

Project Identification Information:

DEVELOPMENT PLAN CHECKLIST				
1.0 GENERAL				
Section	Description	Check Box	Sheet Number	If Check Box is left unchecked, provide explanation below
1.1	Additional information as required by specific Land Use Section	<input type="checkbox"/>		
1.2	All sheets to include sheet number (Sheet ___ of ___)	<input type="checkbox"/>		
1.3	Seal and signature on each sheet by a professional engineer or land surveyor, or clearly marked "Preliminary"	<input type="checkbox"/>		
1.4	All plan/profile sheets to include a graphic scale (horizontal - 1" = 50' or larger; vertical - 1" = 5' or larger)	<input type="checkbox"/>		
1.5	All sheets to include date of plan preparation.	<input type="checkbox"/>		
1.6	All sheets to include revision date(s).	<input type="checkbox"/>		
1.7	All sheets to include a title block that has at a minimum the title of the project.	<input type="checkbox"/>		
2.0 COVER SHEET				
2.1	Name of development and phase/block as applicable.	<input type="checkbox"/>		
2.2	Seal and signature by a professional engineer or land surveyor, or clearly marked "Preliminary"	<input type="checkbox"/>		
2.3	Title block including Owner/Developer Name, telephone number, address, e-mail; Engineer Name, telephone number, address, e-mail.	<input type="checkbox"/>		
2.4	Parcel identification including legal reference, tax map number(s), present zoning, total acreage, County, and magisterial district.	<input type="checkbox"/>		
2.5	Plan sheet index.	<input type="checkbox"/>		
2.6	Vicinity map (1" = 2,000') with north arrow.	<input type="checkbox"/>		
2.7	Reference of all previously approved master plans, waivers, variances, rezonings or proffers approved for this site including date of approval and approving entity. Location of this information may vary per locality.	<input type="checkbox"/>		
2.8	Latitude and longitude of connection to all VDOT maintained roadways.	<input type="checkbox"/>		
2.9	Tabulation of total number of lots/units to account for the total site acreage.	<input type="checkbox"/>		
2.10	VDOT Standard Notes. May be on Sheet 2.	<input type="checkbox"/>		
2.11	Plan Legend. May be on Sheet 2.	<input type="checkbox"/>		

3.0 PLAN SHEETS

Section	Description	Check Box	Sheet Number	If Check Box is left unchecked, provide explanation below
3.1	Survey and mapping control information including north arrow, benchmark, datum, elevations, and connection distance to nearest intersection of a state route or commercial entrance.	<input type="checkbox"/>		
3.2	Parcel information for development and adjacent parcels including tax map numbers, owners' names, present zoning.	<input type="checkbox"/>		
3.3	Existing and proposed contours with differing and distinguishable line types at a maximum of 5' intervals.	<input type="checkbox"/>		
3.4	Elevation labels for index contours. Minimum of 2 labels per index contour.	<input type="checkbox"/>		
3.5	Proposed street names.	<input type="checkbox"/>		
3.6	Road names and route numbers of all existing VDOT maintained roadways that are being connected to with the development.	<input type="checkbox"/>		
3.7	Posted or regulatory speed limit of all existing VDOT maintained roadways that are being connected to with the development.	<input type="checkbox"/>		
3.8	Design speed for proposed roadways.	<input type="checkbox"/>		
3.9	Clearly identified site layout including lot numbers and acreage.	<input type="checkbox"/>		
3.10	Clearly label all existing and proposed right-of-way, including width.	<input type="checkbox"/>		
3.11	Clearly label existing and proposed edge of pavement, roadway centerline, roadway width, curb type, storm structures, signage as appropriate, existing and proposed utilities within existing and proposed right-of-way.	<input type="checkbox"/>		
3.12	Clearly label radius of all intersection returns measured from face of curb or edge of pavement as appropriate.	<input type="checkbox"/>		
3.13	Clearly label the angle between road centerlines at each skew intersection.	<input type="checkbox"/>		
3.14	Clearly label the angle between each upstream pipe and downstream pipe at each drainage structure as applicable.	<input type="checkbox"/>		
3.15	Clearly label all roadway centerline radii.	<input type="checkbox"/>		
3.16	Clearly label the distance to the nearest state route intersection, commercial entrance, or cross-over on each side of the proposed street connection measured to the nearest foot center to center	<input type="checkbox"/>		
3.17	Clearly label all existing and proposed turn lane and taper widths and lengths.	<input type="checkbox"/>		
3.18	Provide stations tick marks and labels at 100 foot intervals along the roadway centerline and at points of curvature and tangent, intersections, section limits, and turnarounds. Provide tick marks only at each intermediate 50 foot station.	<input type="checkbox"/>		

