

TEXAS WATER DEVELOPMENT BOARD

PROGRAM GUIDANCE MANUAL

Texas Water Development Fund

Water Supply and Water Quality Projects

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GENERAL INFORMATION

GENERAL INFORMATION

TWDB's Mission

Texas Water Development Board's mission is to provide leadership, technical services and financial assistance to support planning, conservation and responsible development of water for Texas. The Texas Water Development Fund (DFund) program is one of the programs administered for the State of Texas by the Texas Water Development Board in fulfillment of its mission.

Purpose

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 Texas Water Development Program rules, found in TWDB Chapter 363 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 State Loan Program

- ◆ finances purchase, construction of, and improvements to water and wastewater transport, treatment, distribution and collectin facilities
- ◆ offered to political subdivisions, and nonprofit water supply corporations
- ◆ readily available on a first-come-first-served basis.
- ◆ no administrative cost recovery fees
- ◆ the Pre-Design Funding option is available which allows the Applicant to apply for a funding commitment prior to completing the engineering feasibility studies and environmental assessments.

Preapplication Conference

Applicants are invited to setup a Preapplication Conference and apply for a loan. At the Preapplication Conference TWDB staff explain the application completion process and answer Applicant and consultant questions. To arrange a preapplication conference, contact the TWDB at (512) 463-2118.

Project Management Overview

Project Management increases the likelihood of successfully completing work efforts on time, within cost targets, with fewer claims and meeting 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, to manage all elements and to lead a team of specialists.

Successfully managing a project requires the balancing of eight essential elements:

- ◆ **Scope** - Define, perform and manage change in scope.
- ◆ **Quality** - Plan, control, improve and chart quality.
- ◆ **Cost** - Estimate, budget and control cost.
- ◆ **Procurement** - Plan and administer procurement.

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- ◆ **Time** - Plan, estimate, define and control time schedule.
- ◆ **Risk** - Identify, assess, develop solutions, and control risk.
- ◆ **Human Resources** - Define roles and responsibilities, organize and build the management team.
- ◆ **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.

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

TWDB personnel are assigned to a project prior to the Preapplication Conference.

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|---|
| TWDB Project Team |
| |
| Project Team Leader |
| Contact: |
| |
| Project Reviewer |
| Contact: |
| |
| Administrative Technician |
| Contact: |
| |
| Financial Analyst |
| Contact: |
| |
| Closing Coordinator |
| Contact: |
| |
| Environmental Reviewer |
| Contact: |
| |
| Attorney |
| Contact: |
| |
| Grant Administration & Special Reporting |
| Contact: |
| |
| Audit & Funds Management |
| Contact: |
| |
| Inspection & Field Support Services |
| Contact: |
| |

APPLICATION PHASE

APPLICATION PHASE

Early in the application development phase, the Applicant's representative should contact the TWDB staff (512-463-2118) to arrange for a Pre-Application Conference where the program and coordination needs can be explained. At this meeting the application components, include fiscal information, legal documents, assurances, eligibility documentation, and procurement documentation can be discussed in detail. The list of basic application content requirements (WRD-006) are in the Guidance Section of this manual.

Procurement of Professional Services and Construction

Professionals are usually hired to help with application development and implementation of the project. The Applicant must comply with requirements in the procurement for professional services. Professional services such as: Financial Advisors and Consulting Engineers must be procured by the Applicant in accordance with Title 10 Chapter 2254 of the Texas Government Code (Professional Services Procurement Act). The TWDB staff can provide example notices and model consultant contract provisions upon request.

Application Components

A complete application consists of these major parts:

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.)

For projects utilizing the Boards' Pre-design Funding (PDF) Option (31 TAC §363.16), some of the detailed engineering and environmental planning work are 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.

