

Site Plan, Subdivision Plat and Plan Checklist

Revised December 4, 2012

M:\Engineering Review Checklist\Subdivision Plat and Plan Checklist

This is only a checklist. The Blacksburg Zoning and Subdivision Ordinance overrides the items listed.

Name of Project: _____

Address of Project: _____

Name and Address of _____

Owner/Developer: _____

Name and Address of _____

Project Manager: _____

Plan Date: _____

All submittals shall include the completed checklist, and certification statement below signed by the responsible licensed professional.

For all second and subsequent submittals, the submitting Engineer shall include a cover letter that provides explanation as to how each comment is addressed and references and relevant plan or narrative location. In addition significant changes in the plan should be listed.

Additional comments may be warranted depending upon how prior submittal comments were addressed.

Required Certification

I have reviewed the attached plan or plat submission, this checklist and applicable Subdivision Ordinance and Zoning Ordinance provisions. The submitted plat and/or plan is complete and meets all applicable requirements to the best of my knowledge.

Project Manager Licensed Professional Signature

Date

Office Use Only:

Project Number: _____

Reviewing Town Planner: _____

Reviewing Engineer: _____

Related Documents

- _____ 1. Submittal Fees
- _____ 2. Subdivision agreement with Town of Blacksburg, required for any public improvements required as part of the subdivision of property [4-300] [4-601].
- _____ 3. Deeds of Easement as required by Town Attorney.
- _____ 4. Deeds of Easement and Easement Plat required for Dedication of Easements on site plans.
- _____ 5. Adjacent property and off site easements if necessary including public utility, private, off-site, construction, drainage.
- _____ 6. For Subdivision Plats showing a minimum of 5,000 square feet of disturbed area or greater, an Erosion and Sediment Control Plan is required as well as an Erosion and Sediment Control Permit per Sec. 10-106 of the Town Code.
- _____ 7. Stormwater Management Plan required [5-800] See Stormwater Plan Checklist.
- _____ 8. Ch. 527 – VDOT Traffic Impact Analysis.
- _____ 9. E&S Permit [Sec. 10-106 of the Town Code].
- _____ 10. E&S Security [Sec. 10-107 of the Town Code].
- _____ 11. Public Improvement Security [Section 4-600 of the Subdivision Ordinance]-Cost for as-builts added into PI amount (based on percentage of security amount).
- _____ 12. Utility Testing Fee.
- _____ 13. Construction Schedule and Inspection Fee [Section 10-106C of the Town Code].
- _____ 14. Stormwater Management Facility Security and Maintenance Covenant.
- _____ 15. Pay for traffic and street signs.

- _____ 16. Road Closure Permit.
- _____ 17. Responsible Land Disturber Assignment Statement.

Planner Comments

FINAL PLAT [4-400] REQUIRED ELEMENTS

- _____ 1. Drawn in ink [4-400(a)]. Digital files (pdf or tiff) are preferred.
- _____ 2. Plat is either 17"X22" or 24"X36" [4-200(a)].

General Information: [4-400(b)(1)]

- _____ 3. Name of Subdivision.
- _____ 4. True, record, or grid north.
- _____ 5. Scale of drawing, which shall be not smaller than 1"=50'.
- _____ 6. Number of sheets (match lines to show joining sheets, if necessary).
- _____ 7. Name and address of person and firm preparing plat.
- _____ 8. Vicinity map indicating adjoining roads and road names, and at a scale not smaller than 1"=2000'.
- _____ 9. Date drawing prepared, and revision dates.

General Notes: [4-400(b)(2)]

- _____ 10. Name and address of owner and developer.
- _____ 11. Magisterial district, county, town and state in which subdivision lies.
- _____ 12. Address and tax parcel number of property to be subdivided.
- _____ 13. Zoning district: All proffers, special use permit conditions, exceptions, or Board of Zoning Appeals actions applicable to the site should be referenced.
- _____ 14. Number of lots.
- _____ 15. Total area of subdivision.

Plat Information [4-400(b)(3)]

- _____ 16. Interior tract lines.
- _____ 17. Departing lot lines for adjacent parcels.
- _____ 18. Property owner names for adjacent parcels.
- _____ 19. Area of each proposed lot.
- _____ 20. Proposed lot numbers.
- _____ 21. Names (and state route numbers where applicable) of all existing and proposed streets and alleys.
- _____ 22. Boundaries of any proposed common area or open space or public dedicated area, With metes and bounds [App. B Sec. 4-401].
- _____ 23. Intended use of any common area, open space, or public dedicated area.
- _____ 24. Major watercourses and wetlands.
- _____ 25. Floodplain boundaries and FEMA Zone designation.
- _____ 26. Identification of graves, objects or structures marking the place of burial.
- _____ 27. All proffers, special use permit conditions, exceptions, or Board of Zoning Appeals actions applicable to the site.
- _____ 28. Show the location/limits of any applicable overlays, i.e. Flood Hazard Overlay, Toms Creek Valley Overlay, etc.

