Ordinance 882

An ordinance creating a chapter of the Clallam County Code titled, "Fire Protection" to safeguard life and property, and to provide standards for fire protection for residential, commercial, and industrial developments within the unincorporated areas of Clallam County as defined by Clallam County's Comprehensive Plan and Zoning Codes

THE BOARD OF CLALLAM COUNTY COMMISSIONERS finds as follows:

Incorporation of testimony and record.

The Board adopts and incorporates herein the recommendations of the Clallam County Permit Advisory Board, and the recitals and reports of staff, and public testimony and documents received at the public hearing.

Incorporation of specific findings made at hearing.

The Board of Clallam County Commissioners desires to adopt the Fire Protection Chapter establishing such protection standards for residential, commercial, and industrial developments within the unincorporated areas of Clallam County.

BE IT ORDAINED BY THE BOARD OF CLALLAM COUNTY COMMISSIONERS: The following Fire Protection Chapter is created for inclusion in the Clallam County Code, as more specifically set forth in the below-inscribed sections:

Section .010 Purpose.

The purpose of this Chapter is to safeguard life and property, and to provide fire protection standards for residential, commercial, and industrial developments within the unincorporated areas of Clallam County as defined by Titles 31 and 33.

The County may enter into intergovernmental agreements to adopt city standards within designated Urban Growth Areas. No part of this Chapter is intended to decrease the minimum fire protection standards established in the Washington State Building Code (Chapter 19.27 RCW).

Section .015 Definitions.

The words and phrases as used in the Chapter shall, unless the context clearly indicates otherwise, have the following meanings:

(1) "Agricultural building" means a structure designed and constructed to house farm implements, hay, grain, poultry, livestock, or other horticultural products. This structure shall not be a place of human habitation or a place of employment where agricultural products are processed, treated, or packaged; nor shall it be a place used by the public.

(2) "Apartment house" means any building or portion thereof containing more than two dwelling units.

(3) "Authority having jurisdiction" means the Clallam County Building Official/Fire Marshal.

(4) "Automatic fire-extinguishing system" means an approved system of devices and equipment that automatically detects a fire and discharges an approved fire-extinguishing agent onto or in the area of the fire.

(5) "AWWA" means the American Water Works Association.

(6) "Chief" means the chief officer of the fire department or district serving the jurisdiction or the chief officer's authorized representative.

Section .015 Definitions – continued

(7) "Community water supply system" means any system or water supply intended or used for human consumption or other domestic uses, including: sources, treatment, storage, transmission and distribution facilities where water is furnished to any community, collection or number of individuals, or is made available to the public for human consumption or domestic use, excluding water systems servicing one single-family residence.

(8) "Continuous supply" means providing of water at or above minimum flow levels at all times.

(9) "Dead end main" means a water main over 50 feet long not fed from both ends at the time of installation.

(10) "Dwelling" means a building containing one or two dwelling units used, intended, or designed to be used, rented, leased, let or hired out to be occupied for living purposes.

(11) "Fire area" means the aggregate floor area enclosed and bounded by fire walls, fire barriers, exterior walls, or horizontal assemblies of a building. Areas of the building not provided with surrounding walls shall be included in the fire area if included within the horizontal projection of the roof or floor next above.

(12) "Fire-resistive construction" means construction to resist the spread of fire as specified in the International Building Code.

(13) "Fire Department" means the fire authority normally responsible for fire protection in the area.

(14) "Fire Department connection (FDC)" means a connection through which the fire department can pump water into a standpipe system or sprinkler system. When possible, the FDC shall be located a distance from the building equal to the building height plus 10 feet and as close to the front access point as practical.

(15) "Fire flow" means the flow rate of a water supply measured at 20 psi (137.9 kPa) residual pressure that is available for fire fighting. Minimum fire flow shall be determined as set forth in this Chapter.

(16) "Fire hydrant" means a mechanical device that is self-draining, frost free, and is constructed to provide the required fire flow for the area serviced.

(17) "Fire Marshal" means the Clallam County Building Official/Fire Marshal.

