health Professions Bldg Air Handler	100%	181,630	25,588	2,781	22,807	-	Closed
UVU	Liberal Arts Bldg Vestibule	94%	46,105	3,907	-	3,907	217	Closed
Parks	Goblin Valley Fencing	9%	107,765	10,237	-	10,237	9,344	Closed
UVU	Campus Lighting Improvements	100%	470,600	48,123	-	48,123	0	Closeout
Courts	St George Smoke Evac System	100%	73,000	7,749	-	7,749	-	Closed
Corrections	Draper Uinta/Oquirrh Smoke Evac System	100%	574,615	28,778	67,441	(38,663)	(0)	Closed
Corrections	CUCF Insulate Control Towers 1, 2, 3	100%	191,876	19,419	2,478	16,941	-	Closeout
Parks	Deer Creek Maint Bldg Replacement	100%	463,237	17,764	16,685	1,079	-	Closeout
UNG	Manti Armory Electrical Panels	100%	51,275	9,400	4,640	4,760	-	Closeout
UNG	Orem Readiness Ctr VAV Replacement	100%	275,520	19,640	39,861	(20,221)	-	Closeout
Parks	Steinaker Boat Ramp	71%	280,000	16,292	-	16,292	4,749	Construction
UBATC	Fire Alarm System, HVAC Controls	96%	570,247	49,426	25,934	23,492	2,142	Closeout
UDOT	Station 2430 Overhead Door/ Service Pit	100%	29,635	6,000	-	6,000	-	Closed
UDOT	Station 3435 Trench Drain	100%	28,922	1,887	5,623	(3,736)	-	Closed
DWS	Vernal Rooftop Units Replacement	100%	171,975	33,193	8,816	24,377	-	Closeout
ung	CW Bldg 9000 Boiler Replacement	100%	631,419	65,584	20,954	44,630	-	Closeout
UNG	Spanish Fork Readiness Ctr Entrance	96%	369,278	41,674	11,998	29,676	1,654	Closeout
Courts	Orem Rooftop Units Replacement	100%	56,262	6,154	-	6,154	-	Closed
Courts	Mattheson Holding Cells Plumbing	95%	172,178	58,440	8,653	49,787	2,922	Closed
UDOT	Rampton IT Rooms A/C	88%	179,338	17,680	4,620	13,060	2,129	Construction
SLCC	RRC Applied Tech Bldg Chilled Water Line	100%	74,741	15,716	-	15,716	0	Closed
SNOW	Student Center Recommissioning	100%	403,342	30,399	36,457	(6,058)	-	Closeout
SNOW	Greenwood Hall Piping Replacement	100%	54,677	45,893	(6,035)	51,928	-	Closeout

CONTINGENCY FUND ANALYSIS

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AGENCY	DESCRIPTION	% COMPLETE	CONSTRUCTION BUDGET	AUTHORIZED CONTINGENCY AMOUNT	DRAWS FROM CONTINGENCY	AUTHORIZED MINUS DRAWS	PROJECTED CONTINGENCY NEEDS	PROJECTS STATUS
SNOW	Activity Ctr Restrooms/ Locker rooms	100%	449,994	45,893	24,648	21,245	-	Closeout
TAX	Chiller/Cooling Tower Replacement	100%	621,998	54,435	12,508	41,927	-	Closeout
DHS	USDC Quailrun Lodge HVAC	8%	898,321	65,831	-	65,831	60,832	Construction
DWS	Call Ctr Rooftop Unit	98%	253,473	22,482	23,673	(1,191)	414	Closeout
Health	Unified Lab Biosafety Cabinets	95%	360,489	34,478	5,816	28,662	1,676	Closed
Health	Unified Lab Speciman Preocessing Redesign	96%	967,097	102,000	69,982	32,018	3,640	Closeout
UDOT	Station 2425 Plumbing Replacement	93%	297,054	9,769	20,595	(10,826)	677	Closed
Parks	Rockport Entrance Station	100%	379,087	33,029	14,653	18,376	-	Closed
Education	Lighting Panel	100%	47,907	18,795	-	18,795	-	Construction
Health	Cannon Lighting Retrofit	100%	56,835	19,063	(6,263)	25,326	-	Closed
Health	Cannon Ductless Splits Air Units	100%	108,815	16,243	-	16,243	-	Closed
DNR	Bldg B HVAC Controls	20%	532,443	13,804	-	13,804	11,086	Construction
DNR	Cannon Bldg Fan Wall	100%	125,000	6,696	5,555	1,141	-	Closed
Wildlife	Glenwood Hatchery HVAC	100%	234,357	15,190	31,390	(16,200)	-	Closeout
DHS	USH Admin Bldg Fire Alarm Replacement	100%	234,094	8,337	29,457	(21,120)	-	Closeout
Fairpark	Zion Bldg Roof Replacement	100%	156,566	22,114	-	22,114	-	Closed
CPB	Capitol Rotunda Glass Replacement	100%	14,774	25,117	-	25,117	-	Closed
CPB	Travel Council Bldg Exterior Waterproofing	0%	361,655	32,763	39,371	(6,608)	32,763	Construction
Fairpark	Various Bldgs Electrical Panel Replacement	100%	152,449	14,058	-	14,058	-	Closed
Fairpark	Market & Sheep Barn Windows & Doors	100%	308,295	24,870	6,075	18,795	6	Closed
DHS	JJS Wasatch Security System Replacement	100%	591,507	34,483	43,415	(8,932)	-	Closed
DFCM	Governor's Mansion Perimeter Fence	98%	386,502	21,041	57,681	(36,640)	344	Closeout
CPB	SOB Expansion Of Data Comm Rooms	0%	30,229	2,878	-	2,878	2,878	Construction
CPB	House & Senate Bldgs Controls Upgrades	0%	119,218	15,566	-	15,566	15,566	Construction
CPB	Capitol Bldg Controls Upgrade	100%	72,150	9,157	-	9,157	-	Construction
DHS	JJS Slate Canyon Fire Alarm	100%	73,911	14,516	4,087	10,429	-	Closed
ABC	Store 42 Erosion Control/Landscape	100%	39,556	5,035	6,650	(1,615)	-	Closed
Dixie	Campus Wide Metering	100%	229,940	19,545	-	19,545	7	Closed
ABC	Store 17 Dock Leveler	100%	19,240	3,217	-	3,217	-	Closed
DFCM	Heber Wells Power Clean	100%	35,612	6,727	-	6,727	-	Closeout
DFCM	Provo Reg Lighting Controls	0%	88,195	9,500	-	9,500	9,500	Construction
DWS	Vernal Emergency Lighting Back Up System	100%	18	1,715	-	1,715	-	Closed
WSU	Ground Source Geothermal Field	100%	2,779,294	113,065	46,764	66,301	41	Closeout
UBATC	Emergency HVAC Controls	46%	595,273	53,575	-	53,575	29,066	Construction
DFCM	Governor's Mansion Mechanical Upgrade	100%	13,994	11,072	-	11,072	0	Construction
WSU	Utility Tunnel Repairs Phase VI	100%	265,507	19,347	-	19,347	-	Closed
DPS	Murray UHP Chiller & Pump	100%	156,741	18,715	-	18,715	-	Closed
SNOW	Richfield Exterior Fenestration Windows	98%	227,163	17,100	48,043	(30,943)	368	Closed
UVU	Boilers Replacement	100%	727,330	52,470	52,737	(267)	-	Closeout
UVU	Hall Of Flags/Admin Fan Coil Units	97%	497,510	31,080	7,478	23,602	953	Closed

