

New Rule Package & DEQ-8 2017 Edition (Finally)

Missoula, Kalispell, Bozeman, Billings, & Helena, MT

Fall 2018

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Montana Department of Environmental Quality

Overview

- * New Rules
- * New Stormwater Rules
- * Updated Circular
- * New Spreadsheets

New Rules

17.36.106 Review Procedures – Applicable Rules

17.36.106

ENVIRONMENTAL QUALITY

17.36.106 REVIEW PROCEDURES--APPLICABLE RULES (1) The procedures **and timelines** for review of subdivision applications by the reviewing authority are as **provided in [Section 1, Chapter 344, Laws of 2017]**.

17.36.112 Re-review of Previously Approved Facilities: Procedures

(6) Facilities previously approved under Title 76, chapter 4, MCA, are not subject to re-review, if they are not proposed to be changed, are not affected by a proposed change to another facility, **are operating properly, and meet the conditions of their approval**. To determine whether previously approved water and sewer facilities are operating properly, the reviewing authority may require submittal of well logs, water sampling results, any septic permit issued, and evidence that the septic tank has been pumped in the previous three years.

17.36.116 Certification of Local Department or Board of Health

(2) A registered sanitarian or registered professional engineer, prior to performing subdivision review, shall:

(a) pass, with a score of at least 90%, a written examination administered by the department that demonstrates knowledge of:

(i) Title 76, chapter 4, MCA;

(ii) this chapter;

(iii) applicable department circulars;

(iv) Title 75, chapter 5, MCA;

(v) ARM Title 17, chapter 30, subchapters 5 and 7; and

(vi) other applicable laws and regulations;

(b) have a minimum of one year's experience performing subdivision review under the direct supervision of the department or of a department-approved registered sanitarian or professional engineer; and

(c) for individuals previously qualified under this subsection, complete at least one subdivision review in the preceding two years. Previously qualified individuals who have not completed at least one subdivision review in the preceding two years shall, prior to performing subdivision review, satisfy the requirements in subsection (2)(a).

17.36.314 Requirements for Systems Designed by Professional Engineers

(5) If construction of the system is not completed within three years after the department has issued its written approval of the plans and specifications, the approval is void and plans and specifications must be resubmitted to the department with appropriate fees, for review and approval. If the original conditions of approval, applicable rules, and design standards have not changed since the department approved the system, the department shall reissue the approval to allow an additional three years to complete construction. (History: 76-4-104, MCA; IMP, 76-4-125, MCA; NEW, 2014 MAR p. 2098, Eff. 9/19/14; AMD, 2018 MAR p. 1588, Eff. 8/11/18.)

17.36.326 Sewage Systems: Operation and Maintenance, Ownership, Easements, and Agreements

(5) If an application includes a shared or multiple-user sewage system that serves more than one lot, the applicant shall submit to the reviewing authority a draft user agreement that identifies the rights and responsibilities of each user. User agreements must be in a form acceptable to the department. (History: 76-4-104, MCA; IMP, 76-4-104, MCA; NEW, 2000 MAR p. 3371, Eff. 12/8/00; AMD, 2003 MAR p. 221, Eff. 2/14/03; AMD, 2016 MAR p. 722, Eff. 4/23/16; AMD, 2018 MAR p. 1588, Eff. 8/11/18.)

17.36.330 Water Supply Systems - General

(5) Each existing and proposed drinking water well in a proposed subdivision must be centered within a 100-foot radius well isolation zone. **Except as provided in 76-4-104(6)(i), MCA**, each proposed well isolation zone must be located wholly within the boundaries of the proposed subdivision where the well is located unless an easement or, for public land, other authorization is obtained from the landowner to place the proposed well isolation outside the boundaries of the proposed subdivision. This section does not apply to the divisions provided for in 76-3-207, MCA, except those under 76-3-207(1)(b), MCA. (History: 76-4-104, MCA; IMP, 76-4-104, MCA; NEW, 2002 MAR p. 1465, Eff. 5/17/02; AMD, 2003 MAR p. 221, Eff. 2/14/03; AMD, 2014 MAR p. 2098, Eff. 9/19/14; **AMD, 2018 MAR p.1588, Eff. 8/11/18.**)

- * a well isolation zone for an individual water system well that is a minimum of 50 feet inside the subdivision boundary may extend outside the boundaries of the proposed subdivision onto adjoining land that is dedicated for use as a right-of-way for roads, railroads, or utilities.

17.36.334 Water Supply Systems: Operation and Maintenance, Ownership, Easements, and Agreements

(5) If an application includes a shared or multiple-user water supply system that serves more than one lot, the applicant shall submit to the reviewing authority a draft user agreement that identifies the rights and responsibilities of each user. User agreements must be in a form acceptable to the department. (History: 76-4-104, MCA; IMP, 76-4-104, MCA; NEW, 2002 MAR p. 1465, Eff. 5/17/02; AMD, 2014 MAR p. 2098, Eff. 9/19/14; AMD, 2016 MAR p. 722, Eff. 4/23/16; AMD, 2018 MAR p. 1588, Eff. 8/11/18.)

