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Engineered Equipment Procurement Options To Ensure Project Quality

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ABSTRACT

Public procurement is a complex process involving policy makers, public procurement officials, utility directors, city attorneys, consulting engineers, equipment manufacturers, contractors and ultimately, utility customers each having their own perception of "value". If "value" is defined as the lowest total cost of ownership, the procurement process must include capital costs as well as reliability, operating costs, and after-purchase support. Achieving this goal requires well-executed work by all stakeholders in the process. The result is the selection of a procurement method which simultaneously allows responsible and qualified bidders to participate, protects public interests and effectively and efficiently delivers lasting value to its customers. Various procurement methods and bid formats available to public entities will be discussed along with various stakeholder viewpoints. Acceptable procurement methods allowed by states are included confirming numerous procurement formats and flexibility is available for public entities to pursue value-based procurement.

KEYWORDS: Public, procurement, procurement method, value, stakeholders, bid formats, bid forms, value-based procurement, formats.

INTRODUCTION

Cities, towns, and utilities across the country face the daunting challenges of complying with ever more stringent and mandated environmental requirements while trying to maintain and replace aging and deteriorating water and wastewater infrastructure. The control of water pollution involves the construction of facilities or plants that accept incoming wastewater and, after one or more treatment steps, discharge treated water. Such plants are constructed of a combination of common building materials and engineered equipment. They and their tributary collection systems are typically the responsibility of a municipality or other government entity: typically referred to as the "owner" in the procurement process.

Unfortunately, traditional capital sources required to finance these enormous needs have never been under more duress than they are today. Falling tax revenues, lack of new construction, user fees, and the shrinking Federal/State assistance in funding projects through grants and loans has made these dollars a precious resource. The corresponding responsibility to manage and employ limited funds to obtain "value" in the procurement of goods and services has never been more critical.

In addition, many public procurement procedures appear to be at odds with procurement methods that allow the owner to use their funds wisely and effectively in the pursuit of value. This perception, plus the requirements attached to the use of federal and state money, has created confusion and misunderstandings related to the legality and use of procurement methods that provide price and value.

As we examine the most widely utilized and accepted procurement methods for public entities, we must keep in mind the various stakeholders. Each of these stakeholders from the owner, consulting engineer, lending agency, suppliers of products and equipment to contractors have a vested interest in receiving and providing value to the procurement process.

BACKGROUND

With the advent of the Clean Water Act of 1972 Federal Procurement Regulations mandated the bidding process provide "maximum, free, and open competition." From a historical perspective, the procurement method most often utilized during the 1970's and 1980's for pollution control projects funded through the Construction Grants Program administered by the U.S. Environmental Protection Agency (U.S. EPA) was the *conventional open bid format* for the procurement of engineered products and equipment (Vogel & Hogan, 1995).

The U.S. EPA procurement regulations for this program forced contractors to search for and include similar performance, lower priced products in their bids by requiring owners to include the phrase "or equal" in the body of the equipment specifications, following the list of preferred and acceptable engineered products and equipment. Many states and municipalities adopted procurement regulations similar to those of the federal government as a matter of convenience.

This had an unintended consequence, however, of forcing the selection of the engineered equipment on the contractor, instead of the owner, because of the mechanics of how the bid process works. The whole purpose of the bid is to select the contractor with the lowest price and then award them the project. To achieve this, obviously an individual contractor has to figure out how to compete with all the other bidding contractors and come up with the winning, low price. To achieve this is no small feat, and the process to submit a bid is an intense and hectic time for the contractor, with the intensity peaking the day of the bid. Unfortunately, this is also usually the time when the contractor finally receives prices from a number of different equipment suppliers on the same piece of engineered equipment, each claiming to be “equal”. The contractor then has to, in the heat of the battle, try to evaluate all these different suppliers and prices and then determine if they can take the gamble to use a low-priced “or equal” piece of engineered equipment to win the bid. The competing contractors may use it, and therefore if they do not, they may lose the project in the low priced, winner-takes-all bid evaluation. Although maybe not obvious, the inevitable result of this bid format is that the contractor makes the selection of the equipment at bid time, to obtain a low price and win the bid.

A further result is that typically the equipment selected in this process does not meet the specifications in all respects. Unfortunately, even detailed specifications became vague when the phrase "or equal" was added to the end of the list of salient features or named suppliers, and sorting out if the equipment meets, or doesn’t meet the specifications, triggers an often contentious, difficult and costly process involving all of the stakeholders. The original goal of obtaining engineered products or equipment best suited to meet the needs of the owner, who ultimately must operate the treatment plant and maintain the equipment, usually gets lost in the process.

While the rationale for this requirement was valid, more competition and lower project costs, the results during this time period were dismal, with poor-quality and/or misapplied products and equipment furnished for projects resulting in plants that simply did not work. According to the U.S. General Accounting Office, one of the most significant factors in the failure of federally funded wastewater treatment facilities to achieve the effluent limitations for which they were designed has been inferior process equipment. A survey of engineers and manufacturers by C. William Ibbs of the University of Illinois indicated engineers and product and equipment suppliers identified the "or equal" dilemma as the major reason for performance deficiencies of new wastewater treatment facilities. It is a difficult task to meet effluent limits with proper equipment, let alone poor-quality or misapplied equipment.

In summary, even today the conventional open bid format method of procurement can be an impediment to a successful project. Specified engineered equipment, and products with an "or equal" requirement in the specifications represent a number of factors that make it difficult to obtain the quality of equipment specified and necessary to meet required treatment objectives. The conventional open bid format encourages contractors to select only the lowest priced materials, methods of construction, products and equipment. Although this procurement method satisfies most elements of construction, when applied to engineered products and equipment, rarely does it represent the lowest total cost of ownership to the owner.

THE CHALLENGE

Under the conventional design-bid-build process, plant construction projects begin with a set of drawings and specifications prepared by the owner or, more often, the owners consulting engineer. Based on these drawings and specifications, construction contractors submit sealed bid proposals typically with a fixed price (Vogel & Hogan, 1995).

A successful project depends on thorough and coordinated process design, drawings and specifications, conscientious selection of products, engineered equipment, suppliers, and the choice of contractor (or contractors). Successful projects also require the owner's commitment to proper operation and maintenance of the plant. Unfortunately, a project can prove unsatisfactory even if all of these elements are incorporated in the contract documents if the wrong procurement method is utilized.

Today more and more funding agencies and state and local public entities are turning to value based procurement methods. Although USDA Rural Development funded projects still have provisions in effect for maintaining open and free competition under RUS Instruction 1780.70(b) (2002), it is imperative the definition of "open and free competition" include factors other than lowest price.

The challenge to concerned owners and engineers is to select a value based procurement method that will eliminate poor quality or misapplied equipment from being included in projects by bidding contractors, yet maintain a high level of competition between qualified engineered equipment manufacturers and suppliers (Vogel & Hogen, 1995).

Ideally, selection of a procurement method will take the following factors into consideration:

- Maintain equipment selection decisions with the owner and engineer;
- Allow and encourage price competition among qualified equipment suppliers;
- Allow consideration of new and innovative products;
- Be legal and enforceable;
- Discourage pre-bid packaging;
- Suppress post-bid shopping;
- Minimize the opportunity for overage;
- Minimize bid protests;
- Minimize disputes during construction;
- Minimize and properly allocate risks; and
- Require contractors and suppliers to provide engineered equipment that features enhanced performance and lowest total cost of ownership.

