



# Wastewater ENGINEERING

Construction Permitting Manual for Facilities with a Design Flow of 22,500 gpd or Greater

Missouri Department of Natural Resources  
Water Protection Program

May 2012



**MISSOURI**  
DEPARTMENT OF  
NATURAL RESOURCES



# Table of Contents

<b>1</b>	<i>Introduction</i>	<i>1</i>
<b>2</b>	<i>Financing</i>	<i>3</i>
<b>3</b>	<i>Overview Outline</i>	<i>5</i>
	3.1 Non-Funded Projects . . . . .	5
	3.2 Funded Projects . . . . .	6
<b>4</b>	<i>Antidegradation And Operating Permits</i>	<i>9</i>
	4.1 Antidegradation . . . . .	9
	4.1.1 Degradation Projects . . . . .	9
	4.1.2 No Degradation Projects . . . . .	10
	4.1.3 Applicability Determination . . . . .	10
	4.2 Missouri State Operating Permit. . . . .	10
	4.2.1 Public Notice . . . . .	10
	4.2.2 Issuance . . . . .	10
<b>5</b>	<i>Engineering Reports and Facility Plans</i>	<i>13</i>
	5.1 All Projects . . . . .	13
	5.1.1 Communication with Applicants . . . . .	13
	5.1.2 Enforcement Cases. . . . .	14
	5.1.3 Geohydrologic Evaluations . . . . .	14
	5.1.4 Applications with Unapproved Engineering Reports or Facility Plans	14
	5.2 Non-Funded Projects. . . . .	15
	5.2.1 Engineering Reports . . . . .	15
	5.2.2 Facility Plans . . . . .	15
	5.3 Funded Projects . . . . .	16
	5.3.1 Communication with Regional Offices . . . . .	16
	5.3.2 Site Survey . . . . .	17
	5.3.3 Public Participation . . . . .	17
	5.3.4 Environmental Determination . . . . .	19
	5.3.5 Approvals. . . . .	19

---

<b>6</b>	<i>Construction Permit Exemptions</i>	21
6.1	General Exemptions . . . . .	21
6.1.1	Service Connections . . . . .	22
6.1.2	Internal Plumbing or Piping . . . . .	22
6.1.3	Routine Maintenance . . . . .	22
6.1.4	Single Family Residences . . . . .	22
6.1.5	Pilot Projects . . . . .	23
6.2	<i>De minimis</i> Exemptions. . . . .	23
6.3	Non-Discharging Exemptions . . . . .	24
6.3.1	3,000 gpd or Less No-Discharge . . . . .	24
6.3.2	Single Family Residences No-Discharge . . . . .	25
6.3.3	Internal Plumbing or Piping . . . . .	26
6.3.4	Pilot Projects . . . . .	26
6.3.5	Pump and Haul Systems . . . . .	26

---

<b>7</b>	<i>Construction Permits</i>	29
7.1	Construction Permit Application. . . . .	29
7.1.1	Applications with Unapproved Engineering Reports or Facility Plans	29
7.1.2	Application Forms . . . . .	29
7.1.3	Continuing Authority . . . . .	31
7.1.4	Public Service Commission Regulated Entities . . . . .	32
7.1.5	Property Owners Associations. . . . .	32
7.1.6	Completeness Check . . . . .	33
7.2	Construction Permit Development. . . . .	34
7.2.1	Communication with Applicants . . . . .	34
7.2.2	Statutory Deadlines . . . . .	34
7.2.3	Missouri Clean Water Information System Application Tracking . . . . .	35
7.2.4	Missouri Clean Water Information System Statutory Clock . . . . .	35
7.2.5	Technical Review Comments . . . . .	36
7.2.6	Supervisory Engineer . . . . .	36
7.2.7	Construction Permit Transfers. . . . .	36
7.2.8	Construction Permit Withdrawal . . . . .	37
7.2.9	Construction Permit Denial . . . . .	37

7.3	Construction Permit Issuance . . . . .	37
7.3.1	Construction Permits Timeline . . . . .	37
7.3.2	Construction Permit Extension . . . . .	38
7.4	Construction Completion . . . . .	38
7.4.1	Letter of Authorization . . . . .	38
7.4.2	Substantial Completion and Operable . . . . .	38
7.4.3	Statement of Work Completed . . . . .	39
7.4.4	As Builts . . . . .	39
7.5	Construction Permit Appeals . . . . .	39
<hr/>		
<b>8</b>	<i>Plans and Specifications</i> . . . . .	41
8.1	All Projects . . . . .	41
8.1.1	Summary of Design . . . . .	41
8.1.2	Review of Plans and Specifications . . . . .	41
8.1.3	Revised Plans and Specifications . . . . .	41
8.2	Non-Funded Projects. . . . .	41
8.3	Funded Projects . . . . .	42
8.3.1	Sole Source . . . . .	42
8.3.2	Assurance Items/Front End Documents . . . . .	42
8.3.3	Final Plans and Specifications Submittal . . . . .	42
<hr/>		
<b>9</b>	<i>Addenda and Change Orders</i> . . . . .	43
9.1	All Projects . . . . .	43
9.1.1	Addendum . . . . .	43
9.1.2	Change Order . . . . .	43
9.2	Non-Funded Projects. . . . .	44
9.3	Funded Projects . . . . .	44

---

<b>10</b>	<i>Construction Inspections</i>	47
10.1	Non-Funded Projects . . . . .	47
10.1.1	Final Construction Inspections . . . . .	47
10.1.2	Missouri Clean Water Information System Inspection Tracking. . . . .	47
10.2	Funded Projects . . . . .	48
10.2.1	Site Surveys . . . . .	48
10.2.2	Pre-Construction Conference . . . . .	48
10.2.3	Quarterly or Interim Inspections . . . . .	48
10.2.4	Final Construction Inspections . . . . .	49
10.2.5	State Revolving Fund System Inspection Tracking . . . . .	50
10.2.6	Missouri Clean Water Information System Inspection Tracking. . . . .	51
<b>11</b>	<i>Gravity Sewers</i>	53
11.1	All Projects . . . . .	53
11.1.1	Review Guidance . . . . .	53
11.1.2	Repairs and Maintenance . . . . .	53
11.1.3	Leakage Testing . . . . .	54
11.1.4	Receiving Treatment Facility Capacity. . . . .	54
11.1.5	Sewer Extension Review Time Goal. . . . .	55
11.1.6	Construction Permit Template . . . . .	55
11.2	Approved Sewer Programs . . . . .	55
11.2.2	Entities with Approved Sewer Programs . . . . .	56
11.2.3	Funded Projects . . . . .	56
<b>12</b>	<i>References</i>	57

---

*Topics to be addressed at a later date.*

- Pumping Stations
- Alternative Sewer Systems
- New Wastewater Technology
- Wastewater Treatment Facilities
- Screening, Grit Removal and Flow Equalization
- Settling
- Sludge Processing, Storage and Disposal
- Biological Treatment
- Disinfection
- Supplemental Treatment Processes

# 1 Introduction

Issuing wastewater system construction permits is the responsibility of the Missouri Department of Natural Resources. This construction permit manual specifically addresses wastewater system construction permits for facilities with a design average flow greater than or equal to 22,500 gallons per day, or gpd.

Recently, the department has undertaken the goal to update and amend the Chapter 8 Design Guides, available at [www.sos.mo.gov/adrules/csr/current/10csr/10c20-8.pdf](http://www.sos.mo.gov/adrules/csr/current/10csr/10c20-8.pdf). Many of these rules have not been updated since the 1970s. The proposed changes to 10 CSR 20-8.110 through 10 CSR 20-8.210 will be based on the 2004 version of the *Recommended Standards for Wastewater Facilities*, which can be found on the web at <http://10statesstandards.com/wastewaterstandards.html>. The *Recommended Standards for Wastewater Facilities*, also known as the 10 States Standards, was developed by the Wastewater Committee of the Great Lakes-Upper Mississippi River Board of State and Provincial Public Health and Environmental Managers. The 10 States Standards are considered national standards and are used throughout the United States and Canada. Missouri is an original member of this committee and continues to actively participate today.

Prior to this rulemaking goal, small wastewater facilities were defined as having a design flow less than 22,500 gpd and large wastewater facilities were defined as having a design flow of 22,500 gpd or greater. However, the 10 States Standards are based on facilities with a design flow of 100,000 gpd or greater. The department decided to write each rule, starting with 10 CSR 20-8.110, with an applicability statement. This statement says the rule applies to all facilities with a design flow of 22,500 gpd or greater until 10 CSR 20-8.020 can be amended. After 10 CSR 20-8.020 is amended, each large wastewater design rule shall apply to facilities with a design flow of 100,000 gpd or greater.

As time permits and as the regulations are amended, this construction permit manual will be revised to include those updates. This is considered a living document and interested parties should check for new additions periodically.

The construction permit manual is a tool designed to guide review engineers through the process of wastewater system construction project review. The department strives to maintain a consistent technical review process for all engineering reports, facility plans and plans and specifications. This manual is available to the public with the intention of providing insight into the process and methods used by the department.

Letter templates for use by review engineers are addressed but not included in this construction permit manual. These templates are only available on a department internal network drive, due to change of personnel and possible language revisions.

A separate Appendix for the construction permit manual contains the checklists and memos referenced throughout this manual.

The fact sheets discussed in this construction permit manual are located on the department's Publication, Manuals, Video and Other Media webpage at [www.dnr.mo.gov/pubs/index.html](http://www.dnr.mo.gov/pubs/index.html).

The hyperlinks in this document are current at the time of this posting. Contact the Water Protection Program at 573-751-1300 to report and broken links. For questions regarding the wastewater system construction permit review process, contact the department at 1-800-361-4827 or visit the Wastewater Construction Permitting webpage at [www.dnr.mo.gov/env/wpp/permits/ww-construction-permitting.htm](http://www.dnr.mo.gov/env/wpp/permits/ww-construction-permitting.htm) for more information.

# 2 Financing

Many unsewered areas are unsure of how to achieve sewers in their community and locate financing. The department has developed several fact sheets to help these communities get started.

- ◆ *You Need Sewers in Your Community*, [www.dnr.mo.gov/pubs/pub2006.pdf](http://www.dnr.mo.gov/pubs/pub2006.pdf).
- ◆ *Sewer System Organization and Financing*, [www.dnr.mo.gov/pubs/pub2007.pdf](http://www.dnr.mo.gov/pubs/pub2007.pdf).

Applicants may wish to pursue funding from the department in the form of a Clean Water State Revolving Fund Loan, State Direct Loan, Forty Percent Construction Grant, Small Borrower Loan or Rural Sewer Grant. To determine priority, eligible costs and other requirements of the funding see the Grants and Loans rule, 10 CSR 20-4, [www.sos.mo.gov/adrules/csr/current/10csr/10c20-4.pdf](http://www.sos.mo.gov/adrules/csr/current/10csr/10c20-4.pdf).

The department has developed several fact sheets to explain each funding program.

- ◆ *Direct Loan Program*, [www.dnr.mo.gov/pubs/pub2306.pdf](http://www.dnr.mo.gov/pubs/pub2306.pdf)
- ◆ *Forty Percent State Construction Grant Program*, [www.dnr.mo.gov/pubs/pub2304.pdf](http://www.dnr.mo.gov/pubs/pub2304.pdf)
- ◆ *Rural Sewer Grant Program*, [www.dnr.mo.gov/pubs/pub2307.pdf](http://www.dnr.mo.gov/pubs/pub2307.pdf)

Applicants applying for State Revolving Fund, or SRF, funding must comply with the National Environmental Policy Act, or NEPA, [www.epa.gov/compliance/nepa](http://www.epa.gov/compliance/nepa). Compliance with the act may be accomplished by complying with the state environmental review process, or SERP. Federal State Revolving Fund regulations required the state to develop a NEPA-like review process or state environmental review process. State environmental review process requirements may be found at 10 CSR 20-4.050. Applicants must also comply with other state and federal requirements.

