

Cost Estimate for Noncontract Costs

Technical Memorandum



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Date:	May 9, 2025
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Subject:	Cost Estimate for Noncontract Costs

Executive Summary

This technical memorandum (TM) provides updated estimates for noncontract costs. Noncontract costs are Owner's costs that will be incurred between the time the project is authorized for construction by the member agencies and the completion of start-up and commissioning of the project. This estimate excludes the costs incurred by the construction contractors. Separate estimates are also being provided for mitigation and real estate acquisition.

Table ES-1 summarizes the current construction cost estimates, noncontract cost estimate, and provided the noncontract cost value as a percentage of the construction cost.

Table ES-1: Construction and Noncontract Cost Estimate Summary

Cost Estimate	Cost Estimate Prior to Contingencies	Contingency	Total Estimate
Reservoirs Package (A)	\$2,435,500,000	\$829,700,000	\$3,265,200,000
Conveyance Package (B)	\$1,548,400,000	\$333,300,000	\$1,881,700,000
Construction Cost (C) = A+B	\$3,983,900,000	\$1,163,000,000	\$5,146,900,000
Noncontract Cost (D)	\$1,243,700,000	\$186,700,000	\$1,430,400,000
Noncontract Percent of Construction (E) = D/C			27.8%

1.0 Introduction

Noncontract costs are Owner's costs that are excluded from the Construction Manager at Risk (CMAR) contract. Examples include legal services, investigations, final design and specifications, construction management, environmental compliance, archeological considerations, and start-up/commissioning

(descriptions of noncontract costs specific to Sites Reservoir are provided in subsequent sections). Noncontract costs were previously evaluated (in 2019), but both project and market conditions have changed markedly since then. In the 2021 cost estimate, noncontract costs were estimated in the construction cost estimate for the HR (reservoir engineering) and HC (conveyance engineering) facilities by applying a percentage (15 to 17%) to the estimate for construction. Noncontract costs are significant, and it was determined that a detailed update of the estimate was needed at this time. Noncontract costs will continue to be incurred from the present until the completion of project start-up and commissioning.

2.0 Limitations

AECOM represents that our services were conducted in a manner consistent with the standard of care ordinarily applied as the state of practice in the profession, within the limits prescribed by our client.

This TM is intended for the sole use of the Sites Project Authority. The scope of services performed may not be appropriate to satisfy the needs of other users, and any use or re-use of this document or of the findings, conclusions, or recommendations presented herein is at the sole risk of said user.

This TM makes extensive use of information developed by others. Authority agents and contractors provided input to the estimate and performed their own quality control to verify the quality of the information delivered to AECOM.

3.0 Noncontract Costs

This TM estimates the present worth costs for noncontract activities in March 2024 dollars. This TM also determines annual costs at a summary level to inform the annual cashflow. The estimate for the Authority's costs covers activities beginning in 2026 and extending through 2033 to address the next phase of project funding. Noncontract costs range from \$260M to \$60M per year with an average cost per year of \$155M. Potential project delays could have a significant effect on the noncontract costs.

The structure for the estimate was informed by FAC 09-02 (United States Bureau of Reclamation [USBR], *Reclamation Manual Directives and Standards*, 2019). Eighteen (18) categories of noncontract costs were used to develop the estimate. An Authority team lead was identified for each category to provide input into the estimate. AECOM facilitated the development of the estimate by gathering information from each of the Authority's experts for each of the categories. The sources and resources used to develop the estimates are discussed under the category descriptions and findings provided below.

Table 3-1 provides a summary of the estimated noncontract costs by category and the recommended contingencies for each category. A detailed breakdown is provided in Attachment A (noncontract cost spreadsheets).