When these factors are evaluated and included in the procurement process, competitively priced, high quality equipment can be obtained for the project that is equally fair to all qualified contractors and engineered product and equipment suppliers.

Procurement Methods Implications

It is relatively easy to devise a method that addresses and satisfies one, or even several, of the above-listed factors. The challenge to owners and engineers is to utilize a procurement method that best addresses all of these factors and considers the unique requirements of each project. No one procurement method is applicable for every situation. The means of procurement discussed in this paper are described within the context of how well each addresses these factors (Vogel & Hogan, 1995).

Understanding the implications of each factor is critical and therefore a brief description follows:

*Maintain Equipment Selections with the Owner and Engineer***.** Engineered products and equipment selections should be made by the owner with the technical advice of the engineer or by the engineer with authorization from the owner. Equipment selections should be made based on purchase price, reliability, manufacturer's experience, operating costs, after purchase support and total cost of ownership.

Allow and Encourage Competition among Qualified Equipment Suppliers. Competition among equipment suppliers is important to ensure that the owner receives the lowest free-market price possible for the engineered products and equipment.

Allow Consideration of New and Innovative Products. The procurement process should encourage the consideration of appropriate new and innovative products of benefit to the owner by evaluating this equipment during the design phase of the project or during the bidding process by allowing an alternate price and detailed technical information to be submitted at time of bid.

*Be Legal and Enforceable***.** U.S. EPA has stated that federal procurement regulations do not apply to state revolving fund assistance recipients. Value based procurement methods are utilized on Rural Development projects on a limited basis. However, the owner and engineer must be cognizant of state and local statues related to engineered product and equipment procurement. Please refer to Table 3 for legal bid formats by EPA region.

*Discourage Pre-bid Packaging***.** Simplistically, pre-bid packaging occurs when a supplier includes the combination of two or more items or products in one offering. The products may be individually priced in the offering, but a financial discount is provided for buying all items (the whole "package"). The individual pricing in the package may be artificial and may not necessarily reflect the real price of each item. Hence, a contractor may not be able to make a valid comparison, item to item, during the bid process, unless an exact competing package exists. Many times the actual item prices are not provided until order placement after the bid.

In some situations items in the package might be lower cost and not necessarily meet the needs of the owner or engineer. In other cases, an item in a package specified to come from a sole source, can allow some suppliers to price that item artificially high and other package items artificially low (see Table 1).

Table 1. Example of bid packaging with artificial pricing.

Item	Quoted package price	Actual price
Clarifier	$250,000	$220,000
Pumps	$100,000	$80,000
Centrifuge	$800,000	$650,000
Subtotal	$1,150,000	$950,000
Package Discount	-$200,000	$0
Total	$950,000	$950,000

Despite the shortcomings, bid packages can provide advantages to the contractor, owner, and engineer. Some of the advantages include: single source accountability if packaged products are from a single product or equipment supplier; obtaining specified equipment priced to adequately reflect reasonable profit; and timely shop drawings, delivery, and service. Economies of scale can in some cases result in a lower cost to the owner versus procurement of individual items.

Suppress Post-bid Shopping. Post-bid shopping may be utilized by a contractor to seek lower prices after submitting a bid to the owner.

A manufacturer who was not low at the time of bid and wants to avoid the loss of business may engage in post-bid negotiations with the contractor. This practice takes business from contractors who have submitted good-faith bids without the knowledge that prices might be reduced at some later date. Post-bid shopping does not result in savings or benefit to the owner.

Minimize the Opportunity for Overage. In a scenario such as sole-source procurement or base bidding, overage may be charged for a specific product. Care must be taken to protect both the owner and contractor from paying a premium over and above a standard price. Overage can be utilized to balance a bid package when it carries nonproprietary or non-sole-source items.

Minimize Bid Protests. Structuring a procurement method where bidding contractors each incorporate the costs of owner- and engineer-approved major engineered products and equipment into their bid ensures that all bidders are preparing their bids on an equal basis. Simplification of the bidding process in this manner reduces bid protests. Many bid protests are a result of unclear bidding documents and lack of clarity on how the project will be awarded.

Minimize Disputes during Construction. If the successful low bid incorporates owner- and engineer-approved engineered products and equipment, disputes will be minimized during construction. The procurement format should be structured so the owner and engineer know what equipment the contractor intends to provide. This being accomplished, few surprises will arise during shop drawing review or installation and start-up.

Minimize and Properly Allocate Risk. No one benefits when the construction process degenerates into a series of claims and counter-claims. If the procurement method is such each party involved

concentrates on its area of expertise, the risk of claims can be minimized. Owners should set policies and goals based on value, engineers should set technical standards based on value, and contractors should construct to meet the requirements of the contract documents.

Require Contractors and Suppliers to Provide Engineered Equipment that Features Enhanced Performance and Lowest Total Cost of Ownership. This factor may be most applicable where a procurement method is arranged to allow for an evaluated bid. However, any means of procurement that allows a substitution on merit encourages manufacturers to produce and offer enhanced performance and lowest cost of ownership products.

PROCUREMENT METHODS

There is no one best means of procurement. The project and project requirements should dictate the method of procurement. The following methods are the most common utilized for engineered products and equipment:

- Conventional open bid,
- Base bid,
- Base/substitute bid,
- Evaluated bid, Pre-selection of major equipment, Pre-purchase of major equipment

Each method is explained and its strengths and weakness discussed.

Conventional Open Bid Format

In the conventional open bid format, the specification writer develops technical specifications by incorporating product and equipment details, performance requirements and other relevant project criteria. The writer completes the technical specifications utilizing one or more of the following criteria (Vogel & Hogan, 1995):

- Contains the phrase "brand name or equal;"
- May not list names, but may reference an industry or national standard;
- May not list names, but defines in considerable detail the performance required; and
- May not list names, but defines in detail the product or equipment components.

Unfortunately, the engineer does not know what equipment the contractor will propose to comply with the technical specification until the details are submitted during the shop drawing review stage. The result is the technical specifications are more difficult to enforce at the shop drawing stage due to the "or equal" clause. This procurement method allows the contractor a fairly free hand in determining if selected equipment meets the specifications.

The conventional open bid format encourages competition because bidding contractors are free to negotiate with all interested suppliers. Since awarding of the project is typically based on either a lump-sum bid, a sum-of-unit-prices bid, or a combination of lump-sum and sum-of-unit-prices bids, the bidding contractors are forced to base their selection of engineered equipment solely on price. A knowledgeable contractor can determine when low-priced equipment will not

meet the specifications, but a contractor not familiar with the specified equipment must rely on the word of the supplier since low price is of primary importance.

Contractors also consider a number of factors in their equipment selection, including terms and conditions, delivery record, and ease of the specified requirements for the equipment. Depending on the time dedicated to bid preparation, the contractor may not have the time to fully evaluate the equipment.

The conventional open bid format allows the bidding contractor the unrestricted opportunity to offer products that comply with the salient requirements of the specifications and project intent. Thus, the engineered equipment selected by the bidding contractor may or may not be known to the owner or engineer. If the proposed engineered equipment is approved during the shop drawing review, contractors benefit financially from their shopping power. However, if the equipment is not approved during shop drawing review, the contractor may be forced to pay a premium price for an approved product. This may create a financial burden on the contractor for the remainder of the project leading to a less than successful project.

