

A full-page photograph of two arborists working on a large, mature tree in a park. One arborist is high up in the tree, wearing a red helmet and a bright yellow-green shirt, secured by ropes. The other arborist is on the ground, also in safety gear, managing the ropes. The background shows a lush green park with many trees and a clear sky.

# Arborist Registered Apprenticeship BUSINESS PLAN



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conserving nature for life



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# Executive Summary

The Chicago region needs more trees, and a healthier, more robust tree canopy. After the die-off of millions of trees due to pests and diseases, and the effects of climate change becoming more apparent in our region, citizens are calling for increasing the tree canopy as an important nature-based solution. As a conservation leader in the region with a long commitment to and investment in our urban forest, Openlands understands that to meet the increasing needs of the urban forest, we must address the significant gap of skilled and diverse workers available to care for the region's trees.

The current workforce shortage in the arboriculture and urban forestry field has meant tree care companies and agencies struggle with recruitment and retention of employees. At the same time, the workforce lacks the racial and gender diversity of our region. While arboriculture and urban forestry are burgeoning careers, they provide a strong career pathway and quality of life for those interested in working outside in nature. Openlands' 30 years of advocating for the urban forest and partnering with forestry professionals to provide citizen-arborist training, positions us to be a leader in this type of workforce development; ensuring a skilled, diverse field for a stronger urban forest.

By developing the Arborist Apprenticeship Program (Program), Openlands can:

- recruit applicants who might never have considered arboriculture as a career
- attract diversity to an industry where it is lacking
- hire from communities with higher rates of unemployment, making our work both environmentally and economically relevant
- place these employees on a path to a good-paying, professional career with employers who are advocating for employees best interest
- secure and braid funding from state, federal, philanthropic, and industry funds to support the Program expenses
- build advocates for nature and grow green jobs.

## Recommendation

Openlands should develop an Arborist Apprenticeship Program ("Program") that takes the place of the current Forestry Training Program, to begin transitioning in 2020.