CONTINGENCY FUND ANALYSIS

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AGENCY	DESCRIPTION	% COMPLETE	CONSTRUCTION BUDGET	AUTHORIZED CONTINGENCY AMOUNT	DRAWS FROM CONTINGENCY	AUTHORIZED MINUS DRAWS	PROJECTED CONTINGENCY NEEDS	PROJECTS STATUS
Fairpark	Multiple Bldgs Weather Stripping/Door Refurbishme	95%	69,070	9,025	-	9,025	444	Construction
Health	Cannon Fire Alarm System	0%	1,086	21,375	-	21,375	21,375	Design
MATC	Additional Parking	91%	676,622	63,000	-	63,000	5,727	Closed
SLCC	RRC-Tech Bldg Restroom Remodel	79%	787,036	67,812	30,544	37,268	14,104	Closed
DWS	Insurance Fraud Division IT Remodel	100%	571,364	21,892	-	21,892	-	Closed
DHS	USDC-Infrastructure Phase III	99%	1,788,640	168,748	139,775	28,973	2,357	Closed
Educarion	Taylorsville Deaf Ctr Chiller/Cooling Tower	57%	216,941	26,566	12,198	14,368	11,341	Construction
Educarion	Libbie Edwards Rooftop Units Upgrade	76%	429,581	42,790	13,833	28,957	10,264	Construction
SNOW	Steam/Condensate Lines Upgrade	93%	581,452	45,303	104,948	(59,645)	3,382	Construction
SNOW	Physical Plant New Ventilation/AC system	0%	116,725	11,088	-	11,088	11,088	Design
DFCM	Heber Wells Bathroom Remodel 1,3,5,6	99%	484,481	66,635	26,807	39,828	399	Closeout
Dixie	Replace Transformers	100%	55,449	4,435	-	4,435	12	Closeout
DFCM	Retrofit Fuel Tanks	27%	2,312,060	171,063	-	171,063	124,639	Construction
Corrections	Fortitude Intake Remodel	58%	303,034	13,556	7,621	5,935	5,715	Closeout
BATC	Class Project Storage Facility Phase II	0%	193,615	16,214	-	16,214	16,214	Closed
BATC	Dynamometer Room Window Casing	0%	479,082	21,249	12,953	8,296	21,249	Closed
WSU	Phase V Medium Voltage Critical Need	0%	184,577	15,423	-	15,423	15,423	Closeout
DCC	Rio Grande Marble Floors/Interior Wood	21%	180,500	5,054	-	5,054	3,976	Construction
Courts	Ogden Elevator Cooling Room System	18%	371,406	35,170	-	35,170	29,002	Closeout
Courts	Ogden Exterior Ice Melt System	100%	191,185	22,971	-	22,971	-	Construction
ABC	Store #30 Expansion	34%	382,223	37,795	-	37,795	24,808	Construction
DATC	Welding Shop Make Up Air	100%	406,534	34,101	11,154	22,947	-	Closeout
Courts	Brigham City DVR/Camera Upgrade	93%	180,587	17,156	-	17,156	1,268	Closed
Courts	Brigham City Boiler Replacement	0%	63,806	6,690	-	6,690	6,690	Construction
DFCM	Ogden Reg East Parking Structure Concrete	0%	74,534	7,081	-	7,081	7,081	Design
Courts	Layton Boiler Replacement	0%	62,235	6,539	-	6,539	6,539	Construction
Courts	Layton Public Area Remodel	100%	29,705	5,484	8,985	(3,501)	-	Construction
Corrections	NUCCC DVR/Camera Upgrade	96%	212,190	20,158	840	19,318	878	Closed
UDOT	Water Runoff Retention	94%	529,892	46,250	54,342	(8,092)	2,875	Construction
Tax	Elevator Hydraulic Piping	0%	31,138	6,175	-	6,175	6,175	Closed
SNOW	Hi Tech park Lot & act Ctr Main Gym lighting	98%	67,000	9,310	-	9,310	186	Construction
DWS	Elevator Upgrade	0%	71,279	9,500	-	9,500	9,500	Construction
UVU	Elevator Hoist, Ram, & Oil	0%	36,000	10,070	-	10,070	10,070	Construction
Corrections	NUCCC HVAC Controls	69%	27,022	2,573	-	2,573	800	Closed
Corrections	Fremont AP&P Renovations	95%	260,619	20,476	13,819	6,657	1,086	Closed
Corrections	Various AP&P Security Project	96%	83,062	5,539	-	5,539	245	Construction
DCC	Rio Grand Parking Security	100%	121,686	3,872	4,354	(482)	-	Closeout
DCC	Rio Grande Exterior Windows	0%	321,456	25,833	-	25,833	25,833	Construction
Archives	Freeport C-6 Generator	98%	51,352	6,578	-	6,578	124	Closeout
ABC	Admin Bldg Stove Hood Installation	81%	27,784	2,114	4,002	(1,888)	395	Closed