The conventional open format also allows post-bid shopping, whereby the contractor avoids making firm equipment selections at bid time. Post-bid shopping involves negotiations between the apparent low-bidding contractor typically at the expense of the engineered product and equipment suppliers. These negotiations continue until prices have been lowered and only one equipment supplier remains. Since the contractor's bid is fixed, the negotiations may result in increased profits for the contractor and lesser quality products for the owner.

Bidding contractors (including subcontractors) typically are not qualified, and should not be expected, to make the "or equal" determination at bid time; disputes during shop drawing review and the construction period often arise. Bid disputes and protests after award of the contract may result in the contractor requiring a time extension to complete the project as a result of delays in procuring engineered products and equipment.

Summary. The conventional open bid format removes the equipment selection decision from the owner and engineer to the contractor. It encourages competition but not necessarily among qualified equipment suppliers, allows for new and in some cases unproven products, complies with local and / or state regulations, and is legal and enforceable. However, the conventional open bid format can encourage pre-bid packaging and post-bid shopping and may increase the possibility of bid protests and disputes during construction. Most importantly, allocation of risk is unbalanced between the contractor and the equipment supplier may not provide the lowest cost of ownership to the owner.

Base Bid Format

In the base bid format, the specification writer develops technical specifications by incorporating product and equipment details, performance requirements, and other relevant project criteria. The writer completes the technical specification by listing single or multiple engineered product or equipment suppliers. The named suppliers' products or equipment are the basis of design for the project. The selection of suppliers is done with careful study and knowledge by both the engineer and owner (Vogel & Hogan, 1995).

The base bid format requires all bidding contractors to base the overall project cost on one of the named suppliers from a pre-determined list of major engineered products and equipment items. The use of substitute products and equipment items in lieu of the "base bid" items is prohibited. Therefore, the "or equal" decision (and risk) is removed from the bidding contractor and placed appropriately with the owner or engineer.

The construction contract is awarded to the contractor who has submitted the lowest priced bid in accordance with the specifications and is using base bid equipment. The bidding contractor typically must circle or write in the name of the "base bid" engineered product or equipment item utilized in the contractor's bid price.

The base bid format tends to discourage competition, except among the named "base bid" suppliers. Therefore, the bidding contractor has clearly defined options for each of the named engineered product or equipment items. The base bid format restricts the substitution of new or unknown products and takes the "or equal" decision away from the contractor and precludes selection of equipment based solely on price.

The base bid format has been demonstrated to be legal and enforceable in many jurisdictions. Like all procurement methods, the technical specifications must be clearly written, and the steps to procure the lowest, responsive bidder clearly outlined. The base bid format is perhaps the simplest procurement method in that products and equipment are specifically identified and the award of the contract is typically based on the lowest bid using only named products and equipment.

The base bid format assures the decision on which products and equipment are utilized on the project rests with the owner and engineer. Selection of base bid equipment is analogous to the "pre-qualification" process since the "or equal" decision is made by the owner and engineer before the bid. After award of the contract, the owner, engineer, and contractor can be reasonably sure that the equipment submitted during the shop drawing review process will be approved.

The base bid format may suppress pre-bid packaging by eliminating the potential for "large" packages that could include products or equipment not in compliance with the specification. However, a "base bid package" can still be offered if the supplier has multiple base bid products or equipment items named in the specifications.

Equipment items listed in the base bid format and identified in the proposal eliminate post-bid shopping by the contractors on those items. All price negotiations occur before the bid. Therefore, any deductions derived from pre-bid shopping will be passed on to the owner through the bidding process.

Since the products and equipment bid by the contractor have been evaluated by the owner or engineer during the design process, fewer problems tend to arise during shop drawing review, construction phase, installation and start-up of the project. The contractors can be reasonably certain that the base bid equipment specified by the owner or engineer will be approved during

shop drawing review, can be installed with minimal problems, and will provide the performance required by these specifications.

Bid protests can occur with the base bid format if suppliers are not named in the technical specifications or the bid form. These suppliers may file a protest believing their equipment meets the technical specifications and the functional intent. Such protests may delay the bid, the award of the contract, or the completion of the project.

Summary. The base bid format places the equipment selection decision on the owner and engineer. It encourages competition among qualified equipment suppliers and allows for new products to be evaluated and incorporated in the bid documents during the design phase of the project. The base bid format complies with many local and state statues, and is legal and enforceable. Pre-bid packaging can occur, however, only with named equipment. Post-bid shopping is eliminated thereby decreasing the possibility of bid protests and disputes during construction. In addition, allocation of risk is balanced between the contractor and the equipment supplier and represents the lowest expected cost of ownership to the owner based on the engineer's specifications.

Base/Substitute Bid Format

In the base/substitute bid format, the specifications are developed in the same manner as described for the base bid format. However, bidders are also allowed to include product and equipment name deducts in their bid along with technical information for the substitute equipment. The format may be used in one of two forms (Vogel & Hogan, 1995):

- With substitutions considered after the contract is awarded, or
- With substitutions considered before the contract is awarded.

Base/Substitute Bid Format With Substitutions Considered After Award of Contract. In the base/substitute bid format with substitutions considered after award of contract, the specification writer develops the technical specifications by listing a single or multiple engineered products or equipment suppliers. The named manufacturer's product or equipment is the basis of design for the project. The selection of manufacturers is done with careful study and knowledge by both the engineer and owner.

The bid format requires all bidding contractors to base the overall project cost on one of the named suppliers from a pre-determined list of major engineered products and equipment items. The bidding contractor typically must circle or write in the name of the "base bid" engineered product or equipment item utilized in the contractor's bid price. Substitutions of other product names by the contractor as part of the base bid are strictly prohibited. Therefore, the "or equal" decision (and risk) is taken away from the bidding contractor and placed appropriately with the owner or engineer. However, the contractor may choose to offer substitute products as a deduct to the base bid price, which includes the specified equipment.

Many times more than one supplier's name can be utilized for each piece of equipment. However, there are cases when only one name meets the requirements of the specifications; therefore, only one name is listed as base bid. To allow competition or the introduction of new

products, the contractor can submit a price on a substitute piece of equipment. The construction contract is awarded to the contractor who has submitted the lowest priced bid in accordance with the specifications and using base bid equipment. The review of substitute is only undertaken after award of the contract.

In the base/substitute bid format with substitutions considered after award of contract, competition is not outwardly encouraged except among the base bid manufacturers; however, it is not discouraged or prohibited. This format restricts the inclusion of new or unknown products and equipment in the contractor's base bid but does not restrict the contractor from offering a deduction in price if these products are, in fact, utilized. If the substitute equipment is deemed appropriate or equivalent, the owner can accept the deduction and utilize the substitute equipment. If, however, the substitute equipment is not deemed appropriate, the contractor's risk is mitigated and the substitute deduct is simply not available to the owner.