17.36.335 Water Supply Systems: Existing Systems

(a) The applicant shall submit, for each existing water supply source, water quality analyses for nitrates, nitrites and specific conductance. If an existing well is currently being used as a potable water supply within a proposed subdivision, a total coliform analysis must also be conducted. The nitrates, nitrites and specific conductance sample may not be older than one year prior to the date of the

One Other Small Rule Change

- * 17.36.804 Disposition of Fees, increased the reimbursement rate per lot for counties from \$25 to \$35.

New Stormwater Rules

17.36.310 Storm Drainage

17.36.310 STORM DRAINAGE (1) The applicant shall submit a storm drainage plan **in accordance with department Circular DEQ-8** to the reviewing authority.

(2) Storm drainage plans must be prepared by a professional engineer and must comply with the requirements in ARM 17.36.314 if the subdivision application proposes either of the following:

(a) six or more lots; or

(b) a lot proposed for use other than a single living unit, with greater than 25 percent impervious area.

17.36.310 Storm Drainage

(3) A storm drainage plan must include a maintenance plan for all drainage structures. The maintenance plan must describe the drainage structures, provide a maintenance schedule, and designate the entity responsible for performing maintenance. The reviewing authority may require the applicant to create a homeowner's association or other legal entity that will be responsible for maintenance of storm drainage structures and that will have authority to charge appropriate fees. The maintenance plan must include easements and agreements as necessary for operation and maintenance of all proposed storm drainage structures or facilities.

17.36.310 Storm Drainage

(4) The applicant shall obtain an easement if the reviewing authority determines the easement is needed to allow adequate operation and maintenance of the facilities. The easement must be filed with the county clerk and recorder at the time the certificate of subdivision approval issued under this chapter is filed. The easement must be in one of the following forms:

- (a) in writing signed by the grantor of the easement; or
- (b) if the same person owns both parcels, shown on the plat or certificate of survey for the proposed subdivision.

17.36.310 Storm Drainage

(5) The reviewing authority may exempt the requirements of (1), (2), and (3) for subdivisions located entirely within a first-class or second-class municipality, as described in 7-1-4111, MCA, or within a Municipal Separate Storm Sewer System (MS4) general permit area, as defined in ARM 17.30.1102, if:

(a) the applicant submits to the reviewing authority a letter of consent from the municipal or MS4 entity on a form provided by the department; and

(b) the municipal or MS4 entity either accepts the stormwater into a municipal storm water system or requires the applicant to comply with municipal or MS4 storm water drainage design standards.

(6) If material will be **displaced or added** within a delineated floodplain, the applicant shall provide evidence that the floodplain permit coordinator has been notified and that appropriate approvals have been obtained.

ARM 17.36.310(5) Form



ARM 17.36.310(5) Stormwater Certification
Sanitation in Subdivisions Act

Project Name: _____ EQ Number: _____

Consultant/Engineer: _____

Applicant: _____

Please Select:

First or Second-Class Municipality as defined in 7-1-4111, MCA*
Second-Class Municipality**

- Havre
- Anaconda
- Miles City
- Belgrade
- Livingston
- Laurel
- Whitefish
- Lewistown
- Sidney

Municipal Separate Storm Sewer System

- MTR040001 – Billings
- MTR040002 – Bozeman & MSU
- MTR040003 – Helena
- MTR040004 – Great Falls
- MTR040005 – Kalispell
- MTR040006 – Butte
- MTR040007 – Missoula
- MTR040008 – Malstrom AFB
- MTR040009 – MDT Helena
- MTR040010 – Yellowstone County
- MTR040011 – Missoula County
- MTR040012 – University of Montana
- MTR040013 – Cascade County

Certification (to be completed by MS4 or municipality):

I hereby certify in accordance with ARM 17.36.310(5) that the above selected municipality or MS4 entity consents to an exemption from the Department of Environmental Quality requirements to submit a stormwater plan for the aforementioned subdivision. Further, the municipality of MS4 entity will either accept the stormwater into the municipal stormwater system or will require the applicant to comply with municipal or MS4 stormwater drainage design standards.

Name Signature Date

Title Organization

*Note: All First-Class Municipalities in Montana have an MS4 General Permit.
**Based on 2010 Census population data.

[http://deq.mt.gov/Portals/112/Water/PWSUB/Subdivisions/ARM%2017.36.310\(5\)%20FormFillable.pdf](http://deq.mt.gov/Portals/112/Water/PWSUB/Subdivisions/ARM%2017.36.310(5)%20FormFillable.pdf)



Comments

- * Responses to comments received can be viewed here:
<http://www.mtrules.org/gateway/ShowNoticeFile.asp?TID=8726>
- * Rules will be updated on the Secretary of State website by September 30
 - * <http://www.mtrules.org>

Updated Circular

Updated Circular

- * Improved Layout:

- * Table of Contents (interactive)

- * List of Tables and Figures

- * Bookmarked PDF for easier navigation

- * Examples

- * Circular is available here:

- [http://deq.mt.gov/Portals/112/Water/PWSUB/Subdivisions/A_RM%2017.36.310\(5\)%20FormFillable.pdf](http://deq.mt.gov/Portals/112/Water/PWSUB/Subdivisions/A_RM%2017.36.310(5)%20FormFillable.pdf)

Updated Circular – Chapter 1

- * Applicability
- * Definitions
 - * 1.2.11. Intensity-Duration-Frequency (IDF) Curve means a graphical representation of the relationship between rainfall or rainfall intensity and duration for different frequencies.
 - * 1.2.19. Overtopping Roadways or Driveways means covering a road or driveway with storm water.
 - * 1.2.21. Pre-treatment Facility means a structure that improves storm water quality by reducing sediment, trash, debris, or organic materials. The term does not apply to the pre-treatment standards promulgated by the EPA and set forth in 40 C.F.R. Part 403 and 40 C.F.R. chapter 1, subchapter N.

