



# **TEXAS WATER DEVELOPMENT BOARD**

## **CLEAN WATER**

### **STATE REVOLVING FUND**

**PROGRAM GUIDANCE**

**MANUAL**

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**CWSRF Tier II (Wastewater) Loan Program**

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## GENERAL INFORMATION

### TWDB's Mission

Texas Water Development Board's mission is to provide leadership, planning, financial assistance, information, and education for the conservation and responsible development of water for Texas.

### Purpose

The Clean Water State Revolving Fund (CWSRF) provides low interest loans for wastewater treatment and sewer systems. The purpose of the CWSRF is to assist communities in meeting Clean Water Act requirements.

The purpose of this *Program Guidance Manual* is to provide the basic information, forms, and guidance that an Applicant needs in order to complete an application for financial assistance and implement a successful project. The information in this manual covers the application, planning, design, bidding, construction and audit phases and provides guidance to the Applicant and his consultants in meeting the TWDB's CWSRF Program rules found in *TWDB Chapter 375 Financial Assistance Programs*.

We hope that this manual will help all participants gain a better understanding of the roles and responsibilities of the TWDB, the Applicant, and his consultants and thus increase the efficiency of our coordinated efforts.

### Key Elements of the Clean Water State Revolving Fund Tier II Program

The CWSRF Tier II Program:

- ◆ finances purchase, construction of, and improvements to wastewater treatment and sewer facilities;
- ◆ offered to political subdivisions;
- ◆ includes limited amount of grants for hardship communities;
- ◆ requires Applicants to submit information for inclusion on the Priority List and Intended Use Plan;
- ◆ does not utilize “funds directly made available by capitalization grants” so is not subject to as many federal requirements as the CWSRF **Tier III** program.
- ◆ assesses an administrative cost recovery fee on all loans pursuant to §375.18 of the agency rules.

### Priority Rating Process and Preapplication Conference

Each year the State develops a Priority List of Clean Water State Revolving Loan projects as a part of its Intended Use Plan to fulfill a requirement of the Environmental Protection Agency. Applicants must provide priority rating information (normally during February) so that projects can be considered for funding. The forms change annually and are available over the internet:

[http://www.twdb.state.tx.us/publications/forms\\_manuals/PGM%20forms\\_main.htm](http://www.twdb.state.tx.us/publications/forms_manuals/PGM%20forms_main.htm). After the projects are prioritized and sufficient funds are available, Applicants are invited to setup a preapplication

## GENERAL INFORMATION

conference and apply for a loan. At the preapplication conference TWDB staff explain the application completion process and answer Applicant and consultant questions.

### Project Management Overview

Project management increases the likelihood of successfully completing work efforts on time, remaining within the budget, processing fewer claims, and meeting the performance criteria.

The key to good project management is to designate a project manager to represent the Applicant in taking charge of all project-related activities, managing all elements and leading a team of specialists.

Successfully managing a project requires the balancing of essential elements:

1. **Scope** - Define, perform, and manage change in scope.
2. **Quality** - Plan, control, improve, and chart quality.
3. **Cost** - Estimate, budget, and control cost.
4. **Procurement** - Plan and administer procurement.
5. **Time** - Plan, estimate, define, and control time schedule.
6. **Risk** - Identify, assess, develop solutions, and control risk.
7. **Human Resources** - Define roles and responsibilities, organize, and build the management team.
8. **Communications** - Create and maintain an environment for open communications.

The project manager leads a team of specialists who provide the administrative, technical, financial and legal support for management of the project. Team members typically include: Applicant, Project Manager, Consulting Engineer, Construction Manager, Administrative Support, Technical Advisor, Resident Engineer, Inspector, Financial Advisor, Bond Counsel and Legal Advisor.

### Procurement

Specific procurement requirements for services, construction, construction equipment, and supplies must be met in order to qualify as eligible cost for loan assistance. Early attention to procurement requirements prior to loan application is necessary to maximize loan funding.

### Correspondence

The TWDB will assign your project an identification number, which will be used in the processing and tracking of project information. Applicants and their consultants can promote prompt TWDB processing by including appropriate project identification on all correspondence and deliveries. In the subject line of all correspondence, please indicate your project name, TWDB project number, and any assigned TWDB loan identification or grant identification number.

# GENERAL INFORMATION

## **TWDB - Organization and Key Personnel**

### **Project Team**

#### **Project Manager**

Contact:

#### **Project Reviewer**

Contact:

#### **Administrative Technician**

Contact:

#### **Financial Analyst**

Contact:

#### **Environmental Reviewer**

Contact:

#### **Attorney**

Contact:

#### **Administration & Special Reporting**

Contact:

#### **Audit & Funds Management**

Contact:

#### **Inspection & Field Support Services**

Contact:

Contact:



## APPLICATION PHASE

### Loan Application

Before applications are accepted, the agency must prepare a Priority List and Intended Use Plan in accordance with 31 TAC §375.14 and §375.17. After the priority list is completed and the eligible applicants are determined (ie. a funding line is drawn), the TWDB's executive administrator shall notify in writing all potential applicants as to the availability of funds and will invite them to submit their applications.

The loan application should be submitted to the TWDB for review by the date specified in the invitation to submit an application, or at least six weeks prior to the date the TWDB's board members will meet to consider an Applicant's commitment, whichever is earlier. The Board usually meets every third Tuesday of the month. The meeting schedule is available on the TWDB Web site at <http://www.twdb.state.tx.us>.