Summary. Like the base bid format, the base/substitute bid format is a relatively simple procurement method, in that the products and equipment are specifically named in the proposal section, and award of the contract is based on the low bid using only named products and equipment. This format provides the owner and the engineer complete authority in determining the range of products and equipment that will be allowed or substituted. Since named items have already been evaluated by the engineer and owner during the design phase, fewer problems tend to arise during shop drawing review, construction, and start-up of the project. The contractor can be reasonably sure that the named equipment will be approved during the shop drawing review, will be installed with minimal problems, and will provide the performance required by the specifications. This method takes a substantial amount of risk associated with equipment selection away from the contractor and places it with the owner and engineer.

This method discourages pre-bid packaging by equipment suppliers and restricts post-bid shopping by contractors. Contractors can bid projects without trying to analyze equipment at bid time or worrying about taking risks with equipment that has not been approved. Competition of new or innovative products at bid time is allowed but in a controlled way, such that the owner can determine if a substitute or new product is acceptable as well as benefit from cost savings.

Base/Substitute Bid Format with Equipment Substitutions before Award of Contract. Another variation of the base/substitute bid format allows the consideration of substitute products and equipment with deductive prices before the awarding the contract to the low bidder. In essence, this method is identical to the base/substitute bid format with consideration of substitutes after award in that the base bid still incorporates equipment from listed manufacturers; however, the substitute deductions for the non-base-bid equipment are considered in determining the low bidder on the project.

The major drawback to this procurement method is contractors must still consider every proposal provided to them at bid time for each product or equipment. If a contractor does not consider the non-base-bid proposals and list them in the bid, there is a risk of losing the job to another contractor who is capable of providing a deductive alternate that may be selected by the owner.

This format is cumbersome to many bidding contractors, equipment suppliers, and engineers. A manufacturer who knows the specification's intent to preclude its equipment can still provide a price, and the contractor must take valuable time to analyze the cost to install substitute equipment. In addition, the engineer and owner must review all deductive alternates before a low bidder can be determined. The owner can, of course, reject all substitutes or alternates, but this would defeat the purpose of using this format. Another problem with this format is the owner or engineer can sometimes selectively pick a low bidding contractor depending on which substitutes are deemed acceptable causing protests and legal battles on a project before it even gets started.

Summary. The base/substitute bid format with equipment substitutions prior to award of contract provides the owner and the equipment with the authority to make equipment selection decisions. The ability for consideration of substitutes promotes competition. This format has been recognized and accepted in a number of the Construction Grants Programs in some U.S. EPA regions. The base/substitute bid format with substitutes considered before awarding has satisfied many U.S. State Revolving Fund program, and since the procurement regulations of the federal government no longer apply, the consideration of substitutes-after-award method is widely used and is allowed in most states.

Figure 1 is a sample of a typical base/substitute bid format proposal with consideration of substitutes after award of contract. A base/substitute bid format proposal with consideration of substitutes before award of contract utilizes the same basic format with the exception of the Major Equipment Manufacturer Substitution instructions.

BASE/SUBSTITUTE BID FORMAT

BID FORM

Bidding Firm: _____
Address: _____
City, State, Zip: _____
Date: _____
Telephone: _____
Owner: _____
Address: c/o Director of Public Works
2000 Main Street
City of Cities, State Central
Attention: Director
Telephone: (012) 345-6788

BID FOR CONSTRUCTION OF WASTEWATER TREATMENT PLANT
Having received and examined the bidding documents and having examined the project site, I, the undersigned bidder, submit this bid. The bidding documents I have examined include the project specification and drawings for the subject project and addenda listed as follows:

1. Specifications and contract documents dated _____.
2. Drawings including _____ sheets dated _____.
3. Addenda as acknowledged

No.	Date	No.	Date
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

In submitting this bid, I agree:

1. To hold my bid open until 30 calendar days following the bid date.
2. To accept the provisions of the instruction to bidders rewarding the disposition of the bid security.
3. To enter into a contract with the owner by executing an agreement on the basis of the base bid and to furnish a performance bond, a payment bond, and a certificate of insurance as required by the condition of the contract, all within 14 days of contract award.
4. To accomplish the work in accord with the contract documents.
5. To complete the work within _____ calendar days from the date of Notice to Proceed.

The BASE BID PRICE offered for all equipment, labor, and materials for a complete and working plant as described in the contract document is:
_____ DOLLARS AND _____ CENTS $_____

Figure 1. Base/substitute bid format sample (Vogel & Hogan, 1995).

BASE BID MAJOR EQIUPMENT MANUFACTURERS

Only the Manufacturers listed below shall be used in determining the BASE BID. The Contractor must circle the name of one manufacturer from this list for each item in the tabulation. Circling more than one of the listed manufacturers for any item will give cause for the Engineer to select the equipment manufacturers for equipment items where one of the listed manufacturers was not circled.

Equipment Item	Manufacturer
Aeration Equipment	Manufacturer A
Belt Filter Press	Manufacturer B Manufacturer C Manufacturer D

Figure 1. (continued). Base/substitute abbreviated bid format sample requiring circling of base bid supplier utilized in the bid. An alternate method preferred by contractors allows the low bidder to notify the owner of his equipment selection after several business days.

MAJOR EQUIPMENT MANUFACTURER SUBSTITUTIONS

Any Manufacturer, including those not listed as an acceptable manufacturer, may be listed as a substitution.

The Bidder understands that after a contract is awarded, the Owner may, at his sole discretion, select items of any Manufacturer listed in the following substitute tabulation. If awarded the contract, the Bidder agrees to furnish and install any substitutions listed for the price indicated. The BASE BID will then be adjusted accordingly. The Engineer may require detailed information to be submitted for preliminary evaluation of a substitute Manufacturer. This information could include equipment technical and performance details and other information deemed necessary by the Engineer and/or as described in the contract specifications.

If a contract includes items of equipment of any Manufacturer which may require any modification or deviation from the plans, the undersigned agrees to prepare and submit detailed drawings to the Engineer showing all modifications in structures, piping, electrical, and mechanical work, required to adapt the plans to the equipment selected. The Bidder further understands that the Engineer will review said detailed drawings of modifications and either approve them or indicate thereon changes necessary to comply with the project requirements. Detailed drawings which are not approved will be revised then resubmitted to the Engineer for approval. If it is determined by the Engineer that the substitute equipment is not approved, then the original base bid equipment must be provided. The prices listed in the following tabulation are "installed" prices and take into consideration any changes that may be required.

SUBSTITUTIONS

Equipment Item	Manufacturer	Add (Deduct) From Base Bid
_____	_____	_____
_____	_____	_____

Figure 1. (continued). Base/substitute bid format sample of manufacturer substitutes after award of contract. The major equipment substitution section prior to award of contract is basically the same format with the exception of paragraph 2.

Evaluated Bid, Pre-selection of Major Equipment, Pre-purchase of Major Equipment
In the evaluated bid format or analysis, engineered equipment is selected based on total cost life-cycle cost, or some other total-points system that includes factors other than initial purchase price of the equipment. Many of the same factors should be evaluated in the selection of products and equipment specified in an open bid, a base bid, or a base/substitute bid format (Vogel & Hogan, 1995).

Evaluated bids are commonly utilized to pre-select or pre-purchase major equipment items. Typically, the evaluation analysis is applied to one or more items of engineered equipment within a project. Following the bid or analysis, the contract can either be assigned to the general construction contract as an allowance or awarded as a separate contract. When awarded as a separate contract, such as in the case of a pre-purchase, the documents should require coordination between the product or equipment supplier and installation contractor.