Statements and Certifications [4-400(b)(4)]

- _____ 29. Owner's consent and dedication statement (notarized), per [4-403].
- _____ 30. Surveyor's source of title statement (signed and dated by a Virginia Licensed Surveyor). When the plat is of land acquired from more than one source of title, the outlines of the several tracts shall be indicated upon the plat.
- _____ 31. Owner's conforming statement (notarized).
- _____ 32. Approval block providing for signature and date by Town Engineer and Town Planner on all pages.
- _____ 33. Every final subdivision plat shall be prepared by a certified professional engineer or licensed surveyor [4-402].
- _____ 34. Every final plat shall contain in addition to the professional engineer's or land surveyor's certificate a statement as follows: "The platting or dedication of the following described land (here insert a correct description of the land subdivided) is with the free consent and in accordance with the desire of the undersigned owners, proprietors, and trustees, if any."

- The owners must sign this statement [4-403].
- _____ 35. Subdivision agreement with Town of Blacksburg, required for any public improvements required as part of the subdivision of property [4-300].
- _____ 36. Plan is twenty-four (24) by thirty-six (36) inches in size and at a scale not smaller than fifty (50) feet to the inch (1"=50') [4-300(a)].
- _____ 37. Plans signed by the owner of the land [4-300(b)].

General Information

- _____ 38. Plan should include name of subdivision and phase (if applicable).
- _____ 39. North arrow, with reference.
- _____ 40. Scale of drawing.
- _____ 41. Number of sheets.
- _____ 42. Name and address of person and firm preparing plat: stamped and signed by professional.
- _____ 43. Approval block.
- _____ 44. Vicinity map indicating adjoining roads and road names, and not smaller than 1"=2000'.
- _____ 45. Date drawing prepared, and revision dates.

General Notes

- _____ 46. Name and address of owner and developer.
- _____ 47. Magisterial district, county, town and state in which subdivision lies.
- _____ 48. Address and tax parcel number of property.
- _____ 49. Zoning District.
- _____ 50. Number of lots.
- _____ 51. Total area of subdivision.

REQUIREMENTS FOR DESIGN STANDARDS, PUBLIC IMPROVEMENTS AND RESERVATION OF LAND FOR PUBLIC PURPOSES

Lot Characteristics

- _____ 52. Each lot shall be served by and abut on a public street dedicated by the subdivision plat or on an existing public street [5-202].
- _____ 53. Lots dedicated to the town for a public use and lots set aside as common area or open space are not required to meet the standards of this chapter [5-203].

Street

- _____ 54. Where it is necessary for the orderly extension of the town's transportation system to provide for street access to adjoining property, proposed streets shall be extended by dedication to the boundary line of such property [5-303].
- _____ 55. Minimum right-of-way width shall be fifty (50) feet [5-309].
- _____ 56. Driveway and curb cuts [5-318].
- _____ 57. Street lights provided on all collector and arterial streets within the subdivision [5-322].

Utilities

- _____ 58. Public water required if available [5-600].
- _____ 59. Sanitary Sewer required if available [5-700].
- _____ 60. Stormwater management required [5-800].
- _____ 61. New or extended utility wiring shall be placed underground [5-900].

ENGINEERING AND GIS REVIEW CHECKLIST – 30 CALENDAR DAY REVIEW PERIOD

Engineering Comments

Engineer shall provide a comment letter that provides information as to how each comment is addressed. Additional comments may be warranted depending upon how comments were addressed.

FINAL PLAT [4-400] REQUIRED ELEMENTS

Plat prepared in accordance with Section 4-400 of the Subdivision Ordinance

- _____ 1. GIS review of parent parcel site address; consistent with WebGIS.
- _____ 2. Street names shall be indicated on the preliminary and final plats and shall be approved by agent or planning commission, as appropriate [5-301].
- _____ 3. The statement saying: "No building permit shall be issued until the public street construction, including paving, is completed and approved by the Town Inspector."