(18) "Floor area" means the area included within the surrounding exterior walls of a building or portion thereof, exclusive of vent shafts and courts. The floor area of a building, or portion thereof, not provided with surrounding exterior walls shall be the useable area under the horizontal projection of the roof or floor above.

(19) "Flush-type hydrant" means a hydrant installed entirely below grade.

(20) "GPM" means gallons per minute.

(21) "Gross area" means the area of a lot or parcel including public/private roads and other easements.

(22) "Industrial area" means an area developed with uses permitted in industrial zone classifications, as adopted by local code/ordinance.

(23) "Limited supply fire sprinkler system" means an integrated system of piping and listed fire protection devices installed in accordance with National Fire Protection Association (NFPA) standards, connected to a water supply capable of providing the required density for the four (4) most remote sprinkler heads for a minimum of 30-minutes. Limited supply systems shall be installed in accordance with the provisions set forth by the Clallam County Fire Marshal.

(24) "National fire codes" means published codes, standards, recommended practices, manuals, and guidelines prepared by technical committees organized under NFPA sponsorship.

Section .015 Definitions – continued

(25) "New additions to existing water systems" means all additions to existing water systems except the addition of one hydrant meeting the flow requirement, with no line extension. New additions shall include, but not be limited to, water main extensions, additional storage facilities, and replacement of existing water mains.

(26) "NFPA" means the National Fire Protection Association.

(27) "NST" means the National Standard Thread.

(28) "Public fire protection" means the current edition of the pamphlet "Public Fire Protection" published by the Washington Surveying and Rating Bureau.

(29) "Public way" means any street, alley, or similar parcel of land essentially unobstructed from the ground to the sky which is deeded, dedicated, or otherwise permanently appropriated to the public for public use.

(30) "Purveyor" means the federal agency, state agency, county agency, city/town, Municipal Corporation, firm, company, mutual, cooperative, association, corporation, partnership, district, institution, and person or persons owning or operating a public water system.

(31) "PSI" means pounds per square inch.

(32) "Service connection" means a physical connection to a public water system that delivers water to a customer for discretionary use.

(33) "IBC" means the International Building Code as adopted by Washington State.

(34) "IFC" means the International Fire Code as adopted by Washington State.

(35) "UGA" means Urban Growth Area as specified in CCC Titles 31 and 33.

(36) "UL" means Underwriters Laboratories Inc.

(37) "Water main" means the piping used or that may be used in the future to deliver domestic water and/or fire flows intended for fire protection and excludes storage facilities, hydrants, and service connections.

Section .020 General applicability.

Except as hereinafter exempted, the following shall be subject to the provisions of this Chapter:

(1) New commercial and new industrial structures.

(2) Apartment houses.

(3) Alterations or additions to existing commercial or industrial structures and apartment houses exceeding 50 percent of the market value of the structure either before the improvement or repair is started or, if the structure has been damaged and is being restored, before the damage occurred.

(4) Changes of use or occupancy that increases fire risk or exposure.

(5) Proposed subdivisions or short plat subdivisions as specified in the Clallam County land division code.

(6) Existing recorded subdivisions, commercial, or industrial structures when water mains are replaced.

(7) Proposed mobile home parks and recreational vehicle parks.

Section .025 Exemptions.

The following are exempt from the provision of this Chapter.

(1) Dwellings constructed on existing approved subdivisions, short plat subdivisions, and individual single site lots of record, unless prior plat requirements exist.

(2) Mobile home parks and recreational vehicle parks of two (2) spaces or less.

(3) Structures or additions classified as "U" occupancies by the IBC and buildings classified as "U" occupancies that conform to the standards for agricultural buildings in Appendix C of the IBC.

Section .025 Exemptions – continued
Stables and riding arenas intended for public use or assembly and boarding of animals not belonging to the owner of the building are not exempt.

(4) Non-combustible fueling station canopies.

Section .030 Procedures for compliance.

(1) The fire protection requirements for land divisions contained in CCC 29.30.500 (2) will be considered satisfied by any water supply system meeting the standards of this Chapter.