CONTINGENCY FUND ANALYSIS

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AGENCY	DESCRIPTION	% COMPLETE	CONSTRUCTION BUDGET	AUTHORIZED CONTINGENCY AMOUNT	DRAWS FROM CONTINGENCY	AUTHORIZED MINUS DRAWS	PROJECTED CONTINGENCY NEEDS	PROJECTS STATUS
ABC	Admin Restroom Replacement	60%	77,985	7,112	-	7,112	2,817	Closeout
Corrections	AP&P Various Centers Mold Mitigation	0%	95,930	11,586	-	11,586	11,586	Closed
DNR	DWR Central Region Office Replacement	0%	2,181,000	130,851	-	130,851	130,851	Design
UVU	Computer Science Bldg Spandrel Replacement	0%	232,565	13,395	-	13,395	13,395	Closed
DNR	Parks - Green River Campground Restrooms	0%	272,112	23,275	-	23,275	23,275	Design
DNR	Parks - Goblin Valley Overlook Restrooms	44%	390,667	34,225	-	34,225	19,245	Construction
UVU	Campus Sidewalk Pavers Upgrade	0%	76,199	7,600	-	7,600	7,600	Construction
UVU	Central Plant Main Electrical Gear	41%	433,443	60,390	-	60,390	35,759	Closeout
UDOT	Admin Comple HVAC Replacement	0%	438,719	30,247	-	30,247	30,247	Construction
UVU	Lower Central Plant Chiller	90%	494,165	39,775	-	39,775	4,112	Construction
UVU	Campus Storm Water Improvements	49%	151,871	23,085	-	23,085	11,679	Closeout
UVU	Gunther Trades Bldg Electrical Transformers	12%	98,320	11,305	-	11,305	9,955	Construction
UVU	Pope Science Exterior Stair Replacement	0%	46,876	8,265	-	8,265	8,265	Construction
Corrections	CUCF - Irrigation Pumps Replacement	0%	23,524	3,913	-	3,913	3,913	Closeout
SLCC	LHM - Fire Alarm Upgrade	1%	213,832	17,625	-	17,625	17,400	Design
SLCC	RRC - Emergency Generator Replacement	100%	143,640	18,759	-	18,759	-	Closed
UVU	Woodbury Business Bldg Skylight Modifications	0%	73,077	7,477	-	7,477	7,477	Construction
DFCM	MASOB Skylight Replacement	0%	312,435	22,800	-	22,800	22,800	Construction
UVU	Computer Science VAV & Control Valve	90%	265,296	15,770	-	15,770	1,613	Construction
SUU	Electronic Access Control	94%	156,380	13,271	-	13,271	752	Closeout
Deaf	Ogden School Fire Panel Upgrade	47%	382,650	34,513	-	34,513	18,278	Construction
BATC	Brigham City Improvement/Remodel/ADA	75%	443,998	41,105	-	41,105	10,093	Construction
UDOT	Reg 1 HVAC Upgrades	35%	371,575	34,513	-	34,513	22,427	Construction
BATC	Main & West Campus Security System	0%	147,642	12,229	-	12,229	12,229	Closed
DNR	Electrical Panel/Transformer Replacement	0%	26,500	2,787	-	2,787	2,787	Construction
DNR	Security Camera Upgrade	0%	124,400	10,476	-	10,476	10,476	Construction
Fairpark	Multiple Bldgs A/C & Exhaust Replacements	56%	128,146	13,300	-	13,300	5,859	Closed
Fairpark	Grand Bldg Interior Renovation	74%	269,962	46,756	-	46,756	12,152	Construction
CPB	West Bldg Leg Research Remodel	0%	38,948	3,700	-	3,700	3,700	Construction
CPB	DUP Restroom Remodel	0%	23,408	3,135	-	3,135	3,135	Closeout
CPB	SOB Wasteline/Server Closet Cooling	1%	422,979	48,882	-	48,882	48,569	Construction
CPB	Council Hall Basement Restroom Remodel	0%	32,868	4,275	-	4,275	4,275	Closeout
Corrections	Draper - Timp North 2&4 Control Rooms	100%	170,562	19,927	-	19,927	-	Closed
DSU	Math/Science Center Improvements	1%	320,056	24,975	20,301	4,674	24,829	Construction
DHS	JJS - SLV Detention Roof, Rooftop Units	0%	2,064,421	104,587	-	104,587	104,587	Construction
OWATC	Campus Wide Door Access System	0%	272,055	26,691	-	26,691	26,691	Construction
UDOT	Richmond Floor Drain System	0%	78,704	7,477	-	7,477	7,477	Closed
UDOT	Huntsville New Septic System	52%	72,858	7,477	-	7,477	3,620	Closed
DNR	Parks - Bear Lake Dock Replacement	98%	1,980,274	106,853	34,389	72,464	1,643	Construction
DWS	Clearfield 2nd Floor Carpet Replacement	95%	45,147	4,289	-	4,289	202	Construction