A complete application includes

1. Information about the Applicant and the project, including:
  - (a.) general information;
  - (b.) fiscal information; and
  - (c.) legal information;
2. Engineering information about the project;
3. Environmental information about the project;
4. Water Conservation Plan, if required;
5. Assurances and other information related to federal funding.

For projects utilizing the Boards' Pre-design Funding (PDF) Option (31 TAC §375.39), some of the detailed engineering and environmental planning work is finalized after the Board takes action on the initial application. This option is for relatively uncomplicated projects that are without controversy and have low potential for negative environmental impact. Preliminary engineering and environmental information must still be provided in the application under this option. However, completion of the detailed engineering and environmental requirements are a prerequisite to the release of funds for the design and construction phases.

### **Financial Assistance Application Information**

The Financial Assistance Application Information consists of an original and eight (8) copies of the general, fiscal, and legal information. (See **TWDB Guidance** *Financial Assistance Application Procedures and Requirements, WRD-006*, for specific details.)

### **Engineering Information**

The Engineering Information consists of an *Engineering Feasibility Report* or if qualifying and applying for the PDF option, a *Preliminary Engineering Feasibility Report*. A professional engineer licensed to practice in the State of Texas must seal the report. Five copies are to be submitted to TWDB. (See **TWDB Guidance: Guidelines for the Preparation of SRF/WQEL Engineering Feasibility Reports, ED-002**, for specific details.) The guidance describes engineering information needed for both conventional and PDF applications. Some of the Engineering data is put into the form *Wastewater Project Data, WRD-253a*, (See **TWDB Forms**) and submitted with the application.



## APPLICATION PHASE

**Note:** Under the PDF option, further study and resolution of issues will need to be addressed in the *Engineering Feasibility Report* prepared during the detailed planning phase. Copies of **consultant contracts** for planning, design, construction and post-construction phase services must be submitted. If qualifying for Pre-design funding, then the executed contract for the planning phase service must be provided as a minimum.

### ***Environmental Information***

Environmental information is developed consistent with under TWDB rules 31 TAC 375.35. Applications for pre-design funding must include a discussion of known permitting, social or environmental issues which may affect the alternatives considered and the implementation of the proposed project (31 TAC 375.39(c)(1).)

If not utilizing the pre-design funding option then the environmental information must include the appropriate documentation required by the agency rules in 363.35. The executive administrator may request additional information or data as necessary to evaluate the project. See **TWDB Guidance: *Guidelines for the Preparation of Environmental Assessments*** (ED-001) for the content of the assessment.

### ***Water Conservation Plan.***

Two copies of a Water Conservation Plan (WCP) are to be submitted if the loan is for more than \$500,000. (See **TWDB Guidance: *Water Conservation Plan Guidance Checklist***, WRD-022, for specific details.) However, if the Applicant will utilize the project financed by the board to furnish water services to another entity that in turn will furnish the water services to the ultimate consumer, the requirements for the water conservation plan may be met either through contractual agreements between the Applicant and the other entity providing for establishment of a water conservation plan. The provision requiring a WCP shall be included in the contract at the earliest of the original execution, renewal or substantial amendment of that contract, or by other appropriate measures. If required, a draft plan may be submitted with the application. An approved plan must be adopted by the Applicant and approved by TWDB before the loan can be closed and any funds released.

**Note:** Recipients are required to report annually on the implementation and status of the required water conservation program for a minimum of three years after the date of loan closing.

### ***Designated Management Agency (DMA) Status.***

Loan recipients must be a designated management agency with the authority to construct and operate wastewater treatment systems in their area. This is required under the state Water Quality Management Plan under Section 208(c) of the Clean Water Act, which is administered by the Texas Commission on Environmental Quality (TCEQ), formerly the Texas Natural Resource Conservation Commission. (See *DMA Sample Resolution*, WRD-210, in **TWDB Guidance** for details and an example resolution.)

## APPLICATION PHASE

### ***Additional information***

The TWDB's executive administrator may require additional information in the application for financial assistance in order to properly determine project eligibility and risks.

### ***Commitment***

If the application is recommended for approval by the TWDB staff, it is typically placed on the TWDB Board meeting agenda no later than three weeks before a Board meeting. Board meetings are usually held every third Tuesday of each month. Meeting schedules are published on the TWDB web site. ([http://www.twdb.state.tx.us/about/meetings\\_seminars/meetingsmain.asp](http://www.twdb.state.tx.us/about/meetings_seminars/meetingsmain.asp)) Applicant representatives are welcome to attend the Board meeting at which the request for funding will be considered; however, attendance is not mandatory.

If the Board approves a financial assistance commitment, the TWDB will send a letter to the Applicant confirming commitment of funds for the project, including the amount of assistance and conditions of the commitment.

### **Project Management Conference**

The Texas Water Development Board strives to ensure that public funds are utilized to build quality projects. Managing a successful public wastewater project is no small undertaking. We recommend the use of a project manager, a management team, and the development of a management plan. The TWDB will conduct a project management conference (PMC) with the Applicant and engineer as soon after commitment as possible.

## **APPLICATION PHASE**

Notes:

## PLANNING PHASE

If the project is funded under the Pre-design Funding Option, then the Planning Phase consists of preparation of the *Engineering Feasibility Report* (EFR), (assuming a preliminary EFR was submitted with the application), *Environmental Assessment* (EID), and initial work required to obtain the project site, easements and necessary permits. Otherwise, these reports and work are accomplished during the application phase.