Updated Circular – Chapter 2

Submission of Plans

- * All applications **must** include a report – §2.2
- * All applications **must** include plans – §2.3
- * Construction documents **may** be required for complex designs – §2.4
- * All plans – standard or simplified – **must** have an O&M plan – §2.5
- * Deviation procedures – §2.6

Updated Circular – Chapter 3

Design Criteria

- * Simplified Plan – §3.2 – may be used only if all of the following criteria are satisfied:
 - A. Impervious area slope < 3%;
 - B. Impervious area ≤ 25 percent of each lot; and
 - C. Will not alter historic runoff
- * No flow between lots
- * Design storm = 100 year event

Updated Circular – Chapter 3

Design Criteria

- * Standard Plan – §3.3 – must demonstrate that the proposed subdivision will not allow storm water to do any of the following:
 - A. Exceed the pre-development runoff to an adjoining property during the 2-year storm event;
 - B. Overtop roadways or driveways during a 10-year storm event; or
 - C. Inundate any buildings or drain fields during a 100-year storm event. This may be demonstrated through either narrative descriptions or calculations.

Updated Circular – Chapter 3

Design Criteria

- * Initial Storm Water Facility – §3.4
- * Storm drainage designs must include an Initial Storm Water Facility sized to infiltrate, evapotranspire, and/or capture for reuse the post-development runoff generated from the first 0.5 inches of rainfall on impervious areas.

$$V = \frac{(0.5 * A_{imp})}{12 \frac{inches}{ft}}$$

Where: V = minimum volume (ft³)

A_{imp} = total impervious area (ft²)

Updated Circular – Chapter 3

Design Criteria

- * Pre- and Post Development Conditions – §3.5
 - * Clarifies:
 - * when the entire pre-development condition should be considered unimproved.
 - * the procedure for rewrites.
 - * situation where post-development impervious area is unknown.

Updated Circular – Chapter 3

Design Criteria

- * Rainfall Intensity – §3.6

- * Derived 24-hour storm duration:

- A. Hydrometeorological Design Studies Center's Precipitation Frequency Data Server (NOAA Atlas 2), available online at <http://hdsc.nws.noaa.gov/hdsc/pfds/index.html>;
 - B. Data for select sites in Appendix A.
 - C. An IDF curve at the time of concentration; or
 - D. Other sources approved by the reviewing authority.

Updated Circular – Chapter 3

Design Criteria

- * Acceptable Methods– §3.7
 - * Variety of methods in Appendix B
 - * “Other methods may be used upon approval by the reviewing authority.”

Updated Circular – Chapter 3

Design Criteria

- * Storm Water Volume – §3.8
 - * Pre- and Post-development conditions.
 - * Simplified Plan – based on the 100-year storm event.
 - * Standard Plan – based on the 2-year storm event.

Updated Circular – Chapter 3

Design Criteria

- * Peak Flow – §3.9
 - * Simplified Plan – may not alter historic runoff patterns outside the boundaries of the lot.
 - * Standard Plan
 - * Onsite Drainage Basin
 - * Pre-Development Peak Flow for the 2-year storm event
 - * Post-Development Peak Flow for the 2-year storm event
 - * Post-Development Peak Flow for the 10-year storm event
 - * Post-Development Peak Flow for the 100-year storm event
 - * Offsite Drainage
 - * Peak Flow for the 2-year storm event
 - * Peak Flow for the 10-year storm event
 - * Peak Flow for the 100-year storm event

Updated Circular – Chapter 4

Conveyance Structures

- * Clarifies that impacts from sediment deposition and erosion must be addressed.
- * Conveyance structures must be designed to convey post-development peak flow
 - * without overtopping roadways or driveways during a 10-year storm event and
 - * without inundating any buildings or drain fields during a 100-year storm event.

Updated Circular – Chapter 4

Conveyance Structures

- * Describes three common types of conveyance structures:
 - * Open Channels
 - * Storm Sewers
 - * Culverts
- * And the design criteria for each.

Updated Circular – Chapter 5

Retention and Detention Facilities

- * Includes criteria for sizing, location, design details, and safety issues (where applicable)
- * Includes the criteria that the facility will not
 - * overtop roadways or driveways during a 10-year storm event and
 - * inundate any buildings or drain fields during a 100-year storm event.

Updated Circular – Chapter 5

Retention and Detention Facilities

- * Retention facilities:

- * Must be sized for the difference between the pre- and post-development runoff volumes, with no consideration for infiltration or designed outlet and include the volume of the initial storm water facility.
- * Side slopes must be no steeper than 3 to 1 and must be stabilized.
- * Should not be designed to hold runoff for > 72 hours.

Updated Circular – Chapter 5

Retention and Detention Facilities

* Detention facilities:

- * May not be used in simplified plans.
- * Must capture runoff and release it at a flow rate \leq pre-development peak flow rate for the 2-year storm event.
- * Capacity must include minimum volume requirement for an Initial Storm Water Facility as either infiltration or retention.
- * Should not be designed to hold runoff for > 72 hours.
- * Engineered outlet must be designed to provide a stabilized transition from the facility and reduce erosive velocities.

