



**CITY OF NOVI CITY COUNCIL
AUGUST 14, 2023**

SUBJECT: Approval to award services to Davey Tree to complete an urban tree canopy assessment and update the tree management plan, in the amount of \$42,000.

SUBMITTING DEPARTMENT: Department of Public Works, Field Operations Division

EXPENDITURE REQUIRED	\$ 42,000.00
AMOUNT BUDGETED	\$ 42,000.00
APPROPRIATION REQUIRED	\$ 0
LINE ITEM NUMBER	213-000.00-816.083

BACKGROUND INFORMATION:

A multi-year plan is key to a successful urban forestry asset management program. The City previously had a five-year plan compiled by Davey Tree in February 2018. Urban forestry best practices include updates to the plan every five years with new data and maintenance progress.

The update includes an urban tree canopy assessment which was not included in 2018 study. The assessment will utilize aerial imagery and GIS technology to evaluate the current extent of tree canopy coverage across Novi, analyze the cumulative ecosystem benefits of the urban forest, and examine the change in canopy coverage over time. This will help ensure equitable distribution of trees across the city and guide future planting efforts. This information will also be incorporated into the updated management plan. The program proposal is attached reference.

The management plan update will follow up on the Davey Tree plan compiled in early 2018. That five-year plan provided recommendations for the City's maintenance activities and budgeting for proactive neighborhood pruning maintenance. The plan also helps guide reactive work such as tree removals, stump grinding, and other miscellaneous activities.

Davey Tree is a sole source provider of comprehensive urban tree canopy assessments and management plan services.

RECOMMENDED ACTION: Approval to award services to Davey Tree to complete an urban tree canopy assessment and update the tree management plan, in the amount of \$42,000.



City of Novi Urban Forestry Program Proposal

Prepared For:

City of Novi

45175 Ten Mile Road,
Novi, Michigan 48375

Prepared By:

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June, 2023

Novi Urban Forestry Program



Introduction

Trees are part of everyday life in the City of Novi. The city’s urban forest creates a sense of place and supplies real benefits to those who live in Novi. Trees along streets, in parks, around playgrounds, and in backyards provide shade and beauty and enhance the quality of life in Novi by bringing natural elements and wildlife habitats into urban settings. Trees also moderate temperatures, reduce air pollution and energy use, improve water quality, and promote human health and well-being. Davey Resource Group, Inc. “DRG” understands the benefits trees bring to your community. We also realize the challenges that come with managing public trees.

About Davey Resource Group, Inc.

For over 29 years, DRG has inventoried trees throughout the United States. We know that the data collected during a tree inventory is critical to helping you manage your urban forest proactively and better mitigate tree-related risk. Since you rely on our findings and recommendations to make important decisions, DRG uses only qualified, experienced staff who are knowledgeable of both industry standards and the municipal work environment.



Trees bring natural elements and wildlife habitats into urban settings and they also moderate temperatures, reduce air pollution and energy use, and improve water quality.

Urban Forest Experts

We are pleased to introduce DRG and our team of urban forest experts to the city and present our qualifications to provide urban forestry services. DRG's team will provide you with solutions you can count on for building and maintaining tree canopy in a manner that not only enhances community aesthetics and public safety but also improves the community's environmental and social well-being through trees.

Our team consists of International Society of Arboriculture (ISA) Certified Arborists, urban and traditional foresters, urban planners, Geographic Information Systems (GIS) and Information Technology (IT) specialists, and ecological scientists. We have experience working with a wide variety of clients, including municipalities, parks, commercial complexes, and utilities, and have the knowledge, certifications, and training required to complete Novi's project on time and budget while exceeding the city's expectations.

Natural Resource Management

DRG's Environmental Consulting team is your committed partner for natural resource planning and management. With 22 local offices and a national footprint, we offer a wide and growing variety of consulting services (in addition to urban forestry) including wetlands and stream studies, environmental design and ecosystem restoration, stormwater management and compliance, and invasive species management.

We understand the complex ecosystems, resource challenges, and regulatory concerns that impact the success of any environmental project. No matter the location—dense city core or a remote rural site—we leverage our creativity and expertise to deliver reliable, turn-key environmental consulting services. We combine the latest technologies with time-tested techniques to provide high-quality results in a timely and professional manner.

A Trusted Partner and Supporter of Arboriculture

Davey is a trusted partner of the United States Department of Agriculture (USDA) Forest Service and the Arbor Day Foundation, and a long-time supporter of the ISA and its local chapters. Davey is a founding partner with the USDA Forest Service of the i-Tree software.