Also required is an attorney's opinion letter regarding the legal validity and enforceability of the debt incurred by the political subdivision and evidenced by its bond and the related security instruments. This item must be submitted after a loan commitment is made. See **TWDB Forms** for samples of these documents. They may need to be modified for individual projects.

### Loan Closing and Release of Funds for Planning

After loan commitment, the Applicant, or its representatives must submit the following prerequisites for closing and release of funds to the TWDB's Regional Project Manager before the loan can be closed and funds released for planning:

#### **Prerequisites:**

- ◆ Provide an estimated closing date; **45 days prior to adoption** of the bond ordinance/resolution by the Applicant governing body,
- ◆ The Applicant, bond counsel or legal counsel, as the case maybe, must submit to the TWDB for approval:
  - < A draft of the Bond Counsel's opinion stating that the unqualified opinion of the attorney is that that the interest on the obligations is excludable from gross income and that that the obligations are not "private activity bonds" and otherwise satisfies the requirements of the Code (if tax-exempt debt).
  - < A draft of the No-Arbitrage Certificate relating to this debt (if tax-exempt debt)
  - < A draft of the proposed bond ordinance or resolution that includes the Covenants Regarding Tax-Exemption (if tax-exempt debt) (**See TWDB Forms**) and all other covenants in accordance with the TWDB Resolution authorizing assistance to the Applicant
  - < A draft of the escrow agreement (if utilizing the Pre-design Funding Option).
  - < A draft of any municipal bond insurance or surety policy and commitment
  - < A draft of the No Litigation Certificate
  - < Any/All other documents in accordance with the TWDB Resolution authorizing assistance to the Applicant
- ◆ Provide evidence of an approved Water Conservation Plan and an adopted ordinance or resolution (2 copies of each, if the loan is for more than \$500,000.).
  - NOTE:** Recipients are required to report annually on the implementation and status of the required water conservation program for a minimum of three years after date of loan closing.
- ◆ Provide any remaining (not previously submitted) engineering contracts.

## PLANNING PHASE

- ◆ Provide any contracts by which the Applicant purchases, sells, or otherwise obtains or provides water or sewage services. Prior to executing new contracts, the Applicant should submit such contracts in draft form to the TWDB for approval.
- ◆ Provide a *Sufficiency of Funds Statement*. The *Sufficiency of Funds Statement* is a letter requesting loan closing, release of funds for bond issuance costs, and planning phase funds. It also states whether the Applicant has sufficient funds to construct the project. A current budget of costs and sources of funds should also be attached.
- ◆ Provide evidence of compliance with all loan closing requirements set forth in the Board's commitment resolution.

After the above information has been approved by the TWDB Staff, the Applicant's governing body must adopt the bond ordinance or resolution and forward a certified copy to the TWDB.

### ***Submittals at Closing:***

- ◆ Unqualified approving opinion of the Attorney General of Texas;
- ◆ Certification from the Comptroller of Public Accounts that such debt has been registered in that office; and
- ◆ IRS Form 8038 (if tax exempt debt)
- ◆ Final versions of the Legal and Fiscal Documents listed under **Closing-Prerequisites**.
- ◆ A completed form CWSRF Outlay Report, SRF-071. (See **TWDB Forms**, and guidance on Completion of CWSRF Outlay Report in this section.) Outlay reports must be accompanied by documentation supporting all project expenditures, other uses of bond proceeds, and related investment earnings derived from the sale of bonds to TWDB.

When all of the required forms have been submitted and approved the TWDB's audit and funds management staff will schedule a bond closing date and notify the Applicant or designated representative, typically the financial advisor.

## **TWDB SRF Outlay Reports**

The TWDB provides low-interest loan funds to each approved Applicant in advance of expenditures with the understanding that the Applicant will submit monthly outlay reports to the TWDB. It is imperative that TWDB receive a monthly outlay report of the Applicant's expenditures so we can apply for reimbursement of these funds from EPA.

The Applicant should submit to the TWDB form SRF-071, *SRF Outlay Report*, each month. (See **TWDB Forms**) Outlay reports must be accompanied by documentation supporting all project expenditures, other uses of bond proceeds, and related investment earnings derived from the sale of bonds to TWDB.

## PLANNING PHASE

### Engineering Feasibility Report (EFR)

The loan from the TWDB to the Applicant is based on the scope of work as outlined in the EFR. The EFR should include the information as outlined in form ED-002, *Guidelines for the Preparation of SRF/WQEL Engineering Feasibility Report* ED-002, (See **TWDB Guidance**) and be sent to the TWDB project reviewer. The EFR must be bound and sealed by a professional engineer registered in Texas. This report contains the design calculations and other information necessary to evaluate compliance with 30 TAC *Chapter 309 Domestic Wastewater Effluent Limitation and Plant Siting; Chapter 312 Sludge Use, Disposal and Transportation; and Chapter 317 Design Criteria for Sewerage Systems*.

### Environmental Assessment (EA)

The *Environmental Assessment* (EA) must contain the information described in *Guidelines for the Preparation of Environmental Assessments*, ED-001, (See **TWDB Guidance**) and be submitted to the TWDB's environmental reviewer.

**Note:** The EFR cannot be approved and no funds for design or construction can be released until the TWDB environmental review process for the CWSRF program has been completed.