The department administers existing federal State and Tribal Assistance Grants and the U.S. Environmental Protection Agency, Region 7 oversees the funding. State and Tribal Assistance Grants, or STAG, funded projects must comply with National Environmental Policy Act in addition to other state and federal requirements.

For contact information, finance application forms, guidance documents and the current Intended Use Plan visit the Water Protection Financial Assistance Center webpage at [www.dnr.mo.gov/env/wpp/srf/index.html](http://www.dnr.mo.gov/env/wpp/srf/index.html)

Regulation establishes Nov. 15 as the annual submittal deadline for applications to participate in department funding programs. However, applications will be accepted and processed at any time. Potential applicants are strongly encouraged to contact the department prior to submitting an application.

Department-funded projects require additional information during the facility planning and construction permitting process. This manual will make note of those added requirements where applicable. To determine any additional requirements necessary, the applicant should work with their project coordinator.

If other financing programs are used, the applicant should work with those funding program coordinators to determine added conditions.

# 3 Overview Outline

## 3.1 Non-Funded Projects

- 1) Acquire an approved Antidegradation Report, if applicable.
- 2) Engineering report or facility plan.
  - a) Send “I’m your review engineer” letter.
  - b) Review using fact sheets for guidance.
    - i) May use applicable checklists, if available.
  - c) Coordinate with Enforcement, if applicable.
  - d) Send requests for any clarification or additional information.
  - e) Send approval letter requesting the following:
    - i) Plans and specifications.
    - ii) Summary of design.
    - iii) Construction permit application.
    - iv) Appropriate fee.
- 3) Construction Permit Applications.
  - a) Conduct a Completeness Check of permit application packet.
    - i) Send an Incomplete Construction Permit Application letter.
    - ii) Send “I’m your review engineer” letter, as needed.
- 4) Plans and Specifications.
  - a) Review for compliance with applicable regulations.
    - i) May use applicable checklists if available.
  - b) Send requests for any clarification or additional information.
  - c) Draft Missouri State Operating Permit and place on public notice per the *Permit Writer’s Manual* procedures, if required.
    - i) Send draft to appropriate co-workers and the regional office for peer review.
    - ii) Send 15 day pre-public notice letter with draft Missouri State Operating Permit to applicant.
    - iii) Place on public notice for 30 days.
    - iv) Respond to all public notice comments.
  - d) Draft construction permit.

- 5) Construction Permit.
  - a) Issue after the following:
    - i) Public notice of the draft Missouri State Operating Permit, if required.
    - ii) All comments and issues have been addressed.
    - iii) The correct number of final plans and specs have been received.
- 6) Review Addenda and Change Orders when requested.
  - a) Complete review.
    - i) May use applicable checklists, if available.
  - b) Send appropriate approval letter.
- 7) Conduct a Final Inspection.
  - a) Ask for a Statement of Work Completed.
  - b) Send letter stating inspection was conducted and a list of participants and provide a copy of the inspection report.
- 8) Send the Central Office any Missouri State Operating Permit issuance or modification requests.
  - a) Need the Statement of Work Complete, appropriate form and fee.
  - b) Issue the new or modified Missouri State Operating Permit.

## 3.2 Funded Projects

- 1) Acquire an approved Antidegradation Report, if applicable.
- 2) Facility Plan.
  - a) Send “I’m your review engineer” letter.
  - b) Conduct a Site Survey, if necessary.
  - c) Review using fact sheets for guidance.
    - i) May use applicable checklist, if available.
  - d) Coordinate with project coordinator.
  - e) Coordinate with Enforcement, if applicable.
  - f) Send requests for any clarification or additional information.
  - g) Compose the appropriate environmental determination, if applicable:
    - i) Finding of no significant impact/environmental assessment.
    - ii) Categorical exclusion.
    - iii) Environmental impact statement/record of decision.
  - h) After the public notice period of environmental determination is complete, send approval letter requesting the following:
    - i) Plans and specifications.
    - ii) Summary of design.
    - iii) Construction permit application.
    - iv) Appropriate fee.

- 3) Construction Permit Applications.
  - a) Conduct a Completeness Check of permit application packet.
    - i) Send an Incomplete Construction Permit Application letter
    - ii) Send “I’m your review engineer” letter.
- 4) Plans and Specifications.
  - a) Review for compliance with applicable regulations.
    - i) Use applicable checklists, if available.
    - ii) Coordinate review with project coordinator.
  - b) Send requests for any clarification or additional information.
  - c) Draft Missouri State Operating Permit and place on public notice per the *Permit Writer’s Manual* procedures, if required.
    - i) Send draft to appropriate co-workers and the regional office for peer review.
    - ii) Send 15 day pre-public notice letter with draft Missouri State Operating Permit to applicant.
    - iii) Place on public notice for 30 days.
    - iv) Respond to all public notice comments.
  - d) Draft construction permit.
- 5) Construction Permit.
  - a) Issue after the following:
    - i) Public notice of the draft Missouri State Operating Permit, if required.
    - ii) All comments and issues have been addressed.
    - iii) The correct number of final plans and specs have been received.
- 6) Attend Pre-Construction Conference, as needed.
  - a) Send letter stating pre-construction conference was conducted and a list of participants and provide a copy of the report.
- 7) Review Addenda and Change Orders when required.
  - a) Complete review.
    - i) May use applicable checklists, if available.
  - b) Coordinate with project coordinator.
  - c) Send appropriate approval letter.
- 8) Conduct Quarterly Inspections, as needed.
  - a) Send letter stating inspection was conducted and a list of participants and provide a copy of the inspection report.
- 9) Conduct a Final Inspection.
  - a) Ask for a Statement of Work Complete.
  - b) Send letter stating inspection was conducted and list of participants.
- 10) Send the Central Office any Missouri State Operating Permit issuance or modification requests.
  - a) Need the Statement of Work Complete, appropriate form and fee.
  - b) Issue the new or modified Missouri State Operating Permit.



# 4 Antidegradation and Operating Permits

## 4.1 Antidegradation

The department's antidegradation policy and implementation procedure is codified in 10 CSR 20-7.031(2), <http://www.sos.mo.gov/adrules/csr/current/10csr/10c20-7a.pdf>

The Antidegradation Rule and Implementation Procedure is located on the department's web page at [www.dnr.mo.gov/env/wpp/docs/aip-cwc-appr-050708.pdf](http://www.dnr.mo.gov/env/wpp/docs/aip-cwc-appr-050708.pdf)

For more information, guidance documents and forms visit the Antidegradation Implementation webpage at [www.dnr.mo.gov/env/wpp/permits/antideg-implementation.htm](http://www.dnr.mo.gov/env/wpp/permits/antideg-implementation.htm)

The antidegradation review process will provide the applicant with the expected effluent parameters for their new or modified Missouri State Operating Permit, or MSOP. The department will issue a Water Quality and Antidegradation Review to the applicant with the antidegradation findings.

### 4.1.1 Degradation Projects

The following are some common cases that require an antidegradation determination and review.

- ◆ A new wastewater treatment facility.
- ◆ Moving an outfall to a new location.
- ◆ Increasing the design average flow or organic loading of an existing wastewater treatment facility.
- ◆ Increasing the pollutant loading of an existing wastewater treatment facility, such as adding alum to remove phosphorus.

## 4.1.2 No Degradation Projects

Not every construction project requires an antidegradation review. In these cases, applicants may complete the *No Degradation Evaluation Conclusion of Antidegradation Review* form online at [www.dnr.mo.gov/forms/780-2026-f.pdf](http://www.dnr.mo.gov/forms/780-2026-f.pdf). Examples of project that would not require an antidegradation review include:

- ◆ Sewer extensions.
- ◆ Combined sewer overflow elimination projects.
- ◆ No-discharge with land application.
- ◆ No-discharge with subsurface irrigation.
- ◆ Recycle or reuse of effluent.
- ◆ Discharge to a regional wastewater treatment facility.
- ◆ Addition or replacement of ultraviolet or ozone disinfection.
- ◆ Addition or replacement of chlorination or dechlorination disinfection, as long as water quality standards for total residual chlorine are met.
- ◆ Replacement of aging equipment with like equipment.
- ◆ A project that does not increase the pollutant loading from a facility.

## 4.1.3 Applicability Determination

Contact the department and request an antidegradation applicability determination for their project, if they are unsure whether antidegradation applies.

## 4.2 Missouri State Operating Permit

See the *Missouri's Water Pollution Control Permits Manual*, [www.dnr.mo.gov/env/wpp/permits/manual/permit-manual.htm](http://www.dnr.mo.gov/env/wpp/permits/manual/permit-manual.htm), for guidance on how to develop an operating permit. When a facility proposes to make changes, or a new facility is to be built, the department must place a draft Missouri State Operating Permit permit on public notice prior to issuing a construction permit.

## 4.2.1 Public Notice

The antidegradation review and Missouri State Operating Permit are decisions by the department that are subject to EPA review and appeal. As such, applicants may choose to public notice their Missouri State Operating Permit and antidegradation review prior to submitting a construction permit application with plans and specifications or at the same time as the submittal of a construction permit application and plans and specifications.

The department encourages peer review of draft Missouri State Operating Permits, in order to reduce errors. After drafting a Missouri State Operating Permit for public notice, email the document to the appropriate co-workers and regional office staff for review and comments. A typical peer review timeframe is 10 business days.

Applicants are provided the opportunity to preview the draft operating permit for 15 days prior to the formal public notice. Missouri State Operating Permits are placed on public notice for a period of 30 days on the Permit Public Notice webpage at [www.dnr.mo.gov/env/wpp/permits/permit-pn.htm](http://www.dnr.mo.gov/env/wpp/permits/permit-pn.htm). Applicants are strongly encouraged to read and understand all permit limits and conditions.

- ◆ Communication and Coordination with Permit Applicants, Permittees and the Public Memo dated Feb. 3, 2011.
- ◆ Pre-public notice review letter.

## 4.2.2 Issuance

After construction is complete, the draft Missouri State Operating Permit that was placed on public notice prior to construction is issued. Issued Missouri State Operating Permits are located on the Final Site Specific Permits webpage at [www.dnr.mo.gov/env/wpp/permits/wpcpermits-issued.htm](http://www.dnr.mo.gov/env/wpp/permits/wpcpermits-issued.htm).

The following items are needed from the applicant to issue a new or modified Missouri State Operating Permit:

- ◆ Final construction inspection conducted.
- ◆ *Substantial Completion and Operable Wastewater Construction* form or *Statement of Work Completed* form. Refer to 7.4.2 Substantial Completion and Operable and 7.4.3 Statement of Work Completed of this manual to determine which form is applicable.
- ◆ Appropriate form (A, B or B2).
- ◆ Applicable fee.



# 5 Engineering Reports and Facility Plans

## 5.1 All Projects

The amended 10 CSR 20-8.110, *Engineering – Reports, Plans and Specifications*, became effective June 30, 2011. This rule change incorporated a revision requiring engineering reports and facility plans for all construction projects, not just those funded by the department.

Review submitted engineering reports and facility plans in accordance with 10 CSR 20-8.110(3) and 10 CSR 20-8.110(4).

A Missouri registered professional engineer must sign, seal and date engineering reports and facility plans. See 20 CSR 2030-3.060(3), [www.sos.mo.gov/adrules/csr/current/20csr/20c2030-3.pdf](http://www.sos.mo.gov/adrules/csr/current/20csr/20c2030-3.pdf), for acceptable seal use.

### 5.1.1 Communication with Applicants

The department promotes active communication between the applicant and the review engineer. When an engineering report or facility plan is received, immediately provide the applicant with the appropriate contact information and estimated review time of the particular project. This allows the applicant an opportunity to contact the review engineer and request a meeting to discuss their project before approval of their engineering report or facility plan.

