

# ECONOMIC AND COMMUNITY DEVELOPMENT OF THE COMMON COUNCIL

125 East Avenue  
P.O. Box 5125  
Norwalk, CT 06856

**TO:** MEMBERS, ECONOMIC AND COMMUNITY DEVELOPMENT COMMITTEE OF THE  
COMMON COUNCIL AND PLANNING COMMISSION

**FROM:** JOHN KYDES, CHAIRMAN

**DATE:** OCTOBER 31, 2022

**RE:** MEETING NOTICE

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There will be a Special Joint meeting of the Economic & Community Development Committee and the Planning and Zoning Commission on Thursday, November 3, 2022 at 6:00pm, followed by the Regular Meeting of the Economic & Community Development Committee. To allow public access, anyone may access a meeting by telephone, Zoom, and/or the City of Norwalk YouTube channel. Specific instructions and links can be found at [www.norwalkct.org/meetings](http://www.norwalkct.org/meetings).

**NOTE: THE MEETING LINKS WILL BE DIFFERENT FOR THE SPECIAL MEETING AND THE REGULARLY SCHEDULED ECONOMIC AND COMMUNITY DEVELOPMENT COMMITTEE MEETING. PARTICIPANTS WILL HAVE TO LEAVE THE SPECIAL MEETING AND REJOIN USING A SEPARATE LINK TO PARTICIPATE IN THE REGULARLY SCHEDULED MEETING. BOTH MEETING LINKS ARE POSTED ON [WWW.NORWALKCT.ORG/MEETINGS](http://WWW.NORWALKCT.ORG/MEETINGS).**



Members of the public can call in and listen to a meeting. They will not be able to speak or see any of the meeting participants. Each meeting will use a unique Meeting/Webinar ID. Please find the information using the link above.



Members of the public who wish to provide "live comments" will need to register in advance and use the Zoom meeting platform. All participants will be muted upon entering the meeting. To speak, click the "raise your hand indicator" and you will be called on by the host of the meeting during the public comment section. Please find the information using the link above.



Members of the public who wish to view the meeting, but are not participating, can view a live stream on the City of Norwalk YouTube channel. This stream is delayed by approximately 20 seconds. Please find the information using the link above. The meeting recording and minutes will be posted on the City of Norwalk website within seven (7) days after the meeting.



Members of the public who wish to provide public comment are encouraged to submit those via email in advance of the meeting. For these comments to be read into the record, they should be submitted at least three hours in advance of the meeting start time. Please email Maritza Alvarado at [malvarado@norwalkct.org](mailto:malvarado@norwalkct.org) to provide written public comment prior to the meeting.

ECONOMIC AND COMMUNITY DEVELOPMENT COMMITTEE OF THE COMMON COUNCIL  
PLANNING AND ZONING COMMISSION  
SPECIAL JOINT MEETING  
NOVEMBER 3, 2022 @ 6:00PM  
AGENDA

- I. CALL TO ORDER
- II. ROLL CALL
- III. PUBLIC PARTICIPATION
- IV. REVIEW & DISCUSSION OF THE INDUSTRIAL ZONES WATERFRONT STUDY

**DRAFT PLAN LINK:** <https://www.norwalkct.org/DocumentCenter/View/28425/FINAL-Waterfront-Study-Report>

ADJOURNMENT



**ECONOMIC AND COMMUNITY DEVELOPMENT COMMITTEE OF THE COMMON COUNCIL  
REGULAR MEETING  
NOVEMBER 3, 2022 @ 7:00PM  
AGENDA**

**CALL TO ORDER**

**ROLL CALL**

**PUBLIC PARTICIPATION**

**I. ADMINISTRATION**

- A. Approval of the Minutes of October 6, 2022 Meeting.

**II. NEW BUSINESS**

**A. ECONOMIC AND COMMUNITY DEVELOPMENT**

- 1. Forward to the Common Council the authorization for the Mayor, Harry W. Rilling, to execute a contract between the City of Norwalk and PlanIT Geo, Inc. in an amount not to exceed \$150,000 for the Tree Master Plan Program – Inventory and Canopy Assessment.

**ACCT: 133710 5796 AEC17 (ARPA)**

**B. BUSINESS DEVELOPMENT & TOURISM**

- 1. Update on business-related City offered programming, the opening of the Business Development Center, and funding expenditures.

**III. OLD BUSINESS**

**ADJOURNMENT**

**ECONOMIC AND COMMUNITY DEVELOPMENT COMMITTEE  
REGULAR MEETING  
VIA TELECONFERENCE  
OCTOBER 6, 2022**

ATTENDANCE: John Kydes, Chair; David Heuvelman, Bryan Meek, Thomas Livingston, Barbara Smyth, Darlene Young

STAFF: Jessica Vonashek, Chief of Economic and Community Development; Michael Yeosock, Principal Engineer, Transportation Mobility and Parking.

**CALL TO ORDER**

Mr. Kydes called the meeting to order at 7:02 p.m.

**ROLL CALL**

Mr. Kydes called the Roll as indicated above.

**PUBLIC PARTICIPATION**

There was no action on this item.

**I. ADMINISTRATION**

A. Approval of the Minutes of September 1, 2022 Meeting.

**\*\*MR. LIVINGSTON MOVED TO APPROVE THE MINUTES AS SUBMITTED  
\*\*MOTION PASSED UNANIMOUSLY**

**II. NEW BUSINESS**

**A. ECONOMIC AND COMMUNITY DEVELOPMENT, GENERAL UPDATES**

**1. MLK Corridor Project Update**

Ms Vonashek said they'd launched Phases 2 and 3 of the Wall Street with a "taste of Wall Street" to get community input. She said the project covered Wall Street between Belden and Brook, Burnell between Belden and Main and reconfiguring the intersection of Belden and Wall. She said they'd approved \$250,000 for design and they would be working with the library to host a second community event in November.

City of Norwalk  
Economic and Community Development Committee  
October 6, 2022  
Via Teleconference  
Page 1

She said that after going through the RFP process, they'd chosen FHI Studio for the Complete Streets project, noting that it was the same company working on the transportation master plan.

She said they'd met with the consultant from AKRF working on Affordable Housing Plan. She said the trust ordinance was in committee, and they'd been talking about a Housing Forum, to talk about affordable housing and what was needed for Norwalk.

She said that for the MLK Façade Improvement Plan they had earmarked \$750,000 from the MLK Corridor Initiative which they would marry with a loan program funded through GGP in the amount of \$500,000. She noted that some homeowners might have emergency repairs, and they were working with the Redevelopment Agency to build a short list of teams that are vetted to work for the city. She said that that would allow them to serve low-income homeowners. She said they were looking to launch the programs at the beginning of 20223.

She said part of it was a reimbursement program from the state. She said they were working with the construction manager at the state to ensure that they had everything in order and so they would not encounter problems when they submitted for reimbursement.

She reviewed the tree planting program, noting that they had planted 16 brand new trees on MLK between Washington and Lowe. She said they were interviewing companies for canopy assessment—and were finalizing a scope of work. She noted the assessment would look at coverage of trees and where need to plant, plant trees, and also inventory trees and monitor health and keep them healthy. She said they had just announced planting 54 trees on Wilton, over half of which were native.

She said that Parks and Rec was working with a consultant to build out playgrounds at two playgrounds. She said they were focused on bringing in more green space.

She said they had \$250,000 for trees in south Norwalk, she said they'd work with District B and the MLK team to identify locations and develop a plan. She said they were focusing on planting trees deeper into the community on residential streets.

She gave an update on using cameras to find people who were littering. She said they'd used cameras on Grey Rock Road to identify a license plate and ultimately found the dumper. She said there was also a large amount of dumping there, and they'd found a plane ticket and tracked it to the dumper who cleaned it up himself.

## 2. ARPA Update

- Business Development Center Ribbon Cutting

This section was covered in section 1.

## **B. TRANSPORTATION, MOBILITY AND PARKING**

### **1. Holiday Extravaganza**

- Sunday, November 20, 2022, 3pm to 7pm: South Norwalk

Ms. Vonashek said this would be in front of 50 Washington and they planned to close Washington between MLK and Main. She said that Santa will make a big entrance, and they'd offer carriage rides, petting zoo, a petting zoo, a carousel, photos with Santa, and carolers. She said they'd have a tree lighting, and inside 50 Washington there would be a market fair, and information tables to inform about the services the city provided.

- Tuesday, November 29, 2022, 4pm to 8pm: Wall Street

Ms. Vonashek said that this fair would be on Wall Street on River between Burnell and Wall Street. She said this would have Santa, a laser show, merry go round and petting zoo. She said this was more geared to they were going to close Washington between MLK and Main, Santa will make a big entrance. Carriage rides, and a petting zoo.

Ms Young said her district was excited for these events, and that it was wonderful for the whole city.

- ### **2. Authorize the Mayor, Harry W. Rilling, to enter into an agreement with CDM Smith, Inc. for contract document modifications and construction administration services for the Hamilton Avenue Pedestrian Access Enhancement Project for an amount not to exceed \$59,000.00**

Mr. Yeosock gave the background on the project, noting that they'd wanted to do it years ago but didn't have the funding. He said now that they had funding, they wanted to go forward. He said that since things had changed, they needed to put it out for bid and have a consultant to do updated drawings. He said this was a sole source since this is the company that had drawn the original.

He said this was similar in design to the existing one, he said it was a little more circular because it went higher up the hill and needed to be ADA accessible. Mr. Livingston asked why they had to update the design. Mr. Yeosock said to ensure that there weren't code changes and newer more efficient items available for the heating. He said the funds would cover construction inspection and ongoing services.

Mr. Meek asked for the full budget for the staircase, Ms. Vonashek said it was \$700,000.

Ms. Smyth asked if there was artwork planned like the other stairs. Ms Vonashek said that they had set aside \$75000 for art. She said they'd work with the arts commission on placement of the art.

**\*\*MS. SMYTH MOVED TO AUTHORIZE THE MAYOR, HARRY W. RILLING, TO ENTER INTO AN AGREEMENT WITH CDM SMITH, INC. FOR CONTRACT DOCUMENT MODIFICATIONS AND CONSTRUCTION ADMINISTRATION SERVICES FOR THE HAMILTON AVENUE PEDESTRIAN ACCESS ENHANCEMENT PROJECT FOR AN AMOUNT NOT TO EXCEED \$59,000.00**  
**\*\*MOTION PASSED UNANIMOUSLY**

**III. OLD BUSINESS**

**ADJOURNMENT**

**\*\* MS. SMYTH MOVED TO ADJOURN**  
**\*\* MOTION PASSED UNANIMOUSLY**

There was no further business, and the meeting was unanimously adjourned at 7:30 p.m.

Respectfully submitted,

L. Grassilli  
Telesco Secretarial Services



PROJECT #4210

# TREE MASTER PLAN PROGRAM - INVENTORY AND CANOPY ASSESSMENT

City of Norwalk, CT

REV. OCTOBER 27, 2022



**SUBMITTED TO:**

City of Norwalk, Connecticut  
Purchasing Department  
125 East Avenue, Room 211  
Norwalk, CT 06856



**PROPOSED BY:**

PlanIT Geo, Inc.  
7878 Wadsworth Blvd  
Suite 340  
Arvada, CO 80003  
admin@planitgeo.com  
303-214-5067





City of Norwalk, CT  
Purchasing Department  
125 East Avenue, Room 211  
Norwalk, CT 06856

Dear Selection Committee,

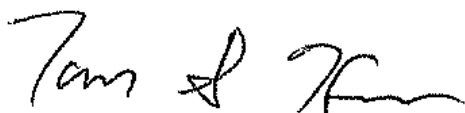
PlanIT Geo, Inc is pleased to submit our qualifications in response to the City of Norwalk's request to provide a comprehensive Master Tree Plan. We look forward to this collaborative opportunity to work with the City on this important project.

PlanIT Geo is organized into four unique departments to provide specialized services: Software, GIS, Inventory, and Consulting. Each department contributes to different aspects of urban forestry projects when developing Urban Forestry Plans, tree ordinances, city tree inventories, tree canopy analyses, tree planting strategies, policies, and other projects relating to trees in our communities. Just as the City of Norwalk values the urban forest as the key to a healthy city, our team is driven to provide products and services that enhance and sustain it. Our Consulting Services Team is committed to achieving the goals set forth in the City's RFP to develop a comprehensive Master Tree Plan.

Our team brings extensive knowledge in local urban forest management planning, public outreach and engagement, programming, operations/policy auditing and guidance, tree inventories, canopy assessments, and goal setting. Our personnel have substantial local urban forestry experience, having our Director of Urban Forest Consulting located in Hershey,, PA and recently having completed tree inventories, urban forest plans, tree canopy assessments, and tree inventory software programs for Northeastern US communities and abroad. We will develop meaningful and achievable goals of urban forest sustainability, management, and equity for Norwalk and work closely with the City and stakeholders for a long-lasting and effective plan to manage the citywide urban forest. Together, we will develop sound and project-proven guidance for urban forest planting, management, and sustainability in the City.

We understand that a robust urban forestry program can only thrive with accurate data, effective planning, and the support and participation from the community. Our proposed approach consists of collaboration with partners, coordination with the City, external stakeholder exercises, inventory and canopy data analysis, benchmarking research, and community outreach and education. These tasks will ensure the plan is developed with a shared vision for the urban forest. On behalf of the PlanIT Geo team, we are pleased to have this opportunity to submit our qualifications and approach. If you have any questions regarding our submittal, please feel free to call me (Ian Hanou) directly at the phone number listed below.

Respectfully submitted by,



Ian S. Hanou  
CEO/Founder  
PlanIT Geo, Inc.  
ianhanou@planitgeo.com  
(303) 503-4846

Prepared by,



Carrie Asselmeier  
Proposal Coordinator  
PlanIT Geo, Inc.  
carrieasselmeier@planitgeo.com  
(630) 333-5176

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## SECTION 1

# EXECUTIVE SUMMARY

PlanIT Geo, Inc is an urban forestry consulting and software firm with a mission to map the world's urban forests for a greener future by integrating experience with cutting edge technology and planning for urban forestry, parks, and arboriculture. PlanIT Geo has been in the urban forestry business since its establishment by CEO Ian Hanou on January 11, 2012 (10 years) and has expanded to over 40 employees in 2022. PlanIT Geo provides contractual services including tree inventories and risk assessments using TreePlotter™ software, urban forest and risk tree planning, tree inventory and management software, land cover mapping (LiDAR/multispectral imagery), tree canopy assessments, GIS analysis, and i-Tree studies. Over 400 communities, nonprofits, and state/local governments throughout the United States, Canada, and Australia have utilized our team to perform tree inventories, write tailored management plans, and conduct tree canopy assessments.

The PlanIT Geo Team provides customized urban forestry solutions, resources, and tools to local governments, nonprofits, universities, and private industries that guide these entities to a holistic approach in sustainable urban forestry and environmental equity. Currently nine US state agencies and dozens of communities utilize PlanIT Geo's [TreePlotter™ INVENTORY and CANOPY software](#) on a regional or statewide basis for cloud hosting of tree inventories, canopy assessments, document storage, community engagement, and interactive dashboards. Over the last 10 years, PlanIT Geo has been involved in hundreds of urban forestry and environmentally related projects around the world. The PlanIT Geo Team has extensive knowledge of urban forestry practices in the Northeastern region of the United States. Recent projects include Saratoga Springs, NY; Schenectady, NY; Troy, NY; Weston, MA; Everett, MA; Hunterdon, NJ; and Morristown, NJ.

PlanIT Geo has expertise in urban forestry and management, tree asset management, environmental equity, sustainability programs, and ecosystem diversity. The entire PlanIT Geo Team has a wide array of skill sets related to urban forestry and are committed to serve our clients with the highest quality of products available in the urban forestry industry.

### URBAN FORESTRY SOFTWARE

Since 2012, there are over 300 TreePlotter™ clients which collectively contain over 4,000 individual user login accounts. Our GIS, Inventory, and Consulting teams also use TreePlotter daily to perform project tasks for communities, organizations, and consultants.

### GIS AND GEOSPATIAL SERVICES

PlanIT Geo's GIS or Geospatial Services department has completed services for communities varying in size (less than 1 square mile to over 1,000 square miles), ecoregion (forest, tropical, grassland, desert, Mediterranean), and tree species composition. Over 1,000,000 acres of urban tree canopy have been mapped, helping each community to understand their gray versus green infrastructure, locate and understand specific canopy gains and losses by land use type, quantify ecosystem benefits being provided, assess tree equity, and target planting spaces in the most suitable locations.

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Currently nine US state agencies and dozens of communities utilize TreePlotter INVENTORY and CANOPY software on a regional or statewide basis for cloud hosting of tree inventories, canopy assessments, document storage, community engagement, and interactive dashboards. And most recently, we are now offering 60 cm resolution land cover data nationwide, off-the-shelf, through the advancements in Artificial Intelligence (AI) and Machine Learning (ML). We have high-resolution data at 97% accuracy for tree canopy, impervious, and plantable areas (grass, open space) for every city in the lower 48 states, as well as change analysis from 2011. This data allows PlanIT Geo to offer significantly more data at lower cost and ultimately more value to your local capacity-building programs.

## TREE INVENTORY AND ASSESSMENTS

Our Certified Arborists have inventoried over one million trees across 30 states using TreePlotter™. Also, the team has completed ISA Level 2 Risk Assessments for thousands of trees and has completed inventory projects in every season and tree growing stage.

## URBAN FORESTRY CONSULTING

In the past 8 years, PlanIT Geo has managed or continues to manage urban forest management / master plan projects with budgets totaling over \$1 million, engaging over 6,600 community residents, and interviewing 200 city staff representing over 65 departments. PlanIT Geo has completed urban forest management/master plans, maintenance plans, risk tree plans, strategic planting plans, storm response and mitigation plans, and canopy action plans for the public, private, and nonprofit sectors. Chris Peiffer, the Director of Urban Forestry Consulting Services will be the project manager for the Master Tree Plan Project for the City of Norwalk.

### **Chris Peiffer - Director of Urban Forestry Consulting Services/Project Lead**

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### **TJ Wood - Director of Field Services/Inventory Lead**

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### **PlanIT Geo, Inc.**

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## PROJECT BACKGROUND

The City of Norwalk, located on the south coast of Connecticut, has a population of roughly 88,755 residents, covers approximately 36 square miles, and has a history of valuing its trees as a critical part of Norwalk's sustainability. These trees constitute a thriving urban forest providing myriad benefits to residents, businesses, and visitors. The urban forest constitutes thousands of street, park, and yard trees and trees in open spaces and in Norwalk, its many distinct natural areas. It is perhaps the most important component of the City's green infrastructure and provides many ecological, social, public health, and economical benefits.



The City of Norwalk has prioritized establishing their urban forest as a valuable asset by quantifying benefits and developing strategies and goals to create an equitable and thriving urban forest. The City understands the need to establish a roadmap guided by a shared community vision for the urban forest. Due to this priority, the City requires the development of a comprehensive Master Tree Plan to support the City's current and future urban forest objectives, initiatives, ordinances, and goals. This Plan will create a centralized vision for the urban forest, streamline management, and provide tools for urban forest preservation and long-lasting environmental and human health benefits. Effective urban forest management requires accurate and actionable information, including an understanding of City, stakeholder, and forestry needs before significant management actions and planning initiatives are undertaken. It is our understanding that, in recognition of this fact, the City requires the services of a qualified and experienced urban forest management consultancy to identify urban forest management needs, prioritize planting for urban forest equity, develop short and long-term forestry goals and recommendations, and engage with the community to advocate urban forest benefits.

This Plan will invigorate the City's Tree Management and Planting program, support the Norwalk Plan of Conservation and Development, and provide the City's decision makers with an in-depth analysis of the community's view of the urban forest. It will enable the City, its staff, and stakeholders to use accurate and up-to-date urban forest data analyses, adopt efficient processes for managing and measuring progress towards current goals, and develop public engagement with the City's urban forest program. The project will provide an in-depth plan for the City to follow and a template for surrounding cities to learn from and implement. This will enable the increase in canopy cover and maximize urban forest benefits. The Master Tree Plan will provide the City with an evaluation of current urban forest resources and identify priority locations and opportunities for urban forest preservation and expansion. Our comprehensive engagement with the City, partners, and the community will use these findings to establish synergistic program priorities, goals, and strategies to sustain and enhance resources within the urban forest.

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PlanIT Geo commits to working collaboratively with the City to ensure this important project fulfills all of the City stated objectives and requirements. With the data, tools, and assessment provided, the City will be emboldened with timely, comprehensive, and accurate information about its urban forest resources, management approaches, and program efficiencies and will be fully ready to take the next step toward a healthy, diverse, and expanding urban forest.

## **A CLOSER LOOK AT NORWALK'S URBAN FOREST**

Cities around the world, and specifically in the coastal northeast United States area, face dramatically intensifying extreme weather events and climate impacts, including hurricanes, tropical storms, flooding and extreme heat. In many instances, these impacts are already exceeding the designed capacity of city infrastructure to protect the health and safety of residents, businesses and neighborhoods, which in turn threatens the fiscal viability of cities and regions. In Norwalk, these impacts increase dramatically when significant action is not taken to mitigate tree loss and increase canopy cover in areas with low existing tree canopy. In Norwalk, the City and its residents are experiencing inequitable canopy cover in low income neighborhoods, leading to a higher distribution of negative environmental and human health outcomes in those areas. The City contains a high percentage of impervious surfaces compared to other municipalities in Connecticut, which leads to negative impacts such as increasing asthma rates due to poor air quality. Due to these facts, the City has placed priority on increasing and preserving trees and canopy in order to reduce environmental and health impacts and improve canopy as a whole. Urban trees can play a significant role in making cities resilient to weather and climate extremes, and in protecting human and ecosystem health and safety. To do so, trees must be consciously selected, planted and managed as the central component of an urban forest where individual trees are managed as part of a greater system with the purpose of improving the urban environment and enhancing benefits from those trees and their canopy.

Yet the ability of urban trees and urban forests to achieve desired benefits is often drastically limited due to poor maintenance and management stemming from insufficient municipal budgets, lacking urban forest management systems and programs, limited training of tree care professionals, and a lack of enforcement of tree-management best practices to support tree health. Consequently, improper pruning of trees is commonplace in many cities, resulting in limiting the beneficial functions of trees, leaving trees more susceptible to pests and disease, and leading to premature tree death. The urban forests in the region face many challenges. The urgency of protecting the urban forest has risen sharply as drought, pests, disease, climate impacts, and budget cuts lead to rapidly rising tree mortality. Trees that die years prematurely will not create the root systems and canopies needed to reach their benefit potential and maximize their return on investment. A strategic plan is needed to study, evaluate, and plan for improving urban forest management toward the goal of supporting human and ecosystem health and well-being. Planting and maintaining an urban forest that exists in concert with other green and gray infrastructure must include management by trained individuals, the use of strategies and ordinances to protect trees in sensitive areas, an understanding of baseline conditions, collaboration among

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departments to mainstream urban forest management, a community with a shared vision for the urban forest, and a roadmap for management provided in a plan.

When making improvements to the urban forest, efforts should be prioritized to improve environmental justice, equity, access, and levels of service for underserved and vulnerable areas. These considerations may include additional tree plantings for an equitable distribution of urban forest cover and benefits, intensive tree management, diverse outreach approaches, and unique stewardship programs.

To address these concerns, the City is seeking qualified professional services to prepare the Master Tree Plan (MTP) in accordance with City goals and the guidelines. The City will use the MTP as a long-term strategic tool to manage its urban forest effectively and efficiently. The MTP will utilize the International Society of Arboriculture's (ISA) Best Management Practices (BMPs), industry standards, research, and local context to be a living document that will support ongoing efforts and plans to maintain efficiency with limited resources.

Norwalk's Master Tree Plan is a crucial effort for improving land, air, and water quality and promoting community resilience and equity. A plan for the urban forest will provide the guidance for strategic planting and maintenance resulting in long-lasting benefits.

## STRATEGY & VISION

Planning and managing the legacy of Norwalk's street, park, and natural area trees, through applied science, best practices, and budget management, is achievable with innovative and contemporary approaches. The City's MTP will address the fundamentals of adaptive management and incorporate existing City urban forestry goals and policies as well as new measurable targets as recommended by the Consultant Team, stakeholders, and City staff. The Plan will be a comprehensive, yet concise and actionable plan intended for the City of Norwalk to approve.

Our strategy to develop the Master Tree Plan will provide the framework, guidance, and programming for Norwalk's environmental programs. This guidance includes the establishment or strengthening of City Code, policies, ordinances, standards, practices, and procedures of the Tree Management Plan and Tree Planting Plan; development of staffing structures and partnerships; sustained and diversified funding; routine and systematic inventories and assessments; storm, disaster, and risk management; community outreach, education, and engagement; among other core urban forest management elements. These core program elements and functions will be developed and tailored to the City of Norwalk through a systematic and project-proven approach provided by the Consulting Team. These efforts will support the City's Tree Management and Planting Program and a vision that will guide the City to a sustainable and equitable urban forest.

To accomplish this, the City's RFP provides the Scope of Services that are required at minimum along with additional considerations. In the Methodology and Scope of Services section, the scope tasks are paraphrased, listed in detailed table form, and include the steps and tools to achieve them in our proposed approach.

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## SECTION 2

# PROJECT TEAM ORGANIZATION

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### PROJECT TEAM

The PlanIT Geo project team includes our entire Consulting Services team, which combines our Urban Forestry Consulting Team, Inventory Team, and GIS Team, made up of urban forestry experts, GIS professionals, ISA Certified Arborists, and data specialists. Each team member brings something different to the project to provide the most successful outcome for the City. PlanIT Geo will not be using any subcontractors to complete this project.

#### **Chris Peiffer, Director of Urban Forestry Consulting Services and Project Manager**

Chris will be the project manager for this project. He has been an ISA Certified Arborist for 11 years and a Municipal Specialist for 3 years. Chris specializes in urban forest planning, management, development, and innovation. He is experienced in tree inventory data synthesis and analysis, risk tree management, programming, operational efficiencies, public engagement, canopy goal setting, sustainable management, and plan writing. This experience includes management and master plans, hazard tree plans, regional canopy action plans and strategies, strategic planting and maintenance plans, analysis and reporting of tree inventories, and Urban Tree Canopy (UTC) reports. Chris is also an expert arborist and seasoned field crew manager with experience from leading tree care firms, understanding the maintenance needs, tree physiology, risk prioritization, and tree responses to proper tree care. Chris will manage staff and communications, provide insights on the development of strategies and recommendations, support the development of the management and planting plans, and provide expert review of the draft plans. He will be the direct contact to the City and ensure the project is completed on time and within budget and meets or exceeds the City's expectations and needs.

#### **Alex Hancock, Urban Forest Climate Consultant**

Alex has over 7 years of planning, policy, urban forestry, and sustainability experience. Alex applies these experiences and skill sets to support the development of urban forest management and master plans for communities. Specifically, she is directing the integration of urban forestry into sustainability planning for communities through public engagement, staff consultations, policy analysis, and plan development. Supported by the Project Manager and the City, Alex will be the primary consultant leading research, data audits, analyses, municipal and community engagement, assessments, recommendations, and plan development. She will also provide her expertise to the updating of the City's existing tree inventory and lead the development of the tree management plan and planting plan.

#### **Rachel Ormseth, Urban Forestry Solutions Consultant**

Rachel has over 6 years of experience in public service, urban forestry, biology, arboriculture, community forest management planning, and regional planning. Rachel has applied her skills to PlanIT Geo's urban forestry planning projects by using her knowledge of

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large and small community forest challenges and opportunities, guiding innovation in urban forestry planning, and cultivating client relationships. An internal community outreach plan that is developed collaboratively with the City will guide Rachel's primary role in planning, administering, and analyzing community engagement exercises such as external stakeholder consultations, messaging through various mediums, public meetings, and presentations. Rachel will lead the analysis of public input and feedback to summarize baseline viewpoints and guide the development of strategies in the plan. Rachel will also lead the analysis of the tree canopy assessment by estimating private tree counts, composition, and structure and gathering supplemental information from the City's existing inventory.

**Jeremy Cantor, Director of Geospatial Services and Assistant Project Manager**

Jeremy has over 15 years of experience in geospatial analysis, data processing, object-based image analysis (OBIA), Python scripting, LiDAR manipulation, and cartography. During his 6 years at PlanIT Geo, Jeremy has served as the lead geospatial analyst and overall project manager of over 70 urban tree canopy assessments, of which the majority were of the same size and scope as described in the City's RFP. Jeremy previously worked for the U.S. National Park Service for 7 years where he refined his remote sensing and spatial modeling skills. For this project, he will be the manager of all GIS tasks and final delivery of maps, GIS data and tools.

**Ben Wittman, Geospatial Data Manager**

Ben has over 6 years of experience in GIS and data processing. He has a background in GIS, Geography, and Environmental Studies. At PlanIT Geo, Ben applies natural resource and forestry concepts to manage environmental and geographic (GIS) data sets. He reviews geographically modeled data using geoprocessing tools and provides QA/QC to review, organize, and process aerial imagery and remotely sensed land cover data. He will lead the production of maps, assist in data preparation, organization, and visualization. He will also lead the equity and health correlations of GIS data for the City and set up the City's TreePlotter CANOPY software application.

**Morgan Garner, GIS & Natural Resources Technician**

Morgan has a background in GIS analysis, geologic field mapping, hydrogeology, geochemistry, and natural resource management. She has experience extracting high-quality data from long-term research projects, applying spatial data to support environmental and resource management initiatives, and delivering prompt and high-quality technical reports. Morgan joined the Geospatial team in 2022 to provide technical expertise to urban tree canopy assessments. For this project, she will contribute to management of QA/QC of GIS data sets and creation of maps.

**TJ Wood, Director of Field Services**

TJ specializes in field inventory data collection and analysis. He is proficient in species identification across all climate zones in the US and has personally inventoried a total of over 200,000 trees. TJ manages all tree inventory and risk assessment projects for PlanIT Geo and has also served as a subconsultant to other firms due to his extensive experience. He also specializes in architectural and design software such as AutoCAD, Google SketchUp, Esri ArcGIS, and the Adobe Creative Suite (Photoshop, Illustrator, and In Design). Additionally, TJ leads the design of planting plans and assists with report compilation.

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### Nate Cummings, Tree Inventory Crew Leader

Nate has a background in urban forest management conducting a variety of inventories, data collections, and tree risk assessments. Nate organizes and manages field crews for data collection and coordinates project logistics and communication with the client. He also has specialized horticultural and arboricultural skills including plant health care and maintenance. Nate uses TreePlotter to collect various forms of tree data including species, condition, abiotic/biotic diseases, DBH, tree height, canopy spread, and many more. He is also involved with quality control for projects once they are completed. Nate will work with the City to set up TreePlotter INVENTORY for data collection and long-term data management.