### Permits

The Applicant or consulting engineer should apply early for all permits required for the project. If the Applicant or consulting engineer anticipate, or are advised, that permits may be required for the project, actions should be taken to secure such permits as soon as practicable prior to completion of plans and specifications and advertising for construction bids. Permits typically include the following:

- ◆ Railroad crossing permits. Both overhead and underground permits usually take a long time to secure.
- ◆ Highway crossings and right-of-way permits. If these are to be obtained by the contractor then the contract documents should address this.
- ◆ Corp of Engineers, Wetlands, and Section 404 permits. These permits may take a long time to obtain.
- ◆ Drainage/Flood permits.
- ◆ Removal or disturbance of sand, shell, gravel or marl from stream beds **Sand, Shell and Gravel Permits**.
- ◆ Permits and reviews required by local building and utility departments.
- ◆ Electric Permits. If required, make sure a new or upgraded power supply to the facility is provided in time to avoid delaying the contractor.
- ◆ Certificate of Convenience and Necessity, if required.

## PLANNING PHASE

- ◆ **Waste Discharge Permit.** If a wastewater discharge permit is required, the Consulting Engineer should submit an application to the Texas Commission on Environmental Quality (TCEQ). Contact the Permit Applications Unit in Watershed Management at 512-289-1000. This permit should be obtained before plans and specifications are submitted for review by the TWDB. A copy of the final permit should be sent to the TWDB project reviewer.

### **Land Acquisition, Buffer Zones, Right of Ways, and Easements**

Land and easements acquisition needs should be addressed early in the planning phase. Each site or land acquisition **must** meet all requirements of the Uniform Relocation and Real Property Acquisition Policies Act of 1970, PL 91-646 in order to be potentially eligible for CWSRF funding. The Applicant should submit to the TWDB project reviewer appropriate appraisals / appraisal reviews, proposed offers, executed contracts, deed recordation, site/survey boundary maps, etc. necessary to clear the acquisitions for loan funding. Subsequently, the Applicant should submit a *Site Certificate*, ED-101 (See **TWDB Forms**), or evidence of authority to acquire the site before advertising for bids.

#### ***Land Acquisition***

Land acquisition should be completed in advance of design or as soon as possible to avoid redesign of the project. Before committing to purchase land, the Applicant should perform an initial site assessment to verify that hazardous waste contamination of the site has not occurred. (See **TWDB Guidance: Guidelines for the Preparation of Environmental Assessments**, ED-001)

#### ***Buffer Zones***

TCEQ regulations require buffer zones around all new wastewater treatment plants and any new units of a renovated wastewater treatment plant. All buffer zone areas must be purchased, or a variance from the buffer zone requirement should be requested from the TCEQ with the permit application. Generally, either a deed-recorded restrictive easement or a plan for noise and odor abatement is required if a variance is requested from the buffer zone requirement. The deed-recorded easement or the plan for noise and odor abatement will be required before funds are released for construction. This issue should be addressed in the Engineering Feasibility Report. Further details may be requested by the TWDB project reviewer during the review of plans and specifications in the design phase.

#### ***Right of Ways***

Right of ways are often required for the installation of new wastewater lines.

#### ***Easements***

Easements are often required to allow for the long-term placement of, operation and maintenance of, and access to wastewater components and to carry out short-term or temporary construction activities. Easements should be addressed in the Preliminary Engineering Feasibility Report.

## DESIGN PHASE

The Design Phase consists of final modifications (if necessary) to the EFR, and preparation of the Plans and Specifications and the Final Engineering Design Report (FEDR). Acquisition of the sites and easements and issuance of all permits should also be completed by the end of the design phase.

### Release of Funds for Design

The following items must be submitted to and approved by the TWDB project reviewer prior to authorization for the release of funds from escrow:

- ◆ Engineering Feasibility Report.
- ◆ An approved environmental determination. (If the environmental determination was not issued and final determination made by the TWDB executive administrator prior to the TWDB's commitment, then TWDB board action must be taken to affirm the determination and finding prior to release of funds for design.)
- ◆ An executed engineering contract for design phase services.
- ◆ A description of force account work planned if any design work is to be done by the Applicant.
- ◆ A proposed budget for the design work if it differs from the project budget submitted previously for the loan commitment.
- ◆ A *Sufficiency of Funds Statement*.
- ◆ A proposed schedule for completion of the design work if it differs from the schedule completed for the loan commitment.

Depending on the project, obtaining applicable permits may be required before design funds are released.

After the above information is complete, the project reviewer will issue a memo to the TWDB's Audit & Funds Management office authorizing the release of funds for design. The actual release of funds is arranged by the TWDB's Audit & Funds Management office and the Applicant's Financial Advisor.

**Note:** Design work previously completed can be reimbursed as long as it is within the scope of the project approved in the loan commitment and meets environmental and engineering approvals.



## DESIGN PHASE

### Design Phase Submittals

The Applicant or consulting engineer should submit the following items to the TWDB project reviewer:

- ◆ The final wastewater discharge permit, if applicable (1 copy);
- ◆ The Site map showing buffer zones, if applicable (1 copy);
- ◆ The Purchase or lease agreements for land required for the project (1 copy);
- ◆ A complete set of **Plans and Specifications** (3 copies for initial review, 3 copies of final version for approval). (See Plans and Specifications later in this chapter for more information);
- ◆ The Geotechnical Report, if available (2 copies);
- ◆ **Final Engineering Design Report** [See Final Engineering Design Report later in this chapter for more information]; and
- ◆ A *Site Certificate*, ED-101 (**See TWDB Forms**) signed by the Applicant's representative. (1 copy).
- ◆ Corp of Engineers, **Wetlands, and Section 404 permits**. These permits may take a long time to obtain.
- ◆ Removal or disturbance of sand, shell, gravel or marl from stream beds **Sand, Shell and Gravel Permits**.

