

CDPH PROPOSITION 50 FUNDING PROGRAM PROJECT TECHNICAL REPORT GUIDELINES

NOTE: These guidelines are **draft**, and the applicant should contact CDPH before proceeding to ensure that the latest version of these guidelines and forms are used.

The Prop 50 funding application must be accompanied by a technical report to allow CDPH to determine the eligible project components and associated costs. These guidelines will assist the applicant in preparing an acceptable technical report. Small water systems (those serving less than 1,000 services connections) should contact their CDPH District Office before completing this section. CDPH will provide assistance to small water systems in the preparation of the technical report. Attachment A is a template of a Simplified Project Technical Report for Small Water Systems. In most cases, large water systems (those serving more than 1,000 service connections) must submit a full technical report.

Where possible, CDPH has incorporated technical elements required for the environmental review into the technical report outline to minimize the submittal requirements for the applicant.

The technical report must be prepared by a qualified, experienced professional. The level of expertise required of the preparer, and the level of detail required in the report, depends upon the type of project. For a treatment plant or large capacity or complex infrastructure project, the report should be prepared by a professional engineer experienced in water system design. For a simple project, such as the installation or replacement of a pump, construction of a simple intertie, or replacement of pipeline, the report may be prepared by a professional with experience in the proposed technology or facilities. Use of professionals with the appropriate level of expertise will speed up the processing of the application and will reduce the depth of the Department's technical review.

The technical report is the central part of the application and contains most of the technical information needed to process the application. In some cases, some of the technical report components may have already been described in a previous document such as an engineering report or feasibility study. If so, simply refer to that document/report in the application, and attach a copy.

1. **Project Location**

Describe the project location. This should include the county, general description of the vicinity, the street address, and the Township, Range, and Section (TRS). The TRS is used for recording environmental documentation. The TRS can be determined from a USGS topographic map, or the applicant may find this information on the Internet. Also describe the zoning designation at the project site.

2. **Problem Description**

Provide a detailed description of the water system problem(s) to be addressed by this project. Identify the drinking water standard, regulation, or CDPH directive violated. Only that problem or problems that the project will address and resolve should be described. Do not describe all of the problems in the system, only the problem(s) for which the project was ranked on the priority list.

In most cases, the applicant submitted necessary documentation to demonstrate the problem as part of the pre-application. If this is still adequate, no further documentation is needed. If, however, the situation has changed, or the information is outdated, additional documentation should be submitted. Do not include water system improvements that are not directly related to the problem being solved. As an example, if a new well is being drilled to solve a source water problem, the piping to connect the well to the distribution system is eligible but piping to replace old or leaking distribution lines is not eligible.

To be considered eligible for funding, all elements or components of the proposed project must be directly related to the primary problem.

3. Description of the Proposed Project

Describe in detail the project that will be constructed to resolve the problem. In this section, describe or list each unit process or major component, as well as related equipment, including the quantity, function, size, and relationship to other project components. A table format may be the most useful way of presenting the information. If it isn't otherwise clear, explain the necessity of the component in solving the problem. Some of this information may be included in the Conceptual Project Design (Section 11).

4. Map of Existing Service Area

Provide a map that identifies and delineates the service area of the water system. This information is used for purposes of project affordability, identifying disadvantaged community boundaries, and other factors. For municipal systems, the service area is likely to be the city or town limits, in which case a map showing those limits is sufficient. Some large special districts however, may include more than one public water system within their legal district boundary. The service area in this case should be the area served by the specific permitted water system rather than the overall district boundary. For community water systems that do not have a specified legal boundary, the service area should be described as that area served by the existing distribution system.

Since non-community water systems do not usually have distribution systems, it may be more difficult to determine the service area. If the majority of the "users" of the non-community system are derived from a specific area, then this area can be used as the service area for the system. For example, if more than half of the students of a rural school that is a non-community system come from a specific community, that community can be used as the service area. For other non-community systems, the county in which the system is located will generally be used as the service area with respect to determining median household incomes etc.

If the boundaries of the water system extend beyond the area served by the existing distribution system, the location of the current distribution system within those overall boundaries should be shown on the service area map.

5. Map of the Project Location (include topographic map and site plan).

A map or drawing must be included in the report that shows the location of key facilities of the existing system (e.g. sources, treatment units, reservoirs, storage tanks, and primary distribution mains) and the proposed location of new facilities. If the purchase of land will be included in the application for funding, the size, location, and purpose of each parcel must be shown or described. In addition, a topographic map of the project area is required for environmental review. The site plan could be shown on a topographic map and one map can fulfill both requirements. Alternatively, the site plan could be included in the map of the service area boundaries (Section 4) and a topographic map could be separate.

