

Yosemite Community College District - Modesto Junior College

Total Cost of Ownership Projections -By Building

YOSEMITE HALL (SIERRA A)

Building Number

30

Factors

Current Replacement Value	2015	\$25,839,455
Assignable SF		34,931
Gross SF		51,741
Major Repair Percentage	1.5%	
FCI		0.13%
Current Repair Cost	2015	\$33,362
Annual Escalation- Labor+ Mat	3.0%	
Annual Escalation -Utilities	4.0%	

Year Built		2002	
Last Renovation		Adjusted	
Elect	\$/GSF	\$ 1.78	\$ 1.78
Nat Gas	\$/GSF	\$ 0.43	\$ 0.43
Water/Sew	\$/GSF	\$ 0.33	\$ 0.33
M&O Staff	\$/GSF	\$ 5.00	\$ 4.64
M&O Expen	\$/GSF	\$ 0.77	\$ 0.77
Total		\$ 8.31	\$ 7.94

Calculated Staff

Custodial
Maintenance

Building Name

YOSEMITE HALL (SIERRA A)

	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	2024/25	2025/26	
Current Replacement Value	25,839,455									
Annual Costs										
Utility- Electric	92,099	95,783	99,614	103,599	107,743	112,052	116,535	121,196	126,044	
Utility- Gas	21,990	22,870	23,784	24,736	25,725	26,754	27,824	28,937	30,095	
Utility- Water	17,075	17,758	18,468	19,207	19,975	20,774	21,605	22,469	23,368	
M&O Staff	240,045	247,247	254,664	262,304	270,173	278,278	286,627	295,226	304,082	
Misc Expense	39,841	41,036	42,267	43,535	44,841	46,186	47,572	48,999	50,469	
Total Annual Expenses	411,049	424,693	438,797	453,380	468,457	484,045	500,162	516,827	534,057	
Long Term										
Major Repair	387,592	399,220	411,196	423,532	436,238	449,325	462,805	476,689	490,990	
Renovation/Upgrades										
Total Cost of Ownership	26,638,097	823,912	849,994	876,912	904,695	933,370	962,967	993,516	1,025,047	

APPENDIX C

List Of Tables and Charts

Section 4.1

- Chart 4.1.A - Modesto JC WSCH Projection Comparison- FY 2008/09 to FY 2017/18
- Table 4.1.A - Modesto JC Capacity Load Ratio FY 2008/09 and FY 2017/18
- Chart 4.1.B - Modesto JC ASF Distribution FY 2008/09 and FY 2017/18
- Chart 4.1.C - Modesto JC Capacity Ratio Comparison- FY 2008/09 to FY 2017/18
- Chart 4.1.D - Columbia WSCH Projection Comparison FY 2008/09 to FY 2017/18
- Table 4.1.B - Columbia College Capacity Ratio Comparison FY 2008/09 and FY 2017/18
- Chart 4.1.E - Columbia ASF Distribution FY 2008/09 and FY 2017/18
- Chart 4.1.F - Columbia Capacity Load Ratio Comparison FY 2008/09 to 2017/18

Section 4.2

- Table 4.2.A - Calculated Custodial Staffing Levels and Actual Staffing
- Table 4.2.B - Modesto Area Custodial Staff per Gross Square Feet Historical data
- Chart 4.2.A - Modesto Area GSF per Custodian Historical Data
- Table 4.2.C - Columbia Custodial Staff per Gross Square Feet Historical Data
- Chart 4.2.B - Columbia College GSF per Custodian Historical Data
- Table 4.2.D - APPA Calculated Maintenance Staff and actual FY 2016/17
- Chart 4.2.C - Modesto Area GSF per Maintenance Staff Historical Data
- Chart 4.2.D - Columbia GSF per Maintenance Staff Historical Data
- Table 4.2.E - APPA Model Calculated Grounds FTE Staff
- Table 4.2.F - Modesto Area APPA Calculated M&O Staffing Levels and Actual
- Table 4.2.G - Columbia APPA Calculated M&O Staffing Levels and Actual
- Chart 4.2.E - Total Maintenance and Operations Staff Costs
- Table 4.2.H - Total Modesto JC + District M&O Staff Cost and Unit Cost
- Table 4.2.I - Total Columbia M&O Staff Cost and Unit Cost
- Chart 4.2.F - Energy Usage Modesto Operations
- Table 4.2.J - Modesto Area Historical Energy Use
- Chart 4.2.G - Energy Usage Columbia
- Table 4.2.K - Columbia Energy Use
- Table 4.2.L - Modesto Area Energy Use Intensity
- Table 4.2.M - Columbia Energy Use Intensity
- Chart 4.2.H - Energy Use Intensity Comparison
- Chart 4.2.I - Modesto JC + District Utility Cost Distribution
- Chart 4.2.J - Columbia Utility Cost Distribution
- Table 4.2.N - Modesto Area Energy Cost per GSF
- Table 4.2.O - Columbia Energy Cost per GSF
- Table 4.2.O1 - Modesto Area Utility Unit Cost Comparison
- Table 4.2.O2 - Columbia Utility Unit Cost Comparison
- Table 4.2.P - Modesto Area Water and Sewer Cost per GSF
- Table 4.2.Q - Columbia Water and Sewer Cost per GSF
- Table 4.2.R - Modesto Area Total Utility Cost per Gross Square Foot
- Table 4.2.S - Columbia Total Utility Cost per Gross Square Foot
- Table 4.2.T - M&O Operations Expense Modesto Area and Columbia
- Chart 4.2.K - M&O Operation Expenses Historical Data
- Table 4.2.U - Modesto JC + District Total Cost of Operations per Gross Square Foot
- Table 4.2.V - Columbia Total Cost of Operations per Gross Square Foot

Section 4.3

- Chart 4.3.A - Measure E Investment

Table 4.3.A - Modesto JC 10 year Long Term Renovation Investment

Table 4.3.B - Columbia 10 year Long Term Renovation Investment

Section 5

Table 5.1.A - Key Performance Indicator Comparisons

Draft



**YOSEMITE COMMUNITY COLLEGE DISTRICT
FACILITIES PLANNING & OPERATIONS
WORK ORDER PROCEDURE**

January 30, 2019 kh

PURPOSE

To establish a standard operating practice to receive, assign, and track all work orders including preventative maintenance work orders. Work orders are submitted through Physical Plant in Datatel.

GENERAL

Work orders are used to request, assign, and track work that needs to be accomplished by Facilities Operations including, but not limited to, maintenance, repairs, and minor construction work. The work order also serves to document the completion of work and to record and enter labor, material, and any other costs associated with the completion of that work for billing.

The primary functions that work orders accomplish for Facilities Operations are:

- Work orders serve as the main tool to assign work and distribute the assignment to the appropriate trade responsible for completing the work.
- Work orders provide documentation of work at the campuses for the Facilities Operations department.
- Work orders provide operational information. Having the ability to monitor and review statistical data provides the information needed to assess and improve operations processes.
- Work orders are used to charge/bill for materials and any other costs outside of routine maintenance requested by departments. LABOR IS NOT CHARGED.

DEFINITIONS

Safety Work Order: work order that is to take priority over other work orders (exceptions may be ADA work orders), situations requiring immediate response to avoid injury or property damage.

Examples of Safety Work Orders

- Minor Flooding
- Elevator Malfunctions
- Gas Smells
- Plumbing Back-Ups
- Electrical Emergencies (exposed wiring, ballasts burning)
- Roof leaks
- Power outages
- Equipment damage

ADA Work Order (Americans with Disabilities): work order to perform reasonable accommodations to a qualified ADA student, employee, or visitor with a disability to enjoy benefits and privileges equal to those without disabilities.

Examples of ADA Work Orders:

- Provide ADA table in classroom
- Repair ADA door opener
- Repaint ADA parking stall

Routine Work Order: work order for routine corrective maintenance. Does not include work orders for non-routine maintenance such as ADA, Safety, and Modernizations.

Examples of Routine Work Orders

- Locks
- Maintenance (minor roof leaks, light bulb replacement etc)
- Signage
- Leaking sink
- Graffiti
- Repair paper towel dispensers
- Too hot/too cold calls

Key Requests: work order for keys for staff or faculty members. Once the work order is retrieved, an approval form is sent to the division or department for processing. Keys will not be issued without written approval. Please refer to District Board Policy #3-8027 for more information. Master key requests require President or Chancellor Approval.