Table 3-1: Noncontract Cost Estimate Summary

Categories	Category Description	Total (\$)	Contingency	Total with Contingency (\$)	% of Total
A	Project Management (PJM)	128,000,000	10.0%	140,800,000	10.1%
B	Development and Negotiation	300,000	10.0%	300,000	0.0%
C	Planning Studies and Data Collection	87,500,000	15.0%	100,600,000	7.7%
D	Environmental and Cultural Monitoring During Construction	114,900,000	15.0%	132,100,000	9.5%
E	Native American Agreements and Activities	30,700,000	50.0%	46,100,000	3.3%
F	Advance Planning for Operations	11,300,000	8.0%	12,200,000	0.9%
G	Design Data Collection and Reporting—Geotechnical	202,300,000	15.0%	232,700,000	16.7%
H	Lands and Rights	By others	—	By others	0.0%
I	Relocation Services Prior to Construction	8,000,000	10.0%	8,800,000	0.6%
J	Consultant A&E Firms and Other External Resources	17,100,000	8.0%	18,500,000	1.3%
K	Engineering, Designs, Specifications, and Cost Estimates	288,500,000	10.0%	317,300,000	21.6%
L	Safety, Security, and Law Enforcement Plans	16,200,000	5.0%	17,100,000	1.2%
M	Outstanding Permitting Activities	4,500,000	5.0%	4,700,000	0.3%
N	Procurement	3,000,000	5.0%	3,200,000	0.2%
O	Facilities Provided by Project Partners	11,400,000	10.0%	12,500,000	0.9%
P	Materials, Services, and Equipment Provided by Project Partners	None identified	0.0%	None identified	0.0%
Q	Construction Management and Other Construction Related Services	310,600,000	20.0%	372,700,000	24.8%
R	Post-Construction/Contract Closeout	9,300,000	15.0%	10,700,000	0.8%
	Total	1,243,700,000	15.0%	1,430,400,000	100%

3.1 Project Management (Category A)

The Treasurer’s Report for 2024 (Authority, 2025) was a key reference for establishing the baseline organization costs for project management. This report includes the cost for all current Authority agents and the costs for Project Integration and Project Controls services in 2024.

Additional staff will be needed to implement/manage the construction of Sites Reservoir. The draft Total Construction Organization Chart (Authority, 2024) anticipates a need for 23 additional staff for construction. The noncontract cost estimate assumes that one-third of the new hires will come onboard in 2026, another third in 2027, and the final third in 2028. Staffing will remain at an increased level until the start of commissioning. The estimate assumes that only half of the additional staff will be required in 2033 (start-up and commissioning). This staffing level is consistent with the draft Operations

Organization Chart (Authority, 2024) which projects 12 full-time equivalents (FTEs) above the current level of staffing.

Additional support from Project Integration and Project Controls is also anticipated during construction. Project Integration support was estimated to gradually increase by an additional 20% and then gradually decrease toward the end of construction. Project Controls was similarly anticipated to increase by an additional 40% during construction and decrease at the end of construction.

Project Management includes a variety of overhead expenses, including accounting, audits, independent advisors, external and government affairs, accounting, Maxwell office upkeep, and administrative support. The estimate for these costs relies on the 2024 Treasurer's Report to establish a reasonable baseline for future costs. Costs for legal services were adjusted based on input from the Environmental team.

3.2 Development and Negotiation (Category B)

A wide variety of agreements needs to be developed to support the construction and future operation of Sites Reservoir. Agreements needed include:

- Agreements with USBR (Warren Act or other agreements)
 - Sites / USBR / Department of Water Resources (DWR) Operations Agreement
 - Partnership Agreement with USBR
 - Other agreements with USBR
 - Agreements Necessary for Pumping and Conveyance of Incremental Level 4 Refuge Water
 - Conveyance Agreement (similar to Warren Act Agreement)
 - Design/construction agreement(s) to add pumping capacity at Red Bluff Pumping Plant
 - Land Lease/License Agreement for use of federally owned property
 - Power agreement(s)
 - Reimbursement agreements within the Central Valley Project (CVP) (possible)
- Agreements with Glenn-Colusa Irrigation District (GCID)
 - Facilities Use Agreement
 - Design and Construction Agreement
- Agreements with Colusa Basin Drain Authority entities
 - Term sheet with DWR for Knights Landing Outfall Gates (KLOG) operations
 - KLOG operations agreement with DWR
 - Term sheet with DWR Wallace Weir operations
 - Wallace Weir operations agreement with DWR
 - Dunnigan Pipeline outlet real estate term sheet
 - Dunnigan Pipeline outlet real estate agreement
 - Sites/ Reclamation District (RD) 108 Lower Colusa Basin drain operations agreement
- Agreements with Tehama-Colusa Canal Authority
 - Facilities use agreement
 - Design and construction agreement
- Agreements with any entity regarding water supply to wildlife refuges (covered elsewhere)
- Other

- Benefits & obligations contract
- Developer agreement with Colusa County
- Developer agreement with Glenn County
- Developer agreement with Yolo County
- Proposition 1 public benefits agreement for recreation/flood control
- Proposition 1 public benefits agreement for ecosystem benefits
- Proposition 1 final funding agreement
- Water Infrastructure Finance and Innovation Act Program (WIFIA) loan agreement

This is a significant amount of work, but most of the effort is already covered through the Authority's agents and consultants and included in their cost estimates. There was an additional cost to support the development of interagency agreements in 2024. We have assumed a similar level of cost for 2026. We do not anticipate these charges to continue beyond 2026.