6. Existing Population & Service connections.

Estimate the population served on an average daily basis by the water system. For community water systems, this would be the permanent population of the community. Seasonal community systems should use the average population served by the system during the peak period in which the system is in operation. Non-community water systems should use the average daily population served during the periods that the system is in operation. The estimated population can be derived from census data, facility use records, billing information, or by converting service connections to population using a conversion factor of 2.8 persons per connection, whichever most closely approximates the actual number of persons served. Specify the method used to determine population.

Provide the total number of active service connections that are currently and directly served by the water system. This includes all domestic, residential, industrial, commercial or other connections. Wholesalers, or entities that deliver water to another water system, should contact the CDPH District Office to discuss the appropriate number of service connections to be used, since this may vary depending upon the type of project being proposed. Indicate whether the services are metered. Non-community water systems may indicate "not applicable".

7. Water Rights Information

Describe the nature of the water rights that apply to the sources for the applicant water system. **If the project does not impact or change the quantity or location of the drinking water sources or increase the population that can be served, this section is not required.** If the water system source water is derived from a surface source pursuant to a riparian right or if groundwater is extracted from a basin that is not adjudicated, state this in the technical report. If the water system purchases water from another water supplier, describe the terms of the purchase agreement. If the water system diverts surface water pursuant to a water right granted by the State Water Resources Control Board, attach a copy of the water rights permit. If the water system has applied for a water rights permit but it has not yet been issued, attach a copy of the application for the water right. If the water system extracts water from an adjudicated groundwater basin, attach a copy of the permit or order to extract such water from the basin watermaster.

8. Evaluation of Alternatives/Cost Effectiveness

Funds must be provided to the most cost-effective solution to the problem. Therefore, it is essential that all feasible alternatives be evaluated. For example, if the problem is a contaminated well, alternatives may include drilling a new well, installing treatment on the existing well, blending the water with other uncontaminated sources, purchasing water from another system, or abandoning the source and physically consolidating with an adjacent water system. Alternatives that are obviously not feasible for economic or physical reasons do not have to be evaluated. An alternative should not be discarded for political reasons (e.g. simply because the adjacent system is not interested in consolidating).

In considering alternatives, only alternatives that involve significantly different concepts (such as those described in the above example) need to be evaluated. It is not necessary to evaluate different forms or variations of the same basic concept. For example, in evaluating alternatives for a surface water supply, it is not necessary to compare conventional filtration versus direct filtration or use of filtration membranes. It is only necessary to compare filtration (in general) against other concepts such as use of groundwater. In addition to evaluating and discussing the “feasibility” of each alternative, the report should estimate and compare the costs and relative effectiveness (including reliability) of the alternatives. “Costs” need only be addressed in a general sense. The cost-comparison of alternatives may be based on “typical” construction costs, use of existing examples, or application of best engineering judgment; specific detailed costs of the alternative are not required.

State law requires that the basic environmental impacts of each alternative be determined and compared. This information may be presented in the Initial Study that many systems will need to prepare as part of the environmental review (CEQA - California Environmental Quality Act) process. For those projects that have not gone through the CEQA process at the time of application submittal, an initial comparison of environmental impacts will be necessary. This comparison does not have to be detailed but merely compare the general impacts of the alternatives.

The primary decision as to which alternative to fund will be based on “cost-effectiveness.” Preference is given to the project alternative that achieves an acceptable result at the least cost. In comparing the relative cost, both initial capital costs and operation and maintenance (O&M) costs (over the useful life of the facilities) should be considered.

9. Feasibility of Consolidation

Consolidation with another water system must be included and evaluated as one of the alternatives. The Department recognizes that consolidation is generally not a feasible option for larger systems. **Therefore, systems serving more than 10,000 persons do not need to explore this option in any detail but can simply include a statement that consolidation is not feasible.** Smaller systems, however, must evaluate this possibility. If consolidation is deemed not to be feasible, the reasons for that determination must be described.

“Consolidation” with respect to the technical report means physically combining two or more systems into one system with the elimination of the other merged system(s) as separate water systems. Consolidation needs to be evaluated only with other systems that are in reasonably close proximity and which could be inter-connected by pipelines where the physical terrain makes this feasible. After evaluation, consolidation may be deemed a non-viable alternative due to costs, physical factors, or limitations of the adjacent water system. For example, the adjacent water system may not have sufficient water to serve the combined systems, may not have adequate operational or managerial capacity, or may simply refuse to consolidate. If consolidation appears to be a cost-effective solution but the other water system refuses to agree to the consolidation, the applicant needs to include a letter from that water system confirming their refusal.

10. Anticipated Benefits of Proposed Project

The report should describe how the project would solve the primary problem and the results that would be expected. Results may include: an improvement in water quality, maintaining water quality, reduction in treatment or operational costs, reduction in monitoring costs, potential public health benefits, etc.