4. Means of providing water and sewer service to each lot (well or public water, etc.).
5. Availability of public water and sanitary sewer.
 - a. Provide minimum floor elevation sewerable for all lots by gravity.
 - b. If property is on septic, provide location of drainfield and Virginia Department of Health approval statement and permit number on the plat.
 - c. If property is on well, provide the location and Virginia Department of Health approval.
6. Metes and bounds of the perimeter of the subdivision.
7. Deeds of Easement required for Dedication of Easements on site plans.
8. Check GIS information for existing utilities.
9. Boundaries of proposed and existing rights-of-way with metes and bounds description, stated in one consistent direction.
10. Right-of-way width clearly identified for each existing and proposed, interior and adjacent, right-of-way.
 - a. Curve data table including curve number, arc length, tangent length and bearing, and radius.
 - b. Bearings and distances on proposed street centerlines.
 - c. Show the entire street width on all concept and final plans including medians, crossovers, and opposite entrances.
11. Dedication of additional right of way – minimum of 50 feet of ROW.
12. Boundaries for proposed and existing easements clearly identified, with bearings and distances where necessary to establish location, monumented or tied to monuments (several ties for ease of locating easement in field).
13. Curve data table including curve number, arc length, tangent length and bearing, and radius.
14. Major watercourses and wetlands.
15. Delineate karst areas, existing sinkholes and floodplain boundaries.
16. Health Department approval for septic fields or well sites.
17. Metes and bounds shall include distances measured to the 0.01 foot and bearing to the 10 seconds.
18. Dedication statement for right-of-way and easements, signed by owner.
 - a. Existing/proposed easements.
 - b. Deed of Easement (required for easement plat only, PE can seal).
19. Bearings/Distances on lines.
 - a. Monumented or tied to monuments (several ties for ease of locating easement in field).
 - b. Adjacent property easements if necessary.
20. Public utility easements located on all interior lot lines (15 feet wide minimum centered on lot line) and 15 feet wide interior to subdivision boundary.
21. Bike trail easements shall be 20 feet in width so as to meet width, shoulder, and clear zone requirements.
22. Off-site easements if necessary.
23. Availability of public water and sanitary sewer.
24. Show existing or proposed mains.
25. Provide the location of any existing water and sanitary sewer laterals and/or water meters and cleanouts (required to comply with Sections 5-602 and 5-701(d) of the Subdivision Ordinance and Sections 18-204 and 24-303 of the Town Code; laterals shall not cross intervening properties).
26. For subdivision plat without plan, each lot shall meet the required driveway sight distance per VDOT.
27. Subdivision Plats showing a minimum of 5,000 square feet of disturbed area require that an erosion and sediment control plan and stormwater management plan be submitted in addition to the plat.
28. Dedication of additional right-of-way – minimum of 50 feet of ROW.
29. Sidewalk and curb and gutter are required for all subdivision plans unless a variance is granted.
30. Monument description noted as found or to be set on all property corners.

Statements and Certifications [4-400(b)(4)]

31. Owner's consent and dedication statement (notarized), per [4-403].
32. Surveyor's source of title statement (signed and dated by a Virginia Licensed Surveyor).
When the plat is of land acquired from more than one source of title, the outlines of the several tracts shall be indicated upon the plat.
33. Owner's conforming statement (notarized).
34. Approval block providing for signature and date by Town Engineer and Town Planner on all pages.
35. Every final subdivision plat shall be prepared by a certified professional engineer or licensed surveyor [40402].
36. Every final plat shall contain in addition to the professional engineer's or land surveyor's certificate a statement as follows: "The platting or dedication of the following described land (here insert a

correct description of the land subdivided) is with the free consent and in accordance with the desire of the undersigned owners, proprietors, and trustees, if any." The owners must sign this statement [4-403].

- _____ 37. Existing/Proposed Easements.
- a. Bearing/Distance on lines.
 - b. Monumented or tied to monument.

ENGINEERING PLANS [4-300]

General Information

- _____ 1. Ensure that plan matches plat.
- _____ 2. Plan should include name of subdivision and phase (if applicable).
- _____ 3. North arrow, with reference.
- _____ 4. Scale of drawing.
- _____ 5. Plan Sheet Index.
- _____ 6. Plan is twenty-four (24) by thirty-six (36) inches in size and at a scale not smaller than fifty (50) feet to the inch (1"=50') [4-300(a)].
- _____ 7. Name and address of person and firm preparing plat: stamped and signed by licensed professional.
- _____ 8. Approval block.
- _____ 9. Vicinity map indicating adjoining roads and road names, and not smaller than 1"=2000'.
- _____ 10. Date drawing prepared, and revision dates.

General Notes [4-300(c)(9)] [4-300(c)(2)]

- _____ 11. Name and address of owner and developer.
- _____ 12. Magisterial district, county, town and state in which subdivision lies.
- _____ 13. Address and tax parcel number of property.
- _____ 14. Number of lots.
- _____ 15. Total area of subdivision.
- _____ 16. Field location of existing utilities.
- _____ 17. Plans signed by the owner of the land [4-300(b)].
- _____ 18. Ensure that plan matches plat.
- _____ 19. Curb and gutter is required.
- _____ 20. Sidewalk is required.
- _____ 21. Entrances shall be constructed in accordance with Minimum Standards of Entrances to State Highways (VDOT).
- _____ 22. Handicapped ramps per VDOT (CG-12).

