## **EXAMPLES OF TREE PENALTY CALCULATIONS** Revised to show updated formula.

1. <u>36-inch Douglas fir tree</u>. Staff measures remaining trunk approximately 1 foot above ground; reduces trunk measurement by 10% and calculates from a diameter of 32.4 inches. No known unusual condition or location factors.

Basic Tree Cost = 3.14 x 16.2 x 16.2 x \$60 = \$49,444

**Tree Value/Penalty** = \$49,444 x .75 (for Douglas fir species) x .6 for condition x .6 for location =  $\frac{$13,350}{}$ 

**Revised:** 3.14 x 16.2 x 16.2 x  $$57 = \frac{46,972 \times .75 \times .7 \times .7 = $17,262}{17,262}$ 

2. <u>30-inch deciduous tree</u>. Measured approximately 18" above ground. Front yard. Staff determined tree was a Red Maple by reviewing online street views, aerial photos, and leaf remains, so species rating is 60%. Diameter reduced 10% to 27 inches for calculating the penalty. No known unusual condition or location factors.

Basic Tree Cost =  $3.14 \times 13.5 \times 13.5 \times 572 = $41,203$ Tree Value/Penalty =  $$41,203 \times .6 \times .6 \times .6 = $8,900$ Revised:  $41,203 \times .6 \times .7 \times .7 = $12,114$ 

3. <u>Big conifer</u>. Could not access for measurement but photos of the stump indicate diameter at breast height would have been much greater than 30 inches. Probably a western red cedar based on Google street view photos. Use 30-inch diameter as minimum for an exceptional tree. Use 90% for species rating (Thuja plicata). No known unusual condition or location factors. Basic Tree Cost =  $3.14 \times 15 \times 60 = 42,390$ **Tree Value/Penalty =**  $42,390 \times .9 \times .6 \times .6 = \frac{13,734}{2}$ **Revised:**  $3.14 \times 15 \times 15 \times 57 = 40,271 \times .9 \times .7 \times .7 = 17,759$ 

4. Four large (at least 24") but non-exceptional coniferous trees cut on previously developed LR 2 property. No new development proposed. Legal to remove three. Removal of fourth tree is a violation. Staff could not access property to measure trunk stumps but developed conservative estimate of 24" based on photos showing trash bin and yard waste bin nearby. Diameter for calculating penalty is reduced by another 10% in recognition of narrower trunk as height increases, or 21.6". Species unknown, so use 70% for species rating. Basic Tree Cost =  $3.14 \times 10.8 \times 10.8 \times $60 = $21,975$ Tree Value/Penalty = \$21,975 x .7 x .6 x .6 = \$5,538Revised:  $3.14 \times 10.8 \times 10.8 \times $57 = $20,876 \times .7 \times .7 \times .7 = $7161$ 

5. 40" Big Leaf Maple, multiple branches still on site. One branch shows some heart rot. Although the tree may not have been in perfect condition, it is illegal to remove it without approval from SDCI designating it as a hazardous tree. Condition rating remains at 70% because using standard formula.

Basic Tree Cost =  $3.14 \times 20 \times 20 \times $72 = $90,432$ Tree Value/Penalty = \$90,432 x .6 x .5 x .6 = <u>\$16,278\*</u>

<u>\$90,432 x .6 x .7 x .7 = **\$26,587**</u>

\* With an approved and completed replanting plan, the penalty amount for removing a hazardous tree without approval can be reduced.