Davey staff helped to develop and revise the American National Standards Institute (ANSI) standards for arboriculture, including tree risk assessment, and drafted some of ISA's best management practices. Davey also works with the Tree Care Industry Association (TCIA), as safety is priority one for the Davey Company. Recently, DRG created the Urban Forest Program Continuum to help our clients gauge and grow their tree management programs.

DRG's Focused Urban Forestry Services



TREE INVENTORY

Whether inventorying one tree or hundreds of thousands of trees, DRG tailors each inventory to meet your specific program needs and project budget.

TREEKEEPER® SOFTWARE

Developed, maintained, and supported by DRG's in-house IT professionals, TreeKeeper® is easy-to-use, web-based software used to manage, share, and update inventory data.



URBAN FOREST PLANNING

Whether the City of Novi needs help managing the city's trees daily or reaching overarching goals for the urban forest, our team has the experience, tools, and ability to help Novi achieve both its short- and long-term goals. DRG develops management and master plans as well as storm preparedness, tree protection, woodlot, and invasive species management plans.



GIS

With GIS specialists in-house, we can map the city's urban tree grow out, analyze the spatial distribution of available planting space, and predict the impact of threats to the tree canopy.

STAFFING

If the City of Novi does not have an urban forester or needs help with program management or projects, DRG's experienced ISA Certified Arborists work on-call, perform project work, or work as part-time or full-time contract staff.



TREE BENEFITS

As a developer of i-Tree, DRG knows how to use i-Tree Tools to highlight the benefits of your trees.

Scope of Work

This project is an integral part of Novi's comprehensive tree care program. The results of this project will help Novi better understand the composition, structure, and maintenance needs of its urban forest, allocate resources, develop risk management strategies, and promote the ecosystem benefits the city's trees provide to the local community.

The proposed project has the following key components:

1. **Urban Tree Canopy Assessment.** 5-band classification of land-cover in the City of Novi. Basic analyses and assessments to understand extent, distribution, and impacts of tree canopy across the community. Data will be delivered in standard GIS formats. A separate written report can be authored, or analyses can be incorporated into the city's management plan.
2. **Tree Management Plan.** DRG uses Novi's existing inventory data and industry standards and best management practices to update the City's management plan.

Project Approach

The following sections describe DRG's overall approach, or methodology, for accomplishing the city's scope of work. This section includes a plan of work for our services and explains the technologies we use to complete the inventory, an overview of our urban tree canopy planning services, and a description of a typical management plan. To illustrate the strength and experience of the DRG team, a few representative staff resumes, project examples, and references are in Appendices A and B, respectively.

Dedicated to Safety

Safety is the number one priority of DRG. To ensure the safety of DRG's workers and those traveling nearby, DRG uses the following Personal Protective Equipment (PPE): ball caps (hard hats where required), high-visibility safety vests, safety glasses, and over-the-ankle boots. All employees adhere to company COVID policies as well as local and state guidelines.



Davey has provided Proven Solutions for a Growing World since 1880 and has been employee owned for 38 years.

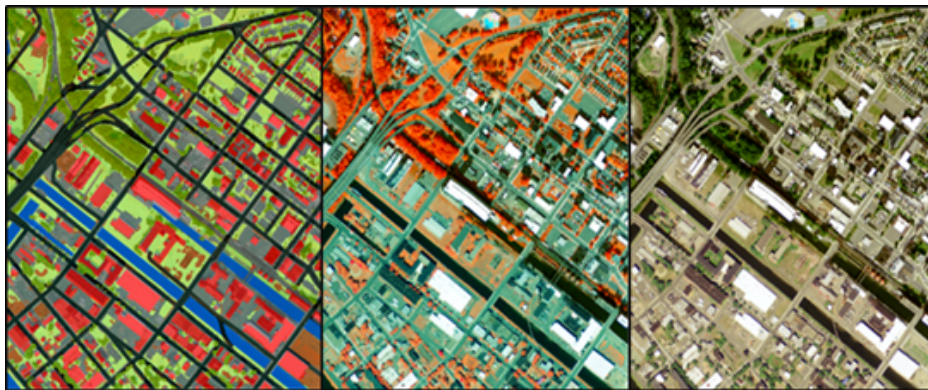
Task 1. Urban Tree Canopy Assessment

To ensure that the tree inventory meets the city's goals and deadlines, DRG uses the following approach to the city's urban tree canopy assessment.