Updated Circular – Chapter 6

Infiltration Facilities

- * Infiltration facilities:
 - * Capacity must include minimum volume requirement for an Initial Storm Water Facility as either infiltration or retention.
 - * Must be sized in accordance with Appendix C (infiltration rates and testing procedure).
 - * Should be sized to drain in 48 hours.
- * Lawns and landscaping areas proposed as infiltration facilities must be sized using the appropriate runoff coefficient, curve number, or other factor consistent with the proposed land use and as designated by the selected design method in accordance with Appendix B.

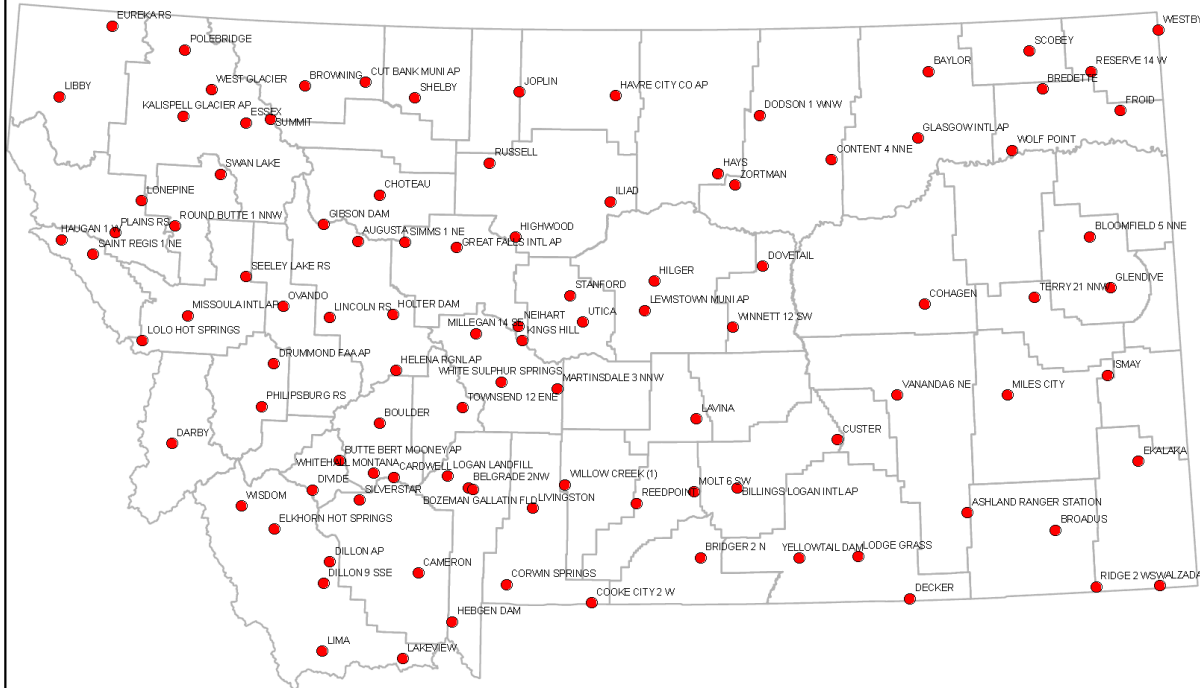
Updated Circular – Chapter 7

Pre-Treatment Facilities

- * “Only those facilities described in this Chapter may be used as pre-treatment facilities.”
- * Describes designs for
 - * Vegetative filter strips
 - * Vegetated swales
 - * Screens
 - * Oil/water separators
 - * Proprietary spinners/swirl chambers/centrifuges
 - * Drain inlet inserts

Updated Circular – Appendix A Rainfall Data

102 Stations Listed In DEQ 8



Legend

● Station and Number In Table

- * 2-year 24-hour
- * 10-year 24-hour
- * 100-year 24-hour

Updated Circular – Appendix B

Acceptable Hydrologic Models & T_c

- * Appendix B.1 – Methods
 - * Rational Method
 - * TR-55
 - * Storage-Indication Routing

Updated Circular – Appendix B

Acceptable Hydrologic Models & T_c

* Rational Method

1. paved or other hard surface areas — 0.90;
2. gravel areas — 0.80;
3. undeveloped areas — 0.20; or
4. lawns or other landscaped areas — 0.10.