### Jack Myrna, Tree Inventory Technician

Jack graduated Cum Laude from Southern Illinois University-Carbondale with a Bachelor of Science in Forestry, specializing in wildlife habitat management. Prior to joining PlanIT Geo, Jack worked as a tree care specialist gaining experience in tree health care, tree trimming, removal, and urban forestry. At PlanIT Geo, Jack assists in project scoping and leads data collection with a team of tree inventory technicians to gather tree and planting site information such as species, condition, size, maintenance needs, observations, and other management data. He assists with data QA/QC, delivery, and TreePlotter training and communicates directly to the Tree Inventory Crew Leader.

| Staff          | Title                                 | Rate  | Hours        | Cost             | %           |
|----------------|---------------------------------------|-------|--------------|------------------|-------------|
| Chris Peiffer  | Director of Urban Forestry Consulting | \$125 | 124          | \$15,500         | 10%         |
| Alex Hancock   | Urban Forestry Climate Consultant     | \$100 | 771          | \$77,050         | 51%         |
| Rachel Ormseth | Urban Forestry Solutions Consultant   | \$100 | 130          | \$12,950         | 9%          |
| TJ Wood        | Director of Field Services            | \$125 | 25           | \$3,125          | 2%          |
| Nate Cummings  | Tree Inventory Crew Leader            | \$90  | 95           | \$8,550          | 6%          |
| Jack Myrna     | Tree Inventory Technician             | \$80  | 101          | \$8,075          | 5%          |
| Jeremy Cantor  | Director of Geospatial Services       | \$125 | 15           | \$1,875          | 1%          |
| Ben Wittman    | Geospatial Data Manager               | \$85  | 112          | \$9,550          | 6%          |
| Morgan Garner  | GIS Technician                        | \$65  | 205          | \$13,325         | 9%          |
|                |                                       |       | <b>1,577</b> | <b>\$150,000</b> | <b>100%</b> |

## URBAN FORESTRY CONSULTING TEAM

### Chris Peiffer

Director of Urban Forestry Consulting, PlanIT Geo



#### Certifications

- ISA Certified Arborist & Municipal Specialist #PD-2070AM
- Certified Arborist and Municipal Specialist International Society of Arboriculture (PD-2070AM)
- Graduate of 2011 Municipal Forestry Institute (MFI)
- 2013 Urban Forestry Institute
- 2014 Urban Forest Strike Team

#### Education

Bachelor of Science, Urban Forestry - Pennsylvania State University (2009)

Chris is an ISA Certified Arborist of 11 years and Municipal Specialist for 3 years. Chris specializes in urban forest planning, management, development, and innovation. He is experienced in urban forest management planning, stakeholder engagement, ordinance reviews, operational efficiencies, tree inventories, inventory data synthesis and analysis, risk tree management, project management, long-range planning, and plan writing. This experience includes urban forest management / master plans, tree risk management plans, regional canopy action plans and strategies, strategic planting plans, analysis and reporting of tree inventories, and Urban Tree Canopy (UTC) reports. In the past 8 years, Chris has managed over 35 urban forest planning projects with budgets totaling over \$1 million and has engaged over 6,600 community residents and 200 city staff representing over 65 departments. Chris is also an expert arborist and seasoned field crew manager with experience from leading tree care firms, understanding the maintenance needs, tree physiology, risk prioritization, and tree responses to proper tree care.

#### Role

#### Project Management, Coordination and Collaboration, Strategic Guidance, Expert Insights and Review

Chris will serve as the primary project manager overseeing all tasks under the Master Tree Plan scope of work. He will coordinate tree inventory and GIS assessment tasks with the development of the Plan. Chris will provide strategic guidance and direction on the tasks performed by the Urban Forestry Climate and Urban Forestry Solutions Consultants. He will be responsible for coordinating project invoices and facilitating primary project meetings. Throughout the project period, Chris will provide expert insights in the development of recommendations, tree policies and ordinances, and Plan content.

#### UFMP Project Management Experience (Not Comprehensive)

- Metro Washington, DC Tree Canopy Management Strategy (PlanIT Geo)
- Fremont, CA Urban Forest Management Plan (PlanIT Geo)
- Los Banos, CA Urban Forest Management Plan (PlanIT Geo)
- Claremont, CA Urban Forest Management Plan (PlanIT Geo)
- Renton, WA Urban Forest Management Plan 10-year Update (PlanIT Geo)
- Wilsonville, OR Urban Forest Management Plan (PlanIT Geo)
- Tacoma, WA Urban Forest Management Plan (PlanIT Geo)
- Colorado Springs, CO Urban Forest Management Plan (PlanIT Geo)
- Rochester, MN Urban Forest Master Plan (PlanIT Geo)
- Alexandria, LA Urban Forest Management Plan (PlanIT Geo)
- Hutchinson, KS Urban Forest Master Plan (PlanIT Geo)
- Iowa City, IA Urban Forest Management Plan (PlanIT Geo)
- Kettering, OH Urban Forest Management Plan (PlanIT Geo)

## Alex Hancock

Urban Forestry Climate Consultant, PlanIT Geo

### Certifications

- ISA Certified Arborist #FL-8295A

### Education

*Master of Science in Forest Resources and Conservation - University of Florida (2017)*

*Graduate Certificate in Geospatial Analysis (2017)*

*Bachelor of Urban Planning- University of Cincinnati (2011)*



Alex is an ISA Certified Arborist with a background in urban planning, urban forestry, and sustainability. She is experienced in tree canopy cover analysis, climate action planning, zoning and land use planning, and public policy. Her most recent role as Sustainability Coordinator and Certified Arborist for the City of St. Petersburg, FL focused on programs for climate resilience, clean energy, waste reduction, environmental justice, and urban forestry. Her team developed, published, and is implementing the Integrated Sustainability Action Plan, which emphasizes equity as a primary focus of planning for a sustainable and resilient future.

At PlanIT Geo, Alex applies these experiences and skillsets to support the development of urban forest management plans for communities. Specifically, she is directing the integration of urban forestry into sustainability planning for communities through public engagement, staff consultations, policy analysis, and plan development.

### Role

**Research, GIS Analyses and Interpretation, Tree Inventory Analysis, Urban Forestry Planning, Stakeholder Consultations, Ordinance and Policy Review, Operations Reviews, Planting and Maintenance Recommendations, Climate Solutions, Plan Drafting, Workshops, Public Presentations**

Alex will be the primary urban forestry consultant, analyst, and planner to develop the Master Tree Plan. She will lead the analysis of the City's urban forest status, challenges, and opportunities through research, data analyses, code and policy review, and operational audits. Alex will align the findings with industry standards, best practices, benchmarking research, and the specific needs of Norwalk's urban forest to develop key principles, species lists, climate and planting strategies, program recommendations, and policy changes. Supporting Alex's role will be Chris Peiffer, a senior urban forestry consultant, to provide guidance and direction to address the challenges and opportunities facing the City's urban forest.

### UFMP Project Experience

- Saratoga Springs, NY Urban Forestry Management Plan (PlanIT Geo)
- Castleton-on-Hudson, NY Community Forest Management Plan (PlanIT Geo)
- Fremont, CA Urban Forest Management Plan (PlanIT Geo)
- Los Banos, CA UFMP Tree Ordinance Review and Revision (PlanIT Geo)
- Lakewood, CA Tree Ordinance Evaluation (PlanIT Geo)
- Grand Junction, CO Urban Forest Tree Count and Appraisal Study (PlanIT Geo)

## Rachel Ormseth

### Urban Forestry Solutions Consultant, PlanIT Geo

#### Certifications

- ISA Certified Arborist #MW-5815A
- Graduate of 2019 Municipal Forestry Institute (MFI)

#### Education

*Bachelor of Agricultural Science, Biology and Horticulture-  
South Dakota State University (2016)*



Rachel specializes in urban and community forestry planning, management, development, and innovation. Rachel has extensive experience in working with communities, big and small, to manage their city trees in a sustainable and effective manner. Rachel has administered Urban Forestry programs from a state level and has led a team of three urban foresters for work on the ground. Rachel is experienced in community engagement, tree inventories, tree selection, multi-organization project management, and coordination of partnerships for resource sharing.

With five years of public service, Rachel understands and effectively navigates the facets of urban forestry in cities where funding and resources are sparse. Rachel knows that successful collaboration can only be achieved when a personal relationship is formed with the client and the client's individual situation is assessed. Through this relationship, the client can receive the proper guidance and tools for a successful project.

#### Role

#### **Internal Outreach Plan, Partnerships, Collaboration, Public Presentations, Stakeholder Surveys, Public Engagement Frameworks and Recommendations, Planning, Graphic Design, Plan Drafting**

Rachel will be the primary lead on community outreach, engagement, and education tasks supporting the development of the Master Tree Plan. She will draft and finalize the internal public Outreach Plan, develop media strategies, provide web content, identify existing and new partnerships, conduct consultations with stakeholders, and lead or support community events with the City and partners. Rachel will summarize and interpret information gathered to inform the Plan's vision, principles, strategies and recommendations. She will be instrumental in connecting the project efforts with boots on the ground to effectively reach the diverse populations in the City.

#### UFMP Project Experience

- Schenectady and North Tonawanda, NY Community Forest Management Plans (PlanIT Geo)
  - Los Banos, CA Urban Forest Management Plan (PlanIT Geo)
  - Fremont, CA Urban Forest Management Plan (PlanIT Geo)
  - Renton, WA Urban Forest Management Plan 10-year Update (PlanIT Geo)
  - Nanaimo, British Columbia Urban Forest Benchmarking and Audit Study (PlanIT Geo)
  - Kirkwood, MO Urban Forest Master Plan (PlanIT Geo)
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## CANOPY MAPPING TEAM

### Jeremy Cantor

Director of Geospatial Services, PlanIT Geo

#### Education

*Master of Natural Resources Stewardship in Spatial Information Systems | Colorado State University*  
*2010 Bachelor of Arts in Geography; Economics Minor | University of Vermont, 2006*



Jeremy has over 15 years experience in geospatial analysis and leads the geospatial team on urban tree canopy assessments, green infrastructure analyses, and other GIS and remote sensing projects. He has managed 60 urban tree canopy (UTC) assessments and contributes to GIS modeling, remote sensing analysis of multispectral and LiDAR imagery, data production, IT, cartography, and web/mobile mapping app design. Jeremy also has seven years of federal government experience working with ocean and coastal resources in the National Park Service focusing on coastal systems, resource assessments, and web mapping design.

#### Role

##### Canopy Analysis

Jeremy will be the lead for the canopy analysis portion of the Urban Forest Management Plan. He will lead the mapping and analysis that and manage the data collection, meetings, summary of metrics, plantable space assessment, and planting prioritization for climate change mitigation.

#### Geospatial Project Experience

Jeremy has led and managed accurate and comprehensive analyses to assess the current status of tree canopy and available planting space. Tasks managed included remote sensing classification, canopy analysis, GIS mapping, tree planting prioritization, summary reports, and web map design. Communication, training, and presentations of project deliverables were provided throughout the project and upon completion.

##### ***Denver, CO: South Platte River Urban Waters Partnership Natural Capital Grant Project***

Served as a GIS analyst on a multidisciplinary team to map and evaluate the regional network of green infrastructure in Colorado's South Platte River watershed. Derived spatial data were used to develop a tool to prioritize key areas for conservation and restoration based on the ecosystem services that the natural resources provide (<https://pg-cloud.com/NaturalCapital/>).

##### ***Washington, D.C.: Community Forestry Resource Guide, Canopy Strategy, and Management Handbook***

- Contributed textual content, graphics, and styling to this document which provided a strategy for managing the region's urban forest and a handbook to guide Metro Washington Council of Government's approach to community engagement and outreach as it relates to education and encouraging tree planting, protection, and engagement strategies. The handbook also included an i-Tree demonstration project and user guide for i-Tree Canopy.

##### ***TreePlotter™ CANOPY Product Owner***

Jeremy has managed an iterative re-design of our interactive canopy mapping and decision support web application formerly known as Canopy Planner. Over the course of the last three years, various GIS functionality has been added and graphic design elements have provided a fresh look to make the software more user-friendly with additional features and smoother functionality. Jeremy has also been instrumental in the design of our modern web portal used to display tree canopy data in a lightweight, mobile-friendly web platform.

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## Ben Wittman

### Geospatial Data Manager, PlanIT Geo

#### Education

*Bachelor of Arts in Geography & Environmental Studies;  
GIS Certificate |  
University of Colorado at Colorado Springs, 2014*



Ben has over 6 years experience in GIS analysis. Ben has a background in geography, GIS analysis, GPS data collection, forestry, remote sensing, data base management, software support, cartography and geomorphology. He has experience managing large and complex geospatial datasets, creating GIS data, performing land cover classification, data quality control, writing technical reports, and updating postgres databases. Ben joined PlanIT Geo as a GIS Technician in 2016 and now manages geospatial projects and associated tasks. As the Geospatial Data Manager with PlanIT Geo, Ben takes a lead role in supporting and configuring the web-based application TreePlotter CANOPY using data from tree canopy assessment projects. He also reviews and evaluates a variety of data sources to provide clients with the most relevant understanding of tree canopy distribution and how it is and is not equitably distributed throughout a project area.

#### Role

##### Canopy Analysis

Ben will contribute to the canopy analysis portion of the Urban Forest Management Plan through revision, collection, preparation, and organization of geospatial data. He will also Take the lead under Jeremy in the analysis and mapping by summarizing metrics for each prioritization criteria and geography selected by the City. He will lead map creation and geoprocessing tasks.

#### Geospatial Project Experience

##### Urban Tree Canopy Assessments

Ben has performed different tasks for urban tree canopy assessment projects across the U.S. and Canada such as GIS mapping, tree planting prioritization, summary reports, creation and quality control of land cover classification data, remote sensing and data analysis. These projects include but are not limited to, Kirkwood, MO (2022); Charlottesville, VA (2022); Washington, D.C. (2021); Florida Hurricane Michael TCA (2021); Georgia Hurricane Michael TCA (2021); Vancouver, WA (2021); Brookhaven, GA (2020); Tarrant County, TX (2020); Fremont, CA (2020); Forth Worth, TX (2020); Knox County, TN (2020); Cupertino, CA (11.3 mi<sup>2</sup> 2019); Issaquah, WA (12 mi<sup>2</sup>, 2019); Wichita, KS (164 mi<sup>2</sup>, 2018); Colorado Springs, CO (195 mi<sup>2</sup>, 2018); King County, WA (203 mi<sup>2</sup>, 2018); Cambridge, ON (44 mi<sup>2</sup>, 2018); Jacksonville, FL (588 mi<sup>2</sup>, 2017); Rowlett, TX (51 mi<sup>2</sup>, 2017); Richmond Hill, ON (40 mi<sup>2</sup>, 2017); Washington, D.C. (68 mi<sup>2</sup>, 2016); Snoqualmie, WA (7 mi<sup>2</sup>, 2016); and Denton, TX (116 mi<sup>2</sup>, 2016).

#### SOFTWARE PROJECTS

##### TreePlotter INVENTORY applications

Configured and tested Tree Plotter applications for use in tree inventory collection and management for clients including and not limited to: Texas Tree Foundation; Tree Doctors (AZ); Nels Johnson; Sims Tree Health; City of Jacksonville, FL; City of Cheyenne, WY; City of Bowie, MD; CoTreeView (Colorado Statewide Inventory); Wisconsin Department of Natural Resources; Deerfield Beach, FL; Homewood Consulting (AUS); and South Suburban Parks and Recreation (CO).

##### TreePlotter CANOPY applications

Managed migration of tree canopy data derived from urban tree canopy assessments to a customized, webbased software, CANOPY, for Santa Clara County CA; Bellevue, WA; Denton, TX; Cambridge, ON; Colorado Springs, CO; Rowlett, TX; Wichita, KS; and Jacksonville, FL.

## Morgan Garner

### GIS & Natural Resources Technician, PlanIT Geo

#### Education

*Master of Science in Geosciences |*

*Georgia State University, 2019*

*Bachelor of Science in Geosciences |*

*Georgia State University, 2017*



Morgan has a background in GIS analysis, geologic field mapping, hydrogeology, geochemistry, and natural resource management. She has experience extracting high-quality data from long-term research projects, applying spatial data to support environmental and resource management initiatives, and delivering prompt and high-quality technical reports. Morgan joined the Geospatial team in 2022 to provide technical expertise to urban tree canopy assessments, contributing to quality assurance/quality control (QA/QC) of land cover data, management of GIS data sets, and reporting of urban forest metrics. Prior to Plan-IT Geo, Morgan was a Research Associate at Clemson University, where she led the analytical team and directed diverse client-driven research projects by evaluating environmental data of raw materials. While in school, she interned with the Georgia Tree Council to share her knowledge and passion for urban tree care by promoting the health and diversity of the nation's urban canopy.

#### Role

##### Canopy Analysis

Morgan will contribute to this project by helping Jeremy and Ben with data collection and revision, map creation, QA/QC of data, and metric summarization.

#### Geospatial Project Experience

##### *Syracuse, NY UTC Assessment and Change Analysis (2022)*

Morgan visualized urban forestry metrics by creating assessment maps at various geographic planning scales. Morgan assisted in quantifying the environmental benefits of the City's trees by calculating air quality, stormwater run-off mitigated, and carbon stored. Morgan presented the City with a two-page fact sheet that illuminated the distribution of urban tree canopy (UTC), potential planting areas (PPA), and UTC change over time.

##### *Bellevue, WA UTC Assessment & Report (2022)*

Morgan compared landcover datasets from the City of Bellevue to measure canopy change over the last decade. Morgan collaborated on an encompassing report to analyze correlations between tree canopy and socio-demographic indicators to prioritize new tree plantings.

##### *Lexington-Fayette County, KY UTC Assessment & Report (2022)*

Morgan performed remote sensing classification of land and canopy cover of Lexington-Fayette county. She extracted vegetated areas unsuitable for plantings, such as baseball fields and golf courses. By collaborating with the county, she will ensure the accuracy of land cover classes and perform QA/QC on trees that may be obscured in the shadows of large buildings.

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# SECTION 3 PROJECT APPROACH

## GENERAL APPROACH TO SERVICES

### FUNDAMENTAL FRAMEWORK OF PLANIT GEO'S PLANNING PROCESS

#### WHAT DO WE HAVE?

Existing Conditions  
Inventory, Canopy Analysis  
Research  
Data Analyses  
Consultations  
Public Input

#### WHAT DO WE WANT?

Standards & Best Practices  
Staff Consultations  
Public Meetings  
Public Input  
Benchmarking Research  
Urban Forest Audit  
Threats & Opportunities

#### HOW TO GET WHAT WE WANT?

Shared Vision  
Recommendations  
Goals, Strategies, Actions  
Work Plans, Monitoring Plans  
Administrative & Public Draft  
Final Plan

#### HOW ARE WE DOING?

Urban Forest Audit  
Implementation Plan  
Monitoring Plan  
Implementation Team  
Data Management  
Policy Enforcement  
Adaptive Management



## SCOPE OF WORK

This Master Tree Plan project for the City of Norwalk represents an important step in better understanding the future of tree maintenance and planting/removal, public outreach and its value, and the importance of urban forestry during City planning processes. Our team will apply an iterative planning approach consisting of collaboration and interviews with City staff and external stakeholders; community engagement; analysis of existing plans, inventories, and UTC assessments; benchmarking processes for program operations, costs, and coordination; and strategies for increasing and preserving trees and canopy cover. The tools and outcomes will support developing and monitoring future public tree maintenance goals and planting initiatives, provide key information on threats and opportunities, and inform stakeholders on the importance of the urban forest.

The project will accomplish the following desired outcomes of a successful Master Tree Plan:

- I. Establish Norwalk's urban forest as a valuable asset through engagement of the community and commitment to equitable distribution of urban tree canopy and its benefits throughout the City.
- II. Analyze the canopy's environmental, social, and health benefits to identify vulnerabilities and opportunities for maximizing the range of environmental benefits.
- III. Provide recommended BMPs, strategies, partners, and plans to implement and achieve goals set forth by the Plan and establish metrics to measure progress of the urban forest.
- IV. Integration into City processes for long-term Plan sustainability.
- V. Updated tree inventory data and tree canopy mapping and analysis to identify the City's tree health, distribution, and possible planting space.
- VI. Guidance for mitigating climate impacts and adaptation, public health and well-being, and other factors as critical elements of community resilience and equity.

### An Iterative Approach to Apply the Fundamental Planning Process



Research & Information Discovery



City Operations & Workflows



Data Analyses



Benchmarking Research



Community Engagement



Urban Forest Audit & Gap Analysis



Vision, Goals, & Strategies



Draft & Final Plan

To accomplish the Scope of Work the City presented in its RFP, the steps involved are organized into the following categories: **Project Management and Communications, 1) Phase 1 - Deliverables, 2) Goals and Objectives, 3) Review and Assess Urban Forest Framework, 4) Tree Management Plan, 5) Tree Planting Plan, and Other Products and Deliverables.**



## PROJECT MANAGEMENT

We believe that transparency between our staff and City staff regarding expectations, timelines, and project execution is essential for creating the best possible products. Therefore, our management approach from the project kickoff to reporting will focus on project objectives, customization of scope, schedule, milestones, roles and responsibilities, risks and mitigation, methodology, and quality. Upon approval, we will work with the City to finalize the Scope of Services including any best and final offer. A project kickoff meeting date will be determined and scheduled. The Project Team will create an internal work plan outlining the timeline, milestones, schedules, communications, expectations, City staff time commitments, and deliverables. Status reports will be sent to the City core project team to give information on progress, budget and other required information. Upon completion of each project task, we will have a remote task review meetings and in-person workshops as needed to present and review completed tasks and deliverables. Primary Team Members: Chris Peiffer and Alex Hancock.

## PHASE I: DELIVERABLES

The first phase of this project will include assisting the City in updating their existing inventory database, incorporating GIS data into the inventory, and conducting a canopy analysis to provide metrics by neighborhood. This will aid the City in assessing and identifying existing urban forest resources throughout Norwalk to better understand opportunities to maximize benefits and increase canopy within the community. Primary Team Members: Jeremy Cantor, Ben Wittman, Morgan Garner, and Alex Hancock.

## Tree Canopy Analysis

Our technical for approach for canopy analysis will include mapping the City's land and tree canopy cover, QA/QC of derived data, analysis of canopy cover, prioritization for analysis of economic and public health impacts, plantable space distribution within various planning scales, planting scenarios, and an accuracy assessment following protocols developed by the U.S. Forest Service. This land cover map will serve as the foundation of all other tasks included in this project. Both the Inventory and Canopy Mapping will service as foundations for recommendations for the MTP.

PlanIT Geo requires the City to provide data including but not limited to; geographical boundaries, available land cover data (roadways, driveways, etc.), and others.

## Land Cover Mapping

PlanIT Geo is an industry leader in spectral and spatial remote sensing analysis, particularly using object-based image analysis (OBIA) for various land cover classifications. Historically, this has been a critical technique for accurately and cost-effectively mapping tree canopy and other land cover types. We are keenly aware of the importance for quality data. Recently, we have partnered with another mapping and analytics industry leader, EarthDefine. Through this exclusive partnership, we are the only firm able to offer a Machine Learning (ML) approach and existing 60 centimeter national data and the valuable cost savings to the city for current and future assessments.

Recent improvements in computer vision and ML are rapidly changing the nature of the

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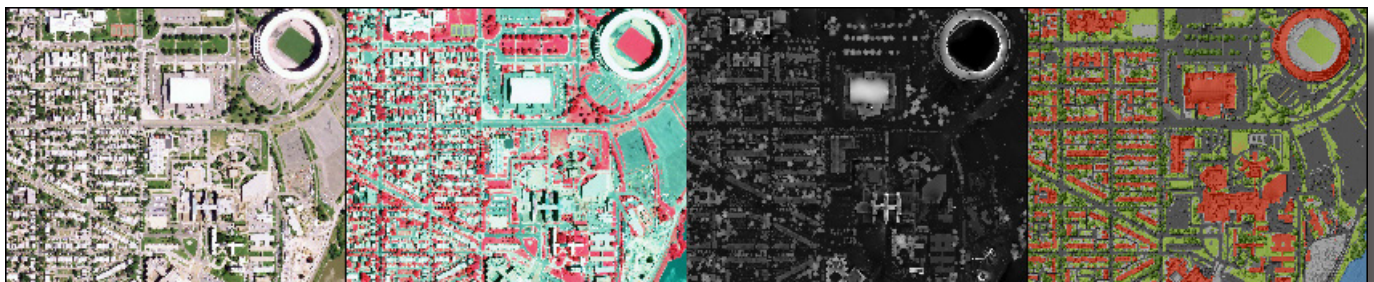
remote sensing field and allowing for cheaper and faster land cover mapping while, in many cases, improving the accuracy. Through our exclusive partnership with industry leader, EarthDefine, we will provide tree canopy data from the US Tree Map as well as the requested additional vegetative and impervious surface classes. Overall accuracy of data from the Tree Map is 96.6%. The nature of this technique will facilitate consistent, repeatable, and accurate extractions of all land cover types. Leveraging such techniques helps our customers limit data set inconsistencies caused by differences in human interpretation and decrease the number of resources required to update the land cover data set. Additionally, the City can be confident that the accuracy of extraction remains consistent from update to update, making more frequent assessments of the canopy possible. EarthDefine uses training samples to ensure the accuracy of the land cover data. 4-band aerial imagery will be classified using machine learning technology to produce the land cover classes. The land cover data will be based on 2021 NAIP imagery (National Agriculture Imagery Program) once it becomes available, the next most current would be NAIP imagery from 2018.

Our team will perform additional QA/QC as needed, specifically in dense urban or downtown areas, on the tree canopy and other land cover data from EarthDefine to ensure 92% overall accuracy and 95% tree canopy accuracy standards are met. We can provide all land cover data within two to three weeks of project initiation. The canopy layer will be provided for review prior to other steps in the project. FGDC-compliant metadata will be provided for all spatial datasets created. All datasets will be delivered in GIS vector (shapefile or geodatabase) or raster (TIF) formats that will be compatible with the City's current GIS. The final land cover data set will inform and be used in all other tasks included in this project. Land cover classes are described below.

**Urban tree canopy** mapping will include all vegetation generally greater than 10-15' tall based on multispectral imagery and object-based classification techniques. On-the-ground images from Google Street View may be used for QA/QC purposes in areas obscured by buildings and shadows.

**Open space / Grass** will include turf grass, shrub, and open space. Results will map all areas of healthy grass, and other vegetative cover, based on the time of the imagery capture, with a focus towards plantable areas for the purpose of this study and intended use of the data.

**Impervious surfaces** will include all paved surfaces and hardscapes and can be broken out (sub-categorized) using existing planimetric data that the City can provide including buildings, roads, parking lots, sidewalks, and driveways. These digitized impervious surface polygons will be incorporated into the land cover classification by overlaying them "on top



of” the impervious surface areas that are extracted through remote sensing classification techniques. Parking lots, sidewalks, and other impervious areas such as patios, driveways, trails, and other miscellaneous hardscape surfaces will be categorized as “Other Impervious”. Parking lots, sidewalks, and driveways can be considered impervious plantable space.

**Bare soil** will include barren soil, gravel pits, exposed dirt/open construction, rock, and sand as well as dry (non-photosynthetic) vegetation. These areas will not be considered plantable.

**Water** will be mapped from the base imagery and includes surface water features such as lakes, rivers, ponds, and streams.

### Data Deliverables

We can provide all land cover data within two to three weeks of project initiation. Data provided will include current tree canopy and land cover data for the City. The City can also become a subscriber to our tree canopy service which will provide updated data and metrics approximately every two years when new NAIP imagery is collected. Details on the subscription are listed in the TreePlotter™ CANOPY section on pages 39-41.

Our team will perform a detailed QA/QC process on all land cover classes, and we will conduct a point-based accuracy assessment. The result will be a standard error (confusion) matrix which we include routinely on land cover and UTC assessments. Once the tree canopy layer has 95% user’s accuracy or higher and overall accuracy reaches 92%, we will send samples of the results to the City for review and approval before proceeding with the GIS-based modeling of land cover and UTC metrics.

The following land cover GIS raster layers will be produced:

1. 5-class (tree canopy, open space/grass, bare soil/dry vegetation, impervious, and water);
2. All-class (same classes but with more specific impervious classes provided by the City);
3. UTC-class (existing tree canopy, areas suitable for planting trees, unsuitable areas for planting trees).

In addition, separate raster and vector files will be delivered for tree canopy with distinction of tree canopy overhanging impervious or pervious surfaces. The final land cover products will be delivered in vector and raster format (shapefile, TIFF, or Esri geodatabase) in the projection desired by the City. We suggest NAD 1983 UTM Zone 18N.

### Possible Planting Area

As part of our land cover mapping process, we will digitize areas that are unsuitable for tree planting and incorporate pre-existing data sets to ensure that the plantable spaces presented to the City are accurate and realistic. The areas that we will digitize include recreation fields and golf course playing areas. Examples of other unsuitable features that can be included are: existing trees, underground and overhead utilities, sidewalks, private alleyways, and cemeteries. Beside existing trees, these must all be provided by the City. We refer to this as Possible Planting Area – Vegetation. Parking lots and driveways may also offer planting opportunities with enhanced ecosystem benefits. These areas can be labeled as

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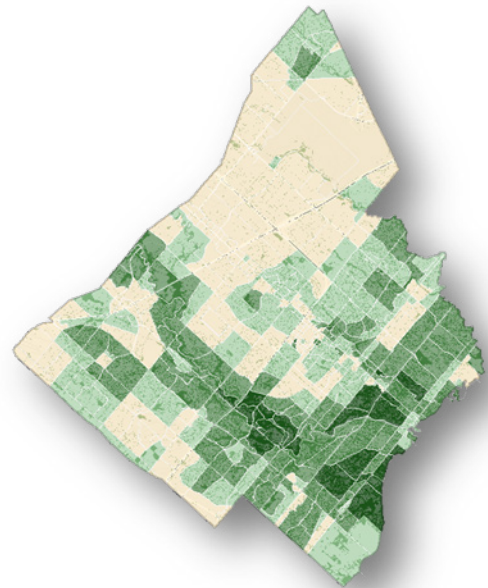
Possible Planting Area – Impervious if available as slight modification of the landscape or adjacent tree plantings could result in plantable space with enhanced ecosystem benefit value. This plantable space can include tree planting on private property, front yards, businesses, schools, churches or other areas. The plantable space identified will aid the City in identifying strategic areas for planting.

### Urban Tree Canopy Metrics & Maps

We will then conduct the land cover and UTC assessment and analysis. This includes GIS-based modeling processes to calculate the area (acres) and percent of each land cover type as well as possible planting area and unsuitable areas within the city boundary and seven additional boundaries. Boundaries we suggest for the City other than neighborhoods are city boundary, public vs private property, HUC 12 watersheds or wetland corridors, land use, census block groups, or parcels. Area and percent values will be added in new GIS table fields to the following geographic assessment boundaries. These GIS files will be provided by the City with any topological errors corrected. Area and percent values will be added in new GIS table fields for each scale. Maps, in MXD, PNG, and PDF formats, will include the following: City-wide land cover, City-wide UTC/PPA/unsuitable, UTC coverage by all other scales (7), and PPA distribution by all other scales (7). All maps and spreadsheet tables will be delivered in our data delivery.

### Prioritization and Equitable Distribution

We will work with City staff and community feedback to identify up to eight environmental (e.g. air quality, urban heat island), demographic (e.g. population density, minority populations), socioeconomic (e.g. income), and public health (e.g. asthma, heart attack) criteria and rank potential planting spaces and create priority planting maps. Priority tree-planting indices will be calculated for each criterion at the census block group scale as well as neighborhoods (if chosen). These indices will describe the best areas to plant for specific neighborhood or environmental equity. GIS attributes will be added to the assessment boundary that represent priority/suitability index values for each area. We will use these data and our criteria-weighting model to develop a priority tree-planting map for each criterion at the census block group scale. An overall priority map will also be created. The inventory analysis will aid in identifying areas where trees are in decline or in need to replacement, this will aid in identifying opportunities for planting to optimize equitable canopy distribution. The plantable space and priority areas identified will aid the City in identifying strategic locations for planting to maximize greenhouse gas absorption, economic impact, cultural benefit, and increase public health benefits.



## Urban Forest Structure

The Team will assess the urban forest structure within the City to identify species composition, number of trees, tree density, tree health, and other characteristics using the inventory and assessment data. This urban forest structure analysis will provide the City with the ability to understand its current urban forest composition in a detailed manner and contribute to pest and disease risk mitigation strategies.

## Tree Inventory Update

The Consulting Team will begin by gathering existing datasets and completing a data audit and data QA/QC. Once completed, the Team will meet with the City to discuss the data gaps and the necessary updates and changes. Our Team will conduct data updates remotely and in the field depending on the type of data needed. The update to the inventory will include attachments of photos for specific trees of interest (e.g., high risk, pest or disease signs/symptoms, hardscape damage, etc.)

Once the public tree dataset is corrected and updated, PlanIT Geo's Field Services (Tree Inventory) Team will conduct an inventory of 4,000 to 4,500 trees. The types of trees (public and private trees) and the priority areas will be finalized during contract negotiation and with input from the Consulting Team as they audit existing inventory datasets. To support ongoing tree inventory data collection, the Consulting Team will provide the City with a manual that details the tree inventory methodology and use of TreePlotter. In addition, the Consulting Team will provide two one-hour training sessions (one in-person) to City-selected volunteers. This will enable the City to complete the remainder of the Citywide public tree inventory and/or allow volunteers to update the inventory over time. It is anticipated that the Citywide public tree population consists of approximately 25,000 trees. PlanIT Geo's Field Services Team can continue to inventory trees depending on the available budget.