An evaluated bid would be a consideration where:

- There is a sales tax advantage to the owner;
- There are two or more strong, viable, and acceptable suppliers;
- Timing of equipment delivery affects the overall project schedule;
- The engineered equipment is a critical and costly plant process, or equipment layout affects the project design of structures or piping;
- The performance of the equipment affect the cost of performing other processes; or
- The performance of the equipment can be field quantified, measured, and tested or rated on a comparative scale against performance information required by the bidding documents.

The purpose of an evaluated bid is to select the equipment that will provide the lowest cost of ownership to the owner after certain design and performance objectives have been attained.

Regardless of the process, or piece of equipment being evaluated, the evaluation procedure must be clearly presented in the bidding documents to avoid protests by bidders. Two critical components of an evaluated bid are the evaluation formula and verification of performance and guarantees.

Evaluation Formula. The formula for determining the lowest responsive bidder must be explicitly detailed in the bidding documents. Evaluation criteria must be reasonable and stated in actual dollars per unit quantity. Backup documentation of these costs should be included in the information provided by the bidders or on file with the engineer and owner in case of disputed bids.

Verification of Performance and Guarantees. With a formula for selection and all criteria clearly stated, suppliers recognize the critical factors that will be evaluated by the owner and engineer. Verification of the data or performance is essential to maintain the honesty and integrity of the bidding process.

Verification of performance can be confirmed in a variety of ways. From witnessed factory testing before shipment or on site testing following installation, or supply of performance bonds with monetary penalties for failure to achieve performance guarantees.

Summary. In summary, the evaluated bid format maintains maximum control of selection with the owner. The owner defines the criteria of importance and bases equipment selection on those items. The format encourages competition and focuses on improving the quality of the equipment through competition in performance and efficiency as well as price. It properly allocates risk and prevents packaging and post-bid shopping. In some cases the evaluation process can be somewhat involved and require additional staff time to administer; thus, it typically is only utilized for major processes and equipment items.

The following information should be included in the invitation to bid or the advertisement for bids:

- Complete description of the work; including furnishing and delivery freight-on-board (FOB) construction site (identify location).
- Type of bid: evaluated; contract with the owner or assigned to the general construction contractor.

Figure 2 is an example of an evaluated bid format for pumps. The example does not include the technical specifications, pump schedule, system head curves or data sheets.

BID FORM

Proposal of _____
(herein-after called "BIDDER"), organized and existing under the laws of the State of _____ doing business as _____*.

To the _____ (herein-after called "OWNER").

In compliance with your NOTICE TO BIDDERS, BIDDER hereby proposes to perform all work for _____ in strict accordance with the Contract Documents, within the time set forth therein, and at the prices stated below.

By submission of this BID, each BIDDER certifies, and in the case of a joint BID each party thereto certifies as to his own organization certifies as to his own organization, that this BID has been arrived at independently, without consultation, communication, or agreement as to any matter relating to this BID with any other BIDDER or with any competitor.

BIDDER hereby agrees to commence WORK under this contract on or before a date to be specified in the NOTICE TO PROCEED and to fully complete the PROJECT in accordance with the provisions of the Contract Documents to which the Contract will be assigned and the Sequence of Delivery specified herein.

BIDDER acknowledges receipt of the following ADDENDA:

_____

_____

*Insert "a corporation," "a partnership," or "an individual" as applicable.

BIDDER agrees to perform all the work described in the Contract Documents for the base proposal contract lump sum of: _____ Dollars (_____).

Evaluation Formula:

Base Proposal Contract Lump Sum x0.10 8* = $_____

Total Equivalent Annual Operating Cost**= $_____

Equivalent Annual Cost = $_____

* Capital Recovery Factor, 8.125%, 20 years

** As described in the COST-EFFECTIVE ANALYSIS section of the SUPPLEMENTAL INFORMATION TO BIDDERS and as computed below:

The base proposal includes the listing of manufactures and furnishing of other information noted on the Annual Operating Cost Schedules.

Figure 2. Evaluated bid format sample with evaluation formula (Vogel & Hogan, 1995).

PERFORMANCE GUARANTEE

Pump and pump driver (wire to water) efficiencies entered by the pump manufacturer into the Annual Operating Cost Schedule shall be verified by the successful manufacturer during the specified shop tests. If the test shows the efficiency to be equal to or greater than those applied at time of bid, the performance guarantee will have been met, and no adjustment in contract price will be made. If actual efficiencies are less than those supplied by the manufacturer at the time of bid, the Contract amount shall be reduced.

The Annual Operating Cost Schedule will be revised following the specified shop testing to incorporate the actual pump and driver efficiencies determined by the shop testing. A revised Total Annual Operating Cost will be computed. If the revised Total Annual Operating Cost exceeds the Total Annual Operating Cost as computed with the pump and drive efficiencies submitted with the BID, the Contract amount will be reduced as follows:

Revised Total Annual Operating Cost
(based on actual shop test efficiencies) $___ _____

Total Annual Operating Cost Submitted with Bid $_____

Differential Annual Operating Cost $___ _____

Reduction in Contract Amount = $___ _____
Annual Operating Cost x 9.727 5*

*(present worth factor, 8.125%, 20 years)

The revised Contract amount shall be the Base Proposal Lump Sum minus the Reduction in Contract Amount.

**Cost-Effective Analysis

The Contract lump sum as listed in the Bid Form, and the Equivalent Annual Operating Cost as determined in the Annual Operating Cost Schedule, contained in the Bid Form, shall be the basis for determining the most cost-effective installation for the Owner. The cost-effective analysis shall be as shown on the Bid Form. The following notes apply to the annual operating cost schedule:

1. Efficiencies and Operating Time are percentages expressed as decimals.

2. Constant = $\frac{(24 \text{ hours/day})(0.746 \text{ kW/hp})(\$0.10/\text{kWh})(365 \text{ days/year})}{3960} = 0.165$

3. Annual Energy
   Cost = electrical horsepower x 0.746 kW/hp x $0.10/kWh x hours/year
   Electrical horsepower = brake horsepower/driver efficiency
   Brake horsepower = (gpm x head) (3960 x pump efficiency)

4. Information shown as ( ) in the Schedule is to be filled in by the pump manufacturer. Pump discharge head listed as ( ) is to be the intersection of the applicable system head curve contained in the Specifications and the performance curve of the pump to be supplied for that application.

Figure 2. (continued). Evaluation bid format analysis and performance guarantee sample.

SUGGESTED MANUFACTURERS

The pumps shall be the product of one of the following approved manufacturers:

Brand A, B, or C

Motors shall be the product of one of the following approved manufacturers:

Brand A, B, or C

Variable-frequency Drives (VFD) shall be the product of one of the following approved manufacturers:

Brand A, B, or C

Exceptions taken or noted in pre-submittal data have been accepted only if specifically addressed in this Addendum. Equipment furnished shall conform to technical specifications as amended.

CENTRIFUGAL WASTEWATER PUMPS
EQUIPMENT DATA SHEET

The manufacturer of this equipment shall submit to the Engineer, two weeks before the receipt of bids, the following specific data on the equipment being offered. The purpose of this information is to provide the Owner the information necessary to evaluate the equipment. Failure by a manufacturer to furnish all the information requested may be cause for rejection of the equipment. Any exceptions to these Specifications must be noted and included with the information submitted with this form. Exceptions may be cause for rejection of the equipment.

