Level 2 Tree Risk Assessment

Davis-Meeker Oak

Date: October 14, 2026

Site Address: 7525 Old Highway 99 SE
Tumwater, WA 98501

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Summary

The City of Tumwater contacted Todd Prager & Associates, LLC after two large diameter branches failed from the 66-inch diameter (DBH) Davis-Meeker Oak during a high-wind event on September 25, 2026. The loss of a 24-inch diameter branch and a 20-inch diameter branch on the southwest side of the tree resulted in an estimated crown loss of 32 percent (Figures 1 and 2). The extent of crown loss observed is severe for a mature tree and may, in itself, lead to significant decline in overall tree health.

A Level 2 tree risk assessment was conducted using the ISA visual tree risk assessment process outlined in the American National Standards Institute (ANSI) A300 standards[1] and the International Society of Arboriculture's (ISA) Tree Risk Assessment Manual and best management standards for a Level 2 basic tree risk assessment.[2,3] Ten (10) tree parts with defects of concern were assessed for risk to drivers[4] on Old Highway 99, the airport hangar, drive aisle, parked vehicles, and pedestrians. Five of the 10 tree parts assessed have a probable likelihood of failure and high likelihood of impact with severe consequences for Old Highway 99, resulting in a **high** risk rating. The five tree parts of concern with a high risk rating are on the east side of the tree which is now exposed to dynamic wind forces from the prevailing west/southwest storm damaging winds which are typical for the region.

Risk mitigation options for each tree part assessed are provided and include but are not limited to crown reduction pruning to reduce the load on the defect, restricting traffic on Old Highway 99 during wind events, supplemental support systems, root zone enhancement to maintain tree vitality, converting the tree to a wildlife snag, and tree removal. Three risk mitigation options are presented. Risk mitigation measures that aim to retain a potentially viable level of live crown can reduce overall risk to a moderate level, but given the tree's altered structure, history of branch failure, multiple defects, and site constraints, fully mitigating risk is not feasible unless the tree is removed. Converting the tree to a wildlife snag is another risk mitigation measure that could reduce risk to low, but would result in significantly altering the size, form, and character of the historic tree. Tree removal would fully mitigate the high risk rating.

The severity and frequency of severe weather events over the past 15 years, including high winds, ice storms, snowstorms, and extreme heat, introduce significant uncertainty into any long-term management strategy for this tree. Even with mitigation measures in place, natural failures remain possible. Given the tree's documented history of failure during extreme weather events, this pattern of failures should be a primary consideration when selecting and implementing risk mitigation treatments.

[1] American National Standards Institute. (2023). *ANSI A300: Parts 1 – 10. Tree Risk Assessment a. Tree Failure.* Manchester, NH: Tree Care Industry Association.
[2] International Society of Arboriculture. (2025). *Tree Risk Assessment Manual* (3rd ed.), Atlanta, GA: International Society of Arboriculture.
[3] Note that the *Tree Risk Assessment Manual* was revised in 2025 shortly after the completion of the Level 3 advanced tree risk assessment.
[4] The term "drivers" includes but is not limited to people in vehicles that could be directly hit by the falling tree or its parts while travelling along Old Highway 99 and people that may encounter or hit a downed tree or its parts unexpectedly while travelling.

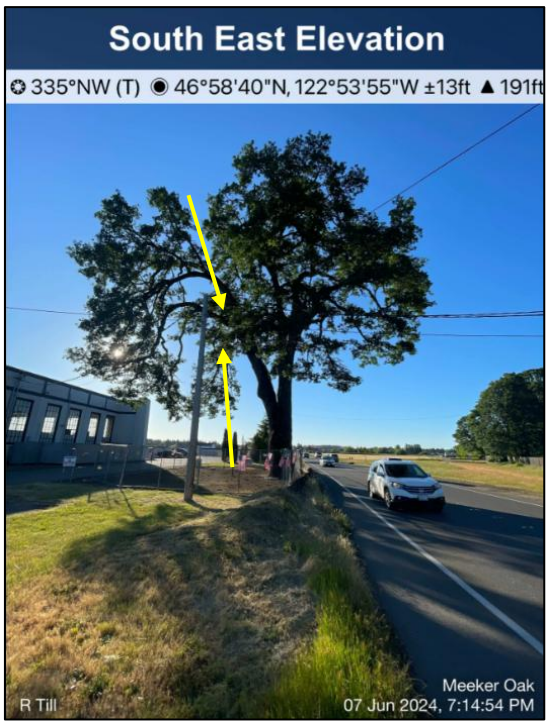

Figure 1 (left) The Davis-Meeker Oak in June 2024 prior to the branch failures. Note the two branches on the west side of the tree. Photograph taken by Rick Till.

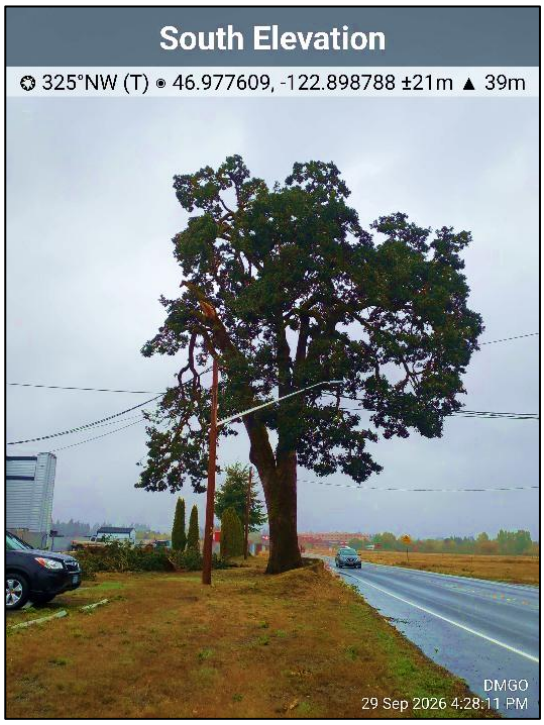

Figure 2 (right) The Davis-Meeker Oak on September 29, 2026, four days after the branch failures. Photograph taken by Christine Johnson and brightened for clarity.

Background

This tree risk assessment utilizes findings from the Level 3 advanced tree risk assessment dated February 7, 2025, by Todd Prager & Associates, LLC (hereby referred to as the 2025 TRA report). The 2025 TRA report provides a thorough history of the tree to the extent discoverable. Sections of this report have been adapted from the 2025 TRA report for consistency.

The branch failure on September 25, 2026, marks the fifth large branch failure in the last 15 years (Table 1).[5] The failure occurred during a high wind and rain event with gusts up to 54 miles per hour (mph) from the south (Attachment 1). A revised aerial map with crown dimensions of the tree is provided in Attachment 2. The estimated crown loss from the failure of the two branches is 32 percent.

[5] For more information about historical failures, please see the Aerial Inspection and Historic Record Review section in the February 7, 2025, Level 3 Tree Risk Assessment Report by Todd Prager & Associates, LLC.

Table 1 Summary of branch failures since January 2012.

Date	Failure Size, Location, and Direction of Failure	Conditions & Comments
September 25, 2026	*Size* - 24" diameter branch at 50' above ground level (AGL)*	Severe weather event – Heavy rain and strong winds with gusts up to 54 mph. *The branch fell onto a 20" diameter branch at 35' AGL.
	Location - west/southwest stem	
	Failure direction - Southwest	
Est. May 2023	*Size* ~25" diameter branch at 44' AGL on the center stem	Severe weather event – There was a record-breaking heat wave in May 2023.[6] Failure wound was adjacent to old pruning wounds with visible decay. Good wound wood response.
	Location - center stem	
	Failure direction - North	
Est. July 2022	*Size* - ~12" diameter branch at 55' AGL, on the east stem	Unknown cause of failure. No severe weather associated with event.
	Location - east stem	
	Failure direction - North	
Est. March 2017	*Size* - ~10" diameter branch at 33' AGL, on the east stem	Severe weather event – Wind gust 36 mph. this branch may have provided support or protection to the branch that failed in July 2022. Good wound wood response.
	Location - east stem	
	Failure direction - North	
Est. January 2012	*Size* - ~25" diameter branch at 26' AGL	Suspected failure during a severe weather event - ice storm that occurred in January 2012. Good wound wood response.
	Location - east stem	
	Failure direction - Southeast	

[6] Office of the Washington State Climatologist, *May 2024 Report and Outlook*, (Seattle: Washington State Climate Office, 2024), Volume XIII Issue 5, https://climate.uw.edu/wp-content/uploads/sites/38/2025/02/2024May.pdf

Assignment

The scope of work requested of our firm was:

1. **Site Visit and Tree Assessment**: Visit the site and tree to collect updated assessment data including but not limited to site information, tree information, tree defects, and target information in light of the recent branch failures on September 25, 2026. The inspection will be completed visually from the ground to collect information on subject tree parts. Detailed notes and photos will be taken to record data. If there are risks that require immediate attention, Todd Prager & Associates will notify City of Tumwater staff during or soon after the site visit.
2. **Data Analysis and Risk Categorization**: Site and tree information collected via background research from previous reports and during the site visit will be analyzed to update and categorize 1) likelihood of failure, 2) likelihood of impact, 3) likelihood of failure and impact, and 4) consequences of failure for each tree part, condition of concern, and assessed target as necessary. This will be used to provide an updated overall risk rating of the tree from low, moderate, high, to extreme.
3. **Mitigation Options**: Based on the risk categorization results and risk ratings for each tree part and target of concern, updated risk mitigation options will be provided to reduce risk. Risk mitigation options will be updated from previous reports by Todd Prager & Associates as necessary given new information from the September 25, 2026 branch failures. An overall residual risk rating for the tree will then be provided on a scale of low, moderate, high, to extreme based on the mitigation options.
4. **Level 2 Basic Tree Risk Assessment Report**: An arborist report will be the final deliverable provided and will include a brief summary of the project background and history, data collection, tree and site conditions, tree parts and conditions of concern, target information, risk categorization for each tree part and target of concern, risk rating for each tree part and target of concern, mitigation options, residual risk after mitigation is applied, and pros/cons for each risk mitigation treatment. The report will be focused on any necessary updates to information in previous reports by Todd Prager & Associates given new information from the September 25, 2026 branch failures. Todd Prager & Associates will also meet with City staff to review and discuss the report in detail to answer any questions and review feedback. If required, revisions based on feedback from City staff will be incorporated into a final draft of the report deliverable.

Limitations

Tree risk assessments are based on the tree and site conditions at the time of assessment. Any changes to the tree or site parameters merit a reassessment. Trees need to be visually re-assessed if site parameters change (i.e., a severe weather event occurs, construction occurs within the root system,). Additionally, tree risk assessments are not guarantees that a tree will not fail within the stated risk assessment time frame. Trees that appear healthy may fail from structural defects or decay that cannot be visually detected. Moreover, any tree, whether it has visible weakness or not, will fail if the forces applied exceed the strength of the tree or its parts. Additional extreme weather conditions can cause unpredictable responses from trees. The tree risk assessment process is limited to the historically normal range of weather conditions, including "normal" storm events.[7] We cannot make reliable assessments of risk in response to extreme weather.

