

CHAPTER 425 – STORMWATER REGULATIONS

SECTION 425.010: PURPOSE AND INTENT

- A. This Chapter seeks to provide those standards, criteria, procedures, and controls necessary to avoid adverse effects and minimize the harmful physical and economic effects of flooding from stormwater within the City of Creve Coeur. This goal is to be accomplished through the requirements of special measures set forth in Stormwater Management Plans to mitigate by means of detention and controlled discharge of the differential runoff from a property (unless excepted from regulation hereunder) whereon any grading, excavation, filling, or other disturbance of the natural vegetation or any construction, erection, or alteration of a building or structure is to be undertaken. Erosion control requirements are specified in Chapter 420 Land Disturbance Code.
- B. Design Standard. This Chapter adopts the Rules and Regulations and Engineering Design Requirements for Sanitary Sewer and Stormwater Drainage Facilities, dated February 2006, of the Metropolitan St. Louis Sewer District (MSD) as the City's sanitary and stormwater design standard. This document and its regulations shall be referenced herein as "MSD Regulations." This Chapter may need to be revised in the event that MSD changes their ordinance. (R.O. 2008 §24-30.1; Ord. No. 2207 §1, 1-27-03; Ord. No. 5043 §2, 7-14-08)

SECTION 425.020: APPLICABILITY

- A. The provisions of this Chapter shall apply to all Land Disturbance Permits (as defined in Section 420.020) and Residential Development Permits issued by the City of Creve Coeur.
- B. Exceptions. The following activities and situations shall be exempt from the requirements of this Chapter:
 - 1. Building permits for entirely interior work.
 - 2. Room additions and other building permits that disturb less than 2,000 square feet.
 - 3. Permitted development of any undeveloped lot of record of less than one-quarter ($\frac{1}{4}$) acre existing as of January 1, 2017.
 - 4. The planting, trimming, pruning or removal of trees, shrubs, grass, weeds, vegetation, ground cover or other plant material when such actions are incidental to and part of the normal maintenance of land and property in the City of Creve Coeur.
- C. In considering the applicability of the exceptions listed above, the effective acreage for a project, development, or subdivision is not limited to a fractional part of the total concept. Rather, if a project is developed in phases or small plats, the total acreage of the project, development, or subdivision will be considered

- D. The Director of Public Works has the discretion to require that, for any building permit, the applicant provide a grading plan, a siltation control plan, and/or a stormwater management plan. (R.O. 2008 §24-30.5; Ord. No. 2207 §1, 1-27-03; Ord. No. 5043 §2, 7-14-08)

SECTION 425.030: NO ADVERSE EFFECT

- A. Definition. No adverse effect shall mean that the proposed changes to a property will not increase the volume, direction, velocity, or intensity of stormwater runoff for adjoining properties for the design storm.
- B. Design Storm. For the purposes of determining “no adverse effect,” the design storm shall be 15-year rainfall intensity for a duration of 20 minutes (15-year, 20-minute storm).
 - 1. Table 4-2 of the MSD Regulations lists specific stormwater runoff rates for the design storm.
 - 2. The determination of the change to the site’s stormwater runoff rate will be based upon comparing the stormwater runoff rates in MSD’s Table 4-2 for the existing and proposed conditions of the site.
- C. Site Grading. Sites shall be designed such that the proposed conditions will not increase the volume or speed of stormwater runoff onto any adjacent property.
 - 1. For subdivisions with stormwater detention or retention facilities that are demonstrated by the applicant to have the capacity to accommodate the site’s differential stormwater runoff, the site’s differential stormwater runoff will be allowed to flow directly into these facilities or directly into an enclosed system which flows into such a facility, provided that no other properties are crossed in order to do so.
 - 2. For subdivisions without stormwater detention or retention facilities, the differential stormwater runoff for a development will need to be contained on site.

