

***Guidance:***

***How to Demonstrate Financial, Technical, and  
Managerial Capacity in New Public Water  
Systems***

***Idaho Division of Environmental Quality  
April 1999***



## Preface

All states participating in the Drinking Water State Revolving Loan Fund Program are required by the 1996 Amendments to the Safe Drinking Water Act to obtain the legal authority to ensure that all new community and nontransient noncommunity water systems demonstrate adequate technical, financial, and managerial capacity before being allowed to commence operations.

Capacity is a term used to refer to all of the capabilities that a public water system must have in order to provide safe water to its customers and remain in compliance with the drinking water regulations on a continuing basis. These capabilities are categorized as financial, technical, and managerial in nature, but there are considerable overlap and interrelationship among the categories.

To fulfill the Safe Drinking Water Act requirements, Idaho has added a section to its *Rules for Public Drinking Water Systems* which requires the developer of a new public water system to demonstrate that the system will have adequate capacity. This new section of the rules is purposely written in general terms so that it will not require frequent revisions. The purpose of this Guidance is to provide specific direction on how to comply with the new rule.

It is expected that the Guidance will not be a static document, but will evolve steadily as more is learned about water system capacity. The goal will always be to place only those demands on the new system owner that are absolutely essential to ensure adequate capacity.

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## Introduction and Overview

This document is intended to be used by DEQ and Health District drinking water staff and by engineers, consultants, developers, and other persons involved in the development, ownership, or operation of public water systems.

**Section 1** of this Guidance briefly describes eleven elements of water system management and operations. It is felt that these are the minimum elements that must be considered in order to demonstrate the financial, technical, and managerial capability of a new water system. It is the intent of this Guidance to allow considerable flexibility in demonstrating how each of the required elements will be addressed.

As an example, the developer of a new water system may choose to assemble a comprehensive water system operations and maintenance manual that includes all eleven elements. Alternatively, it may be desirable to include managerial and financial matters in a water system management plan, while reserving operational details for a separate, more technically oriented AO & M Manual. Other arrangements and formats are possible and entirely acceptable, as long as all of the required elements are considered.

Much of the technical capacity of a water system will be revealed in the plans and specifications. It is in the review of these documents that the integrity of the system's physical infrastructure is demonstrated. This aspect of the capacity demonstration has been required by the *Idaho Rules for Public Drinking Water Systems* for many years. Because plan and specification review is closely linked to other elements of capacity, the new Section 549 of Idaho's *Rules* calls for submission of the capacity demonstration prior to or at the same time as plans and specifications.

Each of the eleven elements is referenced to the provisions of the new system capacity rule which it satisfies.

**Section 2** of the Guidance contains sample materials that can be used as guidelines or templates for demonstrating the various elements of capacity. This section is expected to be completed over time as the Guidance is applied in the field and new system capacity demonstrations are evaluated.

**Appendix A** is an excerpt from the *Idaho Rules for Public Drinking Water Systems* which includes Section 549 and several associated definitions. Each provision of the rule is followed by bracketed numerals which cross-reference to one or more of the eleven elements of capacity described in Section 1 of the Guidance.

**Appendix B** is a submittal form which lists the required elements of a new system capacity demonstration and serves as an index to the location of each element in the submittal package.

## ***Section 1.***

# ***Elements of Water System Operation and Management Planning***

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## Element 1- System Ownership and Management

**Purpose:** To document the ownership of the system, its management structure, and its decision-making process.

**Rule Reference:** This element addresses, at least in part, 549.01.e, 549.02.c, and 549.03.a. through g, and 549.06.

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Provide the following:

1) Name, address, and telephone number of the legal owner of the water system (person, persons, association, district, corporation, or other entity). If a corporation will eventually own the water system, it must be registered with the Secretary of State. All documents submitted for review should use identical names for the water system and owner.

2) Copies of deeds, plats, and easements which verify ownership.

3) Name, address, and telephone number of the person who will be responsible for ensuring that the system is in compliance with the drinking water regulations. As required by the Safe Drinking Water Act, Idaho is presently developing regulations that will require community and nontransient noncommunity water systems to have a certified operator. These rules are expected to take effect in the spring of 2000. Until that time, a certified operator will not be required unless such a requirement is already part of the drinking water rules, as is the case for surface water systems. However, a certified system operator is strongly recommended for systems coming into existence prior to implementation of the certification requirements. A plan for hiring and training an operator must be provided. This will include both the initial training and any ongoing training that may be required for periodic renewal of the operator=s skills and certification.

4) Copies of by-laws, articles of incorporation, neighborhood covenants, or other documents which define how the water system will be owned, operated, and managed. These materials must include clear procedures for appointment or election of managing officials, length of service, and a means for termination of service when required.

5) A description must be provided of how the feasibility of obtaining service from an existing water system was investigated and why it is in the best interest of customers and the environment to create a separate water system.

6) A statement which summarizes how the water system=s management organization will function, including the decision-making process (who is involved and how often they meet). Describe the method by which customers of the water system will be notified, and be given an

opportunity to participate in meetings, decisions, and other water system business. This description may be drawn from by-laws, covenants, and other founding documents, as mentioned above. A regular and formal means by which the operator is able to communicate with managing officials is a crucial part of good system management. The operator will have the most immediate and detailed knowledge of system operations, including equipment problems, performance shortfalls, and pending needs for repair and replacement. Each meeting of the system's management organization should include a fixed agenda item for the purpose of hearing a report by the operator and responding to the operator's concerns or needs. Finally, a record-keeping system must be established to ensure legal, financial, and regulatory records are maintained in good order.