Modernization: work order that requests a modification or addition to an area that is not part of regular building maintenance or repairs. Department will submit a request for an estimated cost before proceeding with billable work. The requesting department will submit a work order. Facilities Operations will generate an approval form for the cost of the project to the requesting department. The requesting department will have 90 days to approve the billable work. If the work is not approved within 90 days, the request will be cancelled. Once approvals are received, the project may be scheduled and a Golden Rod will be provided to the trades. The Golden Rod is used to track time and expenses for billing purposes. Modernization will be approved by Chancellor and Vice Chancellor at each college.

Examples of Modernization Requests:

- Install key pad
- Install HVAC split unit
- Install water bottle filling station
- Install electrical drops
- Paint office
- Cabinetry Modifications

Recycling Work Order: work order may be submitted as "Routine" however Facilities Operations support staff will type recycling notes into the work order for tracking purposes.

Examples of Recycling Requests:

- Paper recycle pick up
- Cardboard pick up
- CRV containers pick up
- Scrap metal pick up
- Small Batteries

Preventative Maintenance (PM): PM work orders may be submitted by Facilities Operations to ensure routine maintenance is performed by a specific deadline.

Examples of Preventative Maintenance Requests

- HVAC filter changes
- Cleaning of building gutters
- Fire extinguisher service
- Parking lot painting
- Cleaning Roofs/Drains

WORK ORDER STATUS

Requested: Work order has been placed and is awaiting assignment.

Assigned: Work order has been accepted and work order number assigned.

Completed: Work has been completed by responsible staff and closed.

Cancelled: Work order was initiated but later deemed unnecessary prior to any work being performed. Facilities Operations support staff will type specific notes into the cancelled work order explaining why the work was cancelled, who cancelled it, and the date it was cancelled.

PROCEDURES

Managing Work Orders

- Assistant Director/Campus Facilities Manager is responsible for tracking, managing and scheduling Physical Plant work orders with staff.
- Maintenance/Grounds/Custodial staff is responsible for performing the work detailed in the work order.

Receiving and Distributing Work Orders

- Work orders will be retrieved at least once daily by Facilities Operations support staff and provided to management for distribution to Facilities Operations staff.

- All work orders must be completed in a timely manner. If there is a concern with the requested work, the manager should immediately be informed.
- Staff completing the work is responsible for signing work order with date of completion.
- If staff find a work order was assigned to the incorrect trade, staff will notify Facilities Operations support staff immediately to correct the work order.
- Managers must assign work orders on a daily basis.

Routine Work Order Meetings

- Facilities Operations support staff will schedule meetings at least once a month with each trade and the manager to review work order reports. Support staff will print the work order report and provide it to the manager prior to the meeting.
- Staff and management will communicate information regarding the work orders in progress such as the time spent to complete the work order, special circumstances and coordination of other departments.

EXAMPLES OF EMERGENCY WORK ORDERS

- Elevator failure
- Flooding
- Downed trees
- Electrical failure
- HVAC failure
- Roof leaks
- Gas leak
- Sewer leak
- Wind damage
- Hazardous material spills

Emergencies must be reported to Facilities Operations or Campus Safety by phone immediately. Facilities staff will follow-up with the work order entry process once emergency is mitigated.

EXAMPLES OF ITEMS FACILITIES OPERATIONS DOES NOT HANDLE

- Repairs and service to instructional equipment (such as fees/material/labor for Paint Booth, Refrigerators, Farm Equipment etc.)
- Moving of pianos
- Blinds
- Appliance repairs
- Moving personal items
- Auto repairs
- Livestock
- Phones
- Computers
- Personal Automobiles



**YOSEMITE COMMUNITY COLLEGE DISTRICT
FACILITIES PLANNING & OPERATIONS
SPECIAL FUNDING PROJECT GUIDELINES**

Updated January 2019 sm

PURPOSE

The purpose of this document is to provide guidance to college leaders in the preparation and execution of capital improvement projects in a manner that promotes sound business decisions when securing work for the District.

GUIDELINES

The Facilities Planning office should be informed of a project if it is, or may be:

- Construction related
- Exceeds the threshold for biddable projects.
- Requires DSA (Division of the State Architect) approval (See Attachment A).
- Affects utilities such as electrical, water, gas, sewer, low voltage (IT).
- Exceeds 8 feet on the exterior, 5 feet on the interior; or interferes with any path of travel
- Includes Instructional Equipment and Library Materials (IELM) or Strong Workforce projects
 - New equipment installation may affect areas in the building that may disrupt asbestos such as: coving, flooring, sheetrock, ceiling tiles, skim coat, pipe wrap around utilities, adhesives, and fire retardant materials
 - New equipment installation may disrupt lead paint.
 - New equipment installation that needs to be mounted to concrete may cause exposure to silica dust (ie ceiling tiles).

The following steps will be taken if Facilities Planning becomes involved in a project:

- Inspect project
- Discuss funding
- Project dollars will be moved to Fund 41 frequently.
- Architectural and Division of the State Architect (DSA) services will be involved and or consulted
- The Planning office will prepare for construction

DEFINITIONS & EXPECTATIONS

Soft Costs: Departments wishing to secure funding for construction related projects should keep soft costs in mind when determining the project budget. A soft cost is an expense item not considered direct construction cost. Soft costs include but are not limited to architectural, engineering, financing, project management, reproduction of plans, advertising, inspections, legal fees, etc. Soft cost may add up to 30% of the total project budget.

ADA (Americans with Disabilities Act) Title III Requirements: Requires 20% of the project budget (new construction or alterations) be applied to ADA improvements. Guidelines are in place to ensure barrier-free design is incorporated into buildings, facilities, site work and other developments to which code applies and to ensure that they are accessible to and usable by persons with disabilities (Division of the State Architect website). Please allow 20% additional budget for this requirement (a \$200,000

construction project would need an additional \$40,000 for ADA upgrades).

Prevailing Wages: Anyone working on a public works project must be paid prevailing wages as determined by the Department of Industrial Relations (DIR). See attachment B.

Project Timelines: When the project is formally conceptualized (all end users are satisfied with the end project) 4-6 months should be allowed for the architect to draw. Allow 4 months for a project under \$500,000 and 6 months for a project over \$500,000. DSA would have similar timelines based on the size of the project. The district needs 2 months to advertise, conduct bid walks, hold bid opening, and award the contract.

- ❖ Please consider the availability of the building the work will be done in. The average construction timeline for a small project is 90 days, and a large project could be 6 months – 1 year.

Standardized Cost Planning Form:

Construction Estimate \$ _____

11-15% Architectural rates (depending on type and trades involved) \$ _____

10% Contingency \$ _____

Advertising Costs (approx. \$900.00 to Modesto Bee & \$1,300.00 to Union Democrat. Both required for Columbia projects) \$ _____

ARC (approx. \$250.00) \$ _____

DSA (on a \$200,000.00 project the estimated fee would be \$4,100.00) \$ _____

5% Inspection Fees \$ _____

Hazardous Substances Cost \$ _____
(Buildings built prior to 1980, will contain asbestos. Consult Facilities on cost.)

5% Hazardous Substances Consultant Fees \$ _____

20% ADA upgrade \$ _____

Electrical upgrade on older buildings (\$350,000 - \$475,000) \$ _____

Construction only costs per asf (assignable square feet) \$ _____
(Classrooms \$350, Offices \$275, Computer Lab \$400, Specialized Lab \$500, Bathrooms (depending on size) \$450-500.)

Instructional Equipment \$ _____
(Classroom furniture, Culinary tables, Welding booths, Classroom furniture, Bleachers, Batting cages, Soccer goalposts)

IT Equipment (Computers, Smartboards, Printers) \$ _____

IT Infrastructure (cabling, support for units, connection to teaching units, etc.)

Total Project Cost \$ _____

- ❖ Depending on the bidding climate, costs may go up or down. Currently costs are escalating 12% per year.



IR A-22

CONSTRUCTION PROJECTS AND ITEMS EXEMPT FROM DSA REVIEW

Disciplines: All Disciplines	History:	Revised 08-25-15	Revised in its entirety 08-14-14
		Revised 06-16-15	Revised 03-22-13
		Revised 11-24-14	Issued 08-15-08

PURPOSE: The purpose of this Interpretation of Regulations (IR) is to clarify when plans and specifications for small construction projects on existing public school sites are required to be submitted to the Division of the State Architect (DSA) for review, approval, and construction oversight.