The Consulting Team will extrapolate tree inventory and canopy assessment data to describe the private tree population in terms of genera/species diversity, relative age/size classes, and locations.

The data analyses will be summarized for review by the City. Once revised, the findings from these analyses will be incorporated into the Master Tree Plan. Primary Team Members: Alex Hancock and Rachel Ormseth.

## PHASE II: GOALS & OBJECTIVES

This phase will complement the first phase by incorporating the tree canopy analysis data and information into short and long-term goals for increasing tree canopy within identified areas of opportunity and creating objectives for future inventory within the City. Creating these goals will support planting opportunities to increase green infrastructure in the City. 5-year incremental goals for Norwalk's inventory and tree canopy will be drafted and finalized. Primary Team Members: Alex Hancock and Chris Peiffer.

- ◇ Framework for Public Tree Expansion
  - ◇ Framework for Canopy Preservation & Expansion
  - ◇ Report on Tree Benefits & Trees as green infrastructure
  - ◇ Finalize Short & Long-Term Canopy/Inventory Goals
-



### PHASE III: REVIEW AND ASSESS URBAN FOREST FRAMEWORK

Review and assessment of the urban forest framework in Norwalk will include research and information discovery, staff and stakeholder interviews, surveys, consultations, benchmarking research, an Urban Forest Audit, an Urban Forest Vulnerability Analysis, and a number of analyses and summaries to evaluate Norwalk's urban forest framework.

Primary Team Members: Alex Hancock, Rachel Ormseth, and Chris Peiffer.

- ◇ Staff & Stakeholder 5-Question Survey
- ◇ Staff & Stakeholder Consultations
- ◇ Staff & Stakeholder Interviews (5, two-hour in-person sessions)
- ◇ Benchmarking Research
- ◇ Urban Forest Vulnerability Analysis (tree species, Importance Values, pests, canopy, stocking, etc.)
- ◇ Urban Forest Audit
- ◇ Tree Equity Score Analysis
- ◇ Analyses and Summaries Review Workshop (in-person)
- ◇ Final Analyses and Summaries for Urban Forest Distribution & Challenges, Regulatory Environment, Existing Stakeholder/Partnership Frameworks, Relevant Plans, Tree Planting & Management Methods & Mechanisms, and Existing Education & Outreach Channels & Outlets

### PHASE IV: TREE MANAGEMENT PLAN

Outlining of the Tree Management Plan portion of the Master Tree Plan will include a review of the comprehensive urban forest framework identified in Phase III. This Plan will take into consideration the wood waste utilization and pest and disease management as requested by the City, as well as provide recommendations for retention of trees in Norwalk. Primary Team Members: Alex Hancock and Chris Peiffer.

- ◇ Draft TMP Outline
- ◇ Wood Waste Utilization Draft
- ◇ Pest & Disease Management Draft
- ◇ Wood Waste Utilization Final
- ◇ Pest & Disease Management Final
- ◇ Draft & Final Recommendations for Public/Private Partnerships

### PHASE V: TREE PLANTING PLAN

The Tree Planting Plan will support with City in reaching the short and long-term goals identified for tree inventory and tree canopy from Phase II. Primary Team Members: Alex Hancock, Chris Peiffer, Jeremy Cantor, and Morgan Garner.

- ◇ Draft Outline of Tree Planting Plan
- ◇ Final Outline of Tree Planting Plan
- ◇ Draft Tree Planting Strategy (prioritization map)
- ◇ Draft Cost Estimate for Goals
- ◇ Draft Funding Streams
- ◇ Draft Public/Private Partnerships for Planting and Urban Forest Programs
- ◇ Draft Recommendations, Structure, and Policies
- ◇ Draft Funding Models & Budget Estimates
- ◇ Draft Review Workshop (in-person)
- ◇ Final Tree Planting Plan and Phase V Deliverables



## OTHER PRODUCTS AND DELIVERABLES

These other products and deliverables required by the City will complement and guide the project through an Internal Work Plan and monthly progress meetings or updates. The products and deliverables listed below will aid the City in the delivery of public facing information regarding the project and Plan, and provide the City with thorough presentations and information for the Tree Advisory Committee. Primary Team Members: Alex Hancock, Rachel Ormseth, and Chris Peiffer.

- ◇ Internal Work Plan Schedule
- ◇ Monthly Progress Emails/Meetings (remote)
- ◇ Draft Narrative Report TMP Review Meetings (3 remote)
- ◇ Final Narrative Report: Planting Plan, Tree Management Plan
- ◇ Final Executive Summary
- ◇ GIS Survey Tool (TreePlotter™ CEM, see below)
- ◇ Public Presentation #1 (in-person)
- ◇ Public Presentation #2 (remote)

The [TreePlotter™ Community Engagement Map](#) (CEM) will serve as the GIS Survey Tool for the City to share publicly. The CEM is provided for one year along with TreePlotter INVENTORY and CANOPY to provide an all-in-one solution. Software setup includes training. The [CEM](#) provides a public facing tree information display, is mobile friendly, and includes filterable and customizable results. The CEM is designed to share tree data in a simple and clean format that everyone can understand. A typical tree inventory often includes more information than the public would be interested in. The Community Engagement Map is configurable so clients can share a limited version of their inventory and canopy analysis that highlights the data they most want the public to see. The CEM is also a configurable and cost-effective way to provide your stakeholders with a way to interact and digest the tree data within your TreePlotter application. For this project, PlanIT Geo will likely set up a TreePlotter software application (at no cost) to use its robust tools and functionality when analyzing Norwalk's tree inventory population. With this platform, the City can design the Community Engagement Map to highlight urban forestry programs and initiatives, engage the public by using it as a citizens science tool, or share the trees on a project site with clients and community members.

Government agencies and municipalities that have urban forest responsibilities have a lot to gain from a Community Engagement Map. Maintaining public trees also requires maintaining a relationship with the public. Residents can be a major ally for urban forestry efforts, providing a pool of volunteers for public events and more eyes in the community on the lookout for hazardous trees. Additionally, growing public appreciation for the urban forest through a CEM can help when advocating for budget increases.

[illegible]

|                                                                 |   |    |    |   |   |   |   |    |         |    |
|-----------------------------------------------------------------|---|----|----|---|---|---|---|----|---------|----|
| Ordinance & Document Reviews                                    | 2 | 12 |    |   |   |   |   | 14 | \$1,450 | 1% |
| Draft Short & Long-Term Canopy/Inventory Goals                  | 2 | 6  |    |   |   |   |   | 8  | \$850   | 1% |
| Draft Goals Review Meeting (remote)                             |   | 2  |    |   |   |   |   | 2  | \$200   | 0% |
| Final Short & Long-Term Canopy/Inventory Goals                  |   | 4  |    |   |   |   |   | 4  | \$400   | 0% |
| <i>Subtotal</i>                                                 | 8 | 42 | 0  | 0 | 0 | 0 | 0 | 50 | \$5,200 | 3% |
| <b>Phase III. Review and Assess Urban Forest Framework</b>      |   |    |    |   |   |   |   |    |         |    |
| Research & Information Discovery                                |   | 8  |    |   |   |   |   | 8  | \$800   | 1% |
| Request for Information Document                                |   | 3  |    |   |   |   |   | 3  | \$300   | 0% |
| Final Summary of Research                                       |   | 6  |    |   |   |   |   | 6  | \$600   | 0% |
| Staff & Stakeholder Interview Framework & Planning              |   | 2  | 2  |   |   |   |   | 4  | \$400   | 0% |
| Staff & Stakeholder 5-Question Survey                           |   | 4  | 2  |   |   |   |   | 6  | \$600   | 0% |
| Staff & Stakeholder Interviews (5, two-hour in-person sessions) | 5 | 24 | 10 |   |   |   |   | 39 | \$4,025 | 3% |
| Summary of Staff & Stakeholder Consultations                    | 2 | 6  | 4  |   |   |   |   | 12 | \$1,250 | 1% |
| Analysis of Staff & Stakeholder Consultations                   | 1 | 3  | 2  |   |   |   |   | 6  | \$625   | 0% |
| Meeting to Discuss Findings (remote)                            |   | 2  |    |   |   |   |   | 2  | \$200   | 0% |
| Benchmarking Research Round 1                                   |   | 10 |    |   |   |   |   | 10 | \$1,000 | 1% |
| Benchmarking Research Review Meeting (remote)                   |   | 2  |    |   |   |   |   | 2  | \$200   | 0% |
| Final Benchmarking Research                                     |   | 4  |    |   |   |   |   | 4  | \$400   | 0% |

|                                                                                         |    |     |    |   |   |   |   |     |          |     |
|-----------------------------------------------------------------------------------------|----|-----|----|---|---|---|---|-----|----------|-----|
| Urban Forest Vulnerability Analysis (tree species, IV's, pests, canopy, stocking, etc.) |    | 12  |    |   |   |   |   | 12  | \$1,200  | 1%  |
| Tree Equity Score Analysis                                                              |    | 8   |    |   |   |   |   | 8   | \$800    | 1%  |
| Urban Forest Audit System Round 1                                                       |    | 10  |    |   |   |   |   | 10  | \$1,000  | 1%  |
| Final Urban Forest Audit                                                                | 1  | 4   |    |   |   |   |   | 5   | \$525    | 0%  |
| Draft Analysis & Summary of Urban Forest Distribution & Challenges                      | 2  | 8   |    |   |   |   |   | 10  | \$1,050  | 1%  |
| Draft Analysis & Summary of Regulatory Environment                                      | 2  | 8   |    |   |   |   |   | 10  | \$1,050  | 1%  |
| Draft Analysis & Summary of Existing Stakeholder/ Partnership Frameworks                |    | 4   | 4  |   |   |   |   | 8   | \$800    | 1%  |
| Draft Analysis & Summary of Relevant Plans                                              |    | 8   |    |   |   |   |   | 8   | \$800    | 1%  |
| Draft Analysis & Summary of Tree Planting & Management Methods & Mechanisms             | 2  | 8   |    |   |   |   |   | 10  | \$1,050  | 1%  |
| Draft Analysis & Summary of Existing Education & Outreach Channels & Outlets            |    | 4   | 4  |   |   |   |   | 8   | \$800    | 1%  |
| Draft Review Workshop (in-person)                                                       | 2  | 24  | 2  |   |   |   |   | 28  | \$2,850  | 2%  |
| Final Written Analyses & Summaries                                                      | 2  | 10  | 2  |   |   |   |   | 14  | \$1,450  | 1%  |
| <i>Subtotal</i>                                                                         | 19 | 182 | 32 | 0 | 0 | 0 | 0 | 233 | \$23,775 | 16% |

**Phase IV. Tree Management Plan**

|                                                               |   |    |    |  |   |   |    |         |            |
|---------------------------------------------------------------|---|----|----|--|---|---|----|---------|------------|
| Draft Outline                                                 |   | 2  |    |  |   |   | 2  | \$200   | 0%         |
| Final Outline                                                 |   | 1  |    |  |   |   | 1  | \$100   | 0%         |
| Wood Waste Utilization Draft                                  |   | 8  |    |  |   |   | 8  | \$800   | 1%         |
| Pest & Disease Management Draft                               |   | 12 |    |  |   |   | 12 | \$1,200 | 1%         |
| Final Wood Waste Utilization                                  |   | 4  |    |  |   |   | 4  | \$400   | 0%         |
| Final Pest & Disease Management                               |   | 4  |    |  |   |   | 4  | \$400   | 0%         |
| Draft & Final Recommendations for Public/Private Partnerships |   | 8  | 8  |  |   |   | 16 | \$1,600 | 1%         |
| Additional Analyses, Strategies, & Recommendations            | 8 | 16 | 8  |  |   |   | 32 | \$3,400 | 2%         |
| <i>Subtotal</i>                                               | 8 | 55 | 16 |  | 0 | 0 | 0  | 79      | \$8,100 5% |

**Phase V. Tree Planting Plan**

|                                                                     |   |    |   |  |  |  |    |         |    |
|---------------------------------------------------------------------|---|----|---|--|--|--|----|---------|----|
| Draft Outline                                                       |   | 2  |   |  |  |  | 2  | \$200   | 0% |
| Final Outline                                                       |   | 1  |   |  |  |  | 1  | \$100   | 0% |
| Draft Tree Planting Strategy                                        | 6 | 12 |   |  |  |  | 18 | \$1,950 | 1% |
| Draft Cost Estimate for Goals                                       | 2 | 6  |   |  |  |  | 8  | \$850   | 1% |
| Draft Funding Streams for Planting                                  | 2 | 4  |   |  |  |  | 6  | \$650   | 0% |
| Draft Public/Private Partnerships for Tree Planting                 | 2 | 4  | 4 |  |  |  | 10 | \$1,050 | 1% |
| Draft Public/Private Partnerships for the Urban Forest Programs     | 2 | 4  | 4 |  |  |  | 10 | \$1,050 | 1% |
| Draft Recommendations, Structure, & Policies for Desired Outcomes   | 8 | 16 |   |  |  |  | 24 | \$2,600 | 2% |
| Draft Funding Models & Budget Estimates for Goals & Recommendations | 8 | 16 |   |  |  |  | 24 | \$2,600 | 2% |



|                                                                |    |    |    |  |  |    |   |    |         |              |
|----------------------------------------------------------------|----|----|----|--|--|----|---|----|---------|--------------|
| Draft Review Workshop (in-person)                              | 2  | 24 | 4  |  |  |    |   | 30 | \$3,050 | 2%           |
| Final Version of Phase V Deliverables                          | 2  | 6  |    |  |  |    |   | 8  | \$850   | 1%           |
| <i>Subtotal</i>                                                | 34 | 95 | 12 |  |  | 0  | 0 | 0  | 141     | \$14,950 10% |
| <b>Other Products and Deliverables</b>                         |    |    |    |  |  |    |   |    |         |              |
| Internal Project Kickoff Meeting (remote)                      | 2  | 6  | 2  |  |  |    |   | 10 | \$1,050 | 1%           |
| Internal Work Plan Schedule                                    | 2  | 6  |    |  |  |    |   | 8  | \$850   | 1%           |
| Monthly Progress Emails/Meetings (remote)                      |    | 12 |    |  |  |    |   | 12 | \$1,200 | 1%           |
| Draft (Narrative Report) TMP #1                                | 16 | 32 | 4  |  |  |    |   | 52 | \$5,600 | 4%           |
| Draft (Narrative Report) TMP Review Meeting (remote)           | 1  | 2  |    |  |  |    |   | 3  | \$325   | 0%           |
| Draft (Narrative Report) TMP #2                                | 4  | 24 | 2  |  |  |    |   | 30 | \$3,100 | 2%           |
| Draft (Narrative Report) TMP Review Meeting (remote)           |    | 2  |    |  |  |    |   | 2  | \$200   | 0%           |
| Draft (Narrative Report) Planting Plan #1                      | 8  | 24 | 4  |  |  |    |   | 36 | \$3,800 | 3%           |
| Draft (Narrative Report) Planting Plan Review Meeting (remote) | 1  | 2  |    |  |  |    |   | 3  | \$325   | 0%           |
| Graphic Design                                                 |    |    | 40 |  |  |    |   | 40 | \$4,000 | 3%           |
| Final Narrative Report: Planting Plan, Tree Management Plan    | 4  | 12 | 2  |  |  |    |   | 18 | \$1,900 | 1%           |
| Executive Summary                                              | 1  | 6  | 2  |  |  |    |   | 9  | \$925   | 1%           |
| TreePlotter INVENTORY (1-year subscription)                    |    |    |    |  |  | 41 |   | 41 | \$3,500 | 2%           |

|                                                                                                    |                 |                 |                 |                 |                |                |                 |              |                  |     |
|----------------------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|-----------------|--------------|------------------|-----|
| Public Presentation #1 (in-person)                                                                 | 4               | 24              | 4               |                 |                |                |                 | 32           | \$3,300          | 2%  |
| Public Presentation #2 (remote)                                                                    | 2               | 8               | 4               |                 |                |                |                 | 14           | \$1,450          | 1%  |
| Presentation to Tree Advisory Committee or Other (remote or in-person if aligned with tasks above) | 2               | 12              | 4               |                 |                |                |                 | 18           | \$1,850          | 1%  |
| <i>Subtotal</i>                                                                                    | 47              | 172             | 68              |                 | 0              | 41             | 0               | 328          | \$33,375         | 22% |
| <b>TOTAL HOURS</b>                                                                                 | <b>124</b>      | <b>771</b>      | <b>130</b>      | <b>221</b>      | <b>15</b>      | <b>112</b>     | <b>205</b>      | <b>1,577</b> |                  |     |
| <b>TOTAL COST</b>                                                                                  | <b>\$15,500</b> | <b>\$77,050</b> | <b>\$12,950</b> | <b>\$12,250</b> | <b>\$1,875</b> | <b>\$9,550</b> | <b>\$13,325</b> |              | <b>\$150,000</b> |     |

## TIMELINE SUMMARY

| Task                                                       | Duration        | # of Months     | Completion | Staff Time (Hours) | Cost             |
|------------------------------------------------------------|-----------------|-----------------|------------|--------------------|------------------|
| <b>Phase I. Deliverables</b>                               | Nov'22 - Mar'23 | 4               | Mar'23     | 746                | \$64,601         |
| <b>Phase II. Goals and Objectives</b>                      | Jan'23 - Feb'23 | 2               | Feb'23     | 50                 | \$5,200          |
| <b>Phase III. Review and Assess Urban Forest Framework</b> | Nov'22 - Mar'23 | 5               | Mar'23     | 233                | \$23,775         |
| <b>Phase IV. Tree Management Plan</b>                      | Feb'23 - Mar'23 | 2               | Mar'23     | 79                 | \$8,100          |
| <b>Phase V. Tree Planting Plan</b>                         | Feb'23 - Apr'23 | 3               | Apr'23     | 141                | \$14,950         |
| <b>Other Products and Deliverables</b>                     | Nov'22 - Jun'23 | 8               | Jun'23     | 328                | \$33,375         |
| <b>TOTAL</b>                                               |                 | <b>8 Months</b> |            | <b>1,577</b>       | <b>\$150,000</b> |

## MEETING SUMMARY

| Summary of Meetings                         | Count     | Type                         |
|---------------------------------------------|-----------|------------------------------|
| Meetings to Review Drafts                   | 3         | Remote                       |
| Interviews                                  | 5         | In-person                    |
| Planning Workshops                          | 2         | In-person                    |
| Draft Plan Reviews                          | 3         | Remote                       |
| Public Presentation                         | 1         | Remote                       |
| Public Presentation                         | 1         | In-person                    |
| Presentation to the Tree Advisory Committee | 1         | In-person                    |
| <b>TOTAL</b>                                | <b>16</b> | <b>7 Remote, 9 In-Person</b> |

## PROJECT DELIVERABLES

| Task                                                | Deliverables                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Phase I. Deliverables                               | Updated Inventory, Canopy Analysis, GIS Geodatabase, TreePlotter CANOPY, Spreadsheets, TreePlotter INVENTORY, Inventory of 4,000 to 4,500 Trees, Tree Inventory Training Manual and 2 Hours of Training Volunteers                                                                                                                                            |
| Phase II. Goals and Objectives                      | Frameworks, Draft & Final Report, Draft Goals, Review Meeting (remote), Final Goals                                                                                                                                                                                                                                                                           |
| Phase III. Review and Assess Urban Forest Framework | Information Matrix, Survey, 10 hours of Interviews, Feedback Summary, Benchmarking Research, Tree Equity Score, NatureScore, Urban Forest Audit, VCL Gap Analysis, 6 Draft & Final Written Analyses, 2 Review Meetings (remote), 1 Full-Day Workshop, Final Written Analyses & Summaries                                                                      |
| Phase IV. Tree Management Plan                      | Plan Outline, Final Recommendations                                                                                                                                                                                                                                                                                                                           |
| Phase V. Tree Planting Plan                         | Plan Outline, Final Recommendations, 7 Drafts, 1 Full-Day Workshop (in-person), Final Phase V Deliverables                                                                                                                                                                                                                                                    |
| Other Products and Deliverables                     | Project Kickoff (remote), Work Plan Schedule, 8 Monthly Progress Reports, 2 Draft TMPs, 2 TMP Draft Reviews (remote), 1 Draft Planting Plan, 1 Draft Planting Plan Review (remote), Final Narrative Report, Executive Summary, 1-year Subscription to TreePlotter INVENTORY, CANOPY, and Community Engagement Module, 3 Presentations (2 remote, 1 in-person) |

| <b>PROJECT TIMELINE</b>                                         | <b>Nov</b> | <b>Dec</b> | <b>Jan</b> | <b>Feb</b> | <b>Mar</b> | <b>Apr</b> | <b>May</b> | <b>Jun</b> |
|-----------------------------------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|
| <b>Phase I. Deliverables</b>                                    |            |            |            |            |            |            |            |            |
| Data Acquisition                                                |            |            |            |            |            |            |            |            |
| Data Audit, QA/QC                                               |            |            |            |            |            |            |            |            |
| Data Analysis                                                   |            |            |            |            |            |            |            |            |
| Existing Inventory Audit                                        |            |            |            |            |            |            |            |            |
| Tree Inventory (public or private trees)                        |            |            |            |            |            |            |            |            |
| Tree Inventory Training Manual and Training                     |            |            |            |            |            |            |            |            |
| Land Cover Purchase, Canopy Assessment, QA/QC, TP CANOPY & CEM  |            |            |            |            |            |            |            |            |
| Final Data Analysis                                             |            |            |            |            |            |            |            |            |
| Final Data Summary                                              |            |            |            |            |            |            |            |            |
| <b>Phase II. Goals and Objectives</b>                           |            |            |            |            |            |            |            |            |
| Draft Framework for Canopy Preservation & Expansion             |            |            |            |            |            |            |            |            |
| Draft Framework for Public Tree Expansion                       |            |            |            |            |            |            |            |            |
| Draft Report on Tree Benefits & Trees as Green Infrastructure   |            |            |            |            |            |            |            |            |
| Final Report on Tree Benefits & Trees as Green Infrastructure   |            |            |            |            |            |            |            |            |
| Ordinance & Document Reviews                                    |            |            |            |            |            |            |            |            |
| Draft Short & Long-Term Canopy/ Inventory Goals                 |            |            |            |            |            |            |            |            |
| Draft Goals Review Meeting (remote)                             |            |            |            |            |            |            |            |            |
| Final Short & Long-Term Canopy /Inventory Goals                 |            |            |            |            |            |            |            |            |
| <b>Phase III. Review and Assess Urban Forest Framework</b>      |            |            |            |            |            |            |            |            |
| Research & Information Discovery                                |            |            |            |            |            |            |            |            |
| Request for Information Document                                |            |            |            |            |            |            |            |            |
| Final Summary of Research                                       |            |            |            |            |            |            |            |            |
| Staff & Stakeholder Interview Framework & Planning              |            |            |            |            |            |            |            |            |
| Staff & Stakeholder 5-Question Survey                           |            |            |            |            |            |            |            |            |
| Staff & Stakeholder Interviews (5, in-person two-hour sessions) |            |            |            |            |            |            |            |            |
| Summary of Staff & Stakeholder Consultations                    |            |            |            |            |            |            |            |            |
| Analysis of Staff & Stakeholder Consultations                   |            |            |            |            |            |            |            |            |

|                                                                                         | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun |
|-----------------------------------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Meeting to Discuss Findings (remote)                                                    |     |     |     |     |     |     |     |     |
| Benchmarking Research Round 1                                                           |     |     |     |     |     |     |     |     |
| Benchmarking Research Review Meeting (remote)                                           |     |     |     |     |     |     |     |     |
| Final Benchmarking Research                                                             |     |     |     |     |     |     |     |     |
| Urban Forest Vulnerability Analysis (tree species, IV's, pests, canopy, stocking, etc.) |     |     |     |     |     |     |     |     |
| Tree Equity Score Analysis                                                              |     |     |     |     |     |     |     |     |
| Urban Forest Audit System Round 1                                                       |     |     |     |     |     |     |     |     |
| Final Urban Forest Audit                                                                |     |     |     |     |     |     |     |     |
| Draft Analysis & Summary of Urban Forest Distribution & Challenges                      |     |     |     |     |     |     |     |     |
| Draft Analysis & Summary of Regulatory Environment                                      |     |     |     |     |     |     |     |     |
| Draft Analysis & Summary of Existing Stakeholder/Partnership Frameworks                 |     |     |     |     |     |     |     |     |
| Draft Analysis & Summary of Relevant Plans                                              |     |     |     |     |     |     |     |     |
| Draft Analysis & Summary of Tree Planting & Management Methods & Mechanisms             |     |     |     |     |     |     |     |     |
| Draft Analysis & Summary of Existing Education & Outreach Channels & Outlets            |     |     |     |     |     |     |     |     |
| Draft Review Workshop (in-person)                                                       |     |     |     |     |     |     |     |     |
| Final Written Analyses & Summaries                                                      |     |     |     |     |     |     |     |     |
| <b>Phase IV. Tree Management Plan</b>                                                   |     |     |     |     |     |     |     |     |
| Draft Outline                                                                           |     |     |     |     |     |     |     |     |
| Final Outline                                                                           |     |     |     |     |     |     |     |     |
| Wood Waste Utilization Draft                                                            |     |     |     |     |     |     |     |     |
| Pest & Disease Management Draft                                                         |     |     |     |     |     |     |     |     |
| Final Wood Waste Utilization                                                            |     |     |     |     |     |     |     |     |
| Final Pest & Disease Management                                                         |     |     |     |     |     |     |     |     |
| Draft & Final Recommendations for Public/Private Partnerships                           |     |     |     |     |     |     |     |     |
| Additional Analyses, Strategies, & Recommendations                                      |     |     |     |     |     |     |     |     |
| <b>Phase V. Tree Planting Plan</b>                                                      |     |     |     |     |     |     |     |     |
| Draft Outline                                                                           |     |     |     |     |     |     |     |     |
| Final Outline                                                                           |     |     |     |     |     |     |     |     |
| Draft Tree Planting Strategy                                                            |     |     |     |     |     |     |     |     |



|                                                                                                    | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun |
|----------------------------------------------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Draft Cost Estimate for Goals                                                                      |     |     |     |     |     |     |     |     |
| Draft Funding Streams for Planting                                                                 |     |     |     |     |     |     |     |     |
| Draft Public/Private Partnerships for Tree Planting                                                |     |     |     |     |     |     |     |     |
| Draft Public/Private Partnerships for the Urban Forest Programs                                    |     |     |     |     |     |     |     |     |
| Draft Recommendations, Structure, & Policies for Desired Outcomes                                  |     |     |     |     |     |     |     |     |
| Draft Funding Models & Budget Estimates for Goals & Recommendations                                |     |     |     |     |     |     |     |     |
| Draft Review Workshop (in-person)                                                                  |     |     |     |     |     |     |     |     |
| Final Version of Phase V Deliverables                                                              |     |     |     |     |     |     |     |     |
| <b>Other Products and Deliverables</b>                                                             |     |     |     |     |     |     |     |     |
| Internal Project Kickoff Meeting (remote)                                                          |     |     |     |     |     |     |     |     |
| Internal Work Plan Schedule                                                                        |     |     |     |     |     |     |     |     |
| Monthly Progress Emails/Meetings (remote)                                                          |     |     |     |     |     |     |     |     |
| Draft (Narrative Report) TMP #1                                                                    |     |     |     |     |     |     |     |     |
| Draft (Narrative Report) TMP Review Meeting (remote)                                               |     |     |     |     |     |     |     |     |
| Draft (Narrative Report) TMP #2                                                                    |     |     |     |     |     |     |     |     |
| Draft (Narrative Report) TMP Review Meeting (remote)                                               |     |     |     |     |     |     |     |     |
| Draft (Narrative Report) Planting Plan #1                                                          |     |     |     |     |     |     |     |     |
| Draft (Narrative Report) Planting Plan Review Meeting (remote)                                     |     |     |     |     |     |     |     |     |
| Graphic Design                                                                                     |     |     |     |     |     |     |     |     |
| Final Narrative Report: Planting Plan, Tree Management Plan                                        |     |     |     |     |     |     |     |     |
| Executive Summary                                                                                  |     |     |     |     |     |     |     |     |
| GIS Survey Tool Draft (TreePlotter INVENTORY, CANOPY & CEM)                                        |     |     |     |     |     |     |     |     |
| GIS Survey Tool Final (TreePlotter, INVENTORY, CANOPY & CEM)                                       |     |     |     |     |     |     |     |     |
| Public Presentation #1 (in-person)                                                                 |     |     |     |     |     |     |     |     |
| Public Presentation #2 (remote)                                                                    |     |     |     |     |     |     |     |     |
| Presentation to Tree Advisory Committee or Other (remote or in-person if aligned with tasks above) |     |     |     |     |     |     |     |     |

\*Yellow shaded cells indicate the timing for a meeting. Cells shaded purple indicates an in-person meeting.

## SECTION 4

# REFERENCES\STATEMENT OF QUALIFICATIONS

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### UFMP AND INVENTORY PROJECT EXPERIENCE

**City of Renton, WA - Community Services Dept's Parks, Planning, & Development**

**Contact Name:** Ian Gray | Urban Forestry & Natural Resources Manager

**Contact Info:** igray@rentonwa.gov | (425) 430-6601

**Number of Projects Completed for the City:** 1

**Urban Forest Management Plan - 10-Year UFMP Update**

**Description:** The project required an update to the City's 10-year Urban Forest Management Plan. The planning process included a 9-member City Collaborative Team, deep dive research and review of 36 City plans and resources, an analysis of the public tree inventory, a comparison of 2011 and 2018 urban tree canopy data, City staff and stakeholder interviews (35 invited, 19 completed), 2 public surveys (124 and 64 responses), a project website ([RentonForestryPlan.com](http://RentonForestryPlan.com)), interactive "Rooted In Renton Tree Story Map", benchmarking research, and a comprehensive audit of the Urban Forestry Program.

**Approach and Methodology:** Based on the findings, goals, objectives, strategies and actions were developed for the 10-year planning horizon. Supporting the goals, a recommended tree canopy goal was developed along with incremental canopy goals, planting targets (counts), and priority planting areas. Also, an analysis of the current program and staffing structure was completed to develop recommendations for a 2-person in-house arborist crew and priority maintenance roadway corridors. The draft review process included 8 meetings and presentations with the City's Parks Commission, Planning Commission, and Planning & Development Committee as part of the City's SEPA Plan Review Process. The UFMP was formally adopted by City Council on February 14, 2022.

**Date:** April 2021 – February 2022 (10 months)

**Budget:** \$99,980 | **Final Invoiced Amount:** \$99,980 (\$75,100 to PlanIT Geo)

**PlanIT Geo Project Roles:** Chris Peiffer- Project Manager

**City of Wilsonville, OR - Community Development's Natural Resources Program**

**Contact Name:** Kerry Rappold | Natural Resources Program Manager

**Contact Info:** rappold@ci.wilsonville.or.us | (503) 570-1570

**Number of Projects Completed for the City:** 1

**Urban Forest Management Plan**

**Description:** The UFMP provided an integrated approach to preserving, sustaining, diversifying, and regenerating Wilsonville's urban forest into the future. The Plan includes goals and objectives, an inventory and assessment, strategies, implementation actions, and monitoring—accomplished through strategic partnerships and community outreach. While the Plan addresses the entire City, it also has two special focus areas: Charbonneau and Town Center. Recommendations in the Plan address issues and topics specific to the

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urban forest in these areas—such as the 800 mature northern red oaks in Charbonneau in various states of health and impacts to infrastructure. A better understanding was gathered from an in-depth inventory of these trees. The Plan provides recommendations derived from analyses of the 24,000+ street tree inventory completed in 2018.

**Approach and Methodology:** To complete the objectives, the project consisted of extensive research, City staff workshops, existing data analyses, benchmarking research, virtual community meetings, public surveys, photo contests, website content on Let's Talk, Wilsonville!, and a systematic audit to inform goals, strategies, and actions.