(2) Except as otherwise exempted by this Chapter, construction plans and specifications for new water systems and extensions of existing water systems that comply with these regulations must be designed and stamped by a registered, professional engineer licensed in the State of Washington. Said plans shall be signed by the purveyor and filed with the Clallam County Fire Marshal and the State Department of Health.

(3) Construction plans and specifications for new water systems and extensions of existing water systems shall be approved in writing by the Clallam County Fire Marshal.

(4) Three (3) copies of "as built" drawings must be filed with the Clallam County Fire Marshal, who will distribute one copy to the local fire department or district.

(5) When the distribution system is installed, it must be under the direction of a registered, professional engineer licensed in the State of Washington who shall certify the construction of the system is in accordance with the approved design.

Section .035 Water system requirements.

(1) New or replacement water mains for community systems with 15 or more connections.

(a) New or replaced water mains shall be a minimum of 8 inches in diameter for dead ends and 6 inches for circulating mains (grid or loop systems). For dead end cul-de-sacs, a 6-inch diameter main need only extend to the last required fire hydrant if the distance is 300 feet or less, otherwise, an 8-inch diameter main is required to the last required hydrant. Smaller water lines may be installed thereafter to the remaining residences.

(b) Hydrant leads less than 50 feet may be 6 inches in diameter. A dead end main that extends across a street only for the purpose of serving a hydrant shall be of a size capable of providing the required fire flow, but not be less than 6 inches in diameter. All mains shall have hydrants and/or tees and valves installed to conform to this regulation. The County Fire Marshal, after consultation with the local fire department or district, may waive this requirement if the water system is unable to provide sufficient fire flow at the time of water main installation. In such cases, the water system owner shall commit to a compliance date to be approved by the Fire Marshal by which fire flow shall be available and hydrants installed.

(c) The water system shall be capable of delivering the required fire flow at a minimum hydrant pressure of 20 psi while maintaining normal system peak instantaneous demands. Water mains shall conform to current AWWA specifications.

(d) The minimum fire flow requirements for one- and two-family dwellings (R-3), shall be 500 GPM for 45 minutes.

(2) Fire hydrant specifications and installation.

(a) This standard shall apply to all new fire hydrant installations and when existing hydrants are replaced. All hydrants shall conform to current AWWA specifications for traffic model fire hydrants:

(i) 150 psi working pressure.
(ii) 300 pounds hydrostatic test.
(iii) 1 – 5 ¼" main valve opening.

Section .035 Water system requirements – continued

(iv) 1 – 4" NST pumper port. (check with local fire district to determine if a 5-inch Storz fitting is required)

(v) 2 – 2 ½" NST hose port

(vi) 1 – ½" pentagon operating nut – open left

Main valve shall be compression-type, opens against pressure, and will remain closed should the hydrant be damaged or broken. Hydrant shoe or inlet may be flanged, AC pipe, or mechanical joint. Hydrant shall be furnished with two (2) drain ports to insure rapid and complete drainage of hydrant barrel to eliminate all danger of freezing. (Refer to the AWWA manual, Installation, Field Testing and Maintenance of Fire Hydrants for detailed specifications).

(b) There shall be an auxiliary gate valve installed to permit the repair and replacement of the hydrants without disruption of water service. Gate valves shall be in conformance with the latest specifications of AWWA and be iron body, bronze mounted with two (2) inch square operating nuts that open left. End styles shall be flanged, mechanical joint or ring-tite.

(c) Hydrants shall be installed plumb and be set to the finished grade. The bottom of the lowest outlet of the hydrant shall be no less than 18 inches above the finished grade. There shall be no less than 36 inches of clear area about the hydrant for operation of a hydrant wrench on the outlets and on the control valve. Hydrants shall be accessible for fire department pumpers. The pumper port shall face the street. Where the street cannot be clearly defined or recognized, the port shall face the most likely route of approach and the location of the fire truck while pumping, as determined by the local fire department.

(d) Hydrants shall not be obstructed by any structure or vegetation, or have the visibility impaired for a distance of 50 feet in the direction of vehicular approach to the hydrant. Fire hydrants subject to vehicle damage (i.e., those located in parking lots) shall be adequately protected.

(3) Fire hydrant location and spacing.