[7] "Normal weather is based on a location's average temperature, wind speed, and precipitation for the previous 30 years." (*Tree Risk Assessment Manual*, p. 74)

Tree Risk Assessment Methodology and Ratings

The following is a summary of the visual tree risk assessment process. For a detailed explanation of the visual tree risk assessment process, please see the 2025 TRA report.

The visual tree risk assessment process was used to rate the tree for risk. Our firm uses the standards for a Level 2 basic tree risk assessment found in the American National Standards Institute (ANSI) A300 standards[1] and the International Society of Arboriculture's (ISA) best management standards for a Level 2 basic tree risk assessment.[2,3] The risk assessment timeframe was set at three years and risk was assessed assuming historically normal weather conditions.

Tree risk assessment is conducted using a systematic approach to identify, analyze, and evaluate tree risk. If targets (i.e., roads, buildings, vehicles) are present, then risks to the targets can be assessed. For this assessment, the targets include drivers on Old HWY 99, the airport hangar, vehicles and pedestrians in the parking areas and drive aisle between the tree and the hangar, and the power pole and service lines south and east of the tree.

When performing a tree risk assessment, an arborist's task is to evaluate the parameters of the site and the tree's characteristics. The risk assessor takes note of any defects or unusual features the tree and/or the site may have or pose to the stability of the tree or parts of the tree. From the collection of data, the arborist then uses four factors to calculate the overall risk rating: (1) the likelihood of a tree or tree part failure, (2) the likelihood of a tree or tree part impacting a target, (3) the combined likelihood of a tree or tree part failing *and* impacting a target, and (4) the consequence of a tree or tree part failure for the target.

A summary of the tree risk assessment findings are included in the tree risk matrices in Attachment 3 (a revision to the 2025 TRA report table). The table includes a column listing the risk ratings from the 2025 TRA report and another column with current risk ratings for comparison. In Attachment 4, the table has been reformatted to summarize each defect (A through F) on a single page for easier reading. Corresponding photographs showing the location of each defect are in Attachment 5.

Observations

I visited the site and assessed the tree on September 29, 2026 in the afternoon. The weather at the time of my assessment was light rain and 24 mph winds. I performed a 360-degree ground based visual assessment of the root zone, trunk flare, lower trunk, main trunk, and crown. I also inspected the failed branches for signs of disease. A diameter tape was used to measure trunk diameter at 4.5 feet above ground level and the sizes of the failed branches. A laser rangefinder was used to measure distances to nearby targets and estimate heights of defects. Binoculars were used to assess crown conditions.

Site conditions

The site remains unchanged from the documented conditions in the 2025 TRA report. No treatments have been applied to the soil to my knowledge and no construction has occurred.

Tree conditions

The two failed branches were retained onsite for inspection. To the best of my knowledge, all plant material remained onsite and the only work that occurred on the failed branches was the moving of debris to clear the drive aisle.

- **24-inch diameter branch at 50 feet AGL.** The upper branch failed at the point of attachment with the southwest stem. In review of photographs taken in 2024, this branch had a bowed branch architecture (Figure 1) with heavy end-weight. The area of fissured wood on the branch was 68 inches (5.5 feet) long by 21 inches (1.75 feet) wide (Figure 3). I inspected the area of attachment and did not observe any signs of a decay pathogen. I observed a column of decay 6- to 7-feet-long mid-way up the branch, but it did not appear to extend into the point of attachment with the southwest stem. The column of decay was not associated with a visible opening, though I was unable to move the large diameter branch for a full assessment**.**
    - *Finding: It is my professional opinion that the 24-inch diameter branch failed due to high wind forces overcoming the wood strength at the point of attachment with the southwest stem. The branch was still fully leafed out, increasing its surface area and making it more susceptible to wind loading. The end weight of the branch also contributed to the failure.*
- **20-inch diameter branch at 35 feet AGL.** It is presumed that the upper branch failed and struck the lower branch causing it to break, however, to my knowledge there were no witnesses to the event. The area of fissured wood on the branch was 60 inches (5 feet) long by 20 inches (1.75 feet) wide (Figure 4). I inspected the area of attachment and observed white bubbling sap, discolored bark and sapwood, and moist soft wood tissue. This could indicate inclusion at the point of attachment or a fungal or bacterial pathogen. A wood sample exhibiting these symptoms was collected and sent to Oregon State University Plant Clinic[8] for diagnostic testing on October 5, 2026. Results are expected in mid-October 2026.
    - *Finding: It is my professional option that the 20-inch diameter branch failed when it was struck by the 24-inch diameter branch. The branch attachment may have been weakened by inclusion and/or a pathogen, but those were likely not the cause of the failure.*

[8] OSU Plant Clinic, OSU Botany and Plant Pathology, Cordley Hall Rm 2503, 2701 SW Campus Way, Corvallis, OR 97331, https://bpp.oregonstate.edu/plant-clinic.

The two branch failures have left significant wounds on what remains of the west/southwest stem (Figure 5). These wounds expose the tree to pests and pathogens. Notably, the tree has had a good wound wood response to past branch failures as noted in the 2025 TRA report.

Figure 3 The 24-inch diameter branch. The fissured wood measured 68 inches by 21 inches. Photograph by Christine Johnson.

Figure 4 The 20-inch diameter branch. The fissured wood measured 60 inches by 20 inches. Photograph taken by Christine Johnson.

Figure 5 The two wounds on the southwest stem. Photograph taken by Christine Johnson and brightened for clarity.

I proceeded to reassess the tree and consider the implications of the southwest stem failure on the tree's architecture. Please see Attachments 3, 4, and 5 for additional information, location of the tree parts assessed, and risk assessment ratings.

- **Trunk flare and trunk (A)** – I observed two openings in the trunk on the northwest and southeast sides. The opening on the northwest side was inhabited by bees and was at least 7 inches deep. The opening on the southeast side was about 3 inches deep. I did not observe any new defects on the trunk or first codominant split.
- **First order codominant stem, southwest stem (B, F)** – The southwest stem has two large trunk wounds because of the failures. This is a new defect on the southwest stem. One bowed branch remains and is exposed.
- **First order codominant stem, northeast stem (B)** – I did not observe any new defects on the northeast stem. Inclusion is still assumed at the point where the northwest stem splits into three branches.
- **Second order codominant stem, central stem (C-i, E)–** I did not observe any new defects on the center stem, the stem with the kestrel cavity. Branches on this stem between 35 to 70 feet above ground level are now exposed.
- **Second order codominant stem, northeast stem (C-ii)** – I did not observe any new defects on the northeast stem. The 3-inch diameter dead branch remains hanging vertically over Old Highway 99. Branches on this stem are more exposed, though the southeast stem may still provide some protection from southerly winds. Bowed and horizontal branch structure combined with end weight are a concern.
- **Second order codominant stem, southeast stem (C-iii) –** I did not observe any new defects on the southeast stem. This stem is more exposed after the failure of the southwest stem.
- **Third order branches from southeast stem (D-i, D-ii, D-iii)–** The loss of the crown to the southwest has exposed three large diameter branches. These branches have bowed and horizontal branch structure and end weight.

Risk Mitigation Options

All trees pose some degree of risk if a target is present. The tree owner or manager has the ultimate authority for adopting an acceptable level of risk and prioritizing mitigation measures. All mitigation options have trade-offs between enjoying the benefits of trees and accepting some risk exposure. It is valuable to consider the range of options in the context of a baseline level of risk that is commonly accepted when living amongst trees. Nonetheless, tree risk managers do have a duty to take reasonably prudent measures to protect the public from injury.

The following treatment options[9] should be considered by the tree owner to mitigate risk:

OPTION 1: TREE RETENTION

1. **Target Management.**
    a. **Restrict access below the dripline during severe weather events until high and moderate risk can be mitigated**. The tree has a history of large branch failure during severe weather events. This pattern of failure, combined with the loss of the west/southwest branches that typically buffered winds from the south and southwest, increases the likelihood of branches on the east side of the tree being exposed to dynamic wind forces. These forces could cause branches on that side to crack or fail. The temporary closure of the north and south bound lanes on Old Highway 99 would be included in this restriction. At a minimum, this restriction should apply when sustained wind speeds are over 25 mph[10] with or without rain, and during severe weather (i.e., ice storms, snowstorms, heat waves) until high and moderate risk can be mitigated.
        i. ***Estimated cost*:** Consult with a traffic engineer.
    b. **Reinstall temporary chain-link fencing**. While the occupancy by people under the dripline of the tree is low, low risk does not equate to no risk. Reinstalling temporary fencing will reduce occupancy and therefore risk. Where possible, fencing should be installed at a minimum at the dripline, or within 1x the height of the tree (85 feet). Educational signage should be affixed to the fencing. At a minimum, fencing should remain in place until high and moderate risk can be mitigated. Installing permanent fencing should be considered.
        i. ***Estimated cost:*** Consult with a temporary fencing contractor or install temporary fencing with purchased 4-foot-tall chain link fencing and 6-foot-tall metal t-posts, $1,800.00.
    c. **Restrict or remove three parking spaces to the south.** Restricting or removing the three parking spaces to the south will mitigate the risk of whole tree failure striking a parked vehicle.
        i. ***Estimated cost:*** Restricting parking may have no cost but check with the Port of Olympia; consult with a contractor about the cost of asphalt removal.
    d. **Relocate the power pole and service line.** Relocating the power pole and service line will mitigate the risk of potential branch failure and whole tree failure onto

[9] Each treatment option includes all mitigation measures within each option.
[10] The 25-mph sustained wind speed was selected as a threshold based on the wind speeds on the morning of September 25, 2026, which had sustained winds in the mid-20s with gusts up to 54 (Attachment 1) and the Beaufort Scale which notes that large tree branches move at Force 6, when winds are 25 to 31 mph (*Tree Risk Assessment Manual*, p. 75).

the service line. The new power pole and service line should be installed at a minimum of 115 feet (85 feet + 30 feet) from the center of the tree.

i. ***Estimated cost:*** Consult an engineer and contractor.