Land Cover Mapping and Metrics

Using current imagery and GIS data layers available to DRG from the city and other partner agencies, DRG can complete an Urban Tree Canopy (UTC) assessment identifying the current extent of the tree canopy. The land cover assessment includes 5-band classification (trees canopy, other vegetation, bare soil, water, and impervious surfaces). DRG can provide the client with ESRI® shapefiles, metadata, and an Excel™ spreadsheet of the percent canopy cover containing data for several distinct geographies, such as parcel zoning, land use, neighborhood, and watershed, etc. (GIS boundary layers are required). The UTC data can be used to quantify, for example:

- The extent of canopy coverage for the incorporated areas of the communities.
- Tree canopy coverage by districts, wards, and sub watersheds.
- Tree canopy cover by zoning or land use such as residential, commercial, multi-family, etc.
- Tree canopy cover by land ownership.
- Tree canopy by census district.



Accuracy Standards

DRG manually edits and conducts thorough quality assurance and quality control (QA/QC) checks on all UTC and land cover layers. A QA/QC process will be completed using ArcGIS to identify, clean, and correct any misclassification or topology errors in the final land cover dataset. DRG edits the initial land cover extractions in urban and rural areas at a 1:2,000 quality control scale, and woodland/forested areas at a 1:5,000 scale. The project will attain a minimum of 95% user's accuracy for UTC and impervious classes and an overall accuracy of greater than or equal to 94%.

Tree Canopy Benefits

Air Quality—i-Tree Canopy can be used to analyze the amount of pollution removed by tree canopy in Michigan. Recent innovations with the latest version of i-Tree Canopy allow the software model to generate the overall ecosystem values for air quality. Results of this analysis will be presented in the report developed by DRG and can quantify the monetary and unit values of pollution reduction for carbon monoxide, nitrogen dioxide, ozone, particulate matter, and sulfur dioxide for public and private trees.

Carbon—i-Tree Canopy can again be used to evaluate the carbon sequestration and storage services provided by the communities' tree canopy. The results of this analysis can be reported on and showing how the amount of tree canopy influences carbon increases or reductions for public and private trees.

Stormwater—i-Tree Hydro can be used to capture stormwater interception. Per tree values can be used to extrapolate information from the public tree data to include private trees for an estimate of benefits across the entire urban forest.

Pollution Assessment—Using i-Tree Hydro, DRG can assess how changes in tree and impervious cover affect water quantity and quality within the communities. Data spanning from a period will be analyzed to attain the average pollutant runoff within community limits. Results of the assessment will be presented in the report that can be used to support decision-making aimed at reducing stormwater runoff and improving urban forests, environmental quality, and human health.

Priority Planting Opportunity Index

Per protocols set by USDA Forest Service, a standard UTC assessment provides mapping and information on “all possible planting areas.” This summation of possible planting areas is equal to the total of all areas that are open ground and includes areas such as golf courses, active agricultural fields, and sports fields. While it is theoretically possible that these types of pervious surfaces and land uses could represent future tree planting areas, it is often, and understandably so, not practical for a community to consider them for tree planting initiatives.



Therefore, to determine more likely and reasonable areas to plant trees. DRG can locate “preferred planting areas.” The identification of preferred planting areas considers land use and other factors such as approved community master planning that limit where trees may be planted. The preferred planting area analysis can be completed for the entire project area prioritized based on maximizing canopy benefits related to up to eight (8) of the following focal issues (parameters):

- Socio-demographics and population density.
- Proximity to surface waters and impaired waterways.
- Topography, floodplains, and soil types.
- Public/private ownership.
- Linkages to greenways and other forest resources.
- Stormwater problem areas.
- Mitigating urban heat island effect

DRG uses a combination of parameters obtained from discussion with the communities to determine planting objectives. Ultimately, each suitable planting area is divided into five priority categories ranging from Very Low to Very High based on the client’s parameters.

Canopy Change Analysis

Land cover is a unique resource that has a high susceptibility to change due to the complexities arising from the myriad of activities—anthropogenic and natural variation—it underpins. In our quest for development, we tend to vary the composition of the landscape to create conditions which would better serve our interests. These changes, however, pose potential threats to the ability of the land to support our activities. As a consequence, there is the need to track the changes of the land cover and related effects and plan adequately to ensure that we attain our goals and objectives without compromising the ability of future generations to realize theirs.

For these reasons, DRG strongly recommends including a change analysis as part of any UTC. Upon completion of the urban tree canopy assessments, DRG can conduct a change analysis, comparing the two UTC assessments. The change analysis will identify gains and losses in tree cover or specific land cover classes. Analyses will include spatial change, acreage change, percent change, and absolute change for the geographies specified by City of Novi in their request for services. Tables and maps will be created as requested.

The deliverable for the change analysis will be a separate raster and vector file that depicts change throughout the City of Novi. Change statistics will also be included in a spreadsheet along with a map in the report.