- ◆ 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.)
- ◆ The **Engineering Information** consists of an Engineering Feasibility Report or if qualifying and applying for the PDF option, a Preliminary Engineering Feasibility Report. The report must be sealed by a professional engineer. Five copies are to be submitted to TWDB. (See TWDB Guidance: *Preparation of SRF/WQEL Engineering Feasibility Reports ED-002*, and *Guidance on Preparing Engineering Feasibility Report for Water Supply Projects WRD-004* 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 **Water Project Data, WRD-253d**, and/or **Wastewater Project Information, WRD-253a** (See TWDB Forms) and submitted with the application. A Preliminary Engineering Feasibility Report includes at minimum:
 - a description of the problem and/or need;
 - a description and purpose of the project;
 - alternatives considered;
 - population and wastewater flow and/or water demand projections;

APPLICATION PHASE

- existing and proposed water supply sources and use amounts;
- area maps or drawings as necessary to fully locate the project area(s);
- a proposed work plan and project schedule;
- estimated project costs and budget including sources of funds; and
- a discussion of known permitting, social or environmental issues which may affect the alternatives considered and the implementation of the proposed project.

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.

Note: If qualifying for pre-design funding, then the executed contract for the planning phase service must be provided as a minimum.

- ◆ **Environmental information** is developed consistent with TWDB rules 31 TAC 363.14. 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. Following approval of the PDF Option, the applicant will prepare and coordinate an Environmental Assessment as the planning phase of the project is completed.

If not utilizing the pre-design funding option then the environmental information must include the appropriate documentation required by the agency rules in 363.14. 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.) Two copies must be submitted to TWDB. The environmental assessment process leads to an environmental finding which must be made by the TWDB's Executive Administrator prior to release of funds from escrow for design and construction of the proposed project. This finding will specify any environmental mitigation measures applicable to the design, construction and/or operation and maintenance of the proposed facilities.

- ◆ **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 any funds can be 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)** This applies to wastewater projects only. 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 604(b) of the Clean Water Act, which is administered by the Texas Commission on Environmental Quality (TCEQ). See TWDB Guidance; *DMA Resolution Example*, *WRD-210* for details and an example resolution.
- ◆ Additional information as may be required by the Executive Administrator.

APPLICATION PHASE

Application Submittal

The loan application should be submitted to the TWDB for review by the first day of the month preceding the month that the application will be considered by the Board. (This will be approximately six weeks prior to the date the TWDB's Board members will meet to decide on an Applicant's commitment.) 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>. Applicant representatives are welcome to attend the Board meeting at which the request for funding will be considered. However, attendance is not mandatory.

Commitment

Only the board members, by a majority quorum vote at properly posted board meetings, can commit state funds for projects. Normally, TWDB staff will make recommendations on board actions approximately two weeks prior to board meetings.

Post Commitment

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. The Board's commitment will be conditioned upon satisfaction of special and standard loan conditions. See TWDB Forms: ***Resolution Standard Conditions for Tax Exempt Loans, WRD-267***, and ***Resolution Standard Conditions for Taxable Loans, WRD-276*** for sample standard conditions.

If the Applicant is a corporation, we will also require an attorney's opinion letter regarding the legal validity and enforceability of the debt, if any, 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 Guidance; ***Financial Assistance Application Procedures, WRD-006***, and TWDB Forms for samples of these documents. They may need to be modified for individual projects.

Special Requirements for Non-Profit Water Supply (or Sewer Service) Corporations: See Closing Requirements in the PLANNING PHASE section.

Project Management Conference

The Texas Water Development Board strives to ensure that public funds are utilized to build quality projects. Managing a successful public water supply 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 may conduct a Project Management Conference (PMC) with the Applicant and Engineer soon after commitment.

PLANNING PHASE

PLANNING PHASE

The Planning Phase works includes loan closing, and finishing any engineering and environmental planning work not completed during the Application Phase. (IE The project is funded under the Pre-Design Funding Option may need to complete the Engineering Feasibility Report and Environmental Assessment.) The Planning Phase may also include initial work required to obtain the project site, easements, necessary permits and water rights.

Loan Closing, Release of Funds, and Escrow

After a loan commitment is obtained from the Texas Water Development Board, you will need to ensure that loan conditions met and that certain information is submitted to the TWDB Closing Coordinator (see TWDB Organizational and Key Personnel List in previous section.)

The Applicant's Financial Advisor provides the projected closing date with the debt service schedule that is prepared to support the application for financial assistance. If the planned loan closing date changes, then the Applicant's Financial Advisor should contact the TWDB Closing Coordinator as soon as possible with the new projected closing date. Otherwise the TWDB Closing Coordinator will contact the Applicant, if the closing is not initiated by the targeted date.