SECTION 425.040: SUBMISSION, REVIEW, AND APPROVAL OF PLANS AND SPECIFICATIONS

- A. Stormwater Management Plan Required. Except as otherwise provided in Section 425.020, no permit shall be issued to construct, erect, or alter any building or structure or to clear, grade, excavate, fill, remove topsoil from, or otherwise change the contour of any property within the City until a stormwater management plan has been submitted, approved, and recorded in accordance with the provisions of this Chapter.
 - 1. A stormwater management plan shall be those documents, plans, calculations, and any other information necessary to demonstrate, to the satisfaction of the Director of Public Works, that the proposed work creates no adverse effect, as defined in Section 425.030.
 - 2. The amount of detail provided in the stormwater management plan will depend on the extent and nature of the project. At a minimum, the stormwater management plan will include contoured site plans, details, and calculations that show the proposed improvements, the pre-construction and post-construction runoff calculations for the

site, specifications and details regarding the proposed mitigation method(s), and the location(s) of the stormwater mitigation on the site.

- B. Review Process. Designs, plans, and specifications of all drainage facilities, as defined in Section 425.120, that are proposed to be constructed, connected to, altered, or reconstructed by any person or corporation, private or public, within the City boundaries shall be submitted to the City and MSD for review, comment, and revision, leading to approval, approval with comments, or rejection. The design engineer shall meet with the Director of Public Works before starting stormwater facilities design to review the Stormwater Management Plan. The stormwater management plan must be reviewed with the Director of Public Works before submittal to MSD. Such designs, plans and specifications (excluding house connections, curb cuts, or similar work as determined by the Director of Public Works) shall be prepared and sealed by a professional engineer registered in the State of Missouri and shall meet the minimum standards of the City, MSD, and the Missouri Department of Natural Resources before approval is granted.
- C. Procedure.
1. Preliminary conferences. At any time prior to formal submission of project plans, the owner's engineer may arrange for a preliminary conference with the Director of Public Works to obtain informal guidance in project plan preparation with the City. Preliminary conferences are recommended for all permit applications, especially in unique or unusual circumstances, but preliminary conferences are required for land disturbance activities. The preliminary conference is intended to expedite the subsequent formal review and approval process. This includes review of the downstream areas jointly by the City and the developer's engineer with photographs, online content, geographic information system (GIS), and other pertinent information as determined by the Director of Public Works.
 2. Application. When required, a stormwater management plan shall be included with the permit application for the proposed project to the Director of Public Works by the owner of the land prior to the time any work subject to this Chapter is begun on the land. Said plans must accompany any such application, parts of which may also be on forms prepared by the City.
 3. Approval process. Upon receipt of any application and plan, the Director of Public Works shall consider the plan in light of the provisions of this Chapter and shall approve the plan, disapprove the plan or approve the plan with modifications, noting thereon any changes that will be required.
 4. Notification. The City shall promptly notify the applicant of the City's decision on a plan. Such notification shall be within forty-five (45) calendar days after the plan has been properly filed. Any approved plan shall be issued, dated, and bear the manual signature of the Director of Public Works or his designee.
 5. Site development plan approval. A stormwater management plan may, as required, be included in and made part of an application for site development plan approval in accordance with Section 405.1080 or of an application for approval of improvement plans for a subdivision in accordance with Chapter 410 of the Creve Coeur subdivision regulations.

6. Upon approval, the owner shall provide proof that the stormwater management plan has been recorded with the St. Louis County Recorder of Deeds.
- D. Downstream Conveyance System. For land disturbance activities, the developer is required to evaluate the downstream conveyance system where the connection is receiving the proposed development's runoff in order to determine if it has the capacity to receive the proposed development's runoff. The evaluation has to continue until the proposed development's runoff is less than ten percent (10%) of the downstream conveyance system. The Director of Public Works can request additional studies further downstream if a stormwater problem is anticipated.
- E. Corrective Action. If a development during or after construction adversely affects downstream property, corrective action will be required by the developer and/or landowner as determined by the Director of Public Works. The development shall make the required study and repairs during construction or after completion of the proposed development according to the Stormwater Management Plan, as directed by the Director of Public Works, if the stormwater-related problems downstream of the development can be demonstrated to be caused by the development.
- F. Time of Validity.
 1. An approved stormwater management plan shall become invalid if the authorized work is not commenced within six (6) months after issuance of the permit, if the authorized work is suspended or abandoned for six (6) months, or if the project is not completed within one (1) year after the issuance of the land disturbance or residential development permit.
 2. An updated plan shall be subject to the provisions of this Chapter in effect at the time of resubmission. (R.O. 2008 §24-30.2; Ord. No. 2207 §1, 1-27-03; Ord. No. 5043 §2, 7-14-08)

SECTION 425.050: REQUIRED SUBMITTALS BY THE DESIGN ENGINEER

Refer to the MSD Regulations for full details regarding information to be submitted to MSD for applicable land disturbance permits. Plan review may be delayed if all required information is not provided by the applicant.