3.0 PLAN SHEETS				
Section	Description	Check Box	Sheet Number	If Check Box is left unchecked, provide explanation below
3.19	Clearly identify all existing and proposed easements within or immediately adjacent to State maintained right-of-way. Include use, legal reference, and bearings and distances.	<input type="checkbox"/>		
3.20	Clearly identify all roadways to remain privately maintained	<input type="checkbox"/>		
3.21	For on-street parking on one side only, clearly identify side of street parking will be located.	<input type="checkbox"/>		
3.22	Show intersection sight line triangles at each intersection. Include available sight distance, offset from edge of travel way, centerline offset, and sight line profiles.	<input type="checkbox"/>		
4.0 PROFILE SHEETS				
4.1	Clearly label existing and proposed elevations at 25 foot interval.	<input type="checkbox"/>		
4.2	Design Speed of proposed roadway	<input type="checkbox"/>		
4.3	Existing grade line at roadway centerline	<input type="checkbox"/>		
4.4	Finished grade line of centerline, mainline and connections	<input type="checkbox"/>		
4.5	Percent grade of centerline, elevation and station of PVI, PVC, and PVT, Length of vertical curve, and K value of vertical curve	<input type="checkbox"/>		
4.6	Provide adequate landing at each intersection as defined in Appendix B or B(1) as applicable in the VDOT Road Design Manual.	<input type="checkbox"/>		
4.7	Station and finished elevation of high point (crest) and low point (sag)	<input type="checkbox"/>		
4.8	Stations on profiles in agreement with stations on plan view	<input type="checkbox"/>		
4.9	Invert elevations (In and Out), type of structure, and rim elevations for storm sewer structures	<input type="checkbox"/>		
4.10	Pipe material, diameter, length, and slope for storm sewer	<input type="checkbox"/>		
4.11	Show sanitary sewer, waterline, and storm sewer crossings to scale and at correct invert elevation at the centerline of roadway	<input type="checkbox"/>		
4.12	Profile and grade for outfall channels shown and/or special channels	<input type="checkbox"/>		
4.13	Show HGL of the governing design storm at each storm structure	<input type="checkbox"/>		
4.14	Sight line, available sight distance, height of eye (3.5') and height of object (3.5' feet intersection sight distance, 2' stopping sight distance) for sight distance profiles	<input type="checkbox"/>		
4.15	Location, finished elevation, and station of cross-street intersections	<input type="checkbox"/>		

5.0 DETAILS				
Section	Description	Check Box	Sheet Number	If Check Box is left unchecked, provide explanation below
5.1	Standard details from current versions of Road Design Manual, Road and Bridge Standards, VDOT Drainage Manual, etc. as appropriate and required by local Land Development office.	<input type="checkbox"/>		
5.2	Details showing method of connecting to existing storm sewer structures	<input type="checkbox"/>		
5.3	Detail showing roadway layout with ADT of each roadway labeled	<input type="checkbox"/>		
5.4	Include potential ADT of adjacent parcels at stub streets based on potential density of existing zoning	<input type="checkbox"/>		
5.5	Provide structure schedule including top elevation, invert in/out elevation, structure type, inlet length as appropriate, height of structure, hydraulic grade line elevation for each structure	<input type="checkbox"/>		
5.6	Provide pipe schedule including material, diameter, upstream/downstream invert elevation, grade	<input type="checkbox"/>		
6.0 ROADWAY TYPICAL SECTION				
6.1	Pavement structure including thickness and material of each layer shown graphically	<input type="checkbox"/>		
6.2	Width of each travel lane from edge of pavement to edge of pavement	<input type="checkbox"/>		
6.3	Width of each bicycle lane as appropriate	<input type="checkbox"/>		
6.4	Curb and gutter type as applicable, labeled and shown graphically	<input type="checkbox"/>		
6.5	Shoulder cross-slope and width as applicable shown graphically	<input type="checkbox"/>		
6.6	Roadside ditch typical section as applicable shown graphically	<input type="checkbox"/>		
6.7	Sidewalk width and cross-slope as applicable shown graphically	<input type="checkbox"/>		
6.8	Buffer width and cross-slope between back of curb and sidewalk as applicable	<input type="checkbox"/>		
6.9	Street tree graphically shown with dimension to back of curb as applicable	<input type="checkbox"/>		
6.10	Location and width of proposed right-of-way lines	<input type="checkbox"/>		
6.11	Show clear zone as defined in Appendix A of the Road Design Manual	<input type="checkbox"/>		
6.12	Clearly label road name with applicable typical section	<input type="checkbox"/>		
6.13	Clearly identify roadway design speed	<input type="checkbox"/>		
6.14	Clearly label design standard used (SSAR or appropriate GS)	<input type="checkbox"/>		
6.15	Clearly label whether there will be on-street parking (one side, both sides, or none)	<input type="checkbox"/>		