CONTINGENCY FUND ANALYSIS

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AGENCY	DESCRIPTION	% COMPLETE	CONSTRUCTION BUDGET	AUTHORIZED CONTINGENCY AMOUNT	DRAWS FROM CONTINGENCY	AUTHORIZED MINUS DRAWS	PROJECTED CONTINGENCY NEEDS	PROJECTS STATUS
ABC	Store 28 Dock Awning & Enclosure	100%	15,267	3,131	-	3,131	-	Closeout
DHS	Vernal Emergency Lighting Backup System	0%	105,942	4,719	-	4,719	4,719	Design
DWS	Vernal Emergency Lighting Backup System	0%	38,208	3,630	-	3,630	3,630	Closed
UNG	HQ Electrical Service Distribution Replacement	0%	1,493,264	109,200	-	109,200	109,200	Construction
UNG	AF Armory AC units/Controls/Condensors	0%	315,142	29,151	-	29,151	29,151	Design
UNG	Draper Fire Alarm Replacement	0%	286,238	26,477	-	26,477	26,477	Design
UNG	Camp Williams Building Control System	0%	55,324	5,256	-	5,256	5,256	Construction
DVA	Nursing Homes Delayed Egress	74%	346,500	29,137	-	29,137	7,560	Construction
DVA	Landscape Parcel St George	61%	201,110	15,200	3,910	11,290	5,902	Closeout
Fairpark	Multiple Bldgs Exterior Light Replacement	15%	86,020	4,630	-	4,630	3,939	Design
DPS	Fremont Cooling Tower	100%	64,236	6,103	736	5,367	-	Closed
DFCM	State Library HVAC Rooftop/Controls	0%	1,150,967	92,387	-	92,387	92,387	Construction
Agriculture	HVAC Upgrade	0%	278,000	25,715	-	25,715	25,715	On Hold
Tax	Parking Lot Lighting Upgrade	0%	21,580	19,676	-	19,676	19,676	Construction
DSU	Campus Fire Lane & Sidewalk Repairs	0%	82,730	7,083	-	7,083	7,083	Closed
DSU	Exterior Lighting	0%	105,824	8,941	-	8,941	8,941	Closed
DSU	Various Bldgs Fire Alarm Upgrade	0%	245,617	17,401	38,476	(21,075)	17,401	Closed
DSU	Hansen Stadium Track Replacement	45%	2,746,247	38,942	13,722	25,220	21,254	Closeout
DSU	McDonald Center Mechanical System Upgrade	53%	368,980	30,207	-	30,207	14,223	Construction
DSU	Cox, Burns Sewage Ejectors	0%	22,989	1,959	-	1,959	1,959	Closed
DSU	South Admin Bldg Refurbish	0%	92,434	7,372	-	7,372	7,372	Closed
DSU	Performing Arts Exterior Damage Repairs	0%	165,717	19,820	-	19,820	19,820	Design
DSU	Burns, Cox Recommissioning	0%	36,834	3,085	-	3,085	3,085	Closed
DXATC	North East Sidewalk/Gutter	0%	124,792	11,855	-	11,855	11,855	Closed
DXATC	South Perimeter Fencing	100%	35,799	3,950	-	3,950	-	Closed
SUU	Campus ADA Concrete Replacement	28%	165,425	14,202	-	14,202	10,276	Construction
SUU	Campus Storm Drain Study	31%	114,575	3,085	-	3,085	2,131	Design
SUU	Multiple Bldgs Fire Alarm Panel Upgrade	20%	198,426	11,788	55,523	(43,735)	9,448	Construction
SUU	Boiler #3 Replacement	7%	1,793,321	124,048	-	124,048	114,851	Construction
SUU	Music Bldg Chiller Replacement	21%	695,189	10,070	5,213	4,857	7,964	Closeout
SWATC	Business Bldg Parking Lot Drainage/Sealing	100%	14,854	2,140	-	2,140	-	Closed
SWATC	Tech Bldg Walkway Replacement	0%	232,820	4,279	-	4,279	4,279	Design
UDOT	Beaver Replace Windows/Remodel Office	87%	166,872	14,474	15,047	(573)	1,915	Closed
Courts	Cedar City Various Upgrades	97%	444,747	12,900	41,653	(28,753)	411	Closeout
Courts	St George Cooling Tower Upgrade	0%	82,151	6,026	-	6,026	6,026	Closed
DFCM	Richfield Regional Exterior Lighting	94%	17,242	1,928	-	1,928	106	Closed
DFCM	Richfield Regionsl Trench On North Side Of Bldg	100%	16,366	2,573	-	2,573	-	Closed
Education	Bldg Boiler Replacement	72%	257,578	20,368	43,360	(22,992)	5,799	Closed
DNR	Parks - Otter Creek Entrance St/Asphalt Repairs	0%	392,628	19,355	-	19,355	19,355	Design
Courts	Mattheson Power Transfer Switch	0%	15,200	1,444	-	1,444	1,444	Design