To facilitate the review of plans before approval for construction, the design engineer shall submit with the plans a stormwater management plan containing all necessary data, maps, computations, and checklists as defined in the MSD Regulations in support of the designs and plans.

SECTION 425.060: GENERAL

The developer will need to confirm with MSD whether MSD will accept for dedication any sewers and pump stations within easements dedicated to MSD that have been constructed to MSD standards and for which the requirements stated herein have been met.

The maintenance of these facilities will remain the responsibility of the project Owner and their successors in interest until such time that they have been accepted for dedication by MSD. (R.O. 2008 §24-30.8; Ord. No. 2207 §1, 1-27-03; Ord. No. 5043 §2, 7-14-08)

SECTION 425.070: ABANDONMENT OF WORK

Upon receipt of a written statement from the Owner that further work on the project has been abandoned, or upon Owner's failure to promptly complete work after notice of apparent abandonment, the City and MSD shall determine whether or not the uncompleted work is required to ensure the public health, safety and welfare. Should it be determined that completion of the work is necessary, the Owner shall complete such work immediately. Otherwise, the City may utilize the monies deposited in the construction escrow for the project to complete this work or seek other applicable remedies. (R.O. 2008 §24-30.9; Ord. No. 2207 §1, 1-27-03; Ord. No. 5043 §2, 7-14-08)

SECTION 425.080: FEES REQUIRED BEFORE PLAN APPROVAL

- A. The City will require that certain fees be paid prior to the acceptance of the plans for review or the subsequent approval of the project plans. Failure to submit the fees in a timely manner could delay the review and approval of the plans. No plans will be approved until all required fees have been paid.
- B. Because the amount of these fees are subject to change, no amount for these fees is given herein. Please contact the City and MSD for a current list of fees. See Appendix B to Title IV--Community Development and Public Works Fee Schedule for fees required by the City for plan submittal and approval.
- C. MSD may apply its own fees to the project proposal.
- D. Recording fees. The owner will be responsible for paying the recording fees for all documents to be recorded with the Recorder of Deeds for St. Louis County. (R.O. 2008 §24-30.10; Ord. No. 2207 §1, 1-27-03; Ord. No. 5043 §2, 7-14-08)

SECTION 425.090: BONDS

A corporate surety bond or cash escrow, conditioned upon carrying out all and every part of approved plans for at least the sum estimated to be the full costs of carrying out such plans, shall be furnished to the City whenever such costs are estimated to exceed five hundred dollars (\$500.00). The bond or escrow shall be released upon proper completion of all of the requirements of such approved plans. (R.O. 2008 §24-30.12; Ord. No. 2207 §1, 1-27-03; Ord. No. 5043 §2, 7-14-08)

SECTION 425.100 CONSTRUCTION AND MAINTENANCE OF STORMWATER FACILITIES

- A. Detention/retention facilities, when mandatory, are to be built in conjunction with the storm sewer installation and/or grading. Since these facilities are intended to control increased runoff, they must be partially or fully operational soon after the clearing of the vegetation.
- B. Silt and debris connected both with early construction and with general erosion from the site and elsewhere in the watershed after construction shall be removed periodically from the detention area and/or control structure in order to maintain the facility close to its full storage capacity.
- C. The responsibility of maintenance of the detention/retention facilities in subdivision projects shall remain with the developer until such time as applicable escrows are released. Upon release of

escrows the maintenance responsibility for facilities on common ground shall be vested jointly and severally in the trustees of the subdivision by virtue of the trust indenture and the owners of the subdivision lots and their successors in interest. The indenture of the trust should clearly indicate resident responsibility for maintenance in cases of projects without common ground, but the absence of such a provision shall not eliminate such responsibility.