7.0 MAINTENANCE OF TRAFFIC (MOT)				
Section	Description	Check Box	Sheet Number	If Check Box is left unchecked, provide explanation below
7.1	Appropriate TTCs from the current version of the Virginia Work Area Protection Manual	<input type="checkbox"/>		
7.2	Regulatory speed limit of roadway	<input type="checkbox"/>		
7.3	Locations of channelizing devices and signage shown to scale and in plan view in accordance with appropriate TTC	<input type="checkbox"/>		
7.4	Certification and signature of MOT plan preparer	<input type="checkbox"/>		
7.5	Lane width(s) and number of travel lane(s) and turn lane(s) to be maintained	<input type="checkbox"/>		
7.6	Identify all detour/alternate routes	<input type="checkbox"/>		
7.7	List allowable work activity hours	<input type="checkbox"/>		
7.8	Clearly show access to all businesses and private dwellings	<input type="checkbox"/>		
7.9	Provide note with contact information for Transportation Operations Center (TOC) and incident management	<input type="checkbox"/>		
7.10	Provide note indicating requirement for TOC to be contacted prior to any lane closure	<input type="checkbox"/>		
7.11	MOT has been prepared in accordance with the VA Work Area Protection Manual and IIM-LD-241.5	<input type="checkbox"/>		
8.0 DRAINAGE PROFILES				
8.1	Existing grade line at storm sewer/ditch centerline.	<input type="checkbox"/>		
8.2	Finished grade line of centerline at storm sewer/ditch centerline.	<input type="checkbox"/>		
8.3	Stations on profiles in agreement with stations of storm sewer/ditch on plan view. Note, stationing for storm sewer/ditch typically different than stationing for road centerline.	<input type="checkbox"/>		
8.4	Invert elevations (In and Out), type of structure, and rim elevations for storm sewer structures.	<input type="checkbox"/>		
8.5	Clearly indicate "From" structure for each Invert In and "To" structure for each Invert Out at each storm structure.	<input type="checkbox"/>		
8.6	Pipe material, diameter, length, and slope for storm sewer/culverts.	<input type="checkbox"/>		
8.7	Show sanitary sewer, waterline, and any known utility crossings to scale and at correct invert elevation at the centerline of storm sewer/ditch.	<input type="checkbox"/>		
8.8	Show HGL of the governing design storm at each storm structure.	<input type="checkbox"/>		
8.9	Show grade/grade break of ditch centerline for each section of grade change.	<input type="checkbox"/>		
8.10	Show station of each grade break on ditch centerline.	<input type="checkbox"/>		
8.11	Show clearance between storm sewer/ditch centerline for each crossing utility as applicable.	<input type="checkbox"/>		
8.12	Show minimum cover for each section of storm sewer as applicable.	<input type="checkbox"/>		

9.0 EROSION AND SEDIMENT CONTROL

Section	Description	Check Box	Sheet Number	If Check Box is left unchecked, provide explanation below
9.1	Narrative with description of project including, but not excluded to erosion/drainage impact to existing and/or proposed public right-of-way	<input type="checkbox"/>		
9.2	Description of E&SC measures proposed in existing and/or proposed public right-of-way. Description should include installation, maintenance, and removal procedures for each measure.	<input type="checkbox"/>		
9.3	Legend of E&SC measure symbols.	<input type="checkbox"/>		
9.4	Location of E&SC measures shown in plan view.	<input type="checkbox"/>		
9.5	VDOT standard details for E&SC measures.	<input type="checkbox"/>		
9.6	Drainage map showing offsite runoff that flows to existing and/or proposed right-of-way.	<input type="checkbox"/>		

Project Identification Information:

VDOT HYDRAULIC CALCULATIONS PLAN CHECKLIST

1.0 GENERAL

Section	Description	Check Box	Sheet Number	If Check Box is left unchecked, provide explanation below
1.1	Additional information as required by specific Land Use Section	<input type="checkbox"/>		

2.0 DRAINAGE MAP

2.1	Provide a scaled map delineating the subareas draining to each inlet and/or hydraulic analysis point. Include all off-site areas draining to proposed storm drainage system within dedicated right-of-way. Note, drainage subareas to be based on actual total drainage area rather than drainage area on site .	<input type="checkbox"/>		
2.2	Provide on map "C-value" or "CN – value" as appropriate that is used for each drainage subarea.	<input type="checkbox"/>		
2.3	Provide area (in acres) of each drainage subarea.	<input type="checkbox"/>		
2.4	Provide time of concentration for each drainage subarea.	<input type="checkbox"/>		
2.5	Provide existing and proposed contours for each drainage subarea.	<input type="checkbox"/>		
2.6	Provide typical section roadside ditches as appropriate including lining, side slopes, depth of ditch, width of bottom if not a V-ditch.	<input type="checkbox"/>		