Street Information [4-300(c)(3)][5-313]

- _____ 23. Sidewalk and curb and gutter are required for all subdivision plans unless a variance is granted.
- _____ 24. Permanent cul-de-sacs [5-310].
 - a. Maximum length shall be no longer than 900 feet.
 - b. Bulb pavement turnaround should have a minimum 90 feet diameter.
Right-of-way diameter shall be 100 feet.
- _____ 25. Turn lanes shall be provided on all streets adjacent to and within a subdivision where warranted by VDOT standards [5-312].
- _____ 26. Street grades may not exceed 10% [5-313(1)].
- _____ 27. Street intersection grade may not exceed 5% for a distance not less than 100 feet [5-313(2)].
- _____ 28. Curb cut ramps for handicap access at each intersection (VDOT CG12) [5-316].
- _____ 29. Entrances shall be constructed in accordance with Minimum Standards of Entrances to State Highways (VDOT). For subdivision plans, each lot shall meet the required driveway sight distance per VDOT.
- _____ 30. Driveway and curb cuts [5-318].
- _____ 31. Street trees provided along all collector and arterial streets [3-319].
- _____ 32. Proposed collector and arterial roads within subdivision shall be built with medians [5-320].
- _____ 33. Proposed collector and arterial streets within subdivision shall be built with bicycle lanes [5-321].
- _____ 34. Sidewalk with a 4 foot wide landscaping strip required along at least one side of all public streets [5-401].
- _____ 35. Bikeway required where the proposed subdivision fronts on a street [5-500].
- _____ 36. New or extended utilities shall be placed underground [5-900].
- _____ 37. Plan and profile of all streets [VDOT Road Design Manual, Subdivision Street Standards].
 - a. Length: 900' max. [App B Sec 5-310(b)] with cul-de-sac.
 - b. Grades: 10% maximum [5-313(1)].

- c. Horizontal Curves.
- d. Vertical Curves Sight distance requirements. [VDOT requirements] (VDOT Road Design Manual-Appendix B-Subdivision Street Design Guide).
 - A. Crest [Stopping Sight Distance: K_{min} , chart C-1-3]
 - Min. $K=12$ for SSD of 155', Local St. (Up to 400 ADT) – Min. $K=10$ For SSD of 125'
 - B. Sag-Min. $K=26$ for SSD of 155', Local St.-Min. $K=20$ for SSD of 125'
 - C. Check intersection sight distance per VDOT. However, all local subdivision streets shall be designed for a minimum sight distance of 200 feet unless the engineer submits traffic projections indicating a lower Average Daily Traffic.
 - D. Intersection Landings: 100' max. slope 5%; for reference only-VDOT min. -50', max slope 2%.

38. Road Requirements

- a. Right-of- way: 50', 1" to 1' slope in right-of- way, 2:1 slope outside of right-of-way [5-309].
- b. Sidewalk or bike trail, with 4' grass strip [5-400, 5-403].
- c. Curb and gutter, CG-6 [5-313].
- d. Bike facilities: lanes each direction: 4' if req'd, Trails: 10' -2' shoulders on each side [5-500 – 5-503; 5-321].
- e. Trails: 10' -2' shoulders on each side [5-500 – 5-503; 5-321]. Trails-Grade greater than 8% requires pull offs every 100 feet [B 5-503(b)].
- f. Trails-bollards at intersections with streets.
- g. Pavement widths: minimum width of 30', [RR-1: VDOT Subdivision Street Stds] 24' minimum width.
- h. Typical Road Section on plan. Cross sections in critical areas.

39. Street Lights

- a. Street lights shall be provided by owner/developer on all collector and arterial streets within the subdivision [5-322].
- b. Show any relocation and/or replacement locations of existing street lights within the right-of-way.
- c. Show the location of any proposed street lights within the right-of-way.
- d. Show the location of any existing street lights within the right-of-way.

40. Traffic

- Ch. 527 – VDOT Traffic Impact Analysis.
- a. LOS for existing and new streets at point of connection [HCM] Section 5-306, 307-Subdivision Ord. only.
- b. Right and left turn lane analysis [ITE trip generation manual, VDOT Min. std. Entrances to State Highways] at point of connection Section 5-312-Subdivision Ord.
- c. Sight distance requirements [VDOT requirements].
- d. Access Management-Entrance locations [5-318b].
- e. Signal warrants at point of connection [5-311, MUTCD, HCM] Section 5-311-Subdivision Ord.
- f. Traffic calming, cut-through consideration [5-306].
- g. Street signs: payment for first installation/stripping [5-311, 5-314, MUTCD].

**Note: Subdivision review will be required to comply with items a through g.
Site plan review will be required to comply with items b, c, and d.**

Note: For rezoning, analysis shall also be performed for existing zoning.

41. Grading [Virginia Erosion and Sediment Handbook, Section 3.29].

- a. Slope Stability – 2:1 max / 3:1 desirable.
- b. Encroachment upon adjacent property – provide easement.

42. Pavement Structure [5-313(6)].

- a. CBR > 10, Minimum – 6" stone (21-B), 2" asphalt (SM2A) local street.
- b. CBR < 10, PE certification of pavement design per VDOT stds.
- c. CBR < 10, 1 Vaswaani.