The loan closing occurs in two phases. The **Phase One** includes the submittal of evidence of compliance with board requirements and preparing draft documents that will support the closing. TWDB will review the Phase One information and resolve any issues with the Applicant that might arise.

The **Phase Two** includes local adoption of the bond ordinance or resolution, and the submittal of the finalized legal documents to TWDB. It is culminated with the actual closing (transfer of funds to the Applicant's bank account.) The Applicant, will submit all the Phase Two documentation to the TWDB Closing Coordinator unless advised otherwise.

Phase One Submission (one copy of each unless otherwise noted):

- ◆ **Evidence of compliance with all loan closing requirements** set forth in the Board's commitment resolution; all forms and documentation to satisfy the TWDB's evidence of compliance with all loan closing requirements set forth in the Board's commitment resolution;
- ◆ **If a Promissory Note** secures the loan, then an executed **Loan Agreement** with the TWDB must be provided. Also required is an attorney's opinion letter regarding the legal validity and enforceability of the debt incurred by the rural political subdivision and evidenced by its bond or promissory note and the related security instruments. See TWDB Forms for samples of these documents. Note that they may need to be modified for individual projects;
- ◆ Confirmation of the **date when the local adoption of the bond ordinance/resolution is to occur**. The Closing Coordinator should be notified between 45 and 30 days before the planned bond ordinance/resolution adoption date by the Applicant.
- ◆ **Legal and fiscal information** (See items below). Prior to adoption of the bond ordinance or resolution by the Applicant's governing body, the Applicant's bond counsel should submit the following items to the TWDB for approval: (See : ***Resolution Standard Conditions for Tax Exempt Loans, WRD-267***, and ***Resolution Standard Conditions for Taxable Loans, WRD-276***, TWDB Forms.)
 - A draft of the **Bond Counsel's legal opinion**;

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- A copy of the **No-Arbitrage Certificate** relating to this bond issue;
 - A copy of the **No-Litigation Certificate** relating to this bond issue (see *No-Litigation Certificate, WRD238*; TWDB Forms); and
 - A draft of the **proposed bond ordinance or resolution**;
- ◆ An approved **Water Conservation Plan** and adopting ordinance or resolution (two copies), if the loan is for more than \$500,000; NOTE: Recipients are required to report annually on the implementation and status of required water conservation program for a minimum of three years after date of loan closing;
 - ◆ Any remaining **executed engineering contracts and other services contracts** (three copies) which have not previously been submitted;
 - ◆ Any **contracts by which the Applicant purchases or sells water or sewage services**. Prior to executing new contracts, the Applicant should submit such contracts in draft form to the TWDB for approval;
 - ◆ **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 and states that the Applicant has "sufficient" funds to construct the project. A current budget of costs and sources of funds should also be included with the statement;
 - ◆ If applicable, **documentation pertinent to Design Phase Costs**. (See DESIGN PHASE - Release of Funds for Design);
 - ◆ If applicable, **documentation pertinent to Construction Phase Costs**. (See CONSTRUCTION PHASE - Release of Funds for Construction); and
 - ◆ Texas Application for Payee Identification Number form AP-152. (See: TWDB Forms); Federal Regulations require that the Applicant furnish the TWDB with both its Federal Tax ID number and bank wire-transfer instructions before any request for funds can be paid. To avoid delays in processing, the Applicant should send this information to its TWDB contact as soon as possible. The requirement for Federal Tax ID number is satisfied by a completed Texas Application for Payee Identification Number form AP-152 available from the Texas State Comptrollers web site at: <http://www.window.state.tx.us/taxinfo/taxforms/ap-152.pdf> . To change or correct information after an application for the payee identification number has been processed, complete Payee Change Request form 74-157 available at the Texas State Comptroller's web site at: <http://www.window.state.tx.us/taxinfo/taxforms/74-157.pdf> .

After the above information has been approved by the TWDB Regional Project Manager, the Applicant's governing body must adopt the bond ordinance or resolution, obtain Attorney General approval of the debt instruments, and submit Phase Two information to TWDB.