### Design Criteria

TCEQ design criteria should be followed in the design of all work affecting water quality standards in the state. The TWDB has been delegated the responsibility of performing the design criteria review previously performed by TCEQ for wastewater plants and collection systems. A requirement of this review is for the Applicant's Consulting Engineer to prepare and submit a *Final Engineering Design Report*, WRD-024, (**See TWDB Guidance**) and plans and specifications for review.

TCEQ rules most frequently applicable to wastewater project design include:

- , 30 TAC Chapter 210 Use of Reclaimed Water;
- , 30 TAC Chapter 213 Edwards Aquifer;
- , 30 TAC Chapter 309 Domestic Wastewater Effluent Limitation and Plant Siting;
- , 30 TAC Chapter 312 Sludge Use, Disposal and Transportation;
- , 30 TAC Chapter 332 Composting; and
- , 30 TAC Chapter 317 Design Criteria for Sewerage Systems

## DESIGN PHASE

### Final Engineering Design Report

This report contains the design calculations and other information necessary to evaluate compliance with TCEQ's *Chapter 317, Design Criteria for Sewerage Systems*. It is not necessary to repeat information that was previously presented in the *Engineering Feasibility Report* and has not changed since then. The additional design information must be bound and have the seal of a professional engineer who is licensed to practice in the state of Texas.

For additional guidance and examples of items required in the FEDR, a *Final Engineering Design Report Checklist*, WRD-024 is provided. (See **TWDB Guidance**).

**Note:** All engineering reports, plans and specifications will be compared to the *Engineering Feasibility Report* (EFR). Major changes, revisions, and amendments should be immediately brought to TWDB's attention. Amendments to the EFR may require revisions to the *Environmental Assessment*.

### Plans and Specifications

The Applicant should submit three (3) copies of the plans and specifications for initial review. Ultimately three (3) copies of the final plans and specifications will be needed for the TWDB approval. The plans and specifications must be bound and sealed by a professional engineer registered in Texas. All engineering reports and plans & specifications will be compared to the EFR. The Applicant should immediately bring to the attention of the TWDB project reviewer all major changes, revisions and amendments to the EFR reflected in the plans and specifications. These amendments to the EFR may require revisions to the Environmental Assessment (EA). Significant changes to the scope that occur after a loan commitment is made may require Board approval.

In addition to compliance with the *Design Criteria for Sewerage Systems*, the plans and specifications will be checked for completeness, consistency, biddability, and constructibility, and provisions for environmental concerns.

Plans and Specifications must include the following:

- ◆ *Supplemental Contract Conditions for CWSRF Tier II*, ED-004f (See **TWDB Forms**). This document is distributed to all Applicants and Consulting Engineers to assist the Applicant with complying with certain statutes and regulations which specifically relate to construction contracts receiving TWDB's loan programs (i.e. Emergency discovery conditions for archeological sites and endangered species). These conditions along with any necessary supersede provisions, should be incorporated into the other general and special conditions that are normally in the construction contract documents.
- ◆ *Contractor's Act of Assurance*, ED-103 (See **TWDB Forms**)
- ◆ *Contractor's Resolution on Authorized Representative*, ED-104 (See **TWDB Forms**)
- ◆ *Certification of Contractor Regarding Debarment*, SRF-404 (See **TWDB Forms**)
- ◆ Current Prevailing Wage Rates

## DESIGN PHASE

- ◆ TWDB-provided language for the Invitation to Bid (See **Bidding Phase**).
- ◆ Any special conditions resulting from the environmental assessment process.

Notes:

## BIDDING PHASE

Competitive bidding is a widely used method of obtaining and selecting contractors for construction projects. Typically, the use of competitive bidding is mandated by law or regulation. This mandate recognizes that competitive bidding provides value to the taxpayers and fairness in the placement of major sums of taxpayer-funded work.

### Legal Requirements

The Applicant and consulting engineer must comply with all applicable statutes. We recommend that you consult your legal counsel if you have any uncertainty regarding specific bidding laws.

### Invitation to Bid

The Invitation to Bid (or Instructions to Bidders) is typically a short document summarizing key information about the project. Its purpose is to attract bidders, announce the bidding schedule for the project, and give sufficient information for prospective bidders to determine whether they should obtain copies of the bidding documents.

On projects receiving TWDB financial assistance the following statements or equivalents must be included in the contract documents under the appropriate sections:

- ◆ This contract is contingent upon release of funds from the Texas Water Development Board.
- ◆ Any contract or contracts awarded under this Invitation for Bids are expected to be funded in part by a loan from the Texas Water Development Board. Neither the State of Texas nor any of its departments, agencies, or employees are or will be a party to this Invitation for Bids or any resulting contract.
- ◆ Equal Opportunity in Employment - All qualified Applicants will receive consideration for employment without regard to race, color, religion, sex, age, handicap or national origin. Bidders on this work will be required to comply with the President's Executive Order No. 11246, as amended by Executive Order 11375, and as supplemented in Department of Labor regulations 41 CFR Part 60.