- d. CBRs: (1 every 400', min. 3 per site).
- 43. Future extension provisions – all the way to phase line [5-303].
- 44. Handicapped Ramps [5-316].
- 45. Entrance type [VDOT minimum standards] [5-318].
Cul-de-sac: 90' paved area min [5-310].
Right-of-way iron rods note 'to be set after paving': [5-324].
- 46. Drainage [VDOT Drainage Manual].
 - a. Drainage easements to be provided as needed for ownership and maintenance.
 - b. Inlet Locations.
 - c. Inlet sizing calculations: spread/sump calculations.
 - d. Pipe System – 10 year storms.
 - 1. Size.
 - 2. Material.
 - 3. Cover.
 - 4. Discharge Point.
 - a. Erosion, outlet protection: aprons.
 - 5. All utility crossings identified in profiles and conflicts resolved.
 - 6. Anchoring Requirements: velocities.
 - 7. Hydraulic Grade Line/Capacity Calculations/Inlet or Outlet Control.
 - e. Open Channels:
 - 1. Typical Section.
 - 2. Capacity – 10 year storms manmade, 2 year natural [5-800].
 - a. Velocity.
 - b. Erosion
 - c. Treatment
 - 3. Discharge Point.
 - f. Maximum depth of 1' road overtopping – in 100 year storm event of one foot.
 - g. Show Easements for pipes continuing from the right-of-way, otherwise private.

Parking Lots and Entrances

- 47. Entrances: must meet VDOT Road and Bridge Standards and VDOT Minimum Standards of Entrances to State Highways [Sec. 5-19 of the Subdivision Ordinance, Zoning Ordinance refers the reader to the Subdivision Ordinance for certain standards.
- 48. Spot Elevations for Drainage [Good Engineering Practice].
- 49. Access to emergency equipment [Fire/Rescue/Police Depts.].
- 50. Parking lot space cross slope 6% max [Good Engineering/Construction Practice].
- 51. Handicapped parking spaces cannot exceed 2% maximum slope in all directions [Building Code].

Stormwater Management Information [4-300(c)(4)][5-800 – 5-806] See Stormwater Plan Checklist

Erosion and Sediment Control [Chapter 10 of the Town Code, Virginia Erosion and Sediment Control Handbook, Latest Edition] Erosion and sediment control plan: see checklist Chapter 6 in E&S Handbook.

- 52. 2' existing and proposed contours.
- 53. Provide information on the predominant soils and details on topography, drainage, and existing vegetation.
- 54. Provide a sequence of construction on the plans. Construction sequence of operations should be defined on the plans with staged implementation of the erosion and sediment control measures for each phase. (The area which may be disturbed in each phase shall be set forth in the construction plans, with the area calculated. During construction, these areas shall require construction fencing to assure the sequence of operations and disturbed area is per the plan.)
- 55. Critical erosion and sediment control measures that require calculations, such as sediment basins and conveyance channels that modify drainage areas, shall be identified in the phasing plan and shall require written certification by the design professional (PE, LS, or CLA) as to completeness and correctness of installation as shown on the plan. The following standard note shall be on all plans:
 The following erosion and sediment control measures require certification by the design professional upon installation and prior to commencing general site construction. If these measures are not utilized then the plan shall state that fact.
 - a. Sediment Basins
 - b. Conveyance channels
 - c. Detention Basins Serving as Sediment Basins