**Date:** April 2020-December 2021 (21 months)

**Budget:** \$75,000 | **Final Invoiced Amount:** \$75,000 (\$63k for UFMP, \$12k for inventory)

**PlanIT Geo Project Roles:** Chris Peiffer- Project Manager, TJ Wood (Director of Field Services) - Project Manager

### **City of Saratoga Springs, NY - Department of Public Works**

**Contact Name:** Steve Lashomb | City Arborist

**Contact Info:** steve.lashomb@saratoga-springs.org | (518) 587-3550 ext.2555

**Number of Projects Completed for the City:** 1

#### **Urban Forest Management Plan**

**Description:** An inventory of ~12,000 trees was completed by PlanIT Geo's Certified Arborists to inform the development of the Urban Forestry Management Plan. The plan includes a long-term vision; maintenance and removal prioritization and cost estimates; development of strategies, budgets, and work plans; an i-Tree Eco analysis; and training to staff to implement the plan.

**Approach and Methodology:** PlanIT Geo's Certified Arborist completed the public tree inventory to be analyzed by the Consulting Team. The Consulting Team applied industry standards and best practices to the fundamental planning approach for adaptive management. The process included a research deep dive, consultations with city staff, data analyses, benchmarking research, goal and action development, and a draft plan. After 3 rounds of reviews including the review by Sustainable Saratoga, the draft plan was finalized.

**Date:** September 2021 - anticipated July 2022 (10 months)

**Budget:** \$6,400 | **Final Invoiced Amount:** \$6,400

**PlanIT Geo Project Roles:** Chris Peiffer- Project Manager, Alex Hancock - Lead Planner

### **City of Troy, NY**

**Contact Name:** Steven Strichman | Commissioner of Planning & Economic Development

**Contact Info:** Steven.Strichman@troynyny.gov | (518) 279-7392

**Number of Projects Completed for the City:** 1

#### **Community Forest Management Plan**

**Description:** Using the tree inventory data, analysis of the community's tree program and consultations with the City and stakeholders, the Community Forestry Management Plan was developed. The Plan provides a vision for the long-term community forest and a strategy for how to care for the community trees.

**Approach and Methodology:** The planning project included: 1) A vision for the long-term community forest; 2) the development of strategies, budgets, and work plans including a timeline of tasks to meet the vision; 3) the use of the tree inventory data to identify management needs i.e. pruning rotations, removal implementation, and prioritization of workload; 4) storm preparedness and response planning; 5) invasive species preparedness and response; 6) planting plan to address the unique characteristics of the City, such as species diversity, understory plantings, erosion control, and brownfields that could be impacted with planting and would address local needs; 7) urban forest environmental benefit analysis of environmental issues such as: water quality, air quality, reduce urban heat island effect, energy efficiencies, stormwater management, and health; 8) guidance and direction for street tree removal requests from residents and businesses to prevent unnecessary removals of healthy trees for perceived aesthetic or safety reasons; 9) public relations and education; 10) draft City of Troy Street Tree Ordinance review and recommendations; 11) final Plan Presentation.

**Date:** June 2019 - September 2019 (3 months)

**Budget:** \$10,500 | **Final Invoiced Amount:** \$10,500

**PlanIT Geo Project Roles:** Chris Peiffer- Project Manager

## CANOPY MAPPING PROJECT EXPERIENCE

### Washington, D.C. Metropolitan Council of Governments

**Contact Name:** Brian LeCouteur | Principal Environmental Planner

**Contact Info:** blecouteur@mwkog.org | (202) 962-3393

**Number of Projects Completed for the City:** 3

### UTC Assessment and Urban Forestry Program Review

**Scope of Services Provided:** Four years of UTC Assessments and implementation/outreach tools; land cover change analysis from 2006 to 2011 to 2015 to 2020; web-based planning tools integrating UTC data, priority planting areas, land cover classification and canopy cover forecasting; community handbook for expanding tree canopy; urban forestry program review to evaluate management activity success.

**Date:** October 2020 – June 2022

**Budget:** \$95,000

**PlanIT Geo Project Roles:** Jeremy Cantor (PlanIT Geo), Ben Wittman (PlanIT Geo)

### City of Cupertino, CA

### UTC Assessment & Report (2019)

**Scope of Services Provided:** Imagery/LiDAR-based remote sensing classification of the land and canopy cover of the Town of Cupertino in 2018 and 2009; analysis of distribution of tree canopy and plantable space throughout various geographic planning scales; recommendations for policy, planning, and priority planting areas; calculated ecosystem service benefits of the canopy; analyzed correlations between tree canopy and socio-demographic indicators to prioritize new tree plantings; measured canopy change over the last decade.

**Date:** June 2019 – August 2019

**Budget:** \$33,500

**PlanIT Geo Project Roles:** Jeremy Cantor (PlanIT Geo), Ben Wittman (PlanIT Geo)

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## SECTION 5

# OTHER INFORMATION

### ADDITIONAL RECOMMENDED SERVICES

These additions for the project will improve the overall project experience and provide even more in-depth analysis and community engagement going forward for the City.

| Additional Recommended Services       | Cost     | Description of Costs |
|---------------------------------------|----------|----------------------|
| Vibrant Cities Lab's Gap Analysis     | \$1,800  | One-time cost        |
| Additional Meetings (remote)          | \$1,000  | each                 |
| Additional Meetings (in-person)       | \$2,800  | each                 |
| Additional Presentations (remote)     | \$1,500  | each                 |
| Additional Presentations (in-person)  | \$3,800  | each                 |
| Cambium Carbon                        | \$14,500 | One-time cost        |
| Project Website                       | \$6,200  | 12 months hosting    |
| UFMP Implementation Audit (in-person) | \$6,500  | each                 |
| UFMP Implementation Audit (remote)    | \$4,200  | each                 |
| Interactive Tree Selection Tool       | \$3,000  | One-time cost        |

#### ***Vibrant Cities Lab's Gap Analysis -***

In addition to the comprehensive audit, our Consulting Team can administer the Vibrant Cities Lab's Community Assessment and Goal-Setting Tool (Gap Analysis) with the City staff and stakeholders. This additional service involves a collaborative evaluation of all major urban forestry program components to identify strengths and opportunities. These findings can help identify baseline conditions and shape the Plan's strategies. Includes an initial internal round conducted by the Consulting Team and an interactive virtual session with the City's team to finalize the gap analysis and resulting scores.

#### ***Cambium Carbon -***

PlanIT Geo partners with Cambium Carbon to provide strategies for wood reuse and end-of-life management. By diverting fallen trees from the waste stream, we work to reduce disposal costs and store embodied carbon, ensuring that no material goes to waste. Choosing this add-on will enable the City to effectively plan and manage the complete life cycle of the urban forest and associated carbon.

#### ***Project Website -***

To support constant and inclusive engagement to inform the Plan, a project website hosted by PlanIT Geo will contain the project overview, status, timeline, opportunities to engage, key findings, among other features. It can serve as the platform for the open participation polls, the interactive Tree Story Maps, among other outreach and education materials and messaging. View examples at [www.FremontUrbanForest.com](http://www.FremontUrbanForest.com) and [www.KirkwoodUrbanForest.com](http://www.KirkwoodUrbanForest.com).

### ***UFMP Implementation Audit -***

The Urban Forest Plan Key Performance Indicator (KPI) Tracker is an innovative online tool for cities to effectively implement and monitor plan strategies, targets, actions, and KPIs. KPIs developed for the City's Master Tree Plan will be integrated into PlanIT Geo's TreePlotter software for internal use and for public-facing reporting and outreach. For example, metrics such as number of trees planted and pruned can be tracked along with the trees per capita, budget per tree, maintenance history, number of volunteers, and any number of highlights specific to the City's Plan.

### ***Interactive Tree Selection Tool -***

To support the Tree Planting Plan, existing and regional tree lists will be reviewed to identify a tree species palette specific to the City to grow a sustainable and resilient urban forest. Considers species performance and species resilient to the changing climate. Also introduces "Sister Climate City" tree species i.e., those trees acclimated to climates similar to the City's climate in 60-100 years. Includes attributes such as mature tree height/width, key feature, minimum planting width, native/nonnative, mature form, deciduous/coniferous/evergreen, and up to 10 other attributes identified by the City. To provide the most readily available tool for the City, contractors, partners, and the public to plant trees appropriate to the site, our team will develop a series of planting questions where, based on the options selected, a list of suitable trees are provided for consideration from the master list. For example, users will be able to find suitable species that fit a narrow planting site, have no irrigation available, is native, and has minimal tree litter. Delivered as an interactive/sortable worksheet and PDF document. Includes a draft, review session, and final document.

### ***TreePlotter™ CANOPY***

PlanIT Geo also specializes in building cost-effective, data-driven, decision support and operational productivity tools with a specialty in integrating GIS with science-based ecosystem benefit models and forestry/natural resources data for reporting and future planning. Our TreePlotter CANOPY software (<https://planitgeo.com/treeplotter-canopy-software/>) provides a powerful yet easy to use web-based decision support and prioritization tool. It allows you to visualize data sets, prioritize planting, communicate canopy goals, implement and track planting projects, and create maps and reports to easily digest complicated data. All project data are provided in the software application and are automatically updated as soon as updated imagery is available, in most cases every two years.

CANOPY will provide many benefits to the City and increase the value, create accessibility and communication of complex data, and usage of the tree canopy assessment data by City staff, partners, and community members. It is a web browser-based interactive map, compatible with all platforms (Android, iOS, Windows), built specifically to display and interact with tree canopy assessment data. The subscription includes regular updates to tree canopy and land cover data

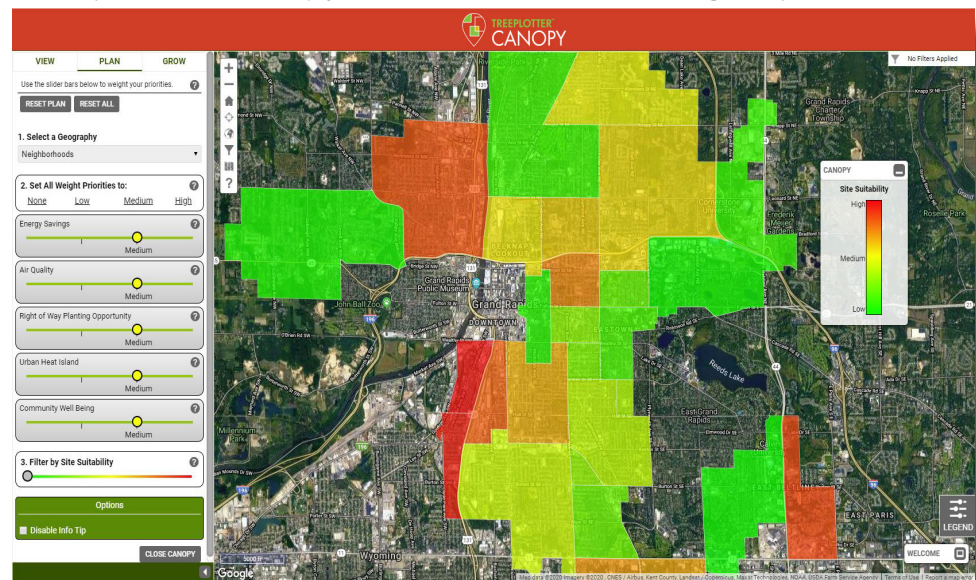




allowing the City to keep a regular pulse on canopy cover trends.. Data summaries are provided at the City scale as well as HUC-12 watersheds, ZIP codes, census block groups, census blocks, and two custom scales (e.g., municipalities, subdivisions, zoning). Using this data, the City can identify priority areas for planting, quantify current benefits and project future benefits, and analyze future planting scenarios.

The City will receive the most current data available at subscription start. In addition, the subscription includes an additional analysis of one historical year and automatic updates whenever new NAIP imagery becomes available. PlanIT Geo also provides training for application use and sharing by our Data Manager.

TreePlotter CANOPY comes with socio-demographic data built-in that will aid the City in planning investments in equitable canopy at the census block group level. These data sets combine an area's existing tree canopy, plantable space, income, employment, and education level to qualify how evenly tree canopy is distributed across its citizens. With each year's new canopy update, we provide an updated assessment of tree equity to help cities understand the impacts of their management activities.



With CANOPY, you can share your data in public-friendly and interactive online maps that can be viewed directly in the application or embedded onto your website. Your subscription includes our [Community Engagement Map](#) (CEM) which provides a simple, public-friendly version of a TreePlotter CANOPY application that can be accessed as an embedded map on the City's webpage or as a stand-alone website. Increased community engagement can help ensure the success of any urban forestry program. With CEM, public users can easily learn more about the City's tree canopy trends by interacting with our mobile-friendly web map.

Our combined software package will provide the City with key decision-making tools as well as interactive maps and charts that can make the tree canopy assessment results more accessible to the general public. The software will incorporate city branding and all descriptive text can be adjusted by city staff at any time while the subscription is active.

Examples of current TreePlotter CANOPY software applications include:

- Vancouver, Washington - <https://pg-cloud.com/VancouverWA/>
- Eugene, Oregon - <https://pg-cloud.com/EugeneOR/>
- King Conservation District - <https://pg-cloud.com/KingCD-Cities/>

REV. OCTOBER 27, 2022

# TREE MASTER PLAN PROGRAM - INVENTORY AND CANOPY ASSESSMENT

City of Norwalk, Connecticut



**PlanIT Geo**  
developers of TreePlotter

# WELCOME TO THE NORWALK BUSINESS DEVELOPMENT CENTER!





## OUR PARTNERS





# WHAT WE OFFER



Access to Capital



Technical Support



Educational  
Opportunities



Partner and B2B  
Connections

# OUR PROGRAMS



*Small Business & Main  
Streets Program*

Storefront  
Improvement  
Program



COVID-19 Business  
Assistance Grants

kiva



Norwalk  
Innovation  
Initiative

Visit  
NORWALK





## *Small Business & Main Streets Program*





# Storefront Improvement Program



**80% matching grant program up to \$20,000 worth of improvements!**

- Get as much as \$16,000 in grant funding to make improvements to your storefront
- Can be used for signage, painting, windows, planters, benches, and more

**Sabrina Church** at the Norwalk Business Development Center can help you with your application, getting quotes, and eligibility questions.



Before



After



Before



After



# Storefront Improvement Program



Before



After





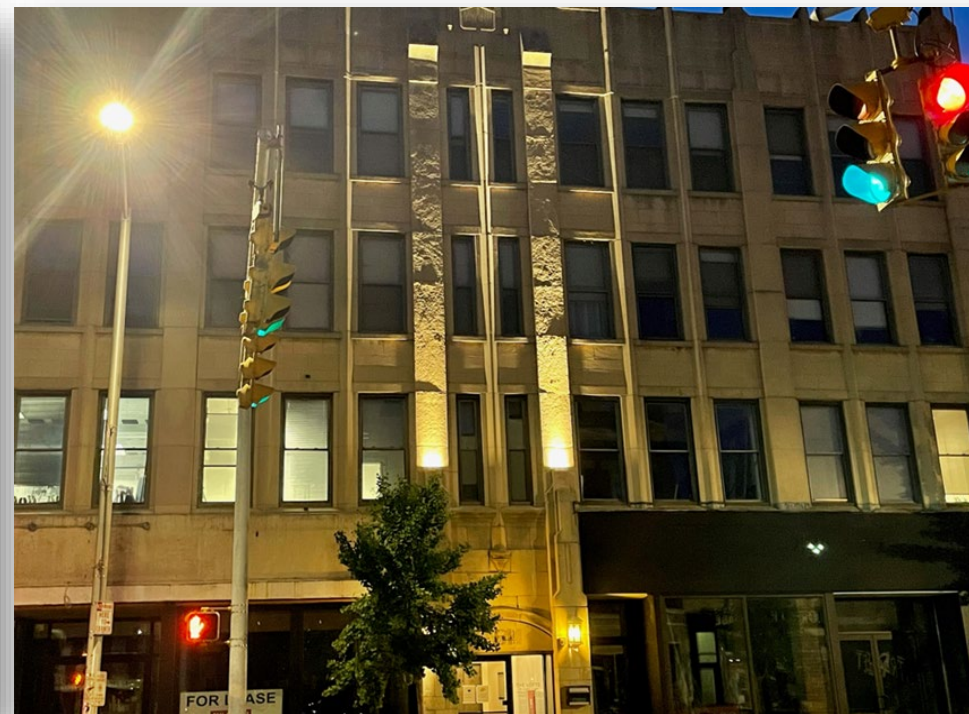
# Storefront Improvement Program



Before



After





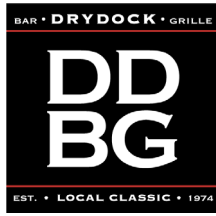
## COVID-19 Business Assistance Grants

Grants for Norwalk Businesses and that employ between 2 and 20 employees

Grants can be for \$5,000, \$10,000, or \$15,000

Applications available January 2023 & January 2024





DONOVAN'S



THE BARONY COLLECTION  
FINE VINTAGE GOODS

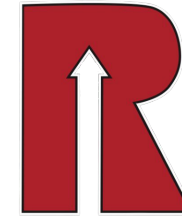


\$885,000 INVESTED

\$430,000 SPENT

69 BUSINESSES FUNDED

60 BUSINESSES TO BE  
FUNDED





**Pedro Mata** at the Norwalk Business Development Center can help you with your application, lending page, and getting lender connections!



## Apply

20-30 min

Find out if you're prequalified, then easily fill out our online application.



## Invite

Up to 15 days

Prove your creditworthiness by inviting friends and family to lend to you.



## Fundraise

Up to 30 days

Go public on Kiva, with your loan visible to over 1.6 million lenders worldwide.



## Repay

Up to 36 months

Build your customer base by repaying your Kiva loan.

# KIVA 0% INTEREST MICROLOANS



Juliane

11 days

IN PRIVATE FUNDRAISING

4/5 lenders

\$1,350 TO GO

A loan of \$1,500 helps me launch my clothing business that will allow families to shop for quality items at low prices.

NORWALK, CT, UNITED STATES

RETAIL

Save for later





Jessica

10 days

REMAINING

\$5,705 to go

43% FUNDED

A loan of \$10,000 helps a minority woman pay for a security system to protect clients who have Dementia.

NORWALK, CT, UNITED STATES

HEALTH

Save for later





Ana

20 days

REMAINING

\$2,660 to go

41% FUNDED

A loan of \$4,500 helps us to buy the equipment and to do the plumbing service.

NORWALK, CT, UNITED STATES

COSMETICS SALES

Save for later





Lindsay

This loan is fully funded!

REMAINING

\$0 to go

100% FUNDED

VIEW THE FULL BORROWER PROFILE

100% FUNDED

WHO  
WE'VE  
HELPED  
SO FAR

PROGRAM  
LAUNCHED  
AUGUST 26, 2022



OVER \$25,000 IN INVESTMENT



**Norwalk**  
Innovation  
Initiative



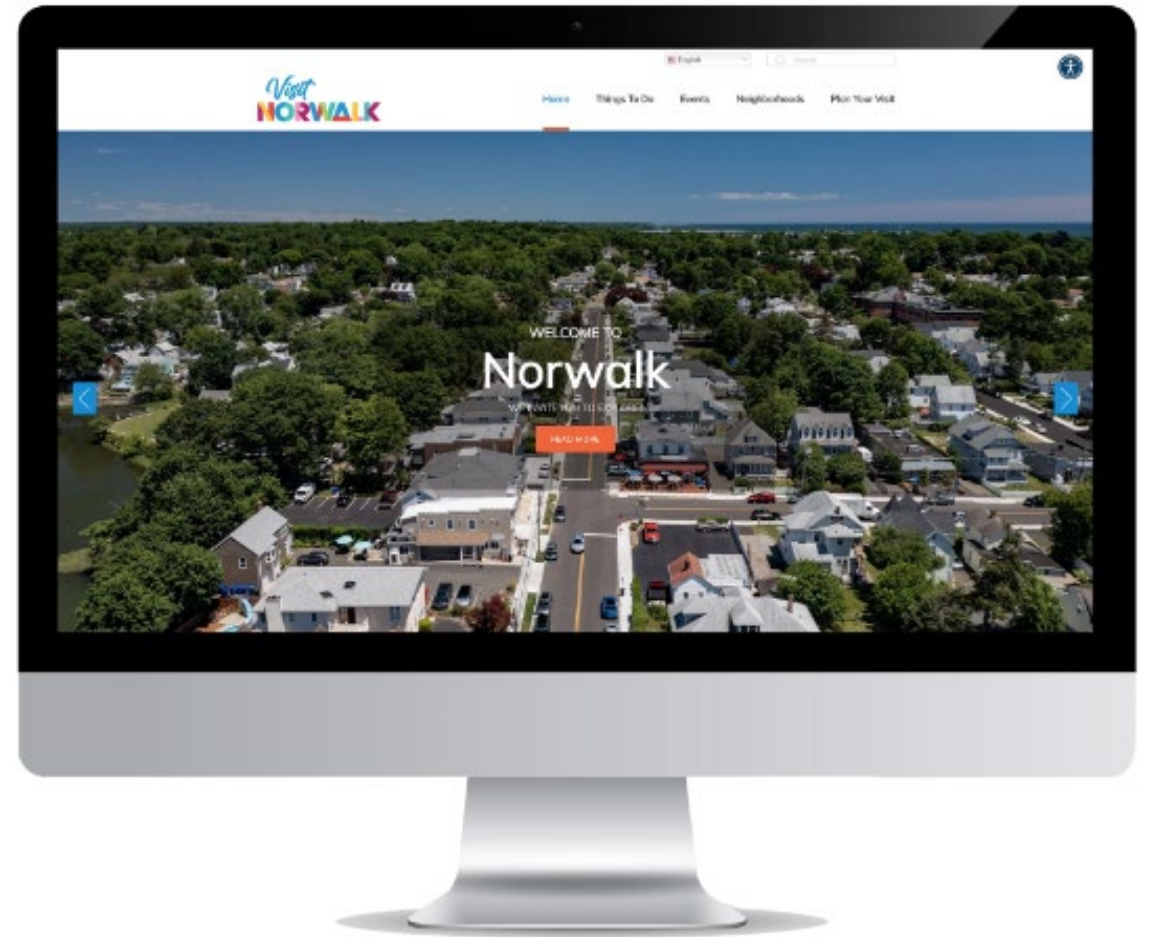
**STARTUP RECIPIENTS**

**\$15,000  
IN INVESTMENT**





Visit Norwalk is the first business model of its kind in Fairfield County to offer free marketing, social media, and public relations assistance to Norwalk restaurants, retailers, arts and entertainment venues, attractions, and lifestyle businesses. It offers a cohesive and collaborative program designed to educate and support local business owners with their marketing endeavors.





**OVER 3,000  
UNIQUE WEBSITE  
VISITS A MONTH**

**OVER 900,000  
IMPRESSIONS A  
MONTH**

**TRANSFERS TO  
OVER 100 UNIQUE  
VISITORS A MONTH**



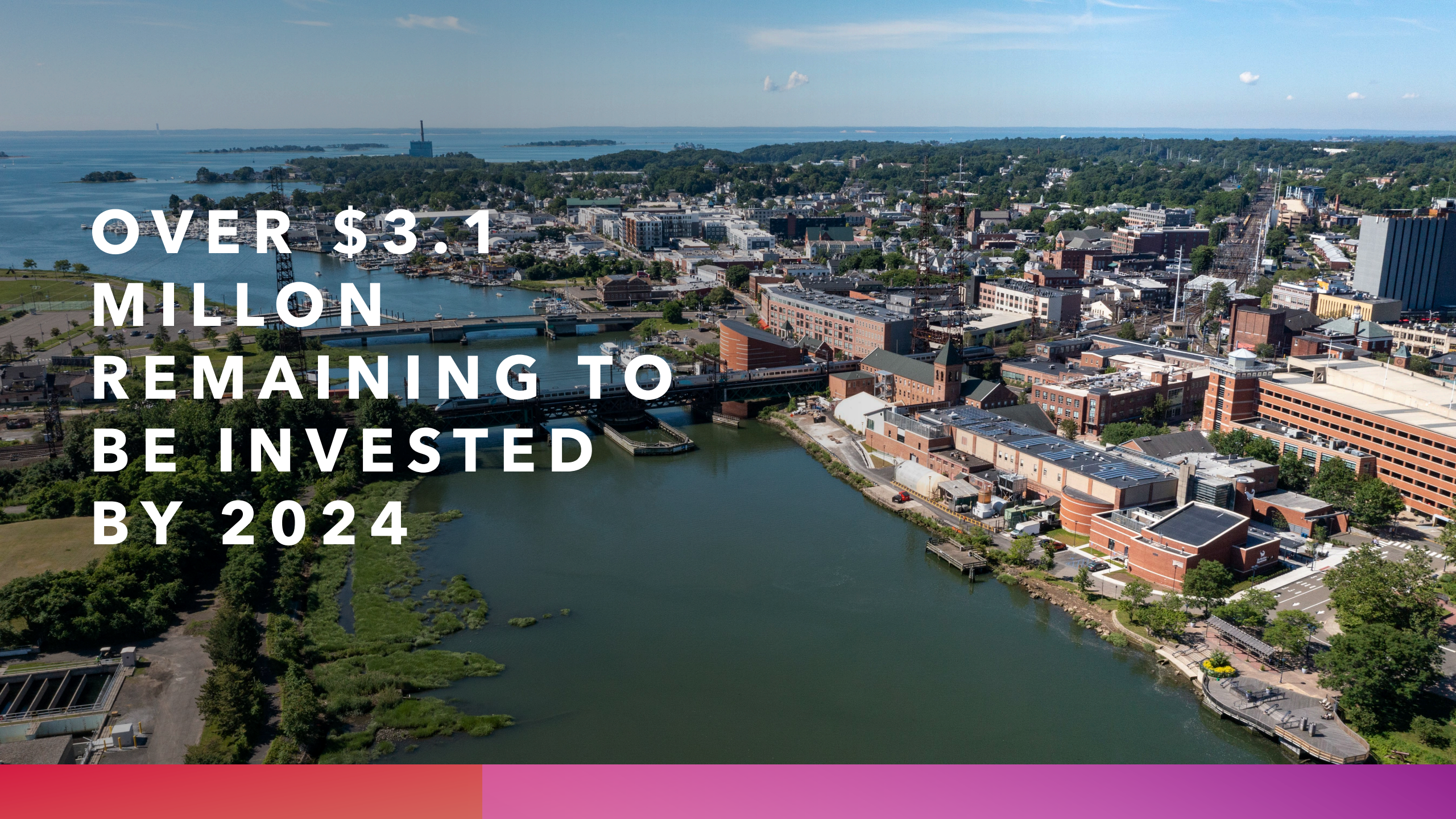




OVER  
\$1.3 MILLION  
INVESTED  
TO SUPPORT  
BUSINESSES  
TO DATE

SINCE 2019

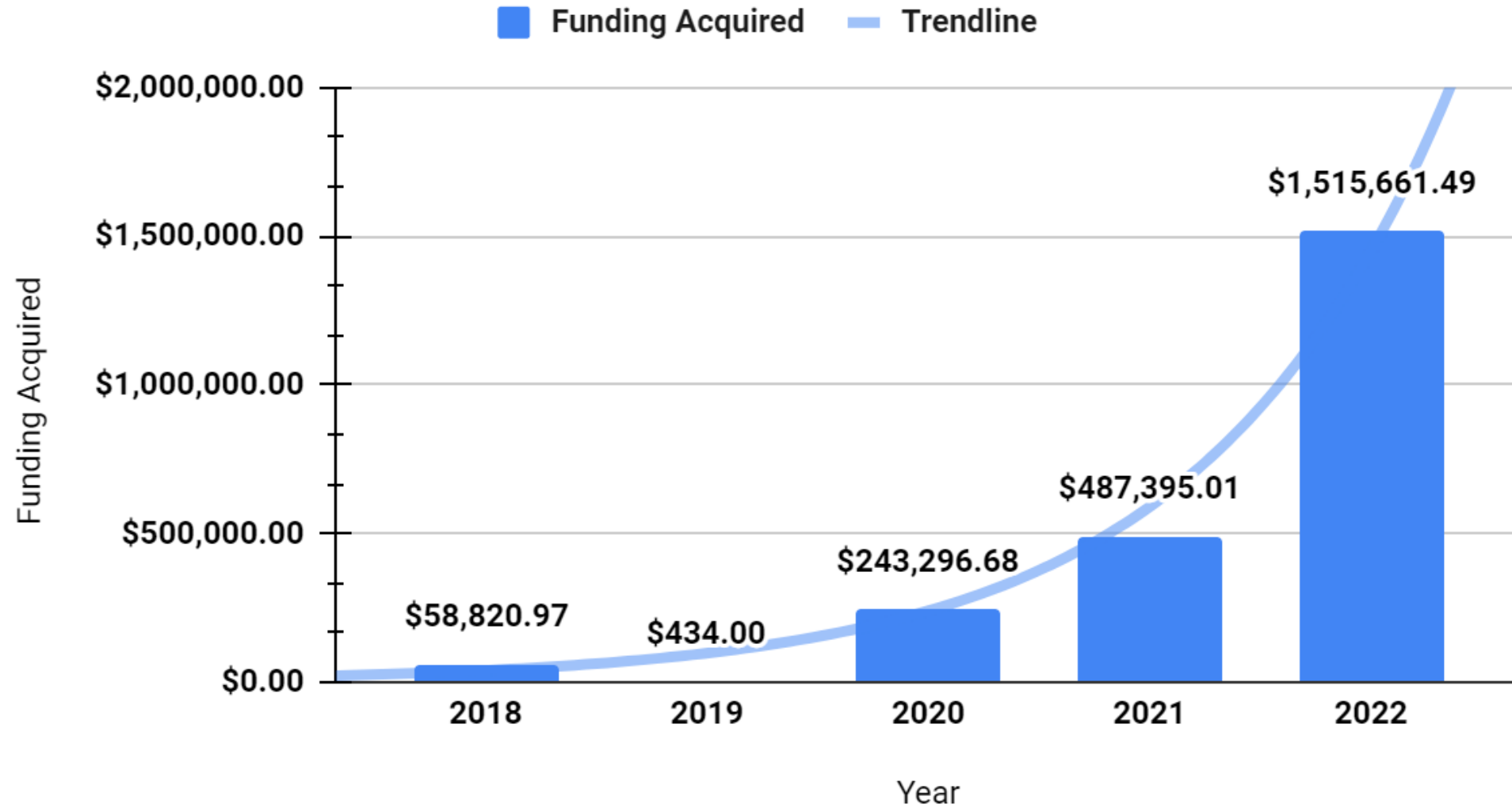




**OVER \$3.1  
MILLION  
REMAINING TO  
BE INVESTED  
BY 2024**



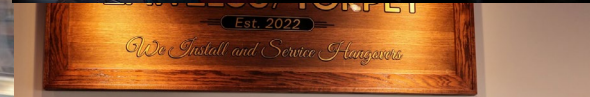
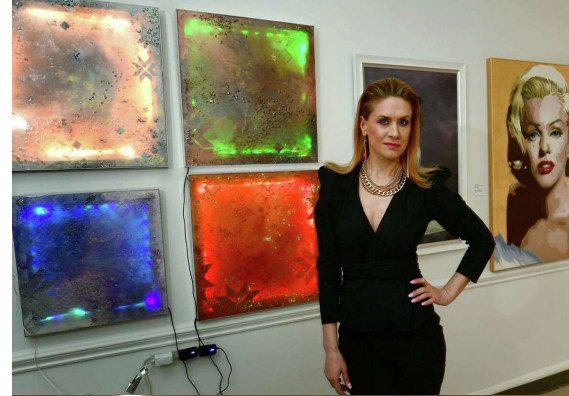
## Funding Acquired Yearly from 2018 to 2022





**OVER 80  
BUSINESSES  
FUNDED TO DATE**

**PROJECTED TO BE  
OVER 250 BY 2024**







OVER 75% OF  
BUSINESSES  
ASSISTED ARE  
MINORITY  
AND/OR WOMEN-  
OWNED  
ENTERPRISES



**FOR MORE INFORMATION VISIT  
NORWALKFORBUSINESS.ORG**

*Opening a business?  
We can help!*



**NORWALK**  
**REDEVELOPMENT**

**NORWALK**  
**for BUSINESS**

**ECONOMIC & COMMUNITY DEVELOPMENT**

# ECONOMIC AND COMMUNITY DEVELOPMENT OF THE COMMON COUNCIL

125 East Avenue  
P.O. Box 5125  
Norwalk, CT 06856

**TO:** MEMBERS, ECONOMIC AND COMMUNITY DEVELOPMENT COMMITTEE OF THE  
COMMON COUNCIL AND PLANNING COMMISSION

**FROM:** JOHN KYDES, CHAIRMAN

**DATE:** OCTOBER 31, 2022

**RE:** MEETING NOTICE

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There will be a Special Joint meeting of the Economic & Community Development Committee and the Planning and Zoning Commission on Thursday, November 3, 2022 at 6:00pm, followed by the Regular Meeting of the Economic & Community Development Committee. To allow public access, anyone may access a meeting by telephone, Zoom, and/or the City of Norwalk YouTube channel. Specific instructions and links can be found at [www.norwalkct.org/meetings](http://www.norwalkct.org/meetings).