CONTINGENCY FUND ANALYSIS

Sep-17

AGENCY	DESCRIPTION	% COMPLETE	CONSTRUCTION BUDGET	AUTHORIZED CONTINGENCY AMOUNT	DRAWS FROM CONTINGENCY	AUTHORIZED MINUS DRAWS	PROJECTED CONTINGENCY NEEDS	PROJECTS STATUS
ABC	Club Store Window & Door Repairs	0%	10,500	997	-	997	997	Design
DNR	Vernal Exterior Doors	6%	30,923	2,938	-	2,938	2,757	Design
DCC	Rio Grande Landscape Upgrade	6%	71,500	6,792	-	6,792	6,374	Design
Agriculture	Irrigation/Landscape Renovation	0%	126,000	11,970	-	11,970	11,970	On Hold
DNR	Irrigation/Landscape Renovation	0%	89,250	8,479	-	8,479	8,479	Design
DPS	Orem Irrigation/Landscape	0%	32,000	3,040	-	3,040	3,040	Design
DWS	HVAC Replacement	31%	571,634	45,082	-	45,082	31,101	Construction
DFCM	Rampton Fan Wall, FVD's	55%	753,348	58,230	21,689	36,541	26,073	Construction
Agriculture	New Building Planning	95%	310,000	-	60,000	(60,000)	-	Programming
UDOT	Testing Facility Water Heaters/Pumps	0%	27,942	1,069	-	1,069	1,069	Construction
ABC	Sandy Interior LED lighting Upgrade	0%	32,164	2,506	-	2,506	2,506	Closed
ABC	Holladay Handrail Upgrade	95%	36,552	3,548	-	3,548	177	Closeout
DPS	BCI Exterior Lighting Upgrade	30%	45,000	4,275	-	4,275	2,980	Construction
UDOT	Testing Facility Painting	100%	43,330	7,972	-	7,972	-	Closed
DCC	Fine Arts Landscaping/Irrigation	0%	88,000	8,360	-	8,360	8,360	Design
DPS	BCI Landscaping/Irrigation	0%	72,170	6,856	-	6,856	6,856	Design
UDOT	Rampton Restrooms Remodel	0%	983,428	86,968	-	86,968	86,968	Design
OWATC	Phase II Restroom Upgrades	30%	470,738	42,223	4,482	37,741	29,380	Construction
Courts	West Jordan Fire Panel	0%	180,000	19,000	-	19,000	19,000	Construction
Corrections	CUCF - DTV System Conversion	0%	266,105	11,522	-	11,522	11,522	Design
Corrections	CUCF - Medical Access Control	0%	68,002	5,738	-	5,738	5,738	Construction
Corrections	CUCF - Special Mgmt Unit Shower Renovation	0%	119,423	3,558	-	3,558	3,558	Design
DFCM	St Library VCT Tile Replacement	100%	15,143	3,818	4,971	(1,153)	-	Closed
Corrections	Draper - A-Block/Star 1-4 HVAC	0%	167,200	15,884	-	15,884	15,884	On Hold
Corrections	Draper - A-West Yard Concrete	0%	92,408	7,173	440	6,733	7,173	Closed
Corrections	Draper - Timp 5 Air Handler	0%	469,863	26,620	-	26,620	26,620	Construction
Corrections	CUCF - Henry Compound AHU	0%	258,406	23,903	-	23,903	23,903	On Hold
Courts	Mattheson Access Control/Front End Security	0%	699,500	62,955	-	62,955	62,884	Design
Courts	Mattheson Fire Dry Pipe Main Replacement	77%	341,077	23,750	91,609	(67,859)	5,406	Closed
Courts	Mattheson Freeze Stats & CO Sensor	0%	17,015	1,759	-	1,759	1,759	Closed
Courts	Mattheson Public Restrooms Valves/Fixtures	0%	598,300	52,353	-	52,353	52,353	Construction
UDOT	Rampon Security Camera System Upgrade	0%	186,971	17,762	-	17,762	17,762	Design
CPB	Capitol Hill/Dome Interior Lighting upgrade	58%	67,823	6,443	-	6,443	2,694	Construction
MATC	Welding Compound Canopy	0%	68,491	6,103	1,791	4,312	6,103	Closed
CPB	Capitol Hill Parking Lot LED Lights	20%	165,000	15,675	-	15,675	12,584	Construction
OWATC	Campuswide Metering	2%	137,562	12,438	-	12,438	12,200	Design
WSU	Campus Wide Metering	0%	169,560	15,440	-	15,440	15,440	Pending
DSU	Campuswide Metering	0%	136,607	12,438	-	12,438	12,438	Closed
UNG	Campuswide Metering Phase II	0%	91,344	8,656	-	8,656	8,656	Design
Courts	Matheson HVAC Automation	0%	34,100	3,240	-	3,240	3,240	Design

