STORMWATER PLAN SUBMITTAL CHECKLIST
City of Joplin – Engineering Division
602 S. Main Street · Joplin, MO 64801 · (417) 624-0820

Date: _____ MDNR Land Disturbance Permit # _____(or N/A)

Name of Project: _____

Location of Project: _____

Name of Owner: _____

Name & Company of Engineer: _____

_____

APPLICABILITY: This form applies when the area of land disturbance for a project site is:

1) 43,560 sq ft (1.0000 acre) or more – OR –
2) Less than 43,560 sq ft, if part of a common plan of development or sale that will disturb 43,560 sq ft or more.

---------- Application ----------

n/a *Yes*

- ☐ Grading Permit Application
- ☐ All Plans and Reports signed and sealed by a Professional Engineer licensed in the state of Missouri.
- ☐ ☐ MDNR Land Disturbance permit & SWPPP (land disturbance of 43,560 sq ft (1.0000 acre) or more.)

---------- Plan & Report Requirements ----------

A. General

n/a *Yes*

- ☐ Applicant information, including name, legal address, telephone number, and email address.
- ☐ Common address and legal description of site.
- ☐ Signature and seal of registered engineer (and/or surveyor, where applicable).
- ☐ Design/owner certification.
- ☐ Vicinity map.
- ☐ Project narrative (in the Drainage Report, usually). Include explanations for n/a responses on this form.
- ☐ ☐ Operation & Maintenance Plan for Permanent Stormwater BMPs (structural and non-structural).
- ☐ ☐ Executed Maintenance Covenant. Must be signed by owner before plan approval.
- ☐ ☐ Evidence of acquisition of all applicable permits, including State or Federal.
- ☐ ☐ Evidence of acquisition of all necessary legal agreements (e.g., easements, covenants, land trusts), including easements for all permanent stormwater BMPs, both structural and non-structural. (See section H below.)

B. Existing and proposed mapping and plans (recommended scale of 1@ = 50 = or greater detail), which illustrate at a minimum:

n/a *Yes*

- ☐ ☐ Existing and proposed topography (minimum of 2-foot contours recommended)
- ☐ ☐ Drainage area map showing watershed and subbasin boundaries, labeled with unique identifiers and areas, for both pre-project and post-project conditions.
- ☐ ☐ Perennial and intermittent streams.
- ☐ ☐ Mapping of predominant soils from USDA soil surveys as well as location of any site-specific borehole investigations that may have been performed.
- ☐ ☐ Boundaries of existing predominant vegetation and proposed limits of clearing.
- ☐ ☐ Locations and boundaries of resource protection areas such as wetlands, lakes, ponds, and other setbacks (e.g., stream buffers, drinking water well setbacks, septic setbacks).
- ☐ ☐ Location of existing and proposed roads, buildings, and other structures.

n/a *Yes*

- ☐ ☐ Minimum finished floor elevations for structures adjacent to drainage features
- ☐ ☐ Location of existing and proposed utilities (e.g., water, sewer, gas, electric) and easements.
- ☐ ☐ Location of existing and proposed conveyance systems such as grass channels, swales, and storm drains.
- ☐ ☐ Flow paths.
- ☐ ☐ Location of floodplain/floodway limits and relationship of site to upstream and downstream properties and drainages.
- ☐ ☐ Location and dimensions of proposed channel modifications, such as bridge or culvert crossings.
- ☐ ☐ Location, size, maintenance access, and limits of disturbance of proposed structural stormwater management practices.

C. Representative cross-section and profile drawings and details of structural stormwater.

n/a *Yes*

- ☐ ☐ Are necessary details, cross-sections, and profiles included?

D. Management practices and conveyances (i.e., storm drains, open channels, swales, etc.) which include:

n/a *Yes*

- ☐ ☐ Existing and proposed structural elevations (e.g., invert of pipes, manholes, etc.)
- ☐ ☐ Design water surface elevations
- ☐ ☐ Structural details of outlet structures, embankments, spillways, stilling basins, grade control structures, conveyance channels, etc.
- ☐ ☐ Logs of borehole investigations that may have been performed along with supporting geotechnical report.

E. Hydrologic and hydraulic analysis for all structural components of stormwater system (e.g., storm drains, open channels, swales, management practices, etc.) for applicable design storms including:

n/a *Yes*

- ☐ ☐ Summary table of subbasin characteristics, including area, curve numbers/runoff coefficient, percent impervious, times of concentration.
- ☐ ☐ Pre-project condition analysis for time of concentrations, peak runoff rates, times to peak, volumes, velocities, water surface elevations, and routing. Show the methodologies used and any supporting calculations.
- ☐ ☐ For detention design, calculations for pre-project conditions must be based on undeveloped conditions for the project site. (Section 10.2 of the Stormwater Management Criteria Manual).
- ☐ ☐ Post-project condition analysis for time of concentrations, peak runoff rates, times to peak, volumes, velocities, water surface elevations, and routing. Show the methodologies used and any supporting calculations.
- ☐ ☐ Huff's Quartile Rainfall Distributions are to be used to develop the necessary set of hydrographs for consideration (10.4.B).
- ☐ ☐ Summary table of results including peak discharges (and maximum stages) for all storm durations (1-, 2-, 3-, 6-, 12-, and 24-hr) and annual probabilities analyzed, with controlling events highlighted. Summary table to contain peak discharges for pre-project and, if applicable, post-project conditions.
- ☐ ☐ Final sizing calculations for structural stormwater management practices including contributing drainage area, storage, and outlet configuration.
- ☐ ☐ Stage-discharge or outlet rating curves and inflow and outflow hydrographs for storage facilities (e.g., detention basins, ponds, wetlands, etc.)
- ☐ ☐ DRY BASIN: Additional storage volume provided for accumulated sediment below spillway (10.3.B). Either directly calculated and demonstrated to be provided in the design; OR, if 125% of the WQCV is incorporated into the design, that will suffice (Paragraph 13.4.e).

n/a *Yes*

☐ ☐ WET BASIN: Min. of 3.0 feet of depth must be provided (10.3.B).