INTERPRETATION:

1. CALIFORNIA BUILDING STANDARDS CODE COMPLIANCE:

- 1.1 The following does not require DSA structural and fire and life safety approval. However, this work shall comply with all currently effective design, construction, and inspection provisions of the California Code of Regulations (CCR), Title 24, as amended by DSA. Inspection shall be performed by a DSA certified project inspector.
 - Maintenance work per Section 4-315, Part 1, California Administration Code (CAC) and defined in Section 4-314 Part 1, CAC.
- 1.2 The following do not require DSA structural and fire and life safety approval and are exempt from the Field Act. However, this work shall comply with all currently effective design, construction, and inspection provisions of the CCR, Title 24, as adopted by the California Building Standards Commission.
 - Structures or items not considered a school building per Section 4-314, Part 1, CAC.
 - Non-school structures per Section 4-310, Part 1, CAC and maintenance of those structures.

When authorizing construction of exempt projects described in this interpretation, the school district assumes responsibility to assure compliance with all code provisions. Architects and engineers providing project design must be licensed as required by the rules governing the licensing of architects and engineers. See Business and Professions Code Sections 6735 and 5535 through 5538.

It is not mandatory to obtain DSA concurrence that a project is exempt. However, written concurrence may be requested in accordance with DSA procedure [PR 14-02](#).

2. ACCESS COMPLIANCE REQUIREMENTS: All projects, whether governed by the Field Act or not, shall comply with all applicable accessibility provisions of the CCR, Title 24. Some projects that are exempt from DSA structural and fire and life safety approval, including non-school structures per Section 4-310, Part 1, CAC, are required to be submitted to DSA for review and approval by the access compliance section per Government Code Sections 4450-4461. See Appendix A for project types that fall into this category.

3. CONSTRUCTION PROJECTS AND ITEMS ELIGIBLE FOR EXEMPTION:

See Appendix A for a list of construction projects and items eligible for exemption from DSA structural safety, fire and life safety, and/or access compliance review and approval. Checkmarks in Appendix A are used to indicate whether an item is or is not eligible for exemption from review by one or more disciplines. Footnotes clarify any special conditions under which an item is or is not eligible for exemption.

CONSTRUCTION PROJECTS AND ITEMS EXEMPT FROM DSA REVIEW

3.1 Items listed in Appendix A are exempt only when complying with one of the following:

- a. The item(s) constitutes the entire scope of a project.
- b. The item(s) is part of a set of plans for a larger school project, and both of the following are provided:
 1. A note on the construction documents stating the item(s) is "not part of the DSA approval." Without this note, DSA will treat this item(s) as described in Section 5.
 2. A letter by the school district board, superintendent, or facilities director acknowledging the item will not be approved or certified by DSA.

3.2 For projects in which the scope of work consists entirely of exempt structures or items not considered a school building or maintenance listed in Appendix A, the estimated construction costs limitations per Sections 4-308 and 4-309(a), Part 1, CAC (see also IR A-10) will not apply.

4. EXEMPT RECONSTRUCTION AND ALTERATIONS: In addition to projects listed in Appendix A, projects involving alterations or repairs to existing approved school buildings may be exempt from DSA review and approval based on the estimated construction costs. Refer to [IR A-10](#) "Alteration and Reconstruction Projects–DSA Approval Exemption."

For exempt alteration or reconstruction projects constructed in accordance with Section 4-309(a), Part 1, CCR, form DSA 999 "Inspection Verified Report for Projects Exempt From DSA Approval" will be required.

5. VOLUNTARY SUBMITTAL: This interpretation does not preclude a school district from choosing to submit plans and specifications for exempt projects, with the appropriate fee, to DSA for review. Voluntary submittal of an exempt project or item will trigger full DSA plan review for code conformance and construction oversight, including inspections and materials testing.

6. PROJECT INSPECTION REQUIREMENTS: Exempt projects not submitted to DSA or projects consisting of access compliance work only, DSA will not supervise nor certify the construction, and the reporting requirements for certification of construction per Part 1, CCR will not be required to be submitted to DSA.

This administrative interpretation of regulations (IR) is intended for use by the Division of the State Architect (DSA) staff, and as a resource for design professionals, to promote more uniform statewide criteria for plan review and construction inspection of projects within the jurisdiction of DSA which includes State of California public elementary and secondary schools (grades K-12 and community colleges), and state-owned or state-leased essential services buildings. This IR indicates acceptable practices as stipulated in the California Administrative code (CCR, Title 24, Part 1) and aligning with DSA policies and procedures. This IR is reviewed on a regular basis and is subject to revision at any time. Please check the DSA website for currently effective IRs. Administrative and technical IRs are listed on the DSA website at:
<http://www.dgs.ca.gov/dsa/Resources/IRManual.aspx>.

Administrative IRs are effective upon publication. Questions regarding the effect for existing projects can be directed to the DSA Regional Office with plan review and construction oversight authority for the project.

CONSTRUCTION PROJECTS AND ITEMS EXEMPT FROM DSA REVIEW**Appendix A—Construction Projects and Items Eligible for Exemption**

Project Description	Exempt from SS Review		Exempt from AC Review		Exempt from FLS Review	
	No	Yes	No	Yes	No	Yes
1. Cell or antenna towers and poles less than 35 ft. tall (lighting poles, flag poles, poles supporting open mesh fences, etc.) not in designated fire lane(s).		✓		✓ ¹		✓
2. Cell or antenna towers and poles greater than 35 ft. above grade not in designated fire lane(s).	✓ ⁶			✓	✓	
3. Soil retaining walls less than four feet tall without surcharge or a sloping backfill.		✓		✓ ¹		✓
4. Baseball dugouts less than 250 sq.ft. of floor area with lightweight roof construction and soil retaining walls less than four feet tall without surcharge or a sloping backfill (if applicable).		✓	✓ ²			✓
5. Ball walls or yard walls less than six feet above grade, not in a designated fire lane.		✓		✓ ¹		✓
6. Free standing signs, scrolling message signs, scoreboards, or solid clad fences of which the apex is less than eight feet above the highest adjacent grade.		✓		✓ ^{1, 4}		✓
7. Bleachers and grandstands five rows of seats or less with the first row starting at ground level.		✓	✓ ²			✓
8. Ancillary accessory facilities to athletic fields (one-story, not over 250 sq.ft., used for equipment storage, toilets, snack bar, ticket booths, etc.).		✓	✓ ²			✓
9. Playhouses less than 250 sq.ft. of floor area and playground equipment of any size.		✓	✓ ³			✓
10. Open-mesh baseball backstops less than 35 ft. in height for cantilevered pole systems.		✓ ⁷	✓ ³			✓ ⁷
11. Open-mesh fences less than 35 ft. in height or ornamental and security fencing with spaced rails and pickets less than eight feet in height.		✓ ⁷		✓ ⁴		✓ ⁷
12. New or replacement of sidewalks.		✓	✓			✓
13. Landscaping.		✓	✓ ⁴			✓
14. Replacement in-kind of mechanical, electrical, or plumbing units. ¹⁶		✓ ⁹		✓ ¹³		✓ ⁹
15. Cosmetic maintenance work such as painting, wallpapering, etc., as defined in Title 24, Part 1, Section 4-314. ¹⁶		✓		✓ ¹⁵		✓

CONSTRUCTION PROJECTS AND ITEMS EXEMPT FROM DSA REVIEW

Project Description	Exempt from SS Review		Exempt from AC Review		Exempt from FLS Review	
	No	Yes	No	Yes	No	Yes
16. Installation of synthetic (artificial turf) play fields or running tracks.		✓	✓			✓
17. Installation of new parking areas not involving fire lane(s).		✓	✓			✓
18. Installation of new surfacing over existing parking areas (such as asphalt overlays).		✓	✓ ⁵			✓
19. Removal and replacement of existing parking area surfacing. ¹⁶		✓	✓ ⁵			✓
20. Installation of seal-coating at existing parking areas (including new striping), or normal maintenance such as restriping or the filling of potholes and cracks. ¹⁶		✓		✓		✓
21. Batting cages with open-mesh sidewalls and loose netting roof: batting cages consisting of cantilever poles with loose netting sidewalls and roofs.		✓	✓ ³			✓
22. Reroofing with in-kind roof or replacing with light-weight, non-metal, non-tile roof, and insulation system. ¹⁶		✓ ¹⁰		✓ ¹¹		✓
23. Weatherization/caulking. ¹⁶		✓		✓ ¹¹		✓
24. Window replacement (glazing only—not rated or requiring frame replacement). ¹⁶		✓		✓ ¹¹		✓
25. Window shading devices—window screens (applied to glazing only), and solar shading devices requiring no structural attachment. ¹⁶		✓		✓ ¹¹		✓
26. Energy Management Systems.		✓		✓ ¹³		✓
27. Lighting upgrade: re-lamping, ballast replacement, fixture replacement. ¹⁶		✓		✓ ¹³		✓
28. Water-heating upgrades, not including solar thermal installations on roofs. ¹⁶		✓		✓ ¹³		✓
29. Solar tubes or small skylight installations for which no structural framing member is altered or penetrations of fire rated assemblies.		✓ ¹⁴	✓ ¹²			✓
30. Fire alarm systems: Includes new systems and replacements or alterations to existing systems.		✓		✓	✓ ⁸	

