

BEFORE THE BOARD OF COMMISSIONERS
OF ISLAND COUNTY, WASHINGTON

IN THE MATTER OF AMENDMENTS TO)
ICC 13.03A, MINIMUM STANDARDS)
FOR WATER WORKS, AND ICC 11.01,) ORDINANCE NO. C-66-93
LAND DEVELOPMENT STANDARDS,)
REGARDING UPDATES AND FIRE FLOW)
REQUIREMENTS)

WHEREAS, the existing Minimum Standards for Water Works, ICC 13.03A, and the Land Development Standards, ICC 11.01, contain outdated language and/or obsolete references to State code; and

WHEREAS, the Planning Commission believes that existing fire flow standards for new and expanding water systems contained in said codes are inordinately financially burdensome, especially for smaller water systems; and

WHEREAS, the Planning Commission considered changes to said codes in public hearing on June 22, 1993; and

WHEREAS, the Board of Island County Commissioners considered the Planning Commission recommendation in both Public Meeting and Workshop sessions and have determined to change the proposal based upon the Findings of Fact attached hereto as Exhibit "D"; and

WHEREAS, a SEPA Determination of Non-Significance (DNS) was issued on the proposed Planning Commission revisions on July 13, 1993, and based upon the Board of County Commissioner's modified proposal, an addendum to the DNS was issued pursuant to WAC 197-11-600(4) on December 29, 1993;

WHEREAS, the Board of Island County Commissioners has considered the amendments in Public Hearing as required by RCW 36.70.630; NOW, THEREFORE,

IT IS HEREBY ORDAINED by the Board of Island County Commissioners that amendments to Chapter 13.03A ICC, Minimum Standards for Water Works, Chapter 11.01 ICC, Land Development Standards, and the Legislative Intent attached as Exhibits A, B and C, respectively, are hereby adopted and the Findings of Fact, attached as Exhibit D, are hereby approved. Material lined out is deleted; material underlined is added.

ORDINANCE NO. C-66-93 is adopted this 7th day of February, 1994 following public hearing.

BOARD OF COUNTY COMMISSIONERS
ISLAND COUNTY, WASHINGTON

J. Michael Shelton
J. MICHAEL SHELTON, CHAIRMAN

William L. McDowell
WILLIAM L. MCDOWELL, Commissioner

Dwain A. Colby
DWAIN A. COLBY, Commissioner



ATTEST:

Art Hyland, Chief Deputy Auditor
ART HYLAND
County Auditor and Ex-Officio
Clerk of the Board

APPROVED AS TO FORM: .

David L. Jamieson, Jr.
DAVID L. JAMIESON, JR.
Deputy Prosecuting Attorney
and Island County Code Reviser

**WATER SYSTEM AND FIRE FLOW STANDARDS
ICC 13.03A**

EXHIBIT A

Stricken wording is to be deleted.
New wording is underscored.

Chapter 13.03A
~~Minimum Standards for Water Works~~
Water System and Fire Flow Standards

Section

- 13.03A.010 Standards Incorporated by Reference
- 13.03A.020 Applicability
- 13.03A.030 Definitions
- 13.03A.040 Approval and Certifications Required
- 13.03A.050 Franchise Requirement
- 13.03A.060 Inspection Requirement
- 13.03A.070 Well Sites
- 13.03A.080 Minimum Design Requirements
- 13.03A.090 Fire Hydrants
- 13.03A.100 Fire Flow
- 13.03A.110 Waiver
- 13.03A.120 Severability
- 13.03A.130 Repealer
- 13.03A.140 Effective Date

**WATER SYSTEM AND FIRE FLOW STANDARDS
ICC 13.03A**

Chapter 13.03A

~~Minimum Standards for Water Works~~
Water System and Fire Flow Standards

13.03A.010 Standards Included by Reference. Unless superseded by more stringent provisions herein, all water system design, construction, and operation shall be in accordance with applicable federal, state, and local regulation. These include, but are not limited to:

- a. **Minimum design specifications:** ~~chapter 248-54 WAC "Rules and Regulations of the State Board of Health Regarding Public Water Systems,"~~ WAC 246-290, "Drinking Water Regulations," and the current edition of "Sizing Guidelines for Public Water Systems," prepared by the Department of Health (DOH);
- b. **General material specifications and construction standards:** except as provided in these minimum standards, approved plans and specifications, or by waiver granted in writing by the county or DOH, selection of materials and construction of water system facilities in Island County shall conform to good engineering practices such as those set out in the following:
 - 1. Applicable municipal ordinance;
 - 2. "Standard Specifications for Road, Bridge, and Municipal Construction";
 - 3. Washington State Department of Transportation / American Public Works Association (DOT/APWA), latest edition;
 - 4. Standards of the American Water Works Association (AWWA);
 - 5. "Recommended Standards for Water Works," Great Lakes-Upper Mississippi River, Board of Sanitary Engineers, 1972 (ten-state standards), or the latest edition; and,
 - 6. Recommendations of the individual manufacturer of materials or equipment.
- c. **Well construction and maintenance:** ~~chapter WAC 173-160 WAC,~~ "Minimum Standards for Construction and Maintenance of Water Wells"; and, ~~chapter 248-54 WAC~~ WAC 246-290, "Drinking Water Regulations".