**NOTE: THE MEETING LINKS WILL BE DIFFERENT FOR THE SPECIAL MEETING AND THE REGULARLY SCHEDULED ECONOMIC AND COMMUNITY DEVELOPMENT COMMITTEE MEETING. PARTICIPANTS WILL HAVE TO LEAVE THE SPECIAL MEETING AND REJOIN USING A SEPARATE LINK TO PARTICIPATE IN THE REGULARLY SCHEDULED MEETING. BOTH MEETING LINKS ARE POSTED ON [WWW.NORWALKCT.ORG/MEETINGS](http://WWW.NORWALKCT.ORG/MEETINGS).**



Members of the public can call in and listen to a meeting. They will not be able to speak or see any of the meeting participants. Each meeting will use a unique Meeting/Webinar ID. Please find the information using the link above.



Members of the public who wish to provide "live comments" will need to register in advance and use the Zoom meeting platform. All participants will be muted upon entering the meeting. To speak, click the "raise your hand indicator" and you will be called on by the host of the meeting during the public comment section. Please find the information using the link above.



Members of the public who wish to view the meeting, but are not participating, can view a live stream on the City of Norwalk YouTube channel. This stream is delayed by approximately 20 seconds. Please find the information using the link above. The meeting recording and minutes will be posted on the City of Norwalk website within seven (7) days after the meeting.



Members of the public who wish to provide public comment are encouraged to submit those via email in advance of the meeting. For these comments to be read into the record, they should be submitted at least three hours in advance of the meeting start time. Please email Maritza Alvarado at [malvarado@norwalkct.org](mailto:malvarado@norwalkct.org) to provide written public comment prior to the meeting.



**ECONOMIC AND COMMUNITY DEVELOPMENT COMMITTEE OF THE COMMON COUNCIL  
PLANNING AND ZONING COMMISSION  
SPECIAL JOINT MEETING  
NOVEMBER 3, 2022 @ 6:00PM  
AGENDA**

- I. CALL TO ORDER**
- II. ROLL CALL**
- III. PUBLIC PARTICIPATION**
- IV. REVIEW & DISCUSSION OF THE INDUSTRIAL ZONES WATERFRONT STUDY**

**DRAFT PLAN LINK:** <https://www.norwalkct.org/DocumentCenter/View/28425/FINAL-Waterfront-Study-Report>

**ADJOURNMENT**

**ECONOMIC AND COMMUNITY DEVELOPMENT COMMITTEE OF THE COMMON COUNCIL  
REGULAR MEETING  
NOVEMBER 3, 2022 @ 7:00PM  
AGENDA**

**CALL TO ORDER**

**ROLL CALL**

**PUBLIC PARTICIPATION**

**I. ADMINISTRATION**

- A. Approval of the Minutes of October 6, 2022 Meeting.

**II. NEW BUSINESS**

**A. ECONOMIC AND COMMUNITY DEVELOPMENT**

- 1. Forward to the Common Council the authorization for the Mayor, Harry W. Rilling, to execute a contract between the City of Norwalk and PlanIT Geo, Inc. in an amount not to exceed \$150,000 for the Tree Master Plan Program – Inventory and Canopy Assessment.

**ACCT: 133710 5796 AEC17 (ARPA)**

**B. BUSINESS DEVELOPMENT & TOURISM**

- 1. Update on business-related City offered programming, the opening of the Business Development Center, and funding expenditures.

**III. OLD BUSINESS**

**ADJOURNMENT**

**ECONOMIC AND COMMUNITY DEVELOPMENT COMMITTEE  
REGULAR MEETING  
VIA TELECONFERENCE  
OCTOBER 6, 2022**

ATTENDANCE: John Kydes, Chair; David Heuvelman, Bryan Meek, Thomas Livingston, Barbara Smyth, Darlene Young

STAFF: Jessica Vonashek, Chief of Economic and Community Development; Michael Yeosock, Principal Engineer, Transportation Mobility and Parking.

**CALL TO ORDER**

Mr. Kydes called the meeting to order at 7:02 p.m.

**ROLL CALL**

Mr. Kydes called the Roll as indicated above.

**PUBLIC PARTICIPATION**

There was no action on this item.

**I. ADMINISTRATION**

A. Approval of the Minutes of September 1, 2022 Meeting.

**\*\*MR. LIVINGSTON MOVED TO APPROVE THE MINUTES AS SUBMITTED  
\*\*MOTION PASSED UNANIMOUSLY**

**II. NEW BUSINESS**

**A. ECONOMIC AND COMMUNITY DEVELOPMENT, GENERAL UPDATES**

**1. MLK Corridor Project Update**

Ms Vonashek said they'd launched Phases 2 and 3 of the Wall Street with a "taste of Wall Street" to get community input. She said the project covered Wall Street between Belden and Brook, Burnell between Belden and Main and reconfiguring the intersection of Belden and Wall. She said they'd approved \$250,000 for design and they would be working with the library to host a second community event in November.

City of Norwalk  
Economic and Community Development Committee  
October 6, 2022  
Via Teleconference  
Page 1

She said that after going through the RFP process, they'd chosen FHI Studio for the Complete Streets project, noting that it was the same company working on the transportation master plan.

She said they'd met with the consultant from AKRF working on Affordable Housing Plan. She said the trust ordinance was in committee, and they'd been talking about a Housing Forum, to talk about affordable housing and what was needed for Norwalk.

She said that for the MLK Façade Improvement Plan they had earmarked \$750,000 from the MLK Corridor Initiative which they would marry with a loan program funded through GGP in the amount of \$500,000. She noted that some homeowners might have emergency repairs, and they were working with the Redevelopment Agency to build a short list of teams that are vetted to work for the city. She said that that would allow them to serve low-income homeowners. She said they were looking to launch the programs at the beginning of 20223.

She said part of it was a reimbursement program from the state. She said they were working with the construction manager at the state to ensure that they had everything in order and so they would not encounter problems when they submitted for reimbursement.

She reviewed the tree planting program, noting that they had planted 16 brand new trees on MLK between Washington and Lowe. She said they were interviewing companies for canopy assessment—and were finalizing a scope of work. She noted the assessment would look at coverage of trees and where need to plant, plant trees, and also inventory trees and monitor health and keep them healthy. She said they had just announced planting 54 trees on Wilton, over half of which were native.

She said that Parks and Rec was working with a consultant to build out playgrounds at two playgrounds. She said they were focused on bringing in more green space.

She said they had \$250,000 for trees in south Norwalk, she said they'd work with District B and the MLK team to identify locations and develop a plan. She said they were focusing on planting trees deeper into the community on residential streets.

She gave an update on using cameras to find people who were littering. She said they'd used cameras on Grey Rock Road to identify a license plate and ultimately found the dumper. She said there was also a large amount of dumping there, and they'd found a plane ticket and tracked it to the dumper who cleaned it up himself.

## 2. ARPA Update

- Business Development Center Ribbon Cutting

This section was covered in section 1.



## **B. TRANSPORTATION, MOBILITY AND PARKING**

### **1. Holiday Extravaganza**

- Sunday, November 20, 2022, 3pm to 7pm: South Norwalk

Ms. Vonashek said this would be in front of 50 Washington and they planned to close Washington between MLK and Main. She said that Santa will make a big entrance, and they'd offer carriage rides, petting zoo, a petting zoo, a carousel, photos with Santa, and carolers. She said they'd have a tree lighting, and inside 50 Washington there would be a market fair, and information tables to inform about the services the city provided.

- Tuesday, November 29, 2022, 4pm to 8pm: Wall Street

Ms. Vonashek said that this fair would be on Wall Street on River between Burnell and Wall Street. She said this would have Santa, a laser show, merry go round and petting zoo. She said this was more geared to they were going to close Washington between MLK and Main, Santa will make a big entrance. Carriage rides, and a petting zoo.

Ms Young said her district was excited for these events, and that it was wonderful for the whole city.

- ### **2. Authorize the Mayor, Harry W. Rilling, to enter into an agreement with CDM Smith, Inc. for contract document modifications and construction administration services for the Hamilton Avenue Pedestrian Access Enhancement Project for an amount not to exceed \$59,000.00**

Mr. Yeosock gave the background on the project, noting that they'd wanted to do it years ago but didn't have the funding. He said now that they had funding, they wanted to go forward. He said that since things had changed, they needed to put it out for bid and have a consultant to do updated drawings. He said this was a sole source since this is the company that had drawn the original.

He said this was similar in design to the existing one, he said it was a little more circular because it went higher up the hill and needed to be ADA accessible. Mr. Livingston asked why they had to update the design. Mr. Yeosock said to ensure that there weren't code changes and newer more efficient items available for the heating. He said the funds would cover construction inspection and ongoing services.

Mr. Meek asked for the full budget for the staircase, Ms. Vonashek said it was \$700,000.

Ms. Smyth asked if there was artwork planned like the other stairs. Ms Vonashek said that they had set aside \$75000 for art. She said they'd work with the arts commission on placement of the art.

**\*\*MS. SMYTH MOVED TO AUTHORIZE THE MAYOR, HARRY W. RILLING, TO ENTER INTO AN AGREEMENT WITH CDM SMITH, INC. FOR CONTRACT DOCUMENT MODIFICATIONS AND CONSTRUCTION ADMINISTRATION SERVICES FOR THE HAMILTON AVENUE PEDESTRIAN ACCESS ENHANCEMENT PROJECT FOR AN AMOUNT NOT TO EXCEED \$59,000.00**  
**\*\*MOTION PASSED UNANIMOUSLY**

**III. OLD BUSINESS**

**ADJOURNMENT**

**\*\* MS. SMYTH MOVED TO ADJOURN**  
**\*\* MOTION PASSED UNANIMOUSLY**

There was no further business, and the meeting was unanimously adjourned at 7:30 p.m.

Respectfully submitted,

L. Grassilli  
Telesco Secretarial Services

PROJECT #4210

# TREE MASTER PLAN PROGRAM - INVENTORY AND CANOPY ASSESSMENT

City of Norwalk, CT

REV. OCTOBER 27, 2022



**SUBMITTED TO:**

City of Norwalk, Connecticut  
Purchasing Department  
125 East Avenue, Room 211  
Norwalk, CT 06856



**PROPOSED BY:**

PlanIT Geo, Inc.  
7878 Wadsworth Blvd  
Suite 340  
Arvada, CO 80003  
admin@planitgeo.com  
303-214-5067





City of Norwalk, CT  
Purchasing Department  
125 East Avenue, Room 211  
Norwalk, CT 06856

Dear Selection Committee,

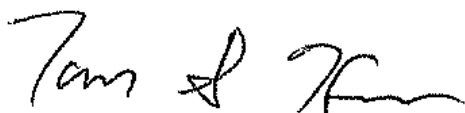
PlanIT Geo, Inc is pleased to submit our qualifications in response to the City of Norwalk's request to provide a comprehensive Master Tree Plan. We look forward to this collaborative opportunity to work with the City on this important project.

PlanIT Geo is organized into four unique departments to provide specialized services: Software, GIS, Inventory, and Consulting. Each department contributes to different aspects of urban forestry projects when developing Urban Forestry Plans, tree ordinances, city tree inventories, tree canopy analyses, tree planting strategies, policies, and other projects relating to trees in our communities. Just as the City of Norwalk values the urban forest as the key to a healthy city, our team is driven to provide products and services that enhance and sustain it. Our Consulting Services Team is committed to achieving the goals set forth in the City's RFP to develop a comprehensive Master Tree Plan.

Our team brings extensive knowledge in local urban forest management planning, public outreach and engagement, programming, operations/policy auditing and guidance, tree inventories, canopy assessments, and goal setting. Our personnel have substantial local urban forestry experience, having our Director of Urban Forest Consulting located in Hershey,, PA and recently having completed tree inventories, urban forest plans, tree canopy assessments, and tree inventory software programs for Northeastern US communities and abroad. We will develop meaningful and achievable goals of urban forest sustainability, management, and equity for Norwalk and work closely with the City and stakeholders for a long-lasting and effective plan to manage the citywide urban forest. Together, we will develop sound and project-proven guidance for urban forest planting, management, and sustainability in the City.

We understand that a robust urban forestry program can only thrive with accurate data, effective planning, and the support and participation from the community. Our proposed approach consists of collaboration with partners, coordination with the City, external stakeholder exercises, inventory and canopy data analysis, benchmarking research, and community outreach and education. These tasks will ensure the plan is developed with a shared vision for the urban forest. On behalf of the PlanIT Geo team, we are pleased to have this opportunity to submit our qualifications and approach. If you have any questions regarding our submittal, please feel free to call me (Ian Hanou) directly at the phone number listed below.

Respectfully submitted by,



Ian S. Hanou  
CEO/Founder  
PlanIT Geo, Inc.  
ianhanou@planitgeo.com  
(303) 503-4846

Prepared by,



Carrie Asselmeier  
Proposal Coordinator  
PlanIT Geo, Inc.  
carrieasselmeier@planitgeo.com  
(630) 333-5176



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## SECTION 1

# EXECUTIVE SUMMARY

PlanIT Geo, Inc is an urban forestry consulting and software firm with a mission to map the world's urban forests for a greener future by integrating experience with cutting edge technology and planning for urban forestry, parks, and arboriculture. PlanIT Geo has been in the urban forestry business since its establishment by CEO Ian Hanou on January 11, 2012 (10 years) and has expanded to over 40 employees in 2022. PlanIT Geo provides contractual services including tree inventories and risk assessments using TreePlotter™ software, urban forest and risk tree planning, tree inventory and management software, land cover mapping (LiDAR/multispectral imagery), tree canopy assessments, GIS analysis, and i-Tree studies. Over 400 communities, nonprofits, and state/local governments throughout the United States, Canada, and Australia have utilized our team to perform tree inventories, write tailored management plans, and conduct tree canopy assessments.

The PlanIT Geo Team provides customized urban forestry solutions, resources, and tools to local governments, nonprofits, universities, and private industries that guide these entities to a holistic approach in sustainable urban forestry and environmental equity. Currently nine US state agencies and dozens of communities utilize PlanIT Geo's [TreePlotter™ INVENTORY and CANOPY software](#) on a regional or statewide basis for cloud hosting of tree inventories, canopy assessments, document storage, community engagement, and interactive dashboards. Over the last 10 years, PlanIT Geo has been involved in hundreds of urban forestry and environmentally related projects around the world. The PlanIT Geo Team has extensive knowledge of urban forestry practices in the Northeastern region of the United States. Recent projects include Saratoga Springs, NY; Schenectady, NY; Troy, NY; Weston, MA; Everett, MA; Hunterdon, NJ; and Morristown, NJ.

PlanIT Geo has expertise in urban forestry and management, tree asset management, environmental equity, sustainability programs, and ecosystem diversity. The entire PlanIT Geo Team has a wide array of skill sets related to urban forestry and are committed to serve our clients with the highest quality of products available in the urban forestry industry.

### URBAN FORESTRY SOFTWARE

Since 2012, there are over 300 TreePlotter™ clients which collectively contain over 4,000 individual user login accounts. Our GIS, Inventory, and Consulting teams also use TreePlotter daily to perform project tasks for communities, organizations, and consultants.

### GIS AND GEOSPATIAL SERVICES

PlanIT Geo's GIS or Geospatial Services department has completed services for communities varying in size (less than 1 square mile to over 1,000 square miles), ecoregion (forest, tropical, grassland, desert, Mediterranean), and tree species composition. Over 1,000,000 acres of urban tree canopy have been mapped, helping each community to understand their gray versus green infrastructure, locate and understand specific canopy gains and losses by land use type, quantify ecosystem benefits being provided, assess tree equity, and target planting spaces in the most suitable locations.

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Currently nine US state agencies and dozens of communities utilize TreePlotter INVENTORY and CANOPY software on a regional or statewide basis for cloud hosting of tree inventories, canopy assessments, document storage, community engagement, and interactive dashboards. And most recently, we are now offering 60 cm resolution land cover data nationwide, off-the-shelf, through the advancements in Artificial Intelligence (AI) and Machine Learning (ML). We have high-resolution data at 97% accuracy for tree canopy, impervious, and plantable areas (grass, open space) for every city in the lower 48 states, as well as change analysis from 2011. This data allows PlanIT Geo to offer significantly more data at lower cost and ultimately more value to your local capacity-building programs.

## TREE INVENTORY AND ASSESSMENTS

Our Certified Arborists have inventoried over one million trees across 30 states using TreePlotter™. Also, the team has completed ISA Level 2 Risk Assessments for thousands of trees and has completed inventory projects in every season and tree growing stage.

## URBAN FORESTRY CONSULTING

In the past 8 years, PlanIT Geo has managed or continues to manage urban forest management / master plan projects with budgets totaling over \$1 million, engaging over 6,600 community residents, and interviewing 200 city staff representing over 65 departments. PlanIT Geo has completed urban forest management/master plans, maintenance plans, risk tree plans, strategic planting plans, storm response and mitigation plans, and canopy action plans for the public, private, and nonprofit sectors. Chris Peiffer, the Director of Urban Forestry Consulting Services will be the project manager for the Master Tree Plan Project for the City of Norwalk.

### **Chris Peiffer - Director of Urban Forestry Consulting Services/Project Lead**

Email: [chrispeiffer@planitgeo.com](mailto:chrispeiffer@planitgeo.com)

Phone: (717) 579-9890

### **TJ Wood - Director of Field Services/Inventory Lead**

Email: [tjwood@planitgeo.com](mailto:tjwood@planitgeo.com)

Phone: (303) 847-8809

### **PlanIT Geo, Inc.**

7878 Wadsworth Blvd,

Arvada, CO 80003

Email: [admin@planitgeo.com](mailto:admin@planitgeo.com)

Phone: (303) 214-5067



## PROJECT BACKGROUND

The City of Norwalk, located on the south coast of Connecticut, has a population of roughly 88,755 residents, covers approximately 36 square miles, and has a history of valuing its trees as a critical part of Norwalk's sustainability. These trees constitute a thriving urban forest providing myriad benefits to residents, businesses, and visitors. The urban forest constitutes thousands of street, park, and yard



trees and trees in open spaces and in Norwalk, its many distinct natural areas. It is perhaps the most important component of the City's green infrastructure and provides many ecological, social, public health, and economical benefits.

The City of Norwalk has prioritized establishing their urban forest as a valuable asset by quantifying benefits and developing strategies and goals to create an equitable and thriving urban forest. The City understands the need to establish a roadmap guided by a shared community vision for the urban forest. Due to this priority, the City requires the development of a comprehensive Master Tree Plan to support the City's current and future urban forest objectives, initiatives, ordinances, and goals. This Plan will create a centralized vision for the urban forest, streamline management, and provide tools for urban forest preservation and long-lasting environmental and human health benefits. Effective urban forest management requires accurate and actionable information, including an understanding of City, stakeholder, and forestry needs before significant management actions and planning initiatives are undertaken. It is our understanding that, in recognition of this fact, the City requires the services of a qualified and experienced urban forest management consultancy to identify urban forest management needs, prioritize planting for urban forest equity, develop short and long-term forestry goals and recommendations, and engage with the community to advocate urban forest benefits.

This Plan will invigorate the City's Tree Management and Planting program, support the Norwalk Plan of Conservation and Development, and provide the City's decision makers with an in-depth analysis of the community's view of the urban forest. It will enable the City, its staff, and stakeholders to use accurate and up-to-date urban forest data analyses, adopt efficient processes for managing and measuring progress towards current goals, and develop public engagement with the City's urban forest program. The project will provide an in-depth plan for the City to follow and a template for surrounding cities to learn from and implement. This will enable the increase in canopy cover and maximize urban forest benefits. The Master Tree Plan will provide the City with an evaluation of current urban forest resources and identify priority locations and opportunities for urban forest preservation and expansion. Our comprehensive engagement with the City, partners, and the community will use these findings to establish synergistic program priorities, goals, and strategies to sustain and enhance resources within the urban forest.

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PlanIT Geo commits to working collaboratively with the City to ensure this important project fulfills all of the City stated objectives and requirements. With the data, tools, and assessment provided, the City will be emboldened with timely, comprehensive, and accurate information about its urban forest resources, management approaches, and program efficiencies and will be fully ready to take the next step toward a healthy, diverse, and expanding urban forest.

## **A CLOSER LOOK AT NORWALK'S URBAN FOREST**

Cities around the world, and specifically in the coastal northeast United States area, face dramatically intensifying extreme weather events and climate impacts, including hurricanes, tropical storms, flooding and extreme heat. In many instances, these impacts are already exceeding the designed capacity of city infrastructure to protect the health and safety of residents, businesses and neighborhoods, which in turn threatens the fiscal viability of cities and regions. In Norwalk, these impacts increase dramatically when significant action is not taken to mitigate tree loss and increase canopy cover in areas with low existing tree canopy. In Norwalk, the City and its residents are experiencing inequitable canopy cover in low income neighborhoods, leading to a higher distribution of negative environmental and human health outcomes in those areas. The City contains a high percentage of impervious surfaces compared to other municipalities in Connecticut, which leads to negative impacts such as increasing asthma rates due to poor air quality. Due to these facts, the City has placed priority on increasing and preserving trees and canopy in order to reduce environmental and health impacts and improve canopy as a whole. Urban trees can play a significant role in making cities resilient to weather and climate extremes, and in protecting human and ecosystem health and safety. To do so, trees must be consciously selected, planted and managed as the central component of an urban forest where individual trees are managed as part of a greater system with the purpose of improving the urban environment and enhancing benefits from those trees and their canopy.

Yet the ability of urban trees and urban forests to achieve desired benefits is often drastically limited due to poor maintenance and management stemming from insufficient municipal budgets, lacking urban forest management systems and programs, limited training of tree care professionals, and a lack of enforcement of tree-management best practices to support tree health. Consequently, improper pruning of trees is commonplace in many cities, resulting in limiting the beneficial functions of trees, leaving trees more susceptible to pests and disease, and leading to premature tree death. The urban forests in the region face many challenges. The urgency of protecting the urban forest has risen sharply as drought, pests, disease, climate impacts, and budget cuts lead to rapidly rising tree mortality. Trees that die years prematurely will not create the root systems and canopies needed to reach their benefit potential and maximize their return on investment. A strategic plan is needed to study, evaluate, and plan for improving urban forest management toward the goal of supporting human and ecosystem health and well-being. Planting and maintaining an urban forest that exists in concert with other green and gray infrastructure must include management by trained individuals, the use of strategies and ordinances to protect trees in sensitive areas, an understanding of baseline conditions, collaboration among

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departments to mainstream urban forest management, a community with a shared vision for the urban forest, and a roadmap for management provided in a plan.

When making improvements to the urban forest, efforts should be prioritized to improve environmental justice, equity, access, and levels of service for underserved and vulnerable areas. These considerations may include additional tree plantings for an equitable distribution of urban forest cover and benefits, intensive tree management, diverse outreach approaches, and unique stewardship programs.

To address these concerns, the City is seeking qualified professional services to prepare the Master Tree Plan (MTP) in accordance with City goals and the guidelines. The City will use the MTP as a long-term strategic tool to manage its urban forest effectively and efficiently. The MTP will utilize the International Society of Arboriculture's (ISA) Best Management Practices (BMPs), industry standards, research, and local context to be a living document that will support ongoing efforts and plans to maintain efficiency with limited resources.

Norwalk's Master Tree Plan is a crucial effort for improving land, air, and water quality and promoting community resilience and equity. A plan for the urban forest will provide the guidance for strategic planting and maintenance resulting in long-lasting benefits.

## **STRATEGY & VISION**

Planning and managing the legacy of Norwalk's street, park, and natural area trees, through applied science, best practices, and budget management, is achievable with innovative and contemporary approaches. The City's MTP will address the fundamentals of adaptive management and incorporate existing City urban forestry goals and policies as well as new measurable targets as recommended by the Consultant Team, stakeholders, and City staff. The Plan will be a comprehensive, yet concise and actionable plan intended for the City of Norwalk to approve.

Our strategy to develop the Master Tree Plan will provide the framework, guidance, and programming for Norwalk's environmental programs. This guidance includes the establishment or strengthening of City Code, policies, ordinances, standards, practices, and procedures of the Tree Management Plan and Tree Planting Plan; development of staffing structures and partnerships; sustained and diversified funding; routine and systematic inventories and assessments; storm, disaster, and risk management; community outreach, education, and engagement; among other core urban forest management elements. These core program elements and functions will be developed and tailored to the City of Norwalk through a systematic and project-proven approach provided by the Consulting Team. These efforts will support the City's Tree Management and Planting Program and a vision that will guide the City to a sustainable and equitable urban forest.

To accomplish this, the City's RFP provides the Scope of Services that are required at minimum along with additional considerations. In the Methodology and Scope of Services section, the scope tasks are paraphrased, listed in detailed table form, and include the steps and tools to achieve them in our proposed approach.

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## SECTION 2

# PROJECT TEAM ORGANIZATION

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### PROJECT TEAM

The PlanIT Geo project team includes our entire Consulting Services team, which combines our Urban Forestry Consulting Team, Inventory Team, and GIS Team, made up of urban forestry experts, GIS professionals, ISA Certified Arborists, and data specialists. Each team member brings something different to the project to provide the most successful outcome for the City. PlanIT Geo will not be using any subcontractors to complete this project.

#### **Chris Peiffer, Director of Urban Forestry Consulting Services and Project Manager**

Chris will be the project manager for this project. He has been an ISA Certified Arborist for 11 years and a Municipal Specialist for 3 years. Chris specializes in urban forest planning, management, development, and innovation. He is experienced in tree inventory data synthesis and analysis, risk tree management, programming, operational efficiencies, public engagement, canopy goal setting, sustainable management, and plan writing. This experience includes management and master plans, hazard tree plans, regional canopy action plans and strategies, strategic planting and maintenance plans, analysis and reporting of tree inventories, and Urban Tree Canopy (UTC) reports. Chris is also an expert arborist and seasoned field crew manager with experience from leading tree care firms, understanding the maintenance needs, tree physiology, risk prioritization, and tree responses to proper tree care. Chris will manage staff and communications, provide insights on the development of strategies and recommendations, support the development of the management and planting plans, and provide expert review of the draft plans. He will be the direct contact to the City and ensure the project is completed on time and within budget and meets or exceeds the City's expectations and needs.

#### **Alex Hancock, Urban Forest Climate Consultant**

Alex has over 7 years of planning, policy, urban forestry, and sustainability experience. Alex applies these experiences and skill sets to support the development of urban forest management and master plans for communities. Specifically, she is directing the integration of urban forestry into sustainability planning for communities through public engagement, staff consultations, policy analysis, and plan development. Supported by the Project Manager and the City, Alex will be the primary consultant leading research, data audits, analyses, municipal and community engagement, assessments, recommendations, and plan development. She will also provide her expertise to the updating of the City's existing tree inventory and lead the development of the tree management plan and planting plan.

#### **Rachel Ormseth, Urban Forestry Solutions Consultant**

Rachel has over 6 years of experience in public service, urban forestry, biology, arboriculture, community forest management planning, and regional planning. Rachel has applied her skills to PlanIT Geo's urban forestry planning projects by using her knowledge of

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large and small community forest challenges and opportunities, guiding innovation in urban forestry planning, and cultivating client relationships. An internal community outreach plan that is developed collaboratively with the City will guide Rachel's primary role in planning, administering, and analyzing community engagement exercises such as external stakeholder consultations, messaging through various mediums, public meetings, and presentations. Rachel will lead the analysis of public input and feedback to summarize baseline viewpoints and guide the development of strategies in the plan. Rachel will also lead the analysis of the tree canopy assessment by estimating private tree counts, composition, and structure and gathering supplemental information from the City's existing inventory.

**Jeremy Cantor, Director of Geospatial Services and Assistant Project Manager**

Jeremy has over 15 years of experience in geospatial analysis, data processing, object-based image analysis (OBIA), Python scripting, LiDAR manipulation, and cartography. During his 6 years at PlanIT Geo, Jeremy has served as the lead geospatial analyst and overall project manager of over 70 urban tree canopy assessments, of which the majority were of the same size and scope as described in the City's RFP. Jeremy previously worked for the U.S. National Park Service for 7 years where he refined his remote sensing and spatial modeling skills. For this project, he will be the manager of all GIS tasks and final delivery of maps, GIS data and tools.

**Ben Wittman, Geospatial Data Manager**

Ben has over 6 years of experience in GIS and data processing. He has a background in GIS, Geography, and Environmental Studies. At PlanIT Geo, Ben applies natural resource and forestry concepts to manage environmental and geographic (GIS) data sets. He reviews geographically modeled data using geoprocessing tools and provides QA/QC to review, organize, and process aerial imagery and remotely sensed land cover data. He will lead the production of maps, assist in data preparation, organization, and visualization. He will also lead the equity and health correlations of GIS data for the City and set up the City's TreePlotter CANOPY software application.

**Morgan Garner, GIS & Natural Resources Technician**

Morgan has a background in GIS analysis, geologic field mapping, hydrogeology, geochemistry, and natural resource management. She has experience extracting high-quality data from long-term research projects, applying spatial data to support environmental and resource management initiatives, and delivering prompt and high-quality technical reports. Morgan joined the Geospatial team in 2022 to provide technical expertise to urban tree canopy assessments. For this project, she will contribute to management of QA/QC of GIS data sets and creation of maps.

**TJ Wood, Director of Field Services**

TJ specializes in field inventory data collection and analysis. He is proficient in species identification across all climate zones in the US and has personally inventoried a total of over 200,000 trees. TJ manages all tree inventory and risk assessment projects for PlanIT Geo and has also served as a subconsultant to other firms due to his extensive experience. He also specializes in architectural and design software such as AutoCAD, Google SketchUp, Esri ArcGIS, and the Adobe Creative Suite (Photoshop, Illustrator, and In Design). Additionally, TJ leads the design of planting plans and assists with report compilation.

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### Nate Cummings, Tree Inventory Crew Leader

Nate has a background in urban forest management conducting a variety of inventories, data collections, and tree risk assessments. Nate organizes and manages field crews for data collection and coordinates project logistics and communication with the client. He also has specialized horticultural and arboricultural skills including plant health care and maintenance. Nate uses TreePlotter to collect various forms of tree data including species, condition, abiotic/biotic diseases, DBH, tree height, canopy spread, and many more. He is also involved with quality control for projects once they are completed. Nate will work with the City to set up TreePlotter INVENTORY for data collection and long-term data management.