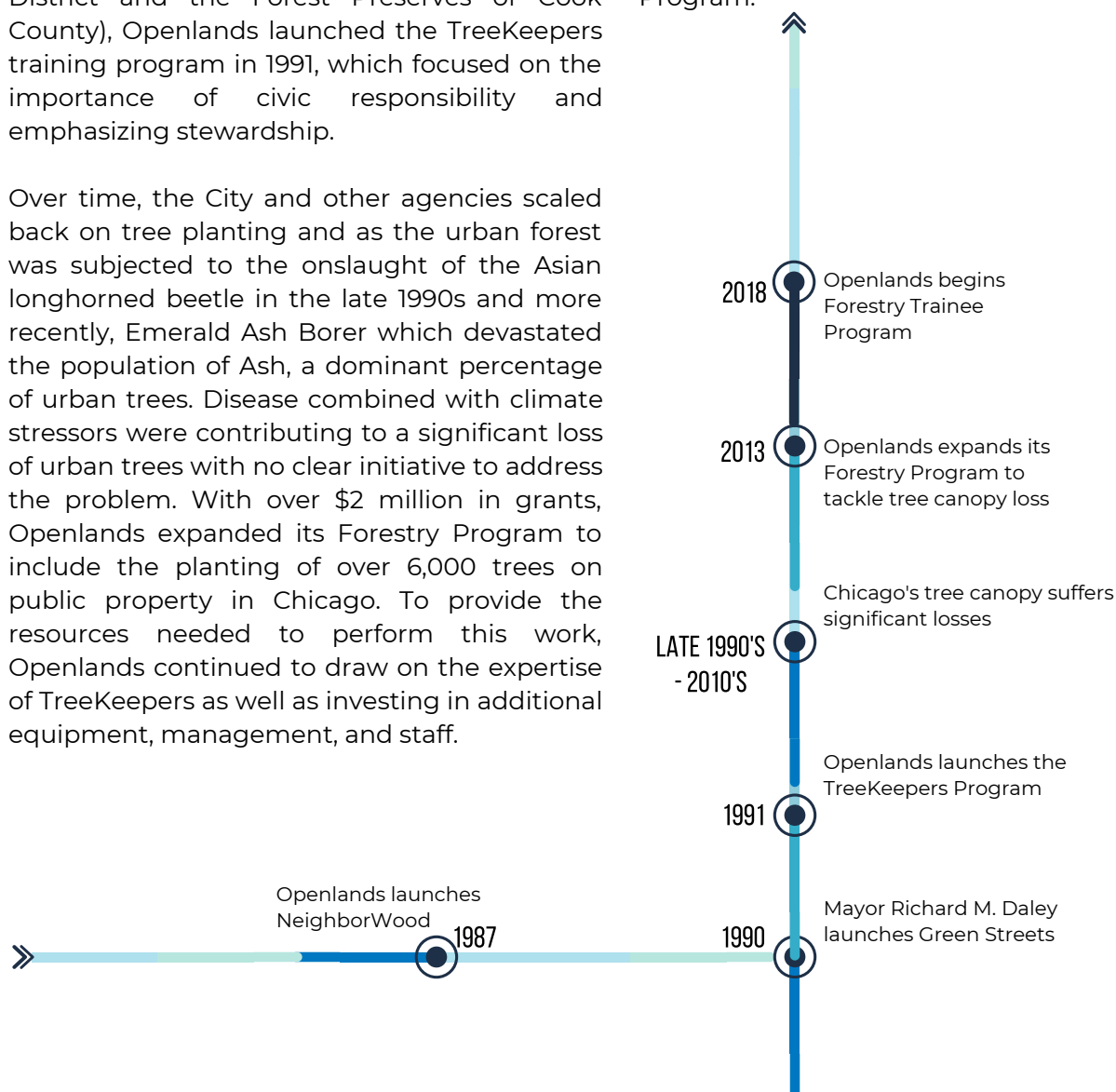
Openlands should also convene a Sector Partnership to leverage existing funding and services as well as provide Program best practices, oversight, and ensure continuous program improvement. The Sector Partnership will include participating employers, workforce development organizations, and conservation stakeholders.

# Openlands History with the Urban Forest

Caring for the urban forest runs deep in Openlands' history. In 1987, Openlands launched NeighborWoods, Chicago's first comprehensive volunteer tree planting and maintenance program. By 1989, Openlands had brought considerable attention to the plight of Chicago's trees which helped prompt a major shift in public policy regarding urban forestry. In 1990, then Chicago mayor, Richard M. Daley launched GreenStreets, a program that expanded public and private tree plantings, improved maintenance, and provided public education. As a complement to the City's initiatives (as well as those of the Chicago Park District and the Forest Preserves of Cook County), Openlands launched the TreeKeepers training program in 1991, which focused on the importance of civic responsibility and emphasizing stewardship.

Over time, the City and other agencies scaled back on tree planting and as the urban forest was subjected to the onslaught of the Asian longhorned beetle in the late 1990s and more recently, Emerald Ash Borer which devastated the population of Ash, a dominant percentage of urban trees. Disease combined with climate stressors were contributing to a significant loss of urban trees with no clear initiative to address the problem. With over \$2 million in grants, Openlands expanded its Forestry Program to include the planting of over 6,000 trees on public property in Chicago. To provide the resources needed to perform this work, Openlands continued to draw on the expertise of TreeKeepers as well as investing in additional equipment, management, and staff.

Openlands Forestry began hiring seasonal labor in 2014 to assist in the planting and care of young trees planted through its tree planting initiative. In 2018, Openlands decided to change from hiring seasonal labor to hiring seasonal forestry trainees. This decision came about after participating in a Sector Partnership with the Tree Care Industry Association (TCIA) when tree care employers in the Chicago region could not fill hundreds of positions. Openlands connected its steadfast, urban forestry training (TreeKeepers Program) and on-the-job learning provided through tree planting, to begin a formal Forestry Training Program.