13.03A.020 Applicability

- a. These standards apply to design and construction of new and expanding Class 1, 2, 3, and 4 public water systems, as defined in ~~13.03.030~~ 13.03A.030.
- b. As of the effective date of these standards, existing water systems are not required to utilize these minimum standards for repair or replacement of facilities, or addition of services within approved plans and specifications, so long as no expansion of service area is involved. If existing facilities

WATER SYSTEM AND FIRE FLOW STANDARDS
ICC 13.03A

must be repaired or replaced to serve an expanded service area, the new construction shall meet these minimum standards. However, adherence to these standards for repair and replacement is encouraged to provide better public water service throughout the county.

- c. If municipalities extend new water service to customers outside of the city limits, the design standards adopted by the municipality for outside city service must at least meet the minimum design standards described in this chapter.
- d. Per WAC ~~248-57-200,~~ 246-293-602, fireflow regulations apply to the following new and expanding public water systems:
 - 1. Those having more than one-thousand (1,000) services (see WAC ~~248-54-580-~~ 246-290-100);
 - 2. Those with less than one-thousand (1,000) services located within the boundaries of a critical water supply service area and subject to the requirement for a coordinated water system plan (see WAC - ~~248-54-580 and 248-56-700-~~ 246-293-220).
- e. Fire flow regulations apply to those land development actions or permits listed in ICC 11.01.030a-j, 1.

Note: Public water systems in existence prior to September 21, 1977 which are owner-operated and serve less than ten (10) single-family residences, serving no more than one (1) industrial plant, or are nonmunicipally owned with no plans for water service area expansion are exempt from the planning requirement.

13.03A.030 Definitions. In addition to those definitions contained within Chapter 17.02 ICC, when used in this chapter, the following meanings are hereby adopted:

~~Classes of Public Water Systems (WAC 248-54-015):~~

- ~~(1) Class 1 System: a public water system having one hundred (100) or more permanent services~~
- ~~(2) Class 2 System: a public water system having ten (10) through ninety-nine (99) permanent services~~
- ~~(3) Class 3 System: a public water system serving a transitory population of twenty-five (25) or more on any one (1) day~~
- ~~(4) Class 4 System: a public water system which is not a Class 1, 2, or 3 system~~

a. Categories of public water systems are as follows: (See WAC 246-290-010)

1. A Group A water system is a system:

- (a) With fifteen or more service connections, regardless of the number of people; or
- (b) Serving an average of twenty-five or more people per day for sixty or more days within a calendar year, regardless of the number of service connections; and
- (c) Group A water systems are further defined as community and noncommunity water systems. (See WAC 246-290--b-c).

**WATER SYSTEM AND FIRE FLOW STANDARDS
ICC 13.03A**

2. A group B water system means a public water system which is not a Group A water system. This would include a water system with less than fifteen service connections, and serving:
- (a) An average of less than twenty-five people for sixty or more days within a calendar year; or
 - (b) Any number of people for less than sixty days within a calendar year. (See WAC 246- 290-020(3)d).
- b. **Development classifications** ~~(WAC 248-57-100)~~ (WAC 246-293-610): -specific geographical areas within the existing and future service area of a public water system, identified for the purpose of determining the appropriate level of fire protection.
- c. **Existing service area** (WAC 246-293) A specific area within which direct service or retail service connections to customers of a public water system are currently available.
- e. ~~**d. Expanding public water systems** an existing water system which is undertaking new construction to provide water service to additional service connections. A utility, with plans and specifications approved by DOH and the Island County Health Department, may install up to its approved number of service connections, utilizing existing mains, without being considered an expanding system.;~~ Island County hereby adopts the definition contained in ~~(WAC 248-57-100)~~ (WAC 246-293-610), as it now exists or is hereafter amended.
- d. **e. Fire flow**: the rate of water delivery needed for the purpose of fighting fires in addition to requirements for normal domestic maximum instantaneous demand as referenced in guidelines published by the department entitled, "Design Standards for Public Water Supply"
- e. **f. Franchise**: a non-exclusive grant by the Board of County Commissioners, pursuant to chapter 36.55 RCW, to purveyors, persons, or private or municipal corporations to use the right-of-way of the county roads for utility purposes
- f. **g. Future service area** ~~(WAC 248-56-200)~~ (WAC 246-293- 110): a specific area for which water service is planned by a public water system, as determined by written agreement between purveyors provided for in ~~WAC 248-56-730~~ WAC 246-293-250
- g. **h. Industrial use**: for the purposes of applying fire flow standards herein, an industrial structure or building shall be one in which a product is manufactured or fabricated, and where the use has an Occupancy Hazard Classification Number (OHCN) of 3, 4, or 5 as listed in the National Fire Protection Association (NFPA) Manual 1231.
- h. **i. Permanent population** ~~(WAC 248-54-015)~~: that population served by a public water system for three (3) or more consecutive months
- i. **j. Permanent service** ~~(WAC 248-54-015)~~: a drinking water connection which serves a permanent population
- k. **Planned Residential Development (PRD)** (ICC 17.02.030): A cluster residential project approved by the Board pursuant to Chapter 16.17 ICC. A PRD may include any type of dwelling allowed in the zone.
- +
- l. Planning jurisdiction** ~~(WAC 248-57-100)~~ (WAC 246- 293-610): the city, town, county, or other entity acting as the responsible agency for preparation and adoption of land use plans, policies, or standards affecting development.

