

Project: Posey Solar

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Contents of final drainage plan for the project as required by Section 153.124.03 of the Solar and Wind Ordinance for Unincorporated Posey County:

A. The contents of the final drainage plan shall include a map based on the most current county planimetric maps, or a topographic map prepared from a more recent aerial photo reconnaissance that provides more accurate data, complete with contour lines, and showing the following:

- √ The extent and area of each watershed affecting the design of the drainage facilities for the project;
- √ The soil types based on the most current information available from the SWCD;
- √ Zone "A" floodplain based on the current FIRM panels;
- √ The existing man-made and natural waterways, ponds, basins, tiles, pipes, culverts, and other drainage facilities or features within or affecting the project;
- √ The preliminary layout and design of the streets, and all stormwater drainage facilities, including depressed pavements used to convey or temporarily store overflow from the heavier storms, and all outlets for the storm water drainage facilities;
- √ The existing streams, floodways, and floodplains to be maintained, and new channels to be constructed, their locations, cross sections, profiles, and materials used;
- √ The proposed culverts and bridges to be built, with the specific materials to be used, elevations, waterway openings, and the basis of their design;
- √ Existing detention basins, water and sediment control basins or ponds within the project, or outside the project but affecting it, to be maintained, enlarged, or otherwise altered, together with any new basins or ponds to be built; and their basis of design; The estimated depth and amount of storage required of the basins and ponds;
- √ The estimated location and percentage of impervious surface existing and expected to be constructed at completion of the project;
- √ Location and specifications for potential stormwater BMPs including, but not limited to: run off controls, run off conveyance systems, grade stabilization structures, constructed basins.
- √ Any interim plan which is to be incorporated into the project pending its completion according to the final drainage plan.

B. Notations and Explanations on the final drainage plan. All notations necessary to indicate the existing conditions, and the proposed functions of the various features shown thereon.

C. Geographic Orientation Required. A north arrow, scale, location insert, and other information necessary for geographic clarification.

D. Data sufficient to support the feasibility of the final drainage plan, including calculations of the predevelopment and post development runoff rates using rainfall data.

The following recommendations should be addressed in the final drainage plan.

- Grading should be kept to a minimum. When grading is necessary, topsoil will be stockpiled and evenly spread over the surface prior to seeding.
- Solar arrays should be placed on slopes ideally 10% or less. If the slope exceeds 10%, additional stormwater management Best Management Practices (BMPs) should be utilized to promote sheet flow and dissipate energy at the drip edge of each row of panels. Acceptable stormwater management BMPs must meet the design specifications detailed in Chapter 7 of the IDEM Stormwater Manual.
https://www.in.gov/idem/stormwater/files/stormwater_manual_chap_07.pdf
- Solar arrays should be designed and installed to allow growth of vegetation under and between the solar arrays. Vegetation needs to be 90% density before temporary erosion control structures are removed. Ideally, the vegetation will be established prior to the installation of the solar panels to promote better establishment. The vegetation should be a shade-tolerant native mix of warm and cool season grasses and forbs.
- Solar panels should be installed with sufficient distance between rows to allow for rainfall to infiltrate.
- Solar panels should not be installed so the dripline is higher than 10 feet to prevent scouring.
- Existing drainage patterns should be maintained. If the drainage pattern is altered, the new drainage pattern must be detailed in the final drainage plans.

Any changes or deviations in the detailed plans and specifications after approval of the applicable Stormwater Management Permit shall be filed with and accepted by the Area Plan Commission and the Posey County Soil and Water Conservation District prior to the land development involving the change. Copies of the changes, if accepted, shall be attached to the original plans and specifications.