If the applicant is a combined sewer overflow community or separate sanitary sewer system for a publicly owned treatment works request any affordability information that the applicant would like to provide. See RSMO §644.145, [www.moga.mo.gov/statutes/C600-699/6440000145.htm](http://www.moga.mo.gov/statutes/C600-699/6440000145.htm), for more information.

The department has the following memos and internal letter template to provide department contact information.

- ◆ Communication and Coordination with Permit Applicants, Permittees and the Public Memo dated Feb. 3, 2011.
- ◆ Interim Procedure on Affordability Memo dated Sept. 12, 2011.
- ◆ Engineering report or facility plan introduction letter.

## 5.1.2 Enforcement Cases

If the proposed project includes an upgrade, the elimination or the transfer of ownership of a facility under enforcement, coordinate with the appropriate enforcement case manager as noted on the most up-to-date enforcement tracking report. A search for the facility name in Missouri Clean Water Information System, or MoCWIS, at [www.dnr.mo.gov/cwis/](http://www.dnr.mo.gov/cwis/), can also reveal if the facility is under enforcement. MoCWIS is a web based database used by the department to maintain water quality standards and manage wastewater permit application and permit data, as well as pollution inspections and enforcement. The applicant should provide the necessary documentation (e.g., consent decrees, consent orders, schedules of compliance in the Missouri State Operating Permit, etc.) in the engineering report or facility plan.

## 5.1.3 Geohydrologic Evaluations

The department's Division of Geology and Land Survey, [www.dnr.mo.gov/geology/index.html](http://www.dnr.mo.gov/geology/index.html), provides the applicant with a Geohydrologic Evaluation of Liquid-Waste Treatment Site document. A department registered geologist determines whether the receiving stream is classified as gaining or losing, the geologic limitations, collapse potential of the site and other significant hydrologic and geologic conditions at the treatment facility site.

A geohydrologic evaluation is required for the following instances:

- ◆ All new wastewater treatment facilities.
- ◆ All new or modified earthen basin structures.
- ◆ An existing wastewater treatment facility, which intends to add an additional or relocate an existing Missouri State Operating Permit outfall location.

The department will deny a construction permit if the location of an earthen basin structure is in an area that receives a severe geological collapse potential rating. See 10 CSR 20-8.110(4)(C)8.C.(VII).

Applicants may complete a *Request for Geohydrologic Evaluation of Liquid-Waste Treatment Facility/Site* form, [www.dnr.mo.gov/forms/780-1688-f.pdf](http://www.dnr.mo.gov/forms/780-1688-f.pdf), to request a geohydrologic evaluation.

## 5.1.4 Applications with Unapproved Engineering Reports or Facility Plans

The department considers a construction permit application incomplete when received prior to department approval of an engineering report or facility plan. See 10 CSR 20-8.110(3)(C). See 7.1.1 Applications with Unapproved Engineering Reports or Facility Plans of this manual, for more information.

## 5.2 Non-Funded Projects

### 5.2.1 Engineering Reports

Two copies of engineering reports are required for collection system projects (e.g., gravity sewers, pressure sewers, pumping stations and force mains). Collection system projects limited to 8-inch diameter gravity sewers are exempt from submitting an engineering report, unless a report is requested by the department. See *Engineering Report Guidance for Collection Systems with a Design Flow of 22,500 gpd or Greater*, [www.dnr.mo.gov/pubs/pub2415.pdf](http://www.dnr.mo.gov/pubs/pub2415.pdf), for more information.

Use the following internal template approval letter for engineering reports. Send the original letter to the applicant and send a copy with a stamped approved engineering report to the appropriate regional office. Retain the second copy of the stamped approved engineering report and copy of approval letter for the project file. The approval letter instructs the applicant to submit plans and specifications, summary of design, construction permit application and fee.

- ◆ Engineering report approval letter.

### 5.2.2 Facility Plans

Wastewater treatment facility projects require submittal of two copies of a facility plan. See *Facility Plan Guidance for Wastewater Treatment Facilities with a Design Flow of 22,500 gpd or Greater*, [www.dnr.mo.gov/pubs/pub2416.pdf](http://www.dnr.mo.gov/pubs/pub2416.pdf), for more information. for guidance on what is included in an approvable facility plan.

Use the following internal template approval letter for facility plans. Send the original letter to the applicant and send a copy with a stamped approved facility plan to the appropriate regional office. Retain the second copy of the stamped approved facility plan and copy of approval letter for the project file. The approval letter instructs the applicant to submit plans and specifications, summary of design, construction permit application and fee.

- ◆ Facility plan approval letter.

## 5.3 Funded Projects

A facility plan is required for all collection systems and wastewater treatment projects that receive department funding.

Department-funded projects require three sets of facility plans. See the list below for who needs a copy to review.

- ◆ Department review engineer.
- ◆ Department funding coordinator.
- ◆ Department regional office.

The facility plan for a department-funded project has additional requirements. See the following applicable fact sheet for these requirements.

- ◆ *State Forty Percent Construction Grant Project Facility Plan Guidance*, [www.dnr.mo.gov/pubs/pub2256.pdf](http://www.dnr.mo.gov/pubs/pub2256.pdf).
- ◆ *Clean Water State Revolving Fund Project Facility Plan Guidance*, [www.dnr.mo.gov/pubs/pub2418.pdf](http://www.dnr.mo.gov/pubs/pub2418.pdf).

### 5.3.1 Communication with Regional Offices

Send a copy of the facility plan to the appropriate department regional office for review. The regional office engineer shall provide comments during the timeframe specified (30 day review is the maximum allowable). Regional office engineers will provide or make comments on the following issues as applicable.

- ◆ Provide a copy of the last inspection.
- ◆ Discuss any known problems with the existing sewer system and wastewater treatment facility.
- ◆ Are there areas being developed or planned for future development, which should be addressed in the facility plan?
- ◆ Discuss any schedules of compliance.
- ◆ Discuss any enforcement issues.
- ◆ Discuss any known wet weather issues, including sanitary sewer overflows and bypasses at the wastewater treatment facility.
- ◆ Are there any industries in the community? Does the municipality have a department approved pre-treatment program?
- ◆ Are there other permitted facilities in the area, which could be eliminated by the proposed project?

## 5.3.2 Site Survey

Schedule a site survey, if necessary, after a cursory review of the facility plan and comments have been received from the regional office. See 10.2.1 Site Surveys, of this manual for more information.

## 5.3.3 Public Participation

An alternative engineering solutions public meeting is required for State Revolving Fund and State Direct Loan projects. See 10 CSR 20-4.040(14)(A). The applicant shall provide the following documentation of the meeting:

- ◆ Documentation of advertisement (e.g. publisher's affidavit from a newspaper of general circulation).
- ◆ Attendance record.
- ◆ Meeting minutes, which should contain the following topics:
  - ◆ Discussion of the problems that led to the need for the project.
  - ◆ Discussion of the alternatives evaluated.
  - ◆ Discussion of the recommended project and how it will meet the required needs.
  - ◆ Any questions from the public and the provided answers.

A user charge system public hearing is required for State Revolving Fund and State Direct Loan projects. See 10 CSR 20-4.040(14)(B). Also, RSMO §250.233, [www.moga.mo.gov/statutes/c200-299/2500000233.htm](http://www.moga.mo.gov/statutes/c200-299/2500000233.htm), requires all cities and districts to hold a public hearing, prior to adopting a user charge. The applicant shall provide the following documentation of the meeting:

- ◆ Documentation of advertisement 30 days prior to the scheduled meeting (e.g. publisher's affidavit from a newspaper of general circulation).
- ◆ Attendance record.
- ◆ Meeting transcript, which should contain the following topics:
  - ◆ Outline of how the applicant will finance the cost of the recommended project.
  - ◆ Discussion of what additional cost may occur as a result of this project.
  - ◆ Discussion of the estimated user charge rate.
  - ◆ Discussion of when any increases will take effect.
  - ◆ Any questions from the public and the provided answers.

An environmental impact public hearing is required for State Revolving Fund and State Direct Loan projects. See 10 CSR 20-4.050(2)(B)2. The applicant shall provide the following documentation of the meeting:

- ◆ Publisher's affidavit from a newspaper of general circulation, posted 30 days prior to the scheduled meeting.
- ◆ Attendance record with addresses.
- ◆ Verbatim transcript (i.e. a transcript provided by a court reporter, a video or audio recording), which should contain the following topics:
  - ◆ Discussion of how the project will impact wetlands, floodplains, threatened or endangered species, cultural resources, prime farmland, public lands and parks.
  - ◆ Discussion of how the project may impact the development pattern of the area.
  - ◆ Discussion of the environmental clearances obtained by the applicant.
  - ◆ Discussion of the impact on personal property such as driveways, trees and easements.
  - ◆ Discussion of the impact on water and air quality.
  - ◆ Any questions from the public and the provided answers.

Many applicants prefer to hold all of the public meeting and hearings on the same date. The public meeting and hearings are separate events and must be opened and closed in an official manner. If an applicant elects to advertise the public meeting and hearings together, each must be addressed separately with a specific beginning time. See the advertisement presented in Example 5-1.

A series of public hearings will be held by the City of Wellrun on the proposed Wastewater System Improvements project for the purpose of receiving comments and views from interested parties. All hearings will be held on Monday, Feb. 29, 2012 at City Hall, 100 Main Street, City of Wellrun, Missouri 60000, 800-888-8000. The first hearing will start at 7 p.m. with successive hearings starting immediately thereafter.

The first public hearing will begin at 7 p.m. and will address the facility plan. The second public hearing will begin at 7:30 p.m. and will address the user charges for the project. The third public hearing will begin at 8 p.m. and will address the environmental impacts created by the project.

Detailed information concerning the proposed project will be available for public inspection at the Wellrun city hall. Written comments may be submitted to the city administrator at the above address within seven days after the date of the hearings.

*Example 5-1. Advertisement for three public meeting and hearings.*

### 5.3.4 Environmental Determination

Determine the appropriate environmental determination based on 10 CSR 20-4.050. A State Revolving Fund or State Direct Loan project requires either a categorical exclusion or a finding of no significant impact/environmental assessment. In a rare situation, an environmental impact statement may be necessary.

The department has developed the following internal templates for drafting environmental determinations.

- ◆ Categorical exclusion.
- ◆ Finding of no significant impact/environmental assessment.

The environmental determination is placed on public notice in accordance with 10 CSR 20-4.050. The department categorical exclusion is provided to the applicant. The applicant is then required to have it published in a local newspaper of community-wide circulation. An affidavit of publication must be sent to the department, prior to facility plan approval. The finding of no significant impact/environmental assessment is public noticed by the department to all interested parties on the distribution list. The review engineer must address and respond to all comments received during the public notice period.

### 5.3.5 Approvals

The facility plan can be approved after all items have been addressed. Use the appropriate internal template letter for facility plan approval. The approval letter instructs the applicant to submit plans and specifications, summary of design, construction permit application and fee.

- ◆ Facility plan approval letter.



# 6 Construction Permit Exemptions

## 6.1 General Exemptions

The department has several construction permit exemptions in accordance with 10 CSR 20-6.010(1)(B), [www.sos.mo.gov/adrules/csr/current/10csr/10c20-6a.pdf](http://www.sos.mo.gov/adrules/csr/current/10csr/10c20-6a.pdf).

These exemptions include the following:

- ◆ Service connections to wastewater sewer systems.
- ◆ Internal plumbing or piping or other water diversion or retention structure at an industry.
- ◆ Routine maintenance or repairs of any existing collection system or wastewater treatment facility.
- ◆ Single family residences.
- ◆ Pilot projects.

The department may send a letter to an applicant confirming that a construction permit is not necessary.

- ◆ Construction permit general exemption letter.

Nothing shall prevent the department from taking action, including requiring a construction permit, if any exempted activity should cause pollution to waters of the state or violate department regulations. See 10 CSR 20-6.010(1)(C). Requiring a construction permit will entail coordination with the department's enforcement section.