WATER SYSTEM AND FIRE FLOW STANDARDS
ICC 13.03A

- ~~k.~~ **m. Public water systems:** as defined in ~~WAC 248-54-015,~~ WAC 246-290-020, ". . . any water supply system intended or used for human consumption or other domestic uses, including source, treatment, storage, transmission, and distribution facilities, where water is being furnished to any community, collection, or number of individuals, but excluding a water supply system serving one (1) single-family residence"

- ~~l.~~ **n. Purveyor** ~~(WAC 245-54-015)~~ ~~(WAC 246-290-010)~~: the federal agency, state agency, county agency, city, town, municipal corporation, firm, company, mutual, cooperative, association, corporation, partnership, district, institution, person or persons owning or operating a public water system or his authorized agent.

- ~~m.~~ **o. Service** ~~(WAC 248-54-015)~~ ~~(WAC 246-290-010)~~: public water system designed to serve a single-family residence, dwelling unit, or equivalent use. If the facility has group home or barracks-type accommodations allowing three (3) or more persons to occupy the same room, three (3) persons will be considered equivalent to one (1) service.

- ~~n.~~ **p. Service area:** an area determined by the boundaries of parcels of land either provided with service connections or identified for service in approved plans and specifications of the water system.

- ~~o.~~ **q. Water main:** any transmission or distribution pipe which carries water supplied to a service connection.

13.03A.040 Approval and Certifications Required

- a. Upon water system development, and/or franchise application, the following certifications shall be submitted to the Island County Health Department:
 - 1. **Water system plan** if required ~~(WAC 248-54-065)~~ (WAC-246-290-100).
 - 2. **Water rights.** A water rights certificate or a registered water rights claim is required for all systems withdrawing or using more than five- thousand (5,000) gallons per day. Copies documenting existing or pending water rights shall be submitted.
 - 3. **Engineering report.** If required by ~~Chapter 248-54 WAC,~~ WAC 246-290, a copy of any engineering reports, with letters of approval, from the appropriate authority.
 - 4. **Construction documents.** A copy of specifications, maps, and drawings for the water system which shall contain the following information as a minimum:
 - (a) Location and size of all mains and service lines;
 - (b) Location of all valves, fire hydrants, blowoffs, air release valves, check valves, and other equipment; and,
 - (c) Well site location, pollution control area and associated auditor's file number, buildings, culverts, ditches, streams, ponds, and other physical features within or affecting the control area must be shown.
 - 5. **Well site approval(s)** and recorded declaration of covenant.
 - 6. **Pump test results**, inorganic chemical analysis results, and bacteriological test results for all wells to be used by public water systems before said wells may be put on-line to the system. This applies

WATER SYSTEM AND FIRE FLOW STANDARDS
ICC 13.03A

to wells for new systems and/or new wells hooking on-line to existing systems. Requirements of the adopted sea water intrusion policy shall be included.

7. **Operating maintenance and management agreement** in accordance with ~~WAC 248-54-196,~~ WAC 246-290-410, Small Water System Management Program
 8. **Engineering report, plans, and specifications**, or registered engineer's approval and seal, if required by ~~Chapter 248-54-WAC~~ WAC 246-290.
 9. **All water storage tanks or reservoirs** shall be shown and capacities given. Pressure tanks shall comply with the ASME Code for pressure vessels.
 10. **Elevations** shall be shown for the well, tank inlet, water full level, and water normal operating level. Elevations for the area served by the distribution system will be indicated by contour lines and/or spot elevations to enable evaluation of the system.
 11. **Pumping specifications**, including the horsepower of the pump motor, normal operating head pressure, and the delivery capacity to the pump in gallons per minute at normal operating head.
 12. **A copy of the hydraulic analysis** which determined the design of the system shall be furnished to the County Health Department and DOH.
 13. **When no new subdivision is involved**, but a franchise is needed, the information must be delivered and/or waiver approved by the county engineer prior to publication of the legal notice for the hearing for the granting of the franchise.
 14. **In other cases**, all the applicable information and approvals are necessary prior to public use of the water system.
- b. **Fire flow planning** (per ~~WAC 248-57-400,~~ WAC 246-293-630 application):
1. **Water system plans**, as defined in WAC 246-293, prepared by those public water systems identified in ~~WAC 248-57-200, WAC 246-293-602~~ shall include a section in their plans addressing fire flow, hydrant, and system reliability standards in accordance with this chapter, ~~chapter 11.01 ICC, WAC 248-57-500, 248-57-600, and 248-57-700,~~ WAC 246-293-640, 246-293-650, and 246-293-660. The section shall include a map entitled "Development Classifications," which shall delineate the existing and future service area of the water system into the following categories:
 - (a) **Rural:** ~~Lot sizes two and one half (2.5) acres or greater,~~ lot sizes greater than one acre (including parks, open space, agricultural lands, etc.)
 - (b) **Residential:** lot sizes one acre or less. ~~Where any lot is less than two and one half (2.5) acres,~~ (including all single- and multi-family structures less than four thousand (4,000) square feet, and mobile homes and recreational vehicle parks.)
 - (c) **Commercial and multi-family residential:** Structures with a floor area four-thousand (4,000) square feet or greater
 - (d) **Industrial Uses**
 - 2. Assignment of the above categories shall be based upon:

WATER SYSTEM AND FIRE FLOW STANDARDS
ICC 13.03A

- (a) Existing development; and,
 - (b) Future development potentials for a minimum of 10 years as identified in proposed or adopted land use plans and policies applicable within the existing and future service area.
- ~~3. The development classifications outlined above shall be determined by any method acceptable to the planning jurisdiction(s), provided that the criteria used are consistent with this chapter.~~
- ~~4.~~ 3. The water system plan shall identify and schedule improvements needed in order for the water system to be capable of supplying required fire flow for new and expanding public water systems consistent with these regulations.