### Advertising

Authorization from TWDB project reviewer should be obtained prior to advertising for bids. Before advertising, the Applicant or engineering consultant should have obtained the following:

- ◆ The TWDB approval of plans and specifications
- ◆ The Waste discharge permit from the TCEQ, if applicable
- ◆ The acquisition of all needed project sites certified to TWDB on *Site Certificate*; ED-101 (see **TWDB Forms**)

## BIDDING PHASE

- ◆ A resident inspection proposal clearance from TWDB including contract, inspector's name, relevant inspection experience, and organizational reporting structure. For more specific details refer to *Guidelines for Inspector Qualifications*, ED-005 (See **TWDB Guidance**)
- ◆ All other permits and authorizations required by federal, state and local agencies

The Applicant must give special consideration to the notice requirements of state law on competitive bidding. The following are two important provisions of that law.

- ◆ The notice should be published once a week for two consecutive weeks in a newspaper published in the municipality.
- ◆ The date of the first publication should be before the 14th day before the date set to open the bids; however, we recommend a longer advertising period of 30 days to allow contractors sufficient time to assemble their bid.

### Addenda

Addenda are written or graphic documents intended to clarify, revise, add to, or delete from the original documents. It is important that the bidding documents require bidders to acknowledge receipt of all addenda with their bids. The acknowledgment ensures that all bidders are bidding on the same effort.

Three (3) copies of the addenda should be submitted to TWDB concurrent with issuance to bidders. The TWDB project reviewer will review and approve addenda prior to authorization to award.

To ensure that all bidders are bidding on the same effort, addenda should be issued in an expeditious manner to all document holders of record. If addenda cannot be issued to bidders four days in advance of bid opening, a brief postponement of the bid opening may be justified.

### Prebid Conference

Prebid conferences are useful to familiarize prospective bidders with the site and scope of the work.

TWDB's field office staff should be notified concurrent with bidders of the time, date and place of the prebid conference. Procedures to follow at the prebid conference should be established ahead of time.

It is advisable that no oral statements be made at the conference that cannot be appropriately reduced to written form in subsequent addenda.

### Bid Opening

Procedures to follow at the bid opening should be established ahead of time and be coordinated with the Instructions to Bidders. The TWDB project reviewer should be notified concurrent with bidders of the time, date and place of the bid opening.

## BIDDING PHASE

### Bid and Bidder Evaluation

After the bids have been opened and tabulated, the Applicant and Consulting Engineer should evaluate the bids and bidders to make certain decisions with respect to award of the contract to the lowest, responsive, responsible bidder.

- ◆ Bidder evaluation is generally based on responsibility. Responsibility criteria typically consists of the following:
  - , Financial resources
  - , Experience, organization and equipment
  - , Ability to comply with required performance schedule, taking into account all existing commitments
  - , Satisfactory record of performance, integrity, judgement and skills
- ◆ Bid evaluation is generally based on responsiveness. Responsiveness is the conformity with all material conditions of the invitation. The underlying purpose for the insistence on responsive bids is that all bidders should stand on an equal footing, so that the integrity of the competitive bidding system may be maintained.

### Bidding Documents

The Applicant should submit the following information and documents as soon as possible after bid opening and before execution of the construction contract to the TWDB project reviewer:

- ◆ Tabulation of bids.
- ◆ Proposal of the lowest responsive responsible bidder with proof of Bid Bond or other Bid Security.
- ◆ Certified copy of advertisement for bids.
- ◆ Consulting engineer's recommendation to Applicant for award.
- ◆ Explanation for any rejected bids or otherwise disqualified bidders.
- ◆ TWDB form *Site Certificate*, ED-101, if not previously submitted. **(See TWDB Forms)**
- ◆ A resident inspection proposal including contract, inspector's name, relevant inspection experience, and organizational reporting structure, if not previously submitted.

## BIDDING PHASE

### Contingent Award

After receiving and reviewing the information identified as bid document submittals, the TWDB project reviewer will authorize the Applicant (by phone) to contingently award the construction contract.

### Contract Award Document Submittals

The Applicant should submit the following information and documents to the TWDB project reviewer as soon as possible after contract award and prior to TWDB sending the Applicant a letter concurring in the award of the contract and authorizing the issuance of the Notice to Proceed.

Submit one copy of fully executed and bound construction contract documents. The submitted documents should include,

- ◆ Specifications as approved by TWDB with executed bid proposal
- ◆ Executed Bid, Payment, Performance, and other Bonds with Power of Attorney
- ◆ Contingently executed Contract Agreement;
- ◆ Proof of Insurance Certificate;
- ◆ Executed *Contractor's Act of Assurance*, ED-103 (See TWDB Forms);
- ◆ Executed *Contractor's Resolution on Authorized Representative*, ED-104 (See TWDB Forms);
- ◆ Executed *Certification Regarding Debarment, Suspension and Other Responsibility Matters*, (EPA 5700-49), SRF-404 (See TWDB Forms);and
- ◆ SMWBE Documentation: Applicant's *Loan Grant Participation Summary*, SRF-373 if any change has occurred from what was submitted with the bid documents.

Submit a *Sufficiency of Funds Statement* (a letter) describing the revised/current budget and all sources and uses of funds.

Notes:

## CONSTRUCTION PHASE

It is in the best interest of the Applicant to ensure that all prerequisites are in place prior to initiating construction and that construction is performed in accordance with the approved contract documents. The goals are to avoid disputes over loan eligibility or contractor payments and to get the facility that the Applicant paid to have designed and constructed.

### Release of Funds for Construction

If the environmental determination was not issued and final determination not made by the TWDB Executive Administrator prior to the TWDB's commitment, then TWDB Board action must be taken to affirm the subsequent environmental determination and finding prior to the initiation of construction, and release of funds for construction.