2. **Reduction pruning.** Well considered reduction pruning could reduce the risk of branch, stem, or whole tree failure. The benefits of risk reduction must be balanced against the impacts of removing photosynthetic capacity from the tree and diverting energy away from root and trunk growth to wound response. For portions of the tree that pose a greater risk, the balance may tip towards greater reduction. For portions where risk is lower, the balance may tip towards removing less plant material. The following pruning specifications should be considered:
   - **a.** ***Pruning objective:*** risk mitigation, improve structure, restoration, and size management.
   - **b.** ***Pruning system:*** natural target pruning.
   - **c.** ***Specifications:***
     - i. All pruning should be required to be consistent with ANSI A300-2023 Pruning Standards.[11]
     - ii. For branches over Old Highway 99, emphasize risk reduction. Target 1-inch to 3-inch diameter cuts with a maximum cut of 6-inches in diameter. Minimize live foliage removal to less than 15 to 20 percent of the subject branches to the extent feasible. Do not remove crossing/self-bracing branches without addressing risk of subsequent failure. Retain crossing branches as needed.
     - iii. For the central stem, emphasize breaking apical dominance (height reduction). Target 1-inch to 2-inch reduction cuts with a maximum cut size of 4-inches. Limit live foliage removal to less than 10 percent of the central stem.
     - iv. General specifications:
       1. Prune to maintain natural structure and branch architecture. Consider opening up portions of the crown to allow light penetration to support interior foliage, including epicormic growth.
       2. Do not remove interior foliage other than incidental to safe tree access.
       3. Employ heading cuts under 2-inches in diameter to growth nodes as needed. For storm damaged limbs, larger heading cuts may be appropriate to allow for crown regeneration and limit decay into main stems.
       4. Remove dead wood 2-inches and larger with the exception of the large, fractured branch in the northwest crown. Inspect the branch stub for indications of epicormic growth and stability. Consider leaving as habitat feature.
   - **d.** ***Additional considerations:***
     - i. Pruning, particularly large pruning cuts, increases exposure of the tree to potential pests and disease pathogens.
     - ii. Removing live foliage also reduces the photosynthetic capacity of the tree. The recent loss of 32 percent of the crown is already well beyond any typically recommended amount of pruning in a single growing season,

[11] American National Standards Institute. (2023). *ANSI A300: Parts 1 – 10. Pruning standards (Section 5, p. 12-19),* Manchester, NH: Tree Care Industry Association.

particularly for a tree of this age. I estimate that at least 15 to 20 percent of the remaining live crown would need to be pruned to mitigate risk from high to moderate and moderate to low, resulting in a total of 42 to 52 percent of live foliage loss in a single growing season. This is anticipated to result in a severe level of stress to the tree.

iii. Note that pruning can be disruptive to wildlife, particularly birds. Consult with a wildlife biologist regarding a pruning schedule. Pruning between mid-September and the end of March is typically acceptable to minimize wildlife disturbance.

e. ***Estimated cost for initial pruning:*** $5,000 to $12,000 for 1 to 2 days of work.

i. Include at least one expert climber with advanced pruning skills and one aerial lift (spider lift or at least a 55-foot vertical reach bucket truck) with highly skilled pruning arborist.

ii. Additional costs for traffic control and state permitting requirements.

f. ***Monitoring and ongoing maintenance costs:*** City arborist to inspect tree for deadwood and response growth annually. Remove deadwood as needed. Additional pruning doses may be warranted in five-to-10-year cycles with costs potentially ranging from $2,000 to $10,000. Costs after a severe weather event could be highly variable.

g. Note that these options differ from the Davis-Meeker Oak Treatment Plan based on new risks resulting from recent branch failures.[12]

3. **Supplemental Support Systems.** The loss of 32 percent of the crown on the typical prevailing storm damaging wind side of the tree will increase wind forces on the east and southeast branches growing directly over Old HWY 99. Installing supplemental support systems (cabling in this case) to support or redirect branches is a practical treatment when combined with reduction pruning. Dynamic or static cables could be installed to provide supplemental support to branch systems of concern. The following factors should be considered in cable installation:

a. All supplemental support systems should be designed to be consistent with ANSI A300-2023 Supplemental Support System standards.[13]

b. Dynamic systems are not intrusive and allow for more natural tree movement and, theoretically, allow greater natural response growth. Monitoring, maintenance, and replacement costs are higher.

c. Static systems require drilling and can allow for the spread of decay. The systems restrict tree movement more than a dynamic system. Long-term monitoring and maintenance costs are generally lower.

d. Installation should be consistent with the ANSI and ISA Best Management Practices to the extent practical. The typical installation location pursuant to the applicable standards and best management practices would be two thirds the distance above the potential failure point being supported. However, given the architecture of the tree and location of cavities, the optimal location may substantially lower than the typical two thirds distance. The final location of the

[12] The Davis-Meeker Oak Treatment Plan, dated November 12, 2025, was written by Todd Prager & Associates, LLC and provides treatment options related to root zone management, pruning, supplemental support systems, fencing, and native plantings.

[13] American National Standards Institute. (2023). *ANSI A300: Parts 1 – 10. Supplemental Support System standards (Section 7, p. 39-47),* Manchester, NH: Tree Care Industry Association.

supplemental support installation locations should be determined following pruning and aerial inspections of the subject tree parts.

e. There are four branches/stems that are candidates for supplemental support systems:
   i. 18-inch diameter east stem.
   ii. 8-inch diameter branch on the southeast stem.
   iii. 12-inch diameter branch on the southeast stem.
   iv. 14-inch diameter branch on the southeast stem.

f. ***Estimated Cost:*** $6,000 to $12,000, contingent on the number of cables, design, and materials. This estimate does not include additional costs for state permitting requirements.

g. ***Monitoring:*** Annual inspection of cables from ground, aerial inspection every three to five years, after severe weather, or as recommended by manufacturer's instructions. Replace dynamic cables as needed or within manufacturer directions. This may entail cable replacement costs of $1,500 to $4,000 repeating every eight years. This estimate does not include additional costs for state permitting requirements.

h. Note that these options differ from the Davis-Meeker Oak Treatment Plan based on new risks resulting from recent branch failures.

4. **Root zone management.** The root zone can be enhanced to support tree vigor. The Davis Meeker Oak Treatment Plan outlines steps for grade and drainage improvements and incorporating organic matter into the soil through vertical mulching.
   a. ***Estimated cost*:** $75,000.
5. **Monitoring.** Unless otherwise stated, the tree should be monitored and reassessed for risk at least every three years by a qualified arborist. A qualified consulting arborist should be contacted after storm events if movement of the soil and/or roots around the base of the trunk, or cracks in the trunks or major branches are observed or suspected. A change in site conditions, tree health, or structure also merits a reassessment.
   a. ***Estimated cost:*** $5,000 for a Level 2 basic visual tree risk assessment from the ground and a written arborist report. $8,000 or more for Level 3 advanced assessment depending on the techniques such as sonic tomography, root crown excavation, aerial inspection, etc. Costs will vary based on what is observed at the time of assessment and what type of deliverable is requested.

OPTION 2: CONVERSION TO A WILDLIFE SNAG

6. **Conversion to a wildlife snag.** The tree could be reduced significantly in size and converted into a wildlife snag. This conversion would reduce tree height to 70 feet or lower (dependent on kestrel cavity height) and reduce the crown radius on all sides of the tree, but primarily on the east and southeast sides. This option would alter the living character of the tree and likely cause full tree decline due to the loss of live foliage but would retain some wildlife and historical value. Additional detailed specifications for pruning and other treatments will be required if this option is selected.
   a. ***Estimated cost:*** **$6,000 to $12,000** to remove defective parts and mimic natural branch failure (i.e. mimic natural branch failures to encourage natural processes and habitat creation). One to two days of work.

b. Additional costs for traffic control, state permitting requirements, detailed pruning and other treatment specifications, and potentially consulting with a wildlife biologist.

c. The tree would still need to be routinely assessed and managed for risk, but its risk could be reduced to low.

OPTION 3: TREE REMOVAL

7. **Tree removal.** Tree removal is a mitigation option to eliminate all risk.
   - **a.** ***Estimated cost:*** $20,000 to $35,000 for removal and wood processing.
   - **b.** Traffic control and costs associated with state permitting requirements are not included.

To help facilitate decision making, we have prepared potential pros and cons between tree retention, wildlife snag conversion, and tree removal in Table 2 below. The tree owner or manager has ultimate authority for adopting an acceptable level of risk and selecting mitigation measures.

Table 2 Risk Management Treatment Options

Risk Mitigation Treatments	Pros	Cons
OPTION 1 **Tree Retention** Target management (1) Reduction pruning (2) Supplemental support system (3) Root zone management (4) Monitoring (5)	• Retains historic tree • Reduces overall risk from high to moderate • Potential to substantially reduce risk of branch failures • Restoring the soil would improve growing conditions for new roots and support overall tree health	• High initial costs for pruning, supplemental support system, root zone management, target management, state permitting and traffic control associated with treatments • High ongoing costs • Unknown costs associated with severe weather events, possible branch failures • Requires ongoing monitoring and some uncertainty with maintenance schedule • The tree may not recover from losing 32 percent of its crown, the removal of additional live foliage further reduces the tree's photosynthetic capacity and may cause it to decline • Residual risk remains at moderate
OPTION 2 **Conversion to a Wildlife Snag** Conversion to a wildlife snag (6)	• Retains historic tree, but in a significantly altered form • Reduces overall risk from high to low • Has the potential to retain wildlife value	• The tree will decline from significant live crown loss • Ongoing costs will still occur, though less than full retention • Requires ongoing monitoring and some uncertainty with maintenance schedule • Living character will be diminished

OPTION 3 **Tree Removal** Tree removal (7)	• One time cost • Eliminates all risk	• Loss of historic tree • High one-time cost associated with tree removal, wood processing, state permitting and traffic control (up to $35,000 + state permitting and traffic control)

Conclusion

The Davis-Meeker Oak lost two large diameter branches on the southwest stem on September 25, 2026, during a severe weather event. The branch failures resulted in an estimated crown loss of 32 percent. This level of crown loss in a mature tree poses a significant threat to its overall health and, on its own, may result in decline.

The tree was reassessed for risk four days after the failure. Ten defects of concern were assessed for risk. There is a **high** risk of a branch failure onto Old Highway 99 causing severe injury to drivers in the next three years. Risk mitigation options include: (1) retaining the tree and reducing its risk from high to moderate through a combination of target management, reduction pruning, supplemental support systems, root zone enhancement, and monitoring; (2) converting the tree to a wildlife snag thereby reducing its risk to low; or (3) removing the tree to eliminate all risk. The selected risk mitigation strategy should account for the tree's history of branch failures during extreme weather events, the occurrence and severity of which cannot be predicted with certainty.

Please let me know if you have any questions regarding the information provided in this report.

Sincerely,

Christine Johnson

Christine Johnson
ASCA Registered Consulting Arborist® #823
ISA Board Certified Master Arborist® PN-8730B
ISA Tree Risk Assessment Qualified
ASCA Tree and Plant Appraisal Qualified
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Enclosures:

Attachment 1 – Olympia Airport Wind Speed and Gusts on September 25, 2026
Attachment 2 – Approximate Crown Dimensions
Attachment 3 – Tree Risk Assessment Matrices (Revised from 2025 report)
Attachment 4 – Tree Risk Assessment Matrices by Defect
Attachment 5 – Photographs Depicting Defects of Concern
Attachment 6 – Assumptions and Limiting Conditions

Olympia, Olympia Airport

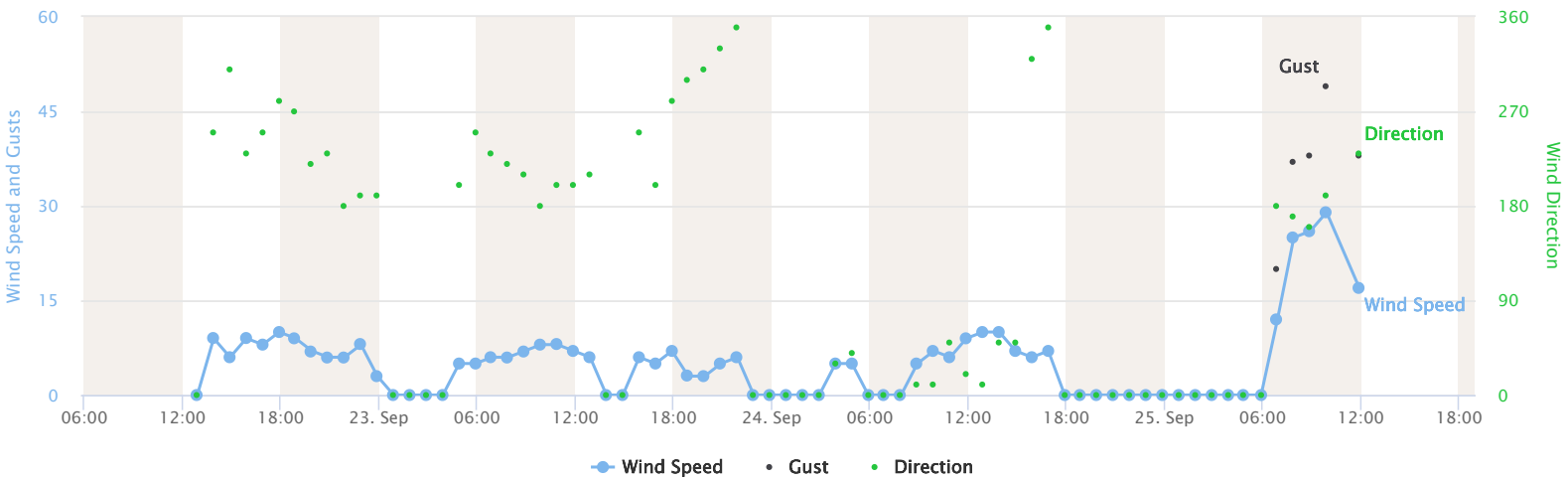
Weather.gov > Western Region Headquarters > Time Series Viewer

Western Region Headquarters
Regional Headquarters

The data displayed on this page is considered preliminary and is subject to quality control review and adjustment.
We are aware that the download data feature is not available. At this time, there is no estimate on when this will return.

