DENSITY CALCULATION EXAMPLES

This document provides an example of how to calculate, by zone, the number of dwelling units allowed on a property in unincorporated Kitsap County.

The number of dwelling units allowed on a property is calculated by multiplying the allowable density by the allowable acreage. Density is a ratio of the number of dwelling units allowed per acres of land (for allowable densities by zone see Section 17.420.050 Kitsap County Code).

Key terms and references for this calculation are provided below and used in the example calculations on the following page:

17.110.210 "Density" means a ratio comparing the number of dwelling units with land area.

17.110.212 "Density, maximum" means the largest number of dwelling units that shall be developed on a property(s) within a specific zone based upon the gross acreage of the property(s). In circumstances involving state or federal bald eagle habitat regulations, the calculation of maximum density may be affected.

17.110.213 "Density, minimum" unless otherwise specified by Section 17.420.060, means the fewest number of dwelling units that shall be developed on a property(s) within a specific zone based upon the net developable acreage of the property(s).

17.110.507 "Net developable area" means the site area after subtracting all rights-of-way, critical areas (including bald eagle habitat regulations) and their buffers, storm water controls, recreational facilities, public facilities, community drainfields or other area-wide sanitary sewer facilities, and open space.

19.150.215 "Critical areas" means those areas and ecosystems identified as: (A) wetlands; (B) areas with a critical recharging effect on aquifers; (C) fish and wildlife habitat conservation areas; (D) geologically hazardous areas; and (E) frequently flooded areas.

17.420.020 'Measurement Methods'
Density. Except as provided in Section 17.420.060 (A)(18), density shall be calculated as follows:
In all zones where a maximum or base density is identified, maximum or base density is calculated on gross acreage of the site. In all zones where a minimum density is required, minimum density is calculated on net developable acreage. If a calculation results in a partial dwelling unit, the partial dwelling unit shall be rounded to the nearest whole number. Less than one-half shall be rounded down. Greater than or equal to one-half shall be rounded up.

17.420.060 'Footnotes for Tables' (A)(18)
The minimum and maximum densities within the range are based upon the net acreage of the property(ies) after the removal of critical areas. In determining a development proposal's actual density within the range, the features of the subject parcel including on-site or adjacent wetlands, streams or steep slopes shall be considered first.

EXAMPLE A: RURAL AND RESOURCE LANDS

A landowner has a 40.00 acre parcel and wants to develop the property. Table 1a shows the maximum number of dwelling units that could be allowed on the property, depending upon the zone. For these zones, there are no minimum density requirements.

Calculation formula:
Maximum dwelling units allowed = allowed maximum density * gross acreage

Table 1a: Allowed number of dwelling units by zone (Example A)

Zone	Map Label	Allowed Density by Zone dwelling units per acres (du/ac)	Allowed Number of Dwelling Units (du)
		Max	Max
Rural Residential	RR	1 du/ 5 acres	8 du
Rural Protection	RP	1 du/ 10 acres	4 du
Rural Wooded	RW	1 du/ 20 acres	2 du
Forest Resource Lands	FRL	1 du/ 40 acres	1 du
Mineral Resource Overlay	MRO	N/A	N/A

Based on the calculations above, if the landowner were to develop the property in Example A, the number of dwelling units allowed would range from 1 (Forest Resource Lands) to 8 (Rural Residential).

EXAMPLE B: URBAN AND LIMITED AREAS OF MORE INTENSE RURAL DEVELOPMENT

A landowner has a 10.00 acre parcel and wants to develop the property. The following shows the number of dwelling units that could be allowed on the property, depending upon the zone. For these zones, there are both minimum and maximum density requirements.

Step 1: Determine the net developable acreage as demonstrated in Table 2a. This calculation can fluctuate as a project progresses from basic information gathering to project design and permit review.

Step 2: Identify the allowable density from Table 2b and apply to the minimum and maximum density calculations. Assuming gross acreage of 10.00 acres and net developable acreage of 3.90 acres, Table 2b shows the minimum and maximum number of dwelling units that could be allowed on the property, depending upon the zone.

Table 2a: Net Developable Area Calculation (Example B)

Gross acreage	+	10.00	acre(s)
Right-of-way acreage		-0.50	acre(s)
Critical area & buffer acreage		-2.50	acre(s)
Stormwater facility acreage		-1.00	acre(s)
Recreational facility acreage		-0.50	acre(s)
Public facility acreage		-0.10	acre(s)
Community drainfield acreage		-1.00	acre(s)
Open space acreage		-0.50	acre(s)
Net developable acreage	=	3.90	acre(s)

Calculation formulas:
Minimum dwelling units allowed = allowed minimum density * net developable acreage
Maximum dwelling units allowed = allowed maximum density * gross acreage

Table 2b: Allowed number of dwelling units by zone (Example B)													
Zone	Map Label	Allowed Density by Zone dwelling units per acre (du/ac)				Allowed Number of Dwelling Units (du)			
		Min	-	Max		Min	-	Max	
Urban Restricted	UR	1	-	5	du/ac	4	-	50	du
Greenbelt	GB	1	-	4	du/ac	4	-	40	du
Urban Low Residential	UL	5	-	9	du/ac	20	-	90	du
Urban Cluster Residential	UCR	5	-	9	du/ac	20	-	90	du
Urban Medium Residential	UM	10	-	18	du/ac	39	-	180	du
Urban High Residential	UH	19	-	30	du/ac	74	-	300	du
Commercial	C	10	-	30	du/ac	39	-	300	du
Regional Center	RC	10	-	60*	du/ac	39	-	600*	du
Urban Village Center	UVC	10	-	18	du/ac	39	-	180	du
Neighborhood Commercial	NC	10	-	30	du/ac	39	-	300	du
Low Intensity Commercial	LIC	10	-	30	du/ac	39	-	300	du
Rural Commercial	RCO	N/A				N/A			
Business Park	BP	N/A				N/A			
Business Center	BC	N/A				N/A			
Industrial	IND	N/A				N/A			
Rural Industrial	RI	N/A				N/A			
Parks	P	N/A				N/A			
Keyport Village Commercial	KVC	0	-	5	du/ac	0	-	50	du
Keyport Village Low Residential	KVLR	0	-	2	du/ac	0	-	20	du
Keyport Village Residential	KVR	0	-	5	du/ac	0	-	50	du
Manchester Village Commercial	MVC	0	-	5	du/ac	0	-	50	du
Manchester Village Low Residential	MVLR	0	-	2	du/ac	0	-	20	du
Manchester Village Residential	MVR	0	-	4	du/ac	0	-	40	du
Port Gamble Rural Historic Town Commercial	RHTC	0	-	2.5	du/ac	0	-	25	du
Port Gamble Rural Historic Town Residential	RHTR	0	-	2.5	du/ac	0	-	25	du
Port Gamble Rural Historic Waterfront	RHTW	0	-	2.5	du/ac	0	-	25	du
Suquamish Village Commercial	SVC	N/A				N/A			
Suquamish Village Low Residential	SVLR	0	-	2	du/ac	0	-	20	du

* Maximum for this zone can range from 30 to 60 du/ac, 60 du/ac has been used in this example.

Based on the calculations above, if the landowner were to develop the property in Example B:

- The minimum number of dwelling units required would range from 0 (multiple zones) to 74 (Urban High Residential); and
- The maximum number of dwelling units allowed would range from 20 (multiple zones) to 600* (Regional Center).