Phase Two Submission (one copy of each):

- ◆ A certified copy of the **bond ordinance or resolution**;
- ◆ A certified copy of the **Bond Counsel's Legal Opinion, No-Arbitrage Certificate, and No-Litigation Certificate**;
- ◆ **Unqualified approving opinion** of the Attorney General of Texas;

PLANNING PHASE

- ◆ **Certification from the Comptroller of Public Accounts** that such debt has been registered in its office; and,
- ◆ **IRS form 8038**, if Tax Exempt debt (see: TWDB Forms); (<http://www.irs.gov/formspubs/lists/0,,id=97817,00.html>)

After the Phase Two information is received, the Audit and Funds Management Staff will schedule a bond closing date and notify the Applicant or designated representative (typically the Financial Advisor). Typically, the closing is within a week of receiving the Phase Two information.

If the project is funded under the Pre-Design Funding Option, then the Planning Phase consists of preparation of the Engineering Feasibility Report (EFR), (If a preliminary EFR was submitted at Application), Environmental Information Document (EID), and initial work required to obtain the project site, easements and necessary permits. In the conventional loan option, these reports and work are accomplished prior to the application being acted upon by the Board.

Prior to final environmental determination and Engineering Feasibility Report approval, only financing and planning phase funds can be released at the closing. **The funds that are not released are placed in an escrow account** at the Applicant's chosen bank. Upon full environmental determination and Board action to affirm such determination, release of design and construction phase funds may be requested. After design approvals and executed contingent construction contract reviews are completed, reimbursement of construction phase costs may be requested.

Engineering Feasibility Report (EFR)

The loan from the TWDB to the Applicant is based on the scope of work as outlined in the EFR. If a water supply /distribution project is being proposed the EFR should include the information as outlined in ***Guidance on Preparing Engineering Feasibility Report for Water Supply Projects, WRD-004*** or (See TWDB Guidance), and be sent to the TWDB Project Reviewer. If a sewage collection/treatment project is being proposed the EFR should include the information outlined in ***Guidelines for the Preparation of SRF/WQEL Engineering Feasibility Report ED-002***.

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 Chapter 317 Design Criteria rules and Chapter 290 Water Hygiene Rules.

Environmental Assessment

Environmental information is developed consistent with TWDB rules 31 TAC 363.14. 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. Following approval of the PDF Option, the applicant will prepare and coordinate an Environmental Assessment as the planning phase of the project is completed.

If not utilizing the pre-design funding option then the environmental information must include the appropriate documentation required by the agency rules in 363.14. 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. Two copies must be submitted to TWDB. The environmental assessment process leads to an environmental finding which must be made by the TWDB's Executive Administrator prior to release of funds from escrow for design and construction of the proposed project. This finding will specify any

PLANNING PHASE

environmental mitigation measures applicable to the design, construction and/or operation and maintenance of the proposed facilities. Depending on the degree of potential for environmental impacts, the Applicant may elect to use one of the following three levels of review:

- ◆ **Categorical Exclusion** - This process is used for projects which involve no significant environmental impacts. Based on preliminary project information, (project description, maps and description of any known environmental problems), Board staff will provide notice to environmental regulatory agencies and exclude the project from further review. No additional submittals or coordination will be required of the Applicant.
- ◆ **Mid Level Review** - This process is used for projects that have potential significant environmental impacts which are limited in scope or are readily handled. Based on preliminary information, Board staff will provide notice to regulatory agencies which appear to be unaffected and either Board staff or the Applicant will coordinate with affected regulatory agencies. Additional information, as required by the affected agencies only, will be needed for this level of review. A comprehensive environmental assessment will not be required, unless issues cannot be resolved, or significant new issues are identified.
- ◆ **Full Review** - This process is used for projects with potential for extensive environmental impacts that are not readily avoided or mitigated or would involve a public controversy relating to environmental or social impacts. A comprehensive environmental assessment would be required. The Applicant coordinates with the affected regulatory agencies on the draft environmental assessment.

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:

- ◆ Water Quality Permits if applicable. If a wastewater discharge permit is required, the Applicant/Consultant should submit an application to the Texas Commission on Environmental Quality.
- ◆ 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/Waters of the United States (Clean Water Act Section 404) permits may take a long time to obtain;
- ◆ Drainage/Flood permits;
- ◆ Permits and reviews required by local building and utility departments;

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- ◆ Electric Permits. If required, make sure a new or upgraded power supply to the facility is provided in time to avoid delaying the contractor; and
- ◆ Certificate of Convenience and Necessity, if required.