- _____ 56. Are all Minimum Standards addressed on the plans? List each Minimum Standard and the method of compliance on the plan. If not applicable, note it as such. Provide in tabular form a summary of the E & S measures that shows any necessary calculations and the specification of the measure.
- _____ a. Temporary and permanent seeding (MS-1).
 - _____ b. Soil stockpiles, borrow areas, disposal areas (MS-2).
 - _____ c. Permanent vegetative stabilization addressed (MS-3).
 - _____ d. Perimeter control (SF, SB, ST, etc.) and stabilization (MS-4, MS-5, and MS-6).
 - _____ e. SB, and ST plan view with dimensions on plan.
 - _____ f. Stabilization of cut/fill slopes (MS-7).
 - _____ g. Temporary or permanent conveyances (MS-8).
 - _____ h. Water Seepage (MS-9).
 - _____ i. Inlet/outlet protection (MS-10 and MS-11).
 - _____ j. Live stream protection (MS-12).
 - _____ k. Temporary Stream Crossings (MS-13).
 - _____ l. All applicable Federal, State and Local regulations met (MS-14).
 - _____ m. Restabilization of areas subject to in-stream construction (MS-15).
 - _____ n. Underground utility line installations (MS-16).
 - _____ o. Construction entrances (MS-17).
 - _____ p. Removal of temporary practices (MS-18).
 - _____ q. Provide calculations that address the requirements of MS-19.
- _____ 57. Show the limits of clearing and areas to be graded (on-site and off-site).
- _____ 58. Show all areas to be disturbed on the plans.
- _____ 59. Provide information as to how the disturbed areas will be marked in the field (fencing).
- _____ 60. Delineate any critical erosion areas (areas with potentially serious erosion problems or impacts) and wetlands.
- _____ 61. Delineate all critical, environmentally sensitive or prohibited areas on the plan, labeled as critical and notes provided to state the reasons for critical nature. How will these areas be protected and marked in the field?
- _____ 62. Delineate areas that require temporary and/or permanent seeding.
- _____ 63. Provide the name and certification number for the Responsible Land Disturber.
- _____ 64. Any variance to Minimum Standards shall be requested in writing and reviewed and approved by Engineering and GIS Dept.,
- _____ 65. Provide a statement describing the maintenance responsibilities for ESC measures.
- _____ 66. If plan requires a land disturbing activity off-site, a separate ESC plan for that site is provided.
- _____ 67. Address ESC measures for adjacent areas if required.
- _____ 68. Provide an erosion and sediment control narrative in accordance with Chapter 6 of the E&S Handbook.
- _____ 69. Provide calculations for sediment basins, sediment traps, diversions (DV) and outlet protection, etc.
- _____ 70. Provide this checklist showing each item is addressed or state it is non-applicable.
- _____ 71. Provide an Erosion and Sediment Control security per Sec. 10-107 of the Town Code.
- _____ 72. Narrative: see E&S checklist of Chapter 6 in E&S Handbook.
- a. Sediment basin/trap calculations.
 - b. MS-19.
- _____ 73. Provide the disturbed area on the Erosion and Sediment Control plan sheet. If the project is sequenced, provide the disturbed area in each stage of construction.
- _____ 74. Show any areas where existing vegetation is to be preserved. Indicate how these areas will be delineated in the field (required to be delineated in the field).
- _____ 75. Provide the sequence and a schedule for removal of the erosion and sediment control measures.
- _____ 76. Provide the steps required to convert any temporary sediment basin into a permanent stormwater facility after final stabilization is achieved, if applicable.
- _____ 77. Provide the means and methods of how denuded areas will be restored (topsoil, mulch, and seed).
- _____ 78. Provide the details for all measures used on the plans.
- _____ 79. Is a phased E & S plan required? If so, provide a separate sheet meeting these requirements for each phase.
- _____ 80. A copy of the SWPPP and the VSMP permit issued by the DCR shall be provided to the Town prior to or at the pre-construction meeting. If the site requires a VSMP but it is not provided, the land disturbing permit shall not be issued until the permit is received by the Town.

Water Supply Information [4-300(c)(6)][5-600 – 5-602] [Water Specifications]

The Town prefers that water mains be installed in the right-of-way and in the proposed street.

- 81.
 - a. Plan and profile of existing and proposed water mains. All utility crossings shall be shown on profile.
 - b. Future extension, loops required, stub-outs [Sec. 1.34, 1.35].
 - c. Availability to all lots [5-600(a)].
 - d. Size: min 8" [Sec. 1.34].
 - e. Sewer Crossing [Sec. 1.54,1,b] 18" below.
 - f. Lateral separation: 10' between water and sewer [Sec. 1.54 1,a].
 - g. Dead ends [Sec. 1.35].
 - 1. Hydrant / blow off: max. 400'.
 - 2. Size: 4" min.
 - h. Existing and proposed features.
 - 1. Hydrants (every 400' res., 200' commercial) [Sec. 1.33] and to meet Fire Code Sect. 508.5.1 and Building Code (Check with Building Official).
 - 2. Valves: gate – 800' [Sec. 1.54,3,a].
 - 3. Air release valves: high points.
 - i. Existing and proposed service laterals and meter locations: no laterals crossing lots [Town Code Sec. 24-303].
 - j. Live taps: Town installs at owner's expense.
 - k. Water/sewer/storm drain vertical separation: mains and laterals [Sec. 1.54(1)].
 - l. Conflicts: Resolve conflicts with other utilities [Sec. 1.54(1)].
 - m. Depth of cover: 4' min. [Sec. 1.36].
 - n. Appurtenances (valves, etc.) [Sec. 1.40-1.45, Sec. 1.54(3)].
 - o. Indicating valve requirements per Fire Code – Wall mounted or post indicating valve required on sprinkler line NFPA 13 – Chapter 4 – Section A-4-6.1.1.1. PIV shall be located at least 40 feet from building.
- 82. Existing and proposed easements including offsite: deeds/plats [Sec. 1.37].
- 83. Fire flow and water pressure calculations.
- 84. Existing and proposed wells.
- 85. Eliminate water conflicts with other public utilities and landscaping .
- 86. Backfill [Sec. 1.55].
 - a. Flowable fill in existing public roads.
 - b. 21-B in new streets and within 2' of streets, sidewalks or public trails.
- 87. Fire Protection, IAW in accordance with Water Specifications [Sec. 1.33].
- 88. Domestic Pressure: 20-80 psi [Town Code, Health Dept./BOCA].
- 89. Provide Usage (demand) [Sec. 1.31].
- 90. Thrust Blocks [Figs. 10.0, 10.1, 10.2].
- 91. Easements – off-site also [Sec. 1.37].
- 92. Backflow preventers for domestic and fire sprinkler lines [Cross Connection Control Ordinance, Ord. #1017].
- 93. Provide the location of any existing water laterals and/or water meters required to comply with Sections 5-602 and 5-701(d) of the Subdivision Ordinance and Sections 18-204 and 24-303 of the Town Code; laterals shall not cross intervening properties. Private laterals longer than 500 feet in length shall be designed by a registered design professional per the Building Code.
- 94. Provide the location of fire sprinkler line. Design engineer is to provide Town information as to whether or not sprinkler system is required at site plan stage so sprinkler line can be shown on plans. Design engineer/architect may contact Building Official for building sprinkler requirements. Detached buildings shall be provided with separate fire sprinkler systems per NFPA 13, Section 8.2.5.2.
- 95. Provide the size of the water meter required.