Wind Speed & Gusts | 7 Days | Raw Observations | Show All Data | Switch to Metric Units | Font: A A A | About This Page | Advanced Options

Desktop users: Click and drag in the plot area to zoom in
Mobile users: Pinch the chart to zoom in
Zooming in will divulge wind direction



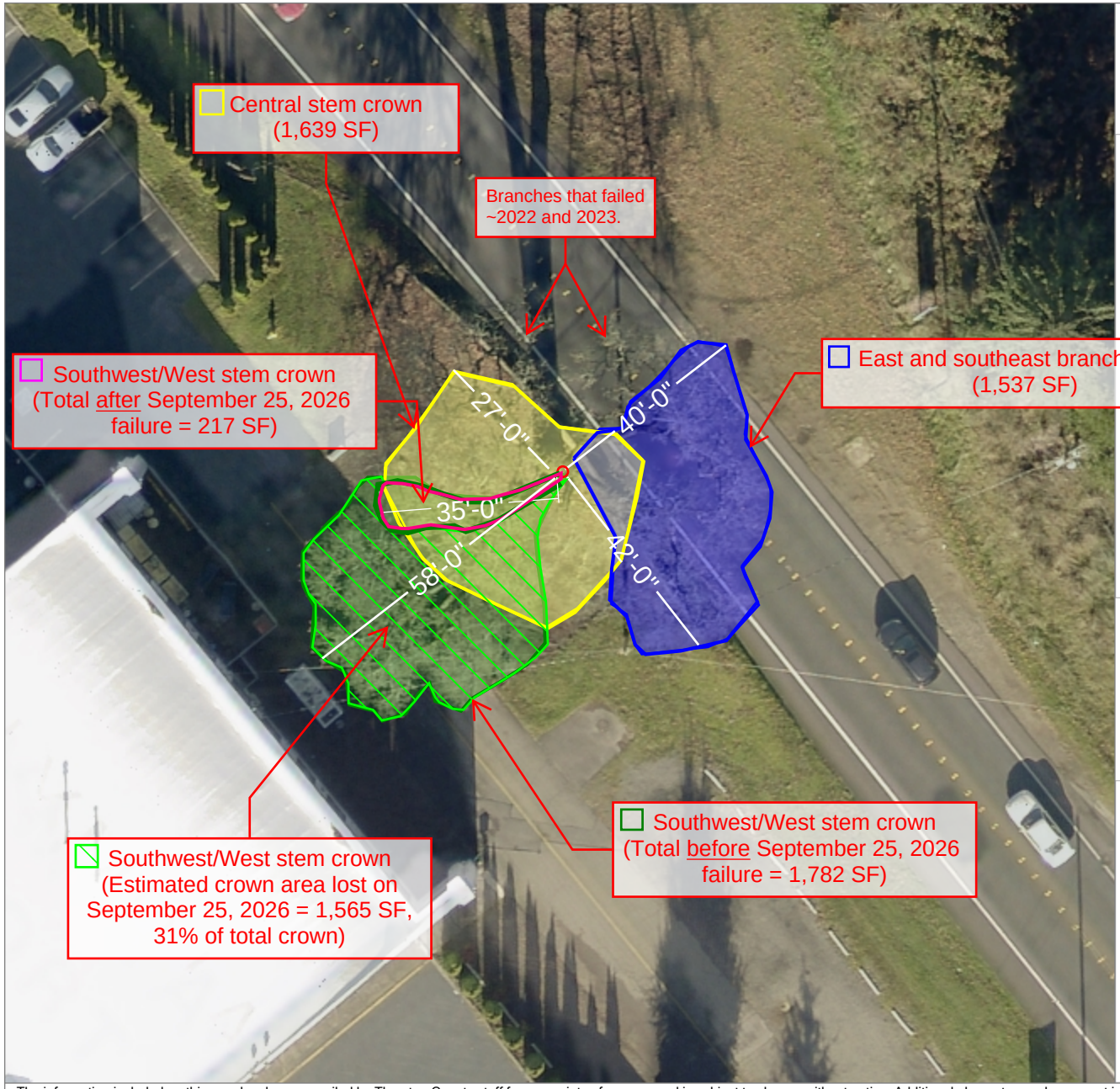
Highcharts.com

Weather conditions for:
Olympia, Olympia Airport, WA (ASOS/AWOS - SEW)
Elev: 203.0 ft; Lat/Lon: 46.97333/-122.90333

Get Yearly Precip Total (non QA/QC'd data)
Get Water Year Precip Total (non QA/QC'd data):
For selected observations near this location: click here

Date/Time (L)	Temp. (°F)	Dew Point (°F)	Relative Humidity (%)	Wind Chill (°F)	Wind Direction	Wind Speed (mph)	Visibility (miles)	Weather	Clouds (x100 ft)	Sea Level Pressure (mb)	Station Pressure (in Hg)	Altimeter Setting (in Hg)	1 Hour Precip (in)	3 Hour Precip (in)	6 Hour Precip (in)	24 Hour Precip (in)	6 Hr Max (°F)	6 Hr Min (°F)	24 Hr Max (°F)	24 Hr Min (°F)
Sep 25, 11:54 am	52	48	86		SW	17G38	3.00	Mist	BKN005 OVC012	1009.10	29.58	29.80								
Sep 25, 10:54 am											29.50	29.72	0.04		0.26		58	53		
Sep 25, 10:40 am	53	51	93								29.48	29.70	0.04							
Sep 25, 10:24 am	53	50	89		SSW	20G45	4.00	Mist	BKN012 OVC019		29.45	29.67	0.04							
Sep 25, 10:18 am	54	50	86		SSW	24G45	2.50	Lt rain, Mist	FEW009 SCT013 OVC019		29.44	29.66	0.04							
Sep 25, 10:09 am	53	51	93		S	25G43	1.75	Lt rain, Mist	FEW009 BKN021 OVC027		29.42	29.64	0.04							
Sep 25, 10:07 am	53	50	89		S	23G36	1.75	Rain, Mist	SCT011 BKN014 OVC027		29.42	29.64	0.04							
Sep 25, 9:58 am	53	50	89		SSW	20G49	2.00	Lt rain, Mist	FEW009 BKN016 OVC027		29.41	29.63	0.01							
Sep 25, 9:54 am	53	50	89		S	29G49	1.75	Lt rain, Mist	SCT016 BKN023 OVC029	1002.80	29.39	29.61	0.21							
Sep 25, 9:36 am	53	50	89				1.50	Mist	BKN035		29.39	29.61	0.15							
Sep 25, 9:26 am	54	50	86		SSE	30G47	1.25	Hvy rain, Mist	BKN035		29.39	29.61	0.13							
Sep 25, 9:18 am	54	50	86		SSE	28G54	1.75	Rain, Mist	BKN035		29.39	29.61	0.06							
Sep 25, 8:54 am	56	51	84		SSE	26G38	6.00	Rain	FEW023 BKN075 OVC085	1003.30	29.41	29.63	T							
Sep 25, 7:54 am	58	52	81		S	25G37	10.00		FEW030 BKN047 OVC055	1003.90	29.43	29.65		0.01						
Sep 25, 6:54 am	58	53	84		S	12G20	10.00		FEW024 SCT031 SCT038	1003.80	29.42	29.64	0.01							
Sep 25, 6:36 am	57	54	89		SE	10G22	10.00	Lt rain	FEW025 SCT029 BKN036		29.41	29.63	0.01							
Sep 25, 6:17 am	57	54	89		SSE	14G18	8.00	Lt rain	FEW019 BKN028 OVC034		29.43	29.65	T							
Sep 25, 5:54 am	55	54	96				6.00	Lt rain, Mist	OVC035	1003.90	29.43	29.65	T							
Sep 25, 5:23 am	54	53	97				4.00	Mist	FEW002 BKN038 OVC049		29.43	29.65								
Sep 25, 4:49 am	54	53	97				3.00	Mist	OVC002	1004.30	29.44	29.66	T		0.03	0.69	54	51		
Sep 25, 4:48 am	54	54	100				3.00	Mist	OVC002		29.44	29.66	T							
Sep 25, 4:18 am	53	53	100				1.75	Mist	OVC002		29.45	29.67								
Sep 25, 4:09 am	53	53	100				2.00	Mist	OVC002		29.45	29.67								
Sep 25, 3:54 am	53	53	100				4.00	Mist	OVC002	1005.30	29.47	29.69								
Sep 25, 3:40 am	54	54	100				2.50	Mist	OVC002		29.47	29.69								
Sep 25, 3:11 am	53	53	100				3.00	Mist	OVC002		29.47	29.69								
Sep 25, 3:04 am	53	53	100				2.50	Mist	OVC002		29.47	29.69								
Sep 25, 2:54 am	53	52	96				3.00	Mist	OVC002	1005.50	29.47	29.69								
Sep 25, 2:45 am	54	54	100				3.00	Mist	OVC002		29.48	29.70								
Sep 25, 2:35 am	54	54	100				2.50	Mist	OVC002		29.48	29.70								
Sep 25, 2:28 am	53	53	100				3.00	Mist	OVC002		29.48	29.70								
Sep 25, 2:18 am	53	53	100				2.00	Mist	BKN002		29.48	29.70								
Sep 25, 2:11 am	52	52	100				1.00	Mist	BKN002		29.48	29.70								

Attachment 2 – Approximate Crown Dimensions



Davis-Meeker Oak (2020)

Legend

Scale 1: 557

0 25 50
Feet

Map Created Using GeoData Public Website

Published: 10/16/2024

Note:
The 2020 aerial map was used to be consistent with the 2/7/2025 Level 3 tree risk assessment.