# The Plan



In 2019, with funding from American Forests and the John D. & Catherine T. MacArthur Foundation, Openlands initiated a feasibility study to evaluate its two-year-old, Forestry Training Program. The goal of the study was to come to a decision about expanding the Forestry Training Program or discontinuing it. A Task Force was formed originally of six participants and grew to ten people with diverse expertise in the relevant areas of Forestry, Project Management, Finance, Evaluation, Communications, Business Planning, and Workforce Development. These task force participants represented years of experience and oversight of programs at Openlands.



The Task Force looked at the Forestry Training Program through the lens of a Business Plan ("Plan"). Through months of research, interviews, SWOT (strengths, weaknesses, opportunities, and threats) analysis, and multiple meetings, a decision was made by the task force participants and CEO of Openlands.



It was concluded that Openlands would leverage its experience in urban forestry training with volunteers, its connection to tree care employers, its mission to connect people to nature, and its history of advancing systemic changes, to sponsor and create an Arborist Apprenticeship Program in the Chicago region. This would be the first one initiated in Illinois.



The business intent embodied in this Plan allows Openlands to accomplish its day-to-day forestry activities while advancing, to varying degrees, all four of its [strategic priorities](#). This Plan summarizes the findings, and will provide the springboard to guide the implementation, launch and ongoing management of the Program. Openlands will raise the bar of arboriculture practice in the Chicago region and, by using the vehicle of a Registered Apprenticeship Program, increase the impact and relevance of arboriculture as a means of individual, as well as community, sustenance.









# Section 1.

## The Forestry Training Program & the Proposed Initiative

### Current Forestry Training Program

Since 2013, the Openlands Forestry division has employed various forms of paid seasonal labor to handle the increasing scope, frequency and visibility of our work, driven by Openlands mission as well as the availability of significant grant funding. Over time, Forestry work has evolved from TreeKeepers with a single-day stipend, to increased staff capacity on workdays and partnering with youth employment agencies (to mulch and water Openlands trees throughout the summer), to hiring seasonal staff to assist with community tree plantings.

In the Fall of 2016, Openlands hired a full-time Forestry Crew Leader to oversee the seasonal assistants. This team ran community tree planting events, stewarded trees planted throughout Chicago (funded through community tree grants), inventoried Openlands' planted trees to report on growth and mortality, assisted with TreeKeeper workdays, and fulfilled other various logistic needs of a field-based forestry department.

Beginning in 2018, Openlands stopped the seasonal hiring practice to invest in a formal Forestry Training Program. Each year it employs two to four Trainees for eight-month periods to fulfill the Forestry team's need for seasonal assistance, with additional classroom training and expanded field training. The Forestry Training Program has developed an intentional focus of introducing urban forestry and arboriculture as a potential career option to trainees drawn from the diverse populations Openlands serves.

Trainees complete both classroom and field-based lessons in the science and practice of urban forestry. They use this knowledge to build skills in watering, weeding, mulching, pruning, and inventorying thousands of trees a year. Trainees gain the competency to lead groups of volunteers and neighborhood residents in best practices of tree planting and young tree care, resulting in 1,000 trees planted annually through community planting grants.

Openlands recruits candidates that have little to no experience in arboriculture or forestry, but have a strong desire to learn. Through the Program, Forestry Trainees become adept in basic urban forestry techniques, develop leadership skills, and make connections to various partners in the region. This is conducted in a learning-first environment where tangible and marketable work experience is completed. Work is performed in an environment that is inclusive and safe, where mistakes are allowed and reflection is encouraged. Trainees who complete the Program become nationally recognized TreeKeepers® and are given the confidence and experience to enter an urban forestry career.