CONTINGENCY FUND ANALYSIS

Sep-17

AGENCY	DESCRIPTION	% COMPLETE	CONSTRUCTION BUDGET	AUTHORIZED CONTINGENCY AMOUNT	DRAWS FROM CONTINGENCY	AUTHORIZED MINUS DRAWS	PROJECTED CONTINGENCY NEEDS	PROJECTS STATUS
Courts	Tooele HVAC Controls Upgrade	0%	34,900	3,316	-	3,316	3,316	Design
Health	Unified Lab Exhaust Return Fan Wall	0%	325,631	30,121	-	30,121	30,121	Design
DOC	CUCF - Infrastructure Metering	0%	616,660	55,499	-	55,499	55,499	Design
Snow	Football Stadium Artificial Surface	81%	1,410,914	-	3,819	(3,819)	-	Construction
WSU	Replace Natural Gas Piping in Tunnels	0%	253,824	-	8,617	(8,617)	-	Construction
SUBTOTAL		57%	145,088,049	9,021,784	3,843,635	5,178,149	3,112,328	
	PROJECTED CONTINGENCY FUND NEEDS						9,442,517	
	CONTINGENCY RESERVE FUND BALANCE						8,443,702	
	PROJECTED EXCESS IN CONTINGENCY RESERVE FUND						(998,815)	

State of Utah

Division of Facilities and Construction Management

Statewide CP Planning Fund

No Parameters Required

Agency	Project	Project Description	Amount
Agriculture	15354010	Ut Dept Of Agriculture And Food Willam Spry Buildi	$25,000.00
Dixie Atc	13375290	Dixie Atc New Permanent Campus Building	$0.00
Mountainland Atc	15320260	Moutainland Atc Thanksgiving Point Campus Technolo	$110,057.00

(4661 and 4662) 3	**Fund Allocations:**	**$135,057.00**
Fund Project: 11282300	**Planning Reserve:**	**$901,000.00**
Statewide Planning Fund	**Available Balance:**	**$765,943.00**

State of Utah

Division of Facilities and Construction Management

Statewide Emergency Fund

Fund Type = IMPROV EMERGENCY; From Date = 05/27/2017

Agency	Project	Project Description	Budget	Prior	Current	Total
				<---------- Encumbrance ----------		
Dfcm - Managed Buildings	14321300	Moab Regional Center - Solar Pv Project	$305,820.00	$551,797.52	$0.00	$551,797.52
Ogden/weber Atc	15109240	Ogden/weber Atc Health Technology Settling Investigation	$96,473.08	$120,146.96	$0.00	$120,146.96
Uintah Basin Atc	15370250	Uintah Basin Atc Vernal And Roosevelt Campuses Emergency Hvac Controls Replacement	$666,425.00	$302,286.00	$0.00	$302,286.00
Davis Atc	17304220	Davis Atc Barlow Building Retaining Wall Repairs	$212,000.00	$3,345.00	$209,787.66	$213,132.66
Driver License Division	17331550	Fairpark Driver's License Office Ada Upgrades - Emergency Funds	$50,010.00	$42,401.00	$5,188.19	$47,589.19
Average = $266,145.62		**5 Projects**	**$1,330,728.08**	**$1,019,976.48**	**$214,975.85**	**$1,234,952.33**
Statewide Emergency Fund			**Unencumbered Balance for Fund - 12200300**			**$445,123.34**

State of Utah

Division of Facilities and Construction Management

Statewide Hazardous Materials Projects

Fund Type = IMPROV HAZARDOUS; From Date = 05/27/2017

				<---------- Encumbrance ----------		
Agency	**Project**	**Project Description**	**Budget**	**Prior**	**Current**	**Total**
Dfcm - Statewide Funds	17028300	Fy'17 Hazardous Materials Survey Fund	$469,757.77	$227,142.19	$266,233.37	$493,375.56
Dfcm - Statewide Funds	18265300	Fy'18 Hazardous Materials Emergency Asbestos Abatement Fund	$442,861.42	$0.00	$0.00	$0.00
Dfcm - Statewide Funds	18266300	Fy'18 Hazardous Materials Surveys Fund	$270,722.82	$0.00	$0.00	$0.00
Average = $394,447.34		**3 Projects**	**$1,183,342.01**	**$227,142.19**	**$266,233.37**	**$493,375.56**
Statewide Hazardous Materials Projects			**Unencumbered Balance for Fund - 17029300**			**$24,994.00**