Notes:

1. No height limit for access compliance exemption.
2. Required for all, no exception.
3. Playground structures must comply with Chapter 11B, Section 11B-1008 Play Structures of the 2013 CBC and may also trigger path of travel upgrade requirements under Chapter 11B, Section 11B-202.4.
4. Required if accessible path of travel is impacted. Required if the fence or gate crosses any accessible route of travel. Gates for pedestrian use on an accessible route of travel are required to comply with applicable accessibility requirements; installation of fencing and/or gates does not trigger other CBC, Section 11B-202.4 requirements.
5. US Department of Justice has issued guidance that resurfacing of parking facilities is an alteration. Restriping, as a maintenance activity, may require access review if accessible parking spaces are impacted.

CONSTRUCTION PROJECTS AND ITEMS EXEMPT FROM DSA REVIEW

6. For any component, regardless of size, type, or cost, added to an existing tower, the tower and the component connection to the tower will require DSA structural and fire and life safety review. The cost exemptions of IR A-10 do not apply since this work is an addition and not an alteration. Installation of additional cellular equipment or replacement of existing cellular equipment mounted at grade will require DSA review unless the equipment is confined within an enclosed (fenced) area previously approved and certified by DSA for cell tower equipment, and the equipment is located a minimum distance from the fence equal to the height of the structure.
7. If open-mesh fences or backstops greater than eight feet are clad with windscreens, slats, signs, or similar attachments, DSA structural and fire and life safety review will be required.
8. AC review will be provided by the DSA FLS staff as part of the FLS review process. AC review fees are not required.
9. Mechanical, electrical, and plumbing unit replacement in-kind includes any or all units on a building when all of the following requirements are met:
 - Each new unit must be of equal or lesser weight to the existing unit being replaced, and weigh no greater than 2000 lbs.
 - Each new unit must be placed in the same location as the existing unit.
 - Each new unit must be placed without requiring alteration to the existing structural framing or altering existing supporting curb or platform. Exception: Adaptive metal curbs may be utilized provided the applied combined gravity plus lateral forces to the structure are not increased.
 - Each new unit must be placed without requiring alteration to the existing ceiling.
 - Each new unit must be placed without requiring replacement of ductwork, grilles, electrical components, etc.
10. Weight of new roof covering and insulation is not to exceed the weight of the removed existing roof covering and insulation. Changes in roofing systems are limited to lightweight non-metal, non-tile roof and insulation systems. Applications of an in-kind second roofing layer may be exempt provided the additional layer does not exceed the weight of the original roofing material.
11. Considered normal maintenance which does not affect the "usability of the building," this construction falls under CBC Section 11B-202.4 Exception 7.
12. Considered an Alteration per CBC Chapter 2 Section 202, this construction is not exempt from the requirements of CBC Section 11B-202.4.
13. Under the definition of "Alteration" in Chapter 2 Section 202 of the CBC, this work is considered "changes to mechanical and electrical systems" that is not an alteration for purposes of accessibility. It also falls under CBC Section 11B-202.4 Exception 7 and does not trigger path of travel upgrade requirements unless usability (read "accessibility") of the facility is affected.
14. The installation of solar tubes or small skylights (2 ft x 2 ft max) in which no structural framing member is altered shall be exempt unless the number of solar tubes or skylights would cause more than 5% of the roof diaphragm to be removed.
15. Changing or replacement of floor coverings is an alteration for purposes of accessibility and in addition to meeting accessibility requirements may trigger path of travel upgrades in accordance with Chapter 11B Section 11B-202.4.
16. Items are considered maintenance and shall be exempt subject to the provisions of Section 1.1 of this Interpretation.

Attachment B

SUPERSEDED AS OF 9/1/2009

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

LOCALITY: STANISLAUS COUNTY
DETERMINATION: STA-2009-1

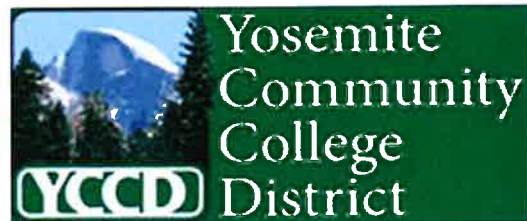
	CRAFT (JOURNEY LEVEL)	ISSUE DATE	EXPIRATION DATE	EMPLOYER PAYMENTS					STRAIGHT-TIME			OVERTIME HOURLY RATE		
				BASIC HOURLY RATE	HEALTH AND WELFARE	PENSION	VACATION/HOLIDAY	TRAINING	OTHER PAYMENTS	HOURS	TOTAL HOURLY RATE	DAILY	SATURDAY	SUNDAY AND HOLIDAY
#	BRICKLAYER, BLOCKLAYER:													
	BRICKLAYER, BLOCKLAYER, STONEMASON	8/22/2008	04/30/2009**	A 30.480	8.720	5.300	B 2.500	0.550	C 0.650	D 8.0	48.200	E 64.690	E 64.690	81.180
	POINTER, CLEANER, CAULKER, WATERPROOFER	8/22/2008	06/30/2009*	A 33.180	8.820	4.900	F -	0.750	0.400	D 8.0	48.050	64.640	G 64.640	81.230
	BRICK TENDER	2/22/2009	06/30/2009**	H 28.310	5.540	5.970	F -	0.340	-	D 8.0	40.160	E 54.320	E 54.320	68.470
	CARPET, LINOLEUM,													
#	RESILIENT TILE LAYER	2/22/2009	06/30/2009**	A 29.410	6.540	5.900	I -	0.380	0.110	8.0	42.340	J 57.040	J 57.040	71.750
	ELECTRICIAN:													
	COMM & SYSTEM INSTALLER	2/22/2009	11/30/2009*	26.240	6.850	K 4.000	-	1.100	L 0.310	8.0	39.420	M 53.000	M 53.000	66.570
	COMM & SYSTEM TECH.	2/22/2009	11/30/2009*	29.880	6.850	K 4.000	-	1.100	L 0.310	8.0	43.190	M 58.650	M 58.650	74.110
	INSIDE WIREMAN	2/22/2009	06/30/2009**	N 34.100	8.920	K 6.250	F -	1.000	O 0.010	8.0	52.490	P 70.650	P 70.650	88.810
#	CABLE SPICER	2/22/2009	06/30/2009**	N 37.510	8.920	K 6.250	F -	1.000	O 0.010	8.0	56.130	P 76.100	P 76.100	96.070
	HEADING WIREMAN	2/22/2009	06/30/2009**	N 36.000	8.920	K 6.250	F -	1.000	O 0.010	8.0	54.520	P 73.690	P 73.690	92.860
	HEADING CABLE SPICER	2/22/2009	06/30/2009**	N 39.600	8.920	K 6.250	F -	1.000	O 0.010	8.0	58.360	P 79.450	P 79.450	100.540
	FIELD SURVEYOR:													
	CHIEF OF PARTY (018.167-010)	2/22/2009	02/28/2010**	35.240	10.560	R 7.570	S 3.360	0.640	0.160	8.0	57.530	T 75.150	T 75.150	92.770
#	INSTRUMENTMAN (018.167-034)	2/22/2009	02/28/2010**	32.150	10.560	R 7.570	S 3.360	0.640	0.160	8.0	54.440	T 70.510	T 70.510	86.590
	CHAINMAN/RODMAN (869.567-010)	2/22/2009	02/28/2010**	29.270	10.560	R 7.570	S 3.360	0.640	0.160	8.0	51.560	T 66.190	T 66.190	80.830
	GLAZIER	2/22/2009	12/31/2009**	A 33.280	6.410	U 8.550	-	0.540	V 0.380	8.0	49.160	W 65.800	82.440	82.440
	MARBLE FINISHER	8/22/2008	07/31/2009*	Y 28.020	8.720	2.950	I -	0.450	0.200	8.0	40.340	Z 54.350	68.360	68.360
	MARBLE MASON	8/22/2008	07/31/2009*	Y 39.220	8.720	9.310	I -	0.550	0.210	8.0	58.010	Z 77.620	97.230	97.230
#	PAINTER:													
	BRUSH, SPRAY, PAPERHANGER	2/22/2009	08/31/2009*	AA 30.020	6.790	4.810	I -	0.310	0.360	D 8.0	42.290	57.300	AB 57.300	72.310
	SANDBLASTER, STEAM CLEANER, WATERBLASTER	2/22/2009	08/31/2009*	AA 30.520	6.790	4.810	I -	0.310	0.360	D 8.0	42.790	58.050	AB 58.050	73.310
	EXOTIC MATERIALS	2/22/2009	08/31/2009*	AA 31.020	6.790	4.810	I -	0.310	0.360	D 8.0	43.290	58.800	AB 58.800	74.310
	TAPER	2/22/2009	06/30/2009**	A 32.030	6.790	6.680	2.500	0.310	0.210	8.0	48.520	64.530	D 64.530	AB 80.550
#	TAPER CLEAN-UP	2/22/2009	06/30/2009*	A 14.770	6.790	-	-	-	-	8.0	21.560	28.940	D 28.940	AB 36.330
	PLASTERER	8/22/2008	06/30/2009*	AD 28.570	7.980	5.570	4.250	0.950	-	8.0	47.320	60.870	AE 60.870	74.420
	PLASTER TENDER	8/22/2008	06/30/2009**	27.170	5.540	5.520	2.280	0.340	AF 1.020	8.0	41.870	55.460	J 55.460	69.040
	PLUMBER:													
	PLUMBER, STEAMFITTER, REFRIGERATION FITTER (HVAC)	2/22/2009	06/30/2009**	34.500	6.520	10.560	F -	0.850	1.520	8.0	53.950	E 71.200	E 71.200	88.450
#	PIPE TRADESMAN	2/22/2009	06/30/2009*	13.000	6.300	1.000	F -	-	0.610	8.0	20.910	E 27.410	E 27.410	33.910
	UNDERGROUND UTILITY PIPEFITTER	8/22/2008	06/30/2009**	24.950	3.700	2.400	1.800	0.350	0.600	D 8.0	33.800	46.280	46.280	58.750
	LANDSCAPE PIPEFITTER	8/22/2008	06/30/2009**	24.950	3.700	2.400	1.800	0.350	0.550	D 8.0	33.750	46.230	46.230	58.700