### Proposed Registered Apprenticeship Program

In June of 2019, Openlands convened an in-house task force to evaluate the future of the Forestry Training Program. After months of research, interviews, and discussions, a decision was made by the Task Force participants (see [Exhibit 1](#)) and the CEO of Openlands to take the next step in the evolution of the Forestry Training Program and recommend that



Openlands sponsor (program organization, management, and reporting) an Arborist Registered Apprenticeship Program in the Chicago region. The Task Force conducted a SWOT analysis (strengths, weaknesses, opportunities and threats) to document the reasoning behind the recommendation and to acknowledge the opportunities as well as the issues that may arise in the launch and operation of a registered apprenticeship (see [Exhibit 2 for a copy of the Task Force's SWOT analysis](#)). It is proposed that Openlands serve both as the Registered Apprenticeship sponsor as well as an employer.

In 2020 Openlands will convene an Arborist Sector Partnership with tree care industry employers, participating workforce development agencies, conservation organizations, training partners, and other employers to leverage best practices and finalize the Program curriculum and schedule, as well as to provide ongoing oversight. Using the Tree Care Industry Association (TCIA) Apprenticeship as a base (see [Exhibit 3](#) and [Exhibit 4](#)), Openlands and Chicago region employers will work together to create an apprenticeship that will effectively provide skilled individuals to work in the tree care and related green industries.

## **Openlands Arborist Registered Apprenticeship Program Model**

### **Program Summary**

Openlands will develop a Arborist Registered Apprenticeship Program that transitions the current Forestry Training Program from an 8-month program to a 3-year, full-time Registered Apprenticeship Program. The current Arborist Registered Apprenticeship, developed by the TCIA is an approved apprenticeship with the U.S. Department of Labor. Openlands will utilize and incorporate the curriculum from Openlands current Forestry Training Program with at least 75% of the Department of Labor's approved Apprenticeship. This way, Openlands can

complement the existing Registered Apprenticeship Program while addressing Chicago region's unique needs, and still be aligned with the U.S. Department of Labor.

The Program will be a hybrid model with classroom learning and on-the-job training (OJT) being offered throughout the duration of the Apprenticeship. Apprentices would start their Year 1 apprenticeship at Openlands in order to gain a foundation of knowledge and skills related to arboriculture. This will include field-based work, professional development and educational classes. Arboriculture is an art and a science that is practiced in conjunction with the seasons, and the Program curriculum will be structured to maximize those work and learning opportunities. On-the-job training will incorporate objectives to understand proper tree care and tree function in an urban environment.

While Openlands will employ the Apprentices in Year 1, in Years 2-3 the Apprentices will move to another employer such as a tree care company, municipality, or special district, to complete their Apprenticeship certifications (Years 2-3). Partner organizations will employ the Apprentices to fulfill the remaining hourly credits and gain additional skills and credentials essential for positions in this field. After the third year of the Program, individuals will have enough experience to qualify to take the International Society of Arboriculture (ISA) exam to become Certified Arborists. Becoming Certified Arborists will increase the Apprentices' ability to receive a higher salary and at the same time further professionalize the art and science of tree care.



Openlands plans to recruit, screen and enroll 4-8 apprentices per year in coordination with area workforce development agencies, other tree care employers, and community organizations. This will help Openlands recruit

from target communities and enable Openlands, other employers, and the Apprentices to tap into existing workforce development subsidies and wraparound services.



## Top 10 Valued Skills in an Entry Level Urban Forester

- Tree identification
- Public relations/customer service
- Oral Communication
- Tree pruning and removal techniques
- Tree planting techniques
- Professional ethics
- Written communication
- Shade and street tree species selection
- Tree assessment and risk management
- Worker safety

### Proposed Curriculum

Openlands will track Apprentices' individual hours on a weekly basis and check off major milestones, training, classes and certifications as they go through the Program. Openlands Program Staff will meet with Apprentices on a

quarterly basis to discuss their progress, work performance and accomplishments. On the following page is an outline of the proposed Program Curriculum by activity and total hours as well as Related Instruction by year, topic and hours:



## Proposed Curriculum by Activity and Total Hours

Activity		Hours	
1	Adhere to ANSI and employer safety standards for all work.		
X	A. Inspect, maintain and use the appropriate personal protective equipment	OL	100-125
X	B. Inspect, maintain and use the appropriate tool, equipment or vehicle	Employer	350-375
X	C. Assess trees for defects and hazards	Total	450-500
X	D. Establish and maintain safe work sites and zones		
	E. Demonstrate safety practices unique to working aloft		
X	F. Comply with federal and state occupational safety and health regulations.		
2	Identify common trees and shrubs in the employer's region		
X	A. Deciduous	OL	80-100
X	B. Evergreen	Employer	100
		Total	180-200
3	Perform rigging on the ground and aloft		
	A. Determine the removal plan.	OL	0
	B. Estimate the maximum load weight based on equipment available.	Employer	405-450
	C. Install and use a rigging system to lower the load directly to the ground.	Total	405-450
	D. Install and use a rigging system to move the load laterally		
4	Access trees safely		
	A. Perform pre-work inspection of all equipment	OL	0
	B. Perform a pre-work inspection of the tree and site	Employer	675-750
	C. Demonstrate appropriate use of personal fall protection equipment for work aloft	Total	675-750
	D. Access tree canopy		
	E. Position to work aloft		
	F. Maneuver safely through canopy; avoid electrical and other hazards.		
	G. Properly retrieve and stow all gear and equipment		
5	Operate a chain saw on the ground and aloft, and perform field maintenance		
X	A. Safely start and control the chain saw	OL	100-125
	B. Perform brush cutting	Employer	620-675
X	C. Perform felling	Total	720-800
X	D. Perform limbing and bucking		
X	E. Cut wood under tension and compression		
X	F. Perform removal cuts		
	G. Perform pruning cuts		
X	H. Safely secure and transport the chain saw		
X	I. Perform field maintenance		
6	Operate a chipper		
	A. Prepare brush and wood	OL	0
	B. Position the chipper	Employer	270-300
	C. Chip brush and wood	Total	270-300
7	Prune trees and shrubs from the ground and aloft, according to ANSI A300		
X	A. Interpret an ANSI A300 pruning specification, and to convert the specification into a work order	OL	250-300
X	B. Address the following pruning objectives: reduce hazards, improve aesthetics, provide clearance, and improve structure	Employer	650-700
X	C. Perform pruning cuts using the appropriate hand tools and pole tools	Total	900-1000
X	D. Perform a correct branch reduction cut		
X	E. Perform a correct branch removal cut		
X	F. Accurately prune without cutting into the collar or branch bark ridge		
X	G. Accurately prune when there is a narrow angle of branch attachment		
X	H. Prune using a 3-cut method to avoid damage and tearing		
	I. Perform pruning of shrubs		
8	Remove trees and shrubs		
	A. Remove limbs	OL	0
	B. Remove trunk sections	Employers	540-600
	C. Fell trunks or entire tree	Total	540-600
9	Local Optional Work Processes		
X	A. Operate vehicles with or without trailer	OL	600-625
	B. Operate aerial lifts	Employers	300-375
	C. Operate stump grinder	Total	900-1000
	D. Participate in responses to storms and emergency situations		
X	E. Install tree support and lightning protection systems		
X	F. Perform plant health care activities		
X	G. Plant trees according to ANSI A300		
X	H. Perform tree establishment maintenance		
		OL total hours	1130-1275
X	Training components Openlands can provide hours for during 1st year	Partner total hours	3910-4325
		Activity total hours	5040-5600



## Preliminary Annual Program Schedule

Using the TCIA Apprenticeship as a model, Openlands and Chicago region employers will work together to develop and design an apprenticeship that will effectively provide skilled and interested individuals to work in the tree care industry. This apprenticeship will use existing curriculum from Openlands Forestry Training Program and partner with the tree care industry to provide in-the-field training and hands-on job experiences.