THURSTON COUNTY
WASHINGTON
SINCE 1852

Thurston County GeoData Center

The information included on this map has been compiled by Thurston County staff from a variety of sources and is subject to change without notice. Additional elements may be present in reality that are not represented on the map. Ortho-photos and other data may not align. The boundaries depicted by these datasets are approximate. This document is not intended for use as a survey product. ALL DATA IS EXPRESSLY PROVIDED 'AS IS' AND 'WITH ALL FAULTS'. Thurston County makes no representations or warranties, express or implied, as to accuracy, completeness, timeliness, or rights to the use of such information. In no event shall Thurston County be liable for direct, indirect, incidental, consequential, special, or tort damages of any kind, including, but not limited to, lost revenues or lost profits, real or anticipated, resulting from the use, misuse or reliance of the information contained on this map. If any portion of this map or disclaimer is missing or altered, Thurston County removes itself from all responsibility from the map and the data contained within. The burden for determining fitness for use lies entirely with the user and the user is solely responsible for understanding the accuracy limitation of the information contained in this map. Authorized for 3rd Party reproduction for personal use only.

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Todd Prager & Associates LLC

Attachment 3 - Summary of Tree Risk Assessment Matrices
Davis-Meeker Oak, Tumwater, Washington
Based on 9/29/2026 onsite assessment
Timeframe: 3 years

Common Name	Scientific Name	DBH[1] (in)	C-Rad[2] (ft)	Height (ft)	Condition[3]	Structure[3]	Tree Part Assessed	Defect of Concern	Target[4]	Direction to Target	Distance to Target (ft)	Likelihood of Failure[5]	Likelihood of Impact[6]	Combined likelihood of failure and impact[7]	Consequence of Failure[8]	Sept/Oct 2026 Risk Rating[9]	2025 TRA Risk Rating[10]	Comments	Risk Mitigation Action Options	Residual Risk After Mitigation
Oregon white oak	*Quercus garryana*	66	27' to northwest, 40' to northeast, 42' to southeast, 35' to west.	85	good	fair to poor	whole tree (66" diameter) 0' AGL	A Compromised wood in the stem; cavities/openings at ground level on NW and S sides	Old HWY 99 - drivers	NE	3	possible	high	somewhat likely	severe	**moderate**	low	The crown is now weighted to the SE, which may influence its direction of failure to the SE. If whole tree failure occurs, it is likely that part of the tree would strike Old HWY 99.	(1) Crown reduction to reduce the load on the defect; (2) restrict parking area access; (3) restrict traffic on Old Hwy 99 below dripline; (4) root zone management to maintain/improve tree vitality; (5) move the power pole and service line; (6) converting the tree to a wildlife snag; or (7) tree removal.	moderate A combination of treatments, such as (1) and (4), or (1) and (5), could mitigate some risk, but due to the complexities of the tree architecture and decay column in the central stem it is not realistic to fully mitigate risk to below moderate if the tree is retained with a viable crown. Removal of the tree would mitigate all risk. Converting the tree to a wildlife snag would reduce the risk to low.
									airport hangar	SW	71	possible	medium	unlikely	severe	low	moderate	The loss of the W/SW stem altered the architecture of the tree making it less likely to fail directly toward the hangar.		
									parking area and drive aisle - vehicles	SW, SE and NW	35 (SW), 40 (SE), 75 (NW)	possible	medium	unlikely	severe	low	low	The occasional occupancy rate reduces the likelihood of impacting a vehicle.		
									parking area and drive aisle - pedestrians	SW, SE and NW	35 (SW), 40 (SE), 75 (NW)	possible	low	unlikely	severe	low	low	The occasional occupancy rate reduces the likelihood of impacting a person.		
									Power line/Power pole	SE	35	possible	high	somewhat likely	severe	**moderate**	n/a (new)	The crown is weighted to the E/SE, which may influence the direction of failure to the E/SE, particularly if the cavity on the NW side of the tree is associated with disease. The power pole could be struck, taking down the line over Old HWY 99 and hangar		
							first order codominant stem to NE (road side) (~33" diameter) 16' AGL	B Codominant leaders	Old HWY 99 - drivers	NE	3	possible	high	somewhat likely	severe	**moderate**	low	The likelihood of failure rating was increased to possible due to increased W/SW exposure. While no decay was detected at the union, the branches are not adapted to prevailing wind forces from the W/SW which could result in weakly attached branches failing when the load exceeds wood strength.	(1) Crown/branch reduction to reduce the load on the defect; and (2) supplemental support system (cabling or bracing); (3) restrict traffic on Old Hwy 99 below dripline; (4) converting the tree to a wildlife snag; or (5) tree removal.	low A combination of treatments, such as (1) and (2) could mitigate risk to low. Tree removal would mitigate all risk. Converting the tree to a wildlife snag would reduce the risk to low.
							second order codominant stems to NE/E at the point of attachment (~20" diameter in center, ~18"diameter to NE, ~18" diameter to SE) 33' AGL	C-i inclusion, codominant leaders, ~20" diameter stem (center stem)	Old HWY 99 - drivers	NE/E	3	possible	low	unlikely	severe	low	n/a (new)	The likelihood of failure rating remains possible on the central stem. The crown of the central stem is weighted to the west/southwest, which would make it less likely to strike the highway. Higher branches could strike lower branches, compounding a branch failure.	(1) Crown/branch reduction to reduce the load on the defect; and (2) supplemental support system (cabling or bracing); (3) restrict traffic on Old Hwy 99 below dripline; (4) converting the tree to a wildlife snag; or (5) tree removal.	low A combination of treatments, such as (1) and (2) could mitigate risk to low. Tree removal would mitigate all risk. Converting the tree to a wildlife snag would reduce the risk to low.
							second order codominant stems to NE/E at the point of attachment (~20" diameter in center, ~18"diameter to NE, ~18" diameter to SE) 33' AGL	C-ii inclusion, codominant leaders, ~18" diameter stem oriented NE	Old HWY 99 - drivers	NE/E	0	probable	high	likely	severe	**high**	moderate	This stem is oriented over Old HWY 99. There is a history of failure of similar branches. The likelihood of failure rating was increased to probable due to increased W/SW exposure combined with inclusion at the point of attachment and horizontal branch architecture. The W/SW stem protected this stem from prevailing winds.	(1) Crown/branch reduction to reduce the load on the defect; and (2) supplemental support system (cabling or bracing); (3) restrict traffic on Old HWY 99 below the dripline; (4) converting the tree to a wildlife snag; or (5) tree removal.	moderate A combination of (1) and (2) could mitigate risk to moderate. Tree removal would mitigate all risk. Converting the tree to a wildlife snag would reduce the risk to low.
							second order codominant stems to NE/E at the point of attachment (~20" diameter in center, ~18"diameter to NE, ~18" diameter to SE) 33' AGL	C-iii inclusion, codominant leaders, ~18" diameter stem oriented SE	Old HWY 99 - drivers	E/SE	0	probable	high	likely	severe	**high**	moderate	This stem is oriented over Old HWY 99. There is a history of failure of similar branches. The likelihood of failure rating was increased to probable due to increased W/SW exposure combined with inclusion at the point of attachment and horizontal branch architecture. The W/SW stem protected this stem from prevailing winds.	(1) Crown/branch reduction to reduce the load on the defect; and (2) supplemental support system (cabling or bracing); (3) restrict traffic on Old HWY 99 below the dripline; (4) converting the tree to a wildlife snag; or (5) tree removal.	moderate A combination of (1) and (2) could mitigate risk to moderate. Tree removal would mitigate all risk. Converting the tree to a wildlife snag would reduce the risk to low.
							Third order branches from ~18" diameter codominant oriented SE (~14", ~12" and ~8" diameter) 40' AGL	D-i ~14" diameter bowed/ horizontal branch architecture, end weight, and gravitational forces combined with recent exposure	Old HWY 99 - drivers	E	0	probable	high	likely	severe	**high**	n/a (new)	This branch is directly over Old HWY 99. There is a history of failure of similar branches. The branch has a horizontal growth habit making it susceptible to end-weight loading, gravity, and dynamic forces.	(1) Crown/branch reduction to reduce the load on the defect; and (2) supplemental support system (cabling or bracing); (3) branch removal; (4) restrict traffic on Old HWY 99 below the dripline; (5) converting the tree to a wildlife snag; or (6) tree removal.	moderate A combination of (1) and (2) could mitigate risk to moderate. Branch removal (or tree removal) would mitigate all risk. Converting the tree to a wildlife snag would reduce the risk to low.
							Third order branches from ~18" diameter codominant oriented SE (~14", ~12" and ~8" diameter) 40' AGL	D-ii ~12" diameter bowed/ horizontal branch architecture, end weight, and gravitational forces combined with recent exposure	Old HWY 99 - drivers	E	0	probable	high	likely	severe	**high**	n/a (new)	This branch extends over Old HWY 99. There is a history of failure of similar branches. The branch has a horizontal growth habit that turns downward making it susceptible to end-weight loading, gravity, and dynamic forces.	(1) Crown/branch reduction to reduce the load on the defect; and (2) supplemental support system (cabling or bracing); (3) branch removal; (4) restrict traffic on Old HWY 99 below the dripline; (5) converting the tree to a wildlife snag; or (6) tree removal.	moderate A combination of (1) and (2) could mitigate risk to moderate. Branch removal (or tree removal) would mitigate all risk. Converting the tree to a wildlife snag would reduce the risk to low.

Todd Prager & Associates LLC

Attachment 3 - Summary of Tree Risk Assessment Matrices
Davis-Meeker Oak, Tumwater, Washington
Based on 9/29/2026 onsite assessment
Timeframe: 3 years

