



Supplemental Design Criteria Guidelines for Developer Extensions

(Deviation from these Design Criteria Guidelines are subject to District approval)

1. Scheduling a pre-design meeting and submitting one set of civil plans prior to preparation of water and sewer plans for the District's first engineering plan review is recommended.
2. Allow six to eight weeks for the first review and four to six weeks for the second review. Additional reviews may be necessary. Allow one to two weeks for approval of final mylars.
3. Plans shall be signed and dated by a Professional Civil Engineer licensed by the State of Washington.
4. Fire Marshal's review comments and an AWWD water and sewer questionnaire shall be submitted along with the Developer Extension Agreement Application.
5. Water and sewer shall be shown on the same plan.
6. North arrow shall be shown on the plan.
7. All plan and profile sheets shall be minimum 22" x 34" maximum 24" x 36".
8. Identify benchmark location and show datum on the front sheet NAVD 88.
9. Legal description on the front sheet (may be abbreviated)
10. AWWD General Notes on the front sheet.
11. Vicinity Map at upper right on the front sheet.
12. AWWD Approval Block at lower right on each sheet. (see example below)
13. 1/4 Section, Section, Township and Range on each sheet.
14. Vertical scale shall be 1" = 5' regardless of horizontal scale.
15. Plats and other developments with public roads shall have a horizontal scale of 1" = 30', 1" = 40' or 1" = 50'.

16. Short plats, LDMR's and other developments with private roads shall have a scale of 1" = 30' or 1" = 40'.
17. Commercial projects shall have a horizontal scale of 1" = 20' or 1" = 30'.
18. Show proposed storm system gray scale on the plan and profile.
19. Do not use hatching or shading on plans.
20. Show existing water meters and addresses.
21. Show existing wells, septic tanks and drain fields on the plan.
22. Show existing building outlines including addresses and driveways on the plan.
23. Show adjacent parcels including addresses or tax parcel numbers.
24. Show all existing utilities on the plan. Identify size and AWWD project number of all existing AWWD water and sewer mains. (X-1200, U 67-1, A 90-2 etc.)
25. Show field verified invert elevations of existing sewer manholes.
26. Show all existing and proposed rockeries and retaining walls on plan and profile.
27. Show all existing and proposed public and private streets, rights-of-way, and easements including any required offsite water and sewer easements on the plan.
28. Provide street and easement stationing on the plan and profile.
29. Dimension water and sewer mains from street centerline, property lines, buildings, etc.
30. Show all existing AWWD water and sewer easements including the Auditors file numbers on the plan.
31. All structure and fitting callouts shall be shown on the plan at each location.
Legends and tabulations are not acceptable.
32. Water mains shall be located 5 to 6 feet Northerly or Easterly of street centerline.
33. Sewer mains shall be located 5 to 6 feet Southerly or Westerly of street centerline.
34. Sewer pipe cover and type shall be as follows:
 - >3' to <5' Ductile Iron
 - >5' to <16' PVC
 - >16' Ductile Iron
35. All pipe size, type and lengths shall be labeled on each water main and sewer main run on the plan.

36. All pipe size, type, length and slopes shall be labeled on each sewer main run and all manhole and lamphole inverts in and out with directional orientation (I.E. 425.25 OUT-W) and rim elevations shall be shown on the profile. Each sewer pipe slope shall be identified by 4 decimals. (example 0.0250 for 2.5%)
37. Minimum sewer main slope shall be 0.0050 (1/2%) or greater. All sewer main end runs shall be at 0.010 (1%) slope or greater if no further extension is needed or planned.
38. Sewer pipe slopes in easements shall be 0.010 (1%) or greater and the pipe shall be ductile iron.
39. Pipe slopes greater than 0.20 (20%) shall have concrete anchors and the pipe shall be restrained joint ductile iron pipe.
40. Sewer pipe shall be the same size and type between manholes.
41. Manhole spacing shall not exceed 400 feet.
42. Manholes shall have a 0.10 foot drop across channel.
43. Minimum manhole depth 5 feet, maximum depth 20 feet. Manholes over 20 feet require District approval and shall be a minimum 60 inch diameter platform manhole.
44. Manholes shall not be located at low points or in the curb flow line.
45. All water and sewer main pipe and fittings in fill areas shall be restrained joint ductile iron.
46. All water and sewer main under rockeries or retaining walls shall be restrained joint ductile iron pipe and steel sleeved a minimum of 10 feet both sides of the rockery or retaining wall.
47. Do not place water or sewer mains under buildings including carports or potential future carports. Minimum separation from building shall be 10 feet.
48. Where smaller sewer pipe joins a larger sewer pipe match crowns at the manhole.
49. Drop sewer connections require District approval and shall be outside drop only.
50. All sewer main end runs regardless of length shall terminate in a manhole if the sewer main will not be extended in the future.