7) If it is anticipated that the water system will change ownership, a description of how and when this transfer will take place is required as part of the capacity demonstration. This description will need to address impacts on system revenues and outline any effects on funding of emergency and other reserve funds (see Element 11). Transfer of water rights to the new system owner(s) is an important detail which must not be overlooked during a change of ownership.

8) If applicable, policies and procedures concerned with the management of system employee(s) are to be provided. As a rule, these policies and procedures must be in place if the system is large enough to require one or more paid employees, even if the employees work only part-time.

9) The name, address, and telephone number of an attorney and a professional engineer with whom the system has established, or intends to establish, a client relationship for purposes of obtaining expert advice when needed.

10) Description of fiscal controls-- this term refers to the formal procedures that will be followed in collecting and banking revenues, loan proceeds, and other income, and in making expenditures from the water system account. By-laws should make it clear that funds in this account are dedicated to the water system and must not be used for any unrelated purpose. Provide the name of person(s) who will be responsible for conducting system banking and who are authorized to sign checks. It is recommended, for the protection of system managers and customers, that a third party financial audit be conducted every three to five years. If the system is considered a unit of local government (a water district is an example) and has revenues of \$50,000 or more, such an audit is required by Idaho Code 67-450B. Purchase of liability insurance is an important consideration that should be addressed by the owner(s) or governing body of the water system. Finally, system managers should be aware that tax returns must be filed annually, even if the system is a non-profit corporation. Although financial in nature and therefore closely related to Element 11, fiscal controls are more properly considered under the category of system management.

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## Element 2- Service Area and Facilities

**Purpose:** To provide a map of the water system showing boundaries of the service area, number of connections, and major facilities such as wells, storage tanks, and distribution system.

**Rule Reference:** This map is intended to be a management tool. It addresses 549.03 in a broad sense, as a means to make the system operator=s work easier, to explain to existing and potential customers where and how service may be provided, and to serve as a guide for developing sampling plans. The system plans and specifications, as required and evaluated under Sections 550 and 551, will form the basis for this map.

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Provide a map which is usable on a day to day basis by the system operator and others in relating information about the system to existing or potential customers. This map should clearly delineate the boundaries of the system=s service area. It is not expected that this map will include all details that are provided in the plans and specifications. It is meant to be a management tool more than a source of highly detailed technical information. However, the map is a good place to note the locations of buried equipment, such as valves and service lines. Noting exact distances from a permanent landmark will assist the operator or others in locating these features.

An AOperating Map,≅ as commonly prepared for the system Operations and Maintenance Manual, will usually be quite adequate to satisfy this element.

The map would be a good place to delineate a source protection area around wells. This is further discussed in Element 10.

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### **Element 3- Component Inventory and Capital Replacement Planning**

**Purpose:** The component inventory and value assessment will serve as the basis for capital planning. The capital plan maps out the expected schedule on which various major components will be likely to require replacement.

**Rule Reference:** This element addresses, at least in part, 549.01.c. and d., 549.02.b., and 549.03.g.

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Provide the following:

- 1) A list of all major system components, their initial dollar cost, and any available manufacturer=s data concerning projected service life. This will include pumps, valves, meters, pressure or other storage tanks, and buildings.
- 2) The list should include a year of replacement for each major component (based on the projected service life), and an estimate cost of replacement using standard engineering practices for estimating future costs.
- 3) Those components which show a replacement date within the five year budget period (see Element 11) should be included in the current budget. The component inventory and estimated lifespan data will form the basis for a capital replacement plan.
- 4) A capital replacement plan which projects the year of replacement for each major component. The funds required to meet the replacement schedule can then be spread over the first two decades of operation. Components with projected lifespans exceeding this time period will need to be incorporated into the capital budget at a later date. It is recognized that there are practical limits to the size of the capital replacement fund, and the water system may at some point in the future find it necessary to borrow money to underwrite the replacement costs of major system components (such as a new well or replacement of distribution mains). The potential credit worthiness of the water system should be considered when determining the size of the capital replacement reserve fund and the system components to be included in the capital plan. Very small neighborhood associations may need to accrue proportionately larger reserves because of the difficulty they might encounter in obtaining credit.

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## **Element 4- System Water Usage**

**Purpose:** To estimate daily and annual water usage. This data will be fundamental to developing an initial rate structure.

**Rule Reference:** This element applies in part to Section 549.01.b., and more specifically relates to 549.02.b.

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1) Provide an estimate of system water usage during the first five years of operation, including irrigation where applicable. It may be most effective to present this information graphically, due to wide seasonal variation in the case of systems where summer irrigation is practiced. Developing this information for future years will require estimating numbers of new connections. It is understood that actual experience may depart from projections, but changes can be made each year as part of updating the system budget. Once actual metered usage data is available, the projected usage figures can be adjusted accordingly.

2) In the case of a system which falls under these requirements as a result of expansion, historical water usage data, if available, should be the basis for budgeting, rate setting, and projections of future needs.

3) Water usage projections are commonly developed as part of the standard engineering report for new systems, and may be used to satisfy this element of the capacity demonstration.

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## **Element 5- Documentation of Water Right and Initial Quality Monitoring**

**Purpose:** To provide legal documentation of the water right and to tabulate initial water quality monitoring results for regulatory purposes and also for customer information.

