

**CITY OF TUMWATER
SERVICE PROVIDER AGREEMENT**

TUMWATER TREE INVENTORY & MAINTENANCE PLAN

THIS AGREEMENT is made and entered into in duplicate this 29th day of August, 2023, by and between the CITY OF TUMWATER, a Washington municipal corporation, hereinafter referred to as the "CITY", and DAVEY RESOURCE GROUP, a Delaware corporation, hereinafter referred to as the "SERVICE PROVIDER".

WITNESSETH:

WHEREAS, the CITY desires to have certain services and/or tasks performed as set forth below requiring specialized skills and other supportive capabilities; and

WHEREAS, sufficient CITY resources are not available to provide such services; and

WHEREAS, the SERVICE PROVIDER represents that the SERVICE PROVIDER is qualified and possesses sufficient skills and the necessary capabilities, including technical expertise, where required, to perform the services and/or tasks set forth in this Agreement.

NOW, THEREFORE, in consideration of the terms, conditions, covenants, and performance contained herein, the parties hereto agree as follows:

1. SCOPE OF SERVICES.

The SERVICE PROVIDER shall perform such services and accomplish such tasks, including the furnishing of all materials and equipment necessary for full performance thereof, as are identified and designated as SERVICE PROVIDER responsibilities throughout this Agreement and as detailed in Exhibit "A" Scope of Services attached hereto and incorporated herein (the "Project").

2. TERM.

The Project shall begin no earlier than July 20, 2023, and shall be completed no later than June 30, 2024. This Agreement may be extended for additional periods of time upon mutual written agreement of the parties.

3. TERMINATION.

Prior to the expiration of the Term, this Agreement may be terminated immediately, with or without cause, by the CITY.

4. COMPENSATION AND METHOD OF PAYMENT.

A. Payments for services provided hereunder shall be made following the performance of such services, unless otherwise permitted by law and approved in writing by the CITY.

B. No payment shall be made for any service rendered by the SERVICE PROVIDER except for services identified and set forth in this Agreement.

C. The CITY shall pay the SERVICE PROVIDER for work performed under this Agreement a total sum not to SIXTY THOUSAND AND 00/100 DOLLARS (\$60,000.00) as reflected in Exhibit "A", Scope of Services.

D. Upon execution of this Agreement, the SERVICE PROVIDER must submit IRS Form W-9 Request for Taxpayer Identification Number (TIN) and Certification unless a current Form W-9 is already on file with the CITY.

E. The SERVICE PROVIDER shall submit an invoice to the CITY for the percentage of services rendered during the billing period. The CITY shall initiate authorization for payment after receipt of said invoice and shall make payment to the SERVICE PROVIDER within approximately thirty (30) days thereafter.

F. When subcontracting services or purchasing goods from third parties, as identified and approved in this Agreement, the SERVICE PROVIDER must submit written documentation establishing that the goods and/or services have been provided and the third party has been paid in order to receive payment for such goods and/or services.

G. Invoices may be submitted immediately following performance of services, but in no event shall an invoice be submitted more than twenty (20) business days following the end of the contract term or the end of the calendar year, whichever is earlier.

5. INDEPENDENT CONTRACTOR RELATIONSHIP.

A. The parties intend that an independent contractor relationship will be created by this Agreement. Subject to paragraphs herein, the

implementation of services pursuant to this Agreement will lie solely within the discretion of the SERVICE PROVIDER. No agent, employee, servant or representative of the SERVICE PROVIDER shall be deemed to be an employee, agent, servant or representative of the CITY for any purpose, and the employees of the SERVICE PROVIDER are not entitled to any of the benefits the CITY provides for its employees. The SERVICE PROVIDER will be solely and entirely responsible for its acts and for the acts of its agents, employees, servants, subcontractors or representatives during the performance of this Agreement.

B. In the performance of the services herein contemplated the SERVICE PROVIDER is an independent contractor with the authority to control and direct the performance of the details of the work; however, the results of the work contemplated herein must meet the approval of the CITY and shall be subject to the CITY'S general rights of inspection and review to secure the satisfactory completion thereof.

C. As an independent contractor, the SERVICE PROVIDER shall be responsible for the reporting and payment of all applicable local, state, and federal taxes.

D. It is recognized that the SERVICE PROVIDER may or will be performing services during the Term for other parties; provided, however, that such performance of other services shall not conflict with or interfere with the SERVICE PROVIDER'S ability to perform the services. The SERVICE PROVIDER agrees to resolve any such conflicts of interest in favor of the CITY.