Prior to initiation of construction, it is essential to receive TWDB clearance on the environmental documentation, bid documents and bound contingently executed construction contract documents, resident inspection proposal, *sufficiency of funds* letter, water rights certification (if applicable), permits, site certificate, and any other necessary items.

### Preconstruction Conference

A preconstruction conference should be conducted for each significant construction contract. TWDB field office staff should be invited and notified of the time, date, and place.

### Notice to Proceed

After approval of contingently executed contract documents, TWDB will authorize the issuance of a Notice to Proceed. The TWDB field representative and project reviewer should receive a copy of the notice.

### TWDB Access, Inspection, and Reports

Access to the project and any records related to it should be provided to TWDB personnel. The Applicant's bond resolution/ordinance or loan agreement is contingent on constructing the facility in accordance with the contract documents approved by the TWDB.

Inspections by the TWDB will usually be made monthly on a scheduled basis. Additional inspections may occur on an unscheduled basis. The primary purpose of our inspections is to keep the TWDB informed of the construction phase activities and progress of each contract.

Reports by TWDB staff will be made available to the Applicant and the Consulting Engineer. The report and inspections are not intended to relieve the Applicant of the responsibility to provide adequate on-site inspection and engineering review to determine acceptability of the work and compliance with the contract documents.



## CONSTRUCTION PHASE

### Applicant Inspection

The Applicant should provide adequate inspection of the project under the supervision of a professional engineer licensed to practice in the state of Texas and require the engineer's assurance that the work is being performed in a satisfactory manner in accordance with the plans and specifications.

- ◆ Provide adequate inspection of construction work by qualified inspectors. **(See TWDB Guidance)** for *Guidelines for Inspector Qualifications*, ED-005.
- ◆ Give consideration to the number and nature of contracts which will be active at the same time when planning the inspection schedule.
- ◆ Require a thorough daily log of activities. You should receive copies of the daily log to review construction progress and problems and to protect your interests should disputes arise. **(See TWDB Guidance)** *Inspector's Daily Report*, WRD-019.
- ◆ Make sure that all required testing is conducted, observed, and documented. Be familiar with the testing and payment provisions in the specifications. If possible, it is a good idea to withhold payment for all or a portion of a pay item until all testing has been completed and is acceptable. Testing is a protection of the Applicant's investment, and the cost is relatively small. Do not hesitate to test any item you question.
- ◆ Require the contractor to submit a schedule and update it as necessary. To avoid claims, accept, but don't approve, construction schedules, especially if they indicate completion prior to the approved contract completion date.
- ◆ Verify pay requests and invoices before making payment to the contractor.
- ◆ Verify contractor compliance with OSHA regulations for excavation safety. In addition, state law requires that the contract documents include safety provisions with excavation protection in accordance with OSHA standards as a unit price (\$/linear foot) pay item. As with any bid item, performance of work in accordance with the contract documents should be verified before payment. Reference *OSHA Safety and Health Standards (29 CFR 1926/1910)*.

## CONSTRUCTION PHASE

### Contractor Claims

Awareness, documentation & communication will aid in prevention & resolution of contractor claims. Loan money may not be eligible for increased costs due to claims.

#### ***Common causes of claims***

- ◆ Defects in the contract documents
- ◆ Differing site conditions
- ◆ Inadequate construction inspection or direction from multiple sources
- ◆ Failure to promptly and fairly address contractor claims, grievances, requests for time extensions, or other problems
- ◆ Warranty problems

#### ***Tips on prevention of contractor claims***

- ◆ Conduct or attend monthly meetings with the contractor and consulting engineer; and discuss any unresolved disputes, and document the discussions.
- ◆ Discuss the project with your consultant and review daily logs or monthly summaries of progress.
- ◆ Maintain fully documented records of all aspects of work, including pay requests, requests for change orders, disputes, inspector logs, test results and correspondence from the contractor and consulting engineer.
- ◆ Provide a timely response to contractor requests for direction, clarification and changes in work.
- ◆ Review specifications for arbitration requirements and be aware of what rights each party has in disputes. It is recommended that arbitration specifications state arbitration can be used only when both parties agree to its use.
- ◆ Review how the warranty is addressed in the specifications.
- ◆ If warranty provisions are not clear in the specifications, discuss them at the preconstruction conference and clarify them in writing at the beginning of the job. Agree whether to have a warranty start date for individual pieces of equipment for phased startup, or one warranty start date for the entire job.
- ◆ Put acceptance of the project or of each segment of the project in writing and address the warranty in that document.

## CONSTRUCTION PHASE

### Retainage

Generally a minimum of 5% retainage is required by law on all state-loan-funded projects.

- ◆ The amount, deposit and investment requirements for retainage are unique to each construction project. If there is any uncertainty regarding specific situations, the Applicant's legal counsel should be consulted.
- ◆ Retainage must not be released or reduced below 5% without the consent of the TWDB. A Certificate of Approval will be issued by TWDB after each contract is finalized and close out materials (see TWDB Closeout Submittals) have been provided to the TWDB project reviewer. This *Certificate of Approval* authorizes the Applicant to release the retainage to the contractor.

### Change Orders

The construction contract is between the Applicant and the Contractor, and any change orders signed by these two parties become part of that contract, regardless of TWDB funding eligibility or participation. However, the TWDB needs to review and approve all change orders to determine funding eligibility.

#### ***TWDB Review***

The TWDB reviews and approves change orders for the following:

- ◆ eligibility of funding;
- ◆ compliance with design criteria and water hygiene rules;
- ◆ environmental impact and possible need for amendment of original environmental finding;
- ◆ whether there is a change of project scope which requires action by the TWDB; and
- ◆ whether a proposed variance from design criteria or water hygiene rules requires action by TWDB or TCEQ.