Urban Tree Canopy Assessment Data Deliverables

DRG delivers all GIS data in an ESRI ArcGIS® geodatabase in a projected coordinate system. Data sets will be delivered with projection files and metadata using Federal Geographic Data Committee (FGDC) specifications.

In addition to the GIS data files, the following will also be delivered to the City of Novi:

- Description of the classification methodology.
- Metadata that conforms Narrative to FGDC Standards.
- Excel™ spreadsheet containing land cover metrics, social equity and public health analyses, and environmental benefits analyses.

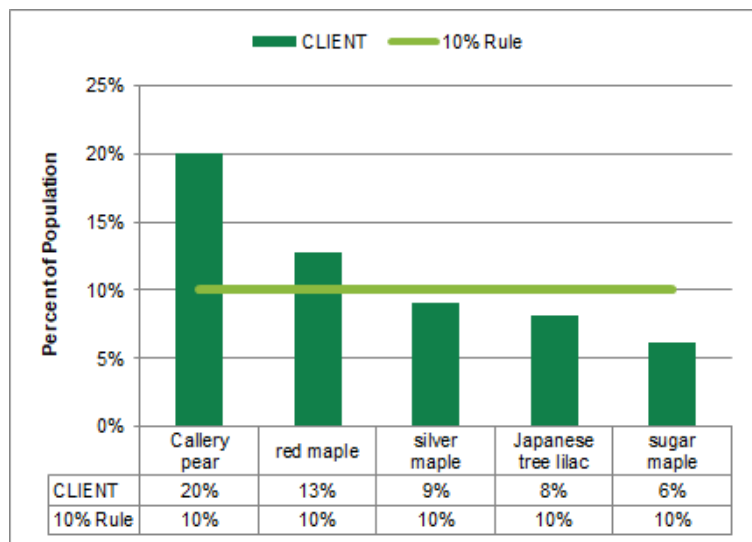
Task 2. Management Planning

Novi’s existing tree management plan was customized for the city’s needs. Davey Resource Group, Inc. will use the City’s existing tree inventory to update the City’s Urban Forest Management Plan.

The Management Plan helps the City 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 City’s existing 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. DRG develops a multi-year maintenance schedule and cost spreadsheet, provided as an editable Excel™ spreadsheet, based on prioritized maintenance needs.

Plan Sections

- *Executive Summary:* Provides an overview of the project and its findings.
- *Introduction:* Describes the assignment, methods, and other relevant information.
- *Structure & Composition of Tree Resource:* Using charts and 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 discusses trends, observations, and concerns found during the inventory or data analysis in this section. DRG will use the City’s existing inventory data. Analyses may be limited by the data fields included in the City’s data and the completeness of the City’s datasets.

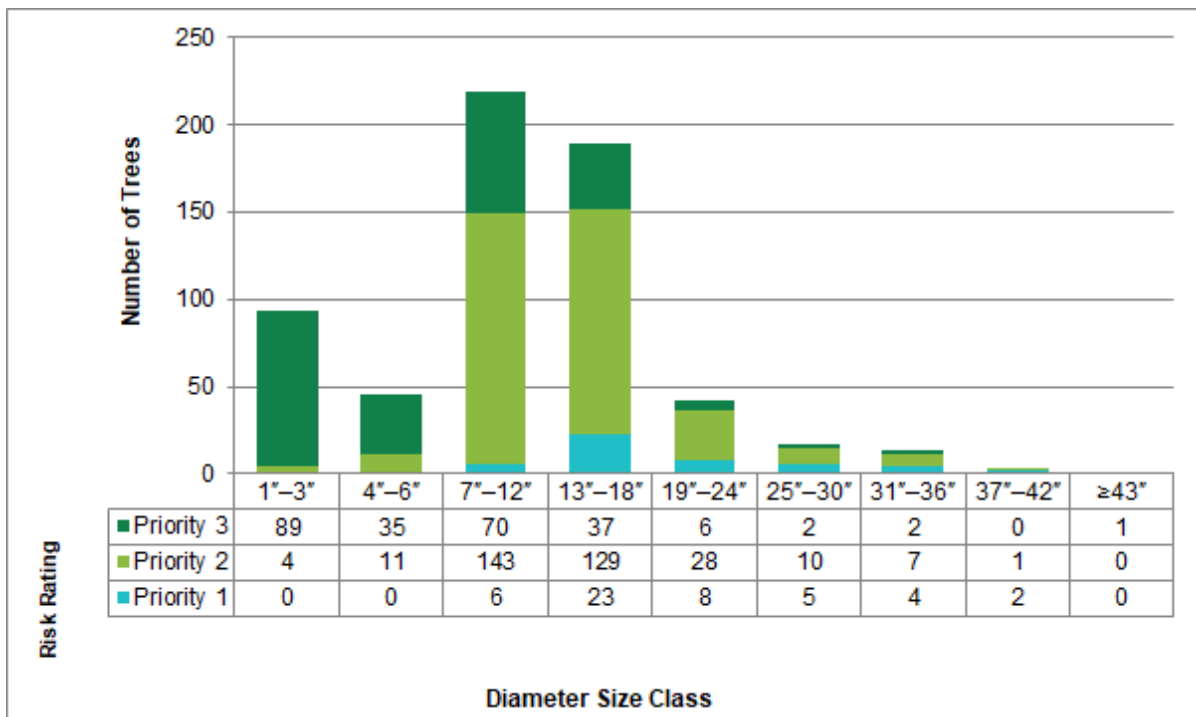
- *Functions & Benefits of the Tree Resource:* Highlights the environmental, ecological, and economic benefits trees provide to the community.
- *Risk Management:* Review and update the City’s approach to tree risk management and assessment.
- *Recommended Management of the Tree Resource:* Focuses on the tree maintenance tasks that will help the city mitigate risk within its urban forest, complete proactive maintenance cycles, and plant trees. 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.