SUPERSEDED AS OF 9/1/2009

**LOCALITY: STANISLAUS COUNTY
DETERMINATION: STA-2009-1**

GENERAL PREVAILING WAGE DETERMINATION MADE BY THE DIRECTOR OF INDUSTRIAL RELATIONS
PURSUANT TO CALIFORNIA LABOR CODE PART 7, CHAPTER 1, ARTICLE 2, SECTIONS 1770, 1773 AND 1773.1
FOR COMMERCIAL BUILDING, HIGHWAY, HEAVY CONSTRUCTION AND DREDGING PROJECTS

	CRAFT (JOURNEY LEVEL)	ISSUE DATE	EXPIRATION DATE	EMPLOYER PAYMENTS					STRAIGHT-TIME		OVERTIME HOURLY RATE		
				BASIC HOURLY RATE	HEALTH AND WELFARE	PENSION	VACATION/HOLIDAY	TRAINING	OTHER PAYMENTS	HOURS	TOTAL HOURLY RATE	DAILY	SATURDAY AND HOLIDAY
AG	UNDERGROUND UTILITY ASSISTANT	8/22/2008	06/30/2009**	13.950	3.700	2.400	1.800	0.350	0.600	D 8.0	22.800	29.770	36.750
AG	JOURNEYMAN LANDSCAPE ASSISTANT	8/22/2008	06/30/2009**	13.950	3.700	2.400	1.800	0.350	0.550	D 8.0	22.750	29.720	36.700
AG	UNDERGROUND UTILITY TRADESMAN	8/22/2008	06/30/2009**	9.750	3.700	2.400	1.800	0.350	0.600	D 8.0	18.500	23.480	28.350
AH	LANDSCAPE TRADESMAN I	8/22/2008	06/30/2009**	9.750	3.700	-	1.800	0.350	0.550	D 8.0	16.150	21.020	25.900
AH	LANDSCAPE TRADESMAN II	8/22/2008	06/30/2009**	9.750	3.700	2.400	1.800	0.350	0.550	D 8.0	18.550	23.420	28.300
	FIRE SPRINKLER FITTER (PROTECTION AND CONTROL SYSTEMS OVERHEAD AND UNDERGROUND)	2/22/2009	03/31/2009**	32.150	8.200	AI 7.550	-	0.300	0.250	8.0	48.450	64.530	80.600
#	ROOFER	8/22/2008	09/30/2008*	& 17.000	AJ 5.790	AJ 3.450	-	AJ 0.200	-	8.0	26.440	34.940	43.440
#	SHEET METAL WORKER	8/22/2008	06/30/2009**	H 32.720	8.080	9.980	F -	0.620	0.360	8.0	51.760	AK 68.120	AK 84.480
	METAL DECK & SIDING	8/22/2007	09/30/2007*	H 32.840	7.430	7.220	F -	0.450	0.100	8.0	48.040	P 64.460	P 80.880
#	TERRAZZO WORKER	8/22/2008	06/30/2009**	AM 38.180	8.720	8.800	F -	0.150	0.400	7.0	56.250	AN 72.790	AN 89.340
	TERRAZZO FINISHER	8/22/2008	06/30/2009**	AM 28.810	6.910	3.550	F -	0.150	0.400	7.0	39.820	AN 53.020	AN 66.220
#	TILE FINISHER	8/22/2008	03/31/2009**	A 20.020	6.910	3.050	0.700	0.250	0.530	8.0	31.460	41.470	D 51.480
	RED CIRCLED FINISHER	8/22/2008	03/31/2009**	A 24.710	6.910	3.350	1.300	0.250	0.530	8.0	37.050	49.400	D 61.760
#	TILE SETTER	8/22/2008	03/31/2009**	A 31.020	6.910	4.100	2.350	0.300	0.530	8.0	45.210	60.720	D 76.230
	WATER WELL DRILLER	11/22/1987	02/29/1988*	12.350	2.150	1.000	0.480	-	-	8.0	15.980	AO 22.160	AO 22.160
	PUMP INSTALLER	11/22/1987	02/29/1988*	12.350	2.150	1.000	0.480	-	-	8.0	15.980	AO 22.160	AO 22.160
	HELPER	11/22/1987	02/29/1988*	10.030	2.150	1.000	0.430	-	-	8.0	13.610	AO 18.630	AO 18.630
	HELPER: 3-6 MONTHS	11/22/1987	02/29/1988*	9.740	2.150	1.000	0.440	-	-	8.0	13.330	AO 18.200	AO 18.200
	HELPER: 0-3 MONTHS	11/22/1987	02/29/1988*	8.930	2.150	1.000	0.420	-	-	8.0	12.500	AO 16.970	AO 16.970



YOSEMITE COMMUNITY COLLEGE DISTRICT
TOTAL COST OF OWNERSHIP-FACILITIES PLAN
DRAFT NOVEMBER 13, 2018

**YOSEMITE COMMUNITY COLLEGE DISTRICT
TOTAL COST OF OWNERSHIP PLAN**

TABLE OF CONTENTS

SECTION 1- EXECUTIVE SUMMARY

SECTION 2- BACKGROUND INFORMATION

SECTION 3- TOTAL COST OF OWNERSHIP DEFINITIONS

SECTION 4- TOTAL COST OF OWNERSHIP PROGRAM

4.1- FACILITY DEVELOPMENT COST

4.2- ANNUAL OPERATING COSTS

4.2.1-UTILITY COSTS

4.2.2- MAINTENANCE AND OPERATIONS OPERATING EXPENSE

4.2.3-TOTAL ANNUAL OPERATING COSTS

4.3- LONG TERM INVESTMENT

SECTION 5- PERFORMANCE REVIEW

5.1- PERFORMANCE BENCHMARKS

5.2- PERFORMANCE TO ACCREDITATION SECTION 3 STANDARDS

SECTION 6- ACTION PLAN

APPENDICES

Columbia Reference Documents
Modesto Junior College Reference Documents
List of Tables and Charts

SECTION 1- EXECUTIVE SUMMARY

Introduction

The Yosemite Community College District (YCCD) staff reviewed several Total Cost of Ownership (TCO) models from other community college districts throughout the state. To meet time constraints and mitigate costs, the decision was made to use a combination of industry standards plans, best practices, and templates for YCCD's TCO document. However, the narrative, data and recommendations have been revised to reflect conditions found at Central Services, Columbia College, and Modesto Junior College (MJC).