E. 2008 Early Retirement Factor Retirees. Washington State law requires reporting of any contractor, independent contractor or personal service contractor that has retired from the State of Washington using the 2008 Early Retirement Factor (ERF). Stricter return-to-work restrictions apply to a retiree under the 2008 ERF. The SERVICE PROVIDER must verify retirement status by completing a Service Provider Retirement Status Form, attached as Exhibit "B", for each of the SERVICE PROVIDER'S owners and for each person providing service under this Agreement.

6. SERVICE PROVIDER EMPLOYEES/AGENTS.

The CITY may at its sole discretion require the SERVICE PROVIDER to remove an employee, agent or servant from employment on this Project. The SERVICE PROVIDER may however employ that individual on other non-CITY related projects.

7. HOLD HARMLESS INDEMNIFICATION.

A. SERVICE PROVIDER Indemnification. The SERVICE PROVIDER agrees to indemnify, defend and hold the CITY, its elected officials, officers, employees, agents, and volunteers harmless from any and all claims, demands, losses, actions and liabilities (including costs and all reasonable attorney fees) to or by any and all persons or entities, including, without limitation, their respective agents, licensees, or representatives, arising from, resulting from, or connected with this Agreement to the extent caused by the negligent acts, errors or omissions of the SERVICE PROVIDER, its partners, shareholders, agents, employees, or by the SERVICE PROVIDER'S breach of this Agreement. The SERVICE PROVIDER expressly waives any immunity that may be granted to it under the Washington State Industrial Insurance Act, Title 51 RCW. The SERVICE PROVIDER'S indemnification shall not be limited in any way by any limitation on the amount of damages, compensation or benefits payable to or by any third party under workers' compensation acts, disability benefit acts or any other benefit acts or programs. This waiver has been mutually negotiated by the parties.

B. CITY Indemnification. The CITY agrees to indemnify, defend and hold the SERVICE PROVIDER, its officers, directors, shareholders, partners, employees, and agents harmless from any and all claims, demands, losses, actions and liabilities (including costs and attorney fees) to or by any and all persons or entities, including without limitation, their respective agents, licensees, or representatives, arising from, resulting from or connected with this Agreement to the extent caused by the negligent acts, errors, or omissions of the CITY, its employees or agents. No liability shall attach to the CITY by reason of entering into this Agreement except as expressly provided herein.

C. Survival. The provisions of this Section shall survive the expiration or termination of this Agreement with respect to any event occurring prior to such expiration or termination.

8. INSURANCE.

A. The SERVICE PROVIDER shall procure and maintain for the duration of the Agreement, insurance against claims for injuries to persons or damage to property which may arise from or in connection with the performance of the work hereunder by the SERVICE PROVIDER, their agents, representatives, employees or subcontractors.

B. The SERVICE PROVIDER shall provide a Certificate of Insurance evidencing:

1. Automobile Liability insurance with limits of \$1,000,000 combined single limit per accident for bodily injury and property damage.

2. Commercial General Liability insurance written on an occurrence basis with limits of \$2,000,000 combined single limit per occurrence and \$2,000,000 aggregate for personal injury, bodily injury and property damage. Coverage shall include but not be limited to: blanket contractual; products/completed operations; broad form property damage; explosion, collapse and underground (XCU) if applicable; and employer's liability.

3. Professional Liability insurance written on a claims made basis with limits of \$2,000,000 per claim, and \$2,000,000 policy aggregate limit.

C. The CITY shall be included as an additional insured on the insurance policy, as respect to work performed by or on behalf of the SERVICE PROVIDER and a copy of the endorsement naming the CITY as additional insured shall be attached to the Certificate of Insurance. The CITY reserves the right to request certified copies of any required policies.

D. The SERVICE PROVIDER'S insurance shall contain a clause stating that coverage shall apply separately to each insured against whom claim is made or suit is brought, except with respects to the limits of the insurer's liability.

E. Any payment of deductible or self-insured retention shall be the sole responsibility of the SERVICE PROVIDER.

F. The SERVICE PROVIDER'S insurance shall be primary insurance as respect to the CITY and the CITY shall be given written notice of any cancellation, suspension or material change in coverage within two (2) business days of SERVICE PROVIDER'S receipt of such notice.

9. TREATMENT OF ASSETS.

Title to all property furnished by the CITY shall remain in the name of the CITY and the CITY shall become the owner of the work product and other documents, if any, prepared by the SERVICE PROVIDER pursuant to this Agreement.