State of Utah

Division of Facilities and Construction Management

Statewide Land Options and Acquisition Fund

Fund Type = IMPROV LND OPTION; From Date = 05/27/2017

Agency	Project	Project Description	Budget	<---------- Encumbrance ---------- Prior	Current	Total
Average =		Projects				
Statewide Land Options And Acquisition Fund			Unencumbered Balance for Fund - 12240300			$1,123,326.64

State of Utah

Division of Facilities and Construction Management

Statewide Paving Projects

Fund Type = IMPROV PAVING; From Date = 05/27/2017

Agency	Project	Project Description	Budget	Prior	Current	Total
				<---------- Encumbrance	----------	
Dfcm - Statewide Funds	12107300	Fy'13 - Fy'17 Paving Preventative Maintenance Funds	$1,602,094.28	$1,435,660.82	$317,365.88	$1,753,026.70
University Of Utah	12260750	Univ Of Utah 1900 East To Nursing Bldg Paving Improvements - Delegated	$170,000.00	$17,339.50	$137,700.00	$155,039.50
University Of Utah	14270750	Univ Of Utah Fort Douglas Blvd Paving Replacement - Delegated	$550,000.00	$32,100.00	$0.00	$32,100.00
Corrections - Cucf	15047110	Cucf Various Paving Improvements	$1,232,330.00	$2,019,731.58	$60,874.55	$2,080,606.13
Utah Valley University	15048790	Uvu Various Asphalt/concrete Paving Upgrades	$593,372.00	$934,708.48	$46,539.46	$981,247.94
Driver License Division	15052550	West Valley Driver's License New Parking Lot Entrance	$83,697.00	$6,809.00	$0.00	$6,809.00
Salt Lake Comm College	17177680	Slcc Miller Campus Southwest Parking Lot & Loop Road Replacement	$1,562,786.00	$1,174,884.98	$729,859.06	$1,904,744.04
Weber State University	17179810	Wsu Various Parking Lots Asphalt Maintenance	$480,895.26	$55,515.00	$435,590.29	$491,105.29
Weber State University	17180810	Wsu Science Lab South Ada Access Paving	$100,000.00	$6,696.50	$0.00	$6,696.50
Dixie St College Of Utah	17183640	Dixie State University 300 S, 400 S., & 800 East Asphalt Resurfacing - Mou	$175,000.00	$161,266.00	$0.00	$161,266.00
Southern Utah University	17186730	Suu Juniper Parking Lot Replacement	$600,000.00	$65,683.00	$488,585.97	$554,268.97
Utah Valley University	17187790	Uvu Campus Drive And Parking Maintenanace	$300,000.00	$277,069.60	$56,148.85	$333,218.45
Dnr - Wildlife Resources	17211520	Dwr Great Basin Research Center Paving Upgrades	$43,113.00	$31,385.00	$7,945.96	$39,330.96
Ogden/weber Atc	17316240	Ogden Weber Atc Main Campus Parking Lot Upgrades	$300,000.00	$23,379.00	$270,047.42	$293,426.42
Southern Utah University	18048730	Mou - Suu Campus Concrete Replacement	$200,000.00	$0.00	$0.00	$0.00
Utah State University	18061770	Usu Fy'18 Parking Lots Paving - Delegated	$450,000.00	$0.00	$0.00	$0.00
Utah State University	18062770	Usu Fy'18 Parking Lot Crack Repairs & Slurry Seal - Delegated	$150,000.00	$0.00	$0.00	$0.00
Corrections - Draper	18210100	Draper Prison Uci And Public Olympus Housing Parking Lot Expansion	$62,779.00	$0.00	$0.00	$0.00
Dept Of Transportation	18214900	Cal Rampton Bldg/mtf Phase 5 Parking Lot Paving Improvements	$328,000.00	$0.00	$0.00	$0.00
Tax Commission	18215310	Tax Commission Ada Upgrades And Parking Lots Slurry Seal And Striping	$42,000.00	$0.00	$0.00	$0.00
Average = $451,303.33	**20**	**Projects**	**$9,026,066.54**	**$6,242,228.46**	**$2,550,657.44**	**$8,792,885.90**
Statewide Paving Projects			**Unencumbered Balance for Fund - 11284300**			**$883,647.74**