The tree management plan addresses trees that need immediate care, or priority tree work, and those trees needing periodic inspection and preventative pruning to improve tree structure and general health. The plan also addresses the number and size of available planting spaces. In the plan, DRG groups tree maintenance tasks as follows:

- Priority tree removal
- Priority pruning
- Routine tree pruning cycle
- Structural pruning cycle
- Vacant planting space

To help project annual, long-term, or task-specific program budgets, DRG’s tree management plan includes a multi-year, editable Excel™ maintenance schedule and cost spreadsheet. The maintenance schedule approximates the cost to perform the recommended tree maintenance based on average industry unit rates to perform similar work. The format of the maintenance schedule and cost spreadsheet enables the city to update individual tree maintenance costs as prices change and modify workloads based on the city’s completed work.

- *Conclusion*—Summarizes the report, drawing inferences from the entire process about what has been found, or decided, and the impact of those findings or decisions.
- *Appendices*—Relevant appendices are provided.



Project Schedule, Tasks, and Deliverables

The following project schedule lists key tasks along with expected completion dates and deliverables. If the city's project schedule differs from what DRG projected, use the information for planning purposes.

Project Schedule (months)								
Task	J	A	S	O	N	D	J	Deliverable
Award								Insurance, contract
Kick-off Meeting								Meeting summary as needed
Urban Tree Canopy Assessment								5-band cover classification and associated analyses
Tree Management Plan or Inventory Summary Report								Data analysis, summary, and recommendations

Client Responsibilities

1. Provide DRG with imagery, maps, and data files. Our request may include the following: digital orthophotographs, available GIS data layers, other electronic or paper copies of maps for roads, pavement widths, right-of-way widths, boundaries and utilities, and an electronic file or printed list of street names and endpoints.
2. Provide a copy of any existing tree inventory databases.
3. Coordinate and host a kick-off meeting before the start of fieldwork.
4. Provide a timely review of draft publications created by DRG. If multiple reviewers are involved, coordinate compilation of all comments and edits into one document, with any conflicting comments resolved.
5. By accepting this proposal, the City of Novi accepts DRG's Terms and Conditions and Limited Warranty (listed after the Authorization to Proceed page below) and agrees that, upon award, this proposal and its attachments will be made a part of the Agreement.

Investment

Task 1. Urban Tree Canopy Assessment

Core Assessment	\$23,000
5-band land cover classification	
Exploration of land cover by several geographies of interest	
Ecosystem benefit analysis	
Planting prioritization	
Canopy change analysis	\$9,250

Task 3. Tree Management Plan

Update existing Management Plan	\$6,000
A brief analysis of inventory data with i-Tree results	
Incorporation of UTC in management plan	\$3,750

This proposal is valid for 60 days.

TERMS AND CONDITIONS

- Hourly rates are fixed for the calendar year in which your contract is executed. After that time they may be adjusted to account for annual increases in labor and overhead.
- Time and materials (T&M) estimates may fluctuate and will be billed accordingly. Fixed fee contract prices will be billed as shown.
- Invoicing will be submitted monthly for work performed, unless otherwise agreed upon.
- Payment terms are net 30 days.
- If prevailing wage requirements are discovered after the date of this proposal, we reserve the right to negotiate our fees.
- The client is responsible for any permit fees, taxes, and other related expenses, unless noted as being included in our proposal.
- The client shall provide 48 hours' notice of any meetings where the consultant's attendance is required.
- Unless otherwise stated, one round of revisions to deliverables is included in our base fee. Additional edits or revisions will be billed on a time and material (T&M) basis.
- All reports are provided only to the client unless otherwise directed.