Common Name	Scientific Name	DBH[1] (in)	C-Rad[2] (ft)	Height (ft)	Condition[3]	Structure[3]	Tree Part Assessed	Defect of Concern	Target[4]	Direction to Target	Distance to Target (ft)	Likelihood of Failure[5]	Likelihood of Impact[6]	Combined likelihood of failure and impact[7]	Consequence of Failure[8]	Sept/Oct 2026 Risk Rating[9]	2025 TRA Risk Rating[10]	Comments	Risk Mitigation Action Options	Residual Risk After Mitigation
	Quercus garryana	66	27' to northwest, 40' to northeast, 42' to southeast, 35' to west.	85	good	fair to poor	Third order branches from ~18" diameter codominant oriented SE (~14", ~12" and ~8" diameter) 40' AGL	D-iii ~8" diameter bowed/ horizontal branch architecture, end weight, and gravitational forces combined with recent exposure	Old HWY 99 - drivers	E	0	probable	high	likely	severe	**high**	n/a (new)	This branch extends partially over Old HWY 99 and would be expected to obstruct south bound traffic and cause cars to swerve into the northbound lane. There is a history of failure of similar branches. The branch has a horizontal growth habit that turns downward making it susceptible to end-weight loading, gravity, and dynamic forces.	(1) Crown/branch reduction to reduce the load on the defect; and (2) supplemental support system (cabling or bracing); (3) branch removal; (4) restrict traffic on Old HWY 99 below the dripline; (5) converting the tree to a wildlife snag; or (6) tree removal.	moderate A combination of (1) and (2) could mitigate risk to moderate. Branch removal (or tree removal) would mitigate all risk. Converting the tree to a wildlife snag would reduce the risk to low.
							central stem above kestrel cavity; stem diameter ~20" 48' AGL	E cavity measuring 25" deep and cavity opening is 13" x 6"	Old HWY 99 - drivers	NE	3	possible	medium	unlikely	severe	low	low	The crown weight of the central stem above the cavity is to the SW. If it failed, remaining branches below this stem could be struck, compounding a branch failure and possibly impacting Old HWY 99.	(1) Crown/branch reduction to reduce the load on the defect; (2) height reduction; (3) converting the tree to a wildlife snag; or (4) tree removal.	low A combination of (1) and (2) could mitigate risk to low. Tree removal would mitigate all risk. Converting the tree to a wildlife snag would reduce the risk to low.
									airport hangar	SW	71	possible	very low	unlikely	negligible	low	low	If the stem fails at 48' above ground level, the remaining 30 to 40' would not reach the hangar.		
									parking area and drive aisle - vehicles	SW, SE and NW	35 (SW), 40 (SE), 75 (NW)	possible	medium	unlikely	significant	low	low	If the stem fails at 48' above ground level, the remaining 30 to 40' would barely reach the parking area.		
									parking area and drive aisle - pedestrians	SW, SE and NW	35 (SW), 40 (SE), 75 (NW)	possible	very low	unlikely	severe	low	low	Low occupancy of people in the area of impact makes the likelihood of impact very low.		
							Remaining 12" diameter branch on SW stem	F arched/bowed branch architecture and end-weight combined with recent exposure	drive aisle - vehicles	W	5	probable	very low	unlikely	significant	low	n/a (new)	The bowed structure of the ~12" branch with a peak at 35' and length of 20' combined with all the weight at the end of the branch creates a heavy load on the defect. The branch could snap at the top of the arch or just inward of the top of the arch (toward the center), fall, and then depending on how it lands could impact the drive aisle. The likely area of impact over the drive aisle is ~100 SF.	(1) Crown/branch reduction to reduce the load on the defect; (2) restrict access within dripline, the likely landing area; (3) branch removal; (4) converting the tree to a wildlife snag; or (5) tree removal.	low A combination of (1) and (2) could mitigate risk to low. Branch removal (or tree removal) would mitigate all risk. Converting the tree to a wildlife snag would reduce the risk to low.
									drive aisle - pedestrians	W	5	probable	very low	unlikely	severe	low	n/a (new)	Low occupancy of people in the small area of impact makes the likelihood of impact very low.		

[1] **DBH** is the trunk diameter in inches measured at 4.5 feet above ground level per International Society of Arboriculture (ISA) standards.

[2] **C-Rad** is the approximate crown radius in feet.

[3] **Condition** and **Structure** ratings range from dead, very poor, poor, fair, to good. Condition is a rating of tree health and structure is a rating of tree anatomy and defects.

[4] A **target** is defined "people that could be injured, property that could be damaged, or activities that could be disrupted by a tree [or tree part] failure" (*Tree Risk Assessment Manual* , p. 225). Target assessment includes analysis of *known targets* , *mobile targets* , *moveable targets* , and *static targets* . Occupancy rate can be *constant* , *frequent* , *occasional* , or *rare* . Buildings and permanent structures have constant occupancy rate whereas people using streets and greenspaces may have rare to frequent occupancy. Very busy roads can be classified as having constant occupancy. Generally speaking, the lower the occupancy rate the lower the likelihood of being struck by a tree and the lower the risk rating. Target assessment also includes an evaluation of protection factors, such as whether structures or other trees may prevent the tree from impacting the target. For example, a group of trees may protect a building from the worst consequences of a tree failure. Or a building may protect people in the building from direct physical harm, although not necessarily psychological harm, from a tree falling on the building. If a target is within one times the height of the tree being assessed, it is typically included in a risk assessment. Depending on context, the height may be multiplied by a factor of 1.5 or more to address the potential for a tree to fracture and throw debris or slide down a slope after a failure.

[5] **Likelihood of failure** is, "the chance of a tree [or tree part] failure occurring within the specified time frame." It is categorized in one of four levels:
Improbable – "indicates that failure is not likely in normal or severe weather within the specified time frame."
Possible – "indicates that failure is not likely in normal weather but may occur in severe weather within the specified time frame."
Probable – "indicates that failure may occur in normal weather conditions and is expected to occur in severe weather conditions within the specified time frame."
Imminent – "indicates that failure has begun or will occur soon in normal weather or with minimal additional loading."
(*Tree Risk Assessment Manual* , p. 161-162, 222)

[6] **Likelihood of impact** is, "the chance of a tree failure impacting a target during a specified time frame." It is categorized in one of four levels:
Very low – "indicates the chance of the failed tree [or tree part] impacting the specified target is remote."
Low – "indicates there is a slight chance that if the tree [or tree part] were to fail it will impact the target.
Medium – "indicates the failed tree [or tree part] could impact the target but is not expected to do so."
High – "indicates the failed tree [or tree part] is likely to impact the target."
(*Tree Risk Assessment Manual* , p. 162, 222)

[7] **The combined likelihood of failure and impact** is calculated by the Likelihood Matrix (Matrix 1):
Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impact			
	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

[8] **Consequences of failure** is, "personal injury, property damage, or disruption of activities." It is categorized at one of four levels:
Negligible – " those that involve no personal injury, low-value damage to property that can be replaced or repaired, or short-term disruption of activities."
Minor – "those that involve minor personal injury, low- to moderate-value damage to property, or some disruption of activities."
Significant – "those that involve significant personal injury, substantial damage to property, or considerable disruption of activities."
Severe – "those that could involve serious personal injury or death, high-value damage to property, or major disruption of important activities."
(*Tree Risk Assessment Manual* , p. 164, 219)

[9] **The risk rating** is, "a categorization of risk based on the combination of the likelihood of failure and impact and its potential consequences." It is categorized by one of four levels and is determined by the Risk Matrix (Matrix 2):
Low – "those for which the lowest level of any factor is selected: whenever consequences are *negligible* or likelihood of failure and impact is *unlikely* ." Low risk also applies when consequences are *minor* and likelihood of failure and impact is *somewhat likely* ."
Moderate – " those for which consequences are *minor* and likelihood is *very likely* or *likely* ; or likelihood is *somewhat likely* and consequences are *significant* or *severe* ."
High – "those for which consequences are *significant* and likelihood is *very likely* or *likely* , or consequences are *severe* and likelihood is *likely* . "
Extreme – "those for which the highest level for each factor are selected: failure is *imminent* , there is a *high* likelihood of impacting the target, and the expected consequences of failure are *severe* . The tree risk assessor should recommend that mitigation measures be taken as soon as possible. In some cases, this may mean that the tree risk manager needs to restrict access to the target zone area to avoid injury to people."
(*Tree Risk Assessment Manual* , p. 164, 167, 224)

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	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

[10] **2025 TRA Risk Rating** is the risk rating listed in the 2025 TRA report.

Footnotes Corresponding with the Tree Risk Assessment Matrices

[1] **DBH** is the trunk diameter in inches measured at 4.5 feet above ground level per International Society of Arboriculture (ISA) standards.

[2] **C-Rad** is the approximate crown radius in feet.

[3] **Condition** and **Structure** ratings range from dead, very poor, poor, fair, to good. Condition is a rating of tree health and structure is a rating of tree anatomy and defects.

[4] A **target** is defined "people that could be injured, property that could be damaged, or activities that could be disrupted by a tree [or tree part] failure" (*Tree Risk Assessment Manual* , p. 225). Target assessment includes analysis of *known targets* , *mobile targets* , *moveable targets* , and *static targets* . Occupancy rate can be *constant* , *frequent* , *occasional* , or *rare* . Buildings and permanent structures have constant occupancy rate whereas people using streets and greenspaces may have rare to frequent occupancy. Very busy roads can be classified as having constant occupancy. Generally speaking, the lower the occupancy rate the lower the likelihood of being struck by a tree and the lower the risk rating. Target assessment also includes an evaluation of protection factors, such as whether structures or other trees may prevent the tree from impacting the target. For example, a group of trees may protect a building from the worst consequences of a tree failure. Or a building may protect people in the building from direct physical harm, although not necessarily psychological harm, from a tree falling on the building. If a target is within one times the height of the tree being assessed, it is typically included in a risk assessment. Depending on context, the height may be multiplied by a factor of 1.5 or more to address the potential for a tree to fracture and throw debris or slide down a slope after a failure.

[5] **Likelihood of failure** is, "the chance of a tree [or tree part] failure occurring within the specified time frame." It is categorized in one of four levels:
Improbable – "indicates that failure is not likely in normal or severe weather within the specified time frame."
Possible – "indicates that failure is not likely in normal weather but may occur in severe weather within the specified time frame."
Probable – "indicates that failure may occur in normal weather conditions and is expected to occur in severe weather conditions within the specified time frame."
Imminent – "indicates that failure has begun or will occur soon in normal weather or with minimal additional loading."
(*Tree Risk Assessment Manual* , p. 161-162, 222)

[6] **Likelihood of impact** is, "the chance of a tree failure impacting a target during a specified time frame." It is categorized in one of four levels:
Very low – "indicates the chance of the failed tree [or tree part] impacting the specified target is remote."
Low – "indicates there is a slight chance that if the tree [or tree part] were to fail it will impact the target.
Medium – "indicates the failed tree [or tree part] could impact the target but is not expected to do so."
High – "indicates the failed tree [or tree part] is likely to impact the target."
(*Tree Risk Assessment Manual* , p. 162, 222)

[7] **The combined likelihood of failure and impact** is calculated by the Likelihood Matrix (Matrix 1):

Matrix 1. Likelihood matrix.

Likelihood of Failure	Likelihood of Impact			
	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

[8] **Consequences of failure** is, "personal injury, property damage, or disruption of activities." It is categorized at one of four levels:
Negligible – " those that involve no personal injury, low-value damage to property that can be replaced or repaired, or short-term disruption of activities."
Minor – "those that involve minor personal injury, low- to moderate-value damage to property, or some disruption of activities."
Significant – "those that involve significant personal injury, substantial damage to property, or considerable disruption of activities."
Severe – "those that could involve serious personal injury or death, high-value damage to property, or major disruption of important activities."
(*Tree Risk Assessment Manual* , p. 164, 219)

[9] **The risk rating** is, "a categorization of risk based on the combination of the likelihood of failure and impact and its potential consequences." It is categorized by one of four levels and is determined by the Risk Matrix (Matrix 2):
Low – "those for which the lowest level of any factor is selected: whenever consequences are *negligible* or likelihood of failure and impact is *unlikely* ." Low risk also applies when consequences are *minor* and likelihood of failure and impact is *somewhat likely* ."
Moderate – " those for which consequences are *minor* and likelihood is *very likely* or *likely* ; or likelihood is *somewhat likely* and consequences are *significant* or *severe* ."
High – "those for which consequences are *significant* and likelihood is *very likely* or *likely* , or consequences are *severe* and likelihood is *likely* . "
Extreme – "those for which the highest level for each factor are selected: failure is *imminent* , there is a *high* likelihood of impacting the target, and the expected consequences of failure are *severe* . The tree risk assessor should recommend that mitigation measures be taken as soon as possible. In some cases, this may mean that the tree risk manager needs to restrict access to the target zone area to avoid injury to people."
(*Tree Risk Assessment Manual* , p. 164, 167, 224)

Matrix 2. Risk rating matrix.