☐ ☐ Analysis of potential downstream impact/effects of project, where necessary.

F. Erosion and Sediment Control Plan that meets the minimum requirements of the Erosion and Sediment Control Guidelines and Section 14 of the Stormwater Management Criteria Manual.

n/a *Yes*

☐ ☐ Sequence of construction.

☐ ☐ Construction entrances.

☐ ☐ Stockpile areas, staging areas, etc.

☐ ☐ BMP locations and details.

☐ ☐ Identify permanent and temporary BMPs.

☐ ☐ One-Call utility notification information.

G. Water Quality (Section 13 of the Stormwater Management Criteria Manual).

n/a *Yes*

☐ ☐ Does the Grading Plan indicate the designer has minimized the amount of direct runoff into the drainage systems? Are the directly connected impervious areas minimized? (See Figure 33 and Section 13.4.b.)

☐ ☐ Is extended detention or other water quality BMP required? (Paragraph 13.3.a requires it if the total impervious area > 10% of the total land area of the development.)

☐ ☐ Is runoff directed to a sand filter, etc. for runoff from areas having high concentrations of pollutants (fueling areas, etc.)? (13.3.b)

☐ ☐ Are calculations shown to determine water quality control volume (WQCV)? (13.4)

☐ ☐ Is the flow from the 2-year (50% AEP) storm detained to pre-project levels? (13.2.c)

H. Operation & Maintenance Plan for Permanent Stormwater BMPs.

n/a *Yes*

☐ ☐ The Operation & Maintenance Plan shall include the following:

☐ ☐ Post Construction Stormwater Management Site Plan and Drawings. All permanent BMPs must be labeled, both structural (detention, rain gardens, grass swales/filter strips, tree boxes, etc.) and non-structural (downspout disconnection, buffer zones for streams/wetlands, tree protection, etc.). Must include applicable easements.

☐ ☐ General Stormwater Management Facilities Description. Includes applicable easements (for each detention and/or water quality BMP), vegetative cover requirements, and access and safety issues, etc.

☐ ☐ Site Contacts and Change of Ownership (including name, mailing address, phone number and email address of responsible parties for maintenance). Owner must notify the City of any changes in ownership.

☐ ☐ Facility Maintenance Plan, including descriptions of routine and non-routine maintenance activities, with minimum frequencies.

☐ ☐ BMP Type-Specific Inspection Checklists & Descriptions. Must include inspection frequencies (min. annually).

☐ ☐ Annual Reporting Requirements. (Latest version of Annual Report template available on City website.)

☐ ☐ BMP Waste Disposal. Includes any testing and proper disposal of sediments that will likely be necessary.

☐ ☐ Evidence of acquisition of all necessary legal agreements (e.g., easements, covenants, land trusts).

☐ ☐ Waiver requests

☐ ☐ O&M Plan Revisions. Procedures for notifying the City of revisions to the O&M Plan.

I. Signatures and Certifications

1. As the Owner (Applicant) and Engineer of Record, we understand that the review by the City is only for verification that the proposed improvements generally conform to the Stormwater Management Design Criteria Manual. The City is not approving the design or the suitability of the design for the application. The review does not relieve the applicant from complying with all rules, regulations, ordinances, laws or statutes that are in effect at the time of design or construction.

   The applicant shall retain full responsibility for any damages, which may result from any construction activity.

   It is understood that approval of the plan submitted with this application shall be valid only for the duration of the initial project approval granted by the City. In no case shall the approval extend beyond three- and one-half years at which time resubmission and certification will be required. It is further understood that all documents, site plans, design reports etc. submitted to the City shall be made available to the public (upon request) pursuant to The Sunshine Law.

(Owner's Printed Name)	(Owner's Signature)	(Date)
(Engineer's Printed Name)	(Engineer's Signature)	(Date)

2. One copy of the design plans, all specifications and supporting calculations, forms, reports, and SWPPP (if applicable) are herewith submitted and made a part of this application. I have placed my signature and seal on the design documents submitted signifying that I accept responsibility for the design of the system. Further, I certify to the best of my knowledge and belief that the design is consistent with the requirements of the city's Stormwater Management Criteria.

(Engineer's Seal, Signature and Date)

3. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting

false information, including the possibility of fine and imprisonment for knowing violations. I hereby certify that all land-disturbing construction and associated activity pertaining to this site shall be accomplished pursuant to and in keeping with the terms and conditions of the approved plans. I also certify that a responsible person will be assigned to the project for day-to-day control. I hereby grant authorization to the local implementing agency the right of access to the site at all times for the purpose of on-site inspections during the course of construction and to perform maintenance inspections following the completion of the land-disturbing activity.

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(Signature of Project Owner/Operator)