10. COMPLIANCE WITH LAWS.

A. The SERVICE PROVIDER, in the performance of this Agreement, shall comply with all applicable federal, state or local laws and ordinances, including being licensed to do business in the City of Tumwater by obtaining a Tumwater business license and any additional regulations for licensing, certification and operation of facilities, programs and accreditation, and licensing of individuals, and any other standards or criteria as described in this Agreement to assure quality of services.

B. The SERVICE PROVIDER specifically agrees to pay any applicable CITY business and occupation (B&O) taxes which may be due on account of this Agreement.

11. NONDISCRIMINATION.

A. The CITY is an equal opportunity employer.

B. Nondiscrimination in Employment. In the performance of this Agreement, the SERVICE PROVIDER will not discriminate against any employee or applicant for employment on the grounds of race, creed, religion, color, national origin, citizenship or immigration status, families with children status, sex, marital status, honorably discharged veteran or military status, the presence of any sensory, mental, or physical disability or the use of a trained dog guide or service animal by a person with a disability, sexual orientation, genetic information, age or other basis prohibited by state or federal law; provided that the prohibition against discrimination in employment because of disability shall not apply if the particular disability prevents the proper performance of the particular worker involved. Such action shall include, but not be limited to: employment, upgrading, demotion or transfers, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and programs for training including apprenticeships. "Race" is inclusive of traits historically associated or perceived to be associated with race including, but not limited to, hair texture and protective hairstyles. For purposes of this subsection, "protective hairstyles" includes, but is not limited to, such hairstyles as afros, braids, locks, and twists. It is not an unfair practice when a distinction or differential treatment on the basis of citizenship or immigration status is authorized by federal or state law, regulation, rule or government contract.

C. Nondiscrimination in Services. The SERVICE PROVIDER will not discriminate against any recipient of any services or benefits provided for in this Agreement on the grounds of race, creed, religion, color, national origin, citizenship or immigration status, families with children status, sex, marital status, honorably discharged veteran or military status, the presence of any sensory, mental or physical disability or the use of a trained dog guide or service animal by a person with a disability, sexual orientation, genetic information, age or other basis prohibited by state or federal law. "Race" is inclusive of traits historically associated or perceived to be associated with race including, but not limited to, hair texture and protective hairstyles. For purposes of this subsection, "protective hairstyles" includes, but is not limited to, such hairstyles as afros, braids, locks, and twists. It is not an unfair practice when a distinction or differential treatment on the basis of citizenship or immigration status is authorized by federal or state law, regulation, rule or government contract.

D. If any assignment and/or subcontract have been authorized by the CITY, said assignment or subcontract shall include appropriate safeguards against discrimination. The SERVICE PROVIDER shall take such action as may be required to ensure full compliance with the provisions in the immediately preceding paragraphs herein.

E. Nondiscrimination in Benefits. Pursuant to Tumwater Municipal Code (TMC) Chapter 3.46, the SERVICE PROVIDER shall provide employee benefits or an equivalent sum to the domestic partners of their employees involved in the SERVICE PROVIDER'S operations applicable to this Agreement if such benefits are provided to employees' spouses as more particularly set forth in Chapter 3.46 of the TMC, a copy of which is attached hereto as Exhibit "B".

12. ASSIGNMENT/SUBCONTRACTING.

A. The SERVICE PROVIDER shall not assign its performance under this Agreement or any portion of this Agreement without the written consent of the CITY, and it is further agreed that said consent must be sought in writing by the SERVICE PROVIDER not less than thirty (30) days prior to the date of any proposed assignment. The CITY reserves the right to reject without cause any such assignment.

B. Any work or services assigned hereunder shall be subject to each provision of this Agreement and proper bidding procedures where applicable as set forth in local, state and/or federal statutes, ordinances and guidelines.

C. Any technical service subcontract not listed in this Agreement, must have express advance approval by the CITY.

13. NON-APPROPRIATION OF FUNDS.

If sufficient funds are not appropriated or allocated for payment under this Agreement for any future fiscal period, the CITY will not be obligated to make payments for services or amounts incurred after the end of the current fiscal period, and this Agreement will terminate upon the completion of all remaining services for which funds are allocated. No penalty or expense shall accrue to the CITY in the event this provision applies.

14. CHANGES.

Either party may request changes to the Scope of Services and performance to be provided hereunder, however, no change or addition to this Agreement shall be valid or binding upon either party unless such change or addition be in writing and signed by both parties. Such amendments shall be attached to and made part

of this Agreement.

15. MAINTENANCE AND INSPECTION OF RECORDS.

A. The SERVICE PROVIDER at such times and in such forms as the CITY may require, shall furnish to the CITY such statements, records, reports, data, and information as the CITY may request pertaining to matters covered by this Agreement.

