



**SNOHOMISH
COUNTY**

2018 TREE CANOPY REPORT

DECEMBER 1, 2016 THROUGH DECEMBER 31, 2017

January 2018

Snohomish County Planning and Development Services

INTRODUCTION

On October 8, 2014, the Snohomish County Council adopted Amended Ordinance No. 14-073, effective October 27, 2014, modifying development standards for urban residential landscaping to regulate tree canopy requirements rather than individual trees. Included in Amended Ordinance No. 14-073 was a requirement for the Department of Planning and Development Services (PDS) to prepare an annual report on tree canopy. The purpose of the report is to summarize the outcomes from the updated tree canopy regulations on an annual basis to assess their effectiveness and to determine whether any adjustments or refinements should be considered. The report is required to be submitted to the County Council by January 31 of each year.

This report is the fourth such report prepared by PDS since Amended Ordinance 14-073 was adopted. Because of the nature of monitoring and reporting, the methodology for data inclusion for the report has evolved over the past four years. The 2015 report, which was the first tree canopy report prepared by PDS, included data for proposed landscaping plans for development applications that were either submitted or approved in 2014. Similarly, the 2016 report included data for proposed landscaping plans for development applications that were either submitted or approved in 2015. For the 2017 report, PDS revised the reporting methodology to only include data from proposed landscape plans for approved development activity that were approved and subject to the tree canopy regulations in SCC 30.25.016. This change more accurately reflects information that is specific to development activities that are subject to tree canopy regulations in SCC 30.25.016. The 2017 report included data for all approved landscaping plans from the time the updated tree canopy calculations were effective through November 2016. In total, the 2017 report included 61 landscaping plans that were approved over a 2-year period from November 2014 through November 2016.

This 2018 report uses the same methodology as the 2017 report and includes information from 58 landscape plans that were components of development activity applications that were approved from December 1, 2016, through December 31, 2017. In order to understand the cumulative effects of the regulations, this report also includes information from the 2017 tree canopy report. Due to the revised methodology, information from reports produced prior to the 2017 report is not included, since these reports summarized data from landscaping plans that were submitted (but not necessarily approved).

Per SCC 30.25.014, PDS is required to provide data on the following five topics for the applications it approved within the reporting period:

1. The number of applications exempted from tree canopy requirements by each of the exemptions in SCC 30.25.016(1).
2. The number of applications to which the tree canopy requirements are applied, subtotaled by type of application.
3. The number of applications using the Tree Survey method and the number using the Aerial Estimation method for estimating existing tree canopy (applicable when the retention of existing canopy is to be used – in whole or in part – to meet the requirements).

4. For each application to which the tree canopy requirements are applied:
 - a. The tree canopy required by Table 30.25.016(3) prior to any adjustments.
 - b. Any adjustments to the required tree canopy, the specific type of incentive or other adjustment, and the specific code authority for the adjustment.
 - c. The required tree canopy after all adjustments.
 - d. The use and effect of applying any other incentives for tree retention.
 - e. The result of the calculation of existing canopy.
 - f. The canopy of trees retained.
 - g. The number of new trees planted.
 - h. The result of the calculation of 20-year canopy.
5. For every allowable type of adjustment, the total number of applications that used it and the total reduction in required tree canopy resulting from it.

BACKGROUND

The genesis for the updated 2014 tree canopy regulations was feedback from developers who, in designing projects under the 2009 tree retention regulations, identified a number of issues, including:

- Concerns about survivability of newly planted trees when planted in inappropriate locations or densities to meet the requirements;
- Costs to complete a survey of significant trees on forested parcels;
- Unavailability of off-site replanting areas within the immediate vicinity of many projects (allowed by code when there was insufficient area on-site for replacement trees); and
- Developers bypassing heavily forested sites due to the cost of complying with the 2009 tree retention regulations.

In addition, PDS staff hypothesized that, under the tree retention/replacement regulations, full build-out density of urban residential sites as prescribed by the Growth Management Act (GMA) Comprehensive Plan might not be feasible on some heavily forested parcels. This was noted as a potential conflict with the GMA goals and Puget Sound Regional Council's Vision 2040, which encourage development within UGAs to preserve rural and resource lands.