**Rule Reference:** This element addresses 549.01.b. and, in part, 549.03.f.

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Provide the following:

- 1) A copy of the approved water right for each system source, obtained from Idaho Department of Water Resources.
  
- 2) A copy of lab report(s) containing the results of all initial monitoring required under Section 550.01.h., I., and j.

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## **Element 6- Monitoring and Compliance Plans**

**Purpose:** To provide initial sampling plans and a summary of how the water system will maintain compliance with the drinking water regulations.

**Rule Reference:** This element addresses 549.03.f.

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Provide the following:

- 1) An initial coliform sampling plan which is representative of the distribution system.
- 2) A schedule of required chemical contaminant sampling over the first three years of operation and a map or other description of where these samples will be taken.
- 3) A description of how and where any other planned monitoring will be conducted.

DEQ or District Health Departments can provide assistance in preparing these sampling plans and monitoring schedules, based on the results of initial quality monitoring and on the rules and regulations that are in effect at the time the new system proposes to commence operations.

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## Element 7- Operation and Maintenance

**Purpose:** To provide the water system with an operating and maintenance manual that will outline a regular schedule of maintenance and performance evaluations and to describe in detail how to operate the system.

**Rule Reference:** This element addresses 549.01.a , particularly as it refers to 551.02.

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Provide an operation and maintenance (O & M) manual to be used by the system operator. It should include the following information:

- 1) A schedule of routine maintenance, performance checks, and preventive practices.
- 2) Collected manufacturer=s literature for water system components, including technical specifications, parts lists, and factory or dealer locations and telephone numbers.
- 3) A contact list for use during system emergencies. This would include pump contractors, electricians, the design engineer or an engineering firm with which the system has a working relationship, and so on. This call-down list will be an important part of an emergency response plan (Element 9).

The O & M Manual is not limited to the items listed above. This Guidance is supplemental to any existing requirements under other parts of the *Idaho Rules*. The manual is a good place to keep monitoring and compliance plans (Element 6), the system component inventory and capital plan (Element 3), water usage information (Element 4), documentation on the cross-connection control program (Element 8), an emergency response plan (Element 9), and source protection information (Element 10).

The O & M Manual is likely to be most easily prepared by the design engineer who develops the system plans and specifications and oversees construction and equipment installation. This document, if properly prepared and organized, will be invaluable to the system operator and owner/manager(s).

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## **Element 8- Cross-Connection Control**

**Purpose:** To provide a strategy for preventing the creation of cross-connections in the system.

**Rule Reference:** This element addresses 549.01.a., with reference to 550.07 and 900.02.

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Provide a description of how the system will prevent cross-connections. It is assumed that the system will initially be designed and built without cross-connections. The program will consist of those elements required by *Idaho Rules for Public Drinking Water Systems*, Section 550.07.a. through g. And 900.02 (Table 2).

Requirements of the cross-connection control program must be included in subdivision covenants, system rules and regulations or by-laws, such that the water system has a legal remedy available to force correction of deficiencies or discontinue service to non-complying customers.

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## **Element 9- Emergency Response Plan**

**Purpose:** To describe responses that will be undertaken in the event of emergencies.

**Rule Reference:** This element addresses 549.01.c.

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For most small systems, an emergency response plan will consist of the name, address, and telephone number of service providers who can provide the following:

- 1) An interim supply of potable water in the event of prolonged system downtime, considered to be a period longer than two or three days. For example, companies that transport raw milk from dairy farms to processing plants are usually capable of transporting potable water safely. Bottled water suppliers can supply water for drinking and cooking purposes until service is restored.
- 2) Emergency electrical generating equipment.
- 3) Pump repair and other key service providers from the system component inventory list (Element 3), who can perform emergency repair or replacement of failed components.

Additionally, the water system should have a written procedure to be followed whenever there is a depressurization of the distribution system, as may occur when electrical power fails. This procedure should include a plan for notifying customers that they should not drink the water until disinfection and flushing of the system has been completed. This procedure may be incorporated into the O & M Manual (Element 7).

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## **Element 10- Source Protection Plan**

**Purpose:** To demonstrate that the system has a plan for protecting its source(s) from contamination.

**Rule Reference:** This element addresses 549.01.c.

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Idaho has a voluntary wellhead protection program which provides technical assistance to municipalities and other public water systems interested in protecting their sources. Small water systems may turn to this program for help in developing a source protection program, simply by calling DEQ and asking for a wellhead protection program representative. Because neighborhood associations and other small water systems do not have the ability to enact ordinances, it will be necessary to include source protection measures in neighborhood covenants or system by-laws. As a minimum, the small system must include the following in its source protection plan:

- 1) Protection of the well lot from street run-off and other surface waters.
- 2) Prohibit storage of toxics or other inappropriate materials on the well lot.
- 3) Cross-connection control (Element 8).
- 4) Surface water source protection is more problematic because it is often impossible to actively control activities upstream of the system intake. The Idaho Source Water Assessment Plan includes information that will be helpful to surface systems in developing a source protection plan.

Additional considerations, which are voluntary but highly recommended, would include:

- 1) A delineated source protection area based on hydrogeologic considerations. The state will be completing a Source Water Assessment on all public drinking water sources in the next several years. The report that will be provided to the water system on completion of the source water assessment will contain valuable information concerning the presence of potential contaminants in the area contributing to each source.
- 2) A list of Abest management practices $\cong$  recommended for use within the wellhead protection area. These could include fertilizer application information, watering recommendations (to prevent leaching of fertilizers and yard chemicals), and proper disposal of pet and livestock wastes.
- 3) In the event that the zone of contribution surrounding the system well(s) extends into adjacent properties, it would be beneficial for system owner or managers to attempt to negotiate

easements or other agreements with nearby property owners to ensure that contamination will be prevented in those areas.