B. The SERVICE PROVIDER shall maintain books, records and documents, which sufficiently and properly reflect all direct and indirect costs related to the performance of this Agreement and shall maintain such accounting procedures and practices as may be necessary to assure proper accounting of all funds paid pursuant to this Agreement. These records shall be subject at all reasonable times to inspection, review, or audit, by the CITY, its authorized representative, the State Auditor, or other governmental officials authorized by law to monitor this Agreement.

C. To ensure the CITY'S compliance with the Public Records Act, RCW 42.56, the SERVICE PROVIDER shall retain all books, records, documents and other material relevant to this agreement, for six (6) years after its expiration. The SERVICE PROVIDER agrees that the CITY or its designee shall have full access and right to examine any of said materials at all reasonable times during said period.

16. POLITICAL ACTIVITY PROHIBITED.

None of the funds, materials, property or services provided directly or indirectly under the Agreement shall be used for any partisan political activity, or to further the election or defeat of any candidate for public office.

17. PROHIBITED INTEREST.

No member, officer, or employee of the CITY shall have any interest, direct or indirect, in this Agreement or the proceeds thereof.

18. NOTICE.

Notice provided for in this Agreement shall be sent by certified mail to the addresses designated for the parties on the signature page of this Agreement.

19. ATTORNEYS FEES AND COSTS.

If any legal proceeding is brought for the enforcement of this Agreement, or

because of a dispute, breach, default, or misrepresentation in connection with any of the provisions of this Agreement, the prevailing party shall be entitled to recover from the other party, in addition to any other relief to which such party may be entitled, reasonable attorney's fees and other costs incurred in that action or proceeding.

20. JURISDICTION AND VENUE.

A. This Agreement has been and shall be construed as having been made and delivered within the State of Washington. It is agreed by each party hereto that this Agreement shall be governed by laws of the State of Washington, both as to interpretation and performance.

B. Any action of law, suit in equity, or judicial proceeding for the enforcement of this Agreement or any provisions thereof shall be instituted and maintained in the superior court of Thurston County, Washington.

21. SEVERABILITY.

A. If, for any reason, any part, term or provision of this Agreement is held by a court of the United States to be illegal, void or unenforceable, the validity of the remaining provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Agreement did not contain the particular provision held to be invalid.

B. If it should appear that any provision hereof is in conflict with any statutory provision of the State of Washington, said provision which may conflict therewith shall be deemed inoperative and null and void insofar as it may be in conflict therewith, and shall be deemed modified to conform to such statutory provisions.

22. FORCE MAJEURE.

Notwithstanding anything to the contrary in this Agreement, Service Provider shall not be liable or responsible to the City, nor be deemed to have defaulted under or breached this Agreement, for any failure or delay in fulfilling or performing any term of this Agreement, if Service Provider's failure or delay is caused by or results from any of the following events: acts of God, flood, fire, earthquake, hurricane, epidemic, explosion, war, invasion, hostilities, terrorist threats or acts, riot, government order or law, embargoes, blockades, or other similar events beyond the reasonable control of Service Provider.

23. ENTIRE AGREEMENT.

The parties agree that this Agreement is the complete expression of the terms hereto and any oral representations or understandings not incorporated herein are excluded. Further, any modification of this Agreement shall be in writing and signed by both parties. Failure to comply with any of the provisions stated herein shall constitute material breach of contract and cause for termination. Both parties recognize time is of the essence in the performance of the provisions of this Agreement. It is also agreed by the parties that the forgiveness of the nonperformance of any provision of this Agreement does not constitute a waiver of the provisions of this Agreement. This Agreement may be executed in any number of counterparts, which counterparts shall collectively constitute the entire Agreement.

****Signatures on the following page***

IN WITNESS WHEREOF the parties hereto have caused this Agreement to be executed the day and year first hereinabove written.

CITY:
CITY OF TUMWATER
555 Israel Road SW
Tumwater, WA 98501

SERVICE PROVIDER:
Davey Resource Group, Inc
18809 10th Ave. NE
Shoreline, WA 98155
UBI #: 604-179-754
Phone Number: 206-536-2977

DocuSigned by:

Lisa Parks

974F52E8451341E...
Lisa Parks, City Administrator

Don Scott

Signature (Notarized – see below)

Printed Name: *Don Scott*

Title: *Area Manager*

APPROVED AS TO FORM:

DocuSigned by:

Karen Kirkpatrick

5011BA3DE4C345C...
Karen Kirkpatrick, City Attorney

Notary Required for Service Provider Only
STATE OF WASHINGTON

COUNTY OF THURSTON *King DPL*

I certify that I know or have satisfactory evidence that *Don Scott* (name) is the person who appeared before me, and said person acknowledged that (he/she) signed this instrument, on oath stated that (he/she) was authorized to execute the instrument and acknowledged it as the *Area Manager* (title) of *Davey Resource Group, Inc* (company) to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

Dated: *08/28/2023*



[Signature]
Notary Public in and for the State of Washington,
My appointment expires: *12/01/2023*

Exhibit A



Scope Of Services

Tumwater Tree Inventory and Maintenance Plan

Prepared For:

City of Tumwater, WA

% Alyssa Jones Wood
Sustainability Coordinator
55 Israel Rd SW,
Tumwater, WA 98501

Prepared By:

Ian Scott
Area Manager

Davey Resource Group, Inc.
18809 10th Ave. NE
Shoreline, WA, 98155

Phone: 206-536-2977

E-mail: Ian.Scott@Davey.Com



Scope of Services -Overview

The project has the following activity components identified:

Activity 1 - City Owned Urban Forest Field Inventory

Task 1.1.1 Cleanup and Update Existing Street Tree Inventory Data: Working with the City, DRG will setup our TreeKeeper software with existing data and perform a desktop review at the beginning of the project to identify missing data fields (required by DNR) and other opportunities to improve the database and prioritize fieldwork. This effort will allow the City to prioritize our tree inventory efforts.

Task 1.1.2 Incorporate Data from Volunteers: DRG anticipates that the City will be using volunteers to make updates to the tree inventory database where trees have been removed or replanted. During this Task, DRG will provide the City Staff and volunteers with access to our TreeKeeper software for both field and office use during this task. This approach will benefit the City as we can introduce automated quality control elements to your volunteer's data.

Task 1.2 Tree Inventory in Parks, Wells, Stormwater Facilities, and at City buildings. DRG will inspect and inventory trees in assigned areas to further improve the city's tree inventory database.

Task 1.3 Complete a Sample-Based Inventory on Other City Properties. DRG will inspect and inventory trees in assigned areas to further improve the city's tree inventory database.

Activity 2: Community and Urban Forest Maintenance Report

DRG will draft a summary report with the following sections

Task 2.1 Summary Methodology and inventory results DRG uses Tumwater's inventory data and industry standards and best management practices to develop a management plan upon completion of the inventory.

Task 2.2 i-Tree Analysis and Results DRG analyses the tree inventory to evaluate the environmental benefits provided by the inventory.

Task 2.3 Maintenance Strategy on a 4-year cycle with prioritized areas for tree maintenance. DRG offers a free, one-time, one-year trial of our TreeKeeper® Software. DRG delivers the city's inventory data in TreeKeeper® and as ESRI® shapefiles and an Excel™ spreadsheet.

Task 2.4 Estimate costs of maintenance for existing urban and community forests. DRG will work with our parent company, The Davey Tree Expert Company to develop estimated costs for maintenance and help the City resolve the costs of maintaining public trees.

Task 2.5 Strategy for future planting areas to develop canopy cover more equitably throughout the city. DRG will perform an enhanced analysis of the 2017 urban tree canopy assessment and develop priority planting areas in the City based on weighted criteria for environmental or social equity.

Scope of Services Activity 1. City-Owned Urban Forest Inventory

To ensure that the tree inventory meets Tumwater's goals and deadlines, DRG uses the following work plan.

Project Marshalling and Kickoff (Task 0)

From project beginning to end, DRG staff keep open lines of communication with the City of Tumwater via telephone, e-mail, and, as needed, in-person meetings. DRG answers any questions Tumwater has as well as keeps the city apprised of the project's progress. Once awarded the project, DRG executes a contract and supplies insurance per project specifications.

DRG staff will contact the city after contract execution to schedule a kick-off meeting. During the kick-off meeting, Tumwater's staff and the DRG project team discuss inventory safety and communication procedures and confirm project expectations and milestones.

Following the meeting, DRG will proceed to draft a project-specific data collection handbook (Field Guide). This handbook will standardize data collection procedures and serve as a reference for the City of Tumwater and volunteers to help ensure consistency and clarity with data collection efforts.

Software Programming (TreeKeeper) (Task 0)

The next step in the inventory process is to obtain the GIS data and imagery needed to set up the field computers used for data collection. DRG's urban foresters typically work with the city's GIS or planning department to complete this step. If necessary, we can get imagery from other public sources. DRG uses the data fields defined in this proposal and the imagery, maps, and data files obtained from the city and various sources to program the data collection software and field computers.