Likelihood of Failure & Impact	Consequences of Failure			
	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

[10] **2025 TRA Risk Rating** is the risk rating listed in the 2025 TRA report.

Attachment 4 – Tree Risk Assessment Matrices by Defect

Defect of Concern: A

Tree Part Assessed: whole tree (66" diameter), 0' Above Ground Level (AGL)

Description of Defect: Compromised wood in the stem; cavities/openings at ground level on NW and S sides

Risk Mitigation Options: (1) Crown reduction to reduce the load on the defect; (2) restrict parking area access; (3) restrict traffic on Old Hwy 99 below dripline; (4) root zone management to maintain/improve tree vitality; (5) move the power pole and service line; (6) converting the tree to a wildlife snag; or (7) tree removal.

Residual Risk After Risk Mitigation: Moderate. A combination of treatments, such as (1) and (4), or (1) and (5), could mitigate some risk, but due to the complexities of the tree architecture and decay column in the central stem it is not realistic to fully mitigate risk to below moderate if the tree is retained with a viable crown. Removal of the tree would mitigate all risk. Converting the tree to a wildlife snag would reduce the risk to low.

Target[4]	Direction to Target	Distance to Target (ft)	Likelihood of Failure[5]	Likelihood of Impact[6]	Combined likelihood of failure and impact[7]	Consequence of Failure[8]	Sept/Oct 2026 Risk Rating[9]	2025 TRA Risk Rating[10]	Comments
Old HWY 99 - drivers	NE	3	possible	high	somewhat likely	severe	**moderate**	low	The crown is now weighted to the SE, which may influence its direction of failure to the SE. If whole tree failure occurs, it is likely that part of the tree would strike Old HWY 99.
airport hangar	SW	71	possible	medium	unlikely	severe	low	moderate	The loss of the W/SW stem altered the architecture of the tree making it less likely to fail directly toward the hangar.
parking area and drive aisle - vehicles	SW, SE and NW	35 (SW), 40 (SE), 75 (NW)	possible	medium	unlikely	severe	low	low	The occasional occupancy rate reduces the likelihood of impacting a vehicle.
parking area and drive aisle - pedestrians	SW, SE and NW	35 (SW), 40 (SE), 75 (NW)	possible	low	unlikely	severe	low	low	The occasional occupancy rate reduces the likelihood of impacting a person.
Power line/Power pole	SE	35	possible	high	somewhat likely	severe	**moderate**	n/a (new)	The crown is weighted to the E/SE, which may influence the direction of failure to the E/SE, particularly if the cavity on the NW side of the tree is associated with disease. The power pole could be struck, taking down the line over Old HWY 99 and hangar

Defect of Concern: B

Tree Part Assessed: First order codominant stem to NE (roadside) (~33" diameter), 16' AGL

Description of Defect: Codominant leaders

Risk Mitigation Options: (1) Crown/branch reduction to reduce the load on the defect; and (2) supplemental support system (cabling or bracing); (3) restrict traffic on Old Hwy 99 below dripline; (4) converting the tree to a wildlife snag; or (5) tree removal.

Residual Risk After Risk Mitigation: Low. A combination of treatments, such as (1) and (2) could mitigate risk to low. Tree removal would mitigate all risk. Converting the tree to a wildlife snag would reduce the risk to low.

Target[4]	Direction to Target	Distance to Target (ft)	Likelihood of Failure[5]	Likelihood of Impact[6]	Combined likelihood of failure and impact[7]	Consequence of Failure[8]	Sept/Oct 2026 Risk Rating[9]	2025 TRA Risk Rating[10]	Comments
Old HWY 99 - drivers	NE	3	possible	high	somewhat likely	severe	**moderate**	low	The likelihood of failure rating was increased to possible due to increased W/SW exposure. While no decay was detected at the union, the branches are not adapted to prevailing wind forces from the W/SW which could result in weakly attached branches failing when the load exceeds wood strength.

Defect of Concern: C-i

Tree Part Assessed: Second order codominant stems to NE/E at the point of attachment (~20" diameter in center, ~18" diameter to NE, ~18" diameter to SE), 33' AGL

Description of Defect: Inclusion, codominant leaders, ~20" diameter stem (center stem)

Risk Mitigation Options: (1) Crown/branch reduction to reduce the load on the defect; and (2) supplemental support system (cabling or bracing); (3) restrict traffic on Old Hwy 99 below dripline; (4) converting the tree to a wildlife snag; or (5) tree removal.

Residual Risk After Risk Mitigation: Low. A combination of treatments, such as (1) and (2) could mitigate risk to low. Tree removal would mitigate all risk. Converting the tree to a wildlife snag would reduce the risk to low.

Target[4]	Direction to Target	Distance to Target (ft)	Likelihood of Failure[5]	Likelihood of Impact[6]	Combined likelihood of failure and impact[7]	Consequence of Failure[8]	Sept/Oct 2026 Risk Rating[9]	2025 TRA Risk Rating[10]	Comments
Old HWY 99 - drivers	NE/E	3	possible	low	unlikely	severe	low	n/a (new)	The likelihood of failure rating remains possible on the central stem. The crown of the central stem is weighted to the west/southwest, which would make it less likely to strike the highway. Higher branches could strike lower branches, compounding a branch failure.

Defect of Concern: C-ii

Tree Part Assessed: Second order codominant stems to NE/E at the point of attachment (~20" diameter in center, ~18" diameter to NE, ~18" diameter to SE), 33' AGL

Description of Defect: inclusion, codominant leaders, ~18" diameter stem oriented NE/E

Risk Mitigation Options: (1) Crown/branch reduction to reduce the load on the defect; and (2) supplemental support system (cabling or bracing); (3) restrict traffic on Old HWY 99 below the dripline; (4) converting the tree to a wildlife snag; or (5) tree removal.

Residual Risk After Risk Mitigation: Moderate. A combination of (1) and (2) could mitigate risk to moderate. Tree removal would mitigate all risk. Converting the tree to a wildlife snag would reduce the risk to low.

Target[4]	Direction to Target	Distance to Target (ft)	Likelihood of Failure[5]	Likelihood of Impact[6]	Combined likelihood of failure and impact[7]	Consequence of Failure[8]	Sept/Oct 2026 Risk Rating[9]	2025 TRA Risk Rating[10]	Comments
Old HWY 99 - drivers	E	0	probable	high	likely	severe	**high**	moderate	This stem is oriented over Old HWY 99. There is a history of failure of similar branches. The likelihood of failure rating was increased to probable due to increased W/SW exposure combined with inclusion at the point of attachment and horizontal branch architecture. The W/SW stem protected this stem from prevailing winds.

Defect of Concern: C-iii

Tree Part Assessed: Second order codominant stems to NE/E at the point of attachment (~20" diameter in center, ~18" diameter to NE, ~18" diameter to SE), 33' AGL

Description of Defect: inclusion, codominant leaders, ~18" diameter stem oriented SE

Risk Mitigation Options: (1) Crown/branch reduction to reduce the load on the defect; and (2) supplemental support system (cabling or bracing); (3) restrict traffic on Old HWY 99 below the dripline; (4) converting the tree to a wildlife snag; or (5) tree removal.

Residual Risk After Risk Mitigation: Moderate. A combination of (1) and (2) could mitigate risk to moderate. Tree removal would mitigate all risk. Converting the tree to a wildlife snag would reduce the risk to low.

Target[4]	Direction to Target	Distance to Target (ft)	Likelihood of Failure[5]	Likelihood of Impact[6]	Combined likelihood of failure and impact[7]	Consequence of Failure[8]	Sept/Oct 2026 Risk Rating[9]	2025 TRA Risk Rating[10]	Comments
Old HWY 99 - drivers	E/SE	0	probable	high	likely	severe	**high**	moderate	This stem is oriented over Old HWY 99. There is a history of failure of similar branches. The likelihood of failure rating was increased to probable due to increased W/SW exposure combined with inclusion at the point of attachment and horizontal branch architecture. The W/SW stem protected this stem from prevailing winds.

Defect of Concern: D-i

Tree Part Assessed: Third order branches from ~18" diameter codominant oriented SE (~14", ~12" and ~8" diameter), 40' AGL
Description of Defect: ~14" diameter bowed/ horizontal branch architecture, end weight, and gravitational forces combined with recent exposure
Risk Mitigation Options: (1) Crown/branch reduction to reduce the load on the defect; and (2) supplemental support system (cabling or bracing); (3) branch removal; (4) restrict traffic on Old HWY 99 below the dripline; (5) converting the tree to a wildlife snag; or (6) tree removal.
Residual Risk After Risk Mitigation: Moderate. A combination of (1) and (2) could mitigate risk to moderate. Branch removal (or tree removal) would mitigate all risk. Converting the tree to a wildlife snag would reduce the risk to low.

Target[4]	Direction to Target	Distance to Target (ft)	Likelihood of Failure[5]	Likelihood of Impact[6]	Combined likelihood of failure and impact[7]	Consequence of Failure[8]	Sept/Oct 2026 Risk Rating[9]	2025 TRA Risk Rating[10]	Comments
Old HWY 99 - drivers	E	0	probable	high	likely	severe	**high**	n/a (new)	This branch is directly over Old HWY 99. There is a history of failure of similar branches. The branch has a horizontal growth habit making it susceptible to end-weight loading, gravity, and dynamic forces.

Defect of Concern: D-ii

Tree Part Assessed: Third order branches from ~18" diameter codominant oriented SE (~14", ~12" and ~8" diameter), 40' AGL
Description of Defect: ~12" diameter bowed/ horizontal branch architecture, end weight, and gravitational forces combined with recent exposure
Risk Mitigation Options: (1) Crown/branch reduction to reduce the load on the defect; and(2) supplemental support system (cabling or bracing); (3) branch removal; (4) restrict traffic on Old HWY 99 below the dripline; (5) converting the tree to a wildlife snag; or (6) tree removal.
Residual Risk After Risk Mitigation: Moderate. A combination of (1) and (2) could mitigate risk to moderate. Branch removal (or tree removal) would mitigate all risk. Converting the tree to a wildlife snag would reduce the risk to low.

Target[4]	Direction to Target	Distance to Target (ft)	Likelihood of Failure[5]	Likelihood of Impact[6]	Combined likelihood of failure and impact[7]	Consequence of Failure[8]	Sept/Oct 2026 Risk Rating[9]	2025 TRA Risk Rating[10]	Comments
Old HWY 99 - drivers	E	0	probable	high	likely	severe	**high**	n/a (new)	This branch extends over Old HWY 99. There is a history of failure of similar branches. The branch has a horizontal growth habit that turns downward making it susceptible to end-weight loading, gravity, and dynamic forces.

Defect of Concern: D-iii

Tree Part Assessed: Third order branches from ~18" diameter codominant oriented SE (~14", ~12" and ~8" diameter), 40' AGL
Description of Defect: ~8" diameter bowed/ horizontal branch architecture, end weight, and gravitational forces combined with recent exposure
Risk Mitigation Options: (1) Crown/branch reduction to reduce the load on the defect; and (2) supplemental support system (cabling or bracing); (3) branch removal; (4) restrict traffic on Old HWY 99 below the dripline; (5) converting the tree to a wildlife snag; or (6) tree removal.
Residual Risk After Risk Mitigation: Moderate. A combination of (1) and (2) could mitigate risk to moderate. Branch removal (or tree removal) would mitigate all risk. Converting the tree to a wildlife snag would reduce the risk to low.