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## Element 11- System Budget

**Purpose:** To project revenues and expenses over the first five years of system operation. These projections will include accrual of an emergency fund, a cash operating fund, and accumulation of reserves to support the long term capital replacement plan (Element 3).

**Rule Reference:** This element addresses 549.02.b.

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The developer of a new water system must project water usage and calculate a water rate that provides sufficient revenue to meet all operating costs plus emergency reserves and capital improvements. Initially, it will probably be necessary for the developer to subsidize revenues until the number of active service connections is sufficient to provide an adequate revenue base.

A simple budget worksheet is illustrated on the next page. This may be quite adequate for most small systems. More detailed and sophisticated budgeting worksheets are available and may be used at the system owner's discretion. A [set of computer worksheets](#), which will calculate key financial variables, may be obtained from Boise State University's Environmental Finance Center. Examples of the worksheets produced by this program are included in Section 2 of this Guidance.

The system budget should be updated every year.

A word about reserve funds: The simple budget on the following page shows three reserve funds. These may be characterized as follows:

1) Emergency Reserve is a fund available for dealing with unexpected expenses. It is often recommended that this fund include an amount equal to the cost of the largest system component, such as the main well pump.

2) Capital Replacement is a fund that grows through time and receives contributions based on the cost of major components and their expected lifespan. It is used to replace equipment that has worn out and is at risk of failure due to wear and tear beyond the projected service life.

3) Cash Operating Reserve is a relatively small fund that could be used to operate the system for a month or two if revenue shortfalls occurred for any reason. This reserve would be used to pay routine expenses, such as power bills and operator salary, to keep the system in operation until rate adjustments or other fixes could be applied in order to increase revenues.

Funds 1) and 3) might reasonably be combined.

**Simple Five-Year Operating Budget**

	<b>Year</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>A. Operating Revenues</b> (water charges, fees & service, impact fees, other revenues)		_____	_____	_____	_____	_____
<b>B. System Operating Expenses</b> (e.g. salaries & other benefits, contract labor, power costs, equipment, chemicals, monitoring costs, insurance, professional services)		_____	_____	_____	_____	_____
<b>C. Taxes</b> (property, B&O, income)		_____	_____	_____	_____	_____
<b>D. Debt Payments</b>		_____	_____	_____	_____	_____
<b>E. Miscellaneous</b> (training, travel)		_____	_____	_____	_____	_____
<b>F. Reserve Accounts</b>						
<b>1. Emergency Reserve</b>		_____	_____	_____	_____	_____
<b>2. Capital Replacement</b>		_____	_____	_____	_____	_____
<b>3. Cash Operating Reserve</b>		_____	_____	_____	_____	_____
<b>G. Budget Surplus</b>		_____	_____	_____	_____	_____
<hr/>						
<b>H. Capital Improvement Costs</b>		_____	_____	_____	_____	_____
<b>I. Financing Source</b>						
<b>Grants</b>		_____	_____	_____	_____	_____
<b>Reserves</b>		_____	_____	_____	_____	_____
<b>Loans</b>		_____	_____	_____	_____	_____
<b>User Surcharge</b>		_____	_____	_____	_____	_____

Revise budget if Line G is negative or if Line H is greater than Line I.

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## ***Section 2.***

### ***Sample Documents***

*This Section is expected to experience frequent revisions and additions. The sample materials are arranged according to the Element from Section 1 to which they apply.*

# ***Demonstration of Financial, Technical, and Managerial Capacity for the New Public Water System at Dream Castle Estates***

***An Exclusive Residential Community Located in Garnet County, Idaho***

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***This mock submittal package has been prepared in an effort to float some ideas on how a new system capacity demonstration package might be formatted and presented. Not all of the eleven elements described in Section 1 of the Guidance are included. The information that is included is offered as suggestion and experiment, not as a recipe to be followed in every detail. The mock-up emphasizes system management, which is an area that has not traditionally been given much attention when new water systems come into existence. The sample texts are imaginary and contain fictional details; they are not to be taken too literally. It is hoped that as demonstration packages are prepared by developers and consultants there will be better and more polished materials available that may be substituted for these preliminary offerings.***

***New Water System Capacity Demonstration Submittal Form  
 Dream Castle Estates Homeowner= Association, Inc.***

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<b><u>Element</u></b>	<b><u>/</u></b>	<b><u>Location</u></b>
#1 System Ownership & Management	/	Pages 2-5 of this Report, also Attachments as follows: I. Deeds & Easements II. Articles of Incorporation III. By-Laws IV. Covenants & Restrictions
#2 Service Area & Facilities Map	/	Attachment V, this Report and a second copy in the O & M Manual
#3 Component Inventory & Capital Plan	/	Pages 6 & 7 of this Report
#4 Water Usage Projection	/	Page 8 of this Report, also in Engineering Report submitted with Plans & Specifications
#5 Water Right & Initial Monitoring	/	Water Right is Attachment VI, this report. Laboratory reports on initial monitoring are Attachment VII.
#6 Monitoring & Compliance Plans	/	Pages 9 & 10 of this Report
#7 Operation & Maintenance Manual	/	Submitted separately, summary description & table of contents on pages 11 & 12 of this Report.
#8 Cross-Connection Control Program	/	Summary on page 13 of this Report, details in O & M Manual, page 24.
#9 Emergency Response Plan	/	Page 14, this Report. O & M Manual, pages 18 and 19.
#10 Source Protection Plan	/	Page 15 of this Report
#11 Five-Year System Operating Budget	/	Pages 16 & 17 of this Report

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## ***Element #1 -- System Ownership & Management***

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1) The **legal owner of the water system** is Dream Castle Estates Homeowner=s Association, Inc., which is registered with the Idaho Secretary of State. The authorized agent is John Doe, with a current address of 551 East Elm Street, Gem City, Idaho.