11. Conceptual Project Design

The technical report must include a conceptual or preliminary project design. For treatment facilities, this would include identification and description of the unit processes to be used and a project layout of the treatment process showing the location of the facilities and a flow diagram. The anticipated size or design capacity of each unit or major piece of equipment should be indicated. For new wells, the size of the well casing and the pump, as well as the expected yield of the well, should be indicated. Any assumptions, design criteria, flow rates, etc. used to size the facilities should be shown. Any reasonable methods may be used to estimate flows, water demand, or unit capacities including existing records, comparison with similar water systems, or AWWA, Ten-State, or other standards.

12. Analysis of Projected Growth

Describe the projected growth in the service area of the water system, and any impacts that the proposed project will have on the projected growth. Eligible project costs are limited to facilities sized to serve no more than the 20-year demand projected in an Urban Water Management Plan or the 20-year demand projected in a comparable public water system planning document. If an applicant does not have an Urban Water Management Plan or comparable document, the eligible project costs are limited to facilities sized to serve no more than ten percent above existing water demand at peak flow.

For applicants without an Urban Water Management Plan, the technical report must address certain items in order to establish the eligible design capacity of the project. These steps are explained below. As indicated earlier, all assumptions, criteria, and calculations used must be shown and described.

- a) Determine the existing maximum day demand. This should reflect the demand as of the date of submission of the application. Where possible, this maximum day demand should be based on records of usage experienced by the water system during recent periods of highest daily use (e.g. during the past 5 years). Where such records are not available, the applicant must calculate approximate maximum day demand based on annual use, number and type of consumers etc. using reasonable criteria. In determining existing water demand, be sure to include water delivered to another public water system under an existing contract. The allowable amount of growth in water demand would be the existing amount determined by the above plus 10 percent.
- b) Determine the design capacity or size of key facilities that are proposed to be constructed to meet the water demand determined in Step 1 at maximum day demand. This should include any water sources, primary treatment unit processes, pumping and storage facilities, and transmission mains that will be part of the project. The project engineer may use any of several methods or criteria to determine the design capacities or size of these project components including Waterworks Standards, previous design criteria such as filter flow rates, as approved by the

Department; AWWA criteria; or Ten-States Standards. The assumptions and criteria used to size the units must be clearly shown.

13. Ineligible Project Components

Describe any elements of the proposed project that will be included but are ineligible for funding using the Prop 50 eligibility criteria. As an example of ineligible costs, the applicant may choose to replace some distribution pipeline for a project where a new well is being drilled to solve a source water problem. In this case, the distribution system improvements are not eligible, but the applicant may feel that it should be included in the project and has other funding for this portion. The construction project can include ineligible components; however, the applicant will need to identify a funding source other than Prop 50 funds to pay for the ineligible portion. Matching funds, if required, must be spent on eligible components.

Ineligible components include: land acquisition except that which is integral to the project; project facilities primarily to serve future growth; dam or rehabilitation of dams; raw water storage facilities; motor vehicles used for employee or material transportation; decorative items; extended warranties for equipment; insurance cost (except for construction insurance); and all other items not included in the construction contract. Landscaping is only eligible if it is specifically required as mitigation under CEQA.

14. Cost Breakdown of Proposed Project

In most cases, the initial cost estimate included in the pre-application was a rough estimate. It is expected that the full application will refine those estimates. Applicants are not limited to project costs stated in the pre-application. In developing the cost estimates for the project, the applicant must break down the total cost estimate into various project elements. This cost breakdown is typically more detailed than the table shown in the Financial section of the application. As a minimum, the engineering report should show the anticipated costs of the following items if they will be included in the funding requested.

- a) Planning, preliminary engineering, and application preparation
- b) Design and engineering costs
- c) Construction costs broken down by:
 - Major project components
 - Land acquisition
 - Eligible versus ineligible items
 - Excess ineligible growth capacity
- d) Construction management and contingencies
- e) Legal and administrative costs
- f) Other (describe)

NOTE: If the project contains ineligible construction items, the percentage of indirect costs (planning, administrative, design etc.) that apply to the eligible construction portion should be estimated. This can be based on a straight pro-ration, which will be the method used by the Department unless some other means is indicated.

15. Useful Life of Key Project Components

The useful life of the key system components (the elements that makes up the largest construction budget items) of the project should be estimated. All key components should have a useful life of at least 20 years.

16. *Proposed Design and Construction Schedule*

The technical report should include a proposed schedule for project completion. The schedule should allow time needed for preparation and submission of plans and specifications, completion of financing and preparation of construction bids (after approval of plans and specifications), and completion of construction. Be sure to include the time needed to complete the CEQA environmental review process. Timeframes should generally be expressed as months needed, rather than specific dates, since the timing of any funding offer is unknown. The CDPH District Office will use these estimates as a basis for preparation of an overall project schedule.

17. *Environmental Information*

Any other project description required for environmental documentation may be included here or may be submitted separately on the CDPH Prop 50 Environmental Information Form.

18. *Other*

Include any other technical information that is pertinent to this particular project that may not be included elsewhere in the report.