Updated Circular – Appendix B

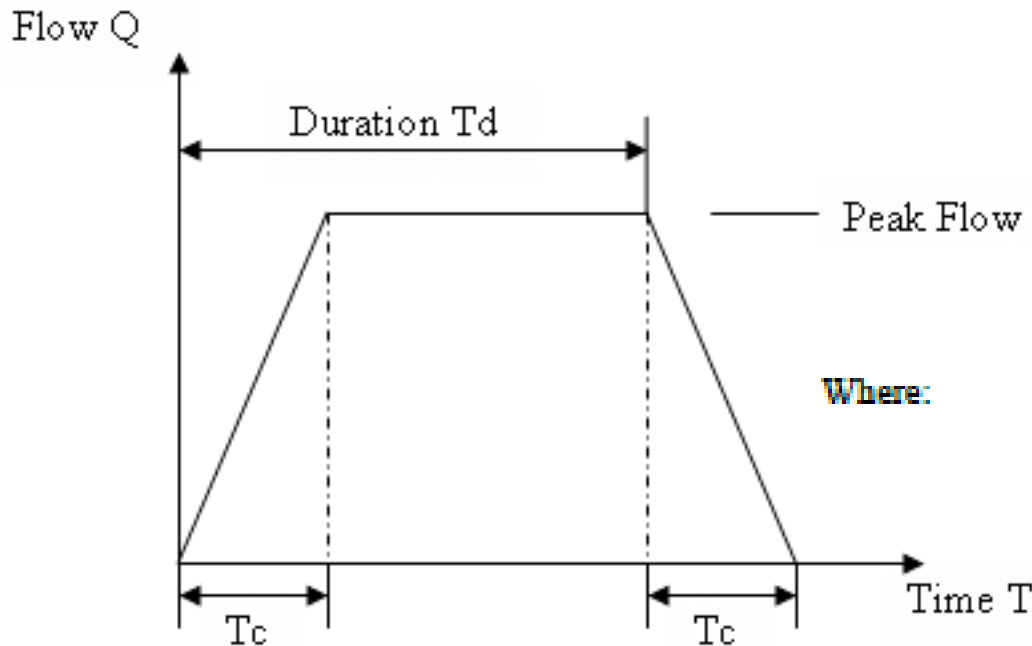
Acceptable Hydrologic Models & T_c

- * The intensity (i) must be determined using:
 1. tabulated rainfall data in Appendix A. This data is a conservative estimate of intensity and the value must be assumed to be in/hour or,
 2. Intensity-Duration-Frequency (IDF) curve developed for the location of the development for a time period equal to the time of concentration of the drainage basin. **The minimum time of concentration is 5 minutes.** For multiple sub-drainage areas, the longest time of concentration must be selected. IDF curves for selected areas are available from the Department.

Updated Circular – Appendix B

Acceptable Hydrologic Models & T_c

* Modified Rational Method



$$V = T_D * Q$$

Where:

V = Volume (cubic feet)

T_d = Storm Duration (minimum of 3600 seconds)

Q = peak flow rate (cfs)

Updated Circular – Appendix B

Acceptable Hydrologic Models & T_c

- * Appendix B.2 – Time of Concentration (T_c)
 - * Includes equations
 - * Sheet Flow
 - * Shallow Flow
 - * Longest T_c must be selected if there are multiple drainage areas.

Updated Circular – Appendix B

Acceptable Hydrologic Models & T_c

* Appendix B.3 – Computer Models

- * Hydraflow extensions for AutoCad, HEC-1, WINTR-55, WINTR-20, and SWMM
- * When using computer models:
 - * Minimum $T_c = 5$ minutes
 - * i determined using an IDF curve for time = T_c
 - * For multiple sub-drainage areas, the longest T_c must be selected
 - * Provide computations and assumptions
 - * Graphic inflow-outflow hydrographs
 - * Provide schematic (node) diagrams

Updated Circular – Appendix C Infiltration Testing Procedures

* Appendix C.1 – Design Infiltration Rate

Table 2. Infiltration Rates

Texture	Infiltration rate (inches per hour)
Gravel, gravelly sand, or very coarse sand (c)	2.6
Loamy sand, coarse sand (d)	1.05
Medium sand, sandy loam	0.9
Fine sandy loam, loam	0.7
Very fine sand, sandy clay loam, silt loam	0.7
Clay loam, silty clay loam	0.07
Sandy clay	0.07
Clays, silts, silty clays (e)	0.0

Updated Circular – Appendix C Infiltration Testing Procedures

- * Appendix C.2 – Encased Falling Head Test
- * Includes instructions on the procedure