- D. The responsibility of maintenance of the detention/retention facilities in single owner development projects shall remain with the general contractor until final inspection of the development is performed and approved and a legal occupancy permit is issued. After legal occupancy of the project, the maintenance of detention/retention facilities shall be vested with the owner of the lot and their successors. (R.O. 2008 §24-30.11; Ord. No. 2207 §1, 1-27-03; Ord. No. 5043 §2, 7-14-08)

SECTION 425.110: ENFORCEMENT, VIOLATIONS, AND PENALTIES

- A. Enforcement. This Chapter shall be enforced by the Director of Public Works. The construction, reconstruction and/or alteration of buildings shall not be undertaken and the development of land shall not be commenced except in accordance with the provisions of this Chapter, as applicable. No permit or application for the construction or alteration of buildings and/or land shall be approved if the project would be in violation of this Chapter.

The Director of Public Works is authorized to institute any appropriate actions or proceedings to prevent, halt, or correct construction or maintenance that is found to be in violation of this Chapter.

- B. Notice of Violation and Sanctions. If the Director of Public Works finds that any of the provisions of this Chapter are being violated in the completion and/or maintenance of a stormwater management plan, he/she shall notify in writing the person(s) responsible for such violation, indicating the nature of the violation and ordering the action necessary to correct it. The Director of Public Works shall take any other action authorized by law to ensure compliance with or to prevent violation of the provisions of this Chapter. (R.O. 2008 §26-121; Ord. No. 1903 §1, 11-24-1997; Ord. No. 5165 §1, 12-13-2010)
- C. Violations. Violations of this Chapter shall include, but are not limited to, the following:
 - 1. The alteration or construction of buildings and/or land not in accordance with the provisions of this Chapter.
 - 2. Failure to obtain the necessary approvals as required by this Chapter.
 - 3. Failure to maintain the approved and recorded stormwater management plan for the property.
- D. Persons Liable for Violation. Those chargeable, singly or jointly, with violations of this Chapter shall include, but shall not be limited to, the following:
 - 1. Those who commit, assist in, or otherwise participate in a violation.
 - 2. The owner or other persons who maintain the building, premises, property, or other place where the violation has been committed exists.

3. The owner's agent or person in charge of the building, premises, property or other place where the violation has been committed or exists.
4. The developer, engineer, architect, contractor, subcontractor, or any other person who performs work or enters into a contract for work in violation of this Chapter.

E. Violations and Penalties.

1. In case any building, structure, or land is erected, constructed, reconstructed, altered, converted, maintained, or used in violation of this Chapter, or of any ordinance or other regulation made under authority conferred by Sections 89.010 to 89.140, RSMo., the proper local authorities of the City, in addition to other remedies, may institute any appropriate action or proceedings to prevent such unlawful erection, construction, reconstruction, alteration, conversion, maintenance, or use, to restrain, correct, or abate such violation, to prevent the occupancy of such building, structure, or land, or to prevent any illegal act, conduct, business, or use in or about such premises. Such regulations shall be enforced by an officer empowered to cause any building, structure, place or premises to be inspected and examined and to order in writing the remedying of any condition found to exist therein or thereat in violation of any provision of the regulations made under authority of Sections 89.010 to 89.140, RSMo.
2. The owner or general agent of a building or premises where a violation of any provision of said regulations has been committed or shall exist, or other persons or parties liable for said violation, as indicated in Section 425.110(D) shall be guilty of an ordinance violation punishable by a fine of not less than ten dollars (\$10.00) and not more than five hundred dollars (\$500.00) for each and every day that such violation continues, or by both such fine and imprisonment in the discretion of the court. Notwithstanding the provisions of Section 82.300, RSMo., however, for the second (2nd) and subsequent offenses involving the same violation at the same building or premises, the punishment shall be a fine of not less than two hundred fifty dollars (\$250.00) or more than one thousand dollars (\$1,000.00) for each and every day that such violation shall continue or by imprisonment for ten (10) days for each and every day such violation shall continue, or by both such fine and imprisonment in the discretion of the court.
3. Any such person who having been served with an order to remove any such violation shall fail to comply with such order within ten (10) days after such service or shall continue to violate any provision of the regulations made under authority of Sections 89.010 to 89.140, RSMo., in the respect named in such order shall also be subject to a civil penalty of two hundred fifty dollars (\$250.00). (RSMo. §89.120; R.O. 2008 §26-122; Ord. No. 1903 §1, 11-24-1997; Ord. No. 5165 §1, 12-13-2010)

SECTION 425.120: DEFINITIONS

In addition to words and terms that may be defined elsewhere in this Chapter, the following words and terms shall have the meanings defined below:

CHANNELS: A natural or artificial watercourse.