### 6.1.1 Service Connections

A service connection is defined by the department in 10 CSR 20-2.010(67), [www.sos.mo.gov/adrules/csr/current/10csr/10c20-2.pdf](http://www.sos.mo.gov/adrules/csr/current/10csr/10c20-2.pdf). A service connection is a pipe that conveys wastewater from the point of origin on a tract of land and connects to a sewer system, which is operated and maintained by one of the authorized continuing authorities listed in 10 CSR 20-6.010(3)(B).

If the continuing authority will not operate and maintain service connection components (e.g., grinder pump or pump station) on private property by ordinance they are exempt from a construction permit. RSMO §249.1000, [www.moga.mo.gov/statutes/C200-299/2490001000.htm](http://www.moga.mo.gov/statutes/C200-299/2490001000.htm), states publicly owned treatment works do not have to assume responsibility for the operation and maintenance of any part of an individual user's pressure sewer system.

Collection systems serving a property in which sewer mains are utilized to connect service connections for each lot or building is to be permitted as a sewer extension. These systems are not eligible for an exemption. The following establishments are not considered a service connection, unless demonstrated otherwise:

- ◆ Schools.
- ◆ Resorts.
- ◆ RV parks.
- ◆ Mobile home parks.
- ◆ Campgrounds.
- ◆ Subdivisions.
- ◆ Apartment buildings.
- ◆ Duplexes.
- ◆ Four-plexes.

## 6.1.2 Internal Plumbing or Piping

“Any internal plumbing or piping or other water diversion or retention structures within a manufacturing or industrial plant or mine, which are an integral part of the industrial or manufacturing process or building or mining operation”, per 10 CSR 20-6.010(1)(B)3. is eligible for a construction permit exemption. If the piping results in a discharge to waters of the state, a site specific or general Missouri State Operating Permit may be required.

## 6.1.3 Routine Maintenance

Repairs to the existing collection systems or wastewater treatment facilities are promoted by the department. Routine maintenance is considered replacing like with like. For example, replacement of an 8-inch sewer pipe with a new 8-inch pipe in the same location and at the same grade. Some examples of routine maintenance at a wastewater treatment facility include replacement of blowers, repairs to lagoon berms and replacement of a bar screen.

## 6.1.4 Single Family Residences

The department has a memorandum of understanding with the Missouri Department of Health and Senior Services located on the department’s website at [www.dnr.mo.gov/compliancemanual/memoofunderstanding.pdf](http://www.dnr.mo.gov/compliancemanual/memoofunderstanding.pdf). This memorandum of understanding outlines who regulates domestic wastewater in Missouri.

Single family residences that discharge into an on-site wastewater treatment system (septic tank, lagoon or holding tank) are regulated by the Missouri Department of Health and Senior Services.

The department has developed the fact sheet, *Who Regulates Domestic Wastewater in Missouri?*, [www.dnr.mo.gov/pubs/pub1296.pdf](http://www.dnr.mo.gov/pubs/pub1296.pdf), to clarify the roles of the two agencies.

## 6.1.5 Pilot Projects

Small scale pilot projects or demonstration projects for beneficial use may be given written approval from the department to operate for one year. See 10 CSR 20-6.010(1)(B)8. The proposal shall be submitted to the department for review and approval.

The department is currently developing a new wastewater technology policy, which should contain the requirements for pilot projects. Until such time, refer to 10 CSR 20-8.140(5)(B) for requirements of proposed new wastewater technology installations.

## 6.2 *De minimis* Exemptions

Applicants may apply for an exemption as a non-discharging *de minimis* source. See 10 CSR 20-6.015(3)(A). The department shall make this decision on a case-by-case basis. Consideration shall be given to the environmental impact, potential for discharge to surface or groundwater, possible contaminants and toxics and potential to exceed water quality standards in 10 CSR 20-7.031.

*De minimis* is defined per 10 CSR 20-6.015(1)(B)4., “[a] waste or wastewater source, or a facility for treatment or disposal of process wastes, that is determined by the department to pose a negligible potential impact on waters of the state even in the event of the malfunction of wastewater treatment controls”.

The department may request testing of local and leachable concentrations of pollutants as compared to background levels in soils or waters of the state, to ensure a negligible environmental impact.

The following are common *de minimis* exemptions:

- ◆ As found in MO-G750000, any car wash facility with an average design flow of less than 500 gpd and does not allow the water to discharge from the property. This does not include “mobile wash facilities” that do not have the property owners’ permission to wash on their property.
- ◆ As found in MO-G920000, a one-time on-site land application of less than 500 gpd of contaminated stormwater from a fuel underground storage tank pit closure operation. The water must be applied so that it infiltrates into the soil and does not leave the property. Land application is not permitted when soil conditions are frozen, snow-covered or saturated.

The department may send a letter to an applicant confirming that a construction permit is not necessary. This exemption letter must be coordinated with the department’s NPDES Permits Section.

- ◆ Construction permit *de minimis* exemption letter.

## 6.3 Non-Discharging Exemptions

The following are exempt from a no-discharge permit, in accordance with 10 CSR 20-6.015(3)(B):

- ◆ Non-discharging facilities of domestic wastewater of 3,000 gpd or less.
- ◆ Single family residences.
- ◆ Internal plumbing and piping or other water diversion or retention structures at an industry.
- ◆ Pilot projects.
- ◆ Pump and haul systems.

A no-discharge facility is one that is designed, constructed, operated and maintained to hold or irrigate, without discharging to surface or groundwaters of the state, all waste generated by the facility it serves.

The department may send a letter to an applicant confirming that a construction permit is not necessary.

- ◆ Construction permit no-discharge exemption letter.

“Nothing shall prevent the department from taking action to ensure facilities do not discharge into waters of the state, including requiring permits for facilities normally exempted under this rule,” per 10 CSR 20-6.015(2)(B). Requiring a construction permit will entail coordination with the department’s enforcement section.

### 6.3.1 3,000 gpd or Less No-Discharge

Non-discharging facilities for domestic wastewater flows of 3,000 gpd or less are exempt from construction permits and Missouri State Operating Permits. Domestic wastewater is considered to be bathroom and toilet waste, residential laundry waste, residential kitchen waste, etc. in accordance with RSMO §701.025(12), [www.moga.mo.gov/statutes/c700-799/7010000025.htm](http://www.moga.mo.gov/statutes/c700-799/7010000025.htm). Commercial restaurant waste is considered to be included in the domestic wastewater definition.

At no time may domestic wastewater be discharged from a no-discharge facility into surface or groundwaters of the state. The domestic wastewater may be held within a no-discharge lagoon and followed by either on-site land application or pumped and hauled to a permitted wastewater treatment facility. See 10 CSR 20-6.015(3)(B)6.

- ◆ No-Discharge Domestic Permit Exemptions Memo dated Jan. 31, 2002.

This exemption does not apply to single-family residential lagoons (i.e. one lagoon serving one house only). Refer to 6.3.2 Single Family Residences No-Discharge, of this manual for more information.

Note that the burden of proof of exemption is on the owner and it is their responsibility to demonstrate to the department that the system is and should be exempt and that it meets the no-discharge standards.

The owner must first contact the Missouri Department of Health and Senior Services, who will use their own flow calculations to determine jurisdiction. If their calculations demonstrate a design average flow above 3,000 gpd the Missouri Department of Natural Resources will regulate the facility.

The design average flow for the purpose of treatment size will be calculated in accordance with 10 CSR 20-8.

If a no-discharge facility is already in existence and is functioning satisfactorily, the department will not issue a letter of no permit required, since they are considered exempt by rule. However if a facility needs a letter of no permit required by a lending institution, local authority or Missouri Department of Health and Senior Services, the Missouri Department of Natural Resources recommends the owner hire a Missouri registered professional engineer as their consultant. The consultant should certify that the sizes of the lagoon and land application area are sufficient to achieve no-discharge. The consultant should also certify that the lagoon's percolation losses do not exceed 1/16 inch per day. If the lagoon is pumped and hauled to a permitted wastewater treatment facility for ultimate disposal, these facilities must obtain a written contract with a hauler company, which then takes the waste to a permitted wastewater treatment facility for ultimate disposal. The permitted wastewater treatment facilities receiving the waste must provide their approval in writing.

The department has developed the following fact sheets to provide guidance to ensure the owner's facility meets the conditions of a no-discharge facility and this non-discharging exemption and a proper system design.

- ◆ *3,000 Gallon Per Day or Less No-Discharge Permit Exemption for Domestic Wastewater Design Guidance*, [www.dnr.mo.gov/pubs/pub1319.pdf](http://www.dnr.mo.gov/pubs/pub1319.pdf)
- ◆ *3,000 Gallons Per Day of Less No-Discharge Permit Exemption for Domestic Wastewater Facilities (Lagoons)*, [www.dnr.mo.gov/pubs/pub2213.pdf](http://www.dnr.mo.gov/pubs/pub2213.pdf)

A business with a portion of non-domestic wastewater in their waste stream may request the department to review their no-discharge facility for the *de minimis* exemption. See 6.2 *De minimis* Exemptions of this manual for more information.

## 6.3.2 Single Family Residences No-Discharge

Refer to 6.1.4 Single Family Residences of this manual and 10 CSR 20-6.015(3)(B)9. for more information.

### 6.3.3 Internal Plumbing or Piping

Refer to 6.1.2 Internal Plumbing or Piping of this manual and 10 CSR 20-6.015(3)(B)10. for more information.

However, this exemption does not include lagoons, ponds or any earthen impoundments that receive process wastes. These structures require a department review and a construction permit. A geohydrologic evaluation is required for these facilities. See 5.1.3 Geohydrologic Evaluations, of this manual for more information.

### 6.3.4 Pilot Projects

Refer to 6.1.5 Pilot Projects, of this manual and 10 CSR 20-6.015(3)(B)11. for more information.

### 6.3.5 Pump and Haul Systems

The pump and haul exemption only applies to facilities with process waste. Process waste is defined by the department in 10 CSR 20-6.015(1)(B)10.

Domestic waste facilities 3,000 gpd or less are exempt under 10 CSR 20-6.015(3)(B)6. See 6.3.1 3,000 gpd or Less No-Discharge, of this manual for more information.

Facilities without access to a centralized collection system or are unable to construct their own wastewater treatment facility may choose to direct their process waste to a holding structure. These facilities must obtain a written contract with a hauler company, which then takes the waste to a permitted wastewater treatment facility for ultimate disposal. The permitted wastewater treatment facility receiving the waste must provide its approval in writing. See 10 CSR 20-6.015(3)(B)12.

A Missouri State Operating Permit is not required for facilities meeting this description.

However, a construction permit is required for these facilities. The applicant must hire a Missouri registered professional engineer to design a pump and haul system for their facility needs. A facility plan is not required for these systems. An appropriate construction permit application, associated fee, plans and specifications and a summary of design is required. See 7.0 Construction Permits and 8.0 Plans and Specification, of this manual for more information.

The majority of the construction permit review will consist of checking the following items:

- ◆ Design average flow.
- ◆ Size of the holding tank.
- ◆ Type of tank material.
- ◆ Overflow alarm.

If the holding structure is an earthen basin, a geohydrologic evaluation is required for these facilities. See 5.1.3 Geohydrologic Evaluations of this manual for more information.

The owner may request the department to review their industrial pump and haul system for the *de minimis* exemption. See 6.2 *De minimis* Exemptions of this manual for more information.



# 7 Construction Permits

## 7.1 Construction Permit Application

Construction, installation or modification of any collection system or wastewater treatment facility requires a construction permit. See 10 CSR 20-6.010(4)(A).

Plans and specifications and a summary of design shall accompany the construction permit application. See 8 Plans and Specifications, of this manual for more information.