(a) Where new water mains are extended along streets where hydrants are not needed for protection of structures or similar fire problems, fire hydrants should be provided at not less than 1000 foot spacing to provide for transportation hazards. Spacing shall be measured by the pathway required for the fire department to lay the fire hose. This spacing shall be determined by the Clallam County Fire Marshal and the local fire district.

(b) The location of all water mains, fire hydrants, and valves to be installed shall be properly and accurately marked on identifiable plans or drawings. Three (3) copies of all plans or drawings shall be furnished to the Clallam County Fire Marshal. Location of hydrants shall be determined by the Clallam County Fire Marshal and the local fire district.

(c) The average spacing between fire hydrants for other than one or two-family dwellings (R-3) in short plats and subdivisions shall not exceed that listed in Table A. Regardless of the average hydrant spacing, no portion of a building shall be farther from a hydrant than the distance listed in Table A. Distances shall be measured along approved emergency vehicle accesses and adjacent public and private roads.

(d) For water systems serving one or two-family dwellings (R-3) buildings in short plats and subdivisions, the distance from the center point of lot frontage to a hydrant shall not exceed 350 feet.

(e) On dead-end streets and roadways not exceeding 600 feet in length and serving one or two-family dwellings (R-3) in short plats and subdivisions, there need not be hydrants located on the dead-end street or roadway if there is an approved hydrant at the intersection.

(f) Hydrants shall be provided along approved emergency vehicle accesses and adjacent public and private roads. When practical, hydrants shall be located at street intersections. The minimum number of hydrants available to a building shall be not less than that listed in Table A.

Section .035 Water system requirements – continued

(g) All new and existing approved hydrants shall be considered available if accessible to the fire department by public or private roads or approved emergency vehicle accesses meeting the requirements of chapter 29.30 Clallam County Code.

(h) When possible, hydrants shall be located a distance from the building equal to the building height plus 10 feet and as close to the front access point as practical.

(i) All sprinkler piping installed underground shall be installed by, or under the direct supervision of, a level U state-certified installer.

(j) The authority having jurisdiction shall witness all flushing of sprinkler piping installed underground.

(k) The Fire Marshal and local Fire Department shall be notified of any new hydrant installation and the fire flow available.

Number and Distribution of Fire Hydrants – Table A

Fire Flow Requirements (Gpm)	Minimum Number of Hydrants	Average Spacing Between Hydrants (Feet)	Maximum Distance from Any Point on Street or Road Frontage to a Hydrant (Feet)*
Greater than 500	1	700	350
750	1	600	300
1,500	1	500	250
1,750	1	500	250
2,000-2,250	2	450	225
2,500	3	450	225
3,000	3	400	225
3,500-4,000	4	350	210
4,500-5,000	5	300	180
5,500	6	300	180
6,000	6	250	150
6,500 or more	6	250	150

* Spacing must also meet the International Fire Code; Chapter Five

(4) Maintenance of hydrants.

(a) The Fire Marshal or the local Fire District may, after notifying purveyor, test hydrants for flow capability on yearly basis, and will notify purveyor of any leak or other malfunction. Purveyor will respond within 48 hours of being notified to correct any malfunction. Purveyor may do their own testing in the presence of the Fire Marshal or Fire District.

(b) Purveyor will maintain working parts of hydrants above ground, including keeping brush and other physical obstructions from blocking access to, or operation of, hydrants.

(c) Purveyor will notify the Fire Marshal and the local Fire District of any new hydrant installation and indicate the minimum fire flow available.

(d) The purveyor shall notify the local fire department when a hydrant is impaired or out of service.

Section .035 Water system requirements – continued

(e) The purveyor shall clearly identify any hydrant that is "Out of Service." The "Out of Service" identification shall be coordinated with the local fire department. Hydrants shall not remain out of service more than 30 days without approval of Fire Marshal.

(5) Exceptions to hydrant requirements.

(a) When hydrants cannot be installed in conformance with these standards due to topography, non-negotiable grades, or other similar conditions, the Fire Marshal may confer with the local Fire District, and may allow exceptions to these standards by requiring additional fire protection as specified in the most current edition of the IFC and the provisions of this ordinance.