51. Consideration will be given to the installation of a lamphole in lieu of a manhole on sewer end runs 150 feet in length or less that will be extended in the future, except for multi-family and commercial.
52. Identify each lot or unit number and show all finished floor elevations on the plan and profile. Minimum finished floor shall be 5 feet above sewer main invert.
53. Show proposed building footprint and driveway for each lot.
54. Show all backflow assemblies on the plans and identify size and type.
55. Provide individual water service, water meter and side sewer for each lot including attached condominiums. Duplexes and triplexes may share the same side sewer, but must have individual water meters.
56. No water meters allowed in driveways, sidewalks or in the street.
57. All water meter boxes shall be traffic rated.
58. No water main blocking against other utilities or in their trenches. All blocking shall be against undisturbed soil.
59. Ten foot horizontal separation and 1.5 feet vertical separation required between water main and sewer main.
60. Ten foot horizontal separation required between water services and side sewers.
61. Locate side sewer on downstream side of lot, 10 feet from side lot line and 5 feet beyond the right-of-way. Station side sewers from downstream manholes on plan.
62. Five foot horizontal separation and 1.5 foot vertical separation required between all water and storm and between all sewer and storm.
63. Do not locate water mains or sewer mains under curbs, sidewalks or driveways.
64. Vertical water main bends require District approval. Vertical sewer main bends are not allowed.
65. Splices are not allowed in water services. Maximum length of water service from main to meter is 60 feet for 3/4 and 1" services and 40 feet for 1-1/2" and 2" services.
66. Install a valve in a dead end water main at least 3 full pipe lengths from the end if future extension is probable. Do not install water services between the valve and the blow-off assembly.
67. Install a valve at both ends of the water main in easements.

- 68. Water valve spacing shall not exceed 1000 feet.
- 69. All valves 12” and larger shall be butterfly if static pressure is less than 150 psi. If 150 psi or greater a gate valve with a 4” bypass shall be installed.
- 70. All dead end mains shall end with a 2” blow-off assembly or fire hydrant.
- 71. 90 degree bends are not allowed, use a tee with an end plug.
- 72. 1” Air/Vac Assembly required at high point in water main.
- 73. 2” Blow-off Assembly required at low point in water main.
- 74. Fire Hydrant location and spacing as follows:

Residential:

- Locate near entrances, intersections and at lot corners.
- Place on the same side of the street as the water main.
- Spacing shall not exceed 600’ and no further than 300’ from the back of any proposed lot.

Multi-Family and Commercial:

- Place no closer than 50 feet and no further than 100 feet to the building being served or as otherwise determined by the jurisdictional Fire Marshal.
- Submit Fire Marshal approved locations of the fire hydrants.
- Must meet all City and/or County jurisdictional fire code requirements.
- A backflow assembly is required for all fire sprinkler protection systems and shall be located outside of the building at a District approved location.

ALDERWOOD WATER AND WASTEWATER DISTRICT
 APPROVED FOR WATER AND SEWER CONSTRUCTION

EXT. No. _____

BY: _____ **DATE:** _____
 DISTRICT ENGINEER OR ASSIGNEE