Data Cleanup and Community Volunteers (Task 1.1.1 & Task 1.1.2)

Once our software is set up, we will perform a desktop review and update new data fields such as site type, species code, recommended maintenance, and the number of stems. With our web-based TreeKeeper software, we will also provide access for city-assigned volunteers to contribute to the database by updating removed trees and adding new tree planting.

Tree Inventory (Task 1.2, Task 1.3)

DRG will begin data collection soon after the kick-off meeting. Our experienced, qualified urban foresters locate trees in assigned public parks and city properties according to staff priority assignments. DRG anticipates conducting efforts on 37 city parcels (estimated ~79 acres, up to 3,480 trees). At each location, they evaluate those trees and record the data specified by the city.

Accessing Inventory Data

DRG supplies access to the tree inventory data during data collection. To access tree records, utilize TreeKeeper® to view and field check data and even to route and plan for tree work.

Individual Tree Inspection Process

During data collection, DRG's urban foresters walk by each tree and inspect the tree from the ground. Based on the conditions at the time of the inspection, DRG's staff identify the tree's species and its location, measure tree diameter, and rate its health. DRG's urban foresters also suggest the specific maintenance involved. When data collection for an individual tree is complete, DRG's urban foresters walk to the next tree and follow the same steps, in the same order, to ensure consistent data collection.

DRG formally routes the collection of inventory data to ensure that staff collects all the sites in the project area in a systematic manner. Throughout the inventory process, DRG maps the streets, parks, and properties inventoried and shares that information with the City. DRG also informs the city where staff intends to collect data next. DRG's urban foresters collect data Monday through Friday and often on weekends with our client's permission.

Data Fields

For Tumwater's inventory, DRG anticipates collecting the following data fields:

- | | |
|---|-----------------------------------|
| 1. Location (X/ Y coordinates, Lat/Long) | 8. Date |
| 2. Site Typ | 9. Recommended Maintenance |
| 3. Species (Botanical and Common) | (priority maintenance) |
| 4. Location/Land Use | 10. Number of Stems |
| 5. DBH (Diameter at Breast Height) | 11. Notes |
| 6. Condition | 12. Optional: Observations/Defect |
| 7. Creator (data point creator) | |

The data fields listed above give Tumwater ample information to manage their trees and stumps proactively.

Sample Plots

Trees growing in naturalized areas will be assessed using random sample methodology. DRG anticipates collecting up to 40 sample plots (1/10th Acre plots) within 7 parcels (~165 acres). Trees within sampled plots will be identified, measured, and evaluated. Sampled data from each naturalized area will be extrapolated to identify trends in the known data. The information will be summarized in the 'Community and Urban Forest Maintenance Report'.

To evaluate trees in Tumwaters's naturalized areas, DRG will obtain digital files of each area with boundaries clarified as digital polygons. DRG's GIS technicians will generate sitemaps with randomized location plots for each naturalized area using ArcGIS. Each randomized plot within the naturalized area will represent 1/10th acre. DRG arborists will visit each plot to inventory and assess trees six inches (6") in diameter or greater (DBH) size.

Tree Inventory Data Delivery

For this project, Tumwater is eligible to receive tree inventory data in DRG's TreeKeeper® software. As part of our one-time software trial, DRG provides a one-year subscription to TreeKeeper® software to Tumwater free of charge. The city also receives one year of telephone software support, also free of charge for the first one-year period.

To access TreeKeeper®, use Safari® on an iOS device or via Google Chrome™ on a Windows® or Android device; the secure login information DRG provides to the city.

Once using TreeKeeper®, the city can view and use the inventory data and **download the data in a variety of formats, including CSV/Excel™ and ESRI® shapefile formats.**

DRG offers custom software training for an added fee; and welcomes further discussion to learn more about our training programs, which can earn attendees up to eight (8) ISA continuing education units (CEUs).

Other Formats

If the City of Tumwater needs the inventory data in different formats, such as Google Earth's KML, AutoCAD®, or i-Tree, or for a particular asset management software program like CityWorks, Hansen, or Cartegraph, DRG can supply the inventory data in those formats for an added charge. Please contact DRG for more information about data formatting options and fees.

Subject Areas

The following public properties are included in the project for either the inventory of trees or through plot sampling efforts.