The Yosemite Community College District is implementing a TCO process to establish a data driven procedure to assure adequate, well maintained capital assets to meet the educational mission of the District. The TCO process considers all costs associated with an asset from acquisition to demolition, including facility development, annual operations, and long-term management.

The TCO plan for the YCCD provides information and an awareness of all costs expended over the life-cycle of a building. The TCO is a data driven document that establishes guidelines and factual costs to assist in future budgeting and funding decisions at Columbia College, Modesto Junior College, and Central Services. For the purposes of this study, Central Services is included within MJC West Campus and MJC East Campus facilities data, which are referenced as "Modesto Area". The data within the TCO ensures that all facilities costs are considered from conceptual planning, date of occupancy of the facility, through the life-cycle and demolition of a building. Within the TCO, the Total Cost projection for each building has been added, which breaks down the cost to operate, maintain and refurbish each building by identifying the dollar per gross square foot value associated with each asset. Data provided in the plan compares and contrasts utility costs between years and includes an assessment of custodial, maintenance and grounds staffing. The TCO will be implemented in all future planning of new facilities by the Yosemite Community College District.

The Yosemite Community College District has identified the following goals in the TCO:

- Establish total costs for each building to evaluate the costs per gross square foot for future planning of specific buildings
- Establish a planning document for future budgeting and financial decisions
- Establish a method to evaluate the life cycle costs of facilities for operations and maintenance
- Establish a definable standard of care for custodial, maintenance and grounds staffing
- Establish operational cost benchmarks and goals for improvement
- Establish data for long-term funding needs for facility repair, renovation and upgrades

Key Findings

The key findings explained in detail in this TCO are as follows:

- The custodial evaluation for both colleges indicates a level of service between APPA (the profession organization formerly known as the Association of Physical Plant Administrators) standards Level 4 (Moderate Dinginess) and Level 3 (Casual Inattention). Bringing both colleges to a Level 3 standard of custodial service would require the addition of approximately 11 custodians.
- Maintenance staff at both colleges meets or exceeds the APPA Level 3 (Managed Care) standard.
- The grounds staffing at both colleges meets the APPA Level 3 (Moderate Level of Maintenance) standard.
- Operating expenses have increased from \$0.51/GSF to \$0.77/GSF at MJC since 2010 and from \$0.61/GSF to \$0.99/GSF at Columbia College during the same time period.
- The 2017 APPA national EUI performance benchmark is 114 indicating the colleges are more energy efficient than the APPA national averages. Fluctuation in temperatures and energy rates have an impact on the overall energy costs.

- Industry standard is that an institution should plan on investing 1-2% of current replacement value of total building assets per year for maintenance, renovation or replacement projects. YCCD has been able to achieve this standard for the last ten years due to Measure E bond funds. Moving forward, YCCD would need to invest \$6-13 million annually to meet this standard.

SECTION 2- BACKGROUND INFORMATION

With the passage of the \$326M Measure E Bond in 2004, the Yosemite Community College District embarked on a program to provide new and/or updated facilities at Modesto Junior College East and West Campuses and Columbia College. The program was developed through the combination of educational program needs and sustainability guidelines. The Educational Program defined space needs from which the 2004 Facility Master Plan was developed. Infrastructure system improvements were developed as part of the Facilities Master Plan, including upgrades and expansions to the overall campus roadway and utility systems.

The recently adopted 2014 Accreditation Standards of the Accrediting Commission for Community and Junior Colleges- Western Association of Schools (ACCJC) instituted accreditation standards for development and long-term management of a college's physical assets. The relevant standards are from Section III- Physical Resources:

III - PHYSICAL RESOURCES

1. The institution assures safe and sufficient physical resources at all locations where it offers courses, programs, and learning support services. They are constructed and maintained to assure access, safety, security, and a healthful learning and working environment.
2. The institution plans, acquires or builds, maintains, and upgrades or replaces its physical resources, including facilities, equipment, land, and other assets, in a manner that assures effective utilization and the continuing quality necessary to support its programs and services and achieve its mission.
3. To assure the feasibility and effectiveness of physical resources in supporting institutional programs and services, the institution plans and evaluates its facilities and equipment on a regular basis, taking utilization and other relevant data into account.
4. Long-range capital plans support institutional improvement goals and reflect projections of the TCO of new facilities and equipment.

Since the adoption of these new standards by the ACCJC, the District has demonstrated full compliance in its implementation of Measure E. However, the District is implementing a TCO program to formalize the process of planning and managing the development and long-term operational costs of the District's physical assets. The District has funded new facility development from local and state bond sources. Annual operating expenses, including maintenance and operations staff, expenses and utilities, are funded from annual General Fund allocations. Major repairs, renovations and updates have been funded from state programs and Measure E bond funds. Regardless of funding source, all investment in District assets are accounted for through the District Fund Budgets. This centralized accounting system provides a means to transparently identify, track and report on total investment in District facilities.

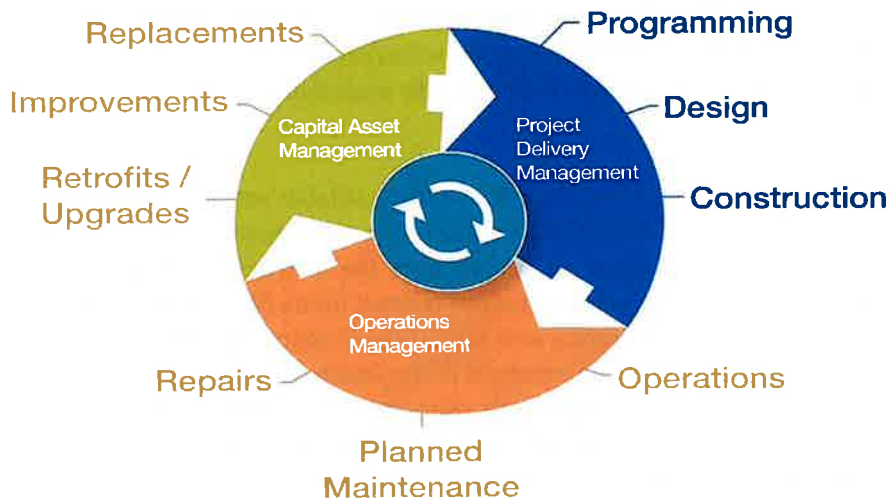
SECTION 3- TOTAL COST OF OWNERSHIP DEFINITIONS

The TCO process considers all costs associated with an asset from acquisition to demolition. TCO provides a means to evaluate initial development costs with long-term operational costs and ongoing repairs, renovations and upgrades. The TCO process provides data to compare the District's costs to operate, maintain and refurbish with state and national averages to identify areas for potential improvement. The TCO provides estimates of future costs to operate and maintain facilities providing information to inform future budgeting and funding decisions. Integral to the TCO process is the assessment of custodial, maintenance and grounds staffing levels needed to maintain

facilities to the standard of care desired by the District and the Colleges.

The TCO process provides a structured means to measure the effectiveness of the programs implemented and to chart program improvements. The TCO program focuses on three primary facility ownership phases:

- Facility Development- Planning, Design, Construction
- Annual Operations – Maintenance and Operations staffing, building utilities, maintenance costs, repairs.
- Long-Term Management- Scheduled Maintenance, Renovation, Updating and Reuse.