### 7.1.1 Applications with Unapproved Engineering Reports or Facility Plans

A construction permit application is incomplete when received prior to the approval of an engineering report or facility plan. See 10 CSR 20-8.110(3)(C). If an unapproved engineering report or facility plan is included in the construction permit application packet, begin the review and note this action in the incomplete application letter. See 7.1.6 Completeness Check of this manual for more information.

### 7.1.2 Application Forms

Submittal requirements for each construction permit application are below listing additional forms as necessary, supporting documents and associated fees. The Forms, Applications, Permits, Manuals and Associated Documents located on the department's webpage at [www.dnr.mo.gov/forms/index.html#WaterPollution](http://www.dnr.mo.gov/forms/index.html#WaterPollution), contains the most current construction permit applications.

A complete department form requires an original signature from the appropriate designee.

#### Primarily Domestic Wastewater for Facilities $\leq$ 100,000 gpd – Form B

- ◆ A 1" = 2,000' scale US Geological Survey topographic map, or equivalent at the discretion of the review engineer, showing location of all outfalls and downstream landowners.
- ◆ Process flow diagram or schematic.
- ◆ List of industrial users, if applicable.
- ◆ Form I for facilities land applying wastewater.
- ◆ Water Quality/Antidegradation Review Sheet for all new or expanding facilities.
- ◆ \$750 for a wastewater treatment facility with a design flow < 500,000 gpd.

### Primarily Domestic Wastewater for Facilities > 100,000 gpd – Form B2

- ◆ A 1" = 2,000' scale U.S. Geological Survey topographic map, or equivalent at the discretion of the review engineer, showing location of all outfalls and downstream landowner(s)
- ◆ Process flow diagram or schematic.
- ◆ Form I for facilities land applying wastewater.
- ◆ Map of combined sewer overflow discharges.
- ◆ System diagram of combined sewer overflows.
- ◆ Water Quality/Antidegradation Review Sheet for all new or expanding facilities.
- ◆ \$750 for a wastewater treatment facility with a design flow < 500,000 gpd.
- ◆ \$2,200 for a wastewater treatment facility with a design flow  $\geq$  500,000 gpd.

### Collection System Only – Application for Construction Permit – Sewer Extension

- ◆ \$75 for a sewer extension < 1,000 feet.
- ◆ \$300 for a sewer extension  $\geq$  1,000 feet, a pumping station, force main, an alternative sewer system or an in collection storage project (above ground basin or below ground pipe).

### Non-Domestic Wastewater – Form A

- ◆ Form C for facilities manufacturing, commercial, mining or silviculture waste treatment facility.
- ◆ Form C and D for facilities considered a "Primary Industry" under EPA guidelines.
- ◆ EPA Form 2F for facilities with only a stormwater discharge.
- ◆ A 1" = 2,000' scale U.S. Geological Survey topographical map showing all outfalls and the receiving stream.
- ◆ Form I for facilities land applying wastewater.
- ◆ Form R for facilities where sludge, biosolids, ash or residuals are generated, treated, stored or land applied.
- ◆ Water Quality/Antidegradation Review Sheet for all new or expanding facilities.
- ◆ \$750 for a wastewater treatment facility with a design flow < 500,000 gpd.
- ◆ \$2,200 for a wastewater treatment facility with a design flow  $\geq$  500,000 gpd.

### 7.1.3 Continuing Authority

A letter from the continuing authority accepting the collection system and/or wastewater treatment facility must accompany the application packet, when that authority is not the applicant. The letter should state that the continuing authority will “accept, operate and maintain” the facilities after satisfactory construction. See 10 CSR 20-6.010(3)(A).

The following are the levels of continuing authority in preferential order in accordance with 10 CSR 20-6.010(3)(B):

- ◆ Level 1: 208 management authorities approved by EPA and the Missouri Clean Water Commission, [www.dnr.mo.gov/env/wpp/cwc/index.html](http://www.dnr.mo.gov/env/wpp/cwc/index.html).
- ◆ Level 2: a municipality, public sewer district or private sewer company approved by the Clean Water Commission.
- ◆ Level 3: a municipality, public sewer district or private sewer company.
- ◆ Level 4: an individual person with complete control of and responsibility for the wastewater facilities on their property.
- ◆ Level 5: a property owners association.

Missouri currently has the following approved 208 management authorities:

- ◆ East-West Gateway Council of Governments, [www.ewgateway.org](http://www.ewgateway.org)
- ◆ Mid-America Regional Council, [www.marc.org](http://www.marc.org)

Currently the Clean Water Commission has approved the following Level 2 continuing authority in Missouri:

- ◆ Boone County Regional Sewer District, [www.bcrsd.com](http://www.bcrsd.com)

If a new wastewater treatment facility utilizes a lower level continuing authority, they must get a waiver from the available higher level continuing authority waiving their right of continuing authority. The applicant must then provide this waiver to the department with the construction permit application. See 10 CSR 20-6.010(3)(B). Reasons for a waiver could include, but are not limited to, no available capacity at the nearest wastewater treatment facility or no service accessible to the proposed project location within the near future.

## 7.1.4 Public Service Commission Regulated Entities

The Missouri Public Service Commission, or PSC, regulates investor-owned wastewater treatment facilities. The PSC website can be found at [www.psc.mo.gov](http://www.psc.mo.gov).

Per 10 CSR 20-6.010(3)(B)3., “[p]ermits shall not be issued to a continuing authority regulated by the PSC until the authority has obtained a certificate of convenience and necessity from the PSC”. All new commission regulated wastewater treatment facilities must provide a copy of the certificate of convenience and necessity.

## 7.1.5 Property Owners Associations

If the continuing authority is a property owners association, the requirements of 10 CSR 20-6.010(3)(B)5. apply. The following documents are required, along with the book and page number where filed in the county recorder’s office:

- ◆ As-filed copy of the restrictions and covenants.
- ◆ As-filed copy of the warranty deed, quitclaim deed or other legal instrument which transfers ownership of the land for the wastewater treatment facility to the association.
- ◆ As-filed copy of the legal instrument (typically the plat) that provides the association with valid easements for all sewers.
- ◆ A copy of the Missouri Secretary of State’s nonprofit corporation certificate.

The covenants of the property owners association shall assure proper operation, maintenance and modernization of the wastewater systems. It shall also outline the following:

- ◆ The power to regulate the use of the wastewater treatment facility and collection system.
- ◆ The power to charge a user rate on its members and enforce these assessments by liens on the properties of each owner.
- ◆ The power to convey the wastewater systems to a higher level continuing authority.
- ◆ The requirement that members connect to the wastewater collection system and treatment facility and be bound by the rules of the property owners association.

The department advises seeking the guidance of legal counsel to draft the restrictions and covenants and help the property owners association file the appropriate documents.

## 7.1.6 Completeness Check

Conduct a permit application completeness check the same day the application is received. See the *Missouri's Water Pollution Control Permits Manual* Chapter 4.3 for common omissions and errors in applications.

If deficiencies are found, the department is required to notify the applicant and allow them an opportunity to correct those deficiencies in a reasonable timeframe. This notification letter should be sent certified mail and the statutory clock in MoCWIS is stopped until a response is received. See 7.2.4 MoCWIS Statutory Clock, of this manual for more information on the statutory clock.

The department, at its discretion, may advise the applicant of missing components informally through email or telephone contact in an effort to resolve missing component issues quickly.

“Applicants who fail to satisfy all department comments after two (2) certified department comment letters in a time frame established by the department shall have the application returned as incomplete and the construction fees shall be forfeited. The applicant has the right to request that the time frames be extended when additional time is needed. The request must occur within the established time frame, it must be in writing and the department will grant reasonable time extensions,” per 10 CSR 20-6.010(4)(E).

If incomplete information is received or the applicant does not respond, send a second certified mail letter. If the applicant submits in writing a time extension request, during the timeframe established, the review engineer may grant a reasonable time extension. See 10 CSR 20-6.010(4)(E).

- ◆ Incomplete Permit Applications Memo dated June 25, 2007.
- ◆ Construction permit incomplete application letter.

If no response has been received after two certified letters during the established time frame, the department must consider the application incomplete and withdrawn. The review engineer will change the application status to “Withdrawn” in MoCWIS, which will automatically stop the clock. The applicant forfeits the construction permit application fee received by the department, in accordance with 10 CSR 20-6.010(4)(E). The department will keep a copy of the application form for the file and send the original application back to the applicant.

- ◆ Construction permit returned as incomplete letter.

## 7.2 Construction Permit Development

### 7.2.1 Communication with Applicants

The department promotes active communication between the applicant and the review engineer. When a complete application is received, immediately provide the applicant with the appropriate contact information and estimated review time of the particular project. This allows the applicant an opportunity to contact the review engineer and request a meeting to discuss their project before public notice of the operating permit or issuance of the construction permit.

If the applicant is a combined sewer overflow community or separate sanitary sewer system for a publicly operated treatment work request any affordability information that the applicant would freely like to provide. See RSMO §644.145 for more information.

The department has the following memos and letter template to provide department contact information.

- ◆ Communication and coordination with permit applicants, permittees and the public memo dated Feb. 3, 2011.
- ◆ Interim Procedure on Affordability Memo dated Sept. 12, 2011.
- ◆ Construction permit writer introduction letter.

### 7.2.2 Statutory Deadlines

RSMo §644.051.13(1), [www.moga.mo.gov/statutes/C600-699/6440000051.htm](http://www.moga.mo.gov/statutes/C600-699/6440000051.htm), requires the department to issue construction permits within the statutory deadlines specified. If a construction permit requires public notice of the draft operating permit, the application processing timeframe is 180 days. If a permit does not require a public notice, the application processing timeframe is 60 days. Permits must be issued within the appropriate time limit.

- ◆ Revised Application Tracking and Statutory Deadlines for Permit Issuance Memo dated July 7, 2011.

## 7.2.3 MoCWIS Application Tracking

Using the Application Tracking Information webpage in MoCWIS is necessary for application tracking and ultimately the permit issuance. Track all permit process steps in the department database.

- 1) Log in to MoCWIS.
- 2) Go to appropriate Application Basic Information webpage.
- 3) Click the Application Tracking tab.
  - a) Enter End Date for the process step.
    - i) The next process step will automatically populate.
- 4) Process Steps depend on the type of application but could include:
  - a) Completeness Check.
  - b) Technical Review.
  - c) Applicant Review.
  - d) Pre-Public Notice Approval.
  - e) Public Notice.
  - f) Supervisory Review.
  - g) Management Review.

In the upper right corner of the MoCWIS screen, there is a Help hyperlink. When you access Help, it will direct you to supporting documents (e.g., training, user and procedure manuals).

## 7.2.4 MoCWIS Statutory Clock

Using the statutory clock feature on the Application Tracking Information page in MoCWIS is necessary for accurate tracking of the statutory deadlines. The clock starts upon receipt of the application. The first step in MoCWIS is the completeness check. In general, if information is missing from the application, the department may stop the clock. The clock cannot be stopped for internal department issues (e.g., internal discussions, etc.). See Table 7-1 for common stop and corresponding start examples.

Stop Clock	Start Clock
Date the incomplete application notification letter is sent. (See 7.1.6 Completeness Check of this manual, for more information.)	Date applicant submits requested information or corrected fees.
Date comment letter is sent to the applicant requesting clarification or additional information.	Date applicant submits requested information.
Date a draft operating permit is sent to applicant for review (i.e. pre-public notice).	Date the applicant review ends.
If the applicant requests an extension to the public notice period.	Date extension period ends.
Facility is under department Enforcement. (Discuss with management first.)	Date enforcement issues are resolved.
EPA objects to the permit. (Discuss with management first.)	Date EPA objection is resolved.

Table 7-1. Common Stop and Corresponding Start Statutory Clock Examples.