2) Well Lot #1, the reservoir, distribution lines, and most of the other appurtenances are located on common property or dedicated lots as shown on the recorded plat for Dream Castle Estates Subdivision. Well Lot #4, Booster Station #2, and the water main connection Booster Station #2 to the main distribution system required additional documentation. Copies of deeds and easements are provided as **proof of ownership** in Attachment I.

3) The **person who will be responsible for compliance** with drinking water regulations will be the President of the Dream Castle Homeowner=s Association. This person is elected annually by the Association members. Dream Castle Estates Development Corporation will operate the water system until 75% of the lots are sold, at which point Dream Castle Estates Homeowners Association, Inc., will assume that responsibility and will select a temporary operator (see item 7, below). Dream Castle Estates Development Corporation or the temporary operator will submit all documentation, including regulatory monitoring sample results, to the Association Secretary for filing. The President of the Association will be notified of sample results and will be responsible for any follow-up actions that may be required.

4) The Association **Articles of Incorporation, By-Laws, and Covenants & Restrictions** are appended to this report as Attachments II, III, and IV.

5) Before deciding to construct a new public water system, the Dream Castle Estates Development Corporation examined the **feasibility of obtaining service from an existing public water system**. The Curio Village water system is located three miles away from the Dream Castle development. It serves several business establishments and approximately forty service connections. In order to provide service to Dream Castle, this system would have needed to dig a new supply well, as their current wells are producing at capacity during peak usage. Additionally, the elevational rise between Curio Village and Dream Castle is nearly 1500 feet, which would have required a large booster pump. Cost of installing the required three mile transmission line would have been in excess of \$450,000, if it could be assumed that no drilling and blasting of bed rock would be required. The developer could not recover such costs in the price of home lots within the Dream Castle development. Further, it was concluded that the maintenance and operating expense of the booster pump and pipeline would have made the monthly water bill unaffordable, even when the subdivision is fully populated. The independent water system proposed for Dream Castle Estates will cause less environmental damage and be much more affordable to residents of the development.

6) See *Description of Operations, Dream Castle Estates Homeowners Association*, beginning on page 4 for a **discussion of how the water system will be managed and operated**.

7) **Employee policies**-- this water system will not have employees. When Idaho's mandatory operator certification requirement becomes effective, the Association plans to contract for operator services with Utilities Plus, a satellite management organization headquartered in Boise.

If the system finds it necessary to add employees in the future, a detailed policy manual will be developed. This manual will include written job descriptions, rules and regulations, procedures governing the use of system property by employees or customers, a provision for annual performance reviews, a progressive discipline process which gives the employee ample notice of deficient performance and allows a reasonable amount of time to make improvements, and a description of record keeping and reporting requirements that will be developed in consultation with the system lawyer and accountant to ensure compliance with federal and state requirements.

8) The name and address of **professional consultants with whom the Association has established a client relationship** are as follows:

Ronald Dewey, Attorney at Law, Dewey, Cheetam, and Howe, 525 Laurel Avenue, Gem City, Idaho

Marcus Erector, P.E., Garnet Engineering, Inc., 24 West Main, Gem City

Daniel Cumbersome & Associates, Accounting Services, 2354 Garden Street, Boise

9) **Fiscal controls** are legally defined in the Association By-Laws. They are summarized in the *Description of Operations*, which begins on page 5.

## ***Description of Operations, Dream Castle Estates Homeowners Association***

*For the sake of brevity, the Dream Castle Estates Homeowner= Association will be referred to as Athe Association≅ throughout the following narrative.*

*The Association is a non-profit corporation duly registered in the State of Idaho. It is governed by an annually elected President and a Board of Directors consisting of three members, who serve three-year terms. An Association Secretary is elected for a three-year term as well.*

*Each lot owner in the Dream Castle Estates Subdivision is a member of the Association and casts one (1) vote in Association elections. The membership meets annually in January to elect officers and conduct any necessary business, as called by the President. One key item of business will be to review revenues and expenditures for the preceding year, evaluate the status of reserve funds, and adjust water rates accordingly so that the financial viability of the system may be maintained. An updated five-year operating budget will then be prepared to guide system operations for the following twelve months. Members are notified of the time and place of the annual meeting in their billing for the month immediately preceding. Twenty-five percent of the members must be present to constitute a quorum. If a quorum is lacking, the meeting must be rescheduled. Motions are carried and elections made by simple majority. Until three-fourths of the lots within the development are sold, the developer retains the votes associated with the unsold properties.*

*The President and Board of Directors meet on the second Tuesday of each month at 7:30 P.M. unless otherwise announced. All members of the Association are welcome and encouraged to attend the regular monthly business meeting. A fixed agenda item for the monthly meeting will be to hear a report from the system operator (volunteer or contracted) and respond to any concerns or needs expressed in that report.*