3.3 Planning Studies and Data Collection (Category C)

Although the final California Environmental Quality Act (CEQA) document has been published, ongoing activities will be needed to document changes in design. The Notice of Determination / Record of Decision (NOD/ROD) also remains under development for federal compliance.

Access to the affected properties was largely unavailable in the past; therefore, significant work still remains necessary to complete the biological surveys (to determine the presence of endangered and threatened species), the water quality investigations (including sampling for metals and temperature to establish a baseline for the receiving waters), and cultural investigations (to identify and manage cultural resources). Costs were also estimated for tracking paleontological data, and funding is included for Environmental Protection Plan (EPP) staff to manage these efforts. Studies will be needed to support the water rights for Sites Reservoir (e.g., stream gauging).

The Authority will also need to develop adaptive management plans to follow a compliance strategy under CEQA and permit requirements.

The Environmental team developed this cost estimate for planning studies and data collection. John Spranza and Jelica Arsenijevic coordinated this effort.

3.4 Environmental and Cultural Monitoring During Construction (Category D)

Staff will be needed on-site to monitor for cultural, biological, water quality, and other resource impacts during construction activities. Monitoring activities are expected to include:

- Cultural resources construction monitoring
- Cultural resources compliance (resource protection, accidental discoveries, accidental damage, burial treatment, annual reporting)
- Water quality and equipment monitoring
- Other monitoring (noise, traffic, etc.)
- Environmental compliance program (database development and tracking)
- Staff supervising and ensuring contractor environmental compliance
- Biological monitoring for compliance

- Paleontological monitoring and compliance

Costs for these efforts are anticipated to begin in 2026 and will quickly ramp up during construction.

The Environmental team developed the cost estimates for this category. John Spranza and Jelica Arsenijevic coordinated this effort.

3.5 Native American Agreements and Activities (Category E)

The estimated cost for Native American agreements and activities includes tribal coordination and engagement. Costs are also included for tribal monitors (e.g., monitoring for cultural surveys, excavations, and construction monitoring).

The Environmental team developed the cost estimates for this category. John Spranza, Jelica Arsenijevic, and Danielle Risse coordinated this effort.

3.6 Advance Planning for Operations (Category F)

Advance planning for operations includes the following activities:

- Start-up plan
- Operations plan
- Computer simulations to support operations
- Emergency planning
- Tabletop exercises
- Cybersecurity plan

Angela Bezzone of the Operations team developed the cost estimates for this category.

3.7 Design Data Collection and Reporting–Geotechnical (Category G)

Much of the geotechnical investigation needed to support the engineering design is still pending; various property acquisition and site access issues need to be resolved. Significant activity is expected during 2026 and 2027. By 2028, the annual cost for the geotechnical data collection effort should decrease significantly. In addition to the geotechnical investigation, additional mapping is also expected to be needed.

The scope for the geotechnical investigation is consistent with the work plan (Fugro, 2024) submitted to the California Division of Safety of Dams (DSOD). This work plan was used to estimate the costs of the reservoir geotechnical investigations, and those investigations cover approximately 75% of the investigation budget. The balance of the geotechnical scope for conveyances, roads, and bridges was developed by Fugro with support from the Project Integration Team.

3.8 Lands and Rights (Category H)

Costs associated with real estate acquisition, including staff and services, are reported separately in the stand-alone real estate estimate.

3.9 Relocation Services (Category I)

Services to assist in the relocation of residents are reported separately in the real estate estimate. The costs presented here include estimated costs to relocate the known cemeteries.

Danielle Risse (cultural resources) of the Environmental team developed the estimate.