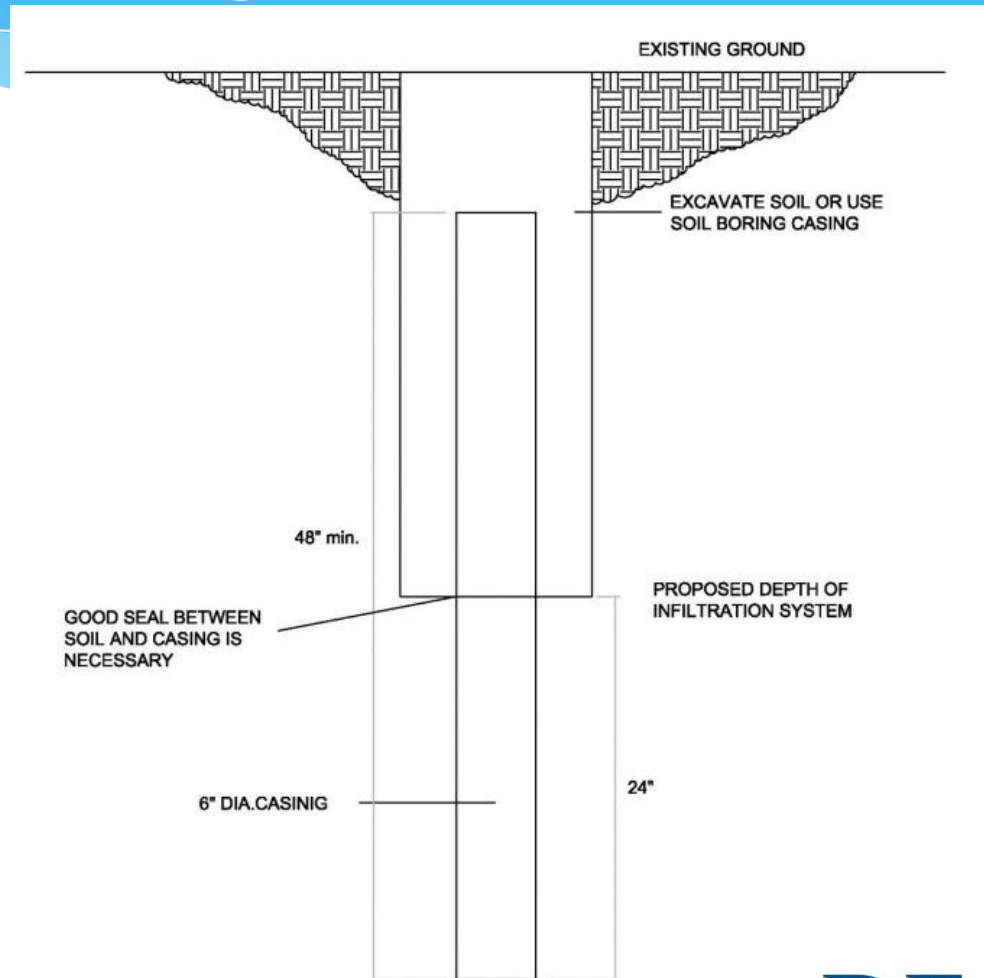


Figure 2. Encased Falling Head Schematic

Updated Circular – Appendix D & E Equations

- * Appendix D – Detention Outlet Structure Equations
 - * D.1 – Circular Orifices
 - * D.2 – Weirs
- * Appendix E – Conveyance Structure Equations
 - * E.1 – Chezy-Manning Formula
 - * E.2 – Curb and Gutter
 - * E.3 – Storm Sewer Velocities (table)

Updated Circular –

- * Appendices H through M include examples:
 - * Initial Storm Water Facility
 - * Simplified Plan
 - * Standard Plan – Retention Facility
 - * Standard Plan – Infiltration Facility
 - * Standard Plan – Detention Facility
 - * Standard Plan – Conveyance Facility