*Only the President and the Secretary of the Association may sign checks drawn on the Association bank account (Page 7 of By-Laws, Appendix III). The Funds in the account are dedicated to the Association and cannot be used for unrelated purposes. Provisions are made in the Articles of Incorporation to allow use of Association funds for reimbursement of expenses incurred by officers of the corporation in the conduct of business. The Articles of Incorporation require the Association to maintain a minimum liability insurance policy in the amount of \$250,000.*

*The By-laws provide (refer to page or item number in by-laws) for the discontinuation of service to Association members who are three months in arrears in payment of monthly service charges or special assessments. The Association is also entitled to place a lien on the property of non-paying Association members until payment is recovered. Similar penalties and actions are available to the Association in the event of non-compliance with the water system cross-connection control program.*

*Although the system operator will collect regulatory samples and communicate results to the*

*State regulatory agency and Association Officers, responsibility for regulatory compliance rests with the President of the Association. Authorities commensurate with this responsibility are granted to the President in the Articles of Incorporation, By-Laws, and Covenants.*

*The Association will keep books and records as provided in the Articles and By-Laws. Advice concerning these books and records will be obtained from the attorney and accountant whose address are given in item 8, above. An independent audit of financial records will be conducted every three years.*

*This discussion is an informational summary of key provisions included in the Association By-Laws, Articles of Incorporation, and Covenants. It is not intended to substitute for those documents in any formal or legal sense.*

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## ***Element 2 -- Service Area and Facilities***

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A map of the system which is suitable for day-to-day use by the system operator, customers, and officials, is provided as Appendix IV of this report. A second copy is located in the back cover pocket of the O & M Manual, submitted separately.

This map illustrates the location of valve boxes, distribution mains, and other equipment that would be difficult for the operator and others to locate without a map. These items are marked with reference to a permanent landmark.

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## ***Element 3 -- Component Inventory & Capital Plan***

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<i>\$ Cost</i>	<i>Initial Life</i>	<i>Service of Replacement</i>	<i>Projected Year</i>	<i>Estimated Cost of Component Replacement (w/labor)</i>
<i>Acme Pump G-450SL</i>	<i>4500</i>	<i>10 yr</i>	<i>2010</i>	<i>9500</i>
<i>Acme Pump G-220</i>	<i>1800</i>	<i>10 yr</i>	<i>2010</i>	<i>4000</i>
<i>Power Converter</i>	<i>5000</i>	<i>15 yr</i>	<i>2015</i>	<i>8000</i>
<i>Pressure Tanks</i>	<i>1100</i>	<i>10 yr</i>	<i>2010</i>	<i>2000</i>
<i>Buildings</i>	<i>20000</i>	<i>25 yr</i>	<i>2025</i>	<i>50000</i>
<i>40,000 gal. Steel Reservoir</i>	<i>30000</i>	<i>30 yr</i>	<i>2030</i>	<i>60000</i>
<i>Meters (40)</i>	<i>8000</i>	<i>15 yr</i>	<i>2015</i>	<i>15000</i>
<i>Pressure Reducing Valves (20)</i>	<i>2000</i>	<i>15 yr</i>	<i>2015</i>	<i>4000</i>

### **Summary**

### **Annual Cost**

<i>10 years</i>	<i>2010</i>	<i>\$15,500</i>	<i>1550</i>
<i>15 years</i>	<i>2015</i>	<i>\$27,000</i>	<i>1800</i>
<i>25 years</i>	<i>2025</i>	<i>\$50,000</i>	<i>2000</i>
<i>30 years</i>	<i>2030</i>	<i>\$60,000</i>	<i>2000</i>

### ***Annual Capital Cost (No interest)***

*\$7350 / 40 lots = ~\$185*

**Note:** Reserve funds may be deposited in an interest bearing account as a means of reducing annual costs of capital. The water system will want to seek advice from its accountant and legal counsel.

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## ***Elements 4 through 8***

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*Sample materials for these elements are not presently included in this mock-up for one or more of the following reasons: These elements are self-explanatory (or thoroughly explained in Section 1 of the Guidance) and involve tasks and products that are already produced in connection with the preparation of plans and specifications, a standard engineering report, and an operation and maintenance manual.*

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## ***Element 9 -- Emergency Response Plan***

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*The Dream Castle Estates Emergency Response Plan contains the following elements:*

- 1) A list of home and work phone numbers for all system customers. There is a cooperative Acalling circle≅ established in which the operator calls four or five residents, who then relay the information to a predetermined list of system customers. This strategy is essential to ensure that customers are promptly informed of the emergency and will respond appropriately.*
- 2) A list of contractors and service providers who can be contacted by the operator or system managers when equipment failures occur.*
- 3) A quick response plan for dealing with de-pressurization events (such as might be caused by a power failure). This includes calling all customers and advising them not to use the water until further notified. The operator and any service providers who may be needed will then conduct a disinfection and flushing procedure. After flushing, a bacteria sample will be taken and immediately submitted for testing. If the sample is clear (approximately 24 to 48 hours will pass), the customers may begin using the water without boiling or other treatment.*
- 4) A spill response plan if the system uses surface water. This involves shutting down the system intake until it can be established that the spill or other contamination event in the source water has passed downstream of the intake.*
- 5) The name and telephone number of a service provider which can provide bottled water or bulk (tanker truck) potable water in the event that the system will be out of service longer than a few days. The time that will be allowed to elapse before implementing these measures can be determined cooperatively by system customers and managers and voted upon at the annual business meeting.*