13.03A.050 Franchise Requirement

- a. All owners/operators of water systems which propose to have lines in county road rights-of-way in excess of five-hundred (500) lineal feet must comply with state statutory franchise requirements and as outlined in ordinances passed by the County Board of Commissioners authorizing such use of the roads and rights-of-way. Minimally, all work performed in a county right-of-way shall require a permit from the county engineer. Construction within incorporated areas remains subject to municipal permitting requirements. If requirements of the franchise are more stringent than the adopted minimum standards, the franchise shall have precedence.
- b. Applications for franchises should be made on the form available from the county engineer's office. A nonrefundable fee is to be submitted with application. All information required by this standard must be submitted to the county engineer's office prior to scheduling a public hearing before the Board of County Commissioners (required by law) for granting the franchise.
- c. Publication of legal notice of the hearing is required for two (2) weeks. The franchise applicant will be billed for any expenses incurred over and above initial nonrefundable application fee after the franchise is granted or denied.

13.03A.060 Inspection Requirement. A copy of the construction report for public water system projects as required in ~~WAC 248-54-035~~ WAC 246-290-040 must be submitted to the Island County Health Department within sixty (60) days of completion and prior to the use of any project.

13.03A.070 Well Sites

- a. New wells shall be located so that the pollution control area does not infringe upon existing or proposed county road rights-of-way. A variance to this requirement may be granted by DOH, as per ~~WAC 248-54-125~~ WAC 246-290-060. For existing county roads, the right-of-way shall be considered to be sixty (60) feet as a minimum, and as shown by deed, where the deeded right-of-way is greater. Public wells must also conform to ~~WAC 248-54-125~~ WAC 246-290-135, Source Protection.
- b. All new public water system wells shall be inspected and approved by the Island County Health Department or in accordance with ~~WAC 248-54-097~~ WAC 246-290-130.
- c. A copy of the recorded easement and/or covenants establishing the appropriate pollution control zone shall be furnished to the Island County Health Department (per ~~WAC 248-54-125~~ WAC 246-290-135).

WATER SYSTEM AND FIRE FLOW STANDARDS
ICC 13.03A

13.03A.080 Minimum Design Requirements

- a. **Pressure.** Water systems shall meet minimum pressure requirements of ~~chapter 248-54 WAC~~ WAC 246-290. Water systems supplying fire flow shall do so with a minimum residual head pressure of twenty (20) psi during normal maximum instantaneous demand conditions.
- b. **Pipe sizing.** All piping sizes shall conform to ~~WAC 248-54-135~~ WAC 246-290. However, in no case shall water mains be less than six (6) inches diameter, except in the following cases:
1. Branch lines into cul-de-sacs or other such locations where further expansion of the system is very improbable. Such lines shall be of the size designated in approved plans and specifications by the certifying engineer, but shall not be less than two (2) inches in diameter. If two-inch (2-inch) diameter line is used, it is limited to a maximum length of three-hundred (300) feet. Greater lengths are permissible if such is certified by a professional engineer.
 2. Service lines which run from the main directly to either right-of-way edge.
- c. **Lead-free materials.** All pipe material for new water systems shall be constructed with "lead-free" materials. The lead content for joint compound materials (solder and flux) used for installation of pipe and fittings shall be less than .2 percent (.2%) in order to be considered "lead free." The lead content for all installed pipe and fittings shall be less than 8 percent (8%) in order to be considered "lead free" (per ~~WAC 248-54-131~~ WAC 246-290-220).
- d. **Flow measurement**
1. All water mains installed for new or expanding water systems shall be provided with individually metered service lines if:
 - (a) The mains are installed as part of a new water system;
 - (b) The mains are added to expand an existing water system which is individually metered;
 - (c) The mains are added to expand an existing water system which is unmetered and does not have master meters installed on all sources of supply, including new sources;
 - (d) Minimally, all expanding water systems shall include in their planning a feasibility and benefit analysis of individual metering of all services.
 2. New water mains need not be provided with metered service lines if:
 - (a) The installation is for replacement only and not for expansion of service area;
 - (b) The mains are added to serve residential customers by expansion of an existing unmetered system, provided master meters are installed on all sources of supply, including new sources.
 3. Commercial or industrial users connecting to new water mains will not be exempt from the metering requirement. Commercial, industrial, and residential water consumption may be measured by a master meter for service to a multi-unit complex under single ownership.
- It is recommended that all utilities consider the use of meters as a means of water conservation.
- e. **Measurement of groundwater sources.** All new groundwater sources developed to service public water systems shall be provided with a device for measurement of depth to water and a meter for flow measurement and consumption records. Installation of these devices is also recommended for existing groundwater sources. Air tube installations, if used, shall be of one-half (1/2) inch diameter

**WATER SYSTEM AND FIRE FLOW STANDARDS
ICC 13.03A**

rigid tubing and of copper, high density, polyethylene, or other material which will not impart taste, odor, or toxic substances to the water.