In 2014, PDS proposed amending the code to focus on the concept of preserving and expanding tree canopy rather than just on retaining and replacing individual trees. The staff proposal included incentives for retaining significant trees. Following Planning Commission review, extensive stakeholder outreach and participation, and several public hearings, the County Council adopted the code amendments in October 2014.

2014 TREE CANOPY REGULATIONS

The tree canopy regulations are contained in SCC 30.25.016. The regulations establish a minimum amount of tree canopy to be provided for each urban residential development on a sliding scale, depending on the type of residential construction (detached versus attached) and the number of lots or units (Table 1). Under this approach, a higher canopy percentage is required for single family than multiple family developments to account for a desire to increase density along transit corridors and to accommodate future population growth in an efficient manner.

Table 1. Tree Canopy Coverage Requirements (SCC 30.25.016(3))

Type of Development	Required 20-Year Tree Canopy Coverage (gross site area)
Subdivisions for Single Family Residential (10+ lots)	30%
Short Subdivisions for Single Family Residential (4 to 9 lots)	25%
Short Subdivisions for Single Family Residential (< 4 lots)	20%
Single Family Detached Units, Cottage Housing, Townhouse, Multi-family (10+ units)	20%
Single Family Detached Units, Cottage Housing, Townhouse, Multi-family (< 10 units)	15%
Urban Center (residential and mixed use projects only)	15%

These tree canopy requirements apply equally to sites which have existing canopy and those that do not, and they can be met through either tree retention or new planting, or a combination of both. This provision is an important change from the 2009 tree replacement regulations which only applied to sites with significant trees. This approach provides an opportunity to expand the urban tree canopy on redevelopment sites or sites that had been cleared in the past, particularly since urban residential sites already have a requirement to landscape 10 percent of the total gross site area, which could be utilized as space to plant trees.

Retaining significant trees remains an objective of the new regulations. Under the revised regulations, incentives exist to encourage developers to retain both individual significant trees and stands of significant trees. The revised regulations also maintain the previous requirements that significant trees in critical areas and perimeter landscaping be retained. The updated regulations now also address species mix, in particular encouraging more native trees to be replanted, to minimize disease and improve survivability. Finally, the regulations encourage planting the right tree in the right place to ensure long term survivability.

ANNUAL REPORT ON TREE CANOPY: FIVE REQUIREMENTS

The assessment of the five reporting requirements outlined in the Introduction section of this report is based on review of approved development activities that are subject to the tree canopy regulations in SCC 30.25.016. Each of the five specific reporting requirements is discussed in the following sections.

Report Requirement #1:

Number of Applications Exempt from Requirements

The following activities, which are listed in SCC 30.25.016(1), are exempt from the tree canopy requirements in SCC 30.25.016:

1. Removal of any hazardous, dead or diseased trees, and as necessary to remedy an immediate threat to person or property as determined by a letter from a qualified arborist;
2. Construction of a single-family dwelling, duplex, accessory or non-accessory storage structure on an individual lot created prior to April 21, 2009 or created by a subdivision or short subdivision for which a complete application was submitted prior to April 21, 2009;
3. Construction or maintenance of public or private road network elements, and public or private utilities including utility easements not related to development subject to chapter 30.23A, 30.34A, 30.41G or 30.42E SCC;
4. Construction or maintenance of public parks and trails when located within an urban residential zone; and
5. Pruning and maintenance of trees.

Since PDS does not issue a permit for pruning or for the removal of hazardous trees, there is currently no method to accurately track and report these two activities. Likewise, the three remaining exempted activities are also very challenging to collect data for and available permit data does not provide a means to track or report on these activities. As a result, no data has been collected for this or for any past reports. Development of a system to collect, monitor, and assess this information would be a major program effort.

Report Requirement #2:

Number and Type of Applications

During this reporting period (December 1, 2016 through December 31, 2017), a total of 58 development applications subject to the tree canopy regulations were approved. This report compares the 58 approved plans with the 2017 report data, which included 61 approved plans over a two-year period.

Table 2 describes the number and type of applications that are subject to the tree canopy requirements in SCC 30.25.016. It should be noted that some of the townhouse applications also involved land subdivision pursuant to SCC 30.41A.205.