### Jack Myrna, Tree Inventory Technician

Jack graduated Cum Laude from Southern Illinois University-Carbondale with a Bachelor of Science in Forestry, specializing in wildlife habitat management. Prior to joining PlanIT Geo, Jack worked as a tree care specialist gaining experience in tree health care, tree trimming, removal, and urban forestry. At PlanIT Geo, Jack assists in project scoping and leads data collection with a team of tree inventory technicians to gather tree and planting site information such as species, condition, size, maintenance needs, observations, and other management data. He assists with data QA/QC, delivery, and TreePlotter training and communicates directly to the Tree Inventory Crew Leader.

| Staff          | Title                                 | Rate  | Hours        | Cost             | %           |
|----------------|---------------------------------------|-------|--------------|------------------|-------------|
| Chris Peiffer  | Director of Urban Forestry Consulting | \$125 | 124          | \$15,500         | 10%         |
| Alex Hancock   | Urban Forestry Climate Consultant     | \$100 | 771          | \$77,050         | 51%         |
| Rachel Ormseth | Urban Forestry Solutions Consultant   | \$100 | 130          | \$12,950         | 9%          |
| TJ Wood        | Director of Field Services            | \$125 | 25           | \$3,125          | 2%          |
| Nate Cummings  | Tree Inventory Crew Leader            | \$90  | 95           | \$8,550          | 6%          |
| Jack Myrna     | Tree Inventory Technician             | \$80  | 101          | \$8,075          | 5%          |
| Jeremy Cantor  | Director of Geospatial Services       | \$125 | 15           | \$1,875          | 1%          |
| Ben Wittman    | Geospatial Data Manager               | \$85  | 112          | \$9,550          | 6%          |
| Morgan Garner  | GIS Technician                        | \$65  | 205          | \$13,325         | 9%          |
|                |                                       |       | <b>1,577</b> | <b>\$150,000</b> | <b>100%</b> |

## URBAN FORESTRY CONSULTING TEAM

### Chris Peiffer

Director of Urban Forestry Consulting, PlanIT Geo



#### Certifications

- ISA Certified Arborist & Municipal Specialist #PD-2070AM
- Certified Arborist and Municipal Specialist International Society of Arboriculture (PD-2070AM)
- Graduate of 2011 Municipal Forestry Institute (MFI)
- 2013 Urban Forestry Institute
- 2014 Urban Forest Strike Team

#### Education

Bachelor of Science, Urban Forestry - Pennsylvania State University (2009)

Chris is an ISA Certified Arborist of 11 years and Municipal Specialist for 3 years. Chris specializes in urban forest planning, management, development, and innovation. He is experienced in urban forest management planning, stakeholder engagement, ordinance reviews, operational efficiencies, tree inventories, inventory data synthesis and analysis, risk tree management, project management, long-range planning, and plan writing. This experience includes urban forest management / master plans, tree risk management plans, regional canopy action plans and strategies, strategic planting plans, analysis and reporting of tree inventories, and Urban Tree Canopy (UTC) reports. In the past 8 years, Chris has managed over 35 urban forest planning projects with budgets totaling over \$1 million and has engaged over 6,600 community residents and 200 city staff representing over 65 departments. Chris is also an expert arborist and seasoned field crew manager with experience from leading tree care firms, understanding the maintenance needs, tree physiology, risk prioritization, and tree responses to proper tree care.

#### Role

#### **Project Management, Coordination and Collaboration, Strategic Guidance, Expert Insights and Review**

Chris will serve as the primary project manager overseeing all tasks under the Master Tree Plan scope of work. He will coordinate tree inventory and GIS assessment tasks with the development of the Plan. Chris will provide strategic guidance and direction on the tasks performed by the Urban Forestry Climate and Urban Forestry Solutions Consultants. He will be responsible for coordinating project invoices and facilitating primary project meetings. Throughout the project period, Chris will provide expert insights in the development of recommendations, tree policies and ordinances, and Plan content.

#### **UFMP Project Management Experience (Not Comprehensive)**

- Metro Washington, DC Tree Canopy Management Strategy (PlanIT Geo)
- Fremont, CA Urban Forest Management Plan (PlanIT Geo)
- Los Banos, CA Urban Forest Management Plan (PlanIT Geo)
- Claremont, CA Urban Forest Management Plan (PlanIT Geo)
- Renton, WA Urban Forest Management Plan 10-year Update (PlanIT Geo)
- Wilsonville, OR Urban Forest Management Plan (PlanIT Geo)
- Tacoma, WA Urban Forest Management Plan (PlanIT Geo)
- Colorado Springs, CO Urban Forest Management Plan (PlanIT Geo)
- Rochester, MN Urban Forest Master Plan (PlanIT Geo)
- Alexandria, LA Urban Forest Management Plan (PlanIT Geo)
- Hutchinson, KS Urban Forest Master Plan (PlanIT Geo)
- Iowa City, IA Urban Forest Management Plan (PlanIT Geo)
- Kettering, OH Urban Forest Management Plan (PlanIT Geo)

## Alex Hancock

Urban Forestry Climate Consultant, PlanIT Geo

### Certifications

- ISA Certified Arborist #FL-8295A

### Education

*Master of Science in Forest Resources and Conservation - University of Florida (2017)*

*Graduate Certificate in Geospatial Analysis (2017)*

*Bachelor of Urban Planning- University of Cincinnati (2011)*



Alex is an ISA Certified Arborist with a background in urban planning, urban forestry, and sustainability. She is experienced in tree canopy cover analysis, climate action planning, zoning and land use planning, and public policy. Her most recent role as Sustainability Coordinator and Certified Arborist for the City of St. Petersburg, FL focused on programs for climate resilience, clean energy, waste reduction, environmental justice, and urban forestry. Her team developed, published, and is implementing the Integrated Sustainability Action Plan, which emphasizes equity as a primary focus of planning for a sustainable and resilient future.

At PlanIT Geo, Alex applies these experiences and skillsets to support the development of urban forest management plans for communities. Specifically, she is directing the integration of urban forestry into sustainability planning for communities through public engagement, staff consultations, policy analysis, and plan development.

### Role

**Research, GIS Analyses and Interpretation, Tree Inventory Analysis, Urban Forestry Planning, Stakeholder Consultations, Ordinance and Policy Review, Operations Reviews, Planting and Maintenance Recommendations, Climate Solutions, Plan Drafting, Workshops, Public Presentations**

Alex will be the primary urban forestry consultant, analyst, and planner to develop the Master Tree Plan. She will lead the analysis of the City's urban forest status, challenges, and opportunities through research, data analyses, code and policy review, and operational audits. Alex will align the findings with industry standards, best practices, benchmarking research, and the specific needs of Norwalk's urban forest to develop key principles, species lists, climate and planting strategies, program recommendations, and policy changes. Supporting Alex's role will be Chris Peiffer, a senior urban forestry consultant, to provide guidance and direction to address the challenges and opportunities facing the City's urban forest.

### UFMP Project Experience

- Saratoga Springs, NY Urban Forestry Management Plan (PlanIT Geo)
- Castleton-on-Hudson, NY Community Forest Management Plan (PlanIT Geo)
- Fremont, CA Urban Forest Management Plan (PlanIT Geo)
- Los Banos, CA UFMP Tree Ordinance Review and Revision (PlanIT Geo)
- Lakewood, CA Tree Ordinance Evaluation (PlanIT Geo)
- Grand Junction, CO Urban Forest Tree Count and Appraisal Study (PlanIT Geo)

## Rachel Ormseth

### Urban Forestry Solutions Consultant, PlanIT Geo

#### Certifications

- ISA Certified Arborist #MW-5815A
- Graduate of 2019 Municipal Forestry Institute (MFI)

#### Education

*Bachelor of Agricultural Science, Biology and Horticulture-  
South Dakota State University (2016)*



Rachel specializes in urban and community forestry planning, management, development, and innovation. Rachel has extensive experience in working with communities, big and small, to manage their city trees in a sustainable and effective manner. Rachel has administered Urban Forestry programs from a state level and has led a team of three urban foresters for work on the ground. Rachel is experienced in community engagement, tree inventories, tree selection, multi-organization project management, and coordination of partnerships for resource sharing.

With five years of public service, Rachel understands and effectively navigates the facets of urban forestry in cities where funding and resources are sparse. Rachel knows that successful collaboration can only be achieved when a personal relationship is formed with the client and the client's individual situation is assessed. Through this relationship, the client can receive the proper guidance and tools for a successful project.

#### Role

#### **Internal Outreach Plan, Partnerships, Collaboration, Public Presentations, Stakeholder Surveys, Public Engagement Frameworks and Recommendations, Planning, Graphic Design, Plan Drafting**

Rachel will be the primary lead on community outreach, engagement, and education tasks supporting the development of the Master Tree Plan. She will draft and finalize the internal public Outreach Plan, develop media strategies, provide web content, identify existing and new partnerships, conduct consultations with stakeholders, and lead or support community events with the City and partners. Rachel will summarize and interpret information gathered to inform the Plan's vision, principles, strategies and recommendations. She will be instrumental in connecting the project efforts with boots on the ground to effectively reach the diverse populations in the City.

#### UFMP Project Experience

- Schenectady and North Tonawanda, NY Community Forest Management Plans (PlanIT Geo)
  - Los Banos, CA Urban Forest Management Plan (PlanIT Geo)
  - Fremont, CA Urban Forest Management Plan (PlanIT Geo)
  - Renton, WA Urban Forest Management Plan 10-year Update (PlanIT Geo)
  - Nanaimo, British Columbia Urban Forest Benchmarking and Audit Study (PlanIT Geo)
  - Kirkwood, MO Urban Forest Master Plan (PlanIT Geo)
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## CANOPY MAPPING TEAM

### Jeremy Cantor

Director of Geospatial Services, PlanIT Geo

#### Education

*Master of Natural Resources Stewardship in Spatial Information Systems | Colorado State University*  
*2010 Bachelor of Arts in Geography; Economics Minor | University of Vermont, 2006*



Jeremy has over 15 years experience in geospatial analysis and leads the geospatial team on urban tree canopy assessments, green infrastructure analyses, and other GIS and remote sensing projects. He has managed 60 urban tree canopy (UTC) assessments and contributes to GIS modeling, remote sensing analysis of multispectral and LiDAR imagery, data production, IT, cartography, and web/mobile mapping app design. Jeremy also has seven years of federal government experience working with ocean and coastal resources in the National Park Service focusing on coastal systems, resource assessments, and web mapping design.

#### Role

##### Canopy Analysis

Jeremy will be the lead for the canopy analysis portion of the Urban Forest Management Plan. He will lead the mapping and analysis that and manage the data collection, meetings, summary of metrics, plantable space assessment, and planting prioritization for climate change mitigation.

#### Geospatial Project Experience

Jeremy has led and managed accurate and comprehensive analyses to assess the current status of tree canopy and available planting space. Tasks managed included remote sensing classification, canopy analysis, GIS mapping, tree planting prioritization, summary reports, and web map design. Communication, training, and presentations of project deliverables were provided throughout the project and upon completion.

##### ***Denver, CO: South Platte River Urban Waters Partnership Natural Capital Grant Project***

Served as a GIS analyst on a multidisciplinary team to map and evaluate the regional network of green infrastructure in Colorado's South Platte River watershed. Derived spatial data were used to develop a tool to prioritize key areas for conservation and restoration based on the ecosystem services that the natural resources provide (<https://pg-cloud.com/NaturalCapital/>).

##### ***Washington, D.C.: Community Forestry Resource Guide, Canopy Strategy, and Management Handbook***

- Contributed textual content, graphics, and styling to this document which provided a strategy for managing the region's urban forest and a handbook to guide Metro Washington Council of Government's approach to community engagement and outreach as it relates to education and encouraging tree planting, protection, and engagement strategies. The handbook also included an i-Tree demonstration project and user guide for i-Tree Canopy.

##### ***TreePlotter™ CANOPY Product Owner***

Jeremy has managed an iterative re-design of our interactive canopy mapping and decision support web application formerly known as Canopy Planner. Over the course of the last three years, various GIS functionality has been added and graphic design elements have provided a fresh look to make the software more user-friendly with additional features and smoother functionality. Jeremy has also been instrumental in the design of our modern web portal used to display tree canopy data in a lightweight, mobile-friendly web platform.

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## Ben Wittman

### Geospatial Data Manager, PlanIT Geo

#### Education

*Bachelor of Arts in Geography & Environmental Studies;  
GIS Certificate |  
University of Colorado at Colorado Springs, 2014*



Ben has over 6 years experience in GIS analysis. Ben has a background in geography, GIS analysis, GPS data collection, forestry, remote sensing, data base management, software support, cartography and geomorphology. He has experience managing large and complex geospatial datasets, creating GIS data, performing land cover classification, data quality control, writing technical reports, and updating postgres databases. Ben joined PlanIT Geo as a GIS Technician in 2016 and now manages geospatial projects and associated tasks. As the Geospatial Data Manager with PlanIT Geo, Ben takes a lead role in supporting and configuring the web-based application TreePlotter CANOPY using data from tree canopy assessment projects. He also reviews and evaluates a variety of data sources to provide clients with the most relevant understanding of tree canopy distribution and how it is and is not equitably distributed throughout a project area.

#### Role

##### Canopy Analysis

Ben will contribute to the canopy analysis portion of the Urban Forest Management Plan through revision, collection, preparation, and organization of geospatial data. He will also Take the lead under Jeremy in the analysis and mapping by summarizing metrics for each prioritization criteria and geography selected by the City. He will lead map creation and geoprocessing tasks.

#### Geospatial Project Experience

##### Urban Tree Canopy Assessments

Ben has performed different tasks for urban tree canopy assessment projects across the U.S. and Canada such as GIS mapping, tree planting prioritization, summary reports, creation and quality control of land cover classification data, remote sensing and data analysis. These projects include but are not limited to, Kirkwood, MO (2022); Charlottesville, VA (2022); Washington, D.C. (2021); Florida Hurricane Michael TCA (2021); Georgia Hurricane Michael TCA (2021); Vancouver, WA (2021); Brookhaven, GA (2020); Tarrant County, TX (2020); Fremont, CA (2020); Forth Worth, TX (2020); Knox County, TN (2020); Cupertino, CA (11.3 mi<sup>2</sup> 2019); Issaquah, WA (12 mi<sup>2</sup>, 2019); Wichita, KS (164 mi<sup>2</sup>, 2018); Colorado Springs, CO (195 mi<sup>2</sup>, 2018); King County, WA (203 mi<sup>2</sup>, 2018); Cambridge, ON (44 mi<sup>2</sup>, 2018); Jacksonville, FL (588 mi<sup>2</sup>, 2017); Rowlett, TX (51 mi<sup>2</sup>, 2017); Richmond Hill, ON (40 mi<sup>2</sup>, 2017); Washington, D.C. (68 mi<sup>2</sup>, 2016); Snoqualmie, WA (7 mi<sup>2</sup>, 2016); and Denton, TX (116 mi<sup>2</sup>, 2016).

#### SOFTWARE PROJECTS

##### TreePlotter INVENTORY applications

Configured and tested Tree Plotter applications for use in tree inventory collection and management for clients including and not limited to: Texas Tree Foundation; Tree Doctors (AZ); Nels Johnson; Sims Tree Health; City of Jacksonville, FL; City of Cheyenne, WY; City of Bowie, MD; CoTreeView (Colorado Statewide Inventory); Wisconsin Department of Natural Resources; Deerfield Beach, FL; Homewood Consulting (AUS); and South Suburban Parks and Recreation (CO).

##### TreePlotter CANOPY applications

Managed migration of tree canopy data derived from urban tree canopy assessments to a customized, webbased software, CANOPY, for Santa Clara County CA; Bellevue, WA; Denton, TX; Cambridge, ON; Colorado Springs, CO; Rowlett, TX; Wichita, KS; and Jacksonville, FL.

## Morgan Garner

### GIS & Natural Resources Technician, PlanIT Geo

#### Education

*Master of Science in Geosciences |*

*Georgia State University, 2019*

*Bachelor of Science in Geosciences |*

*Georgia State University, 2017*



Morgan has a background in GIS analysis, geologic field mapping, hydrogeology, geochemistry, and natural resource management. She has experience extracting high-quality data from long-term research projects, applying spatial data to support environmental and resource management initiatives, and delivering prompt and high-quality technical reports. Morgan joined the Geospatial team in 2022 to provide technical expertise to urban tree canopy assessments, contributing to quality assurance/quality control (QA/QC) of land cover data, management of GIS data sets, and reporting of urban forest metrics. Prior to Plan-IT Geo, Morgan was a Research Associate at Clemson University, where she led the analytical team and directed diverse client-driven research projects by evaluating environmental data of raw materials. While in school, she interned with the Georgia Tree Council to share her knowledge and passion for urban tree care by promoting the health and diversity of the nation's urban canopy.

#### Role

##### Canopy Analysis

Morgan will contribute to this project by helping Jeremy and Ben with data collection and revision, map creation, QA/QC of data, and metric summarization.

#### Geospatial Project Experience

##### *Syracuse, NY UTC Assessment and Change Analysis (2022)*

Morgan visualized urban forestry metrics by creating assessment maps at various geographic planning scales. Morgan assisted in quantifying the environmental benefits of the City's trees by calculating air quality, stormwater run-off mitigated, and carbon stored. Morgan presented the City with a two-page fact sheet that illuminated the distribution of urban tree canopy (UTC), potential planting areas (PPA), and UTC change over time.

##### *Bellevue, WA UTC Assessment & Report (2022)*

Morgan compared landcover datasets from the City of Bellevue to measure canopy change over the last decade. Morgan collaborated on an encompassing report to analyze correlations between tree canopy and socio-demographic indicators to prioritize new tree plantings.

##### *Lexington-Fayette County, KY UTC Assessment & Report (2022)*

Morgan performed remote sensing classification of land and canopy cover of Lexington-Fayette county. She extracted vegetated areas unsuitable for plantings, such as baseball fields and golf courses. By collaborating with the county, she will ensure the accuracy of land cover classes and perform QA/QC on trees that may be obscured in the shadows of large buildings.

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# SECTION 3 PROJECT APPROACH

## GENERAL APPROACH TO SERVICES

### FUNDAMENTAL FRAMEWORK OF PLANIT GEO'S PLANNING PROCESS

#### WHAT DO WE HAVE?

Existing Conditions  
Inventory, Canopy Analysis  
Research  
Data Analyses  
Consultations  
Public Input

#### WHAT DO WE WANT?

Standards & Best Practices  
Staff Consultations  
Public Meetings  
Public Input  
Benchmarking Research  
Urban Forest Audit  
Threats & Opportunities

#### HOW TO GET WHAT WE WANT?

Shared Vision  
Recommendations  
Goals, Strategies, Actions  
Work Plans, Monitoring Plans  
Administrative & Public Draft  
Final Plan

#### HOW ARE WE DOING?

Urban Forest Audit  
Implementation Plan  
Monitoring Plan  
Implementation Team  
Data Management  
Policy Enforcement  
Adaptive Management





## SCOPE OF WORK

This Master Tree Plan project for the City of Norwalk represents an important step in better understanding the future of tree maintenance and planting/removal, public outreach and its value, and the importance of urban forestry during City planning processes. Our team will apply an iterative planning approach consisting of collaboration and interviews with City staff and external stakeholders; community engagement; analysis of existing plans, inventories, and UTC assessments; benchmarking processes for program operations, costs, and coordination; and strategies for increasing and preserving trees and canopy cover. The tools and outcomes will support developing and monitoring future public tree maintenance goals and planting initiatives, provide key information on threats and opportunities, and inform stakeholders on the importance of the urban forest.

The project will accomplish the following desired outcomes of a successful Master Tree Plan:

- I. Establish Norwalk's urban forest as a valuable asset through engagement of the community and commitment to equitable distribution of urban tree canopy and its benefits throughout the City.
- II. Analyze the canopy's environmental, social, and health benefits to identify vulnerabilities and opportunities for maximizing the range of environmental benefits.
- III. Provide recommended BMPs, strategies, partners, and plans to implement and achieve goals set forth by the Plan and establish metrics to measure progress of the urban forest.
- IV. Integration into City processes for long-term Plan sustainability.
- V. Updated tree inventory data and tree canopy mapping and analysis to identify the City's tree health, distribution, and possible planting space.
- VI. Guidance for mitigating climate impacts and adaptation, public health and well-being, and other factors as critical elements of community resilience and equity.

### An Iterative Approach to Apply the Fundamental Planning Process



Research & Information Discovery



City Operations & Workflows



Data Analyses



Benchmarking Research



Community Engagement



Urban Forest Audit & Gap Analysis



Vision, Goals, & Strategies



Draft & Final Plan

To accomplish the Scope of Work the City presented in its RFP, the steps involved are organized into the following categories: **Project Management and Communications, 1) Phase 1 - Deliverables, 2) Goals and Objectives, 3) Review and Assess Urban Forest Framework, 4) Tree Management Plan, 5) Tree Planting Plan, and Other Products and Deliverables.**

## PROJECT MANAGEMENT

We believe that transparency between our staff and City staff regarding expectations, timelines, and project execution is essential for creating the best possible products. Therefore, our management approach from the project kickoff to reporting will focus on project objectives, customization of scope, schedule, milestones, roles and responsibilities, risks and mitigation, methodology, and quality. Upon approval, we will work with the City to finalize the Scope of Services including any best and final offer. A project kickoff meeting date will be determined and scheduled. The Project Team will create an internal work plan outlining the timeline, milestones, schedules, communications, expectations, City staff time commitments, and deliverables. Status reports will be sent to the City core project team to give information on progress, budget and other required information. Upon completion of each project task, we will have a remote task review meetings and in-person workshops as needed to present and review completed tasks and deliverables. Primary Team Members: Chris Peiffer and Alex Hancock.

## PHASE I: DELIVERABLES

The first phase of this project will include assisting the City in updating their existing inventory database, incorporating GIS data into the inventory, and conducting a canopy analysis to provide metrics by neighborhood. This will aid the City in assessing and identifying existing urban forest resources throughout Norwalk to better understand opportunities to maximize benefits and increase canopy within the community. Primary Team Members: Jeremy Cantor, Ben Wittman, Morgan Garner, and Alex Hancock.

## Tree Canopy Analysis

Our technical for approach for canopy analysis will include mapping the City's land and tree canopy cover, QA/QC of derived data, analysis of canopy cover, prioritization for analysis of economic and public health impacts, plantable space distribution within various planning scales, planting scenarios, and an accuracy assessment following protocols developed by the U.S. Forest Service. This land cover map will serve as the foundation of all other tasks included in this project. Both the Inventory and Canopy Mapping will service as foundations for recommendations for the MTP.

PlanIT Geo requires the City to provide data including but not limited to; geographical boundaries, available land cover data (roadways, driveways, etc.), and others.

## Land Cover Mapping

PlanIT Geo is an industry leader in spectral and spatial remote sensing analysis, particularly using object-based image analysis (OBIA) for various land cover classifications. Historically, this has been a critical technique for accurately and cost-effectively mapping tree canopy and other land cover types. We are keenly aware of the importance for quality data. Recently, we have partnered with another mapping and analytics industry leader, EarthDefine. Through this exclusive partnership, we are the only firm able to offer a Machine Learning (ML) approach and existing 60 centimeter national data and the valuable cost savings to the city for current and future assessments.

Recent improvements in computer vision and ML are rapidly changing the nature of the

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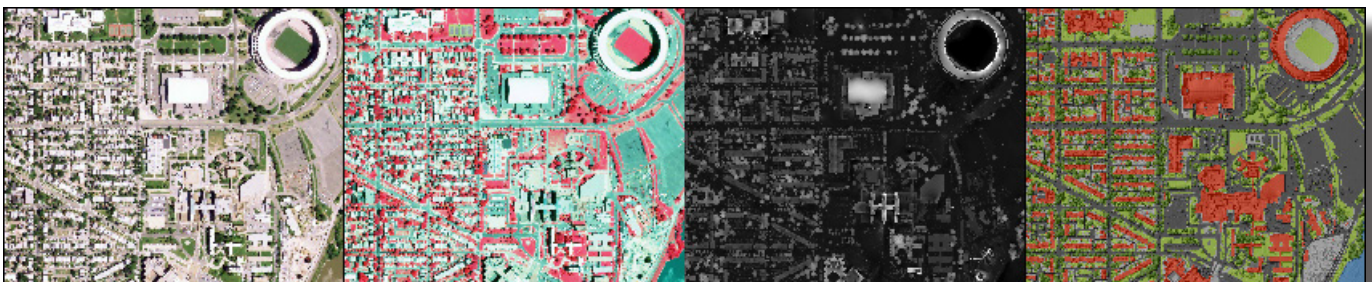
remote sensing field and allowing for cheaper and faster land cover mapping while, in many cases, improving the accuracy. Through our exclusive partnership with industry leader, EarthDefine, we will provide tree canopy data from the US Tree Map as well as the requested additional vegetative and impervious surface classes. Overall accuracy of data from the Tree Map is 96.6%. The nature of this technique will facilitate consistent, repeatable, and accurate extractions of all land cover types. Leveraging such techniques helps our customers limit data set inconsistencies caused by differences in human interpretation and decrease the number of resources required to update the land cover data set. Additionally, the City can be confident that the accuracy of extraction remains consistent from update to update, making more frequent assessments of the canopy possible. EarthDefine uses training samples to ensure the accuracy of the land cover data. 4-band aerial imagery will be classified using machine learning technology to produce the land cover classes. The land cover data will be based on 2021 NAIP imagery (National Agriculture Imagery Program) once it becomes available, the next most current would be NAIP imagery from 2018.

Our team will perform additional QA/QC as needed, specifically in dense urban or downtown areas, on the tree canopy and other land cover data from EarthDefine to ensure 92% overall accuracy and 95% tree canopy accuracy standards are met. We can provide all land cover data within two to three weeks of project initiation. The canopy layer will be provided for review prior to other steps in the project. FGDC-compliant metadata will be provided for all spatial datasets created. All datasets will be delivered in GIS vector (shapefile or geodatabase) or raster (TIF) formats that will be compatible with the City's current GIS. The final land cover data set will inform and be used in all other tasks included in this project. Land cover classes are described below.

**Urban tree canopy** mapping will include all vegetation generally greater than 10-15' tall based on multispectral imagery and object-based classification techniques. On-the-ground images from Google Street View may be used for QA/QC purposes in areas obscured by buildings and shadows.

**Open space / Grass** will include turf grass, shrub, and open space. Results will map all areas of healthy grass, and other vegetative cover, based on the time of the imagery capture, with a focus towards plantable areas for the purpose of this study and intended use of the data.

**Impervious surfaces** will include all paved surfaces and hardscapes and can be broken out (sub-categorized) using existing planimetric data that the City can provide including buildings, roads, parking lots, sidewalks, and driveways. These digitized impervious surface polygons will be incorporated into the land cover classification by overlaying them "on top



of” the impervious surface areas that are extracted through remote sensing classification techniques. Parking lots, sidewalks, and other impervious areas such as patios, driveways, trails, and other miscellaneous hardscape surfaces will be categorized as “Other Impervious”. Parking lots, sidewalks, and driveways can be considered impervious plantable space.

**Bare soil** will include barren soil, gravel pits, exposed dirt/open construction, rock, and sand as well as dry (non-photosynthetic) vegetation. These areas will not be considered plantable.

**Water** will be mapped from the base imagery and includes surface water features such as lakes, rivers, ponds, and streams.

### Data Deliverables

We can provide all land cover data within two to three weeks of project initiation. Data provided will include current tree canopy and land cover data for the City. The City can also become a subscriber to our tree canopy service which will provide updated data and metrics approximately every two years when new NAIP imagery is collected. Details on the subscription are listed in the TreePlotter™ CANOPY section on pages 39-41.

Our team will perform a detailed QA/QC process on all land cover classes, and we will conduct a point-based accuracy assessment. The result will be a standard error (confusion) matrix which we include routinely on land cover and UTC assessments. Once the tree canopy layer has 95% user’s accuracy or higher and overall accuracy reaches 92%, we will send samples of the results to the City for review and approval before proceeding with the GIS-based modeling of land cover and UTC metrics.

The following land cover GIS raster layers will be produced:

1. 5-class (tree canopy, open space/grass, bare soil/dry vegetation, impervious, and water);
2. All-class (same classes but with more specific impervious classes provided by the City);
3. UTC-class (existing tree canopy, areas suitable for planting trees, unsuitable areas for planting trees).

In addition, separate raster and vector files will be delivered for tree canopy with distinction of tree canopy overhanging impervious or pervious surfaces. The final land cover products will be delivered in vector and raster format (shapefile, TIFF, or Esri geodatabase) in the projection desired by the City. We suggest NAD 1983 UTM Zone 18N.

### Possible Planting Area

As part of our land cover mapping process, we will digitize areas that are unsuitable for tree planting and incorporate pre-existing data sets to ensure that the plantable spaces presented to the City are accurate and realistic. The areas that we will digitize include recreation fields and golf course playing areas. Examples of other unsuitable features that can be included are: existing trees, underground and overhead utilities, sidewalks, private alleyways, and cemeteries. Beside existing trees, these must all be provided by the City. We refer to this as Possible Planting Area – Vegetation. Parking lots and driveways may also offer planting opportunities with enhanced ecosystem benefits. These areas can be labeled as

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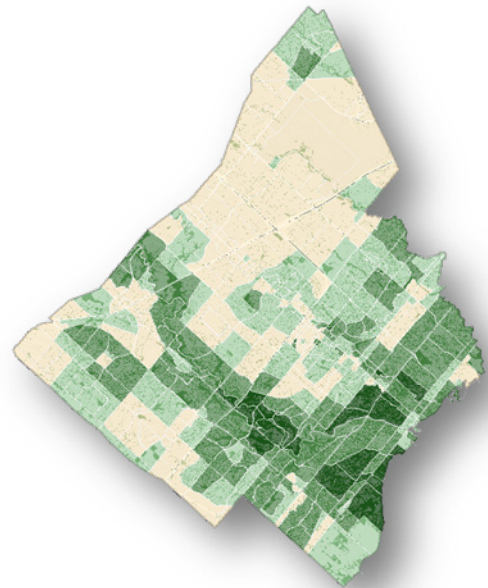
Possible Planting Area – Impervious if available as slight modification of the landscape or adjacent tree plantings could result in plantable space with enhanced ecosystem benefit value. This plantable space can include tree planting on private property, front yards, businesses, schools, churches or other areas. The plantable space identified will aid the City in identifying strategic areas for planting.

### Urban Tree Canopy Metrics & Maps

We will then conduct the land cover and UTC assessment and analysis. This includes GIS-based modeling processes to calculate the area (acres) and percent of each land cover type as well as possible planting area and unsuitable areas within the city boundary and seven additional boundaries. Boundaries we suggest for the City other than neighborhoods are city boundary, public vs private property, HUC 12 watersheds or wetland corridors, land use, census block groups, or parcels. Area and percent values will be added in new GIS table fields to the following geographic assessment boundaries. These GIS files will be provided by the City with any topological errors corrected. Area and percent values will be added in new GIS table fields for each scale. Maps, in MXD, PNG, and PDF formats, will include the following: City-wide land cover, City-wide UTC/PPA/unsuitable, UTC coverage by all other scales (7), and PPA distribution by all other scales (7). All maps and spreadsheet tables will be delivered in our data delivery.

### Prioritization and Equitable Distribution

We will work with City staff and community feedback to identify up to eight environmental (e.g. air quality, urban heat island), demographic (e.g. population density, minority populations), socioeconomic (e.g. income), and public health (e.g. asthma, heart attack) criteria and rank potential planting spaces and create priority planting maps. Priority tree-planting indices will be calculated for each criterion at the census block group scale as well as neighborhoods (if chosen). These indices will describe the best areas to plant for specific neighborhood or environmental equity. GIS attributes will be added to the assessment boundary that represent priority/suitability index values for each area. We will use these data and our criteria-weighting model to develop a priority tree-planting map for each criterion at the census block group scale. An overall priority map will also be created. The inventory analysis will aid in identifying areas where trees are in decline or in need to replacement, this will aid in identifying opportunities for planting to optimize equitable canopy distribution. The plantable space and priority areas identified will aid the City in identifying strategic locations for planting to maximize greenhouse gas absorption, economic impact, cultural benefit, and increase public health benefits.



## Urban Forest Structure

The Team will assess the urban forest structure within the City to identify species composition, number of trees, tree density, tree health, and other characteristics using the inventory and assessment data. This urban forest structure analysis will provide the City with the ability to understand its current urban forest composition in a detailed manner and contribute to pest and disease risk mitigation strategies.

## Tree Inventory Update

The Consulting Team will begin by gathering existing datasets and completing a data audit and data QA/QC. Once completed, the Team will meet with the City to discuss the data gaps and the necessary updates and changes. Our Team will conduct data updates remotely and in the field depending on the type of data needed. The update to the inventory will include attachments of photos for specific trees of interest (e.g., high risk, pest or disease signs/symptoms, hardscape damage, etc.)

Once the public tree dataset is corrected and updated, PlanIT Geo's Field Services (Tree Inventory) Team will conduct an inventory of 4,000 to 4,500 trees. The types of trees (public and private trees) and the priority areas will be finalized during contract negotiation and with input from the Consulting Team as they audit existing inventory datasets. To support ongoing tree inventory data collection, the Consulting Team will provide the City with a manual that details the tree inventory methodology and use of TreePlotter. In addition, the Consulting Team will provide two one-hour training sessions (one in-person) to City-selected volunteers. This will enable the City to complete the remainder of the Citywide public tree inventory and/or allow volunteers to update the inventory over time. It is anticipated that the Citywide public tree population consists of approximately 25,000 trees. PlanIT Geo's Field Services Team can continue to inventory trees depending on the available budget.