*The telephone number lists and names of service providers should be updated frequently so that outdated information is not encountered under emergency circumstances.*

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## ***Element 10 -- Source Protection Plan***

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*Dream Castle Estates plans to work with DEQ's Wellhead Protection program people to develop a formal wellhead protection plan during its first year or two of operation.*

*In the meantime, the following measures have been taken to protect the source:*

*1) A properly sized well lot was created and restrictions on the use of this parcel are written into the covenants and restrictions. These include:*

*a) prohibition on storage of toxics such as fertilizers, yard chemicals, paints and thinners, or motor fuels and lubricants on the lot or in the pumphouse.*

*b) provision of drainage ditches and other measures to divert street runoff and other surface waters from the well lot.*

*2) Each homeowner is provided with a pamphlet entitled *Management of Hazardous Materials In Your Home and Yard*, which was obtained from the County Extension Office (or DEQ, Health District, or other source of such information).*

*3) The well was properly constructed and sealed to exclude surface contamination and intrusion of unwanted subsurface water.*

*4) The County Agricultural Extension Agent will be invited to present an evening program to Dream Castle residents dealing with soil characteristics in the area and recommendations for watering and fertilizer application rates that will minimize leaching and potential for groundwater contamination. This program will be repeated occasionally as new residents arrive.*

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## ***Element 11 -- Five-Year Operating Budget***

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### ***Budget Preparation***

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#### *Annual Operating Expenses*

1. Pumping costs (electricity)-- calculated from water usage figures and estimated electrical costs based on the hours of operation and horsepower of system pumps. During succeeding years, actual costs can be used after adjustment for inflation, growth in system customers, and so on.
  2. Repair & Maintenance (estimated by the project engineer)
  3. Service contracts (fixed costs)
  4. Taxes (estimated by accountant)
  5. Laboratory analysis costs (based on sampling requirements determined in consultation with DEQ or Health District)
  6. Accounting services (estimate)
  7. Cost of Capital Recovery (see Element 3) and other reserve funds.
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*The number and type of items on this list will vary from one water system to another, but the seven items listed above are likely to be fairly universal. The total dollars associated with these items constitute the estimated operating costs for the first year of operation. The figures will in subsequent years be based increasingly on actual experience and real data. The water rate can then be calculated by dividing this total by the number of active service connections.*

*When the first year column on the budget worksheet is filled out (page 17, Section 1 of this Guidance), the next four years can be extrapolated using an inflation index and some assumptions about growth in customers and water consumption. Once this vital tool is in place, the water system needs only to update it annually using realistic information drawn from actual experience.*

# Appendix A

## Section 549 and Excerpts from Section 003 of Idaho Rules for Public Drinking Water Systems

*Please Note:* The bolded numerals in brackets which follow some of the provisions in the following rule text refer to the Elements of Water System Operation and Management Planning described in Section 1 of this Guidance.

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### IDAPA 16.01.08.549

**549. DEMONSTRATION OF TECHNICAL, FINANCIAL, AND MANAGERIAL CAPACITY OF PUBLIC DRINKING WATER SYSTEMS.** No person shall proceed, or cause to proceed, with construction of a new community or non-transient non-community drinking water system until it has been demonstrated to the Department that the water system will have adequate technical, financial, and managerial capacity, as defined in Section 003 of these rules. Demonstration of capacity shall be submitted to the Department prior to or concurrent with the submittal of plans and specifications, as required in Idaho Code Section 39-118 and Section 551.04 of these rules. The Department shall issue its approval of the new system capacity demonstration in writing.

**01. Technical capacity.** In order to meet this requirement, the public water system shall submit documentation to demonstrate the following:

- a. The system meets the relevant design, construction, and operating requirements of Sections 550, 551, and 552 of these rules. [7,8]
- b. The system has an adequate and consistent source of water. [4,5]
- c. A plan is in place to protect the water source and deal with emergencies. [9,10]
- d. A plan exists for replacement or improvement of infrastructure as necessary. [3]
- e. There are trained personnel with an understanding of the technical and operational characteristics of the system. [1]

**02. Financial Capacity.** A demonstration of financial capacity must include but is not limited to the following information:

- a. Documentation that organizational and financial arrangements are adequate to construct and operate the public water system in accordance with these rules (see Sections 550,

551, and 552). This information can be provided by submitting estimated construction, operation, and maintenance costs, letters of credit, or other access to financial capital through public or private sources, and, if available, a certified financial statement. [1,2]

b. Demonstration of revenue sufficiency, that includes but is not limited to billing and collection procedures, a proposed rate structure which is affordable and ensures availability of operating funds, revenues for depreciation and reserves, and the ability to accrue a capital replacement fund. A preliminary operating budget shall be provided. [1,2]

c. Adequate fiscal controls must be demonstrated. [1]

**03. Managerial capacity.** In order to demonstrate adequate managerial capacity, the Owen and operator of a new drinking water system shall submit at least the following information to the Department.

a. Clear documentation of legal ownership and any plans that may exist for transfer of that ownership on completion of construction or after a period of operation. [1,2]

b. The name, address, and telephone number of the person who will be accountable for ensuring that the water system is in compliance with these rules. [1]

c. The name, address, and telephone number of the system operator. [1]

d. A description of the manner in which the water system will be managed. By-laws, restrictive covenants, articles of incorporation, or procedures and policy manuals which describe the management organization structure are a means of providing this information. [1]

e. A description of staffing should be provided, including training, experience, certification or licensing, and continuing education completed by the water system staff. [1]

f. An explanation of how the water system will establish and maintain effective communications and relationships between the water system management, its customers, professional service providers, and any applicable regulatory agencies. [1,5,6]

g. Evidence of planning for future growth, equipment repair and maintenance, and long term replacement of system components. [1,2,3,7]

**04. Submittal Form.** The Department shall provide a standard form to be used in preparing a new system capacity demonstration. [See Appendix B]

**05. Expanding Systems.** A public water system which comes into existence as a result of growth in population or number of service connections within a previously unregulated system will be considered a new system under the rules and is subject to all design, construction, and operating requirements herein.