- f. **Isolation valving.** Valves shall be installed in a manner which permits isolation of lines. In all fire flow systems such valves shall minimally be installed at every hydrant location.
- g. **Air and air-vacuum relief valves.** In order to minimize problems associated with air entrainment, the purveyor shall wherever possible provide for installation of air or combined air-vacuum relief valves at appropriate points of high elevation in the system. All piping shall be wherever possible sloped to permit escape of any entrained air. Combination air release/air vacuum valves shall have a maximum operating pressure of at least three- hundred (300) psi.
- h. **Blow-off assembly.** A blow-off assembly shall be installed on all dead-end runs and at designated points of low elevation within the distribution system. The blow-off assembly shall be installed in the utility right-of-way except where an access and construction easement is provided for in writing to the water utility. In no case shall the location be such that there is a possibility of back-siphonage into the distribution system. The following table of minimum blow-off assembly sizes shall be utilized in accordance with the following distribution main sizes:

<u>Distribution Main Size</u>	<u>Minimum Blow-off Assembly Size Required</u>
6-inch or less	2-inch
Above 6-inch and up to 12-inch	4-inch
Greater than 12-inch	Determined upon review by State DOH on a case-by-case basis

- i. **Storage.** Sizing of storage facilities shall be adequate to provide for equalizing storage, plus the larger of standby or fire storage requirements. Equalizing and standby storage volumes shall be determined using "Sizing Guidelines for Public Water Supplies," DOH. Minimum fire storage volumes shall be determined by the required fire flow and duration in the utility's service area, and by the use classification of structures or buildings served by the system. Installation of storage facilities may be phased in certain cases as provided in ~~13.03.100.h~~ 13.03A.100.k. Siting of storage facilities should consider locations which provide gravity flow.

In areas where the existence of salt water intrusion or numerous low-yield wells has been documented, the oversizing of storage facilities may be required in order to reduce peak demand impacts upon the aquifer.

j. Facility placement

- 1. In unincorporated areas, utilities placed within the county right-of-way on new roads or in roadways, where existing topography, utilities, or storm drains are not in conflict, shall be located as follows:

The preferred location for water lines parallel to the road is six (6) feet within the county right-of-way line. Water lines are to be located on the north and east side of streets. Otherwise, when it is

**WATER SYSTEM AND FIRE FLOW STANDARDS
ICC 13.03A**

demonstrated to the satisfaction of the county engineer that it is not reasonable to follow this location, the alternative is:

- (a) Along county arterial and collector roads, seventeen (17) feet from the centerline of the road;
- (b) Along county local access roads, no closer than four (4) feet from the edge of the pavement;
and
- (c) When conditions require, as approved by county engineer.

Water mains over six (6) inches in diameter shall not be located in the shoulder without specific written approval of the county engineer.

Where existing utilities or storm drains are in place, new utilities shall conform to these standards as nearly as practical and still be compatible with the existing installations. For incorporated areas, city ordinances and utility placement standards shall apply.

- 2. New utility easements must be a minimum of fifteen (15) feet in width, unless subject easement is contiguous to an access easement or public right-of-way. In such case, the minimum easement width shall be seven and one-half (7.5) feet. Access shall be provided to all public water system lines, their appurtenances, and public fire hydrants that are maintained by public agencies or utilities.
- 3. All water lines of nonmagnetic material shall have a magnetic sensitive detector tape and/or suitable plastic indicator tape located twelve (12) inches continuously above the water line for its entire length.

± k. Pipe Cover

- 1. The depth of trenching, installation of pipes, and back fill shall be such as to give a minimum cover of thirty (30) inches over the top of the pipe from finished grade. This standard shall apply to transmission, distribution, and service piping to the meter. Remaining depth of trench to be filled in accordance with applicable construction standards identified in the General Materials Specifications ~~13.03.010-B~~ 13.03A.010. Compaction on county road rights-of-way shall adhere to appropriate Island County Road Department requirements. Materials capable of damaging the pipe or its coating shall be removed from the back-fill material.
- 2. All water lines crossing the roadway shall be laid perpendicular to the centerline of the road, unless an alternative is approved by the county engineer. The top of pipe for such water lines shall be three (3) feet minimum below the pavement surface. Conduits may be required by the county engineer where materials used for the water lines are susceptible to damage by traffic loads, vibrations, etc., or a combination of these factors. Pipe encasements may be installed under the roadbed for future utility pipe installations.

WATER SYSTEM AND FIRE FLOW STANDARDS
ICC 13.03A

m. Separation distances

1. Transmission and distribution water piping shall be laid at least ten (10) feet horizontally from any existing or proposed on-site waste disposal piping, drain fields, and/or waste water gravity or force mains. The distance shall be measured edge to edge. In cases where it is not practical to maintain a ten-foot (10-foot) separation, the health department may allow deviation on a case-by-case basis, if supported by data from the design engineer.

Closer spacing may be permissible for water mains near gravity sewer piping which is constructed to water main standards and which has been pressure tested to ensure water tightness prior to back-filling.

2. Other utilities, such as telephone or electrical, may be installed to within three (3) feet horizontal separation.

13.03A.090 Fire Hydrants

a. Design of Fire hydrants. Hydrants, where required, shall be provided as specified in WAC 246-293-650.

b. Marking of hydrants. Hydrants, where required, shall be marked as specified in N.F.P.A. 291 Chapter 2.

c. Spacing

1. All hydrants in fire flow system shall be spaced so as to ensure that all commercial, industrial, or multifamily structures or building sites served by the system shall be reached by unobstructed hose lays of no greater than five-hundred (500) feet to all parts of any structure.

2. Fire hydrants shall be located at roadway intersections wherever possible, and the distance between them shall be no further than 900 feet, or as necessary to meet the hose lay requirements for commercial, industrial, or multifamily structures or building sites.

