

Pierce County

Department of Planning and Land Services
Development Engineering Section

PROJECT NAME: _____ DATE: _____

APPLICATION NO.: _____ PCDE NO.: _____

Circled items need to be addressed. Checked items are OK. A determination cannot yet be made on items left

FLOODPLAIN MANAGEMENT REVIEW CHECKLIST

blank. Address these items. If you believe a particular blank item does not apply, state this explicitly.

ALTERATION OF WATERCOURSES

1. _____ Pierce County will notify adjacent communities and the Washington State Department of Ecology prior to any alteration or relocation of a watercourse proposed by the Applicant and submit evidence of such notification to the Federal Insurance Administration. (17A.50.080 A)
2. _____ Provisions for maintenance provided within the altered or relocated portion of said watercourse so that the flood-carrying capacity is not diminished. (17A.50.080 B)
3. _____ Certification that the development will not result in any watercourse alteration which diminishes the capacity of the watercourse; raises the base flood elevation; or causes an adverse effect on adjacent, cross-channel, upstream, or downstream property owners. (17A.50.080 C)

DEEP AND/OR FAST FLOWING WATER

4. _____ Determination of whether the project site falls within the floodway area based on deep and/or fast flowing waters. See Figure 1. (17A.50.110 B)

CONSTRUCTION MATERIALS AND METHODS

5. _____ Constructed with materials and utility equipment resistant to flood damage. (17A.50.120 A)
6. _____ Constructed using methods and practices that minimize flood damage. (17A.50.120 B)
7. _____ Electrical, heating, ventilation, plumbing, air-conditioning equipment, and other service facilities shall be designed and/or elevated or located to prevent water from entering or accumulating within the components during conditions of flooding. (17A.50.120 C)

DEVELOPMENTS

8. _____ Subdivisions designed to minimize flood damage. (17A.50.140 A)
9. _____ Subdivisions have their access road(s) and public utilities and facilities such as sewer, gas, electrical, and water systems located and constructed to minimize flood damage. (17A.50.140 B)
10. _____ Subdivisions have adequate drainage provided to reduce exposure to flood damage. (17A.50.140 C)
11. _____ New developments in "A" zones have field surveyed the base flood elevation and shown the limits on the plat map. (17A.50.140 D)
12. _____ Where base flood elevation data is not available, it has been generated by the Project Engineer for subdivisions and other proposed developments. Base flood elevations determined per detailed methods of FEMA publication No. 265. (17A.50.140 E)
13. _____ Base flood data and flood hazard notes shown on the plat or development document including, but not limited to, the elevation of the existing ground, flood water depth, lowest permissible floor elevations, and the boundary of the base flood and floodway through the subdivision. (17A.50.140 F)

NO ESTABLISHED BASE FLOOD ELEVATION (ZONE "A" & "B")

14. _____ A full engineering analysis provided to determine the base flood elevation. Base flood elevations determined per detailed methods of FEMA publication No. 265. (17A.50.150)

RESIDENTIAL CONSTRUCTION

15. ____ New construction and substantial improvement of any residential structure have the lowest floor, including basement, elevated 1' above base flood elevation on minor water courses and 2' above base flood elevation for structures located within the floodplain of the Carbon River, Greenwater River, Mashel River, Nisqually River, Puyallup River, South Prairie Creek, or White River or within the area adjacent to the floodplain but still below the minimum 2' separation with the base flood elevation. (17A.50.160.A.1)
16. ____ Fully enclosed areas below the lowest floor that are subject to flooding designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. (17A.50.160.A.2)
17. ____ A minimum of 2 openings having a total net area ≤ 1 square inch for every square foot of enclosed area subject to flooding provided. (17A.50.160.A.2.a)
18. ____ The bottom of all openings $\leq 1'$ above grade. (17A.50.160.A.2.b)
19. ____ Openings may be equipped with screens, louvers, or other covering or devices provided that they permit the automatic entry and exit of floodwaters. (17A.50.160.A.2.c)