Section .040 Minimum roadway requirements.

Section 503 of the IFC, Fire Apparatus Access Roads, is hereby adopted as part of this Chapter; EXCEPT that Section 503 shall not apply to:

(1) Existing roadways and bridges
(2) Private driveways serving one and two-family dwellings
(3) Roadways permitted in CCC 29.30.200

Section .045 Fire-Flow requirements for buildings.

The procedure determining fire-flow requirements for buildings or portions of buildings hereafter constructed shall be in accordance with this Chapter.

(1) Scope. This section is the procedure for determining fire-flow requirements for all buildings or portions of buildings and substantial alterations to all buildings, hereafter constructed. Fire-flow requirements are site and building specific. The requirements of this section supersede any conditions, notes, or requirements on any plat that do not meet the requirements of this section.

Nothing in this section shall be deemed to reduce, replace, or waive any water system requirements in the Clallam County Code, including, but not limited to, minimum fire-flow and hydrant spacing, nor shall a reduction or exception to fire-flow and hydrant spacing requirements reduce or exempt fire-flow requirements of this section.

(2) Fire-Flow requirements for buildings. Prior to the issuance of a building permit for any building, portion of a building, or substantial alteration thereto, fire-flow shall be provided in the amount required by this section, including UGA designations.

(a) The fire-flow and duration requirements for buildings other than one-and two-family dwellings (R-3) and private garages or agricultural buildings (U) shall not be less than that specified in Table A.

(b) Exception: Buildings for which fire flow is 500 gallons per minute or less, following all applicable modifications, are exempt from fire-flow requirement.

(3) Modifications.

(a) Fire areas. Portions of buildings which are separated into one or more Fire Areas shall be constructed in accordance with the IBC.

(b) Fire-flow reduction for Automatic Fire sprinkler systems. The fire-flow requirement for buildings protected with an automatic fire sprinkler system installed with the water supply provisions specified in NFPA 13 may be reduced up to 75 percent. Fire-flow requirements for buildings with a limited supply fire sprinkler system may be reduced 50 percent.

(c) Fire-flow reduction for central station fire alarm systems. The fire-flow requirement for buildings protected throughout with an approved automatic fire detection system including approved, UL listed central station monitoring installed in accordance with the provisions of the IFC, may be reduced an additional 250 gallons per minute.

Section .045 Fire-Flow requirements for buildings – continued

Minimum Fire-Flow Table B

Minimum Required Fire Flow and Flow Duration for Non-Residential Buildings						
FIRE AREA (square feet) x 0.0929 for m^2					FIRE FLOW $(gal/min)^2$	FLOW
Type I-A 1-B[1]	Type II-A III-A[1]	Type IV, V-A[1]	Type II-B, III-B[1]	Type V-B[1]	x 3.785 for L/min.	DURATION (hours)
0-5,500	0-3,700	0-2,600	0-2,100	0-1,600	500	1
5,501-7,800	3,701-5,000	2,601-3,500	2,101-2,700	1,601-2,000	750	1
7,801-11,100	5,001-6,800	3,501-4,700	2,701-3,500	2,001-2,400	1,000	1
11,101-15,900	6,801-9,300	4,701-6,200	3,501-4,500	2,401-2,900	1,250	1
15,901-22,700	9,301-12,700	6,201-8,200	4,501-5,900	2,901-3,600	1,500	1
22,701-30,200	12,701-17,000	8,201-10,900	5,901-7,900	3,601-4,800	1,750	1
30,201-38,700	17,001-21,800	10,901-12,900	7,901-9,800	4,801-6,200	2,000	1
38,701-48,300	21,801-24,200	12,901-17,400	9,801-12,600	6,201-7,700	2,250	1
48,301-59,000	24,201-33,200	17,401-21,300	12,601-15,400	7,701-9,400	2,500	1
59,001-70,900	33,201-39,700	21,301-25,500	15,401-18,400	9,401-11,300	2,750	1
70,901-83,700	39,701-47,100	25,501-30,100	18,401-21,800	11,301-13,400	3,000	1
83,701-97,700	47,101-54,900	30,101-35,200	21,801-25,900	13,401-15,600	3,250	1
97,701-112,700	54,901-63,400	35,201-40,600	25,901-29,300	15,601-18,000	3,500	1
112,701-128,700	63,401-72,400	40,601-46,400	29,301-33,500	18,001-20,600	3,750	1
128,701-145,900	72,401-82,100	46,401-52,500	33,501-37,900	20,601-23,300	4,000	1
145,901-164,200	82,101-92,400	52,501-59,100	37,901-42,700	23,301-26,300	4,250	1
164,201-183,400	92,401-103,100	59,101-66,000	42,701-47,700	26,301-29,300	4,500	1