2- 3. All water mains and transmission lines shall be equipped with at least capped tees to facilitate future hydrant installation. Said tees are to be installed at the following maximum spacing intervals measured along improved roadways:

(a) Residential Uses: Nine-hundred (900) feet maximum

(b) Commercial/industrial/multi-family - ~~not to exceed 300 feet maximum intervals as necessary to meet the above 500 foot hose lay standard for commercial, industrial, or multifamily structures or building sites.~~

(c) ~~Shorter intervals may be required if necessary to meet the above 500 foot hose lay standard.~~

3- 4. Where geographically or otherwise possible, spacing intervals for hydrants or tees shall commence at street intersections.

**WATER SYSTEM AND FIRE FLOW STANDARDS
ICC 13.03A**

13.03A.100 Fire Flow Requirements

- a. New water systems and expansion of existing water systems shall be designed and constructed to provide for fire flows in a manner consistent with the standards outlined in ~~WAC 248-57-700 and 248-57-800 when:~~ this chapter.
- ~~1. The water system development or expansion proposed is intended to serve uses which meet the development use classifications described in 13.03.100(e);~~
 - ~~2. The service area associated with the proposed construction includes residential properties which have approved land development proposals for (or other clear indication of) development potentials at densities greater than one (1) unit per 2.5 acres.~~
- b. Nothing herein shall preclude the building official's authority to establish, with cause, fire protection requirements for any building or structure on improved property, utilizing Uniform Fire Code, NFPA Standards, ISO Standards, or Island County Building Standards, as appropriate.
- c. Minimum fire flows to be provided by new or expanding public water systems shall ~~minimally~~ be determined ~~in accordance with WAC 248-57-400, based upon use classification of properties to be served, as identified in section 13.03.040.B;~~ as follows:

(1) Rural where all lot sizes are 2.5 acres or larger	none
(2) Residential units, where any lot size is less than 2.5 acres	500 gallons per minute for 30 minutes
(3) Commercial and Multi-family structures greater than 4000 sq. ft.	750 gallons per minute for 60 minutes
(4) Industrial Uses	1,000 gallons per minute for 60 minutes

~~* Minimum fire flows are in addition to requirements for normal domestic use.~~

~~* Commercial and industrial buildings may be subject to higher flow requirements when evaluated on an individual basis by the local fire protection authority.~~

~~* Additional fire flow requirements above these minimums may be established by the building official for the properties served by the water system. The obligation of the water purveyor to provide fire flow service shall then be established by a written agreement between the purveyor and property owner, prior to approval.~~

- | | |
|---|------------------------------|
| <u>1. Nine (9) or less lots and/or dwelling units, where all lots are greater than one (1.0) acre in size</u> | <u>No fire flow required</u> |
|---|------------------------------|

WATER SYSTEM AND FIRE FLOW STANDARDS
ICC 13.03A

2. Planned Residential
Developments of nine (9) or less lots and/or dwelling units, where the density, including open space, is greater than one (1) dwelling unit per acre. 500 gallons per minute for 30 minutes.
Fire protection may be provided by other means, such as sprinkler systems, fire control setbacks, or building standards, provided that such alternate methods are fully documented in the water system plan, and are approved by the local fire protection district, the Building Official, and the appropriate health agency.
3. Nine (9) or less dwelling units and/or lots, where any lot is one (1.0) acre or less in size. 500 gallons per minute for 30 minutes.
Fire protection may be provided by other means, such as sprinkler systems, fire control setbacks, or building standards, provided that such alternate methods are fully documented in the water system plan, and are approved by the local fire protection district, the Building Official, and the appropriate health agency.
4. Over nine (9) lots and/or dwelling units, where any lot is less than two and one-half acres 500 gallons per minute for 30 minutes
5. Non-Residential and multifamily residential:
- (a) Lots Any division of land in the Nonresidential zone shall require fire flow based on the structures proposed, as specified in this chapter. However, alternate methods of fire protection, such as approved sprinkler systems, fire control setbacks, or building standards may be provided in lieu of fire flow, if the location, size, and use of future structures is specified through the Site Plan Approval process, and provided that such alternate methods are fully documented in the water system plan, and are approved by the local fire protection district, the Building Official, and the appropriate health agency.
- (b) Structures
- i. Commercial and Multifamily Residential
- (1) Structures with a floor area of four thousand (4,000) square feet or greater. 750 gallons per minute for 60 minutes

WATER SYSTEM AND FIRE FLOW STANDARDS
ICC 13.03A

(2) Multiple structures with an aggregate area of four thousand(4,000) square feet or greater, comprised of individual structures with a floor area of less than four thousand (4,000) square feet. The Island County Building Official may apply the following:

(i) Where individual structures have a 50 foot or greater separation between exposures and from existing and potential structures on adjacent lots, they may be considered separate structures with no fire flow requirement.

(ii) Where individual structures have a separation between exposures and from existing and potential structures on adjacent lots of 50 feet or less, but more than 10 feet, N.F.P.A. 1231 may be used to determine fire flows.