LIMITED WARRANTY

Davey Resource Group, Inc. "DRG" provides this limited warranty ("Limited Warranty") in connection with the provision of services by DRG (collectively the "Services") under the agreement between the parties, including any bids, orders, contracts, or understandings between the parties (collectively the "Agreement").

Notwithstanding anything to the contrary in the Agreement, this Limited Warranty will apply to all Services rendered by DRG and supersedes all other warranties in the Agreement and all other terms and conditions in the Agreement that conflict with the provisions of this Limited Warranty. Any terms or conditions contained in any other agreement, instrument, or document between the parties, or any document or communication from you, that in any way modifies the provisions in this Limited Warranty, will not modify this Limited Warranty nor be binding on the parties unless such terms and conditions are approved in a writing signed by both parties that specifically references this Limited Warranty.

Subject to the terms and conditions set forth in this Limited Warranty, for a period of ninety (90) days from the date Services are performed (the "Warranty Period"), DRG warrants to Customer that the Services will be performed in a timely, professional and workmanlike manner by qualified personnel.

To the extent the Services involve the evaluation or documentation ("Observational Data") of trees, tree inventories, natural areas, wetlands and other water features, animal or plant species, or other subjects (collectively, "Subjects"), the Observational Data will pertain only to the specific point in time it is collected (the "Time of Collection"). DRG will not be responsible nor in any way liable for (a) any conditions not discoverable using the agreed upon means and methods used to perform the Services, (b) updating any Observational Data, (c) any changes in the Subjects after the Time of Collection (including, but not limited to, decay or damage by the elements, persons or implements; insect infestation; deterioration; or acts of God or nature [collectively, "Changes"]), (d) performing services that are in addition to or different from the originally agreed upon Services in response to Changes, or (e) any actions or inactions of you or any third party in connection with or in response to the Observational Data. If a visual inspection is utilized, visual inspection does not include aerial or subterranean inspection, testing, or analysis unless stated in the scope of work. When performing tree inventories or assessments, DRG will not be liable for the discovery or identification of non-visually observable, latent, dormant, or hidden conditions or hazards, and does not guarantee that Subjects will be healthy or safe under all circumstances or for a specified period of time, or that remedial treatments will remedy a defect or condition.

To the extent you request DRG's guidance on your permitting and license requirements, DRG's guidance represents its recommendations based on its understanding of and experience in the industry and does not guarantee your compliance with any particular federal, state or local law, code or regulation.

DRG may review information provided by or on behalf of you, including, without limitation, paper and digital GIS databases, maps, and other information publicly available or other third-party records or conducted interviews (collectively, "Source Information"). DRG assumes the genuineness of all Source Information. DRG disclaims any liability for errors, omissions, or inaccuracies resulting from or contained in any Source Information.

If it is determined that DRG has breached this Limited Warranty, DRG will, in its reasonable discretion, either: (i) re-perform the defective part of the Services or (ii) credit or refund the fees paid for the defective part of the Services. **This remedy will be your sole and exclusive remedy and DRG's entire liability for any breach of this Limited Warranty.** You will be deemed to have accepted all of the Services if written notice of an alleged breach of this Limited Warranty is not delivered to DRG prior to the expiration of the Warranty Period.

To the greatest extent permitted by law, except for this Limited Warranty, DRG makes no warranty whatsoever, including, without limitation, any warranty of merchantability or fitness for a particular purpose, whether express or implied, by law, course of dealing, course of performance, usage of trade or otherwise.

Appendix A: Experienced Staff

DRG may assign the following team members to the City of Novi's project. Their experiences and credentials prove that they have the qualifications needed to work for the city.

Lee S. Mueller, M.S., C.F., is a market manager with Davey Resource Group. Mr. Mueller is responsible for expanding environmental consulting services, establishing new regional offices, and strengthening key business partnerships across the Great Lakes. Throughout his career, Mr. Mueller has demonstrated deep experience in all aspects of developing and supporting complex, multi-partner projects in urban forestry and ecosystem restoration—from project visioning and budgeting to implementation strategies and long-term maintenance. Mr. Mueller has also served as a staff or board member on a variety of professional and nonprofit organizations dedicated to forestry, arboriculture, and parks and recreation. Mr. Mueller provides a holistic approach to urban forestry, forest management, ecosystem restoration, parks and recreation planning, staff and volunteer training, nonprofit programs, and community outreach and engagement. Additionally, he excels in creating strategic partnerships; building and evaluating processes and systems; engaging diverse communities; and seeking, writing, and managing private or government grants. Prior to joining Davey Resource Group, he was instrumental in establishing an urban forestry outreach and volunteer program that garnered state and national recognition in Grand Rapids, Michigan, as well as managing large-scale, volunteer-led tree planting and phytoremediation projects in Detroit. Mr. Mueller is an International Society of Arboriculture (ISA) Certified Arborist, has an ISA Tree Risk Assessment Qualification (TRAQ), and is a Certified Forester through the Society of American Foresters, a Michigan Qualified Forester through the Michigan Department of Agriculture and Rural Development, a Michigan Registered Forester, and a Certified Plan Writer through the Michigan Forest Stewardship Program. Mr. Mueller has a master's degree and a bachelor's degree in forestry from Michigan State University.

