A2. Provide documentation indicating the project is cost-effective. If there is at least one feasible alternative means of providing the total benefits, calculate, display and document the least-cost of these alternative means. Justify the proposed project by comparison.

M. Cubed provided an economic analysis using the alternative cost method to achieve the same level of total benefits. The methodology, based on the WSIP Technical Guidance, is documented in M. Cubed’s Technical Memorandum, dated August 13, 2017, and is provided in the Benefit Calculation, Monetization and Resiliency Tab, Attachment 3. All of the supporting data, assumptions and calculations are provided in the Benefit Calculation, Monetization and Resiliency Tab, Attachment 5. The present value of the least-cost alternative that achieves the total project benefits is estimated at $177.8 million.

The project costs were based on the study by Dee Jaspar and Associates included in the Feasibility and Risk Tab, Attachment 1. All of the cost assumptions and calculations are provided in the Benefit Calculation, Monetization and Resiliency Tab, Attachment 9. The present values of the monetized benefits calculated by M. Cubed, were incorporated into the benefit cost analysis in order to calculate both the public benefit ratio and benefit-cost ratio. The calculated public benefit ratio and benefit-cost ratio was determined to be 1.47 and 1.49, respectively. Both of these ratios demonstrate that the expected benefits of the project exceed the expected costs, and therefore the project is cost-effective.

It should be noted that the allocated calculated benefit to cost share ratio for IRWD and Rosedale is below 1.0. IRWD and Rosedale would seek to develop both state wide and local partnerships to leverage the use of the Project facilities when not needed for Project purposes, which would result in an increased benefit to IRWD and Rosedale in excess of the benefits demonstrated for the Kern Fan Groundwater Storage Project, as discussed in Tab 3, Question 6. Since IRWD and Rosedale expect additional future benefits from other partnerships, the stated funding levels in the application are considered by both of the agencies to be cost-effective.