Sanitary Sewer Information [4-300(c)(7)][5-700 - 5-701] [Sewer Specifications]

- 96. Provide the location of any existing and proposed sanitary sewer laterals and cleanouts (required to comply with Sections 5-602 and 5-701(d) of the Subdivision Ordinance and Sections 18-204 and 24-303 of the Town Code; laterals shall not cross intervening properties.
 - a. Plan and profile of existing and proposed sewer mains.
 - b. Future Extensions: All utility crossings shall be shown on profile.
 - c. Available to all lots [5-9].
 - d. Existing and proposed service laterals and clean out locations.

- e. Size: 8" min. [Sec. II(c)(2)].
- f. Grade: 0.4% min. [Sec. II(c)(5)].
- g. Velocity: (2-15 ft/sec).
- h. Depth of cover: 3' [Sec. II(c)(3)].
- i. Sewer/Water lateral separation: 10' [Sec. II(c)(8)(a)].
- j. Sewer/Water crossings: 18" sewer below [Sec. II(c)(8)].
- k. Laterals: grade 1% min. [Intl. Plumbing Code, Ch. 7, Sec. 705, Table 705.1] One Per Structure [Intl. Plumbing Code, Ch. 7, Sec. 701.3] size 64", no crossing other lots.
- l. Manholes: 400 feet maximum spacing, maximum drop limit 1.9 feet [Sec. II(c)(7)].
- m. Clean-outs [Sec. III(d)(6)(e)].
- n. Material [Sec. III(c)] SDR-35.

- 97. Anchoring at slopes greater than 20%.
- 98. Existing and proposed easements.
- 99. Backfill.
 - a. Flowable fill in existing public roads.
 - b. 21-b in new streets and within 2' of streets or public trails.
- 100. Lowest floor elevation sewerable by gravity on each lot [Section 5-701a].
- 101. Downstream Sewer Capacity Analysis in accordance with Town of Blacksburg sewer capacity worksheets [APB 4-300 7(d)].
 - a. Pumping stations – run time records (flow to station), drawdown test (pumping rate), Proposed inflow calculations, upgrades.
 - b. to 1/100 of flow contributed in gravity mains.
- 102. Conflicts: Resolve conflicts with other utilities [Sec. II(c)(8)].
- 103. Core drill tie ins to existing manholes.
- 104. Eliminate sewer conflicts with landscaping.
- 105. Angle wing nut plug requirements [Sec. II(b)(7)(b)].
- 106. Easements – off-site also [Sec. II(b)(6)(b)].
- 107. Septic – location of drainfields: Health Department signature.
- 108. Pumping Stations: stamped by PE shall be designed in accordance with Town of Blacksburg Sewer Specifications and design worksheet.
- 109. STEP/STEG sewer systems shall be designed in accordance with Town of Blacksburg Sewer Specifications and design worksheet.
 - a. Property deeds.
 - b. Calculations.
 - c. Plans.
 - 1. Building/site layout.
 - 2. Screening/architecture.
 - 3. Generator in separate room.
 - 4. Pumps/controls.
 - 5. Electrical plans.
 - 6. Technical specs.
- 110. Is Pump Station required? See Sewer Pump Station Design submittal form.

