



City of Charlottesville, Virginia

Engineering Plan Review Checklist

(Site Plans, Site Plan Amendments, and Major Subdivisions)

610 East Market Street, Charlottesville, VA 22902
 Telephone 434-970-3182; Fax 434-970-3359

****Designers/Developers must submit a completed copy of this checklist with their initial application (for site plans – submit one for initial preliminary and one for initial final) or the site/subdivision plan will not be accepted. Any additional comments that may assist the City Engineers with their review should be attached separately.***

Project: _____
Developer/Designer: _____
Reviewer: _____

P = Preliminary Site Plan Requirement, F = Final Site Plan Requirement
F/P not applicable to Site Plan Amendments

I. Special Procedures and General Notes

Compliance?			
	Yes	No	Comments or N/A
Building footprint can not be located in the floodway. If near the floodway, limits of floodway must be clearly labeled on plans. No work for the project may be conducted in the floodway. [P]			
Is proposed site located on land with a slope equal to or greater than 25%? If it is then the applicant must request and receive a steep slope waiver before proceeding with the plan review process. [P]			
Does the site impact a stream buffer (Moore's Creek, Rivanna River, Meadow Creek) (All land disturbance must be outside of 100 foot buffer) [P]			
Vicinity Map (preferably 1" = 2000 ft, no less than 1" = 3000 ft) [P]			
The site plan shall be prepared to an engineering scale of 1:20, unless, in the determination of the director a different scale will allow a better representation of the development. [P]			
List source of survey and topography. Contour intervals must be no greater than 2'. Show contours no less than 50' beyond property lines on all sides [P]			
List total land disturbed on front page. If greater than 6,000 sf, E&S is required. [P]			
Have bonds been submitted for review? [All public improvements shown on plan will require bonds. Owner must submit a bond estimate to the planner for the engineer to review as part of the plan review process. Final Site Plan approval will not be granted until bonds have been secured with City Attorney.] [F]			
Show bond phasing shown on plan. If developer wants a partial release of the bonds during construction, these amounts must be divided and discussed during plan review process; otherwise the entire bond will be held in full until the entire site plan is complete. [F]			

II. Streets and Sidewalks

Compliance?			
	Yes	No	Comments or N/A
Streets, roads, travelways, improvements to existing streets and other right-of-way, including widths, street classification, and preliminary anticipated traffic counts (vehicles/day). [P]			
Sidewalk and curb are required on all new developments unless a waiver is required and approved by the Planner. Show any adjustments required for street functionality (i.e. relocating power poles, mailboxes, signs, guy wires, drainage structures, adding pavement widths, etc.) [P]			
Minimum width of sidewalks = 5 feet [P]			
Acceptable Curbs – CG-2, CG-6, and Roll-top curb [P]			
Obstructions should be minimized in the sidewalk (e.g. utility poles) to allow two-way pedestrian access where possible [P]			
Maximum slope on the streets is 8% with a waiver for slopes up to 10% approved by the Planning Commission [P]			
Label ROW limits clearly on the plan [P] Right-of-Way Requirements (use a standard reference of 10 trips per day per unit) : <ul style="list-style-type: none"> - 50' required for streets with > 4,000 trips per day - 40' required for streets with between 401 and 4,000 trips per day - 30' required with 24' of pavement for streets < 0.5 miles and up to 400 trips per day 			
Check minimum street width for all new subdivision streets with the Standards and Design Manual –Appendix B. [Widths are designed according to traffic volume. Widths do not include extra features in the ROW, such as bike lanes. See Chart at the back of Appendix B for width of additional features.] [P]			
Sidewalk not located in the ROW must clearly identify public or private use and public or private maintenance. Regardless of use, sidewalk outside of ROW must be privately maintained. [F]			
Plans must include City Standard Details for all new sidewalk, curb, and pavement patch/new streets that are identified for the project [F]			
Materials used for sidewalks, driveway entrances and/or streets must be nonerodible surfaces and must be identified in the details section of the site plan. [F]			

III. Driveways

Compliance?			
	Yes	No	Comments or N/A
Residential Driveway Entrances: <ul style="list-style-type: none"> - Single Entrance: 10' wide - Double Entrance; 20' wide Commercial Driveway Entrance: <ul style="list-style-type: none"> - Minimum width of 20' [subject to increase depending on type of vehicular use] [P] 			

Driveway width shall not exceed: [P] <ul style="list-style-type: none"> - 50' at the property line - 60' at the curb line - 20' for two way directional use - 14' for one way directional use 			
Driveway length shall not exceed: 900' unless a second means of access is provided to a public street [P]			
No driveway entering a street at the curb line shall be located within fifteen (15) feet of the right-of-way of an intersecting street, or less than (5) feet from the end of the curb radius. [P]			
No driveway within a residential district, or used for residential purposes, shall be located within three (3) feet from the line of an adjacent property unless a joint driveway agreement has been approved [P]			
Detail section of plan must include City Standard Driveway Entrance [F]			
Must use City Standards for all residential land commercial entrances and include detail on plan. [F]			