## 7.2.5 Technical Review Comments

After receiving a complete application, the department may request additional information from the applicant when necessary to clarify, modify or supplement previously submitted material. Send the comments to the applicant and copy the consultant and others as appropriate. Comments are sent by certified mail, as necessary. The applicant should reply in a timely manner with reasonable responses. The department will make a good faith effort to identify all deficiencies in the first technical review comment letter.

The department has developed a comment letter template for internal use.

- ◆ Construction permit comment letter.

In accordance with 10 CSR 20-6.010(4)(E), the department will consider the construction permit application incomplete and withdrawn, if no response has been received after two certified comment letters during the established timeframe. The review engineer will change the Application Status to “Withdrawn” in MoCWIS, which will automatically stop the clock. The applicant forfeits the construction application fee received by the department. The department will keep a copy of the application form for the file and send the original application back to the applicant.

- ◆ Construction permit returned as incomplete letter.

## 7.2.6 Supervisory Engineer

If conflicts arise between the review engineer and the consultant or applicant, they may contact the appropriate supervisory engineer to settle the dispute.

- ◆ Supervisory Registered Professional Engineer Contacts within the Department of Natural Resources Memo dated Sept. 1, 2011.

## 7.2.7 Construction Permit Transfers

Construction permits may be transferred to a new owner or continuing authority. The applicant needs to complete the Application for Transfer of a Construction Permit form. The department will then notify the new applicant within 30 days of receipt of the application of the intent to transfer the construction permit. See 10 CSR 20-6.010(11). The department shall re-issue the construction permit to the new owner or continuing authority with the original expiration date.

- ◆ *Application for Transfer of a Construction Permit*, <http://www.dnr.mo.gov/forms/780-2156-f.pdf>

## 7.2.8 Construction Permit Withdrawal

If an applicant wishes to withdraw their construction permit application, they must submit the request in writing to the department. The review engineer will change the Application Status to “Withdrawn” in MoCWIS, which will automatically stop the clock. The applicant forfeits the construction permit application fee received by the department, in accordance with 10 CSR 20-6.011(4)(B). The department will keep a copy of the application form for the file and send the original application back to the applicant.

- ◆ Construction permit withdrawn letter.

## 7.2.9 Construction Permit Denial

A denial is a permitting decision by the department. The reasons for a construction permit denial are serious and require supervisor agreement. Some justifications for a permit denial include protection of public health and the environment and upholding the Missouri Clean Water Commission regulations.

If the facility is under enforcement action, coordinate the construction permit denial decision with the enforcement case manager.

The review engineer will change the application status to “Denied” in MoCWIS, which will automatically stop the clock. The division director will sign the denial letter with a list of deficiencies, enclose the construction permit application with the denial letter and keep a copy for the file. The construction permit fee shall be forfeited. See 10 CSR 20-6.010(4)(E).

- ◆ Construction permit denial letter.

# 7.3 Construction Permit Issuance

## 7.3.1 Construction Permit Timeline

Construction permits generally expire one year from the date of issuance. See 10 CSR 20-6.010(4)(G). Some construction projects may take longer than a year to complete. When necessary, the applicant should notify the review engineer of the contract time needed to complete construction. The department wishes to provide the applicant sufficient time to construct the project.

Issued construction permits are located on the Final Construction Permits webpage at <http://www.dnr.mo.gov/env/wpp/permits/wpcpermits-cp-issued.htm>

## 7.3.2 Construction Permit Extension

Construction permit extensions may be issued provided the extension is requested in writing a minimum of 30 days prior to the expiration of the original construction permit. The extension request should contain sufficient justification for the extension (i.e., delays, weather, etc.) and the amount of time considered necessary to complete the project. Construction permits may only be extended one time. See 10 CSR 20-6.010(4)(G). A new construction permit application and fee is required when a construction permit expires prior to construction completion.

The department has developed a construction permit extension internal template for internal use.

- ◆ Construction permit extension.

After the construction permit extension has been approved, update MoCWIS with the revised construction permit expiration date.

## 7.4 Construction Completion

### 7.4.1 Letter of Authorization

A letter of authorization request shall be submitted for all non-funded collection system projects. Per 10 CSR 20-6.010(6)(B), "...owners or operators of sanitary sewer systems or extensions for which construction permits were issued shall apply for a letter of authorization for operation. The system or extension then shall be considered as a part of the treatment facility to which it is tributary for permit purposes." The *Application for Letter of Authorization - Sewer Extension* form is located on the department's website at [www.dnr.mo.gov/forms/780-2154-f.pdf](http://www.dnr.mo.gov/forms/780-2154-f.pdf).

The department has developed the following internal template approval letter.

- ◆ Letter of authorization.

### 7.4.2 Substantial Completion and Operable

Often, construction progresses to a point where the wastewater treatment facility is substantially complete and operable before the entire project is finished. For facilities with a current Missouri State Operating Permit, the wastewater treatment facility continues to operate under the existing Missouri State Operating Permit. A new wastewater treatment facility needs to obtain an issued Missouri State Operating Permit in order to discharge. The department has developed the Substantial Completion and Operable Wastewater Construction form to allow new wastewater treatment facilities the ability to request an issued Missouri State Operating Permit.

Applicants should submit the *Substantial Completion and Operable Wastewater Construction* form, [www.dnr.mo.gov/forms/780-2152-f.pdf](http://www.dnr.mo.gov/forms/780-2152-f.pdf), with the appropriate Form A, B or B2 and applicable fee to issue or modify the Missouri State Operating Permit, as necessary.

### 7.4.3 Statement of Work Completed

A Statement of Work Complete shall be submitted for all wastewater treatment facility projects after construction is complete. The consultant submits this form to certify the completed project was constructed in accordance with approved plans and specifications. See 10 CSR 20-6.010(5)(D).

Applicants should submit the *Statement of Work Completed* form, [www.dnr.mo.gov/forms/780-2155-f.pdf](http://www.dnr.mo.gov/forms/780-2155-f.pdf), with the appropriate Form A, B or B2 and applicable fee to issue or modify the Missouri State Operating Permit, as necessary.

### 7.4.4 As Builts

After construction is complete, the consultant shall submit the as built plans in electronic form on a CD, and in the Adobe® PDF searchable format. If the as builts are scanned, set the resolution to a minimum of 200 dpi at 17 by 22 inches. The department has limited file space and an electronic copy on disc can be filed for future inspection use.

These plans shall clearly show any changes to approved plans and specifications. See 10 CSR 20-8.110(8).

## 7.5 Construction Permit Appeals

The department's permitting decisions (e.g. permit denials and permit issuances) can be contested by the applicant.

If an applicant is adversely affected by a permitting decision, they may appeal to have the matter heard by the Administrative Hearing Commission, [www.oa.mo.gov/ahc/](http://www.oa.mo.gov/ahc/), in accordance with 10 CSR 20-1.020, [www.sos.mo.gov/adrules/csr/current/10csr/10c20-1.pdf](http://www.sos.mo.gov/adrules/csr/current/10csr/10c20-1.pdf). To appeal, the applicant must file a petition with the commission within 30 days after the date the permit decision was mailed. If any such petition is sent by registered mail or certified mail, it will be deemed filed on the date it is mailed. If it is sent by any method other than registered mail or certified mail, it will be deemed filed on the date it is received by the commission.

The hearing will be conducted in accordance with RSMO §536, [www.moga.mo.gov/statutes/c536.htm](http://www.moga.mo.gov/statutes/c536.htm), and the regulations of the Administrative Hearing Commission. Department staff may be called to testify.

The Administrative Hearing Commission will provide a written recommendation to the Clean Water Commission. The Clean Water Commission may adopt the recommendation in accordance with 10 CSR 20-1.020(4)(B)7.



# 8

## Plans and Specifications

### 8.1 All Projects

A Missouri registered professional engineer must sign, seal and date each plan sheet and the technical specifications and summary of design. See 20 CSR 2030-3.060(3) for acceptable seal use.

#### 8.1.1 Summary of Design

A design summary is required with all plans and specifications for construction. See 10 CSR 20-8.110(5). This document provides information to determine compliance with applicable regulations without having to spend considerable time gathering the same information from each page of the plans and specifications.

See *Summary of Design Guidance for Facilities with a Design Flow of 22,500 gpd or Greater*, [www.dnr.mo.gov/pubs/pub2417.pdf](http://www.dnr.mo.gov/pubs/pub2417.pdf), for guidance on what is included in a design summary.

#### 8.1.2 Review of Plans and Specifications

Review the submitted plans and specifications in accordance with 10 CSR 20-8.110(6) in addition to applicable rules in 10 CSR 20-8 and provide comments.

#### 8.1.3 Revised Plans and Specifications

Revised plans and specifications should contain a summary of the modifications and their locations to aid in the review process, decreasing the subsequent review time required.

### 8.2 Non-Funded Projects

The review engineer shall request three copies of the final plans and specifications when comments have been addressed and the proposed project is considered approvable.

The department will issue the construction permit and stamp final plans and specifications with an approval date. The original issued construction permit and a copy of the approved plans and specifications will be sent to the applicant and a copy will be sent to the appropriate department regional office. The department will retain the third copy of the issued construction permit and approved plans and specifications for the project file.

## 8.3 Funded Projects

The plans and specifications for projects that are department-funded have additional requirements and are also reviewed by a project coordinator before approval. See 10 CSR 20-4 for specific requirements.

### 8.3.1 Sole Source

“A specification shall not require the use of structures, materials, equipment or processes which are known to be available only from a sole source, unless the department determines that the recipient’s engineer has adequately justified in writing to the department that the proposed use meets the particular project’s minimum needs”, per 10 CSR 20-4.040(18)(D). For State Revolving Fund, State Direct Loan or State and Tribal Assistance Grant projects, the review engineer evaluates the technical specifications for compliance with the sole source restriction clause in addition to 10 CSR 20-8. Any sole source requests must be addressed and approved during the facility planning stage.

- ◆ Sole source approval letter.

### 8.3.2 Assurance Items/Front End Documents

The following specification checklists are utilized by grant and loan coordinators to determine project funding eligibility.

- ◆ State Revolving Fund and State Direct Loan specification checklist.
- ◆ Forty Percent specification checklist.
- ◆ Small Borrower Loan specification checklist.
- ◆ Rural Sewer Grant specification checklist.
- ◆ State and Tribal Assistance Grants specification checklist.

### 8.3.3 Final Plans and Specifications Submittal

Department-funded projects require additional sets of final plans and specifications for approval. See the list below to determine how many copies are required.

- ◆ Applicant.
- ◆ Consultant.
- ◆ Department regional office.
- ◆ Department review engineer.
- ◆ Department funding coordinator, if State and Tribal Assistance Grant funding is involved.
- ◆ Other funding programs, if applicable.

# 9 Addenda and Change Orders

## 9.1 All Projects

“Any deviations from approved plans or specifications affecting capacity, flow, system layout, operation of units, or point of discharge shall be approved by the department in writing before such changes are made” per 10 CSR 20-8.110(8). Therefore, addenda and change orders must be submitted in advance of the affected construction work. Also, in accordance with 10 CSR 20-8.110(8), “[s]tructural revisions or other minor changes not affecting capacities, flows, or operation will be permitted during construction without approval.”

Consultants are encouraged to contact the review engineer for pre-approval of major changes, prior to executing the addendum or change order.

Addenda and change orders are considered a priority review for a review engineer. These are active construction projects, which involve pay requests for material and labor.

### 9.1.1 Addendum

A change to the approved plans and specifications prior to the bid opening requires an addendum. A Missouri registered professional engineer must sign, seal and date addenda.

### 9.1.2 Change Order

A change to the approved plans and specifications after the bid award and the contract execution requires a change order.

Occasionally, supplementary items such as additional specification or plan sheets with revisions are necessary to review a proposed change order. A Missouri registered professional engineer must sign, seal and date these items.

Executed change orders require the signatures of the applicant/owner, the contractor and the consultant. The department does not sign change orders, as we are not party to the contract.