Updated Circular – Appendix N

APPENDIX N - SHALLOW CONCENTRATED FLOW

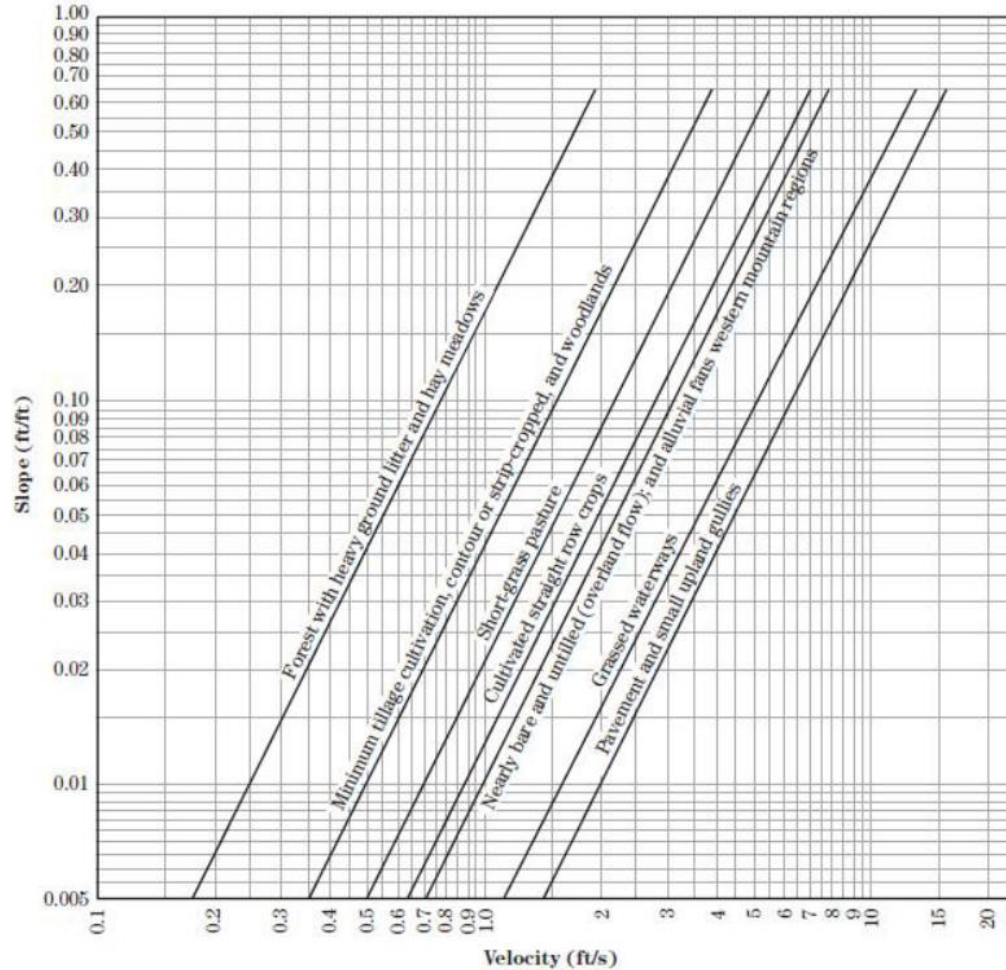


Figure 18. Shallow Concentrated Flow Slope and Velocity

Updated Circular – Appendix O

APPENDIX O - EXAMPLE DRAWINGS

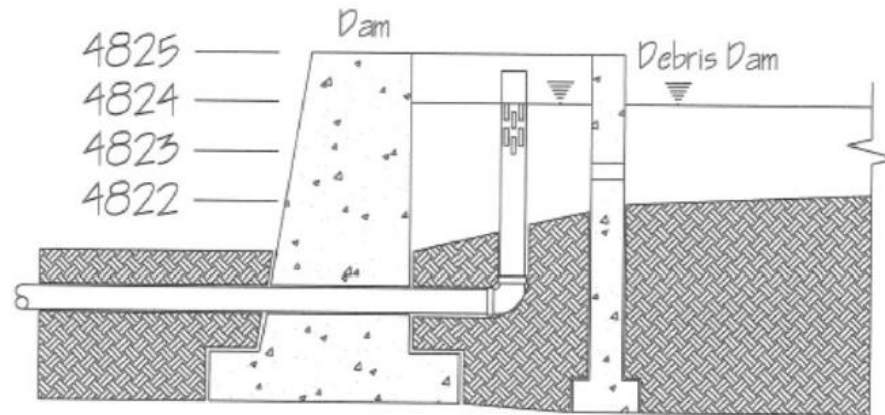


Figure 19. Slotted Riser Pipe Example

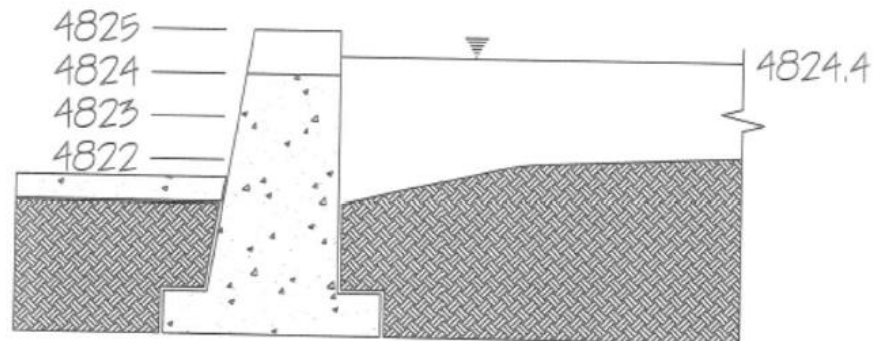


Figure 20. Rectangular Weir Example

New Spreadsheets!!!

APPENDIX F - SPREADSHEET – SIMPLIFIED PLAN

Appendix F: Simplified Storm Drainage Plan



Subdivision Name
 EQ#
 County
 Location
 Lot/Area No.
 Max. Slope on Lot % OK
 Impervious Surfaces % OK
 Will Alter Off-site Pass-Through? STOP, Submit a DEQ-8 Plan

Rational Method Co-Efficients (C)	
0.9	Paved/hard surfaces
0.8	Gravel surfaces
0.1	Lawn/landscaping
0.2	Unimproved areas

$Q=C*i*A$

100-year, 24-hour, i inches

Total Area/Lot Size acres = 0 ft²

Pre-Development Characteristics			100-year, 24-hour i (volume)
Paved/House Area	0 acres	<input type="text"/> 0 ft ²	V= 0 ft ³
Gravel Area	0 acres	<input type="text"/> 0 ft ²	V= 0 ft ³
Lawn/Landscaping	0 acres	<input type="text"/> 0 ft ²	V= 0 ft ³
Unimproved Area	0 acres	<input type="text"/> 0 ft ²	V= 0 ft ³
Total	0 acres	0 ft²	V_{Total}= 0.00 ft³

Post-Development Characteristics			100-year, 24-hour i (volume)
Paved/House Area	0 acres	<input type="text"/> 0 ft ²	V= 0 ft ³
Gravel Area	0 acres	<input type="text"/> 0 ft ²	V= 0 ft ³
Lawn/Landscaping	0 acres	<input type="text"/> 0 ft ²	V= 0 ft ³
Unimproved Area	0 acres	<input type="text"/> 0 ft ²	V= 0 ft ³
Total	0 acres	0 ft²	V_{Total}= 0.00 ft³

Increase in Runoff Volume (Minimum Retention Pond Size)	ΔV= 0.00 ft³
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= input field

APPENDIX G - SPREADSHEET – STANDARD PLAN

Appendix G: Standard Storm Drainage Plan



Sudivision Name

EQ#

County

Location

Lot/Area No.