In lieu of a single manufacturer's name, a list of motor and variable-speed drive manufacturers that are being considered may be attached. A list of acceptable motor and variable-speed drive manufacturers will be included in an addendum issued approximately one week before the bid.

Attach efficiency versus percent full speed curves for each size variable-speed drive and efficiency versus percent full load curves for all motors.

By: _____ Date: _____

Phone No.: _____

Figure 2. (continued). Evaluated bid format named manufacturers and certified data sheet sample. Equipment data sheet sample not shown. Tentative notice of award and assignment of contract sample are not shown.

SUMMARY AND CONCLUSIONS

It is imperative public entities work within procurement laws to enhance performance while ensuring wise use of the public's money. By examining the wide array of current procurement policies, procedures, laws and regulations and focusing on value, municipal purchasing officials can - in partnership with other municipal officials, leaders and stakeholders — maximize public purchasing power to enable the utility to improve efficiency, increase competitiveness, and protect the public interest (WWEMA & AMSA, 2000).

Table 2. Characteristics of the different procurement formats (Vogel & Hogan, 1995).

Procurement Criteria	Methods of Procurement					
	Conventional Open	Base	Base/substitute		Evaluated	Pre-Selection
			Before[1]	After[2]		
Maintains equipment selection with owner and engineer	No	Yes	Yes	Yes	Yes	Yes
Allows and encourages competition	Maximum	Limited	Yes	Limited	Yes	Not at bid
Allows consideration of new products	Maximum	Not at bid	Yes	Yes	Yes	Not at bid
Is legal and enforceable	Yes	Varies	Varies	Varies	Yes	Varies
Discourages pre-bid packaging	No	Yes	Usually	Usually	Yes	Yes
Suppresses post-bid shopping	No	Yes	Yes	Yes	Yes	Yes
Minimizes bid protests	No	No	No	Yes	Yes	Yes
Minimizes disputes during construction	No	Yes	Yes	Yes	Yes	Yes
Allocates risk properly	No	Yes	Yes	Yes	Yes	Yes
Offers incentives for enhanced performance	No	Not at bid	Limited	Limited	Maximum	Not at bid

[1] Substitutes considered before and as part of award.

[2] Substitutes acceptance considered after bid. Substitute acceptance does not determine award. Award is made on basis of low base bid read at time of opening.

Many might dismiss various procurement methods as not allowed in their jurisdiction. But thorough examinations of state and local laws reveal more flexibility than previously thought. Today, procurement laws and practices still fulfill that function, but municipalities are constantly challenged to provide ever-higher levels of service and performance, leaving procurement a dual mission — ensuring the accountability of the public purchasing process and enabling public utilities to compete in a fast-paced market. To do both requires flexibility, commitment, creativity, cooperation and a willingness to change from all parties in the procurement process (WWEMA & AMSA, 2000).

The Clean Water State Revolving Fund (CWSRF) and USDA Rural Development acceptable procurement methods follow in Table 3.

Table 3. Clean Water State Revolving Fund (CWSRF) and USDA Rural Development Funding.

State	Region	Conventional Open Bid	Base Bid	Base / Substitute Bid	Pre-Selection of Major Equipment	Evaluated Bid	Sole Source	Construction Management at Risk	Design-Build	Electronic Bidding
CT	1	Yes	No Answer	Yes	Yes	No*	Yes	Yes**	Yes	No
CT Notes:		*Not sure what this is; **Rarely use this. The regulations govern the bidding process: 22a-482 of the Regulations of the Connecticut State Agencies. The programs are also required to comply with Connecticut General Statutes Sections 4b-91, 4a-60 and 4a-61 and Executive Orders of the Governor.								
Website:		http://www.ct.gov/dep/cwp/view.asp?a=2719&q=325578&depNav_GID=1654								
MA	1	Yes	No	No	Yes	No	No	Yes	Yes	No
MA Notes:		MGL Chapter 30 governs horizontal construction and MGL Chapter 149 governs vertical construction.								
Website:		http://www.mass.gov/dep/water/wastewater/cwsrf.htm								
ME	1	Yes	Yes	No	No	No	Yes	No Answer	Yes	No
ME Notes:		None.								
Website:		http://www.state.me.us/dep/blwq/docgrant/srfparag.htm								
NH	1	Yes	Yes	No	Yes*	No	Yes*	No	No	No
NH Notes:		*Authorized by NHDES only on a limited basis upon with adequate demonstration of need.								
Website:		http://des.nh.gov/organization/divisions/water/wweb/grants.htm								
RI	1	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
RI Notes:		RIDEM does not involve itself with project procurement other than having the community certify at the application stage that it will follow all state and local procurement rules.								
Website:		http://sos.ri.gov/govdirectory/index.php?page=DetailDeptAgency&eid=84/								
VT	1	Yes*	No	Yes **	No	No	Yes**	No	No	No***
VT Notes:		*CWSRF standard. **Require justification and state approval. ***Requires prequalification and technology many of our bidders don't yet have.								
Website:		http://www.anr.state.vt.us/dec/fed/FMS.htm								
NJ	2	Yes	Unknown	Unknown	Unknown	Unknown	Yes*	Unknown	Yes	Unknown
NJ Notes:		*Subject to restrictions.								
Website:		http://www.state.nj.us/dep/grantandloanprograms/er_eifp.htm								
NY	2	Yes	Yes	Yes	Yes*/No*	Unknown	Yes	No	No	No

State	Region	Conventional Open Bid	Base Bid	Base / Substitute Bid	Pre-Selection of Major Equipment	Evaluated Bid	Sole Source	Construction Management at Risk	Design-Build	Electronic Bidding
NY Notes:		*Based upon your definition of "Pre-selection of Major Equipment" negotiated equipment is not allowed but open competitive bidding of pre-selected equipment is acceptable. ; New York State General Municipal Law 101 - Separate Construction Specifications and 103 - Public Bidding Requirements.								
Website:		http://www.nysefc.org/CleanWaterStateRevolvingFund.aspx								
PR	2	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
PR Notes:		None.								
Website:		http://www.gobierno.pr/JCA/Inicio/								
DC	3	Yes	No Answer	No Answer	Yes	No	No	Yes	Yes	No
DC Notes:		None.								
Website:		http://www.epa.gov/reg3wapd/infrastructure/financial/states.htm								
DE	3	Yes	Yes	Yes	Yes	No	Yes	No	Unknown	No
DE Notes:		DE Code Title 29 Chapter 69 Subchapter IV.								
Website:		http://www.wr.dnrec.delaware.gov/Services/Pages/FinancialAssistanceBranch.aspx								
MD	3	Yes	Yes*	Yes*	Yes	Unknown	Yes	Yes	Yes	Unknown
MD Notes:		*Bids are actually done by local government. The state does not undertake any capital project procurement. Based on many of the bids we have seen, local governments in some cases do allow base bid. In other cases they allow base bid and after procurement selection they may allow substitute to reduce cost.								
Website:		http://mde.maryland.gov/Programs/Water/Pages/Programs/WaterPrograms/index.aspx								
PA	3	Yes	Yes*	Yes*	Yes	No	Yes	No	Yes	Yes
PA Notes:		*Only under exceptional circumstances.								
Website:		http://www.portal.state.pa.us/portal/server.pt/community/water/6008								
VA	3	Yes	Yes	Yes	Yes	No	Yes	No	Yes	No
VA Notes:		None.								
Website:		http://www.deq.virginia.gov/cap/								
WV	3	Yes	No Answer	No Answer	Yes*	Yes	Yes****	No	Yes***	Yes**
WV Notes:		*Means to make sure the firms have whatever to bid; however price is not negotiated, bids still are required. **Fax receipt of bids at the state level, but not in our program. ***Yes, but not for Wastewater/water projects. ****Justification must be provided as to why this must be sole source/closed bids.								