## 9.2 Non-Funded Projects

The department has developed the following internal checklist guidance document to assist with the review of change orders. We do not envision the checklist would be a form that need to be filled out, just a memory jogging tool.

- ◆ Change order review checklist.

The review engineer shall request three copies of each addendum or change order and stamp each with an approval date. The original approved addendum or change order and approval letter will be sent to the applicant and a copy will be sent to the appropriate department regional office. The department will retain the third copy of the addendum or change order and approval letter for the project file.

The department has developed the following approval letter templates for internal use.

- ◆ Addendum approval letter.
- ◆ Change order approval letter

## 9.3 Funded Projects

Review and evaluate the addenda and change orders for compliance with 10 CSR 20-4 and 10 CSR 20-8.

The changes must be consistent with the department approved facility plan and environmental determination. If the environmental impacts are greater due to the addenda or change order, additional clearances or a revised environmental determination may be necessary for State Revolving Fund or State Direct Loan funded projects.

The grant and loan project coordinators review changes orders in order to verify the line items match the original contract bid. New line items should be sequential.

If the project includes deductive bid alternates, the order in which they will be taken should be specified by the bidding documents, as funding allows. Alternates not added or deducted, at the time of contract award/execution may only be added or deducted by change order.

The department has developed the following internal checklist guidance document to assist with the review of change orders. We do not envision the checklist would be a form that need to be filled out, just a memory jogging tool.

- ◆ Change order review checklist.

Separate the eligible costs and ineligible costs, according to 10 CSR 20-4, on the approval letter. The department has developed internal template approval letters for addenda and change orders.

- ◆ Addendum approval letter.
- ◆ Change order approval letter.

Department-funded projects require additional sets of addenda or change orders for approval. See the list below to determine how many copies are required.

- ◆ Applicant.
- ◆ Consultant.
- ◆ Department regional office.
- ◆ Department review engineer.
- ◆ Department funding coordinator, if State and Tribal Assistance Grant funding is involved.
- ◆ Other funding programs, if applicable.



# 10 Construction Inspections

## 10.1 Non-Funded Projects

### 10.1.1 Final Construction Inspections

Final inspections for pumping stations, alternative sewer systems and wastewater treatment facilities are conducted to ensure the project has been completed in accordance with approved plans and specifications. The consultant usually notifies the department when construction is complete. Final inspections should be conducted prior to issuing a Missouri State Operating Permit.

There are times when two final inspections are appropriate to follow up on significant deficiencies or when a facility submits a *Substantial Completion and Operable Wastewater Construction* form and at a later date submits a *Statement of Work Completed* with as built.

Participants of the final inspection may include the applicant, consultant and regional office engineer.

- ◆ Inspection report non-funded.

### 10.1.2 Missouri Clean Water Information System Inspection Tracking

Enter and track all construction inspections in MoCWIS.

- 1) Login to MoCWIS with the System Role of “Inspectors”.
- 2) Click on Compliance Monitoring.
- 3) Enter the Permit ID (i.e., construction permit number).
  - a) Click Search.
- 4) Click on Select to the left of the Permit ID.
  - a) Select CM Activity Type as Inspection.
  - b) Select Workplan Category as Construction Inspection.
    - i) Click Continue.
- 5) Enter the applicable information.
  - a) Click Add.

## 10.2 Funded Projects

### 10.2.1 Site Surveys

Site surveys are conducted for department funded projects, as needed, during the facility plan stage. A site visit allows the review engineer to become familiar with the site and layout of the community.

The site survey should include the consultant, review engineer and a regional office engineer as necessary. Though not required, project coordinators are encouraged to attend and should be invited. The following internal form should be used during the visit and included in the project file.

- ◆ Financial Assistance Center site survey.

### 10.2.2 Pre-Construction Conference

The pre-construction conference is a meeting of the applicant, consultant, contractor, regional office engineer, project coordinator and review engineer as necessary. This meeting occurs after concurrence of contract award by the department and contract execution, for funded projects and before initiation of construction.

A list of attendees and the contractors' schedule should be copied for the file. The following internal form should be used during the pre-construction conference.

- ◆ Financial Assistance Center pre-construction conference.

Record the appropriate information into the State Revolving Fund database. After completing the data entry, email the project coordinator and review engineer to notify them that the pre-construction conference was conducted and entered.

### 10.2.3 Quarterly or Interim Inspections

Quarterly inspections are informal and usually involve the consultant or the consultant's resident inspector and the regional office engineer or review engineer as necessary. Though not required, project coordinators are encouraged to attend and should be invited.

Quarterly inspections allow the department to determine whether construction is in accordance with approved plans and specifications and if funds are being used appropriately. The following internal form should be used during the inspection.

- ◆ Financial Assistance Center inspection.

Record the appropriate information into the State Revolving Fund database and MoCWIS.

Send a copy of the inspection cover letter, State Revolving Fund-generated inspection report and appropriate photographs to the applicant, consultant, project coordinator and review engineer. Retain a copy of the inspection report for the regional office file.

- ◆ Inspection cover letter funded.

## 10.2.4 Final Construction Inspections

Final inspections are conducted to ensure the project has been completed in accordance with approved plans and specifications. The consultant usually notifies the department when construction is complete. Final inspections should be conducted prior to issuing a Missouri State Operating Permit.

There are times when two final inspections are appropriate to follow up on significant deficiencies or when a facility submits a *Substantial Completion and Operable Wastewater Construction* form and at a later date a *Statement of Work Completed* with as built.

Participants of the final inspection should include the applicant, consultant, regional office engineer, project coordinator and review engineer. The following internal form should be used during the inspection.

- ◆ Financial Assistance Center inspection.

Record the appropriate information into the State Revolving Fund database and MoCWIS.

The department will send a copy of the inspection cover letter, State Revolving Fund-generated inspection report and appropriate photographs to the applicant, consultant, project coordinator and review engineer. Retain a copy of the inspection report for the regional office file.

- ◆ Inspection cover letter funded.

## 10.2.5 State Revolving Fund System Inspection Tracking

Enter and track all funded inspections in the department's State Revolving Fund System database.

- 1) Login to the State Revolving Fund System.
- 2) Click the Projects tab.
  - a) Enter the Project Name.
    - i) Click Search.
- 3) Click on the Project Code.
- 4) Click the Inspections tab.
  - a) Click Add.
    - i) Enter the applicable information.
    - ii) Click OK.
- 5) Click on Inspection Participants.
  - a) Click Add.
    - i) Enter the applicable information.
    - ii) Click OK.
    - iii) Repeat for each Inspection Participant.
  - b) Click Exit.
- 6) Click Inspection Id.
  - a) Click Add.
    - i) Choose the Inspection Detail Type from the drop down box.
    - ii) Enter the applicable information.
    - iii) Repeat for each applicable Inspection Detail Type.
  - b) For projects that have multiple contracts:
    - i) Choose the contract from the Inspection Detail Type.
      - (1) Enter the Contract Percent Complete.
      - (2) Enter any other applicable information.
    - ii) Repeat for each contract.
  - c) Click Exit.
- 7) Click Generate Report.

## 10.2.6 Missouri Clean Water Information System Inspection Tracking

Enter and track all funded inspections in MoCWIS. This will allow staff without access to the State Revolving Fund system database, to view funded inspections for a particular facility.

- 1) Login to MoCWIS with the System Role of “Inspectors”.
- 2) Click on Compliance Monitoring.
- 3) Enter the Permit ID (i.e., construction permit number).
  - a) Click Search.
- 4) Click on Select to the left of the Permit ID.
  - a) Select CM Activity Type as Inspection.
  - b) Select Workplan Category as State Revolving Fund inspections and enhancement.
    - i) Click Continue.
- 5) Enter the applicable information.
  - a) Click Add.



# 11 Gravity Sewers

## 11.1 All Projects

On Feb. 29, 2012, the proposed amendment to 10 CSR 20-8.120, Design of Gravity Sewers, became effective. This rule amendment mainly consists of clarifying the language and updating citations.

### 11.1.1 Review Guidance

The department has developed the following internal guidance documents to assist with the review of gravity sewer projects. We do not envision the checklist and spreadsheet would be forms that need to be filled out, just memory jogging tools.

- ◆ Design of gravity sewers checklist.
- ◆ Gravity sewer spreadsheet.

### 11.1.2 Repairs and Maintenance

Routine maintenance is considered replacing like with like and is exempt. See 6.1.3 Routine Maintenance of this manual for more information.

The department often receives questions on what is considered routine maintenance and what requires a construction permit. The following are common examples that require a construction permit:

- ◆ Replacing an existing sewer line with a larger diameter pipe.
- ◆ Replacing an existing sewer line with the same diameter pipe, but the grade has changed.
- ◆ Replacing an existing sewer line with the same diameter pipe and the same grade, but in a separate trench.

### 11.1.3 Leakage Testing

RSMO §644.026.1(12), [www.moga.mo.gov/statutes/c600-699/6440000026.htm](http://www.moga.mo.gov/statutes/c600-699/6440000026.htm), states that the department cannot require leakage tests for manholes and PVC pipe used for gravity sewers with a diameter up to 27 inches. Since statutes override rules, the department cannot enforce 10 CSR 20-8.120(5)(I)3.-5. and 10 CSR 20-8.120(6)(G) in these circumstances. Leakage tests can be recommended as a good engineering practice, if the specifications do not include these tests.

- ◆ Leakage Tests for Sewer Systems Memo dated Nov. 20, 2000.

### 11.1.4 Receiving Treatment Facility Capacity

Review engineers shall check the capacity of the receiving wastewater treatment facility prior to issuing a construction permit. This check can be accomplished by reviewing the discharge monitoring reports, reported flow values for the past year. This assessment allows the department to evaluate the obligated capacity from previously constructed sewer extensions for the receiving wastewater treatment facility.

When a wastewater treatment facility meets or exceeds 80 percent of the design average flow, the review engineer should schedule a site visit or meeting and discuss remaining capacity.

- ◆ Review of Sewer Extensions Letter dated Dec. 29, 2003.

If a receiving wastewater treatment facility is nearing or exceeding their design average flow and a sewer extension has been requested, the department will review these on a case-by-case basis. If the proposed sewer extension will eliminate documented failing on-site systems, the department may approve the sewer extension. The department may deny the sewer extension construction permit application in the following instances:

- ◆ Chronic hydraulic overloading.
- ◆ Permit limit violations.
- ◆ Documented sanitary sewer overflows.
- ◆ Documented bypasses at the wastewater treatment facility.

Any construction permit denials will follow the 7.2.9 Construction Permit Denial procedures in this manual.

### 11.1.5 Sewer Extension Review Time Goal

Review engineers should strive to review and issue simple gravity sewer extension construction permits within a two week timeframe. The memo from 1994 established this goal for review engineers in order to improve our services. The statutory review deadline is 60 days for sewer extension construction permit applications. See 7.2.2 Statutory Deadlines of this manual for more information. The memo's attached permit conditions are no longer used, due to outdated citations and updated permit conditions.

- ◆ Revision to Sewer Extension Review Process Memo dated Dec. 12, 1994.

### 11.1.6 Construction Permit Template

The department has developed an internal construction permit template.

- ◆ Construction permit for sewer extensions.

## 11.2 Approved Sewer Programs

“Persons who construct sewers tributary to a system operated by one (1) of the continuing authorities listed in paragraphs (3)(B)1. or (3)(B)2. will be exempt from the construction permit requirements for sewers if the continuing authority administers a permit program which has been approved by the department”, per 10 CSR 20-6.010(6)(A).

In order to obtain approval from the department, the following are required in accordance with 10 CSR 20-6.010(6)(A)1.:

- ◆ Written request for approval from the continuing authority.
- ◆ Procedures on approving sewer construction permits.
- ◆ Standard specifications and typical appurtenance construction details, to which all construction will be required to adhere.
- ◆ Employment of a sufficient number of professional engineers and other qualified staff to review plans, issue permits, prepare reports, inspect construction and enforce local and state requirements for each sewer extension.
- ◆ Employment of a sufficient number of qualified personnel to supervise construction or that the applicant has enforceable ordinances which require construction supervision and subsequent certification by a professional engineer.
- ◆ Able to maintain permanent plans of all sewers constructed and maintain records of sewer extension approvals and reports.