Rational Method Co-Efficients	
0.9	Paved/hard surfaces
0.8	Gravel surfaces
0.1	Lawn/landscaping
0.2	Unimproved areas

$Q=C*i*A$

Intensity Values

2-year, T_c inches/hour

2-year, 24-hour inches

10-year, T_c inches/hour

100-year, T_c inches/hour

100-year, 24-hour inches

Total Area/Lot Size acres = 0 ft²

Initial Stormwater Facility Volume (0.5" x Impervious Area) 0 ft³

Pre-Development Characteristics			2-year, T_c (flow rate)	2-year, 24-hour (volume)	10-year, T_c (flow rate)	100-year, T_c (flow rate)	100-year, 24-hour (volume)
Paved/House Area	0 acres	<input type="text"/> ft ²	Q= 0.000 ft ³ /sec	V= 0.000 ft ³	Q= 0.000 ft ³ /sec	Q= 0.000 ft ³ /sec	V= 0.000 ft ³
Gravel Area	0 acres	<input type="text"/> ft ²	Q= 0.000 ft ³ /sec	V= 0.000 ft ³	Q= 0.000 ft ³ /sec	Q= 0.000 ft ³ /sec	V= 0.000 ft ³
Lawn/Landscaping	0 acres	<input type="text"/> ft ²	Q= 0.000 ft ³ /sec	V= 0.000 ft ³	Q= 0.000 ft ³ /sec	Q= 0.000 ft ³ /sec	V= 0.000 ft ³
Unimproved Area	0 acres	0 ft ²	Q= 0.000 ft ³ /sec	V= 0.000 ft ³	Q= 0.000 ft ³ /sec	Q= 0.000 ft ³ /sec	V= 0.000 ft ³
Total	0 acres	0 ft ²	Q_{Total}= 0.000 ft³/sec	V_{Total}= 0.000 ft³	Q_{Total}= 0.000 ft³/sec	Q_{Total}= 0.000 ft³/sec	V_{Total}= 0.000 ft³

Post-Development Characteristics			2-year, T_c (flow rate)	2-year, 24-hour (volume)	10-year, T_c (flow rate)	100-year, T_c (flow rate)	100-year, 24-hour (volume)
Paved/House Area	0 acres	<input type="text"/> ft ²	Q= 0.000 ft ³ /sec	V= 0.000 ft ³	Q= 0.000 ft ³ /sec	Q= 0.000 ft ³ /sec	V= 0.000 ft ³
Gravel Area	0 acres	<input type="text"/> ft ²	Q= 0.000 ft ³ /sec	V= 0.000 ft ³	Q= 0.000 ft ³ /sec	Q= 0.000 ft ³ /sec	V= 0.000 ft ³
Lawn/Landscaping	0 acres	<input type="text"/> ft ²	Q= 0.000 ft ³ /sec	V= 0.000 ft ³	Q= 0.000 ft ³ /sec	Q= 0.000 ft ³ /sec	V= 0.000 ft ³
Unimproved Area	0 acres	0 ft ²	Q= 0.000 ft ³ /sec	V= 0.000 ft ³	Q= 0.000 ft ³ /sec	Q= 0.000 ft ³ /sec	V= 0.000 ft ³
Total	0 acres	0 ft ²	Q_{Total}= 0.000 ft³/sec	V_{Total}= 0.000 ft³	Q_{Total}= 0.000 ft³/sec	Q_{Total}= 0.000 ft³/sec	V_{Total}= 0.000 ft³

Runoff Flow/Volume Change	$\Delta Q= 0.000$ ft ³ /sec	$\Delta V= 0.000$ ft ³	$\Delta Q= 0.000$ ft ³ /sec	$\Delta Q= 0.000$ ft ³ /sec	$\Delta V= 0.000$ ft ³
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Required Minimum Facility Volume: 0 ft³

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New Spreadsheets

Application Forms, Checklists and Guidelines

Environmental Assessments

MT Rules and Statutes

Nondegradation Determinations

Gray Water Facts

Public Guidance COSA WR Request

Circulars

recreation, and wildlife.

Subdivisions are reviewed prior to creating the parcels to assure that adequate sanitation facilities can be constructed, operated, and maintained to support each parcel. Planning ahead for proper design and location of the facilities helps protect both our surface and ground water in Montana. Design manuals have been developed to provide standards for wastewater treatment systems, water supply development, and storm drainage systems. The regulations also set out minimum separation distances between water supply sources and potential contamination sources such as wastewater treatment systems, surface waters, and floodplains.

The regulations and subdivision review are structured to prevent pollution problems through the proper design, location, operation, and maintenance of sanitation facilities.

301 West Alder Street, Missoula MT 59802

- Kalispell on August 30th, 9 a.m. to Noon – Flathead County Environmental Health Office, South Campus Conference Room, 1035 1st Avenue West, Kalispell, MT 59901
- Bozeman on September 11th, 1 p.m. to 4 p.m. – Gallatin County Courthouse Community Room (Third Floor), 311 West Main, Bozeman, MT 59715
- Billings on September 14th, 1 p.m. to 4 p.m. – Billings Public Library, 123 510 North Broadway, Billings, MT 59101
- MEHA in Helena on September 19th, numerous trainings on DEQ related topics
Training Presentation

- DEQ Sage Grouse Advisory
- Municipal Facilities Exclusion (MFE)
- Fillable MFE Checklist
- Web Mapping Tool

- * IDF Curve Spreadsheet
- * <http://deq.mt.gov/Water/Subdivisions/sub>



Proposed Rule and Circular DEQ-8 Changes

MAR 17-392 pro-arm

DEQ-8 Subdivision Storm Water Drainage

- DEQ-8 Simplified Plan Spreadsheet
- DEQ-8 Standard Plan Spreadsheet
- DEQ-8 IDF Spreadsheet

FAQ for New Stormwater Rules and Circular

Questions?

Akroon@mt.gov, 406-461-9844



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