

**PLANS, SPECIFICATIONS & CONTRACT DOCUMENTS
GUIDANCE FOR THE DESIGN OF
DWSIRLF FUNDED DRINKING WATER FACILITIES**

Owner: _____

Project Number: DWI-H280 _____

Design Engineer (Miss. P.E. required): _____

Project Manager: _____

Description

Approval Date

Contract 1 _____

Contract 2 _____

Contract 3 _____

REVIEWED/COMMENTS

Project Manager/Date

Engineering Coordinator/Date

APPROVAL

Project Manager/Date

Engineering Coordinator/Date

GENERAL

10. INTRODUCTION AND APPLICABILITY

This document, Guidance for the Design of DWSIRLF Funded Drinking Water Facilities (“Guidance”) should be used as a guide in the design and preparation of plans and specifications for DWSIRLF funded publicly owned drinking water facilities projects, insofar as this guidance is applicable to normal situations for an individual project. Plans, specifications, and contract documents should conform to the applicable items in the Guidance.

The technical review of DWSIRLF projects will be performed herein but by MSDH/DWSRF personnel. All DWSIRLF designs shall also conform to the technical requirements of the MSDH/BPWS, which are contained in their Recommended Minimum Design Criteria For Community Public Water Supplies (“Criteria”), or its successor.

It should be recognized that simply complying with the items above does not ensure that a design is correct, or even adequate, but only minimally acceptable to the Department. High quality projects will routinely exceed the minimum standards stipulated herein, and such quality will likely be reflected in the performance, value and satisfaction obtained from such a design. Further, the Department neither warrants nor assumes any responsibility for any design of any project governed by this Guidance. It is the owner’s and/or design engineer’s responsibility to ensure that such project designs and specifications are correct and adequate. Should anything contained herein appear to conflict with good design practice, such instance should be brought to the Department’s attention immediately for resolution.

Plans, specifications and contract documents that vary from this guidance may be submitted and approved (as specified by applicable regulations) when properly justified by the consulting engineer and/or supported by reference to standard industry texts, EPA publications, or other appropriate publications. Although the words “shall” and “must” are used extensively, they are to be interpreted in the context of this Guidance.

It is recognized that this Guidance does not completely address every conceivable situation concerning the design, inspection, testing, or contracting of publicly owned drinking water facilities construction. Therefore, when any issue arises which is not explicitly covered by the Guidance, the Department may require additional documentation or justification of the reasonableness or adequacy of the plans, specifications and contract documents. The Department may withhold completion of review or approval until such documentation, justification, or document changes are submitted and determined acceptable.

Any revisions, changes, addenda, etc. to reviewed and/or approved plans or specifications shall also be made in accordance with this section. Such revisions shall be submitted to the Department for review and approval. If such is by change order, see the Department’s guidance and checklist for change order review, in addition to this document. Record drawings clearly showing such alterations shall be submitted to the Department at the completion of the work.

11. GENERAL CONTRACT DOCUMENTS

___ Check to see that all items required in "Required Contract Document Provisions" (HDWI75) are included.

___ Check to see that the required "Supplemental General Conditions" (HDWI77) are included.

11.1 Biddability and Constructability

- ___ a. All bid items shall be covered by an appropriate measurement and payment paragraph and vice versa.
- ___ b. Divide total requirements, when economically feasible, into small tasks or quantities to permit maximum participation of minority and women's businesses.
- ___ c. Quantities shown on the plans shall agree with those listed on the bid form.
- ___ d. All requirements shall be clear and concise.
- ___ e. All work shall require methods and materials which, insofar as practical, appear to be cost effective, logical, and reasonably accomplishable by a competent contractor.
- ___ f. There shall be no conflicts or confusion between the plans and the specifications or any sections thereof.

11.2 DWSIRLF Eligibility

___ Are all bid items eligible in accordance with Appendix A of the DWSIRLF Regulations?

___ If not, are they clearly separated and labeled as ineligible?

11.3 Comparison of Facilities Plan to Plans and Specifications

The quantities in the plans and specifications must generally agree with the facilities plan.

Facilities Plan

Plans and Specifications

Water Lines

<u>Size, in.</u>	<u>Length, ft.</u>	<u>Size, in.</u>	<u>Length, ft.</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Booster Stations and Wells

Yes NO NA

(If applicable fill out Chapter 70 of NPELF40)

- e. Has an NPDES or state operating permit been issued?

Yes No NA

(If applicable, fill out the appropriate chapter of PESRF40 regarding treatment)

The permit must be issued prior to approval of P/S/CD for treatment facilities.

- f. Will the project affect a designated flood plain?

Yes No

If so will E.O. 11988/12148 be followed (mitigation of effect of the project on the Floodplain, FEMA comments)?