IV. Utilities

Compliance?			
	Yes	No	Comments or N/A
List the Miss Utility design ticket number [P]			
Fire Hydrant Spacing: 300' maximum in commercial area, 600' maximum in residential area [P]			
Label all existing utility lines and structures such as water, sewer, gas, electric, telephone, wells, and drainfields on the projects parcel(s) and within 50' of property line on all sides, including size and capacity. [P]			
Proposed conceptual layout for water and sanitary sewer facilities and storm drainage facilities, including storm detention ponds or structures, with arrows to indicate the direction of flow in all pipes and watercourses. [P]			
Sewer connection to the main line sewer in the street shall be within fifteen (15) feet of the property corner of the lot to be served. [P]			
Sanitary manholes should not be placed in the sidewalk or gutter flow lines whenever possible. [P]			
Building or wall foundations shall not be constructed within ten feet of any storm, sanitary, water, or gas main. This includes all structures that are an integral part of the utility system (i.e. box culverts, manholes, etc.) Any utility easement encroachment must be approved by the Public Works Director. [P]			
On demolition/existing plans, all sanitary and water lines to be demoed should be shown to demo out to the main line in the street. A note to the contractor should be clearly stated on the plans as well. [P]			
Minimum separation between water lines and sanitary sewer is 18" vertical and 10' horizontal. Minimum separation between parallel sanitary and storm sewer lines is 12" vertical and 5' horizontal (may be reduced with approval of City Engineer). [P]			
Profiles of proposed utilities should be provided on a profile sheet with the site plan. [Profiles should include any existing utilities that connect to or cross the proposed utilities] [F]			

All city maintained sanitary sewer lines must be Ductile Iron or PVC SDR-26 and have a minimum diameter of 8". [F]			
All stormdrain lines must be RCP or HDPE and have a minimum of 15" diameter and minimum slope of 0.5% if in ROW [F]			
Minimum depth of cover is 3' for water lines (18" with a waiver from the City Engineer), 3' for storm sewer (2' with a waiver from the City Engineer), and 2' for sanitary lines (no waiver possible). [F]			
At all utility crossings, minimum vertical separation of 12" is required. Minimum vertical separation of 18" is required between bottom of water line and top of sanitary sewer line. [F]			

All sites with land disturbance greater than or equal to six thousand (6,000) square feet will be required to submit a stormwater management plan as defined by Chapter 3 of the City Standards and Design Manual (most current version). Activities exempt from this requirement are listed under section 10-50(d) of the City Code. Please refer to Virginia Stormwater Management Handbook (most recent edition) for detailed calculations. Office of City Engineer may request additional information to ensure compliance with stormwater management requirements.

V. Stormwater Management – General

Compliance?			
	Yes	No	Comments or N/A
List total impervious area for pre- and post-development on front page of site plan. [P]			
Include preliminary quantity and quality analysis, as described in CSDM Chap. 3 Section 302 to show change from pre- to post-development. [P]			
Provide drainage area maps for pre- and post-development that show the dividing lines and direction of flow for each drainage area contributing to the project site (2-foot contour intervals). [P]			
Only allowable storm pipe materials are RCP and HDPE. [P]			
Minimum storm pipe size is 15" (if publicly maintained) [P]			
Standard VDOT LD-229 and/or LD-347 forms (for storm sewer computations and hydraulic grade line computations) are provided. [F]			
Maximum Velocity discharging from pipes is 15 fps [F]			
Calculations for compliance with MS-19 (channel adequacy) should be provided: [F] <ul style="list-style-type: none"> - Open channel cross-section information with peak flow rate and water surface elevations for pre-and post-development conditions - A minimum of three cross-sections shall be provided below the discharge point to verify channel adequacy. Additional cross-sections may be requested depending on site conditions and potential impact on City waterways - Natural channels shall be verified for capacity and non-erosive velocity from a 2-year storm - Man-made channels shall be verified for capacity to convey peak runoff from a 10-year storm and for non-erosive velocities from a 2-year storm <p>If an existing natural or man-made channel is experiencing erosion or is considered sensitive to increase in peak rate and velocity, 24-hour extended detention of 1-year storm may be required.</p>			

If site is over 1 acre, a copy of the VSMP Construction Stormwater General Permit must be submitted before a land disturbance permit may be issued. [F]			
Submit a SWM/BMP Facilities Maintenance Agreement. [F]			
Any land adjacent to the Rivanna River, Moore's Creek or Meadow Creek shall provide buffers no less than one hundred (100) feet wide on each side of the stream. The buffer shall be measured horizontally from the top of the stream bank. If this is deemed not feasible for the project in question, mitigation options may be negotiated. [F] * If the proposed development shows impacts/infringement into the buffer area, a mitigation plan must be submitted for review. [F]			

VI. Stormwater Management - Quantity

Compliance?			
	Yes	No	Comments or N/A
Calculations must demonstrate that the post-development rate, volume, and velocity do not exceed pre-development rate, volume, and velocity at a minimum for 2 and 10-year storm events. [P] <ul style="list-style-type: none"> - Show 2-year and 10-year storm for design capacities (peak rate of runoff) and velocities of storm sewer systems, BMPs, and open channels [F] - 6" minimum freeboard above the 10-year storm carrying capacity should be provided for grass swales/open channels [F] - A1.0' minimum freeboard above the 100-year water surface elevation is required for emergency spillway of detention facilities. If no emergency spillway is provided a minimum freeboard of 2.0' is required. [F] 			
TR-55 Method should be used to compute runoff when drainage area is >= 5 acres and/or the Time of Concentration is >= 20 minutes. Rational Method may be used for smaller sites (less than 5 ac.). However, any site requiring hydrographs for routing calculations must use TR-55 methodology. [F]			
Hydrographs and routing calculations for all detention facilities. [F]			

VII. Stormwater Management – Quality

Compliance?			
	Yes	No	Comments or N/A
Provide pre- and post-development preliminary water quality analysis based on increase in phosphorous loads. If there is any increase the plan must show means of mitigation by using the appropriate structure for the required removal efficiency as detailed in the Virginia Stormwater Management Handbook. [P]			
All site plans with BMPs must have the following information on the site plan in tabular format: <ul style="list-style-type: none"> - Type of BMP to be installed [P] - BMP ownership info [F] - Waterbody the BMP is discharging into [F] - Number of acres treated by BMP [F] - Description of required maintenance for BMP [F] 			