What do the classifications mean?

Condition

A rating from "Dead" to "Excellent"

a. Excellent. The tree is nearly perfect in condition, vigor, and form. Generally, this is a rarely used category due to the reality of the built environment and associated impacts on trees.

b. Good. A good tree shows no major problems and is overall healthy in condition, vigor and form. The tree has no major structural problems, no mechanical damage, and no noteworthy aesthetic, insect, or disease problems.

c. Fair. A fair tree has minor problems that may be corrected with time or corrective action.

d. Poor. A poor tree has major problems that are irrecoverable. The trees in this category may have a major structural problem that presents an unacceptable risk, have very little vigor, and/or have a fatal insect or disease problem.

e. Dead. A dead tree shows no sign of life.

Primary Maintenance

a. Remove. Trees designated for removal have defects that cannot be practically or cost-effectively treated. The majority of trees in this category have a large percentage of dead crown.

b. Prune. Removal of one or more limbs to mitigate the identified defect. 3" and up dead limbs

c. Discretionary. Removal of one or more limbs to manage for tree health, aesthetic appearance, or utilitarian need such as canopy clearance over ground or away from structures (applies to all trees that do not fall within the primary maintenance needs for the above mentioned fields). Trees rated with No Significant Defect are assigned to this maintenance classification.

Primary Defect

The primary tree defect identified and utilized in the risk assessment. Defects are limited to the following to align with the ANSI A300 (Part 9) industry standard and associated International Society of Arboriculture Best Management Practices—Tree Risk Assessment, Second Edition (E. Thomas Smiley, Nelda Matheny, and Sharon Lilly2017):

a. Dead and dying branches

b. Broken and/or hanging branches

c. Branch attachment (e.g., adventitious, codominant, multiple, overextended)

d. Cracks

e. Decay or cavity (e.g., large trunk wound)

f. Tree architecture (e.g., lean, bows, taper, live crown ratio)

g. Trunk condition (e.g., canker, bulges, ridges)

h. Root problem (e.g., dead, decayed, missing, abnormal, girdling, lack of flare)

j. No significant defect

Clearance/Secondary Maintenance

Raise – Where the vertical ground clearance of the tree canopy is less than 14' over roads, 8' over sidewalks, and/or 7' over maintained turf.

Reduce – Where tree canopy clearance is required to provide a minimum of 5 to 6 feet of clearance distance from structures, signs, etc.

Observations 1 & 2

Additional potential issues of concern, if applicable, utilizing the same categories as the Primary Defect attribute.

Monitoring

Trees in this category required additional and/or future inspections due to a variety of issues beyond the scope of the tree inventory.

Seasonal/Annual Assessment – a healthy trees that have been impacted by recent construction or other damage that requires annual inspection; a tree recommended to be inspected in a different season in order to better assess vigor.

Insect/Disease Monitoring – a tree that appears to be have an emerging insect or disease problem.

Risk Rating

DRG will evaluate risk and assign a risk rating based on an assessment of the failure mode of the identified defect associated with the greatest risk. If a tree is determined to have No Significant Defect, then the risk assessment will be performed considering a failure mode of entire tree failure. **The specified period for the risk assessment is one year.** The risk component of this inventory is to maintain compliance with the most recent standards and practices in the arboricultural industry. It is important to note that our inspections are "rapid assessments" and are meant to indicate a need for further study, and thus should not be considered legally binding

in any litigation. See DRG's Limited Warranty included with this Specification of Work for limitations.

The following criteria and matrices, which are based on the International Society of Arboriculture *Best Management Practices: Tree Risk Assessment* (Smiley, Matheny, and Lilly 2011), are used to arrive at a risk rating:

a. *Likelihood of Failure.* Identifies the most probable failure and rates the likelihood that a structural defect(s) will result in failure based on observed current conditions within the timeframe of assessment (one year).

b. *Likelihood of Impacting a Target.* The rate of occupancy of targets within the target zone and any factors that could affect the failed tree as it falls towards the target.

c. *Likelihood of Failure & Impact.* The *Likelihood of Failure* and the *Likelihood of Impacting a Target* are combined in the matrix below to determine the likelihood of tree failure impacting a target:

d. *Consequences of Failure & Impact.* The consequences of tree failure are based on the level of target and potential harm that may occur. Consequences can vary depending on the size of the defect, a distance of fall for the tree or limb, and any other factors that may protect a target from harm. Target values are subjective but efforts will be made to assess them from the client's perspective.

Likelihood of Failure	Likelihood of Impacting Target			
	Very Low	Low	Medium	High
Imminent	Unlikely	Somewhat likely	Likely	Very likely
Probable	Unlikely	Unlikely	Somewhat likely	Likely
Possible	Unlikely	Unlikely	Unlikely	Somewhat likely
Improbable	Unlikely	Unlikely	Unlikely	Unlikely

Risk rating is estimated based on combining the *Likelihood of Failure & Impact* and the *Consequences of Failure & Impact* in the following matrix. Risk ratings are Low, Moderate, High, and Extreme.

● *Low Risk.* The tree poses minimal overall risk.

- *Moderate Risk.* The tree may pose some risk, particularly during storm events or abnormal weather.
- *High Risk.* The tree presents a high likelihood of tree or tree part failure, even during normal weather conditions.
- *Extreme Risk.* The tree poses a significant risk and probability of failure at all times.

RISK RATING	Consequences of Failure & Impact			
Likelihood of Failure & Impact	Negligible	Minor	Significant	Severe
Very likely	Low	Moderate	High	Extreme
Likely	Low	Moderate	High	High
Somewhat likely	Low	Low	Moderate	Moderate
Unlikely	Low	Low	Low	Low

Even though trees may pose multiple risks at once, **one risk rating is assigned to each tree during the inventory process**. Risk rating is meant to serve as a prioritization mechanism for our clients, but the client is ultimately responsible for determining the level of acceptable risk.