Table 2. Number and Type of Applications

Application Type	2018 Report (12/16 – 12/17)	2017 Report (11/14 – 11/16)
Subdivision (10+ lots)	10	18
Short Subdivision (4 – 9 lots)	7	10
Short Subdivision (< 4 lots)	2	3
Single Family Detached Units (10+ units)	11	12
Single Family Detached Units (<10 units)	8	7
Cottage Housing (10+ units)	0	0
Cottage Housing (< 10 units)	0	0
Townhouse (10+ units)	12	8
Townhouse (<10 units)	1	0
Multiple Family (10+ units)	2	2
Multiple Family (<10 units)	0	0
Urban Center (residential and mixed use only)	5	1
Total	58	61

Report Requirement #3:

Number of Applications Calculating the Retained Existing Tree Canopy

Applicants that propose retaining a portion or all of their existing tree canopy to meet the canopy requirement have two options for calculating canopy coverage: tree survey method or the aerial estimation method. Under the tree survey method, the average 20-year canopy is calculated for each tree retained, whereas, under the aerial estimation method, an applicant can calculate the extent of the canopy by using a recent air photo. Table 3 shows the number of applications that used each specific method of requirements.

Table 3. Number of Applications by Method

Tree Canopy Estimation Method	2018 Report (12/16 – 12/17)	2017 Report (11/14 – 11/16)
Tree Survey	9	11
Aerial Estimation	13	22
Total	22	33

For this reporting period, 9 applications utilized the tree survey method while 13 applied the aerial estimation method. The remain thirty-six applications, or over half of those approved, proposed exclusively new tree canopy to meet the canopy requirements and therefore did not utilize a tree canopy estimation method for canopy retention. In several of

those cases, the landscape plans indicated that some existing canopy and some significant trees were retained – often to meet other landscaping and retention requirements. However, this information is not included in the canopy calculations relied upon for this report.

These results, including the information from the previous report, suggest that the cost of conducting a tree survey may not be considered to be adequately compensated by the canopy bonuses available for retaining significant trees, since the much faster and cheaper aerial estimation method was used more frequently than the tree survey method.

Report Requirements #4 & #5:
Data for Each Application & Number and Results of Adjustments Used

These two reporting requirements require additional detailed information about each of the 58 applications approved during this reporting period. The specific data required for each application is enumerated below, and is provided in Table 4 (attached).

1. The tree canopy required by Table 30.25.016(3) prior to any adjustments;
2. Any adjustments to the required tree canopy, the specific type of incentive or other adjustment, and the specific code authority for the adjustment;
3. The required tree canopy after all adjustments;
4. The use and effect of applying any other incentives for tree retention;
5. The result of the calculation of existing canopy;
6. The canopy of trees retained;
7. The number of new trees planted; and
8. The result of the calculation of 20-year canopy.

Table 5 provides an aggregate overview for the data requirements listed above.

Table 5. Aggregate Data for Approved Applications

Reporting Requirement		2018 Report (12/16 – 12/17)	2017 Report (11/14 – 11/16)	Total (11/14 – 12/17)
Number of applications		58	61	119
Tree canopy required by code (sq. ft.)		1,721,248	3,559,525	5,280,773
Adjustments to canopy requirements (sq. ft.)		-9,770	-9,562	-19,332
Existing Canopy Retained	Tree Survey (sq. ft.)	32,706	50,005	82,711
	Aerial Estimation (sq. ft.)	654,672	2,555,698	3,210,360
Total number of trees planted		5,417	6,219	11,636
Final 20-year tree canopy calculation (sq. ft.)		2,247,516	4,370,369	6,617,885

For this reporting period, a total of seven applications utilized canopy bonuses available for significant tree retention in SCC 30.25.016(5). The application of those bonuses had the effect of reducing the canopy requirements for those projects by an aggregate 9,770 sq. ft.

Every proposed landscape plan that was approved in 2017 exceeded the minimum 20-year tree canopy coverage required in SCC 30.25.016(3). The total amount of proposed 20-year tree canopy coverage is nearly 2.25 million sq. ft. This is 500,000 sq. ft., or approximately 31%, more than required. Eight of the 58 landscape propose at least five percentage points more canopy than necessary to meet their requirement. Of those eight, three are satisfying their canopy requirement entirely through retention of existing canopy (usually found predominantly within critical areas, where removal of trees is not permitted).