Target[4]	Direction to Target	Distance to Target (ft)	Likelihood of Failure[5]	Likelihood of Impact[6]	Combined likelihood of failure and impact[7]	Consequence of Failure[8]	Sept/Oct 2026 Risk Rating[9]	2025 TRA Risk Rating[10]	Comments
Old HWY 99 - drivers	E	0	probable	high	likely	severe	**high**	n/a (new)	This branch extends partially over Old HWY 99 and would be expected to obstruct south bound traffic and cause cars to swerve into the northbound lane. There is a history of failure of similar branches. The branch has a horizontal growth habit that turns downward making it susceptible to end-weight loading, gravity, and dynamic forces.

Defect of Concern: E

Tree Part Assessed: Central stem above kestrel cavity; stem diameter ~20", 48' AGL

Description of Defect: Cavity measuring 25" deep and cavity opening is 13" x 6"

Risk Mitigation Options: (1) Crown/branch reduction to reduce the load on the defect; (2) height reduction; (3) converting the tree to a wildlife snag; or (4) tree removal.

Residual Risk After Risk Mitigation: Low. A combination of (1) and (2) could mitigate risk to low. Tree removal would mitigate all risk. Converting the tree to a wildlife snag would reduce the risk to low.

Target[4]	Direction to Target	Distance to Target (ft)	Likelihood of Failure[5]	Likelihood of Impact[6]	Combined likelihood of failure and impact[7]	Consequence of Failure[8]	Sept/Oct 2026 Risk Rating[9]	2025 TRA Risk Rating[10]	Comments
Old HWY 99 - drivers	NE	3	possible	medium	unlikely	severe	low	low	The crown weight of the central stem above the cavity is to the SW. If it failed, remaining branches below this stem could be struck, compounding a branch failure and possibly impacting Old HWY 99.
airport hangar	SW	71	possible	very low	unlikely	negligible	low	low	If the stem fails at 48' above ground level, the remaining 30 to 40' would not reach the hangar.
parking area and drive aisle - vehicles	SW, SE and NW	35 (SW), 40 (SE), 75 (NW)	possible	medium	unlikely	significant	low	low	If the stem fails, at 48' above ground level, the remaining 30 to 40' would barely reach the parking area.
parking area and drive aisle - pedestrians	SW, SE and NW	35 (SW), 40 (SE), 75 (NW)	possible	very low	unlikely	severe	low	low	Low occupancy of people in the area of impact makes the likelihood of impact very low.

Defect of Concern: F

Tree Part Assessed: Remaining 12" diameter branch on SW stem

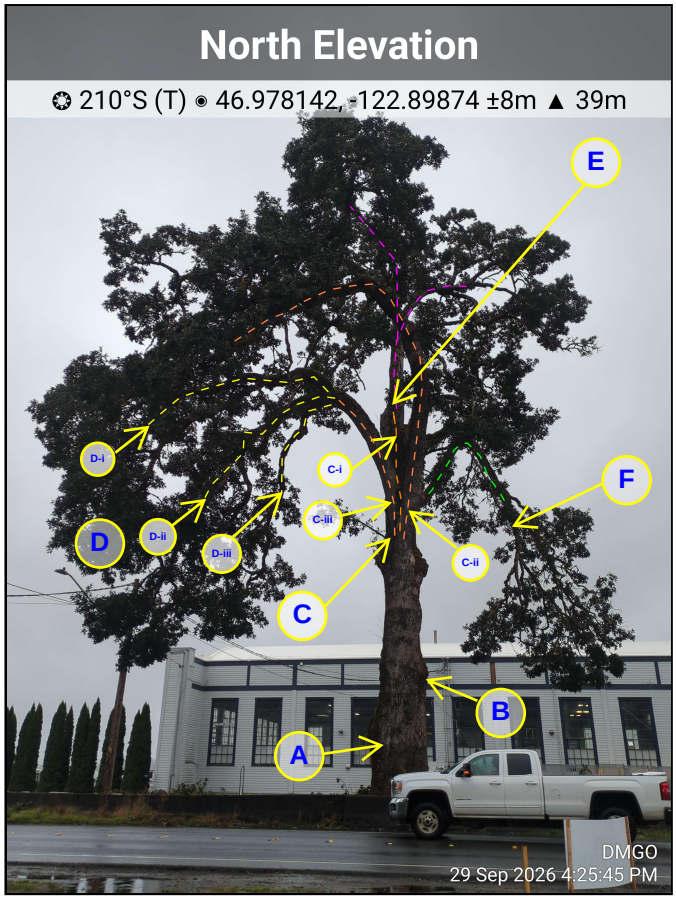
Description of Defect: Arched/bowed branch architecture and end-weight combined with recent exposure

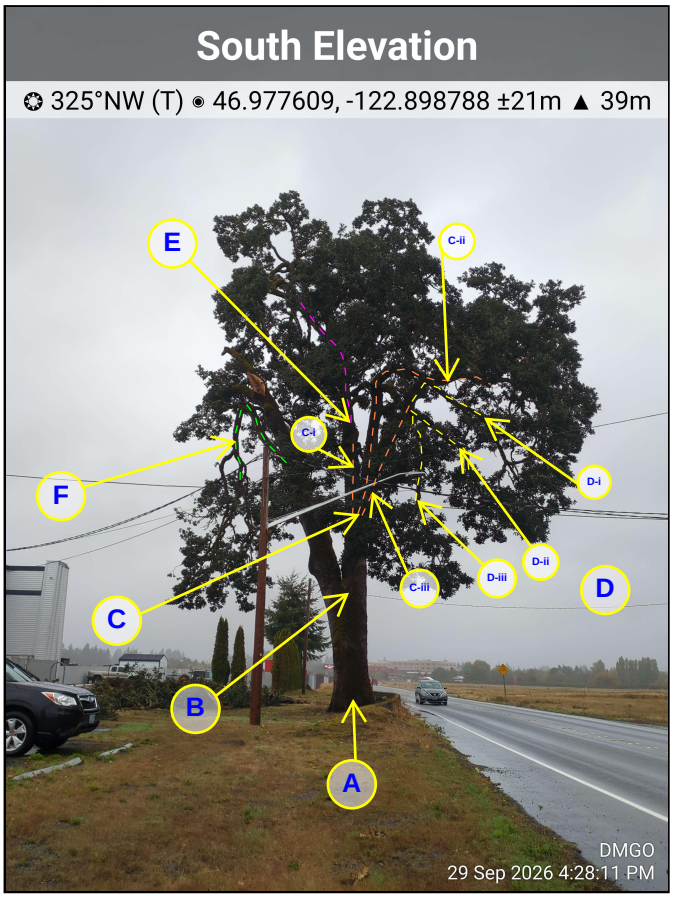
Risk Mitigation Options: (1) Crown/branch reduction to reduce the load on the defect; (2) restrict access within dripline, the likely landing area; (3) branch removal;(4) converting the tree to a wildlife snag; or (5) tree removal.

Residual Risk After Risk Mitigation: Low. A combination of (1) and (2) could mitigate risk to low. Branch removal (or tree removal) would mitigate all risk. Converting the tree to a wildlife snag would reduce the risk to low.

Target[4]	Direction to Target	Distance to Target (ft)	Likelihood of Failure[5]	Likelihood of Impact[6]	Combined likelihood of failure and impact[7]	Consequence of Failure[8]	Sept/Oct 2026 Risk Rating[9]	2025 TRA Risk Rating[10]	Comments
drive aisle - vehicles	W	5	probable	very low	unlikely	significant	low	n/a (new)	The bowed structure of the ~12" branch with a peak at 35' and length of 20' combined with all the weight at the end of the branch creates a heavy load on the defect. The branch could snap at the top of the arch or just inward of the top of the arch (toward the center), fall, and then depending on how it lands could impact the drive aisle. The likely area of impact over the drive aisle is ~100 SF.
drive aisle - pedestrians	W	5	probable	very low	unlikely	severe	low	n/a (new)	Low occupancy of people in the small area of impact makes the likelihood of impact very low.

Attachment 5 – Photographs Depicting Defects of Concern





Label	Defect of Concern
A	compromised wood in the stem; cavities/openings at ground level on NW and S sides
B	codominant leaders
C - i	inclusion, codominant leaders, ~20" diameter stem (center stem)
C - ii	inclusion, codominant leaders, ~18" diameter stem oriented NE
C - iii	inclusion, codominant leaders, ~18" diameter stem oriented E/SE
D - i	bowed/ horizontal branch architecture, end weight, and gravitational forces combined with recent exposure, ~14" diameter branch oriented E
D - ii	bowed/ horizontal branch architecture, end weight, and gravitational forces combined with recent exposure, ~12" diameter branch oriented E/SE
D - iii	bowed/ horizontal branch architecture, end weight, and gravitational forces combined with recent exposure, ~8" diameter branch oriented SE
E	cavity measuring 25" deep and cavity opening is 13" x 6"
F	arched/bowed branch architecture and end-weight combined with recent exposure

Attachment 6 - Assumptions and Limiting Conditions

1. Any legal description provided to the consultant is assumed to be correct.
2. It is assumed that this property is not in violation of any codes, statutes, ordinances, or other governmental regulations.
3. Loss or alteration of any part of this delivered report invalidates the entire report.
4. Drawings and information contained in this report may not be to scale and are intended to be used as display points of reference only.
5. The consultant's role is only to make recommendations. Inaction on the part of those receiving the report is not the responsibility of the consultant.
6. The client is advised to ensure compliance with applicable local, state, and federal laws and regulations that could relate to this project, i.e., Local and State Tree or Natural Resource Regulations, Local and State Development Regulations, Migratory Bird Treaty Act, Endangered Species Act, Clean Water Act, Americans with Disabilities Act, etc. The consultant may advise the client of issues regarding local, state, and federal laws that the consultant believes would be helpful to the client, but any such advice or comment is not a determination or interpretation of local, state, or federal law or regulation.
7. The information provided in this inspection report includes information and recommendations for the benefit of our client's decision making. The ultimate decision of whether to retain, remove, prune, inspect, or otherwise apply treatment recommendations to a tree is the sole responsibility of the tree owner, and not the responsibility of the project arborist. If there are any questions or concerns with the information presented in this report, please contact our firm so that we can address any issues as soon as possible.
8. The following additional limitations apply to the likelihood of failure assessment:
    a. Only visible or detectible tree conditions were considered;
    b. This assessment only represents the condition of the tree and site at the time of the assessment;
    c. Any tree, whether it has visible weakness or not, will fail if the forces applied exceed the strength of the tree or its parts;
    d. This assessment only considers normal weather conditions that might occur during the stated timeframe; it does not consider unusual or extreme weather events that historically do not occur in the area;
    e. The stated likelihood of failure is not a guarantee of tree stability or instability; and,
    f. This assessment is restricted to the tree specifically addressed in this inspection report and does not include any other nearby trees that may present potential hazards to people or property.
9. The purpose of this report is to:
    a. Document a Level 2 tree risk assessment for the Davis-Meeker Oak following branch failures on the southwest stem