General Requirements

- 111. E&S permit [Sec. 10-106 of the Town Code].
- 112. E&S security [Sec. 10-107 of the Town Code].
- 113. Public Improvement Security [Section 4-600 of the Subdivision Ordinance] – Cost for as-builts added into PI amount (based on percentage of security amount).
- 114. All easements including public utility, private, off-site, construction, drainage.
- 115. Compliance with the Overhead High Voltage Lines Safety Act.
- 116. Applicability statement for revisions.
- 117. Subdivision Agreement [4-601].
- 118. Utility Testing Fee.
- 119. Inspection Fee [Section 10-106(c) of the Town Code].
- 120. Stormwater Management Facility Security Street Lights.
- 121. Show any relocation and/or replacement locations of existing street lights within the right-of-way.
- 122. Show the location of any proposed street lights within the right-of-way.
- 123. Show the location of any existing street lights within the right-of-way.

Standard Notes [4-300(c)(9)]

- _____ 124. Backflow prevention devices shall be provided by owner.
- _____ 125. As-builts will be furnished before the plat is signed, or before the PI bond is returned.
- _____ 126. All lowest floor elevations will be served by gravity sewer.
- _____ 127. Town to provide public signs at the owner's expense/private signs optional.
- _____ 128. Construction in accordance with Town of Blacksburg standards and specification.
- _____ 129. Utilities visually inspected by the Town's inspector prior to backfilling trenches.
- _____ 130. Pavement work within the right-of-way requires inspection of subgrade prior to placement of base stone, base stone prior to placement of pavement. Prior to subgrade approval by the Town, CBR results must be provided with the appropriate pavement design to the Town Engineer per VDOT Pavement Design Guidelines.
- _____ 131. Town will tap existing water lines for main extensions or laterals at the owners' expense and the Town provide the meter at the owner's expense.
- _____ 132. A pre-construction meeting will be held prior to beginning construction.
- _____ 133. It is the contractor's responsibility to meet compliance requirements with §59.1-406, et. Seq., of the Code of Virginia.
- _____ 134. The contractor shall plug with an angle wing nut test plug the connection of proposed existing sanitary sewer prior to extending the sanitary sewer. The plug shall be maintained in place until such a time as the sewer is completed, inspected, and accepted by the Town.
- _____ 135. (For revision only) This plan reflects revision of the following items [list of items proposed for revisions]. All other items conform to previously approved plans.
- _____ 136. Maintenance of detention facilities are the responsibility of owner/Homeowner Association.
- _____ 137. It is the owner/developer's responsibility to obtain any additional permits required by any other Federal or State agency.
- _____ 138. It is the owner/developer/design engineer's responsibility to coordinate any retaining wall design and construction with the Town's Building Department for professional engineering sealing and building permit requirements.
- _____ 139. Subdivision of duplexes/townhouses require coordination with Building Department regarding the correct fire separation per Building Code.
- _____ 140. Statement saying, "No building permit shall be issued until the public street construction, including paving, is completed and approved by the Town Inspector."
- _____ 141. Identify Certified Land Disturber with statement.
- _____ 142. Backfill of public water and sewer and other public utility trenches shall be in accordance with the Town of Blacksburg Water Specifications and Sewer Specifications.
- _____ 143. In addition to the approved plan, a separate Erosion and Sediment Control permit is required before any land disturbing activities can commence. This permit will be issued at the first pre-construction meeting upon submittal of the construction inspection fee and Erosion and Sediment Control security.
- _____ 144. The following erosion and sediment control measures require certification by the design professional upon installation and prior to commencing general site construction. If these measures are not utilized then the plan shall state that fact.
 - a. Sediment Basins
 - b. Conveyance channels
 - c. Detention Basins Serving as Sediment Basins

As-Built Survey Requirements

- _____ 145. Water Mains – horizontal location.
- _____ 146. Sanitary Sewer Mains and manholes – horizontal location and inverts, rim elevations.
- _____ 147. Storm Drains, curb inlets, drop inlets – horizontal location, inverts, rim/grate elevations.
- _____ 148. Certify that stormwater management facilities are built in accordance with the approved plan.
- _____ 149. Provide as-built survey plans on mylar and digitally.
- _____ 150. Sealed by professional engineer/licensed land surveyor.

Site Accessibility [Section 1104 of the current edition of the Virginia Uniform Statewide Building Code]

- _____ 151. Applies to private sidewalks internal to the site.
- _____ 152. Accessible parking may not be the starting point for accessibility on the site.
- _____ 153. Accessible route (sidewalk) is required to accessible building entrance(s) from public transportation stops, public streets, and public sidewalks.
- _____ 154. An accessible route:

- a. Is required to provide a minimum clear width of 36 inches, which can be reduced to 32 inches for no more than 24 inches. This can be repeated every 48 inches of travel.
- b. An elevation difference of $\frac{1}{4}$ inch is permitted. If greater than $\frac{1}{4}$ inch, the maximum elevation change is $\frac{1}{2}$ inch and a bevel of 1:2 is required.
- c. Elevation changes of greater than $\frac{1}{2}$ inch are required to comply with ramp requirements.
- d. The cross slope cannot exceed 2%. If the running slope exceeds 5%, ramp features must be provided. See current edition of the Virginia Statewide Building Code.