The Consulting Team will extrapolate tree inventory and canopy assessment data to describe the private tree population in terms of genera/species diversity, relative age/size classes, and locations.

The data analyses will be summarized for review by the City. Once revised, the findings from these analyses will be incorporated into the Master Tree Plan. Primary Team Members: Alex Hancock and Rachel Ormseth.

## PHASE II: GOALS & OBJECTIVES

This phase will complement the first phase by incorporating the tree canopy analysis data and information into short and long-term goals for increasing tree canopy within identified areas of opportunity and creating objectives for future inventory within the City. Creating these goals will support planting opportunities to increase green infrastructure in the City. 5-year incremental goals for Norwalk's inventory and tree canopy will be drafted and finalized. Primary Team Members: Alex Hancock and Chris Peiffer.

- ◇ Framework for Public Tree Expansion
  - ◇ Framework for Canopy Preservation & Expansion
  - ◇ Report on Tree Benefits & Trees as green infrastructure
  - ◇ Finalize Short & Long-Term Canopy/Inventory Goals
-

### PHASE III: REVIEW AND ASSESS URBAN FOREST FRAMEWORK

Review and assessment of the urban forest framework in Norwalk will include research and information discovery, staff and stakeholder interviews, surveys, consultations, benchmarking research, an Urban Forest Audit, an Urban Forest Vulnerability Analysis, and a number of analyses and summaries to evaluate Norwalk's urban forest framework.

Primary Team Members: Alex Hancock, Rachel Ormseth, and Chris Peiffer.

- ◇ Staff & Stakeholder 5-Question Survey
- ◇ Staff & Stakeholder Consultations
- ◇ Staff & Stakeholder Interviews (5, two-hour in-person sessions)
- ◇ Benchmarking Research
- ◇ Urban Forest Vulnerability Analysis (tree species, Importance Values, pests, canopy, stocking, etc.)
- ◇ Urban Forest Audit
- ◇ Tree Equity Score Analysis
- ◇ Analyses and Summaries Review Workshop (in-person)
- ◇ Final Analyses and Summaries for Urban Forest Distribution & Challenges, Regulatory Environment, Existing Stakeholder/Partnership Frameworks, Relevant Plans, Tree Planting & Management Methods & Mechanisms, and Existing Education & Outreach Channels & Outlets

### PHASE IV: TREE MANAGEMENT PLAN

Outlining of the Tree Management Plan portion of the Master Tree Plan will include a review of the comprehensive urban forest framework identified in Phase III. This Plan will take into consideration the wood waste utilization and pest and disease management as requested by the City, as well as provide recommendations for retention of trees in Norwalk. Primary Team Members: Alex Hancock and Chris Peiffer.

- ◇ Draft TMP Outline
- ◇ Wood Waste Utilization Draft
- ◇ Pest & Disease Management Draft
- ◇ Wood Waste Utilization Final
- ◇ Pest & Disease Management Final
- ◇ Draft & Final Recommendations for Public/Private Partnerships

### PHASE V: TREE PLANTING PLAN

The Tree Planting Plan will support with City in reaching the short and long-term goals identified for tree inventory and tree canopy from Phase II. Primary Team Members: Alex Hancock, Chris Peiffer, Jeremy Cantor, and Morgan Garner.

- ◇ Draft Outline of Tree Planting Plan
- ◇ Final Outline of Tree Planting Plan
- ◇ Draft Tree Planting Strategy (prioritization map)
- ◇ Draft Cost Estimate for Goals
- ◇ Draft Funding Streams
- ◇ Draft Public/Private Partnerships for Planting and Urban Forest Programs
- ◇ Draft Recommendations, Structure, and Policies
- ◇ Draft Funding Models & Budget Estimates
- ◇ Draft Review Workshop (in-person)
- ◇ Final Tree Planting Plan and Phase V Deliverables

## OTHER PRODUCTS AND DELIVERABLES

These other products and deliverables required by the City will complement and guide the project through an Internal Work Plan and monthly progress meetings or updates. The products and deliverables listed below will aid the City in the delivery of public facing information regarding the project and Plan, and provide the City with thorough presentations and information for the Tree Advisory Committee. Primary Team Members: Alex Hancock, Rachel Ormseth, and Chris Peiffer.

- ◇ Internal Work Plan Schedule
- ◇ Monthly Progress Emails/Meetings (remote)
- ◇ Draft Narrative Report TMP Review Meetings (3 remote)
- ◇ Final Narrative Report: Planting Plan, Tree Management Plan
- ◇ Final Executive Summary
- ◇ GIS Survey Tool (TreePlotter™ CEM, see below)
- ◇ Public Presentation #1 (in-person)
- ◇ Public Presentation #2 (remote)

The [TreePlotter™ Community Engagement Map](#) (CEM) will serve as the GIS Survey Tool for the City to share publicly. The CEM is provided for one year along with TreePlotter INVENTORY and CANOPY to provide an all-in-one solution. Software setup includes training. The [CEM](#) provides a public facing tree information display, is mobile friendly, and includes filterable and customizable results. The CEM is designed to share tree data in a simple and clean format that everyone can understand. A typical tree inventory often includes more information than the public would be interested in. The Community Engagement Map is configurable so clients can share a limited version of their inventory and canopy analysis that highlights the data they most want the public to see. The CEM is also a configurable and cost-effective way to provide your stakeholders with a way to interact and digest the tree data within your TreePlotter application. For this project, PlanIT Geo will likely set up a TreePlotter software application (at no cost) to use its robust tools and functionality when analyzing Norwalk's tree inventory population. With this platform, the City can design the Community Engagement Map to highlight urban forestry programs and initiatives, engage the public by using it as a citizens science tool, or share the trees on a project site with clients and community members.

Government agencies and municipalities that have urban forest responsibilities have a lot to gain from a Community Engagement Map. Maintaining public trees also requires maintaining a relationship with the public. Residents can be a major ally for urban forestry efforts, providing a pool of volunteers for public events and more eyes in the community on the lookout for hazardous trees. Additionally, growing public appreciation for the urban forest through a CEM can help when advocating for budget increases.



[illegible]

|                                                                 |   |    |    |   |   |   |   |    |         |    |
|-----------------------------------------------------------------|---|----|----|---|---|---|---|----|---------|----|
| Ordinance & Document Reviews                                    | 2 | 12 |    |   |   |   |   | 14 | \$1,450 | 1% |
| Draft Short & Long-Term Canopy/Inventory Goals                  | 2 | 6  |    |   |   |   |   | 8  | \$850   | 1% |
| Draft Goals Review Meeting (remote)                             |   | 2  |    |   |   |   |   | 2  | \$200   | 0% |
| Final Short & Long-Term Canopy/Inventory Goals                  |   | 4  |    |   |   |   |   | 4  | \$400   | 0% |
| <i>Subtotal</i>                                                 | 8 | 42 | 0  | 0 | 0 | 0 | 0 | 50 | \$5,200 | 3% |
| <b>Phase III. Review and Assess Urban Forest Framework</b>      |   |    |    |   |   |   |   |    |         |    |
| Research & Information Discovery                                |   | 8  |    |   |   |   |   | 8  | \$800   | 1% |
| Request for Information Document                                |   | 3  |    |   |   |   |   | 3  | \$300   | 0% |
| Final Summary of Research                                       |   | 6  |    |   |   |   |   | 6  | \$600   | 0% |
| Staff & Stakeholder Interview Framework & Planning              |   | 2  | 2  |   |   |   |   | 4  | \$400   | 0% |
| Staff & Stakeholder 5-Question Survey                           |   | 4  | 2  |   |   |   |   | 6  | \$600   | 0% |
| Staff & Stakeholder Interviews (5, two-hour in-person sessions) | 5 | 24 | 10 |   |   |   |   | 39 | \$4,025 | 3% |
| Summary of Staff & Stakeholder Consultations                    | 2 | 6  | 4  |   |   |   |   | 12 | \$1,250 | 1% |
| Analysis of Staff & Stakeholder Consultations                   | 1 | 3  | 2  |   |   |   |   | 6  | \$625   | 0% |
| Meeting to Discuss Findings (remote)                            |   | 2  |    |   |   |   |   | 2  | \$200   | 0% |
| Benchmarking Research Round 1                                   |   | 10 |    |   |   |   |   | 10 | \$1,000 | 1% |
| Benchmarking Research Review Meeting (remote)                   |   | 2  |    |   |   |   |   | 2  | \$200   | 0% |
| Final Benchmarking Research                                     |   | 4  |    |   |   |   |   | 4  | \$400   | 0% |

|                                                                                         |    |     |    |   |   |   |   |     |          |     |
|-----------------------------------------------------------------------------------------|----|-----|----|---|---|---|---|-----|----------|-----|
| Urban Forest Vulnerability Analysis (tree species, IV's, pests, canopy, stocking, etc.) |    | 12  |    |   |   |   |   | 12  | \$1,200  | 1%  |
| Tree Equity Score Analysis                                                              |    | 8   |    |   |   |   |   | 8   | \$800    | 1%  |
| Urban Forest Audit System Round 1                                                       |    | 10  |    |   |   |   |   | 10  | \$1,000  | 1%  |
| Final Urban Forest Audit                                                                | 1  | 4   |    |   |   |   |   | 5   | \$525    | 0%  |
| Draft Analysis & Summary of Urban Forest Distribution & Challenges                      | 2  | 8   |    |   |   |   |   | 10  | \$1,050  | 1%  |
| Draft Analysis & Summary of Regulatory Environment                                      | 2  | 8   |    |   |   |   |   | 10  | \$1,050  | 1%  |
| Draft Analysis & Summary of Existing Stakeholder/ Partnership Frameworks                |    | 4   | 4  |   |   |   |   | 8   | \$800    | 1%  |
| Draft Analysis & Summary of Relevant Plans                                              |    | 8   |    |   |   |   |   | 8   | \$800    | 1%  |
| Draft Analysis & Summary of Tree Planting & Management Methods & Mechanisms             | 2  | 8   |    |   |   |   |   | 10  | \$1,050  | 1%  |
| Draft Analysis & Summary of Existing Education & Outreach Channels & Outlets            |    | 4   | 4  |   |   |   |   | 8   | \$800    | 1%  |
| Draft Review Workshop (in-person)                                                       | 2  | 24  | 2  |   |   |   |   | 28  | \$2,850  | 2%  |
| Final Written Analyses & Summaries                                                      | 2  | 10  | 2  |   |   |   |   | 14  | \$1,450  | 1%  |
| <i>Subtotal</i>                                                                         | 19 | 182 | 32 | 0 | 0 | 0 | 0 | 233 | \$23,775 | 16% |

**Phase IV. Tree Management Plan**

|                                                               |   |    |    |  |   |   |    |         |            |
|---------------------------------------------------------------|---|----|----|--|---|---|----|---------|------------|
| Draft Outline                                                 |   | 2  |    |  |   |   | 2  | \$200   | 0%         |
| Final Outline                                                 |   | 1  |    |  |   |   | 1  | \$100   | 0%         |
| Wood Waste Utilization Draft                                  |   | 8  |    |  |   |   | 8  | \$800   | 1%         |
| Pest & Disease Management Draft                               |   | 12 |    |  |   |   | 12 | \$1,200 | 1%         |
| Final Wood Waste Utilization                                  |   | 4  |    |  |   |   | 4  | \$400   | 0%         |
| Final Pest & Disease Management                               |   | 4  |    |  |   |   | 4  | \$400   | 0%         |
| Draft & Final Recommendations for Public/Private Partnerships |   | 8  | 8  |  |   |   | 16 | \$1,600 | 1%         |
| Additional Analyses, Strategies, & Recommendations            | 8 | 16 | 8  |  |   |   | 32 | \$3,400 | 2%         |
| <i>Subtotal</i>                                               | 8 | 55 | 16 |  | 0 | 0 | 0  | 79      | \$8,100 5% |

**Phase V. Tree Planting Plan**

|                                                                     |   |    |   |  |  |  |    |         |    |
|---------------------------------------------------------------------|---|----|---|--|--|--|----|---------|----|
| Draft Outline                                                       |   | 2  |   |  |  |  | 2  | \$200   | 0% |
| Final Outline                                                       |   | 1  |   |  |  |  | 1  | \$100   | 0% |
| Draft Tree Planting Strategy                                        | 6 | 12 |   |  |  |  | 18 | \$1,950 | 1% |
| Draft Cost Estimate for Goals                                       | 2 | 6  |   |  |  |  | 8  | \$850   | 1% |
| Draft Funding Streams for Planting                                  | 2 | 4  |   |  |  |  | 6  | \$650   | 0% |
| Draft Public/Private Partnerships for Tree Planting                 | 2 | 4  | 4 |  |  |  | 10 | \$1,050 | 1% |
| Draft Public/Private Partnerships for the Urban Forest Programs     | 2 | 4  | 4 |  |  |  | 10 | \$1,050 | 1% |
| Draft Recommendations, Structure, & Policies for Desired Outcomes   | 8 | 16 |   |  |  |  | 24 | \$2,600 | 2% |
| Draft Funding Models & Budget Estimates for Goals & Recommendations | 8 | 16 |   |  |  |  | 24 | \$2,600 | 2% |



|                                                                |    |    |    |  |  |    |   |    |         |              |
|----------------------------------------------------------------|----|----|----|--|--|----|---|----|---------|--------------|
| Draft Review Workshop (in-person)                              | 2  | 24 | 4  |  |  |    |   | 30 | \$3,050 | 2%           |
| Final Version of Phase V Deliverables                          | 2  | 6  |    |  |  |    |   | 8  | \$850   | 1%           |
| <i>Subtotal</i>                                                | 34 | 95 | 12 |  |  | 0  | 0 | 0  | 141     | \$14,950 10% |
| <b>Other Products and Deliverables</b>                         |    |    |    |  |  |    |   |    |         |              |
| Internal Project Kickoff Meeting (remote)                      | 2  | 6  | 2  |  |  |    |   | 10 | \$1,050 | 1%           |
| Internal Work Plan Schedule                                    | 2  | 6  |    |  |  |    |   | 8  | \$850   | 1%           |
| Monthly Progress Emails/Meetings (remote)                      |    | 12 |    |  |  |    |   | 12 | \$1,200 | 1%           |
| Draft (Narrative Report) TMP #1                                | 16 | 32 | 4  |  |  |    |   | 52 | \$5,600 | 4%           |
| Draft (Narrative Report) TMP Review Meeting (remote)           | 1  | 2  |    |  |  |    |   | 3  | \$325   | 0%           |
| Draft (Narrative Report) TMP #2                                | 4  | 24 | 2  |  |  |    |   | 30 | \$3,100 | 2%           |
| Draft (Narrative Report) TMP Review Meeting (remote)           |    | 2  |    |  |  |    |   | 2  | \$200   | 0%           |
| Draft (Narrative Report) Planting Plan #1                      | 8  | 24 | 4  |  |  |    |   | 36 | \$3,800 | 3%           |
| Draft (Narrative Report) Planting Plan Review Meeting (remote) | 1  | 2  |    |  |  |    |   | 3  | \$325   | 0%           |
| Graphic Design                                                 |    |    | 40 |  |  |    |   | 40 | \$4,000 | 3%           |
| Final Narrative Report: Planting Plan, Tree Management Plan    | 4  | 12 | 2  |  |  |    |   | 18 | \$1,900 | 1%           |
| Executive Summary                                              | 1  | 6  | 2  |  |  |    |   | 9  | \$925   | 1%           |
| TreePlotter INVENTORY (1-year subscription)                    |    |    |    |  |  | 41 |   | 41 | \$3,500 | 2%           |

|                                                                                                    |                 |                 |                 |                 |                |                |                 |              |                  |     |
|----------------------------------------------------------------------------------------------------|-----------------|-----------------|-----------------|-----------------|----------------|----------------|-----------------|--------------|------------------|-----|
| Public Presentation #1 (in-person)                                                                 | 4               | 24              | 4               |                 |                |                |                 | 32           | \$3,300          | 2%  |
| Public Presentation #2 (remote)                                                                    | 2               | 8               | 4               |                 |                |                |                 | 14           | \$1,450          | 1%  |
| Presentation to Tree Advisory Committee or Other (remote or in-person if aligned with tasks above) | 2               | 12              | 4               |                 |                |                |                 | 18           | \$1,850          | 1%  |
| <i>Subtotal</i>                                                                                    | 47              | 172             | 68              |                 | 0              | 41             | 0               | 328          | \$33,375         | 22% |
| <b>TOTAL HOURS</b>                                                                                 | <b>124</b>      | <b>771</b>      | <b>130</b>      | <b>221</b>      | <b>15</b>      | <b>112</b>     | <b>205</b>      | <b>1,577</b> |                  |     |
| <b>TOTAL COST</b>                                                                                  | <b>\$15,500</b> | <b>\$77,050</b> | <b>\$12,950</b> | <b>\$12,250</b> | <b>\$1,875</b> | <b>\$9,550</b> | <b>\$13,325</b> |              | <b>\$150,000</b> |     |

## TIMELINE SUMMARY

| Task                                                       | Duration        | # of Months     | Completion | Staff Time (Hours) | Cost             |
|------------------------------------------------------------|-----------------|-----------------|------------|--------------------|------------------|
| <b>Phase I. Deliverables</b>                               | Nov'22 - Mar'23 | 4               | Mar'23     | 746                | \$64,601         |
| <b>Phase II. Goals and Objectives</b>                      | Jan'23 - Feb'23 | 2               | Feb'23     | 50                 | \$5,200          |
| <b>Phase III. Review and Assess Urban Forest Framework</b> | Nov'22 - Mar'23 | 5               | Mar'23     | 233                | \$23,775         |
| <b>Phase IV. Tree Management Plan</b>                      | Feb'23 - Mar'23 | 2               | Mar'23     | 79                 | \$8,100          |
| <b>Phase V. Tree Planting Plan</b>                         | Feb'23 - Apr'23 | 3               | Apr'23     | 141                | \$14,950         |
| <b>Other Products and Deliverables</b>                     | Nov'22 - Jun'23 | 8               | Jun'23     | 328                | \$33,375         |
| <b>TOTAL</b>                                               |                 | <b>8 Months</b> |            | <b>1,577</b>       | <b>\$150,000</b> |

## MEETING SUMMARY

| Summary of Meetings                         | Count     | Type                         |
|---------------------------------------------|-----------|------------------------------|
| Meetings to Review Drafts                   | 3         | Remote                       |
| Interviews                                  | 5         | In-person                    |
| Planning Workshops                          | 2         | In-person                    |
| Draft Plan Reviews                          | 3         | Remote                       |
| Public Presentation                         | 1         | Remote                       |
| Public Presentation                         | 1         | In-person                    |
| Presentation to the Tree Advisory Committee | 1         | In-person                    |
| <b>TOTAL</b>                                | <b>16</b> | <b>7 Remote, 9 In-Person</b> |

## PROJECT DELIVERABLES

| Task                                                | Deliverables                                                                                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Phase I. Deliverables                               | Updated Inventory, Canopy Analysis, GIS Geodatabase, TreePlotter CANOPY, Spreadsheets, TreePlotter INVENTORY, Inventory of 4,000 to 4,500 Trees, Tree Inventory Training Manual and 2 Hours of Training Volunteers                                                                                                                                             |
| Phase II. Goals and Objectives                      | Frameworks, Draft & Final Report, Draft Goals, Review Meeting (remote), Final Goals                                                                                                                                                                                                                                                                            |
| Phase III. Review and Assess Urban Forest Framework | Information Matrix, Survey, 10 hours of Interviews, Feedback Summary, Benchmarking Research, Tree Equity Score, NatureScore, Urban Forest Audit, VCL Gap Analysis, 6 Draft & Final Written Analyses, 2 Review Meetings (remote), 1 Full-Day Workshop, Final Written Analyses & Summaries                                                                       |
| Phase IV. Tree Management Plan                      | Plan Outline, Final Recommendations                                                                                                                                                                                                                                                                                                                            |
| Phase V. Tree Planting Plan                         | Plan Outline, Final Recommendations, 7 Drafts, 1 Full-Day Workshop (in-person), Final Phase V Deliverables                                                                                                                                                                                                                                                     |
| Other Products and Deliverables                     | Project Kickoff (remote), Work Plan Schedule, 8 Monthly Progress Reports, 2 Draft TMPs, 2 TMP Draft Reviews (remote), 1 Draft Planting Plan, 1 Draft Planting Plan Review (remote), Final Narrative Report, Executive Summary, 1-year Subscription to TreePlotter INVENTORY, CAN-OPY, and Community Engagement Module, 3 Presentations (2 remote, 1 in-person) |

| <b>PROJECT TIMELINE</b>                                         | <b>Nov</b> | <b>Dec</b> | <b>Jan</b> | <b>Feb</b> | <b>Mar</b> | <b>Apr</b> | <b>May</b> | <b>Jun</b> |
|-----------------------------------------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|
| <b>Phase I. Deliverables</b>                                    |            |            |            |            |            |            |            |            |
| Data Acquisition                                                |            |            |            |            |            |            |            |            |
| Data Audit, QA/QC                                               |            |            |            |            |            |            |            |            |
| Data Analysis                                                   |            |            |            |            |            |            |            |            |
| Existing Inventory Audit                                        |            |            |            |            |            |            |            |            |
| Tree Inventory (public or private trees)                        |            |            |            |            |            |            |            |            |
| Tree Inventory Training Manual and Training                     |            |            |            |            |            |            |            |            |
| Land Cover Purchase, Canopy Assessment, QA/QC, TP CANOPY & CEM  |            |            |            |            |            |            |            |            |
| Final Data Analysis                                             |            |            |            |            |            |            |            |            |
| Final Data Summary                                              |            |            |            |            |            |            |            |            |
| <b>Phase II. Goals and Objectives</b>                           |            |            |            |            |            |            |            |            |
| Draft Framework for Canopy Preservation & Expansion             |            |            |            |            |            |            |            |            |
| Draft Framework for Public Tree Expansion                       |            |            |            |            |            |            |            |            |
| Draft Report on Tree Benefits & Trees as Green Infrastructure   |            |            |            |            |            |            |            |            |
| Final Report on Tree Benefits & Trees as Green Infrastructure   |            |            |            |            |            |            |            |            |
| Ordinance & Document Reviews                                    |            |            |            |            |            |            |            |            |
| Draft Short & Long-Term Canopy/Inventory Goals                  |            |            |            |            |            |            |            |            |
| Draft Goals Review Meeting (remote)                             |            |            |            |            |            |            |            |            |
| Final Short & Long-Term Canopy/Inventory Goals                  |            |            |            |            |            |            |            |            |
| <b>Phase III. Review and Assess Urban Forest Framework</b>      |            |            |            |            |            |            |            |            |
| Research & Information Discovery                                |            |            |            |            |            |            |            |            |
| Request for Information Document                                |            |            |            |            |            |            |            |            |
| Final Summary of Research                                       |            |            |            |            |            |            |            |            |
| Staff & Stakeholder Interview Framework & Planning              |            |            |            |            |            |            |            |            |
| Staff & Stakeholder 5-Question Survey                           |            |            |            |            |            |            |            |            |
| Staff & Stakeholder Interviews (5, in-person two-hour sessions) |            |            |            |            |            |            |            |            |
| Summary of Staff & Stakeholder Consultations                    |            |            |            |            |            |            |            |            |
| Analysis of Staff & Stakeholder Consultations                   |            |            |            |            |            |            |            |            |



|                                                                                         | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun |
|-----------------------------------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Meeting to Discuss Findings (remote)                                                    |     |     |     |     |     |     |     |     |
| Benchmarking Research Round 1                                                           |     |     |     |     |     |     |     |     |
| Benchmarking Research Review Meeting (remote)                                           |     |     |     |     |     |     |     |     |
| Final Benchmarking Research                                                             |     |     |     |     |     |     |     |     |
| Urban Forest Vulnerability Analysis (tree species, IV's, pests, canopy, stocking, etc.) |     |     |     |     |     |     |     |     |
| Tree Equity Score Analysis                                                              |     |     |     |     |     |     |     |     |
| Urban Forest Audit System Round 1                                                       |     |     |     |     |     |     |     |     |
| Final Urban Forest Audit                                                                |     |     |     |     |     |     |     |     |
| Draft Analysis & Summary of Urban Forest Distribution & Challenges                      |     |     |     |     |     |     |     |     |
| Draft Analysis & Summary of Regulatory Environment                                      |     |     |     |     |     |     |     |     |
| Draft Analysis & Summary of Existing Stakeholder/Partnership Frameworks                 |     |     |     |     |     |     |     |     |
| Draft Analysis & Summary of Relevant Plans                                              |     |     |     |     |     |     |     |     |
| Draft Analysis & Summary of Tree Planting & Management Methods & Mechanisms             |     |     |     |     |     |     |     |     |
| Draft Analysis & Summary of Existing Education & Outreach Channels & Outlets            |     |     |     |     |     |     |     |     |
| Draft Review Workshop (in-person)                                                       |     |     |     |     |     |     |     |     |
| Final Written Analyses & Summaries                                                      |     |     |     |     |     |     |     |     |
| <b>Phase IV. Tree Management Plan</b>                                                   |     |     |     |     |     |     |     |     |
| Draft Outline                                                                           |     |     |     |     |     |     |     |     |
| Final Outline                                                                           |     |     |     |     |     |     |     |     |
| Wood Waste Utilization Draft                                                            |     |     |     |     |     |     |     |     |
| Pest & Disease Management Draft                                                         |     |     |     |     |     |     |     |     |
| Final Wood Waste Utilization                                                            |     |     |     |     |     |     |     |     |
| Final Pest & Disease Management                                                         |     |     |     |     |     |     |     |     |
| Draft & Final Recommendations for Public/Private Partnerships                           |     |     |     |     |     |     |     |     |
| Additional Analyses, Strategies, & Recommendations                                      |     |     |     |     |     |     |     |     |
| <b>Phase V. Tree Planting Plan</b>                                                      |     |     |     |     |     |     |     |     |
| Draft Outline                                                                           |     |     |     |     |     |     |     |     |
| Final Outline                                                                           |     |     |     |     |     |     |     |     |
| Draft Tree Planting Strategy                                                            |     |     |     |     |     |     |     |     |

|                                                                                                    | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun |
|----------------------------------------------------------------------------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|
| Draft Cost Estimate for Goals                                                                      |     |     |     |     |     |     |     |     |
| Draft Funding Streams for Planting                                                                 |     |     |     |     |     |     |     |     |
| Draft Public/Private Partnerships for Tree Planting                                                |     |     |     |     |     |     |     |     |
| Draft Public/Private Partnerships for the Urban Forest Programs                                    |     |     |     |     |     |     |     |     |
| Draft Recommendations, Structure, & Policies for Desired Outcomes                                  |     |     |     |     |     |     |     |     |
| Draft Funding Models & Budget Estimates for Goals & Recommendations                                |     |     |     |     |     |     |     |     |
| Draft Review Workshop (in-person)                                                                  |     |     |     |     |     |     |     |     |
| Final Version of Phase V Deliverables                                                              |     |     |     |     |     |     |     |     |
| <b>Other Products and Deliverables</b>                                                             |     |     |     |     |     |     |     |     |
| Internal Project Kickoff Meeting (remote)                                                          |     |     |     |     |     |     |     |     |
| Internal Work Plan Schedule                                                                        |     |     |     |     |     |     |     |     |
| Monthly Progress Emails/Meetings (remote)                                                          |     |     |     |     |     |     |     |     |
| Draft (Narrative Report) TMP #1                                                                    |     |     |     |     |     |     |     |     |
| Draft (Narrative Report) TMP Review Meeting (remote)                                               |     |     |     |     |     |     |     |     |
| Draft (Narrative Report) TMP #2                                                                    |     |     |     |     |     |     |     |     |
| Draft (Narrative Report) TMP Review Meeting (remote)                                               |     |     |     |     |     |     |     |     |
| Draft (Narrative Report) Planting Plan #1                                                          |     |     |     |     |     |     |     |     |
| Draft (Narrative Report) Planting Plan Review Meeting (remote)                                     |     |     |     |     |     |     |     |     |
| Graphic Design                                                                                     |     |     |     |     |     |     |     |     |
| Final Narrative Report: Planting Plan, Tree Management Plan                                        |     |     |     |     |     |     |     |     |
| Executive Summary                                                                                  |     |     |     |     |     |     |     |     |
| GIS Survey Tool Draft (TreePlotter INVENTORY, CANOPY & CEM)                                        |     |     |     |     |     |     |     |     |
| GIS Survey Tool Final (TreePlotter, INVENTORY, CANOPY & CEM)                                       |     |     |     |     |     |     |     |     |
| Public Presentation #1 (in-person)                                                                 |     |     |     |     |     |     |     |     |
| Public Presentation #2 (remote)                                                                    |     |     |     |     |     |     |     |     |
| Presentation to Tree Advisory Committee or Other (remote or in-person if aligned with tasks above) |     |     |     |     |     |     |     |     |

\*Yellow shaded cells indicate the timing for a meeting. Cells shaded purple indicates an in-person meeting.

## SECTION 4

# REFERENCES\STATEMENT OF QUALIFICATIONS

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### UFMP AND INVENTORY PROJECT EXPERIENCE

#### City of Renton, WA - Community Services Dept's Parks, Planning, & Development

**Contact Name:** Ian Gray | Urban Forestry & Natural Resources Manager

**Contact Info:** igray@rentonwa.gov | (425) 430-6601

**Number of Projects Completed for the City:** 1

#### Urban Forest Management Plan - 10-Year UFMP Update

**Description:** The project required an update to the City's 10-year Urban Forest Management Plan. The planning process included a 9-member City Collaborative Team, deep dive research and review of 36 City plans and resources, an analysis of the public tree inventory, a comparison of 2011 and 2018 urban tree canopy data, City staff and stakeholder interviews (35 invited, 19 completed), 2 public surveys (124 and 64 responses), a project website ([RentonForestryPlan.com](http://RentonForestryPlan.com)), interactive "Rooted In Renton Tree Story Map", benchmarking research, and a comprehensive audit of the Urban Forestry Program.

**Approach and Methodology:** Based on the findings, goals, objectives, strategies and actions were developed for the 10-year planning horizon. Supporting the goals, a recommended tree canopy goal was developed along with incremental canopy goals, planting targets (counts), and priority planting areas. Also, an analysis of the current program and staffing structure was completed to develop recommendations for a 2-person in-house arborist crew and priority maintenance roadway corridors. The draft review process included 8 meetings and presentations with the City's Parks Commission, Planning Commission, and Planning & Development Committee as part of the City's SEPA Plan Review Process. The UFMP was formally adopted by City Council on February 14, 2022.

**Date:** April 2021 – February 2022 (10 months)

**Budget:** \$99,980 | **Final Invoiced Amount:** \$99,980 (\$75,100 to PlanIT Geo)

**PlanIT Geo Project Roles:** Chris Peiffer- Project Manager

#### City of Wilsonville, OR - Community Development's Natural Resources Program

**Contact Name:** Kerry Rappold | Natural Resources Program Manager

**Contact Info:** rappold@ci.wilsonville.or.us | (503) 570-1570

**Number of Projects Completed for the City:** 1

#### Urban Forest Management Plan

**Description:** The UFMP provided an integrated approach to preserving, sustaining, diversifying, and regenerating Wilsonville's urban forest into the future. The Plan includes goals and objectives, an inventory and assessment, strategies, implementation actions, and monitoring—accomplished through strategic partnerships and community outreach. While the Plan addresses the entire City, it also has two special focus areas: Charbonneau and Town Center. Recommendations in the Plan address issues and topics specific to the

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urban forest in these areas—such as the 800 mature northern red oaks in Charbonneau in various states of health and impacts to infrastructure. A better understanding was gathered from an in-depth inventory of these trees. The Plan provides recommendations derived from analyses of the 24,000+ street tree inventory completed in 2018.

**Approach and Methodology:** To complete the objectives, the project consisted of extensive research, City staff workshops, existing data analyses, benchmarking research, virtual community meetings, public surveys, photo contests, website content on Let's Talk, Wilsonville!, and a systematic audit to inform goals, strategies, and actions.