The APPA (formally the Association of Physical Plant Administrators) has developed a number of Key Performance Factors that can be evaluated and tracked to judge performance against local and national performance of peer organizations. Some of these Key Performance Factors are:

Facility Planning

- Building Utilization Capacity/Load Ratio
- Project Development Cost per Square Foot
- Custodial Staff per Building Gross Square Foot
- Maintenance Staff per Building Gross Square Foot
- Grounds Staff per Acre
- Electrical- Cost and Use per Gross Square Feet
- Natural Gas- Cost and Use per Gross Square Feet
- Use Intensity- Total Energy Use per Gross Square Feet
- Total Utility Cost per Gross Square Feet
- Annual expense for maintenance and custodial materials, supplies and vendors

Long-Term Management

- Facility Condition- Facility Condition Assessment
- Facility Condition- Amount of Scheduled Maintenance
- Average investment for Renovation, Upgrades, Repurpose

DEFINITIONS

The facilities management industry has developed some standardized terms and definitions relating to the TCO. An APPA partnership published a Glossary and Definitions of Terms associated with the TCO Management. In addition, the California State Community College Chancellor's Office has defined terms relating to the ownership and operation of community college facilities. Some of the key terms are:

Total Cost of Ownership (TCO)-Lifecycle Cost Management

TCO is a dollar per gross square foot value (\$/GSF) associated with a facility. It is a calculation of all facilities-specific costs (not including furnishings or non-facility specific equipment) divided by estimated lifespan of the building (30 to 50 years) and the total gross area.

Facilities-specific costs include all construction, preservation, maintenance, and operations costs. TCO is a strategic asset management practice that considers all costs of operations and maintenance, and other costs, in addition to acquisition costs. TCO, therefore includes the representation of the sum total of the present value of all direct, indirect, recurring and non-recurring costs incurred or estimated to be incurred in the design, development, production, operation, and maintenance of a facility/structure/asset over its anticipated lifespan. This is also inclusive of site/utilities, new construction, scheduled maintenance, preventive/routine maintenance, renovation, compliance, capital renewal and occupancy costs. Land values are specifically excluded.

Capacity/Load Ratio

The Capacity to Load ratio is an indicator used to determine how efficiently available space is being used. The California Community College Chancellor's Office's (CCCCO) FUSION system lists the Capacity Load Ratio for five key space types for each college in the state. The Cap Load Ratio compares the amount of educational space required to support a college's enrollment as measured by weekly student contact hours (WSCH) with the CCCCCO's established utilization factor for lecture, laboratory, office, library and Audio/Visual spaces on the college campus. The calculations are based on assignable square feet, which is a measure of the space within a building that can be used for instruction. It does not include hallways, mechanical spaces or other non-educational space. A 100% Cap Load Ratio indicates that the available space matches the needs of the student classroom hours. A Cap Load Ratio exceeding 100% indicates more available space than needed to support the calculated need.

$$\text{Capacity Ratio} = \frac{\text{Actual Assignable Square Footage}}{\text{Calculated Required Square Footage (based on student population)}}$$

Lifecycle Cost Analysis

Lifecycle Cost Analysis is an estimating procedure used to determine the cost of facility system/component renewal based on the average useful life of an individual component. This procedure is typically based upon visual observations, via a facilities conditions assessment/audit, to determine the remaining useful life of a system and the development of cost models for the facility. This process enables multi-year budgeting of future replacement costs and timing for replacement.

Facility Operating Cost per Gross Square Foot (GSF)

The Facility Operating Cost per GSF is an asset management practice that considers the yearly costs of facilities operations and maintenance per gross square foot of space using the APPA Facility Operating Gross Square Foot national averages as a Performance Indicator. The annual costs are evaluated on a square foot basis:

- Custodial Costs
- Grounds Keeping Costs
- Maintenance Costs
- Energy Use
- Utility Costs
- Facility Maintenance Expenses (including the annual costs of materials, equipment, service providers to maintain the facilities)

Energy Usage

This performance indicator is expressed as a ratio of British Thermal Units (BTUs) for each Gross Square Foot (GSF) of facility, group of facilities, site or portfolio. This indicator represents a universal energy consumption metric that is commonly considered a worldwide standard. This energy usage metric can be tracked over a given period of time to measure changes and variances of energy usage. Major factors that affect BTU per gross square foot are outside ambient temperature, building load changes, and building envelope and equipment efficiencies. The total energy usage includes the amount of energy it takes for heating, cooling, lighting and equipment operation per

grosssquare foot. The indicator is traditionally represented as total energy consumed annually or monthly. All fuels and electricity are converted to their respective heat, or BTU content, for the purpose of totaling all energy consumed.

$$\text{Energy Usage} = \frac{\text{British Thermal Units} = \text{BTUs}}{\text{Gross Area} = \text{GSF}}$$

Energy/Utility Terms

Terms used when listing energy usage include:

KBTU- Thousand British Thermal Units

MBTU- Million British Thermal Units

kW- Kilo Watts- Thousand Watts (electrical power) MW-Mega Watt (million watts)

kWh- Kilo Watt Hours (electrical energy usage)

MWH-Mega Watt (million watt) Hours (electrical energy usage)

CCF- One Hundred (C) Cubic Feet- Water Measure, 748 gallons

Normal/Routine Maintenance and Minor Repairs (Work Order Plan in progress)

This applies to work activities that are cyclical, planned activities funded through the annual budget cycle, and done to continue or achieve either the originally anticipated life of a fixed asset (i.e., buildings and fixed equipment), or an established suitable level of performance. Normal/routine maintenance is performed on capital assets such as buildings and fixed equipment to help them reach their originally anticipated life. Deficiency items are typically low in cost to correct and are normally accomplished as part of the annual Operation and Maintenance (O&M) funds. Normal/routine maintenance excludes activities that expand the capacity of an asset, or otherwise upgrade the asset to serve needs greater than, or different from, those originally intended.

Repair(s)

Repairs refer to work that is performed to return equipment to service after a failure, or to make its operation more efficient. This is the restoration of a facility or component thereof to such condition that it may be effectively utilized for its designated purposes by overhaul, reprocessing, or replacement of constituent parts or materials that have deteriorated by action of the elements or usage and have not been corrected through maintenance.

Preventive Maintenance

Preventive Maintenance (PM) consists of a series of maintenance requirements that provide a basis for planning, scheduling, and executing scheduled maintenance, which is planned versus corrective in nature. The purpose of PM is to improve equipment life, to avoid any unplanned maintenance activity and minimize equipment breakdowns. These PM activities can be defined through a Maintenance Plan (MP) or Work Order Plan. The purpose of a Maintenance Plan is to describe the best means to maximize equipment operational availability, while minimizing equipment downtime. Once developed, the MP will typically identify PM task descriptions and schedules, troubleshooting, corrective maintenance (repair) task descriptions, spare parts identification, stock (quantity), and any unique storage requirements. This information will be incorporated into the manual, both as tabular data and text.

Scheduled Maintenance

Scheduled Maintenance is the total dollar amount of existing maintenance repairs and required replacements (capital renewal), not accomplished when they should have been, not funded in the current fiscal year or otherwise delayed to the future. These needs are typically quantified by a comprehensive facilities condition assessment/audit of buildings, grounds, fixed equipment and infrastructure and have not been scheduled to be accomplished in the current budget cycle and thereby are postponed until future funding budget cycles. For calculation of facility condition index (FCI) values, scheduled maintenance does not include code generated renovation or renovation for a new use.

Facility Condition Assessment (FCA)/Audit

A Facility Condition Assessment Audit is the structured development of a profile of existing facilities conditions, typically placed in an electronic database format, and populated with detailed facility condition inspection

information. A detailed FCA typically involves an assessment team of three professionals (architect, mechanical engineer, electrical engineer). The assessment team depends upon robust, scalable methodologies to assure accurate and consistent information. It is recommended that a FCA be done on a regular basis, approximately every three years, or to conduct a portion of the overall portfolio annually. The FCA identifies existing deficient conditions (requirements), in a logical grouping, with priorities, and associated recommended corrections and corrective costs. Costs are generally based upon industry standard cost databases (e.g., Building News, Craftsman Book Company, Richardson General Construction Estimating Standards, RSMeans).