#### ***Conditions that warrant a change order***

- ◆ changes in project scope
- ◆ changes in contract costs or amounts
- ◆ errors and omissions in the contract documents
- ◆ changes instituted by regulatory agencies
- ◆ changes in design
- ◆ factors affecting time of completion

## CONSTRUCTION PHASE

### ***Recommendations for handling and expediting change orders***

- ◆ Determine if a change is necessary.
- ◆ Document the reason for the change.
- ◆ Determine whether change is compatible with original environmental determinations
- ◆ Respond promptly to the contractor's requests for changes, or initiate your changes as soon as possible to avoid claims for delays.
- ◆ Obtain independent estimates of the cost of the change (plus or minus) at least from the contractor and the consulting engineer and negotiate a fair price. Keep records of the estimates and negotiations.
- ◆ Address time adjustments (or lack thereof) for each item of work.
- ◆ Inform TWDB field inspectors of potential changes.
- ◆ Call the TWDB project reviewer at any stage to obtain a preliminary determination of eligibility and availability of funds. However, final determination cannot be made until the signed change order and documentation have been received by the TWDB.
- ◆ Submit the change order (3 copies) with all supporting data to the TWDB's project reviewer for a TWDB eligibility determination, as soon as it has been enacted.

### ***Change Order Submittals***

Change orders submitted for review should address the following:

- ◆ Scope of change with identified adjustments to plans and specifications attached;
- ◆ Justification for the change;
- ◆ Effect the change has on cost of the project; and
- ◆ Effect the change has on the time schedule.

### **Project Records**

It is in the Applicant's interest to keep an organized system of documentation for the project. (See **TWDB Guidance *Project Files & Construction Records***, WRD-017.)

## CONSTRUCTION PHASE

### Operations

The following are staffing guidelines for your project:

- ◆ Hire and train operating personnel. The people who will run the facility should be available during the later stages of construction and start-up, and if possible, they should have some input into the *Operation and Maintenance Manual*. (O&M manual)
- ◆ Hire and train personnel for new facilities during the construction phase.
- ◆ Suggest that operating personnel should visit the project during construction. Caution them to give no direction to the Contractor. However, their comments and suggestions should be forwarded to the Consulting Engineer for consideration.
- ◆ Provide operator training prior to acceptance of the facility that includes review of the O&M manual and, if possible, on-site training by supplier's representatives during start-up.
- ◆ Staffing should be in accordance with the Operation and Maintenance manual.

### Operation & Maintenance (O&M) Manuals

Preparation of an O&M manual is an eligible use of SRF funds. TWDB staff will make an on-site cursory review of the Applicant's copy of the O&M Manual. We suggest that the final O&M manual should be submitted to the Applicant before construction is 85% complete so that the manual will be available during start-up. See **TWDB Guidance**, for *O&M Manual Recommendations*, ED-006.

## CONSTRUCTION PHASE

### TWDB Closeout Submittals

The following information and documents should be submitted to the TWDB project reviewer prior to TWDB issuance of a *Certificate of Approval* and authorization of release of final retainage:

- ◆ A copy of the contractor's final payment estimate and three (3) copies of any outstanding change orders not approved by TWDB to date;
- ◆ An affidavit by the contractor that all bills have been paid;
- ◆ A copy of the Notice of Completion, commencing the one year warranty period;
- ◆ The consulting engineer's certification to the Applicant that the project has been completed and that the work was constructed in accordance with the plans and specifications;
- ◆ The acceptance of the work under this contract by the Applicant in the form of a written resolution or other formal action; and
- ◆ The notification of the status of as-built record drawings for the Applicant.

### Post-Construction

The TWDB has an interest in the continuing performance of the facility for the life of the loan.

- ◆ TWDB representatives may make a visit to the facility during the one-year warranty period to review performance, operations, and maintenance of the facilities.
- ◆ If requested by the Applicant, TWDB will conduct First Year Operations Assistance visits to assist the Applicant in evaluating the facility.
- ◆ TWDB audit staff will monitor the Applicant's operations for the life of the loan to ensure compliance with the bond indenture.
- ◆ TWDB will monitor the implementation of the Applicant's water conservation plan. The water conservation plan required by the loan should remain in effect for the life of the loan. Recipients of financial assistance of greater than \$500,000 are required to report annually on the implementation and status of the required water conservation program for a minimum of three years after the date of loan closing.
- ◆ TWDB staff will monitor compliance with any special environmental mitigative measures, as appropriate.



## AUDIT PHASE

The TWDB audit staff is responsible for monitoring the Applicant's financial stability and compliance from the first receipt of funds until final bond interest payment. The Audit staff is available to come to the Applicant's location to assist in financial compliance matters. (See **TWDB Guidance** for *Finance-Related Legal and Contractual Requirements*, WRD-018.)

### Major Goal

The audit staff's goal is to provide the TWDB with reasonable assurances that all grant and loan recipients use their assistance funds in accordance with applicable laws, regulations, and contractual provisions.

### Loan Monitoring

The audit staff monitors loan activities, including annual financial stability reviews of every entity in the TWDB's portfolio. In addition, the audit staff makes monthly or quarterly stability reviews of selected borrowers and provides on-site assistance and monitoring visits.

### Project Monitoring

Project monitoring activities include financial compliance reviews, final accounting examinations, and the review and resolution of federal single audits.