Minimum Required Fire Flow and Flow Duration for Non-Residential Buildings						
FIRE AREA (square feet) x 0.0929 for m^2					FIRE FLOW $(gal/min)^2$	FLOW DURATION (hours)
Type I-A 1-B[1]	Type II-A III-A[1]	Type IV, V-A[1]	Type II-B, III-B[1]	Type V-B[1]	x 3.785 for L/min.	
183,401-203,700	103,101-114,600	66,001-73,300	47,701-53,000	29,301-32,600	4,750	2
203,701-225,200	114,601-126,700	73,301-81,100	53,001-58,600	32,601-36,000	5,000	2
225,201-247,700	126,701-139,400	81,101-89,200	58,601-65,400	36,001-39,600	5,250	2
247,701-271,200	139,401-152,600	89,201-97,700	65,401-70,600	39,601-43,400	5,500	2
271,201-295,900	152,601-166,500	97,701-106,500	70,601-77,000	43,401-47,400	5,750	2
295,901-Greater	166,501-Greater	106,501-115,800	77,001-83,700	47,401-51,500	6,000	2
"	"	115,801-125,500	83,701-90,600	51,501-55,700	6,250	2
"	"	125,501-135,500	90,601-97,900	55,701-60,200	6,500	2
"	"	135,501-145,800	97,901-106,800	60,201-64,800	6,750	2
"	"	145,801-156,700	106,801-113,200	64,801-69,600	7,000	2
"	"	156,701-167,900	113,201-121,300	69,601-74,600	7,250	2
"	"	167,901-179,400	121,301-129,600	74,601-79,800	7,500	2
"	"	179,401-191,400	129,601-138,300	79,801-85,100	7,750	2
"	"	191,401-Greater	138,301-Greater	85,101-Greater	8,000	2

[1] Types of construction are based on the IBC.

Section .050 Miscellaneous.

(1) Premises identification: Building address numbers shall be posted in a clear location and in contrasting color to the background. The standard is based on setback from the street that the building is addressed from. The location is preferred in upper right corner first, then upper left corner next. Some deviations from these standards are allowable with approval from the code official.

Section .050 Miscellaneous – continued

50' or less setback	6 inches in height
50 – 100' setback	12 inches in height
Over 100' setback	18 inches in height
Suite numbers	6 inches in height

Existing building and suite numbers that are 4 inches and under 50', in clear sight, and of contrasting colors shall be allowed.

(2) Key box: A key box is to be provided when access to or within a structure or an area is restricted because of secured openings or where immediate access is necessary for life-saving or fire fighting purposes, the Fire Marshal or chief is authorized to require a key box to be installed in an accessible location. The key box shall be of an approved type and contain keys to gain necessary access as required by the chief.

Section .055 Enforcement.

In accordance with Clallam County Code, Chapter 21.01:

(1) No final plat for subdivisions or short subdivisions shall be approved until receipt of verification from the Clallam County Fire Marshal that the provisions of this Chapter have been satisfied.

(2) No building permit shall be issued until the provisions of this Charter have been satisfied.

(3) No permit to operate a mobile home park or recreational vehicle park will be issued until the Clallam County Planning Department has received verification from the Clallam Fire Marshal that the provisions of this Chapter have been satisfied.

ADOPTED this twenty-seventh day of March 2012

BOARD OF CLALLAM COUNTY COMMISSIONERS

Howard V. Doherty, Jr., Chair

Jim McEntire

ATTEST:

Trish Holden, CMC, Clerk of the Board

Michael C. Chapman