**Date:** April 2020-December 2021 (21 months)

**Budget:** \$75,000 | **Final Invoiced Amount:** \$75,000 (\$63k for UFMP, \$12k for inventory)

**PlanIT Geo Project Roles:** Chris Peiffer- Project Manager, TJ Wood (Director of Field Services) - Project Manager

### City of Saratoga Springs, NY - Department of Public Works

**Contact Name:** Steve Lashomb | City Arborist

**Contact Info:** steve.lashomb@saratoga-springs.org | (518) 587-3550 ext.2555

**Number of Projects Completed for the City:** 1

#### Urban Forest Management Plan

**Description:** An inventory of ~12,000 trees was completed by PlanIT Geo's Certified Arborists to inform the development of the Urban Forestry Management Plan. The plan includes a long-term vision; maintenance and removal prioritization and cost estimates; development of strategies, budgets, and work plans; an i-Tree Eco analysis; and training to staff to implement the plan.

**Approach and Methodology:** PlanIT Geo's Certified Arborist completed the public tree inventory to be analyzed by the Consulting Team. The Consulting Team applied industry standards and best practices to the fundamental planning approach for adaptive management. The process included a research deep dive, consultations with city staff, data analyses, benchmarking research, goal and action development, and a draft plan. After 3 rounds of reviews including the review by Sustainable Saratoga, the draft plan was finalized.

**Date:** September 2021 - anticipated July 2022 (10 months)

**Budget:** \$6,400 | **Final Invoiced Amount:** \$6,400

**PlanIT Geo Project Roles:** Chris Peiffer- Project Manager, Alex Hancock - Lead Planner

### City of Troy, NY

**Contact Name:** Steven Strichman | Commissioner of Planning & Economic Development

**Contact Info:** Steven.Strichman@troyny.gov | (518) 279-7392

**Number of Projects Completed for the City:** 1

#### Community Forest Management Plan

**Description:** Using the tree inventory data, analysis of the community's tree program and consultations with the City and stakeholders, the Community Forestry Management Plan was developed. The Plan provides a vision for the long-term community forest and a strategy for how to care for the community trees.



**Approach and Methodology:** The planning project included: 1) A vision for the long-term community forest; 2) the development of strategies, budgets, and work plans including a timeline of tasks to meet the vision; 3) the use of the tree inventory data to identify management needs i.e. pruning rotations, removal implementation, and prioritization of workload; 4) storm preparedness and response planning; 5) invasive species preparedness and response; 6) planting plan to address the unique characteristics of the City, such as species diversity, understory plantings, erosion control, and brownfields that could be impacted with planting and would address local needs; 7) urban forest environmental benefit analysis of environmental issues such as: water quality, air quality, reduce urban heat island effect, energy efficiencies, stormwater management, and health; 8) guidance and direction for street tree removal requests from residents and businesses to prevent unnecessary removals of healthy trees for perceived aesthetic or safety reasons; 9) public relations and education; 10) draft City of Troy Street Tree Ordinance review and recommendations; 11) final Plan Presentation.

**Date:** June 2019 - September 2019 (3 months)

**Budget:** \$10,500 | **Final Invoiced Amount:** \$10,500

**PlanIT Geo Project Roles:** Chris Peiffer- Project Manager

## CANOPY MAPPING PROJECT EXPERIENCE

### Washington, D.C. Metropolitan Council of Governments

**Contact Name:** Brian LeCouteur | Principal Environmental Planner

**Contact Info:** blecouteur@mwkog.org | (202) 962-3393

**Number of Projects Completed for the City:** 3

### UTC Assessment and Urban Forestry Program Review

**Scope of Services Provided:** Four years of UTC Assessments and implementation/outreach tools; land cover change analysis from 2006 to 2011 to 2015 to 2020; web-based planning tools integrating UTC data, priority planting areas, land cover classification and canopy cover forecasting; community handbook for expanding tree canopy; urban forestry program review to evaluate management activity success.

**Date:** October 2020 – June 2022

**Budget:** \$95,000

**PlanIT Geo Project Roles:** Jeremy Cantor (PlanIT Geo), Ben Wittman (PlanIT Geo)

### City of Cupertino, CA

### UTC Assessment & Report (2019)

**Scope of Services Provided:** Imagery/LiDAR-based remote sensing classification of the land and canopy cover of the Town of Cupertino in 2018 and 2009; analysis of distribution of tree canopy and plantable space throughout various geographic planning scales; recommendations for policy, planning, and priority planting areas; calculated ecosystem service benefits of the canopy; analyzed correlations between tree canopy and socio-demographic indicators to prioritize new tree plantings; measured canopy change over the last decade.

**Date:** June 2019 – August 2019

**Budget:** \$33,500

**PlanIT Geo Project Roles:** Jeremy Cantor (PlanIT Geo), Ben Wittman (PlanIT Geo)

## SECTION 5

# OTHER INFORMATION

### ADDITIONAL RECOMMENDED SERVICES

These additions for the project will improve the overall project experience and provide even more in-depth analysis and community engagement going forward for the City.

| Additional Recommended Services       | Cost     | Description of Costs |
|---------------------------------------|----------|----------------------|
| Vibrant Cities Lab's Gap Analysis     | \$1,800  | One-time cost        |
| Additional Meetings (remote)          | \$1,000  | each                 |
| Additional Meetings (in-person)       | \$2,800  | each                 |
| Additional Presentations (remote)     | \$1,500  | each                 |
| Additional Presentations (in-person)  | \$3,800  | each                 |
| Cambium Carbon                        | \$14,500 | One-time cost        |
| Project Website                       | \$6,200  | 12 months hosting    |
| UFMP Implementation Audit (in-person) | \$6,500  | each                 |
| UFMP Implementation Audit (remote)    | \$4,200  | each                 |
| Interactive Tree Selection Tool       | \$3,000  | One-time cost        |

#### ***Vibrant Cities Lab's Gap Analysis -***

In addition to the comprehensive audit, our Consulting Team can administer the Vibrant Cities Lab's Community Assessment and Goal-Setting Tool (Gap Analysis) with the City staff and stakeholders. This additional service involves a collaborative evaluation of all major urban forestry program components to identify strengths and opportunities. These findings can help identify baseline conditions and shape the Plan's strategies. Includes an initial internal round conducted by the Consulting Team and an interactive virtual session with the City's team to finalize the gap analysis and resulting scores.

#### ***Cambium Carbon -***

PlanIT Geo partners with Cambium Carbon to provide strategies for wood reuse and end-of-life management. By diverting fallen trees from the waste stream, we work to reduce disposal costs and store embodied carbon, ensuring that no material goes to waste. Choosing this add-on will enable the City to effectively plan and manage the complete life cycle of the urban forest and associated carbon.

#### ***Project Website -***

To support constant and inclusive engagement to inform the Plan, a project website hosted by PlanIT Geo will contain the project overview, status, timeline, opportunities to engage, key findings, among other features. It can serve as the platform for the open participation polls, the interactive Tree Story Maps, among other outreach and education materials and messaging. View examples at [www.FremontUrbanForest.com](http://www.FremontUrbanForest.com) and [www.KirkwoodUrbanForest.com](http://www.KirkwoodUrbanForest.com).

### ***UFMP Implementation Audit -***

The Urban Forest Plan Key Performance Indicator (KPI) Tracker is an innovative online tool for cities to effectively implement and monitor plan strategies, targets, actions, and KPIs. KPIs developed for the City's Master Tree Plan will be integrated into PlanIT Geo's TreePlotter software for internal use and for public-facing reporting and outreach. For example, metrics such as number of trees planted and pruned can be tracked along with the trees per capita, budget per tree, maintenance history, number of volunteers, and any number of highlights specific to the City's Plan.

### ***Interactive Tree Selection Tool -***

To support the Tree Planting Plan, existing and regional tree lists will be reviewed to identify a tree species palette specific to the City to grow a sustainable and resilient urban forest. Considers species performance and species resilient to the changing climate. Also introduces "Sister Climate City" tree species i.e., those trees acclimated to climates similar to the City's climate in 60-100 years. Includes attributes such as mature tree height/width, key feature, minimum planting width, native/nonnative, mature form, deciduous/coniferous/evergreen, and up to 10 other attributes identified by the City. To provide the most readily available tool for the City, contractors, partners, and the public to plant trees appropriate to the site, our team will develop a series of planting questions where, based on the options selected, a list of suitable trees are provided for consideration from the master list. For example, users will be able to find suitable species that fit a narrow planting site, have no irrigation available, is native, and has minimal tree litter. Delivered as an interactive/sortable worksheet and PDF document. Includes a draft, review session, and final document.

### ***TreePlotter™ CANOPY***

PlanIT Geo also specializes in building cost-effective, data-driven, decision support and operational productivity tools with a specialty in integrating GIS with science-based ecosystem benefit models and forestry/natural resources data for reporting and future planning. Our TreePlotter CANOPY software (<https://planitgeo.com/treeplotter-canopy-software/>) provides a powerful yet easy to use web-based decision support and prioritization tool. It allows you to visualize data sets, prioritize planting, communicate canopy goals, implement and track planting projects, and create maps and reports to easily digest complicated data. All project data are provided in the software application and are automatically updated as soon as updated imagery is available, in most cases every two years.

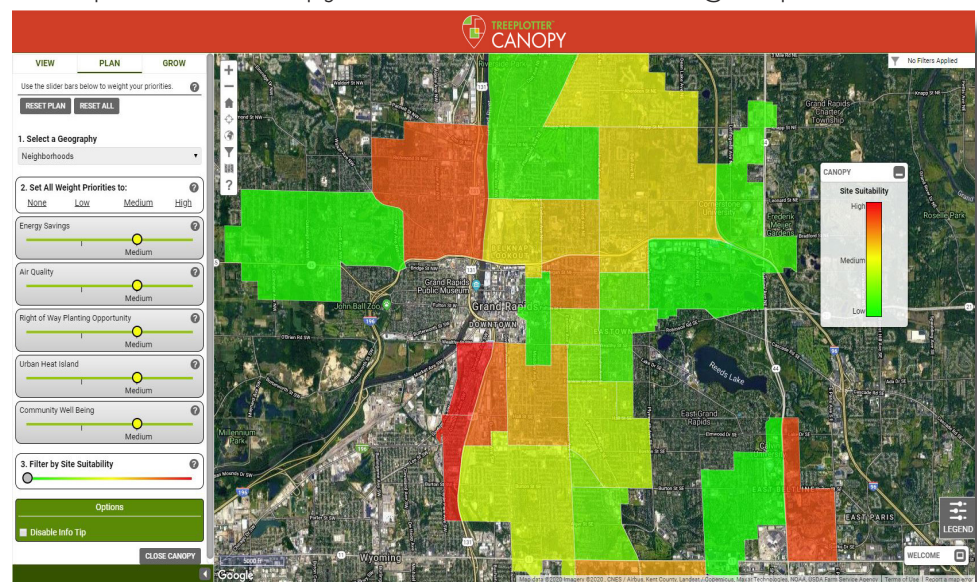
CANOPY will provide many benefits to the City and increase the value, create accessibility and communication of complex data, and usage of the tree canopy assessment data by City staff, partners, and community members. It is a web browser-based interactive map, compatible with all platforms (Android, iOS, Windows), built specifically to display and interact with tree canopy assessment data. The subscription includes regular updates to tree canopy and land cover data



allowing the City to keep a regular pulse on canopy cover trends.. Data summaries are provided at the City scale as well as HUC-12 watersheds, ZIP codes, census block groups, census blocks, and two custom scales (e.g., municipalities, subdivisions, zoning). Using this data, the City can identify priority areas for planting, quantify current benefits and project future benefits, and analyze future planting scenarios.

The City will receive the most current data available at subscription start. In addition, the subscription includes an additional analysis of one historical year and automatic updates whenever new NAIP imagery becomes available. PlanIT Geo also provides training for application use and sharing by our Data Manager.

TreePlotter CANOPY comes with socio-demographic data built-in that will aid the City in planning investments in equitable canopy at the census block group level. These data sets combine an area's existing tree canopy, plantable space, income, employment, and education level to qualify how evenly tree canopy is distributed across its citizens. With each year's new canopy update, we provide an updated assessment of tree equity to help cities understand the impacts of their management activities.



With CANOPY, you can share your data in public-friendly and interactive online maps that can be viewed directly in the application or embedded onto your website. Your subscription includes our [Community Engagement Map](#) (CEM) which provides a simple, public-friendly version of a TreePlotter CANOPY application that can be accessed as an embedded map on the City's webpage or as a stand-alone website. Increased community engagement can help ensure the success of any urban forestry program. With CEM, public users can easily learn more about the City's tree canopy trends by interacting with our mobile-friendly web map.

Our combined software package will provide the City with key decision-making tools as well as interactive maps and charts that can make the tree canopy assessment results more accessible to the general public. The software will incorporate city branding and all descriptive text can be adjusted by city staff at any time while the subscription is active.

Examples of current TreePlotter CANOPY software applications include:

- Vancouver, Washington - <https://pg-cloud.com/VancouverWA/>
- Eugene, Oregon - <https://pg-cloud.com/EugeneOR/>
- King Conservation District - <https://pg-cloud.com/KingCD-Cities/>



REV. OCTOBER 27, 2022

# TREE MASTER PLAN PROGRAM - INVENTORY AND CANOPY ASSESSMENT

City of Norwalk, Connecticut



**PlanIT Geo**  
developers of TreePlotter

# WELCOME TO THE NORWALK BUSINESS DEVELOPMENT CENTER!





## OUR PARTNERS



# WHAT WE OFFER



Access to Capital



Technical Support



Educational  
Opportunities



Partner and B2B  
Connections



# OUR PROGRAMS



*Small Business & Main  
Streets Program*

Storefront  
Improvement  
Program



COVID-19 Business  
Assistance Grants

kiva



Norwalk  
Innovation  
Initiative

Visit  
NORWALK





## *Small Business & Main Streets Program*





# Storefront Improvement Program



**80% matching grant program up to \$20,000 worth of improvements!**

- Get as much as \$16,000 in grant funding to make improvements to your storefront
- Can be used for signage, painting, windows, planters, benches, and more

**Sabrina Church** at the Norwalk Business Development Center can help you with your application, getting quotes, and eligibility questions.



Before



After



Before



After



# Storefront Improvement Program



Before



After





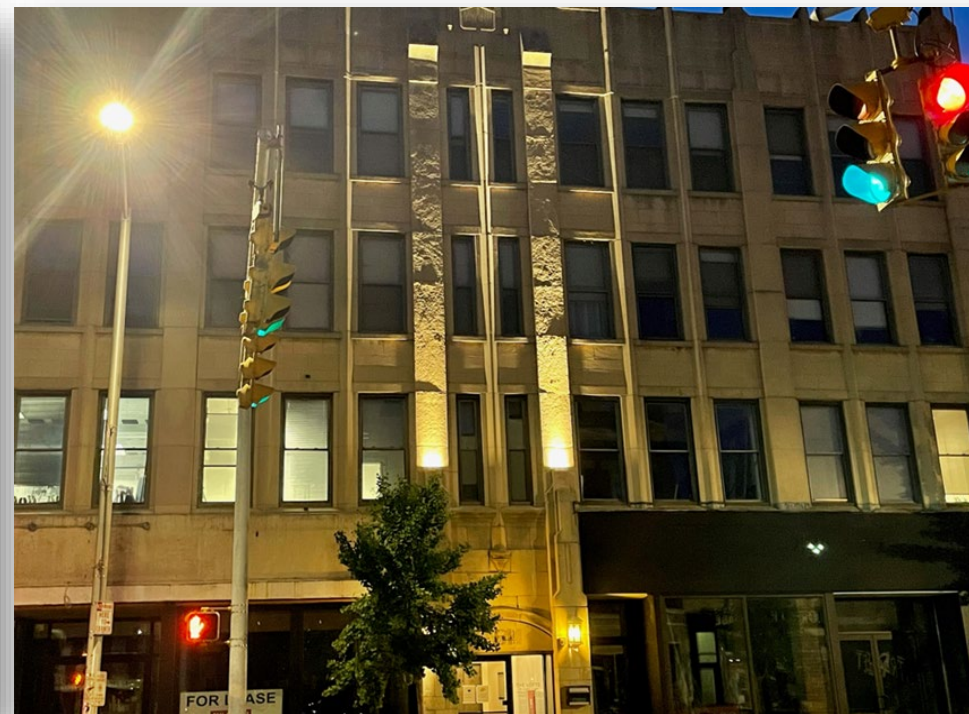
# Storefront Improvement Program



Before



After



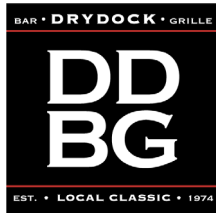


## COVID-19 Business Assistance Grants

Grants for Norwalk Businesses and that employ between 2 and 20 employees

Grants can be for \$5,000, \$10,000, or \$15,000

Applications available January 2023 & January 2024



DONOVAN'S



THE BARONY COLLECTION  
FINE VINTAGE GOODS

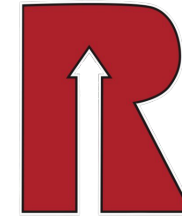


\$885,000 INVESTED

\$430,000 SPENT

69 BUSINESSES FUNDED

60 BUSINESSES TO BE  
FUNDED





**Pedro Mata** at the Norwalk Business Development Center can help you with your application, lending page, and getting lender connections!



## Apply

20-30 min

Find out if you're prequalified, then easily fill out our online application.



## Invite

Up to 15 days

Prove your creditworthiness by inviting friends and family to lend to you.



## Fundraise

Up to 30 days

Go public on Kiva, with your loan visible to over 1.6 million lenders worldwide.



## Repay

Up to 36 months

Build your customer base by repaying your Kiva loan.

# KIVA 0% INTEREST MICROLOANS





**Juliane**

11 days

IN PRIVATE FUNDRAISING

4/5 lenders

\$1,350 TO GO

A loan of \$1,500 helps me launch my clothing business that will allow families to shop for quality items at low prices.

NORWALK, CT, UNITED STATES

RETAIL

Save for later





**Jessica**

10 days

REMAINING

\$5,705 to go

43% FUNDED

A loan of \$10,000 helps a minority woman pay for a security system to protect clients who have Dementia.

NORWALK, CT, UNITED STATES

HEALTH

Save for later





**Ana**

20 days

REMAINING

\$2,660 to go

41% FUNDED

A loan of \$4,500 helps us to buy the equipment and to do the plumbing service.

NORWALK, CT, UNITED STATES

COSMETICS SALES

Save for later





**Lindsay**

This loan is fully funded!

REMAINING \$0 to go

100% FUNDED

[VIEW THE FULL BORROWER PROFILE](#)

100% FUNDED



OVER \$25,000 IN INVESTMENT

WHO  
WE'VE  
HELPED  
SO FAR

PROGRAM  
LAUNCHED  
AUGUST 26, 2022





**Norwalk**  
Innovation  
Initiative

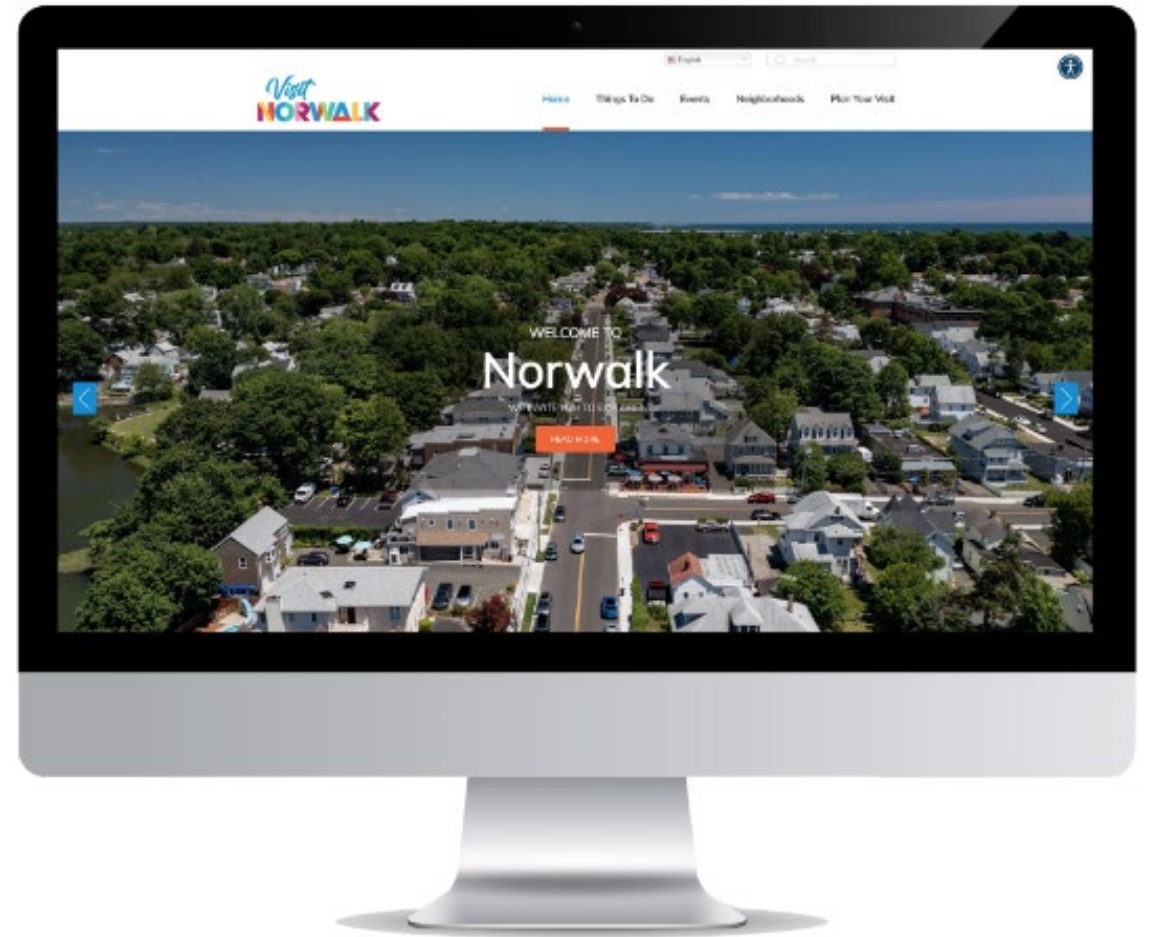


**STARTUP RECIPIENTS**

**\$15,000  
IN INVESTMENT**



Visit Norwalk is the first business model of its kind in Fairfield County to offer free marketing, social media, and public relations assistance to Norwalk restaurants, retailers, arts and entertainment venues, attractions, and lifestyle businesses. It offers a cohesive and collaborative program designed to educate and support local business owners with their marketing endeavors.





**OVER 3,000  
UNIQUE WEBSITE  
VISITS A MONTH**

**OVER 900,000  
IMPRESSIONS A  
MONTH**

**TRANSFERS TO  
OVER 100 UNIQUE  
VISITORS A MONTH**



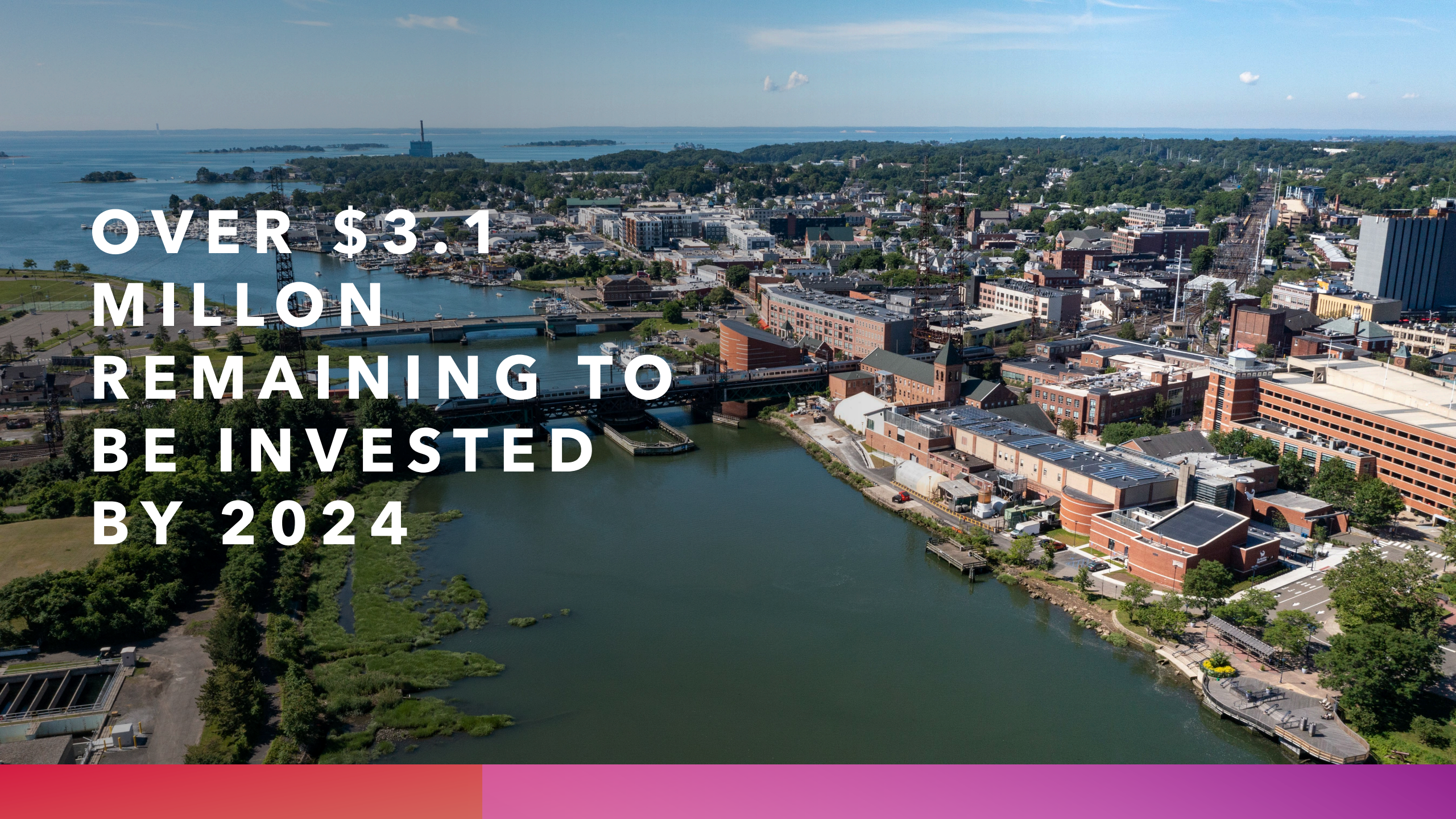


An aerial photograph of a city street at dusk. The street is lined with historic brick buildings, some with multiple stories and many windows. Modern infrastructure like traffic lights and streetlights are visible. A bridge is in the background. The left side of the image is overlaid with a semi-transparent red rectangle containing white text.

OVER  
\$1.3 MILLION  
INVESTED  
TO SUPPORT  
BUSINESSES  
TO DATE

SINCE 2019

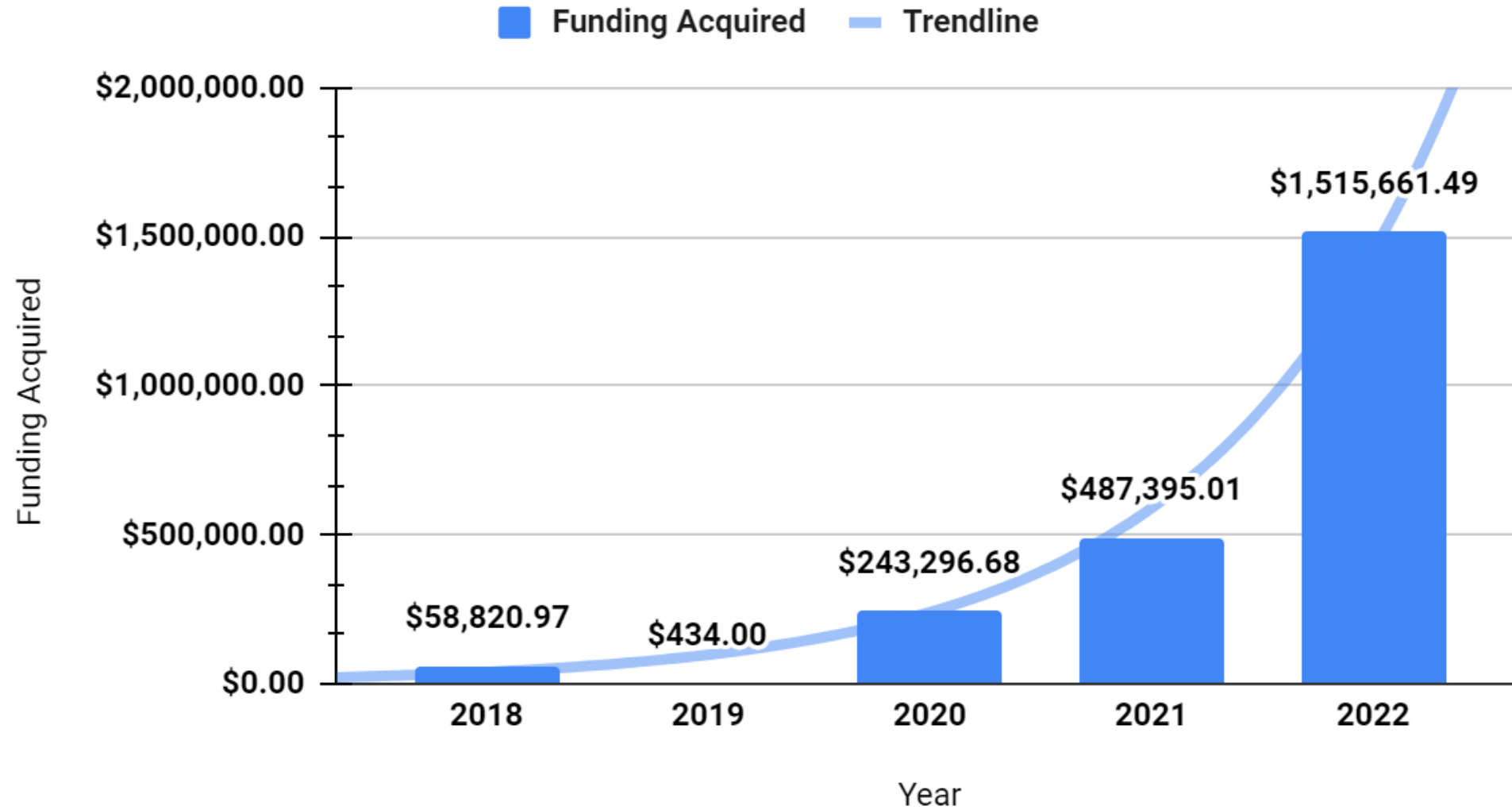




**OVER \$3.1  
MILLION  
REMAINING TO  
BE INVESTED  
BY 2024**

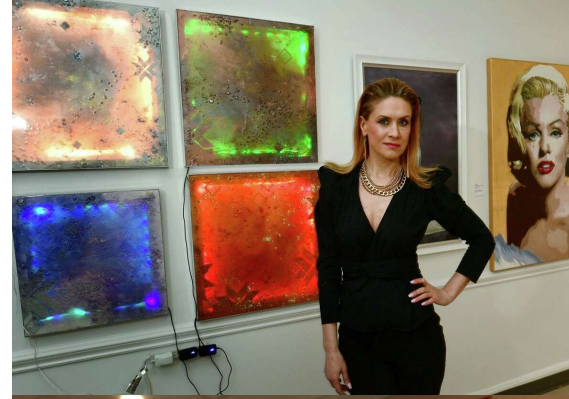


## Funding Acquired Yearly from 2018 to 2022



**OVER 80  
BUSINESSES  
FUNDED TO DATE**

**PROJECTED TO BE  
OVER 250 BY 2024**







OVER 75% OF  
BUSINESSES  
ASSISTED ARE  
MINORITY  
AND/OR WOMEN-  
OWNED  
ENTERPRISES



**FOR MORE INFORMATION VISIT  
NORWALKFORBUSINESS.ORG**

*Opening a business?  
We can help!*



**NORWALK**  
**REDEVELOPMENT**

**NORWALK**  
**for BUSINESS**

**ECONOMIC & COMMUNITY DEVELOPMENT**