Site Location	Type	Area (sq ft)	Scope of Effort
215 N 2ND AVE SW	City Building	74178	Inventory
420 DESCHUTES WAY SW	Park	31518	Inventory
Capitol Blvd SE & E St SW	Storm site	150437	Inventory
V St SW (park)	Park	25886	Inventory
7th Ave Open Space	Park	293893	Inventory
Union Pioneer Calvary Cemetary	Park (Cemetery)	195506	Inventory
1500 79TH AVE SE	Park	288878	Inventory
1500 79TH AVE SE	City Building (future)	689001	Inventory
3288 VISTA VERDE LN SW	City Building (Water reservoir)	34572	Inventory
C St Pump Station A	City Building (Pump station)	12851	Inventory
1205 BARNES BLVD SW	Park	56628	Inventory
C St SW Pump Station B	City Building (Pump station)	7016	Inventory
6135 BLACK LAKE BELMORE RD SW	City Building (Sewer Pump Station)	2879	Inventory
7007 CAPITOL BLVD SW	City building	29840	Inventory
Angle Park	Park	7791	Inventory
2000 79TH AVE SE	City Building (Sewer Pump Station)	2492	Inventory

2131 69TH CT SE	City Building (Sewer Pump Station)	5253	Inventory
Site Location	Type	Area (sq ft)	Scope of Effort
2401 SW TROSPER RD	City Building (Sewer Pump Station)	3968	Inventory
309 O ST SE	Park/Water pump station	40716	Inventory
Middle St SE (storm site)	Storm site	15808	Inventory
9168 ASTER ST SE	Park	22328	Inventory
9191 VIOLA ST SE	Storm site	126867	Inventory
1008 LINWOOD AVE SW	City Building (Sewer Pump Station)	2042	Inventory
77th Way SW (pump Station)	City Building (Pump station)	4277	Inventory
2501 CRITES ST SW	Storm site	37004	Inventory
2352 SW SAPP RD	City Building (Sewer Pump Station)	8185	Inventory
Barnes Blvd Water Reservoir	City Building (Water reservoir)	75830	Inventory
3201 BOSTON ST SW	City Building (old Brewery)	7868	Inventory
703 DESCHUTES WAY SW	Park	317090	Inventory
215 2ND AVE SW	City building	30675	Inventory
535 BATES ST SW	Park	57120	Inventory
5th and Grant Pocket Park	Park	12637	Inventory
Barclift Park	Park	133712	Inventory
311 ISRAEL RD SW	City Building/Well site	148553	Inventory
555 ISRAEL RD SW	City Building	156710	Inventory
7200 NEW MARKET ST SW	City Building	198835	Inventory
7023 NEW MARKET ST SW	City Building (Library)	114452	Inventory
5801 HENDERSON BLVD SE	Park	3795196	Sampling
Trospen Lake Natural Area	Park	795772	Sampling
305 O ST SE	Well Site	891824	Sampling
1436 LINWOOD AVE SW	Park/Storm	850960	Sampling
12th Ave SW (Storm Site)	Storm site	269898	Sampling
2332 SW SAPP DR	Park	512233	Sampling
N 4th Ave SW	Park	90154	Sampling

Activity 2. Tree Inventory Report and Management Plan

The City of Tumwater will benefit from our report that helps your community recognize priority and proactive tree management tasks, know the value of community trees, and project realistic multi-year budgets. To develop a tree management plan, our experienced urban foresters analyze the tree inventory data, assessing the data to determine the composition, structure, and function of the tree population. Then, DRG uses the findings from the data analysis, along with industry standards, risk management goals, and best management practices, to report on the status of the urban forest and prioritize tree maintenance needs.

Plan Sections

Task 2.1 Summary Methodology and Inventory Results

Executive Summary: Provides an overview of the project and its findings.

Introduction: Describes the assignment, methods, and other relevant information.

Task 2.2 i-Tree Analysis and Results

Structure, Composition, and Benefits of Tree Resource: Using charts, tables, and insight from DRG's experienced urban foresters, this section describes the composition, function, and structure of the urban forest, including its species diversity, diameter size class distribution, general health, priority maintenance, and potential pest-related threats to trees. DRG also analyses the data within i-Tree to understand the benefits and services provided by the urban forest.

Task 2.3 Strategy for Maintenance

Recommended Management of the Tree Resource: Focuses on the tree maintenance tasks that will help the city mitigate risk within its urban forest and complete proactive four-year maintenance cycles. Based on the inventory data, DRG's experienced urban foresters classify the type of maintenance work needed, present the number of trees needing each specific type of care, and lay out a plan for carrying out the tree work over a multi-year period.

Task 2.4 Estimate of Costs

Inferences from the entire process about what has been found, or decided, and the financial impact of those findings or decisions with regards to a 4-year tree management cycle.