Land, Easements, and Buffer Zones

Land, easements, right-of-way, and buffer zone acquisition needs should be addressed early in the planning phase. 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 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 (conforming to ASTM standard E1527-97 or later version) to verify that hazardous waste contamination of the site has not occurred. (See TWDB Guidance: ***Guidelines for the Preparation of Environmental Assessments, ED-001***)
- ◆ **Right-of-Way** - Easements are often required for the installation of new water and/or sewer lines.
- ◆ **Easements** - TCEQ regulations require Sanitary Control Easements around all new water wells. Generally, a deed-recorded restrictive easement for pollution abatement is required. This issue should be addressed in the Preliminary Engineering Feasibility Report. The deed-recorded easement should be submitted during the TWDB's design phase review of plans and specifications.
- ◆ **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 unless a variance from the buffer zone requirement may be requested and obtained from the TCEQ with the Applicant's 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 Plan, but can be resolved in the design phase. Further details may be requested by the TWDB project reviewer during the review of plans and specifications in the design phase.

Water Rights

Section 15.955 of the Texas Water Code requires that before the TWDB can deliver construction funds to an Applicant proposing water development, the Applicant must supply information from which the Executive Administrator can make a written finding that the Applicant will have sufficient water rights to appropriate and use water the project will provide.

Underground Water Rights

If utilizing ground-water well(s), the Applicant should submit to the TWDB Attorney the following information: (See TWDB Forms.)

PLANNING PHASE

- ◆ ***Groundwater Rights Questionnaire, WRD-208a*** - The Applicant should complete the Questionnaire.
- ◆ ***Groundwater Rights Affidavit, WRD-208b*** - An officer of a local title company should complete the Affidavit.

After review and approval of these two documents by the attorneys, the Executive Administrator will issue a certification that the Applicant will have sufficient water rights, if appropriate.

Surface Water Rights

If the project includes development of surface water, then the Applicant is to provide evidence to the TWDB Attorney that it has the necessary water rights to appropriate and use the water the project will provide, or that it has a supply contract with the water rights Holder for an adequate water supply over the life of the loan.

DESIGN PHASE**DESIGN PHASE**

The Design Phase consists of final modifications (if necessary) to the EFR, and preparation of the Plans & Specifications. 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 Phase Costs

See Loan Closing and Release of Funds in the Planning Phase Section for initial closing details. The following items must be submitted to the TWDB's Project Reviewer (or actions taken) prior to requesting release of funds for design costs.

- ◆ **Engineering Feasibility Report** (Approved by the TWDB);
- ◆ An approved **environmental determination**;
- ◆ 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 and 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; and
- ◆ Depending on the project, obtaining **applicable permits** may be required before design funds are released.

After the above information is processed, the TWDB will authorize the release of funds for design. The authorization will be by letter to the Applicant's bank holding the escrow funds

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 Submittals

The Applicant or Consulting Engineer should submit the following items to the TWDB Project Reviewer:

- ◆ Copy of the final wastewater discharge permit, if applicable (1 copy)
- ◆ Site map showing Sanitary Control Easements and Buffer zones, if applicable (1 copy);
- ◆ Purchase or lease agreements for land required for the project (1 copy);
- ◆ Complete Plans & Specifications (3 copies of draft for review, 4 copies of final version for approval). [More information found in succeeding paragraphs];
- ◆ Final Engineering Design Report, if applicable (1 copy)

DESIGN PHASE

- ◆ Geotechnical Report, if available (2 copies); and
- ◆ **Site Certificate, ED-101 (See TWDB Forms)**, signed by the Applicant's representative. (1 copy).
- ◆ If applicable, Section 404 or Section 10 permits from Corps of Engineers. (Apply as early as possible because these permits may take a long time to obtain);
- ◆ If applicable, removal or disturbance of sand, shell, gravel or marl from stream beds Sand, Shell and Gravel Permits from the Texas Parks and Wildlife Department; and
- ◆ If applicable, permits to alter state lands, including tidally influenced coastal areas, from the General Land Office.

Water Hygiene and Design Criteria Rules

Texas Commission on Environmental Quality (TCEQ) design criteria for sewerage systems, and water hygiene rules should be followed in the design of all work affecting drinking water and water quality standards in the state. The TWDB has statutory authority to perform the design criteria review on wastewater plants and collection systems. The TWDB has been delegated the responsibility of performing the Water Hygiene Rule review usually performed by TCEQ for distribution systems and coordinates the review of water treatment plants and wells with TCEQ. 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 & Specifications for review.