The department will review the submitted materials and may ask for additional information if necessary. Department approval may be granted for up to five years in the applicant's Missouri State Operating Permit. This approval may be modified or revoked by the department at any time.

## 11.2.2 Entities with Approved Sewer Programs

The following entities currently have department approved sewer programs:

- ◆ City of Blue Springs.
- ◆ City of Columbia.
- ◆ City of Kansas City.
- ◆ City of Jefferson City.
- ◆ City of Joplin.
- ◆ City of Lebanon.
- ◆ City of Springfield.
- ◆ City of St. Peters.
- ◆ Duckett Creek Sewer District.
- ◆ Metropolitan St. Louis Sewer District.

## 11.2.3 Funded Projects

Department approved construction permit programs for sewers do not require a technical review of plans and specifications for funded projects. However, review of plans and specifications for compliance with 10 CSR 20-4 is required. No construction permit application or fee is required for these projects.

- ◆ Reduction of Reviews for Entities with an Approved Permit Program for Sewers Memo dated Dec. 23, 2005.

The number of sets of final plans and specifications will be in accordance with 8.3.3 Final Plans and Specifications Submittal of this manual.

The department has developed an internal letter to approve plans and specifications for entities with a department approved sewer program.

- ◆ Plans and specifications approval letter for entities with approved sewer programs.

# 12 References

10 CSR 20-1: [www.sos.mo.gov/adrules/csr/current/10csr/10c20-1.pdf](http://www.sos.mo.gov/adrules/csr/current/10csr/10c20-1.pdf)

10 CSR 20-2: [www.sos.mo.gov/adrules/csr/current/10csr/10c20-2.pdf](http://www.sos.mo.gov/adrules/csr/current/10csr/10c20-2.pdf)

10 CSR 20-4: [www.sos.mo.gov/adrules/csr/current/10csr/10c20-4.pdf](http://www.sos.mo.gov/adrules/csr/current/10csr/10c20-4.pdf)

10 CSR 20-6: [www.sos.mo.gov/adrules/csr/current/10csr/10c20-6a.pdf](http://www.sos.mo.gov/adrules/csr/current/10csr/10c20-6a.pdf)

10 CSR 20-7: [www.sos.mo.gov/adrules/csr/current/10csr/10c20-7a.pdf](http://www.sos.mo.gov/adrules/csr/current/10csr/10c20-7a.pdf)

10 CSR 20-8: [www.sos.mo.gov/adrules/csr/current/10csr/10c20-8.pdf](http://www.sos.mo.gov/adrules/csr/current/10csr/10c20-8.pdf)

20 CSR 2030-3: [www.sos.mo.gov/adrules/csr/current/20csr/20c2030-3.pdf](http://www.sos.mo.gov/adrules/csr/current/20csr/20c2030-3.pdf)

*3,000 Gallon Per Day or Less No-Discharge Permit Exemption for Domestic Wastewater Design Guidance* fact sheet: [www.dnr.mo.gov/pubs/pub1319.pdf](http://www.dnr.mo.gov/pubs/pub1319.pdf)

*3,000 Gallons Per Day or Less No-Discharge Permit Exemption for Domestic Wastewater Facilities (Lagoons)* fact sheet: [www.dnr.mo.gov/pubs/pub2213.pdf](http://www.dnr.mo.gov/pubs/pub2213.pdf)

Administrative Hearing Commission: [www.oa.mo.gov/ahc/](http://www.oa.mo.gov/ahc/)

Antidegradation Implementation: [www.dnr.mo.gov/env/wpp/permits/antideg-implementation.htm](http://www.dnr.mo.gov/env/wpp/permits/antideg-implementation.htm)

Antidegradation Rule and Implementation Procedure:  
[www.dnr.mo.gov/env/wpp/docs/aip-cwc-appr-050708.pdf](http://www.dnr.mo.gov/env/wpp/docs/aip-cwc-appr-050708.pdf)

*Application for Letter of Authorization – Sewer Extension* form: [www.dnr.mo.gov/forms/780-2154-f.pdf](http://www.dnr.mo.gov/forms/780-2154-f.pdf)

*Application for Transfer of Construction Permit* form: [www.dnr.mo.gov/forms/780-2156-f.pdf](http://www.dnr.mo.gov/forms/780-2156-f.pdf)

Boone County Regional Sewer District: <http://bcrsd.com/site/>

*Clean Water State Revolving Fund Project Facility Plan Guidance* fact sheet:  
[www.dnr.mo.gov/pubs/pub2418.pdf](http://www.dnr.mo.gov/pubs/pub2418.pdf)

*Direct Loan Program* fact sheet: [www.dnr.mo.gov/pubs/pub2306.pdf](http://www.dnr.mo.gov/pubs/pub2306.pdf)

Division of Geology and Land Survey: [www.dnr.mo.gov/geology/index.html](http://www.dnr.mo.gov/geology/index.html)

East-West Gateway Council of Governments: <http://www.ewgateway.org/>

*Engineering Report Guidance for Collection Systems with a Design Flow of 22,500 gpd or Greater* fact sheet: [www.dnr.mo.gov/pubs/pub2415.pdf](http://www.dnr.mo.gov/pubs/pub2415.pdf)

*Facility Plan Guidance for Wastewater Treatment Facilities with a Design Flow of 22,500 gpd or Greater* fact sheet: [www.dnr.mo.gov/pubs/pub2416.pdf](http://www.dnr.mo.gov/pubs/pub2416.pdf)

Final Construction Permits: [www.dnr.mo.gov/env/wpp/permits/wpcpermits-cp-issued.htm](http://www.dnr.mo.gov/env/wpp/permits/wpcpermits-cp-issued.htm)

Final Site Specific Permits: [www.dnr.mo.gov/env/wpp/permits/wpcpermits-issued.htm](http://www.dnr.mo.gov/env/wpp/permits/wpcpermits-issued.htm)

Forms, Applications, Permits, Manuals and Associated Documents: [www.dnr.mo.gov/forms/index.html#WaterPollution](http://www.dnr.mo.gov/forms/index.html#WaterPollution)

*Forty Percent State Construction Grant Program* fact sheet: [www.dnr.mo.gov/pubs/pub2304.pdf](http://www.dnr.mo.gov/pubs/pub2304.pdf)

Memorandum of Understanding with the Missouri Department of Health and Senior Services: [www.dnr.mo.gov/compliancemanual/memoofunderstanding.pdf](http://www.dnr.mo.gov/compliancemanual/memoofunderstanding.pdf)

Mid-America Regional Council: [www.marc.org/](http://www.marc.org/)

Missouri Clean Water Commission: [www.dnr.mo.gov/env/wpp/cwc/index.html](http://www.dnr.mo.gov/env/wpp/cwc/index.html)

Missouri Clean Water Information System: [www.dnr.mo.gov/cwis/](http://www.dnr.mo.gov/cwis/)

Missouri Public Service Commission: [www.psc.mo.gov](http://www.psc.mo.gov)

*Missouri's Water Pollution Control Permits Manual*: [www.dnr.mo.gov/env/wpp/permits/manual/permit-manual.htm](http://www.dnr.mo.gov/env/wpp/permits/manual/permit-manual.htm)

National Environmental Policy Act: [www.epa.gov/compliance/nepa/](http://www.epa.gov/compliance/nepa/)

*No Degradation Evaluation Conclusion of Antidegradation Review* form: [www.dnr.mo.gov/forms/780-2026-f.pdf](http://www.dnr.mo.gov/forms/780-2026-f.pdf)

Permit Public Notice: [www.dnr.mo.gov/env/wpp/permits/permit-pn.htm](http://www.dnr.mo.gov/env/wpp/permits/permit-pn.htm)

Publications, Manuals, Video and Other Media: [www.dnr.mo.gov/pubs/index.html#WaterPollution](http://www.dnr.mo.gov/pubs/index.html#WaterPollution)

*Recommended Standards for Wastewater Facilities*: <http://10statesstandards.com/wastewaterstandards.html>

*Request for Geohydrologic Evaluation of Liquid-Waste Treatment Facility/Site* form: [www.dnr.mo.gov/forms/780-1688-f.pdf](http://www.dnr.mo.gov/forms/780-1688-f.pdf)

*Rural Sewer Grant Program* fact sheet: [www.dnr.mo.gov/pubs/pub2307.pdf](http://www.dnr.mo.gov/pubs/pub2307.pdf)

RSMO §249.1000: [www.moga.mo.gov/statutes/C200-299/2490001000.htm](http://www.moga.mo.gov/statutes/C200-299/2490001000.htm)

RSMO §250.233: [www.moga.mo.gov/statutes/c200-299/2500000233.htm](http://www.moga.mo.gov/statutes/c200-299/2500000233.htm)

RSMO §536: [www.moga.mo.gov/statutes/C536.htm](http://www.moga.mo.gov/statutes/C536.htm)

RSMO §644.026.1: [www.moga.mo.gov/statutes/C600-699/6440000026.htm](http://www.moga.mo.gov/statutes/C600-699/6440000026.htm)

RSMO §644.051.13(1): [www.moga.mo.gov/statutes/C600-699/6440000051.htm](http://www.moga.mo.gov/statutes/C600-699/6440000051.htm)

RSMO §644.145: [www.moga.mo.gov/statutes/C600-699/6440000145.htm](http://www.moga.mo.gov/statutes/C600-699/6440000145.htm)

RSMO §701.025(12): [www.moga.mo.gov/statutes/c700-799/7010000025.htm](http://www.moga.mo.gov/statutes/c700-799/7010000025.htm)

*Sewer System Organization and Financing* fact sheet: [www.dnr.mo.gov/pubs/pub2007.pdf](http://www.dnr.mo.gov/pubs/pub2007.pdf)

*Appendix - Sewer Systems Organization and Financing* fact sheet: [www.dnr.mo.gov/pubs/pub2008.pdf](http://www.dnr.mo.gov/pubs/pub2008.pdf)

*State Forty Percent Construction Grant Project Facility Plan Guidance* fact sheet:  
[www.dnr.mo.gov/pubs/pub2256.pdf](http://www.dnr.mo.gov/pubs/pub2256.pdf)

*Statement of Work Completed* form: [www.dnr.mo.gov/forms/780-2155-f.pdf](http://www.dnr.mo.gov/forms/780-2155-f.pdf)

*Substantial Completion and Operable Wastewater Construction* form: [www.dnr.mo.gov/forms/780-2152-f.pdf](http://www.dnr.mo.gov/forms/780-2152-f.pdf)

*Summary of Design Guidance for Facilities with a Design Flow of 22,500 gpd or Greater* fact sheet:  
[www.dnr.mo.gov/pubs/pub2417.pdf](http://www.dnr.mo.gov/pubs/pub2417.pdf)

Wastewater Construction Permitting:  
[www.dnr.mo.gov/env/wpp/permits/ww-construction-permitting.htm](http://www.dnr.mo.gov/env/wpp/permits/ww-construction-permitting.htm)

Water Protection Financial Assistance Center: [www.dnr.mo.gov/env/wpp/srf/index.html](http://www.dnr.mo.gov/env/wpp/srf/index.html)

*Who Regulates Domestic Wastewater in Missouri?* fact sheet: [www.dnr.mo.gov/pubs/pub1296.pdf](http://www.dnr.mo.gov/pubs/pub1296.pdf)

*You Need Sewers in Your Community* fact sheet: <http://www.dnr.mo.gov/pubs/pub2006.pdf>



**MISSOURI**  
**DEPARTMENT OF**  
**NATURAL RESOURCES**