A total of 5,417 new trees are proposed to be planted, including trees planted to meet other landscaping requirements, such as parking lot landscaping and street trees. In many applications, those trees are not included in the canopy calculations (although they would be eligible) because of the species mix requirements applicable to canopy trees. For this reason, the actual tree canopy provided by urban residential development is often under-reported by the canopy calculations provided by the applicants and compiled into this report. Similarly, the actual retention of tree canopy and existing significant trees is often greater than is indicated by the canopy calculations. Since such retention is still required within perimeter landscaping and critical areas, there is often no tree survey performed in those areas where no land disturbance is planned.

As in last year's report, none of the projects sought a reduction in their canopy requirements as allowed for certain situations by subsections 30.25.016(8) and (9). This could suggest that the tree canopy requirements are not overly burdensome to applicants. In the future, the County may consider reviewing why the reductions have not been utilized, and whether or not they should be revised.

Overall, eight projects are meeting their canopy requirements exclusively through retention of existing canopy. Thirty-six projects meet their requirements entirely through planting of new trees. The remaining 14 projects use a combination of canopy retention and new trees to meet the canopy requirements. This diversity of approach suggests that the regulations are flexible enough to accommodate different site conditions within the urban growth areas. It also indicates that they are producing both canopy retention and new canopy creation within urban residential areas to help mitigate the inevitable loss of tree canopy from development on previously undeveloped urban sites.

Because pre-development tree canopy calculations are not required, except for projects and site areas where retention is used to meet the canopy requirements, it is not possible to measure the overall net change in the urban tree canopy using only the data available for these monitoring reports. Even if such canopy measurements were made, other factors, such as changes to landscaping after development approval despite requirements in code to retain proposed landscaping, would hamper efforts to accurately monitor changes in the overall canopy. As mentioned above, even at the project level the canopy calculations do not accurately reflect new canopy because they frequently exclude trees used to meet other landscaping requirements where species mix is not also required. The

best tool for overall canopy monitoring remains the satellite imagery available from the federal government approximately every five years. New imagery is anticipated to be available in 2019.

RECOMMENDATIONS FOR CALENDAR YEAR 2018 AND BEYOND

PDS staff intends to continue to refine administrative processes in an effort to make the documentation and review steps associated with the canopy regulations streamlined for both the customer and PDS staff. Staff has also explored ways to better utilize its permit tracking system (AMANDA) to complete the data collection and compilation processes required to complete this annual report. There is an opportunity for PDS staff to continue improvements to promote efficiency in the collection of tree canopy calculations and the preparation of the annual report.

In the future, PDS recommends transitioning to a calendar year reporting timeframe, which will create a standardized 12-month reporting period so that the information in each year's report can be more consistently compared over time.

Table 4: Detailed Information by Application for Approvals from December 1, 2016 through December 31, 2017

Application	Tree Canopy Required	Reductions to the Required Canopy (per 30.25.016(8) or (9))	Code Authority for Reduction and Type	Required Tree Canopy After Adjustment	Required Tree Canopy Area After Adjustment (sq. ft.)	Use and Effect of Applying Incentives for Tree Retention (sq. ft. of bonus canopy)	Calculation of Existing Canopy to be Retained (% of site area)	Calculated Canopy of trees retained (including bonuses) (sq. ft.)	Number of New Trees Planted	20 Year Canopy Area Proposed	Total Tree Canopy Proposed
Andoria	20%	0	N/A	20%	44,480	0	0.9%	1,963	99	44,480	21.0%
Ash Way Townhomes	20%	0	N/A	20%	7,413	0	0%	N/A	44	7,700	20.8%
Aravalli	30%	0	N/A	30%	167,463	0	8.4%	46,863	444	167,463	30.0%
Avalon North Creek Apartments	15%	0	N/A	15%	252,940	0	0.0%	0	521	252,940	63.3%
Banyan Grove	20%	0	N/A	20%	30,780	0	0.0%	0	105	30,780	20.1%
Beverly Park	15%	0	N/A	15%	3,007	0	0.0%	0	13	3,007	15.0%
Bing II	25%	0	N/A	25%	7,415	0	0.0%	0	32	7,415	25.0%
Bothell Gardens 2	25%	0	N/A	25%	7,580	0	26.3%	7,580	0	7,580	26.3%
Brookstone Short Plat	20%	0	N/A	20%	14,870	0	20.3%	14,870	0	14,870	20.3%
Braemar East FKA 1503-WLD SHR Townhomes	20%	0	N/A	20%	121,920	1,796	1.0%	5,927	337	125,761	20.6%
Cameron Cove	25%	0	N/A	25%	6,660	0	0.0%	0	18	6,660	25.2%