Applicable TCEQ regulations:

- ◆ 30 TAC Chapter 309 Domestic Effluent Wastewater Limitation and Plant Siting;
- ◆ 30 TAC Chapter 312 Sludge Use, Disposal and Transportation;
- ◆ 30 TAC Chapter 332 Composting,
- ◆ 30 TAC Chapter 317 Rules, Design Criteria (wastewater); and
- ◆ 30 TAC Chapter 290 Rules, Public Drinking Water

State Water Code

There are specific requirements for construction contracts found in the State Water Code. They address, retainage, inspection, changes to plans and specifications, and project completion issues. The plans and specification must be consistent with these statutes, See ***Excerpts from the Texas Water Code, WRD-021*** (TWDB Guidance) for the specific requirements.

Final Engineering Design Report (FEDR)

This report contains the design calculations and other information necessary on wastewater projects 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.

DESIGN PHASE

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. Major changes, revisions, and amendments should be immediately brought to TWDB's attention. Amendments to the EFR may require revisions to the Environmental Assessment or other environmental documentation submitted for the project.

Plans and Specifications

The Applicant should submit three (3) copies of the plans and specifications for initial review. Ultimately four (4) 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 Engineering Feasibility Report (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. Significant changes to the project scope that occur after a loan commitment is made may require Board approval.

In addition to compliance with the TCEQ's Rules, the plans and specifications will be checked for completeness, consistency, biddability and constructability.

Plans and Specifications should include the following:

- *Supplemental Contract Conditions, ED-004G* (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 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);
- Current local prevailing Wage Rates;
- TWDB-provided language for the Invitation to Bid (See Bidding Phase); and
- Any special conditions resulting from the environmental assessment process.

BIDDING PHASE**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 Vernon's Local Government Code on Competitive Bidding Requirements, Chapter 252, Subchapter B, Chapter 49 of the Water Code (water districts), or other applicable statutes. We recommend that you consult your legal counsel if you have any uncertainty regarding specific bidding laws. Water Supply Corporations are generally expected to competitively bid construction work in the same manner as municipalities.

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 should 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

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

BIDDING PHASE

Before advertising, the Applicant or Engineering Consultant should have obtained the following:

- ◆ TWDB approval of Plans & Specifications;
- ◆ Waste discharge permits from the Texas Commission on Environmental Quality, if applicable;
- ◆ Acquisition of all needed project sites certified to TWDB on *Site Certificate; ED-101* (see TWDB Forms);
- ◆ 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).
- ◆ Water Rights permits from TCEQ, if required; and
- ◆ All other permits and authorizations required by federal, state & local agencies.

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 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 4 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 on projects.

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. Any special provisions in the plans and specifications should be covered in detail.

Bid Opening and Bidder Evaluation

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.

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 low, responsive, responsible bidder.

BIDDING PHASE

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; and
- ◆ Satisfactory record of performance, integrity, judgment 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.

Bid Documents

Bid Documents Submittals - The TWDB Project Reviewer should receive the following information and documents as soon as possible after bid opening and before execution of the construction contract.

- ◆ 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*, or evidence of authority to acquire the site, 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 (See: *Guideline for Inspector Qualifications, ED-5*; TWDB Guidance); and
- ◆ *Groundwater Right Questionnaire and Affidavit, WRD-208a and WRD-208b*, if not already submitted. (See TWDB Forms).

Contingent Award and Execution of Contract

After receiving and reviewing the information identified as bid document submittals, the TWDB Project Reviewer/Engineer will authorize the Applicant (by phone followed by a letter) to contingently award the construction contract. The Applicant and consulting engineer will then execute the contract with the construction contractor, but not issue a notice to proceed before getting TWDB authorization. See TWDB Guidance for *Checklist on Bid Documents and Executed Contract Documents, ED-250*.

BIDDING PHASE

Contract Award Document Submittals - The TWDB Project Reviewer should receive the following information and documents as soon as possible after contract award and prior to sending the Applicant a letter concurring in the award of the contract and authorizing the issuance of the Notice to Proceed.