MANUFACTURED HOME/MOBILE HOMES

20. ____ Homes to be placed or substantially improved within all "A" Zones and "B" Zones elevated on a permanent foundation such that the lowest floor of the home is 1' above the base flood elevation and 2' above the base flood elevation for structures within and/or adjacent to Carbon River, Greenwater River, Mashel River, Nisqually River, Puyallup River, South Prairie Creek, White River and is securely anchored to an adequately anchored foundation system in accordance with the provisions of Section 17A.50.160.G. (17A.50.160 B)

ELEVATING BY FILL, PILINGS AND DIKING

21. ____ No filling or grading permitted which increases flood hazards, water velocities, or flood elevations. (17A.50.160.C.1)
22. ____ Compensatory storage volumes provided. (17A.50.160.C.1)
23. ____ Armoring protection such as rock rip rap or bulkheads constructed to protect filled areas when water velocities $> 2'$ per second. (17A.50.160.C.2)
24. ____ Armoring protection extends at least 3' above the base flood elevation. (17A.50.160.C.2)

NONRESIDENTIAL CONSTRUCTION

25. ____ New construction and substantial improvement of any commercial, industrial, or other nonresidential structure have the lowest floor, including basement, elevated at least 1= above the base flood elevation and 2= above the base flood elevation for structures within and/or adjacent to Carbon River, Greenwater River, Mashel River, Nisqually River, Puyallup River, South Prairie Creek, White River. (17A.50.160.D)
26. ____ Flood proofed to the correct elevations. Below those elevations the structure is water tight with walls substantially impermeable to the passage of water. (17A.50.160.D.1)
27. ____ Have structural components capable of resisting hydrostatic and hydrodynamic loads and affects of buoyancy. (17A.50.160.D.2)
28. ____ Be stated by a professional engineer in the State of Washington that the design and methods of construction are in accordance with accepted standards of practice for meeting provisions of this Section based on the development and/or review of the structural design, specifications, and plans. See Appendix N. (17A.50.160.D.3)
29. ____ Nonresidential structures that are elevated, not flood proofed, meet the same standards for space below the lowest floor as described in Section 17A.50.160A. (17A.50.160.D.4)

CRITICAL FACILITIES

30. ____ Critical facilities are to the extent possible located outside the limits of the 100-year floodplain. (17A.50.160.E.1)
31. ____ Critical facilities constructed within the 100-year frequency floodplain have the lowest floor elevated $\leq 3'$ above the level of the 100-year frequency flood. (17A.50.160.E.1)
32. ____ Flood proofing and sealing measures taken to ensure that toxic substances are not displaced by or released into floodwaters. (17A.50.160.E.1)

33. ____ Access routes elevated to or above the level of the 100-year frequency flood provided to all critical facilities. (17A.50.160.E.2)

ACCESS REQUIREMENTS

34. ____ Private roads and access easements to all new construction or development elevated to within 0.5' of the base flood elevation when water velocities are ≤ 2 fps. (17A.50.160.F)
35. ____ All other private roads and all public or future public roads armored and elevated 1' above the base flood elevation. (17A.50.160.F)
36. ____ Primary access to a commercial structure within 0.5' of the base flood elevation. (17A.50.160.F)

ANCHORING

37. ____ All new construction and substantial improvements anchored to prevent flotation, collapse, or lateral movement of the structure. (17A.50.160.G.1)
38. ____ All manufactured homes anchored to prevent flotation, collapse, or lateral movement and installed using methods and practices that minimize flood damage. (17A.50.160.G.2)

MAINTENANCE

39. ____ Flood control work done in an Area of Special Flood Hazard accompanied by a perpetual maintenance agreement or the improvements are dedicated to a public agency whether or not other public dedications are involved with the development. (17A.50.160.H.1)
40. ____ Documents recorded with the Pierce County Auditor's Office. (17A.50.160.H.1)
41. ____ Title insurance provided. (17A.50.160.H.1)

MAJOR WATERCOURSES

42. ____ Development within an Area of Special Flood Hazard for the Carbon River, Greenwater River, Mashel River, Nisqually River, Puyallup River, South Prairie Creek, or White River is not permitted unless flood control improvements are constructed to standards established by Pierce County River Improvement or Inter-County River Improvement and accepted by them for maintenance. (17A.50.180)
43. ____ Construction of additional improvements, such as access roads, may be required. (17A.50.180)
44. ____ Title insurance supplied for all dedications. (17A.50.180)