

Table 7 – Project Budget

Proposal Title: Upper Sacramento, McCloud, and Lower Pit IRWM 2014 Drought Grant Proposal

Project Title: City of Mt. Shasta Supply Line Replacement

Project serves a need of a DAC?: Yes No

Funding Match Waiver request?: Yes No

Category		(a)	(b)	(c)	(d)
		Requested Grant Amount	Cost Share: Non-State Fund Source* (Funding Match)	Cost Share: Other State Fund Source*	Total Cost
(a)	Direct Project Administration	\$20,000.00	\$0.00	\$0.00	\$20,000.00
(b)	Land Purchase/Easement	\$0.00	\$0.00	\$0.00	\$0.00
(c)	Planning/Design/Engineering/Environmental Documentation	\$140,000.00	\$0.00	\$0.00	\$140,000.00
(d)	Construction/Implementation	\$1,567,000.00	\$0.00	\$0.00	\$1,567,000.00
(e)	Grand Total (Sum rows (a) through (d) for each column)	\$1,727,000.00	\$0.00	\$0.00	\$1,727,000.00

*List sources of funding: Use as much space as required

City of Mt. Shasta Supply Line Replacement Project Budget Summary

- (a) The direct project administration requested grant amount of \$20,000 is approximately 1.2% of the project construction and implementation cost. This is more than reasonable in order to complete all tasks explained under Task 1 of the Work Plan including reporting forms and project updates to DWR, Labor Code Compliance verification, pay estimates, and quarterly and final progress reports.
- (b) There is no land acquisition or easements required for this project; therefore, no funds will be required.
- (c) The planning/design/engineering/environmental documentation requested grant amount of \$140,000 is 10.6% of the anticipated construction cost of \$1,317,000 (not including implementation costs of \$250,000). According to the American Society of Civil Engineers (ASCE) Manuals and Reports on Engineering Practice No. 45, Updated Edition, Graph 4 indicates the total fee for a construction project of this size and average complexity modifying an existing facility is approximately 15% of the overall construction cost. This information was based on a survey completed by ASCE of consulting firm practices in which consultants were asked to submit data on their completed projects relating the cost of various phases of their engineering services to the construction costs. Data from more than 1,000 projects were submitted and used to compile survey results. Additionally, these percentages have since been verified using information from comparable projects completed in the area where construction contracts were competitively bid. Total fees include investigations, studies, preliminary design, final design, construction services, and all other services. As such, the requested grant amount for all fees is approximately 12% of the overall construction cost (not including implementation costs of \$250,000 as described in (d) below). This is more than reasonable to complete all tasks explained under Task 3 of the Work Plan, including completion and approval of hydraulic modeling, final plans and specifications, and environmental documents.
- (d) Project construction and implementation costs were based upon similar, recent prevailing wage rate projects completed in northern California. Implementation costs include construction admin, construction observation, and climate change vulnerability assessment anticipated to be \$250,000. Water main construction costs from these previous projects were projected forward to construction in year 2015, based upon the typical yearly increase in the Engineering News Record – Construction Cost Index (ENR CCI), which presently stands at 9800 for June 2014. The ENR CCI has been in place since 1908 and indexes the cost of construction taking into account 200 hours of common labor at a rate averaged over 20 cities, plus 25 cwt of standard structural steel shapes, 1.128 tons of Portland cement, and 1,088 board-ft of 2x4 lumber. As such, construction costs are anticipated to be approximately \$1,317,000, including a 10% construction contingency.

Implementation costs specific to the climate change vulnerability assessment are estimated at \$150,000. This includes laboratory analysis of 3 water samples for tritium, noble gases, and sulphur-35, and labor costs for a technical hydrology consultant, expert review panel, and project management. These costs are approximately 10% of the total project budget.

Table 7 – Project Budget

Proposal Title: Upper Sacramento, McCloud, and Lower Pit IRWM 2014 Drought Grant Proposal

Project Title: City of Mt. Shasta Water Meter Installation

Project serves a need of a DAC?: Yes No

Funding Match Waiver request?: Yes No

Category		(a)	(b)	(c)	(d)
		Requested Grant Amount	Cost Share: Non-State Fund Source* (Funding Match)	Cost Share: Other State Fund Source*	Total Cost
(a)	Direct Project Administration	\$30,000.00	\$0.00	\$0.00	\$30,000.00
(b)	Land Purchase/Easement	\$0.00	\$0.00	\$0.00	\$0.00
(c)	Planning/Design/Engineering/Environmental Documentation	\$100,000.00	\$0.00	\$0.00	\$100,000.00
(d)	Construction/Implementation	\$2,432,300.00	\$0.00	\$0.00	\$2,432,300.00
(e)	Grand Total (Sum rows (a) through (d) for each column)	\$2,562,300.00	\$0.00	\$0.00	\$2,562,300.00

*List sources of funding: Use as much space as required

City of Mt. Shasta Water Meter Installation Project Budget Summary

- (a) The direct project administration requested grant amount of \$30,000 is approximately 1.2% of the project construction and implementation cost. This is more than reasonable in order to complete all tasks explained under Task 1 of the Work Plan including reporting forms and project updates to DWR, Labor Code Compliance verification, pay estimates, and quarterly and final progress reports.
- (b) There is no land acquisition or easements required for this project; therefore, no funds will be required.
- (c) The planning/design/engineering/environmental documentation requested grant amount of \$100,000 is approximately 4.5% of the anticipated construction cost of \$2,238,000 (not including implementation costs of \$194,300). According to the American Society of Civil Engineers (ASCE) Manuals and Reports on Engineering Practice No. 45, Updated Edition, Graph 4 indicates the total fee for a construction project of this size and average complexity modifying an existing facility is approximately 14% of the overall construction cost. This information was based on a survey completed by ASCE of consulting firm practices in which consultants were asked to submit data on their completed projects relating the cost of various phases of their engineering services to the construction costs. Data from more than 1,000 projects were submitted and used to compile survey results. Additionally, these percentages have since been verified using information from comparable projects completed in the area where construction contracts were competitively bid. Total fees include investigations, studies, preliminary design, final design, construction services, and all other services. As such, the requested grant amount for all fees is approximately 5.8% of the overall construction cost (not including implementation costs of \$194,300 as described in (d) below). This is more than reasonable to complete all tasks explained under Task 3 of the Work Plan, including completion and approval of water system mapping, final plans and specifications, and environmental documents. The anticipated total fees are well lower than the ASCE approximation of 14% due to the relatively straightforward nature and very low complexity of a water meter installation project as opposed to more complex water system modifications and construction projects.
- (d) Project construction and implementation costs were based upon similar, recent prevailing wage rate projects completed in northern California. Implementation costs include construction administration, construction observation, and water conservation programs and measures anticipated to be \$194,300. Water meter installation construction costs from these previous projects were projected forward to construction in year 2015, based upon the typical yearly increase in the Engineering News Record – Construction Cost Index (ENR CCI), which presently stands at 9800 for June 2014. The ENR CCI has been in place since 1908 and indexes the cost of construction taking into account 200 hours of common labor at a rate averaged over 20 cities, plus 25 cwt of standard structural steel shapes, 1.128 tons of Portland cement, and 1,088 board-ft of 2x4 lumber. As such, construction costs are anticipated to be approximately \$2,238,000, including a 20% construction contingency.

Implementation costs specific to water conservation programs and measures are estimated at \$44,300. This includes a 4-page water conservation mailer to every city residence, a short water supply education video, and three water conservation workshops. These costs are less than 2% of the total project budget.