(iii) Where individual structures have separations between exposures of 10 feet or less, they will be considered as one structure for fire flow purposes, provided that structures separated by a four-hour fire resistive area separation wall with no openings, and in compliance with the provisions of the Uniform Building Code, may be considered as separate structures, and may provide fire flows as in N.F.P.A. 1231; and further provided that structures protected by an approved sprinkler system and separated by a fire-resistive area separation wall, in compliance with the provisions of the Uniform Building code, may be considered as separate structures and may provide fire flows as in N.F.P.A. 1231.

ii. Industrial Structures

1,000 gallons per minute for 60 minutes. Fire protection may be provided by other means, such as approved sprinkler systems, provided that such alternate methods are fully documented in the water system plan, and are approved by the local fire protection district, the Building Official, and the appropriate health agency.

Fire flows for industrial structures may be subject to higher fire flow requirements, and shall be determined by the building official based on occupancy hazard classification in N.F.P.A. 1231.

iii. Institutional uses

Fire flow shall be provided as determined by the Building Official, who, in consideration of nationally recognized standards, shall assign structures associated with institutional uses to the categories listed in this subsection.

iv. Mixed Uses

Fire flow shall be provided for all uses based on the most stringent fire flow requirement for associated commercial, industrial, or institutional uses.

WATER SYSTEM AND FIRE FLOW STANDARDS
ICC 13.03A

- ~~d. Assignment of the above categories (Use Classifications) shall be based upon:~~
- ~~1. Existing development; and,~~
 - ~~2. Future development for a minimum of ten (10) years as identified in adopted land use plans, ordinances, and policies applicable within the existing and future service area.~~
- d. In the event that fire protection is provided by alternative means, the requirement shall, as a condition of approval, be recorded by the applicant/owner as a covenant running with the title of the land served or to be served by the water system and be disclosed by the owner in writing prior to the sale, lease or offer to sell or lease any property subject to the covenant.
- ~~e. The development classifications outlined in (C) above shall be determined by any method acceptable to the planning jurisdiction(s), provided that the criteria used are consistent with this chapter.~~
- e. Where fire flow is required, fire flows will be provided at 20 psi minimum residual pressure. However, water supplies provided on-site for fire protection purposes only may supply fire flow at less than 20 psi residual if arranged as required by N.F.P.A. 1231, Chapter 6, and in consideration of recommendation by the local Fire Protection District.
- f. Minimum fire flows are in addition to requirements for normal domestic use.
- g. Commercial and industrial buildings may be subject to higher flow requirements when evaluated on an individual basis by the local fire protection district and the building official.
- h. Additional fire flow requirements above these minimums may be established by the building official for the properties served by the water system. The "Insurance Service Office Guide for Determining Fire Flow" may be used in establishing additional fire flow. The obligation of the water purveyor to provide fireflow service shall then be established by a written agreement between the purveyor and property owner, prior to approval.
- ~~f. i. All plans for new or expanding water systems shall identify and schedule improvements needed in order for the water system to be capable of supplying required fire flow consistent with these regulations.~~
- ~~g. i. Construction schedule requirements. Prior to final plat or development permit approval, all required fire protection facilities must be either:~~
- ~~1. Constructed in accordance with approved plans and specifications and certified "as-built" as provided in these standards; or~~
 - ~~2. Bonded for completion subject to release of bond after certification of inspection; or~~
 - ~~3. Identified in a Phased Construction Plan approved by the health department and engineering department in accordance with ~~13.03.100(h)~~ 13.03A.100 k.~~
- ~~h. k. Phased construction~~
- ~~1. Provision of fire flow service may be approved by the health department and engineering department based on a phased construction plan submitted in writing by the applicant.~~

The construction schedule shall include plans and specifications for all facilities. The plans and specifications shall be approved by the County and DOH. A financing plan shall also be provided

**WATER SYSTEM AND FIRE FLOW STANDARDS
ICC 13.03A**

showing improvements required, estimated cost, cost to each benefited property, and a provision for escrow account, or other means approved by the county, to accumulate funds required for completion. The approved phased construction plan shall be recorded with the deed in the county auditor's office and made a provision of the plat, subdivision, or land use permit.

The phased construction plan shall identify initial facilities to be constructed, including source, storage, pumping, hydrant location(s), and mains, and shall contain a certification by a registered engineer of initial fire flow service level in gallons per minute at each hydrant. A schedule of completion of all remaining facilities shall be provided which is consistent with the schedule of site improvements. The schedule shall also indicate fire flows provided by each phase of construction.

2. When subdivisions/development/buildings served by existing water systems or an extension of said existing systems is are proposed, and ~~any parcel thus served is less than two and one-half (2.5) acres in size~~ fire flow is required by these regulations, incremental improvement toward complete compliance may be stipulated, reflecting concurrence of the health department and the engineering department.

13.03A.110 Waiver. When a waiver is requested by the applicant for a proposed system, which would not vary substantially from this chapter, 13.03A, and which meets the minimum Washington Administrative Code Public Water System Standards, it will be processed administratively by the Island County Engineer.

When waivers are requested by the applicant for proposed systems, or changes to, or expansion to an existing system, and do not meet the minimum requirements set forth in the Washington Administrative Code Public Water System Standards, they must be reviewed and approved by the Washington State Department of Health and the Island County Engineer, Island County Health Department, and the Island County Building Official.

13.03A.120 Severability. If one of these sections is found to be invalid it does not invalidate the entire document.

13.03A.130 Repealer. Island County Code 13.03, as adopted by Ordinance PW 1-79 on September 10, 1979, and revised by Ordinance PW 1-80 on June 5, 1980, is hereby repealed.

13.03A.140 Effective Date. Effective date of these standards shall be July 9, 1990.

