

Erosion Control-Land Disturbance Policy

A soil erosion control plan shall accompany all applications for land disturbance permits. The purpose of the plan is to clearly establish what measures will be taken to prevent erosion and off site sedimentation during and after development. The erosion control plan shall consist of two parts: a site grading and drainage plan and a narrative report describing the nature and scope of the work. The plan shall be prepared and certified by a registered professional engineer, licensed in the State of Missouri, except where expressly authorized by the City of St. Joseph.

Erosion and sedimentation control measures must be designed to provide protection pursuant to the City's Stormwater Policy and the standards contained in the most current version of *Protecting Water Quality, A Field Guide to Erosion, Sediment and Stormwater Best Management Practices for Development Sites in Missouri and Kansas*, November 1995.

All surfaces must be stable and non-erosive within the lesser of thirty (30) working days or ninety (90) calendar days after final completion of the work authorized by the land disturbance permit. When such work is associated with the construction of a building, no certificate of occupancy shall be issued until such surfaces are stable and non-erosive. If completion of the work or building is at such time of the year that stabilization with ground cover is not possible, a performance bond or other acceptable financial instrument for completion of the work may be accepted to allow the issuance of a certificate of occupancy.

Applicability

This section applies to the following sites of land development or land disturbing activities.

1. Sites requiring a subdivision plat approval or the construction of a house or houses or commercial, industrial or institutional buildings on lots of approved subdivision plats;
2. Sites requiring a certified survey approval or the construction of dwellings or commercial, industrial or institutional buildings on lots of approved certified surveys;
3. Sites involving grading, removal of protective ground cover or vegetation, excavation, land filling or other land disturbing activity affecting a surface area of 1,000 square feet or more;
4. Any land disturbing activity that will affect an area of 500 square feet if the activity is within 25 feet of a river, stream, lake, watercourse, or wetland.
5. Sites involving excavation of filling or a combination of excavations and filling affecting 400 cubic yards or more of dirt, sand or other excavation of fill material;
6. Sites involving street, highway, road, or bridge construction, enlargement, relocation or reconstruction;
7. Sites involving the laying, repairing, replacing or enlarging of an underground pipe, cable, or facility for a distance of 300 feet or more;
8. Sites involving the installation of any underground utilities for a distance of 300 feet or more.

Exceptions:

1. Cutting brush where ground cover will remain intact.
2. Maintenance of public infrastructure by state or local government agencies. State and local government agencies, however, shall implement best management practices to prevent erosion and control sediment and shall make regular inspections to ascertain that erosion and sediment control measures consistent with best management practices have been implemented and are being effectively maintained.
3. Emergency measures taken to clear roadways or to save endangered property.
4. Farming practices.

Site Grading and Drainage Plan

The site grading and drainage plan shall include the following:

1. Existing Features.
 - a. A drainage area map showing topography of the entire drainage basin(s) contributing to the site. The scale of the map shall be no smaller than 1 inch = 200 feet for drainage areas up to five hundred (500) acres. A topographic map of appropriate scale shall be provided for larger areas upstream from the design area. The drainage map is to show total acreage of the site and the acreage of all drainage areas contributing to the site.
 - b. A site plan having a scale no smaller than 1 inch = 100 feet and existing contour intervals of not more than five (5) feet. The plan shall show topographic features such as highways, utilities, natural watercourses, existing drainage facilities and structures, adjacent property lines, north arrow, scale, and vicinity map. The site plan must also show the limits of the adopted 100 year flood plain on the site and any critical environmental areas such as streams, lakes, ponds and wetlands. Area and geologic types of predominate soils as well as the nature and extent of existing vegetation shall also be shown on the plan.
2. Proposed alterations of the site.
 - a. A plan drawing that shows the limits of clearing and grading, cuts and fills, and final contours at not more than two (2) feet intervals. The plan shall identify the phasing of the grading, showing the area(s) to be denuded and the maximum time those areas will remain disturbed (not to exceed the lesser of thirty (30) working days or ninety (90) calendar days after completion of the work). The plan shall show areas to be used for storage of topsoil and excavated subsoil and plans for access to the site during wet weather.
 - b. A final site plan showing the location or relocation of all utilities, planned streets, roads, buildings, parking lots and structures, and all permanent stormwater management facilities.
3. Temporary erosion and sediment control measures during active construction. Drawings shall be provided showing types of measures and facilities needed and the location of those measures and facilities with dimensional details. All permanent deviations in overland flow drainage patterns and the location of

ingress and egress points with the planned protection provisions are to be indicated.

4. Permanent erosion and sediment control measures for long term protection.

Drawings shall be provided showing types of measures and facilities needed and the location of those measures and facilities with dimensional details. All permanent deviations in overland flow drainage patterns are to be indicated along with additional requirements pursuant to in the City's Stormwater Management Policy.