Application	Tree Canopy Required	Reductions to the Required Canopy (per 30.25.016(8) or (9))	Code Authority for Reduction and Type	Required Tree Canopy After Adjustment	Required Tree Canopy Area After Adjustment (sq. ft.)	Use and Effect of Applying Incentives for Tree Retention (sq. ft. of bonus canopy)	Calculation of Existing Canopy to be Retained (% of site area)	Calculated Canopy of trees retained (including bonuses) (sq. ft.)	Number of New Trees Planted	20 Year Canopy Area Proposed	Total Tree Canopy Proposed
Carrara	30%	0	N/A	30%	79,566	0	0.6%	1,446	186	79,566	31.0%
Central Park Townhomes	20%	0	N/A	20%	104,700	0	0.0%	0	627	104,700	20.3%
Copper Crest	30%	0	N/A	30%	41,461	278	8.2%	9,237	73	41,461	37.9%
Crescent View Division 1	20%	0	N/A	20%	40,375	0	0.0%	0	202	40,375	20.7%
Crescent View Division 2	20%	0	N/A	20%	10,420	0	0.0%	0	50	10,420	20.4%
Cushman Trails II	30%	0	N/A	30%	59,270	0	0.0%	0	184	59,270	30.1%
Damson Crest	20%	0	N/A	20%	9,595	0	0.0%	0	56	9,595	20.2%
Danilet Apartments	20%	0	N/A	20%	7,845	0	0.0%	0	38	7,845	20.3%
Erin Estates	20%	0	N/A	20%	16,620	0	11.4%	9,370	20	16,620	20.2%
Evergreen View Estates	30%	0	N/A	30%	51,308	0	0.0%	0	117	51,308	34.5%
Fern Crest	30%	0	N/A	30%	74,058	0	33.6%	74,058	0	74,058	33.6%
Forest on Filbert	20%	0	N/A	20%	26,274	0	5.7%	7,435	97	26,274	20.0%
Fred Breske	15%	0	N/A	15%	3,465	0	0.0%	0	10	3,465	17.3%

Application	Tree Canopy Required	Reductions to the Required Canopy (per 30.25.016(8) or (9))	Code Authority for Reduction and Type	Required Tree Canopy After Adjustment	Required Tree Canopy Area After Adjustment (sq. ft.)	Use and Effect of Applying Incentives for Tree Retention (sq. ft. of bonus canopy)	Calculation of Existing Canopy to be Retained (% of site area)	Calculated Canopy of trees retained (including bonuses) (sq. ft.)	Number of New Trees Planted	20 Year Canopy Area Proposed	Total Tree Canopy Proposed
Gardener Grove	20%	0	N/A	20%	12,440	0	0.0%	0	69	12,440	20.2%
Gutierrez	25%	0	N/A	25%	14,776	0	0.0%	0	40	14,776	33.4%
Haack Brothers Triplex	15%	0	N/A	15%	1,177	0	15.9%	1,177	0	1,177	15.9%
Investment Holdings	15%	0	N/A	15%	3,275	0	0.0%	0	10	3,275	15.9%
Jasper Court	25%	0	N/A	25%	14,200	0	0.0%	0	43	14,200	25.8%
Keeler Vista Townhomes	20%	0	N/A	20%	4,420	0	0.0%	0	12	4,420	20.2%
Lakeshire	30%	0	N/A	30%	155,581	0	35.4%	155,581	0	155,581	35.1%
Lazar Townhomes	15%	0	N/A	15%	8,027	3,136	25.5%	8,027	0	8,027	41.9%
Lincoln Landing	20%	0	N/A	20%	8,224	0	2.1%	843	32	8,224	20.6%
Manor Heights	15%	0	N/A	15%	4,112	0	0.0%	0	17	4,112	15.2%
Meadows Edge (formerly known as Alderwood Townhomes)	20%	0	N/A	20%	13,662	695	4.6%	3,110	86	13,662	20.2%
North Creek Ridge	30%	0	N/A	30%	176,230	2904	1.0%	7,603	521	197,318	33.6%