Task 2.5 Strategy for Future Planting

DRG's GIS-IT specialists will perform a priority planting analysis using the urban tree canopy results obtained by the city in 2018. DRG will locate "priority planting areas". The identification of priority planting areas (in acres) considers land use and other factors such

as approved community master planning that limit where trees may be planted. The planting area analysis can be completed for the entire project area prioritized based on maximizing canopy benefits for environmental equity or social equity. In particular, DRG will provide planting analysis to reduce urban heat island and benefit overburdened communities by comparing available planting spaces against map layers available through Washington State Department of Health "[Environmental Health Disparities V2.0](#)", and "[heat severity 2019 \(ImageServer\) \(tplgis.org\)](#)"

About i-Tree

With a completed up-to-date comprehensive tree inventory, Davey Resource Group will complete an i-Tree Analysis of the tree inventory*. The analysis will enable Tumwater to make informed decisions about their urban forest as it relates to environmental services. Davey Resource Group uses i-Tree software to determine the overall structure of a tree population and calculate the benefits of that resource. The data from i-Tree is distilled and analyzed in conjunction with information obtained from Tumwater, including budget and program resources and management policies and procedures. The resulting information is provided in a comprehensive report using full-color charts and tables, along with a complete explanation of the data. The report includes information on how Tumwater's trees provide energy savings, carbon dioxide sequestration, air quality improvement, stormwater runoff reduction, aesthetics, property value, and socioeconomic benefits. The report will present the monetary value of the urban forest. The Analysis and Report will be a valuable resource for not only the District operations but also for the Faculty as educational resources. Details about the structure of the inventory will be described as follows:

- *Frequency of Species.* A percentage breakdown of the number of trees in each species.
- *Relative Age Distribution.* A description of the overall age distribution and analysis of the age distribution for the top ten most common species in the inventory.
- *Condition.* A description of the overall condition.
- *Relative Performance Index.* Analysis of how each species in the inventory is performing against the others, and identification of underused species that are performing above average in the inventory.
- *CO₂ Sequestered.* The amount and value of carbon dioxide that has been sequestered to date.
- *Replacement Value.* The cost of replacing the tree resource with trees of a similar size, species, and condition.
- *Electricity and Natural Gas.* The amount and value of electricity and natural gas are both saved and avoided.
- *CO₂ Sequestered and Avoided.* The amount and value of atmospheric carbon dioxide benefit both sequestered and avoided annually.
- *Stormwater Runoff Reduction.* The amount and value of stormwater intercepted by tree canopy.
- *Air Quality Improvements.* The amount and value of air quality improvements, including the absorption of gaseous pollutants (O₃ and NO₂), interception of particulate matter, reduced emissions, increased oxygen levels, and reduced temperatures.
- Cost analysis of overall annual investment versus the return on benefits.

- Current, detailed management expenditures for caring for the tree resource and critical baseline information for evaluating program efficiency.
- A quantified value of the environmental benefits provided by the tree resource.

DRG can provide the i-Tree project file upon request

Schedule

This scope of work will be completed March 1st, 2024.

Project Budget

Task 0. Project Kick-Off and Marshalling \$5,160.00

- ☐ Project Marshalling, Kick-Off Meeting, Project Field Guide
- ☐ Software Setup for City, Volunteers, and Production Team

Task 1. City Owned Urban Forest Field Inventory \$40,962.00

- ☐ 1.1.1 Cleanup and Update Existing Street Tree Inventory Data
(Anticipated review and edits to 1,896 trees)
- ☐ 1.1.2 Incorporate Data from Volunteers
- ☐ 1.2 Tree Inventory on Assigned City Properties
(Anticipated tree inventory of 37 Parcels, ~79 acres, up to 3480 Trees)
- ☐ 1.3 Complete Sample-Based Inventory on Other City Properties
(Anticipated up to 40 sample plots, 1/10th Acre size, representing 7 Parcels @ ~165 Acres)

Task 2. Community and Urban Forest Maintenance Report \$13,680.00

- ☐ 2.1 Summary Methodology and Inventory Results
- ☐ 2.2 i-Tree Analysis and Results
- ☐ 2.3 Maintenance Strategy for 4-year Cycle
- ☐ 2.5 Strategy for Future Planting Areas

Task 3. (Optional) Tree Management Software (Free Trial)

- ☐ One-year subscription

During data collection, tree inventory data will be available for clients to view with compatible computer systems via our TreeKeeper® software. Clients agreeing to receive our promotional offer receive one free year of TreeKeeper® service beginning on the last day of the month of the inventory data release and ending 365 days later. DRG also supplies one year of telephone software support. DRG offers no discounts if Tumwater declines the promotional software service offer.

Total Cost \$59,802.00