CITY: The City of Creve Coeur.

DEVELOPED RUNOFF RATE: The peak flow corresponding to a selected rainfall event as a result of developed site conditions.

DIFFERENTIAL RUNOFF RATE: The difference between the pre-developed runoff rate and the developed runoff rate.

DIFFERENTIAL VOLUME OF STORMWATER: The amount of differential stormwater volume between the pre-developed and developed runoff rates which the detention basin must detain (hold).

DIRECTOR OR DIRECTOR OF PUBLIC WORKS: The Director of Public Works for the City of Creve Coeur or his/her designee.

DRAINAGE FACILITY: Any system of artificially constructed drains, including open channels and sewers, used to convey stormwater, surface or ground water, either continuously or intermittently, to natural watercourses.

ENGINEER: A registered professional engineer currently certified by law in the State of Missouri.

IMPERVIOUS SURFACE: Materials through which no stormwater or only an incidental amount of stormwater is able to pass. Examples of impervious surfaces include, but are not limited to, building roofs, asphalt pavement, and concrete pavement.

LAND DISTURBANCE: Clearing, grading, removal of improvements, or any other work that temporarily or permanently exposes the ground surface or subsurface to erosion. Section 420.020 includes additional discussion and definitions related to land disturbance.

MDNR: The Missouri Department of Natural Resources.

MSD: The Metropolitan St. Louis Sewer District

OUTFALL: The point location or structure where wastewater or drainage discharges.

PERSON: Any individual, firm, proprietorship, partnership, company, municipality, association, society, corporation, group or other entity.

PRE-DEVELOPED RUNOFF RATE: The amount of flow from an existing site prior to new development or improvements as computed by the Rational Formula.

PRIVATE FACILITIES: Any device, structure, or feature that has not been expressly adopted for maintenance by the City of Creve Coeur, the Metropolitan St. Louis Sewer District, or other municipal, county, state, or federal entity.

RATIONAL METHOD: A means to calculate flow quantities, by which:

$$Q = A * P * I$$

where:

Q = runoff, in cubic feet per second

A = tributary area, in acres

P = runoff factor based upon runoff from pervious and impervious surfaces

I = average intensity of rainfall, in inches per hour, for a given period and a given frequency
The definition of these factors, including the tables used to select the appropriate values, are outlined in Section 4.030 Stormwater Design Criteria of the MSD Regulations.

RESOLUTION: A resolution duly adopted by the City Council of the City of Creve Coeur.

RETENTION: A stormwater runoff facility designed to retain (hold) stormwater both permanently and temporarily (above normal pool elevation) during and immediately after a runoff event.

RESIDENTIAL DEVELOPMENT PERMIT. A permit from the City of Creve Coeur that is required for any new home (including “tear-down/rebuild” homes), home addition, garage, or swimming pool on residential property. This permit combines the applicable building permit(s) according to Section 500.040 and land disturbance permits according to Section 420.070. Fees for a Residential Development Permit are described in Appendix B to Title IV – Community Development and Public Works Fee Schedule.

STORMWATER DETENTION: A stormwater runoff facility designed to detain (hold) stormwater temporarily during and immediately after a runoff event.

STORMWATER MANAGEMENT PLAN: Study and design for a stormwater conveyance system, a downstream evaluation system, detention requirements, floodplain/floodway, sink hole and regulating permitting requirements.

STORMWATER SEWER: A sewer which carries surface runoff and subsurface waters.

SWALE: A broad, shallow watercourse.

TIME OF CONCENTRATION: Consists of inlet time plus the travel time in the sewer or channel from the most remote point in the watershed to the point under consideration.

TRAVEL TIME: The time it takes for the runoff to flow through the drainage system from one point of reference to the next point of reference.

U.S.G.S.: United States Geological Survey

WATERCOURSE: A stream of water or a natural channel through which water may flow.