Application	Tree Canopy Required	Reductions to the Required Canopy (per 30.25.016(8) or (9))	Code Authority for Reduction and Type	Required Tree Canopy After Adjustment	Required Tree Canopy Area After Adjustment (sq. ft.)	Use and Effect of Applying Incentives for Tree Retention (sq. ft. of bonus canopy)	Calculation of Existing Canopy to be Retained (% of site area)	Calculated Canopy of trees retained (including bonuses) (sq. ft.)	Number of New Trees Planted	20 Year Canopy Area Proposed	Total Tree Canopy Proposed
North Creek Short Plat	25%	0	N/A	25%	12,983	0	7.9%	3,833	27	12,983	26.9%
North Park Run	20%	0	N/A	20%	11,050	0	0.0%	0	40	11,050	20.1%
Northwood Lane	20%	0	N/A	20%	8,949	0	0.0%	0	37	8,949	20.1%
Oak Heights Estates II Bottom of Form	30%	0	N/A	30%	44,565	0	0.0%	0	100	44,865	30.2%
Oakwood	20%	0	N/A	20%	11,640	0	0.0%	0	27	11,640	21.5%
Olga's Short Plat	20%	0	N/A	20%	4,783	228	11.2%	2,768	9	4,783	21.1%
Pacific Heights SFDU	15%	0	N/A	15%	3,825	0	0.0%	0	10	3,825	16.7%
Parker Place SP	25%	0	N/A	25%	20,923	0	0.0%	0	68	20,923	25.0%
Peterson	15%	0	N/A	15%	2,550	0	0.0%	0	6	2,550	19.0%
Puget Park	15%	0	N/A	15%	69,365	0	27%	123,159	0	123,159	26.6%
Ryan Park fka Gessell	20%	0	N/A	20%	24,841	0	0.0%	0	73	24,990	20.1%
Silver Lake Garden Apartments	20%	0	N/A	20%	60,900	0	0.0%	0	213	60,900	22.6%

Application	Tree Canopy Required	Reductions to the Required Canopy (per 30.25.016(8) or (9))	Code Authority for Reduction and Type	Required Tree Canopy After Adjustment	Required Tree Canopy Area After Adjustment (sq. ft.)	Use and Effect of Applying Incentives for Tree Retention (sq. ft. of bonus canopy)	Calculation of Existing Canopy to be Retained (% of site area)	Calculated Canopy of trees retained (including bonuses) (sq. ft.)	Number of New Trees Planted	20 Year Canopy Area Proposed	Total Tree Canopy Proposed
Southend Esperance	20%	0	N/A	20%	9,500	0	0.0%	0	24	9,500	20.5%
Stering	15%	0	N/A	15%	6,265	0	0.0%	0	16	6,265	16.4%
Summerland	20%	0	N/A	20%	36,943	733	1.6%	3,663	105	36,943	20.2%
Sylvan Ridge	20%	0	N/A	20%	69,400	0	39.2%	69,400	0	69,400	39.2%
Tambark Corner	20%	0	N/A	20%	17,765	0	0.0%	0	49	17,765	20.3%
The Grove North	30%	0	N/A	30%	221,900	0	52.6%	140,503	230	221,900	83.0%
The Residences at 35th	20%	0	N/A	20%	6,525	0	0.0%	0	29	6,525	21.3%
The Woodlands	20%	0	N/A	20%	35,732	0	0%	0	107	37,455	21.0%
Village Crest ULS	20%	0	N/A	20%	22,310	0	0.0%	0	123	22,310	21.3%
Von Goedert Short Plat	20%	0	N/A	20%	5,185	0	0.0%	0	21	5,185	20.7%