Gerritt Moeke, CCF., is an environmental specialist with DRG. Gerritt assists site managers and project managers in the implementation of urban forestry and ecological restoration projects. Currently, he supports a Michigan Department of Transportation project covering the maintenance of newly planted trees along I-75 and the mitigation of invasives and other undesirable species that threaten the health of the planted trees and shrubs. Gerritt is OSHA 10-hour certified in General Industry Safety and was internally trained in construction oversight by Davey Resource Group alongside TGC engineering. Previously, Gerritt worked in traditional forestry assessing and managing private tracts of forest land in Northern Michigan for a small forest products company. His experience covered the cruising of timber to appraise both the value and the health of forest, planning and implementation of long-term management of northern hardwood forests, the grading and scaling of cut timber, and the sale of veneer quality hardwood logs. Gerritt earned his bachelor of science degree in forestry from Michigan State University with a minor in economics and is currently a Candidate Certified Forester for the Society of American Foresters and an International Society of Arboriculture Certified Arborist (MI-4520A).

Jacob Hazek has been an inventory arborist with Davey Resource Group (DRG) since 2020. He has over six years of experience in the natural resource field and one year of experience in performing urban tree inventories, tree surveys, and tree risk assessments. He is proficient in tree/shrub identification.

Jacob has experience with GIS and GPS technologies for data collection, as well as with using DRG's TreeKeeper® software suite for inventory management. He works on urban forestry projects throughout the Midwest.

Jacob has a Bachelor of Science degree in Natural Resources with an Emphasis in Ecological Restoration from Northland College. He is a Certified Arborist (#IL-9858A) through the International Society of Arboriculture (ISA) and an Illinois Commercial Pesticide Applicator (#CA58111) in General Standards and Aquatics.

Kyle Schumann is an environmental scientist with Davey Resource Group (DRG). He is currently working on several urban tree inventories in the Detroit metropolitan area and Columbus, OH. His areas of interest include ecological restoration, wetland and stream conservation, invasive species management, and conservation stewardship. Kyle has completed several projects including comparative studies of pre-settlement tall-grass prairies, macroinvertebrate stream surveys, and first order stream surveys across the state of Michigan with Michigan State University and Michigan Department of Environment, Great Lakes, and Energy. He is also beginning a large-scale reforestation project in conjunction with MDOT along I-75 in February, 2022. Kyle holds Bachelors of Arts degrees in Biology and Environmental Science from Adrian College.

Kerry Gray is a senior urban forestry consultant and project manager with Davey Resource Group (DRG). She provides technical input and management guidance to municipal governments and the commercial and transportation sector. Kerry works with her clients to develop planning documents including urban forest master plans, tree management plans, municipal forestry operation assessments, and urban forestry and natural resource management ordinance and policy reviews. These documents ensure their programs meet arboriculture standards, state and federal regulations, and budgetary constraints.

To accomplish her work, she performs operational reviews, benefit cost analyses, and reviews data from various sources including budgets, municipal codes, inventories, GIS assessment, contracts, and vendors. She also performs stakeholder outreach. Kerry has developed and completed seven online surveys each for a different municipal client, held public meetings, and excels at developing relationships with stakeholders for the duration of her projects. Recent examples of her stakeholder outreach include: the cities Miami Beach, Florida; Dallas, Texas; and Columbus, Ohio. Kerry is an accomplished author and has worked on ten of DRG's latest master plan projects including those listed above.

Prior to joining DRG, Kerry was the urban forestry and natural resources planning coordinator for the City of Ann Arbor, Michigan. In this role, she oversaw the management of the city's urban forest, including developing the city's urban and community forest management plan; utilizing the city's street tree inventory to identify forestry work priorities; developing resource plans; overseeing tree care contractors; and providing public outreach/education. She was also responsible for reviewing development site plans for compliance with city natural resource protection and landscaping ordinances.

Kerry holds a Master of Science degree in Forestry and Urban Studies and a Bachelor of Science degree in Forestry from Michigan State University. She is a Certified Arborist and Municipal Specialist (#MI-3868AM) through the International Society of Arboriculture.