State of Utah

Division of Facilities and Construction Management

Statewide Roofing Projects

Fund Type = IMPROV ROOFING; From Date = 05/27/2017

				<---------- Encumbrance ----------		
Agency	**Project**	**Project Description**	**Budget**	**Prior**	**Current**	**Total**
Fairpark	15152370	Fairpark Grand Building Asphalt Shingle Roof Replacement And Painting	$336,851.00	$373,278.25	$143,445.00	$516,723.25
Dfcm - Statewide Funds	16008300	Fy'16, Fy'17 And Fy'18 Roofing Preventative Maintenance Account	$708,697.03	$91,243.00	$28,696.86	$119,939.86
Dfcm - Statewide Funds	16009300	Fy'16 Roofing Seismic Program	$463,195.08	$0.00	$0.00	$0.00
Dept Of Transportation	17081900	Udot Region #2 Carpenter/landscape Building Reroof	$27,543.00	$19.00	$10,465.00	$10,484.00
Dept Of Transportation	17082900	Udot Lunt Park Rest Stop Reroof	$78,475.00	$59,997.91	$49,485.91	$109,483.82
Southwest Atc	17083270	Swatc - Building Reroof And Replacement Of Rooftop Heating & Cooling Unts	$611,051.20	$1,133,263.25	$9,863.33	$1,143,126.58
Juvenile Justice Services	17090430	Hs Decker Lake Youth Center Reroof	$10,462.00	$32,212.00	$0.00	$32,212.00
Capitol Preservation Bd	17092050	Cpb State Office Building Roofing Improvements	$164,300.00	$12,132.00	$9,600.00	$21,732.00
Abc Stores	17094030	Logan Abc Store #6 Reroof Hold For Further Evaluation	$141,198.00	$147,063.59	$127,562.56	$274,626.15
Weber State University	17114810	Mou Wsu Swenson Gym/stromberg Plaza Roof Replacement	$300,000.00	$276,609.00	$0.00	$276,609.00
Dixie St College Of Utah	17350640	Dixie State Univ Hurricane Education Center Reroof	$153,000.00	$10,908.00	$133,090.00	$143,998.00
University Of Utah	18004750	Univ Of Utah Eyring North Chemistry Bldg Roof Replacement	$1,590,215.00	$106,333.63	$0.00	$106,333.63
Courts	18005150	Matheson Courthouse Roof Replacement	$1,072,941.00	$139,370.40	$905,648.50	$1,045,018.90
Southern Utah University	18010730	Suu Smith Center Reroof And Skylight Replacement	$895,875.00	$61,750.00	$167.50	$61,917.50
Weber State University	18011810	Wsu Mckay Education Roof	$263,304.00	$12,000.00	$0.00	$12,000.00
Weber State University	18014810	Wsu Engineering Technology Roof Replacement	$533,079.00	$28,605.00	$0.00	$28,605.00
Abc Stores	18021030	Vernal Abc Store #28 Roof Replacement	$80,893.00	$0.00	$0.00	$0.00
Abc Stores	18022030	Abc Clubhouse Store #33 Roof Replacement	$248,944.00	$0.00	$0.00	$0.00
Davis Atc	18023220	Davis Atc Motor Sports Roof Replacement	$300,000.00	$20,930.00	$335.50	$21,265.50
Juvenile Justice Services	18025430	Washington County Youth Crisis Center Roof/rtu Replacement	$183,701.00	$0.00	$0.00	$0.00
Juvenile Justice Services	18026430	Farmington Bay Youth Center Roof Replacement	$476,510.00	$33,484.00	$23,773.64	$57,257.64
Dixie St College Of Utah	18027640	Dixie State Univ Tanner Amphitheater Roof Repairs	$72,270.00	$0.00	$0.00	$0.00
Snow College	18029700	Snow - Ephraim Physical Plant Reroof & Seismic Upgrade	$327,000.00	$0.00	$0.00	$0.00
Salt Lake Comm College	18031680	Slcc Lhm-kgmc, Mpdc Roof Replacement	$397,379.00	$0.00	$26,540.00	$26,540.00

State of Utah

Division of Facilities and Construction Management

Statewide Roofing Projects

Fund Type = IMPROV ROOFING; From Date = 05/27/2017

				<---------- Encumbrance ----------		
Agency	**Project**	**Project Description**	**Budget**	**Prior**	**Current**	**Total**
Utah Highway Patrol	18032550	Public Safety Murray Uhp Roof Replacement	$262,176.00	$0.00	$18,232.00	$18,232.00
Juvenile Justice Services	18034430	Millcreek Youth Center Re-roofing	$828,679.00	$57,156.00	$15,419.00	$72,575.00
Dept Of Transportation	18035900	Udot Colton Salt Storage Roof	$95,941.00	$0.00	$0.00	$0.00
Dept Of Transportation	18036900	Udot Utah Aeronautical Operations Building Reroof	$193,170.00	$0.00	$0.00	$0.00
Salt Lake Comm College	18039680	Slcc-lhm-matc Roof Replacement	$373,575.00	$0.00	$24,817.00	$24,817.00
Utah State University	18054770	Usu Old Main Bldg Reroof Phase Iii - Delegated	$800,000.00	$0.00	$0.00	$0.00
Utah State University	18066770	Usu Eccles Business Bldg Reroof Upper Tower - Delegated	$175,000.00	$0.00	$5,925.00	$5,925.00
Utah State University	18075770	Usu Ray B. West Bldg Reroof - Delegated	$450,000.00	$0.00	$0.00	$0.00
Average = $394,232.01	**32**	**Projects**	**$12,615,424.31**	**$2,596,355.03**	**$1,533,066.80**	**$4,129,421.83**
Statewide Roofing Projects			**Unencumbered Balance for Fund - 11204300**			**$1,111,427.24**