State	Region	Conventional Open Bid	Base Bid	Base / Substitute Bid	Pre-Selection of Major Equipment	Evaluated Bid	Sole Source	Construction Management at Risk	Design-Build	Electronic Bidding
Website:		http://www.dep.wv.gov/WWE/Programs/SRF/Pages/default.aspx								
AL	4	Yes	Yes	Yes	Yes	No Answer	Yes	No Answer	No Answer	No Answer
AL Notes:		Code of Alabama Title 39: Public Works, ADEM Water Division - Water Quality Program 335-6-14.								
Website:		http://www.adem.state.al.us/programs/water/srf.cnt								
FL	4	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
FL Notes:		62-503 FAC.								
Website:		http://www.dep.state.fl.us/water/wff/cwsrf/index.htm								
GA	4	Yes	Yes	Yes	No Answer	No Answer	No Answer	No Answer	No Answer	No Answer
GA Notes:		GEFA policy requires competitive sealed bids, but allows for other delivery methods if first approved by GEFA; GEFA Procurement Requirements found in Exhibit C of all loan contracts and O.C.G.A. Sec. 36-91-1.								
Website:		http://www.gefa.org/Index.aspx?page=80								
KY	4	Yes	No	Yes	No	No	Yes	Yes	Yes	Unknown
KY Notes:		Kentucky Revised Statutes 45A.								
Website:		http://water.ky.gov/Funding/Pages/CleanWaterStateRevolvingFund.aspx								
MS	4	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*
MS Notes:		*MS's CWSRF program requires loan recipients comply with State Public Purchase Law (MS Code of 1972, as amended, Sections 31-7-1 through 31-7-73), and recipients and their legal counsel certify to that compliance. Obviously, if something questionable or unusual were proposed, we could require additional documentation supporting the compliance certification, but as a rule that is not required. Therefore, any method allowed by the Public Purchase Law, should be allowable in the CWSRF Program (provided there are no program-specific limitations that would preclude the use of that method). Historically, most projects fall into Conventional, Base, or Base/Substitute. There may have been an occasional Sole Source, and possibly even an Electronically Bid project, but I don't recall any of the others. However, that doesn't mean that those methods would not be allowed; just that we've never had a loan recipient propose them and certify/demonstrate that they comply with State Law.								
Website:		http://www.deq.state.ms.us/mdeq.nsf/page/SRF_Water_PC_RLP?OpenDocument								
NC	4	Yes	Yes	Yes**	Unknown	Yes	Yes	Yes	No*	Unknown
NC Notes:		GS 143-128 and 129; *Allowable only if special legislation is in place. **Called "Preferred Alternate".								
Website:		http://portal.ncdenr.org/web/wq/cgls								

State	Region	Conventional Open Bid	Base Bid	Base / Substitute Bid	Pre-Selection of Major Equipment	Evaluated Bid	Sole Source	Construction Management at Risk	Design-Build	Electronic Bidding
SC	4	Yes	Yes	Yes	Yes	Unknown	Yes	Yes	Yes	Unknown
SC Notes:	None.									
Website:	www.scdhec.gov/srf									
TN	4	Yes	Yes	Yes	Yes	No	Yes	No	Yes	No
TN Notes:	40 CFR 31.36.									
Website:	http://www.tennessee.gov/environment/srf/cwsrf/									
IL	5	Yes	Yes	Yes	No*	No	No*	No	No	No
IL Notes:	*Under extenuating circumstances; 35 IAC 365.610, 35 IAC 365.620.									
Website:	http://www.epa.state.il.us/water/financial-assistance/waste-water/index.html									
IN	5	Yes	Yes	Yes	Yes	No	Yes	No	Yes	No
IN Notes:	IC-36-1-12.									
Website:	http://www.in.gov/ifa/srf/									
MI	5	Yes	Yes	Yes	No	No	Yes	Yes*	Yes	No
MI Notes:	*Conditional.									
Website:	www.michigan.gov/documents/deq/deq-ess-mfs-formsguidance-DWbidguide_248777_7.pdf									
MN	5	Yes*	Unknown*	Unknown*	Unknown*	Unknown*	Unknown*	Unknown*	Unknown*	Unknown*
MN Notes:	*MN's CWSRF program does not have any specific bidding/procurement requirements. All procurement must be in compliance with the state Uniform Municipal Contracting Law under Minnesota Statutes, Section 471.345. The document published by the Minnesota League of Cities provides additional information and explanation regarding competitive bidding requirements for cities.									
Website:	https://www.lmnc.org/media/document/1/competitivebidding									
OH	5	*	*	*	*	*	*	*	*	*
OH Notes:	*Our program will consider whatever bid formats and project delivery methods are allowed under Ohio law.									
Website:	http://www.epa.ohio.gov/Default.aspx?alias=www.epa.ohio.gov/defa									
WI	5	Yes*	Yes	Yes	Yes	No	No	No	No	No
WI Notes:	*Majority of projects; WI Administrative Codes Adm. 7 & 8. Also Procurement Guidance.									
Website:	http://www.dnr.state.wi.us/org/caer/cfa/EL/elindex.html									

State	Region	Conventional Open Bid	Base Bid	Base / Substitute Bid	Pre-Selection of Major Equipment	Evaluated Bid	Sole Source	Construction Management at Risk	Design-Build	Electronic Bidding
AR	6	Yes	No	Yes	Yes	Unknown	Yes	Unknown	Yes	Unknown
AR Notes:	ACA Section 22-9-203 et. seq.									
Website:	http://www.anrc.arkansas.gov/									
LA	6	Yes	No	Yes	No	No	No	Yes	No	Unknown
LA Notes:	Answers assume the threshold for public bidding is exceeded. See reference. http://www.lma.org/Docs/Homepage/PublicBidLaw.pdf.									
Website:	http://www.deq.louisiana.gov/portal/tabid/2148/Default.aspx									
NM	6	Yes	Yes	Yes	Yes	No	Yes	Unknown	Yes	No
NM Notes:	NM State Statutes, Chapter 13.									
Website:	http://www.nmenv.state.nm.us/cpb/cwsrf.html									
OK	6	Yes	Yes	Yes	Yes	No	Unknown*	Yes	No	No
OK Notes:	*Or equal is allowed; OK Competitive Bidding Act Title 61 Section 101.									
Website:	http://www.owrb.ok.gov/financing/loan/cwsrfloans.php									
TX	6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
TX Notes:	All allowed with the proper coordination with our Construction Assistance Program. The caveat is that each method would need to be suitable and efficient for the particular project and entity that is seeking financial assistance from the TWDB and the CWSRF. The entity must be eligible and the project must be invited to apply based on their project ranking. During the pre-application and application process, the procurement method would be discussed as to the appropriateness for the project and the client's objective. It is the fiduciary duty of our Agency to ensure that the funds are properly and efficiently used to enhance and protect the State's water quality.									
Website:	http://www.twdb.state.tx.us/assistance/financial/fin_infrastructure/cwsrffund.asp									
IA	7	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
IA Notes:	All procurement by public entities in Iowa is governed by state law, not CWSRF program policies; Iowa Code Chapter 384, Division VI.									
Website:	http://www.iowasrf.com/									
KS	7	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
KS Notes:	For design/build and similar "negotiated price" procurement, Kansas CWSRF requires loan recipient have a licensed professional engineer on staff or under contract who is not allowed to be part of the design/build team. Therefore the									