Appendix B: Related Projects and References

DRG lists several projects to demonstrate our ability to complete a similar scope of work to that which Novi proposes.

Client: City of Ann Arbor, Michigan

Contact: Tiffany Giacobazzi, 734-794-6356

In 2009, DRG conducted a street and park tree inventory in the City of Ann Arbor, Michigan. Approximately 57,000 trees, stumps, and planting sites were located on all public streets and parks and evaluated on several attribute categories, including condition and maintenance. The collected data were processed, analyzed, and incorporated into a tree inventory management plan. The management plan provides important guidelines that will enable Ann Arbor to manage their urban forestry resources more efficiently. The management plan presents a comprehensive five-year plan of maintenance activities designed to reduce potential hazards, create a cyclical pruning program, and establish an annual tree planting program. Upon completion of the inventory, the city commissioned DRG to complete an i-Tree Streets analysis of the newly created street tree inventory database. DRG converted the new inventory data into i-Tree Streets format and was able to determine the overall benefits of Ann Arbor's street trees. The city received a summary report of calculated public tree values and benefits.

DRG was welcomed back to Ann Arbor in 2020 to update the City's tree inventory database. A total of 60,713 trees, stumps, and planting sites were re-assessed along city streets and within public works, accounting for the majority of public trees. DRG's certified arborists confirmed or updated tree size classes, condition rating, tree height classes, and tree maintenance needs. Any new trees were added to the City's database. Subsequently, the City's updated data was successfully re-integrated into the City's GIS databases.

Client: City of Detroit, Michigan

Contact: Angel Squalls, 313-224-6391

DRG, in partnership with the Michigan Department of Natural Resources, was awarded several grants from U.S. Forest Service and Michigan DNR to conduct several phases of a GIS-based street tree inventory in the City of Detroit, Michigan.

Approximately 60,000 trees, stumps, and planting sites were initially located and assessed utilizing GIS-based technology that incorporated the U.S. Forest Service's new i-Tree IPED Protocol. DRG is also working with the Greening of Detroit to share the planting site information in order to maximize tree survivability throughout the region. To date, DRG has completed five phases of a multi-phase project. Subsequent phases have resulted in more than 200,000 trees included as part of the Detroit inventory project. The City of Detroit uses DRG's TreeKeeper[®] software and data have been used to justify additional funding for tree maintenance and support the City's forestry program

Client: City of East Grand Rapids, Michigan

Contact: Doug La Fave, 616-940-4817

DRG conducted a street tree inventory in the City of East Grand Rapids. The GIS-based inventory included an assessment of 7,113 trees and stumps. All trees were evaluated for condition, structural soundness, and assigned a risk level to enable the city to prioritize its maintenance needs. DRG's experienced GIS/IT team ensured the city was able to successfully import all inventory data into the city's existing asset management system. The city immediately used their tree inventory to address all priority maintenance issues identified by DRG. DRG's experienced consulting team also presented inventory findings to the City Council, further establishing the value and importance of monitoring community trees.

Subsequently, the city has engaged DRG in ongoing contract forestry services. DRG's team of professional arborists have provided tree inspections and risk assessments to guide city decisions in the maintenance of specific trees. DRG was also asked to put together a cyclical pruning program and specifications for future tree maintenance contracts. More recently, DRG used inventory data to identify specific tree management concerns, set up a body of work, advertised a contract, managed the bid process, and administered the contract for Fiscal Years 2018 through 2021 pruning and removal operations. DRG continues to support the city's forestry efforts through tree assessments, contract management, tree pest and disease concerns, and public outreach.

Client: City of Ferndale, Michigan

Contact: Erin Quetell, 248-336-4361

The City of Ferndale contracted DRG to perform an urban tree canopy assessment (UTC), ordinance review, phased inventory, and management plan. The UTC identified the city's total tree canopy, where tree canopy occurs, and opportunities for improvement. Coupled with the city's tree ordinance review, the city has clear direction and strategies to maximize tree canopy across the community. To date, all 4 inventory phases have been completed. A total of 8,014 trees have been collected. As data are collected, the city immediately handles any maintenance concerns identified. These efforts have raised the visibility of the city's forestry program among city leadership. As a result, Ferndale crafted a series of goals and metrics to advance urban forestry in fiscal year 2018.

To move these goals forward, Ferndale has contracted DRG to provide on-site forestry support one day a month for several years. DRG has been supporting city efforts through tree inspections, further ordinance review, resident communication, planting program evaluation, and long-range municipal forestry plans. Additionally, DRG is currently in the process of updating the City's existing tree inventory.