Yes No N/A

12. PLANS

12.1 General

- ___ Complete plans of existing and proposed facilities shall be submitted for projects. All plans shall bear a suitable title showing the name of the owner, whether a municipality, district, association, or institution. They shall show the scale in feet, a graphical scale, the north point, and date. The plans shall be signed, sealed, and dated by the Mississippi Registered Professional Engineer responsible for their development in a manner consistent with the requirements of the State Board of Registration for Professional Engineers and Land Surveyors, as they apply generally to the practice of engineering. Nothing herein is to be construed as allowing any such work to be performed other than by or under the direct supervision of a Registered Mississippi Professional Engineer.
- ___ The plans shall be of professional quality, clear and legible (suitable for microfilming). They shall be drawn to a scale that will permit all necessary information to be plainly shown. At least one set of full-size plans (24 inches x 36 inches) shall be submitted. Generally, the size of the plans should not be larger than 30 inches x 42 inches. Datum used should be indicated. Locations and data of test borings and wells, when made, shall be shown on the plans.
- ___ Detail plans shall consist of: plan views, elevations, sections and supplementary views which, together with the specifications and general layouts, provide the working information for the contract and construction of the facilities. They shall also include: dimensions and relative elevations of structures, the location and outline form of equipment, location and size of piping, water levels, and ground elevations.

12.2 Location Plan

The plans shall show the following:

- ___ a. Any municipal, district, association, etc., service area boundaries.
- ___ b. The location of the facilities and connecting water mains.
- ___ c. Size, location, dimensions, and elevations of all existing and proposed plant facilities.
- ___ d. The plans for drinking water treatment facilities that include unit processes that require a wastewater permit shall include a drawing which shows adjacent zoning, the surrounding property lines and that the required 150 foot buffer zone will exist for facilities with wastewater permits. The buffer zone is not required where the adjoining property, dwelling, or commercial establishment is zoned or used for commercial or industrial use, or for collectors, interceptors, or pump stations, or where written waivers from affected property owners are submitted *and a variance is granted by the Permit Board*.

13. SPECIFICATIONS

- ___ Complete technical specifications for the construction of water lines, storage tanks, water wells, booster stations, treatment facilities, and all other appurtenances, shall accompany the plans.
- ___ The specifications shall be signed, sealed, and dated by the Mississippi Registered Professional Engineer responsible for their development in a manner consistent with the requirements of the State Board of Registration for Professional Engineers and Land Surveyors, as they apply generally to the practice of engineering. Nothing herein is to be construed as allowing any such work to be performed other than by or under the direct supervision of a Mississippi Registered Professional Engineer.
- ___ The specifications accompanying construction drawings shall include, but not be limited to, all construction information not shown on the drawings which is necessary to inform the builder in detail of the design requirements for the quality of materials, workmanship and fabrication of the project.

14. Storm Water Permitting Requirements

Has the Loan Recipient been notified of the Storm Water permitting requirements as outlined below?
() Yes () No () NA

- a. Construction activities where less than one (1) acre of land is disturbed. **(No Permit Required)**
- b. Construction activities where more than one (1) acre but less than (5) acres of land is disturbed. **A “Small Construction General Permit” is required.** The project manager sends the loan recipient a copy of: (a) Small Construction Storm Water General Permit (which includes the notice of intent (NOI)); and, (b) Construction Guidance Manual (for the storm water pollution prevention plan (SWPPP)).

() Yes () No

All of these items are also available to the Loan Recipient for download on the MDEQ website www.deq.state.ms.us. Click “permits” in the left column, then click “storm water permits”, then scroll to the bottom of page for the two forms listed above.

NOTE: None of the above listed items for small construction general permits need be submitted to MDEQ unless specifically requested.

- c. Construction activities where (5) acres or more of land is disturbed. **A “Large Construction General Permit” is required.** The project manager sends the loan recipient a copy of: (a) Large Construction Storm Water General Permit; (b) Large Construction Storm Water NOI; and, (c) Construction Guidance Manual (for the storm water pollution prevention plan (SWPPP)).

() Yes () No

All of these items are also available to the Loan Recipient for download on the MDEQ website www.deq.state.ms.us. Click “permits” in the left column, then click “storm water permits”, then scroll to the bottom of page for the three forms listed above.

NOTE: All the above listed items are required to be submitted to the Environmental Permitting Division (EPD) at MDEQ. Coverage will be granted under the large construction general permit once these submittals are determined acceptable by MDEQ Environmental Permitting Division.

- d. Wastewater treatment facilities designed to treat 1.0 MGD or more also require a “Storm Water Operating Permit”. Project Manger should inform loan recipient of this requirement and refer them to Rickey Terry with MDEQ Environmental Permitting Division.

() Yes () No