3.10 Consultant A&E Firms and Other External Resources (Category J)

Most of the consultant effort is reported by corresponding service categories (e.g., Project Controls and Project Integration support Project Management, HR and HC Engineering support Engineering). External services identified under this category include:

- Legal support for environmental mitigation
- Legal support for water rights
- Modeling and support for water rights agreements
- Reservoir operations modeling
- Support from United States Fish and Wildlife Service (USFWS)
- Support from the National Marine Fisheries Service (NMFS)
- Support from California Department of Fish and Wildlife (CDFW)
- Support from the United States Army Corps of Engineers (USACE)

3.11 Engineering, Design, Specifications, and Cost Estimates (Category K)

Engineering for the project is currently at a 30% level for design. The effort to develop the final design will include:

- Design, drawings, specifications, and cost estimates for the dams, inlet/outlet facilities, and roads (including bridges)
- Design, drawings, specifications, and cost estimates for the terminal regulating reservoir, terminal regulating reservoir pumping plant, Funks pumping plant, and conveyance pipelines
- Independent cost estimates for both the reservoir and conveyance facilities
- Design for the recreation facilities
- Reviews by a Board of Technical Advisory Consultants
- Risk analysis
- Payment of DSOD fees
- Payment of California Independent System Operator (CAISO) fees

3.12 Safety, Security, and Law Enforcement Plans (Category L)

This category captures a variety of items for maintaining the security and safety of project property and community safety. Specific items covered include:

- On-site safety and security manager (including vehicles)
- Fire prevention plan
- Maxwell Fire Protection District support
- Maxwell Public Utilities District support

- Maxwell School District
- Law enforcement (Colusa County)
- Law enforcement (Glenn County)
- Law enforcement (Yolo County)
- Traffic management and coordination

3.13 Outstanding Permitting Activities (Category M)

This category includes several permit-related activities that need to be completed. Specific items include:

- Traffic management plan
- Land management plan
- Construction noise abatement plan
- Construction equipment exhaust reduction plan
- Fugitive dust control plan
- Hazardous materials management plan
- Spill prevention and hazardous materials management/accidental spill prevention, containment, and countermeasures plans
- Storm Water Pollution Prevention Plan
- National Pollutant Discharge Elimination System (NPDES) permit
- Anticipated permit amendments
- Stream gauging

3.14 Procurement (Category N)

This category covers procurement services, including contracting with the CMAR and other construction contractors and managing the invoicing process in accordance with funding agencies' requirements.

3.15 Facilities Provided by Project Partners (Category O)

Costs in this category are limited to the wheeling costs to USBR / Tehama-Colusa Canal Authority (TCCA) and GCID for the initial filling of Sites Reservoir.

3.16 Materials, Services, and Equipment Provided by Project Partners (Category P)

No costs identified.

3.17 Construction Management and Other Construction-Related Activities (Category Q)

Items captured under this category include the following:

- On-site office building or trailer
- Vehicles for inspection staff
- Construction management for reservoir and conveyance facilities
- Engineering services during construction (e.g., responses to Requests for Information [RFIs])

The noncontract cost estimate assumes that quality control work will be performed by the CMAR; however, additional effort will be needed for quality assurance. As noted in the Construction Cost Estimate for Reservoir Facilities (AECOM, 2025), field overhead expenses includes all costs incurred by the CMAR in managing and running the site in the field, including field/site set-up and accommodation; management, supervision, and field engineering; personnel travel and lodging; safety and protection; construction aids, equipment, and tools; temporary construction; environmental requirements; quality control, inspection, and testing (CMAR will perform quality control testing, and the Authority will perform quality assurance testing); and maintenance and housekeeping. The field overhead costs for the reservoirs contract were estimated to be 12.5% to 17% of the direct construction cost for the facilities. The field overhead costs for conveyance facilities were estimated to be 5% of the direct construction costs.

3.18 Post-Construction/Contract Closeout (Category R)

This category covers costs for start-up and commissioning of the reservoir. The CMAR will accomplish start-up with support from the Authority's operations team. Ongoing support from engineering includes RFIs and review of final drawings. The estimate includes the following equipment expenditures:

- Pickup trucks (two)
- Heavy-duty service trucks (six)
- Front-end loader
- Scraper
- Water truck
- Crane
- Boom truck

4.0 Evaluation of Noncontract Cost Contingency

A meeting to discuss noncontract cost risk and contingency evaluation was held on February 20, 2025, with representatives from Project Integration, Project Controls, Geotechnical Investigation, Environmental, External Affairs, Reservoir Engineering, and Conveyance Engineering. The potential risks associated with each noncontract cost category were discussed, and the review team adopted a recommended contingency for each of the separate categories. The most significant risks to the budget and schedule for noncontract costs include:

- Schedule delays
 - Litigation
 - Black swan events (e.g., a pandemic)
 - Weather (including major flood or fire)
- Regulatory and funding agency requirements
- Availability of resources
- Poor contractor performance and a need for rework

Table 3-1 lists the recommended contingency for each category.