State	Region	Conventional Open Bid	Base Bid	Base / Substitute Bid	Pre-Selection of Major Equipment	Evaluated Bid	Sole Source	Construction Management at Risk	Design-Build	Electronic Bidding
		owner has a professional that is looking out for the owner's best interest in negotiating with the d/b teams. We discourage d/b for pipe projects, as the interrelationship of easement acquisition makes the process difficult, if not impossible.								
	Website:	http://www.kdheks.gov/muni/								
MO	7	No Answer	No Answer	No Answer	No Answer	No Answer	No Answer	No Answer	No Answer	No Answer
	MO Notes:	None.								
	Website:	http://www.dnr.mo.gov/env/wpp/index.html								
NE	7	Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes*
	NE Notes:	*If the city handling the project is set up for E bidding, this is an acceptable method.								
	Website:	http://www.deq.state.ne.us/								
CO	8	Yes	Yes	Yes	Yes	Unknown	No	Unknown	Yes	Unknown
	CO Notes:	Since recipients are a political subdivision of the State of Colorado, most operate in accordance with the laws of the Procurement Code of the Colorado Revised Statute, which is (C.R.S.), Title 24, Article 103. However, there are some municipalities/districts/etc. that may adopt more stringent procurement procedures, which would be the dictating procedure.								
	Website:	http://www.cwrpda.com/								
MT	8	Yes	Yes	Yes	Yes	Unknown	Yes*	Unknown	Yes	No**
	MT Notes:	*Limited to formal local procedures in place. **Haven't gone to E Bidding yet but would consider.								
	Website:	http://www.deq.mt.gov/wqinfo/srf/WPCSRF/default.mcpx								
ND	8	Yes	Yes	Yes	Yes	No	Yes	No	No	No
	ND Notes:	ND Century Code.								
	Website:	http://www.nd.gov/pfa/srf.html								
SD	8	Yes	No Answer	No Answer	No Answer	No Answer	Yes*	No Answer	Yes	No Answer
	SD Notes:	*Allowed under certain circumstances; SDCL 5-18A, 5-18B, 5-18C.								
	Website:	http://denr.sd.gov/dfta/wwf/cwsrf/cwsrfprogram.aspx								
UT	8	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	UT Notes:	None.								

State	Region	Conventional Open Bid	Base Bid	Base / Substitute Bid	Pre-Selection of Major Equipment	Evaluated Bid	Sole Source	Construction Management at Risk	Design-Build	Electronic Bidding
Website:		http://www.waterquality.utah.gov/FinAst/index.htm								
WY	8	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unknown
WY Notes:		WSS titles 15, 16, 18, 41.								
Website:		http://slf-web.state.wy.us/grants/srf.aspx								
AZ	9	Yes	Yes	Yes	Unknown	No	Yes	Yes	Yes	Yes
AZ Notes:		AZ Administrative Code, Title 2, Chapter 7.								
Website:		http://www.azwifa.gov/								
CA	9	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Unknown
CA Notes:		http://www.waterboards.ca.gov/water_issues/programs/grants_loans/srf/finalpolicy0309.shtml								
Website:		http://www.swrcb.ca.gov/water_issues/programs/grants_loans/srf/								
HI	9	Yes	Yes	Yes	No Answer	No Answer	No Answer	No Answer	Yes	No Answer
HI Notes:		State's SRF Functional Procedures.								
Website:		http://hawaii.gov/health/environmental/water/wastewater/cwsrf.html								
NV	9	Yes	Yes	Yes	Yes	Unknown	No	Unknown	No	No
NV Notes:		None.								
Website:		http://ndep.nv.gov/bffwp/srlf01.htm								
AK	10	Yes	Yes	Yes	Yes	Unknown	Yes	Unknown	Yes	Unknown
AK Notes:		Loan recipients are allowed to use their own procurement codes. However, we require that any construction contract over $50,000 must competitively bid or an approved alternate procurement processed be approved.								
Website:		http://www.dec.state.ak.us/water/MuniGrantsLoans/index.htm								
ID	10	Yes	Unknown	Unknown	Yes	Yes	Yes	Unknown	Yes	Yes
ID Notes:		Governed by Title 67 - Chapters 23 and 28 of Idaho Code. Require loan recipients comply with State law.								
Website:		http://www.deq.idaho.gov/water/assist_business/pwws/construction_loans.cfm								
OR	10	Yes	Yes	Yes	Yes	Yes	No Answer	Yes	Yes	Yes
OR Notes:		ORS 279C.								
Website:		http://www.deq.state.or.us/wq/loans/loans.htm								

State	Region	Conventional Open Bid	Base Bid	Base / Substitute Bid	Pre-Selection of Major Equipment	Evaluated Bid	Sole Source	Construction Management at Risk	Design-Build	Electronic Bidding
WA	10	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*	Yes*	No
WA Notes:		Many of the procurement procedures are only allowed or certain types of public bodies or under specific circumstances. If the method is allowed at all in the State I checked "YES". The state specifically authorizes Design Build and GC/CM contracting for communities certified by CPARB (Capital Projects Advisory Review Board). Their website is http://www.ga.wa.gov/cparb/index.html; The Revised Code of Washington (RCW) contains states statutes on public works procurement. RCW 36, 35.22, 35.23, and 35.27 contain specific powers or limitations for counties, first class cities, second class cities, and towns; the most relevant information for you will be RCW 39.04 (Public Works) and RCW 39.10 (Alternative public works contracting procedures).								
Website:		http://www.ecy.wa.gov/programs/wq/funding/funding.html								
All States USDA		Yes[1]	No[2]	No[2]	Yes[3]	Yes[4]	Yes[5]	No[6]	No[7]	Yes[8]
USDA Notes:		[1] - We normally use this approach due to OMB requirements repeated in our regulations at 7 CFR 1780.70(b) and (d) for maximum open and free competition and 1780.72 for conventional sealed bidding. [2] - Not allowed because of requirement for open and free competition. [3] - Allowed if the pre-selection is competitive. This approach is used occasionally. [4] - Allowed if the procurement meets requirements for open and free competition, but is very rarely used. [5] - Allowed in very limited circumstances listed in the regulation. [6] - Not mentioned in the current regulation. Has been used very rarely in the Water and Waste program. [7] - Not mentioned in the current regulation. Not used to the best of my knowledge in the Water and Waste program. [8] - Not used to the best of my knowledge, but not disallowed. Bidding requirements generally follow state and local laws.								
Website:		http://www.rurdev.usda.gov/StateOfficeAddresses.html								

EPA Website: http://water.epa.gov/grants_funding/cwf/cwsrf_index.cfm

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