**06. Consolidation.** In demonstrating new system capacity, the owner of the proposed new system must investigate the feasibility of obtaining water service from an established public water system. If such service is available, but the owner elects to proceed with an independent system, the owner must explain why this choice is in the public interest in terms of environmental protection, affordability to water users, and protection of public health. [1]

**07. Exclusion.** New public water systems which are public utilities as defined in Idaho Code Sections 61-104 (Corporation); 61-124 (Water System); and 61-129 (Public Utility), must meet the regulatory requirements of the Idaho Public Utilities Commission (IPUC) in Idaho Code Title 61, Public Utilities Law, and Idaho Public Utilities Commission Rules of Procedure, IDAPA 31.01.01.000 et. seq. Such water systems will not be required to meet any requirements of this Section which are in conflict with the provisions and requirements of the IPUC.

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### **IDAPA 16.01.08.003 (Selected Excerpts)**

**06. Capacity.** The capabilities required of a public drinking water system in order to achieve and maintain compliance with these rules and the requirements of the federal Safe Drinking Water Act. It is divided into three (3) main elements:

a. **Technical capacity** means the system has the physical infrastructure to consistently meet drinking water quality standards and treatment requirements and is able to meet the requirements of routine and emergency operations. It further means the ability of system personnel to adequately operate and maintain the system and to otherwise implement technical knowledge. Certification and training of the operator(s) is required as appropriate for the system size and complexity.

b. **Financial capacity** means the financial resources of the water system, including an appropriate budget, rate structure, cash reserves sufficient for future needs and emergency situations, and adequate fiscal controls.

c. **Managerial capacity** means that the management structure of the water system embodies the aspects of water treatment operations, including, but not limited to;

- I. Short and long range planning;
- ii. Personnel management;
- iii. Fiduciary responsibility;
- iv. Emergency response;

- v. Customer responsiveness;
- vi. Source water protection;
- vii. Administrative functions such as billing and customer awareness; and
- viii. Ability to meet the intent of the federal Safe Drinking Water Act.

**28. New System.** Any water system that meets, for the first time, the definition of a public water system provided in Section 1401 of the federal Safe Drinking Water Act (42 U.S.C. Section 300f). This includes systems that are entirely new construction and previously unregulated systems that are expanding.

**33. Operator/Owner/Purveyor of Water.** The person, company, corporation, association, or other organizational entity which holds legal title to the public water system, who provides, or intends to provide, drinking water to the customers and/or is ultimately responsible for the public water system operation.

**34. System Operator.** The person who is employed, retained, or appointed to conduct the tasks associated with day to day operation and maintenance of a public drinking water system, including, but not limited to, repair and maintenance of equipment, adjustment of flow rates and storage quantities, reading of meters, and collection of regulatory monitoring samples.

## ***Appendix B***

### ***New System Capacity Demonstration Submittal Form***

*As mentioned in the Introduction and Overview on page 1 of this Guidance, the materials assembled to demonstrate capacity may be presented in different formats and arrangements, as long as all elements are covered. The form which follows on the next page facilitates the agency reviewer's task by identifying where the materials associated with each element may be found. It also serves as a checklist for the person preparing the submittal. A filled-out submittal form is provided as an example in Section 2 of the Guidance. This form is required by Section 549.04 of the Idaho Rules for Public Drinking Water Systems.*

# New Water System Capacity Demonstration Submittal Form

System Name \_\_\_\_\_

This form serves as a checklist of the required elements and points to their location in the submittal package.

<u>Element</u>	/	<u>Location</u>
<b>#1 System Ownership &amp; Management</b>		
Legal Owner	Γ	_____
Deeds, Plats, Easements	Γ	_____
Responsible Person (Operator)	Γ	_____
By-Laws, Covenants, etc.	Γ	_____
Consolidation	Γ	_____
Organizational Function	Γ	_____
Change of Ownership	Γ	_____
Employee Policies & Procedures	Γ	_____
Attorney & Engineer	Γ	_____
Fiscal Controls	Γ	_____
<b>#2 Service Area &amp; Facilities (Map)</b>	Γ	_____
<b>#3 Component Inventory &amp; Capital Plan</b>	Γ	_____
<b>#4 Water Usage Projection</b>	Γ	_____
<b>#5 Water Right &amp; Initial Monitoring Results</b>	Γ	_____
<b>#6 Monitoring &amp; Compliance Plans</b>	Γ	_____
<b>#7 Operation &amp; Maintenance Manual</b>	Γ	_____
<b>#8 Cross-Connection Control Program</b>	Γ	_____
<b>#9 Emergency Response Plan</b>	Γ	_____
<b>#10 Source Protection Plan</b>	Γ	_____
<b>#11 Five-Year System Operating Budget</b>	Γ	_____