Facility Condition Index (FCI)

A Facility Condition Index is a comparative industry indicator/benchmark used to indicate the relative physical condition of a facility or group of buildings. The FCI is expressed as a ratio of the cost of remedying existing deficiencies (scheduled maintenance (SM)) and capital renewal (CR) requirements to the current replacement value (CRV), i.e., $FCI = (SM + CR) / CRV$. The FCI provides a corresponding rule of thumb for the annual reinvestment rate or reserve account to prevent further accumulation of scheduled maintenance deficiencies. The FCI value is a snapshot in time, calculated on a periodic basis. The FCI is represented on a scale 0% to 100%, with higher FCI values, representing poorer facility conditions. A "fair to good facility" is generally expressed as having an FCI of less than 20%.

Facilities Deterioration Rate

Each element in a facility has an effective useful life. The replacement of these elements over time may be expressed as a percentage of current total building replacement value per year. A benchmark deterioration rate for a reasonably well maintained facility is approximately 1-2% of the total building replacement value per annum.

Current Replacement Value (CRV)

The CRV is the total expenditure in current dollars required to replace any facility at the institution, inclusive of construction costs, design costs, project management costs and project administrative costs. Construction costs are calculated as replacement in function vs. in-kind. The value of design (10%), project management (5%), and administrative costs (5%) can be estimated at 20% of the construction cost.

Recapitalization/Reinvestment Rate

A facility, system, or component with existing deficiencies will deteriorate at a faster rate than a component that is in good condition. The recapitalization or reinvestment rate is the level of annual funding for facility renewal and scheduled maintenance expressed as a percentage of facility replacement values. Altering the recapitalization/reinvestment rate has direct impact upon the facility condition index (FCI) and associated scheduled maintenance levels over time.

Adaptation/Renovation/Modernization

The adaptation/renovation/modernization of facilities includes any improvement, addition or expansion of facilities by work performed to change the interior alignment of space or the physical characteristics of an existing facility so it can be used more effectively, be adapted for new use, or comply with existing codes. This includes the total amount of expenditures required to meet evolving technological, programmatic or regulatory demands.

APPA Maintenance, Custodial and Grounds Level of Care Standards

APPA has defined standards for five levels of care for the maintenance of facilities and grounds in conjunction with their Key Performance Indicators. The standards can be used by institutions to develop staffing levels based on the institutions desired level of care for each of the three areas of facility maintenance. The standards are described as follows:

Element	Level 1	Level 2	Level 3	Level 4	Level 5
Maintenance	Showpiece Facility	Comprehensive Stewardship	Managed Care	Reactive Management	Crisis Response
Custodial	Orderly Spotlessness	Ordinary Tidiness	Casual Inattention	Moderate Dinginess	Unkempt Neglect
Grounds	Well-Manicured Landscape	High Level of Maintenance	Moderate Level of Maintenance	Moderately Low Level of Maintenance	Minimum Level of Maintenance

SECTION 4- TOTAL COST OF OWNERSHIP PROGRAM

The District's adoption of a TCO program recognizes the need to formalize and integrate a number of current independent facility development and operations initiatives and programs. The TCO Program provides a number of benefits to the District including:

- Providing a structured approach to the stewardship of the District's assets
- Providing benchmarks to measure facility operations performance against goals and identifying opportunities for improvement
- Creating a proactive rather than reactive approach to project development and facility operation
- Providing an objective means to set custodial, maintenance and grounds staffing using defined standards of care.
- Developing performance information to establish facility operating budgets
- Identifying long-term funding needs and sources to support a structured facility renovation and replacement program

The District's Total Cost of Operation program is divided into three major elements:

- **Facility Development Cost**- the cost of planning, designing, constructing, and furnishing new facilities.
- **Annual Operating Costs**- the cost of staff, utilities, and maintenance and operations expenses to maintain the facilities in operating condition with buildings and grounds clean and maintained.
- **Long-Term Investment Costs** – the costs of planned and scheduled maintenance, renovation and replacement and facility repurpose and upgrades.

SECTION 4.1 -FACILITY DEVELOPMENT COST

The TCO process begins with the initial planning of a new facility or renovation of existing facilities. While the Facility Development Cost typically only represents 10%-15% of the TCO, the cost must be well managed to assure long-term value of the facility.

The District uses an integrated master planning approach that aligns the Educational Master Plan with the Facility

Master Plan. The Educational Master Plan is developed from educational program reviews that articulate needed and desired facility attributes to support the projected educational program. Facility projects define how space needs will be met through new facilities or renovation of existing space. The Facility Master Plan combines facility projects with supporting infrastructure improvements, adding scheduled maintenance needs, upgrades required by code or technology and management. The plans include:

- Educational Master Plan for Modesto Junior College (MJC),
- Educational Master Plan for Columbia College/Strategic Goal and Objectives (CC),
- Facilities Masterplan for both campuses
- District-wide Facilities Assessment and Central Services Master Plan
- Scheduled Maintenance Plan

Once a project is approved by the Board of Trustees, a project team is assembled to define the project. The project team includes user groups, designers, facility development management, college management, operations and maintenance staff. The project definition includes educational programs' unique space requirements and special needs, cost, budget, schedule and specialized operation and maintenance requirements.

Facility Development Process

The process to plan, design, construct, commission and open a new facility includes:

- Develop the facility space program to meet the Educational Plan - define space needs by assessing anticipated student enrollment usage (WSCH), Capacity to Load Ratio, multi-use space, special equipment, room and furnishings requirements and long-term care of the facility.
- Evaluate the impact of the new facility on the Capacity to Load Ratio by calculating the Capacity to Load Ratio when the space will be available for use.
- Evaluate the impact of the new facility on the campus infrastructure, including the cost to expand or modify campus utilities or services to support the new or remodeled facility.
- Evaluate options to integrate renovation, upgrades or scheduled maintenance projects, including planned or identified adjacent renovation or scheduled maintenance projects or required upgrades in the new space project.
- Define the project including specific use, budget, schedule and level of quality - Develop the project budget and schedule based on the space program, and the quality based on District and campus standards.
- Develop and evaluate Life Cycle Cost Model- evaluate options for development using long-term life cycle cost including operations cost rather than first cost only.
- Direct the design team to integrate District standards of materials and systems into the design, including equipment, materials and systems to reduce maintenance and operations training and spare parts inventory.
- Perform Value Engineering as systems are selected, update Life Cycle cost analysis, as necessary, and evaluate major systems for performance against cost to select the best value, not just the lowest initial cost.
- Use national sustainability guidelines such as LEED and California Building Code-CAL Green during the design and construction phases. Identify goals and integrate certification choices in the planning and design process.
- Develop and evaluate current landscape and incorporate drought-tolerant plantings throughout the campus.
- Manage the design process by performing detailed reviews at each design milestone to confirm compliance with program, design basis and project budget. Reviews should include representatives from user groups, Maintenance & Operations, Campus Safety, Information Technology and college administration.
- Select the appropriate contracting method and comply with all public contracting regulations to select building general contractor.

- Inspect the construction work to ensure compliance with design and codes. Test and document by maintaining a structured inspection process with comprehensive testing.
- Commission building systems to ensure performance of integrated systems. Employ expanding commissioning involving the commissioning agent throughout the design and construction to provide another long-term operations perspective in the development process.
- Collect, organize As-Built documents, warranties, operations manuals spare parts records as the facility is being constructed.
- Develop operations plan that includes custodial and maintenance staffing as well as specialized service contractors consistent with levels of maintenance acceptable to the Colleges.
- Establish preventative maintenance and scheduled maintenance scope, timing and budget involving maintenance and operations staff in the design and construction process for training and operations planning.

Capacity to Load Ratios

Part of the new space or renovation decision is an evaluation of the effective use of existing facility assets. The California Community College System has established the Capacity to Load Ratio (Cap Load Ratio) as the state standard for effective space utilization on community college campuses. The Cap Load Ratio compares space required to support student enrollment calculated using Weekly Student Contact Hours (WSCH) by the type of space (classroom or laboratory) compared to amount of that type of space existing on campus. A Cap Load Ratio of 100% indicates the effective use of available space. Either new or remodeled space solutions should result in an improvement of the Cap Load Ratio at project completion. The Capacity Load Ratio is a key Performance Metric.

Modesto Junior College Cap Load Ratios

The Modesto Junior College bond program focused on development of new space to replace aging facilities and accommodate a growing student population at the College. As State funding and student enrollment dipped during difficult economic times, some newer programs did not grow as anticipated and aging facilities have not been removed resulting in an excess of classroom and office space.

Chart 4.1.A- Modesto JC WSCH Projection Comparison- FY 2008/09 to FY 2017/18