Fully executed and bound construction contract documents copy (1), including but not limited to the following:

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

CONSTRUCTION PHASE**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

The TWDB will authorize the release of funds from escrow if the loan has already closed. See PLANNING PHASE – Loan Closing and Release of Funds for Planning section for additional details on the initial loan closing procedures.

Prior to initiation of construction it is essential to receive TWDB clearance on bid documents and bound contingently executed construction contract documents, resident inspection proposal, sufficiency of funds letter, water rights certification, 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 and the TWDB Field Representative and Project Reviewer should receive a copy of the notice.

TWDB Access and Inspection

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 - The TWDB will make monthly scheduled and unscheduled inspections. The primary purpose of our inspections is to keep the TWDB informed of the construction phase activities and progress of each contract.
- ◆ Reports - TWDB inspection reports 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.

Applicant Inspection

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

CONSTRUCTION PHASE

- ◆ Adequate inspection of construction work should be provided by qualified inspectors. See TWDB Guidance: *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. The Applicant 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 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).

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 and/or direction from multiple sources.
- ◆ Failure to promptly and fairly address contractor claims, grievances, requests for time extensions, or other problems.
- ◆ Warranty issues.

Tips on claims prevention:

- ◆ Conduct or attend monthly meetings with the contractor and Consulting Engineer; discuss any unresolved disputes and document the discussions.

CONSTRUCTION PHASE

- ◆ 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.
- ◆ 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 to a warranty start date for individual pieces of equipment for phased startup, or 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.

Retainage

Generally a minimum of 5% retainage is required by law on all state-loan-funded projects. Some districts have other unique requirements.

- ◆ 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 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. The TWDB needs to review and approve all change orders.

The TWDB reviews and approves change orders for the following:

- ◆ Eligibility of funding;
- ◆ Compliance with Water Hygiene Rules and Design Criteria; and
- ◆ Environmental Determination.
- ◆ A change order resulting in a change of scope of the project may require action by the TWDB.

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- ◆ A change order requiring an exception from Chapter 290, Water Hygiene Rules, may require action by TCEQ.

The following are conditions that may 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;
- ◆ Design changes; and
- ◆ Factors affecting time of completion.

The following are recommendations on handling and expediting change orders:

- ◆ Determine if a change is necessary.
- ◆ Document the reason for the change.
- ◆ 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.

TWDB assistance -- The TWDB field inspector will track change orders at each inspection and should be informed 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 Review Engineer for a TWDB eligibility determination, as soon as it has been enacted. Send one approved copy to the TWDB Field Representative.

Form of Submittal -- The TWDB will review fully executed change orders. Change orders should address the following:

- ◆ Scope of change with identified adjustments to plans and specifications;
- ◆ Justification for the change;

CONSTRUCTION PHASE

- ◆ 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. For examples see TWDB Guidance: *Project Files & Construction Records, WRD-017, Construction Fund Project Ledger Form, WRD-230, Property Log Form, WRD-227, and Property Card Form, WRD-228.*

Operations

The following are staffing guidelines for your project:

- ◆ Hire and train operating personnel during the construction phase.
- ◆ Operating personnel should visit the project during construction, but should be cautioned to **not** give direction to the Contractor. However, their comments and suggestions should be forwarded to the Consulting Engineer for consideration.
- ◆ Training prior to acceptance of the facility should include 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 encouraged and is an eligible use of TWDB funds. The TWDB staff will make a cursory review of any manual prepared in order to assist the Applicant in receiving a quality O&M manual.

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;
- ◆ Notice of Completion, commencing the one year warranty period;
- ◆ 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;
- ◆ Acceptance of the work under this contract by the Applicant in the form of a written resolution or other formal action; and

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- ◆ Notification of the status of As-built or 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 assist the Applicant in reviewing performance, operations and maintenance.
- ◆ If requested by the Applicant, TWDB will conduct First Year Operations Assistance visits to assist the Applicant in evaluating the facility.
- ◆ TWDB's Audit Staff will monitor the Applicant for the life of the loan to ensure compliance with the bond indenture.
- ◆ The TWDB will monitor the implementation of its water conservation plan. Accordingly 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.

Appendix R

AUDIT PHASE

The Audit Staff of TWDB 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.*)

Audit Goal

The Audit staffs 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.