The ground immediately adjacent to the foundation shall be sloped away from the building at a slope of not less than one unit vertical in twenty units horizontal (5% slope) for a minimum of ten (10) feet measured perpendicular to the face of the wall, or an approved alternate method of diverting water away from the foundation shall be used. Grade fill shall come within 4 (four) inches of the first course of masonry veneer and not more than 6 (six) inches from all other finish materials.

Narrative to Accompany Plan.

The narrative report describing the nature and scope of the work shall include the following:

1. The report shall briefly describe the overall project and shall incorporate an explanation of existing, significant drainage problems contributing to erosion and siltation problems, particularly those that will be intensified by the alteration to the construction site.
2. The report shall explain how the project design insures that the project does not promote or aggravate an existing off-site erosion, siltation, or drainage problem. The narrative should include a description of the effect of land disturbance activities off-site.
3. Runoff producing factors under existing conditions and the estimated changes after construction must be provided.
4. For design of the erosion control measures and facilities, the report shall include calculations provided for in the City's Stormwater Management Policy.
5. Long range management of the erosion and siltation control facilities must be addressed in the report.
6. The phasing or staging of the land disturbing activity is to be described including information on the sequence of land clearing operations, specifying the maximum area and time span the area will be left denuded, the provisions for the removal, protection and stockpiling of soil, the types of major earth moving and grading activities, dust control measures, and the order of placement of control facility installations.
7. Explanations for the selection of the erosion and siltation control measures utilized shall be provided.
8. A schedule shall be provided for inspection and maintenance of the erosion and sediment control facilities to insure maximum effectiveness of the protective measures and to assure that preventive maintenance efforts will be carried out when

needed. The report should also include a description of plans for resodding or reseeding of vegetated areas and repair or reconstruction of damaged structural measures, and the method and frequency of removal and disposal of waste materials removed from the control facilities or project area including the disposal of temporary structural measures after they have served their purpose.

Grading and pavement permits.

No permit for grading or constructing any public street shall be issued until the temporary erosion control measures set forth in the site grading and drainage plan, or in the plot for a site exempt from land disturbance permit requirements, have been properly installed.

Temporary erosion control measures.

The temporary erosion control measures described in the site grading and drainage plan, or in the plot plan for a site exempt from the land disturbance permit requirement, shall be properly installed prior to commencement of any land disturbance activity and shall be properly maintained at all times until all land surfaces on the property become stable and non-erosive.

1. Erosion and other pollutant control requirements recommended for temporary best management practices. To be used to control sediment where erosion of the site, including dirt piles, during construction will result in sediment reaching waters of the state, public sewers or other off site areas.
 - a. Small drainage areas with overland flow (less than one acre); a filter fabric fence or equivalent best management practice placed along the downslope areas and along the sideslope areas as required.
 - b. Drainage areas of one to two acres with concentrated or channelized flow; a filter fabric barrier or equivalent best management practice placed at the downslope of the disturbed areas. The disturbed area shall be properly mulched.
 - c. Drainage areas of two to five acres with concentrated or channelized flow; a sediment trap or equivalent best management practice placed at the downslope point of the disturbed areas.
 - d. Drainage areas of more than five acres with concentrated or channelized flow; a sediment basin or equivalent best management practice placed at the downslope point of the disturbed area.
 - e. Steep slopes of 12 or more percent may require use of additional best management practices, as determined by the City Inspector.
2. Temporary erosion control maintenance and related responsibilities.
 - a. Site stabilization. When the disturbed area is properly stabilized by established vegetation or other permanent means, as determined by the City Inspector, the temporary best management practices may be removed.
 - b. Tracking minimization. Each site shall have graveled roads, access drives and parking areas of sufficient width and length to prevent sediment from being tracked onto public or private roadways. Sediment reaching a public or private

road shall be removed by street cleaning before the end of each day. Flushing may not be used unless the sediment will be controlled by a filter fabric barrier, sediment trap, sediment basin or equivalent.

- c. Drain inlet protection. Downslope storm drain inlets shall be protected, and the protective measures shall be properly maintained.
- d. Site dewatering. Water pumped from the site shall be discharged to an appropriately sized filter fabric, sediment trap or equivalent best management practice. Water may not be discharged into a manner that causes erosion of the site, adjacent properties or receiving channels.
- e. Sediment cleanup. All off-site sediment deposits occurring as a result of a storm event shall be cleaned up by the end of the next work day following the occurrence. All other off-site sediment deposits occurring as a result of construction activities shall be cleaned up at the end of the work day.
- f. Waste and material management and disposal. All waste and unused building materials shall be properly managed and disposed of to prevent pollutants and debris from being carried by runoff off the site.
- g. Wind erosion. Steps should be taken as necessary to minimize wind erosion.
- h. Soil or dirt storage piles. Soil or dirt storage piles shall be located 25 feet from any downslope road, lake, stream, wetland, ditch, channel or other watercourse and as far away from any residential property as determined necessary by the City Inspector and shall be protected in accordance with the provisions of this section. Piles located in the street or within 25 feet of any downslope road, lake, stream, wetland, ditch, channel, floodplain or other watercourse shall require the use of additional best management practices.