**3.0 DRAINAGE PROFILES
IF NOT INCLUDED IN DEVELOPMENT PLAN**

3.1	Sheet number (Sheet __ of __)	<input type="checkbox"/>		
3.2	Seal and signature on each sheet by a professional engineer or land surveyor, or clearly marked "Preliminary"	<input type="checkbox"/>		
3.3	Graphic Scale: 1" = 50' or larger horizontal; 1" = 5' or larger vertical	<input type="checkbox"/>		
3.4	Existing grade line at storm sewer/ditch centerline.	<input type="checkbox"/>		
3.5	Finished grade line of centerline at storm sewer/ditch centerline.	<input type="checkbox"/>		
3.6	Stations on profiles in agreement with stations of storm sewer/ditch on plan view. Note, stationing for storm sewer/ditch typically different than stationing for road centerline.	<input type="checkbox"/>		
3.7	Invert elevations (In and Out), type of structure, and rim elevations for storm sewer structures.	<input type="checkbox"/>		
3.8	Clearly indicate "From" structure for each Invert In and "To" structure for each Invert Out at each storm structure.	<input type="checkbox"/>		
3.9	Pipe material, diameter, length, and slope for storm sewer/culverts.	<input type="checkbox"/>		

3.0 DRAINAGE PROFILES				
IF NOT INCLUDED IN DEVELOPMENT PLAN				
Section	Description	Check Box	Sheet Number	If Check Box is left unchecked, provide explanation below
3.10	Show sanitary sewer, waterline, and any known utility crossings to scale and at correct invert elevation at the centerline of storm sewer/ditch.	<input type="checkbox"/>		
3.11	Show HGL of the governing design storm at each storm structure.	<input type="checkbox"/>		
3.12	Show grade/grade break of ditch centerline for each section of grade change.	<input type="checkbox"/>		
3.13	Show station of each grade break on ditch centerline.	<input type="checkbox"/>		
3.14	Show clearance between storm sewer/ditch centerline for each crossing utility as applicable.	<input type="checkbox"/>		
3.15	Show minimum cover for each section of storm sewer as applicable.	<input type="checkbox"/>		
4.0 HYDRAULIC CALCULATIONS				
4.1	Calculations sealed and signed by professional engineer	<input type="checkbox"/>		
4.2	If calculations provided in booklet rather than on plans, each page to be: 1) Numbered 2) Include project name 3) Include date of calculation	<input type="checkbox"/>		
4.3	Provide summary table indicating "C-value/RCN-value", area, time of concentration, design storm intensity, peak 2-year, 10-year, 25-year, 100-year runoff, hydraulic grade line elevation for appropriate storm for each inlet and/or analysis point subarea.	<input type="checkbox"/>		
4.4	Clearly indicate appropriate design storm	<input type="checkbox"/>		
4.5	Provide available capacity of each section of storm sewer/culvert and/or ditch as applicable	<input type="checkbox"/>		
4.6	Provide water velocity in each section of storm sewer/culvert and/or ditch based on design storm	<input type="checkbox"/>		
4.7	Provide material and roughness coefficient for each section of storm sewer/culvert and/or ditch as applicable	<input type="checkbox"/>		
4.8	Provide final grade of each section of storm sewer/culvert and/or ditch as applicable	<input type="checkbox"/>		
4.9	Provide diameter of each section of storm sewer/culvert	<input type="checkbox"/>		
4.10	Provide upstream and downstream invert elevation of each section of storm sewer as applicable	<input type="checkbox"/>		
4.11	Provide structure from and structure to for each section of storm sewer as applicable	<input type="checkbox"/>		
4.12	Provide dimensions and number of barrels for each box culvert as applicable	<input type="checkbox"/>		
4.13	Provide side slopes, base width, lining, and depth of each section of ditch as applicable	<input type="checkbox"/>		
4.14	Provide structure type	<input type="checkbox"/>		
4.15	Identify whether inlet is on grade or in sag	<input type="checkbox"/>		
4.16	Provide inlet length	<input type="checkbox"/>		
4.17	Provide curb type	<input type="checkbox"/>		
4.18	Provide spread width based on design storm	<input type="checkbox"/>		

4.0 HYDRAULIC CALCULATIONS

Section	Description	Check Box	Sheet Number	If Check Box is left unchecked, provide explanation below
4.19	Provide water depth in curb or ditch at inlet/analysis point as applicable	<input type="checkbox"/>		
4.20	Provide hydraulic grade line elevation at each inlet based on design storm	<input type="checkbox"/>		
4.21	Provide tailwater elevation based on design storm or 0.8 times the diameter if actual elevation is unknown.	<input type="checkbox"/>		
4.22	LD-204 (or equivalent) as applicable.	<input type="checkbox"/>		
4.23	LD-229 (or equivalent) as applicable.	<input type="checkbox"/>		
4.24	LD-347 (or equivalent) as applicable.	<input type="checkbox"/>		