THE BALANCE OF THIS PAGE INTENTIONALLY LEFT BLANK

**WATER SYSTEM AND FIRE FLOW STANDARDS
ICC 11.01 and 13.03A**

EXHIBIT B

Stricken wording is to be deleted.
New wording is underscored.

**Chapter 11.01
Land Development Standards**

11.01.090 Development Standards. General requirements and improvements.

m. Fire Protection

- ~~1. All subdivisions/developments/buildings served by new water systems, wherein any parcel is less than 2.5 acres in size, shall be required to provide total water storage for fire flow as hereinafter specified, which may include that storage required for domestic purposes.~~

All new subdivisions, including site plan segregations, developments, and buildings, shall be required to provide fire protection in accordance with requirements specified in Chapter 13.03A ICC, in addition to those required by the Uniform Building and Fire Code as adopted by Island County.

All subsequent portions of Section 11.01.090m ICC are hereby deleted.

THE BALANCE OF THIS PAGE INTENTIONALLY LEFT BLANK

WATER SYSTEM AND FIRE FLOW STANDARDS
ICC 11.01 and 13.03A

Exhibit C

Legislative Intent

This document represents the Legislative Intent of the Board of Island County Commissioners in the adoption of amendments to Chapters 13.03A ICC and 11.01 ICC.

1. The development classifications specified in Section 13.03A.040 are to be used for general long range planning purposes. Specific engineering plans for projects must provide fire flow per Section 13.03A.100.
2. The *County Land Development Standards*, (ICC 11.01) originally adopted in 1983, contained language that appeared to be inconsistent with the language and requirements of the more recently adopted *Minimum Standards for Water Works*, (ICC 13.03A) as amended in 1989 in conjunction with the adoption of *The Coordinated Water System Plan*. This amendment establishes a single source of water system and fire flow standards for new and expanding water systems, and applies to both publicly and privately owned water systems.
3. Although existing water system purveyors are encouraged to upgrade their systems consistent with the requirements of ICC 13.03A, only new and expanding public water systems are required to conform to the requirements of these standards. Replacement or addition of infrastructure with no intention to enlarge the service area shall not be considered an expansion of the public water system. If existing facilities must be repaired or replaced to serve an expanded service area, the new construction shall meet the minimum standards. Although fire flow improvements within the service area are advised, fire flow improvements within the existing service area are not mandatory. However, expansions to water systems that require domestic standby storage will be required to provide such storage in addition to any fireflow storage required.
4. In the development of water system plans, purveyors are only required to plan for service to the property based upon the development classifications. Purveyors are not required to provide internal service within the property unless special arrangements are made with the owner/developer and the expanded service i.e. system, is included within the approved water system plan. This includes fire protection systems that are required by these ordinances. Service expansions within the property must conform to these standards.
5. Fire flow is not required for new and/or expanding water systems serving 9 or less residential lots/units when all lots are greater than one acre in size.
6. Fire flow is required for a planned residential development (PRD) when the new or expanding water system serves 9 or fewer lots/units, where the density, including open

EXHIBIT "D"

BOARD OF ISLAND COUNTY COMMISSIONERS

FINDINGS OF FACT

Pursuant to RCW 36.70.630, the Board of Island County Commissioners has prepared its own Findings of Fact setting forth the analysis upon which their decision to alter the recommendations of the Island County Planning Commission is based.

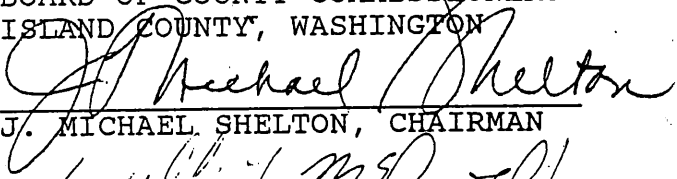
Findings:

1. The Board of Island County Commissioners has determined that it is necessary to assign development classifications for planning purposes only, consistent with WAC 246-293-630, and to separately assign use classifications to specify fire flow requirements for engineering plans.
2. Implementation of the Coordinated Water System Plan is of paramount importance in Island County. Fire Flow requirements must be structured in such a way as to achieve attainment of rural fire protection goals while not imposing disincentives to cooperative water system use and planning.
3. The foundation of the Island County Comprehensive Plan is the retention of the rural character and rural lifestyle in part by encouraging clustered developments which result in the preservation of open space / natural resources / critical areas. The proposed amendment may require fire protection in clustered development and, when required, provides alternatives to standard fire flow.
4. Current regulations require that all new or expanding public water systems, serving any number of lots, any of which are less than 2.5 acres in size, must provide fire flow and appropriate water storage facilities. These regulations are financially burdensome, especially for small water systems.
5. Complete elimination of the fire flow requirement would likely pose a threat to the health, safety, and property of Island County citizens.
6. Implementation of current code has revealed various inconsistencies, redundancies, and confusing language.


7. The recodification and combination of WAC 248-57 into WAC 246-290 and WAC 246-293 have made obsolete language in existing County code, ICC 13.03A.
8. Alternatives to fire flow must be approved by the local fire protection District and run as a covenant with the title of the land. Sellers are required to disclose fire protection requirements prior to selling or leasing or offer to sell or lease lands subject to covenant.

DATED this 7th day of February, 1994

BOARD OF COUNTY COMMISSIONERS
ISLAND COUNTY, WASHINGTON



J. MICHAEL SHELTON, CHAIRMAN



WILLIAM L. McDOWELL, MEMBER



DWAINE A. COLBY, MEMBER