Apprentices will start at Openlands and gain a foundation of knowledge and skills related to arboriculture, using Program materials and training. These will include field-based work,

professional development and educational classes. Hands-on field experiences incorporate a learning objective to understand proper tree care and tree function in an urban environment.

After the first year at Openlands, partner organizations will employ the Apprentices to fulfill the remaining hourly credits and gain additional skills and credentials essential for positions in this field. After the third year of the Apprenticeship, individuals will have enough experience to qualify to take the International Society of Arboriculture exam, becoming certified arborists. A timeline of the Program structure, credentials and training (with providers) can be found in the “Apprenticeship 3-Year Program Schedule” (see [Exhibit 5](#)).

	<i>Topic</i>	<i>Hours</i>
<b>Year 1</b>		
X	Arborist Skills 1	36
X	Arborist Equipment Fundamentals	23
X	Introduction to Aerial Tree Work	30
X	Tree Biology & Identification 2 for Arborist Apprentices	20
X	Tree and Shrub Identification 1 for Arborist Apprentices	20
X	Leadership in Tree Care Operations, Communication Skills & Professional Development	65
X	First Aid/CPR	6
X	TreeKeeper Course	25
X	Feller I/ Intro to Chainsaws	14
<b>Year 2</b>		
	Arborist Skills 2	36
	Rigging and Tree Removal Fundamentals for Arborist Apprentices	36
	Applied Aerial Work for Arborist Apprentices	36
<b>Year 3</b>		
	Arborist Skills 3	36
	Advanced Rigging and Tree Felling with Field Skill Building for Arborist Apprentices	36
	Plant Health Care Treatments & Shrub Identification 3 for Arborist Apprentices	36
	Transition to Trainer: Your Role as a Journey Worker	8
	State Pesticide Applicator License, CDL, and other employer required training or certifications	Varies
	OL total hours	170-200
	Partner total hours	240-270
	Instruction total hours	410-470
X	Training components Openlands can provide hours for during 1st year	

## Section 2. Market Research & Analysis

### Market Demand

The Standard Occupational Classification System (SOC) is a federal statistical standard used by federal agencies to classify workers into occupational categories for the purpose of collecting, calculating, and disseminating data. Both anecdotal information derived from diverse industry representatives as well as employment data point to a growing demand in the arboriculture fields of Landscaping and Groundskeeping Workers (SOC 37-3011) and Tree Trimmer and Pruners (SOC 37-3013) (see [Exhibit 6 for SOC definitions](#)). While the groundskeeper category includes tree planting, the more skill-based tree care activities are included in the latter category and therefore the Tree Trimmers and Pruners category was the focus of our employment research.

As part of their 2017 Tree Care Industry Association Sector Partnership initiative (which is no longer convened), the TCIA issued a report utilizing employment statistics from EMSI 2016 data which estimated that the total growth in the demand for Tree Trimmers and Pruners (SOC 37-013) from 2016-2021 would be 12% (135 jobs) in the greater Chicago area (from 1,141 jobs in 2016 to 1,276 jobs in 2021) (see [Exhibit 7](#)). TCIA stated that this data likely underestimated the level of real demand, as many of these jobs are often filled by word of mouth and are not evidenced in employer postings. Additionally, more positions are available due to a high turnover rate in the first 3 months of an applicant being hired, which is reportedly as high as 40% in tree care industry positions.

Data was drawn from the “Exploring the Green Infrastructure Workforce – A NatureWORKS Issue Brief (2017) by Jobs for the Future (JFF) (see [Exhibit 8](#)). The study was funded by the USFS National Urban and Community Forestry



Grant Program (as recommended by the National Urban and Community Forestry Advisory Council/NUCFAC).

- This study projects national growth for Tree Trimmers between 2015 and 2020 to be 8% nationally. Of the 30 SOC's involved in Green Industry – Installation, Maintenance and Inspection(GI-IMI) occupations, only 4 ranked higher in job growth (construction-related occupations as well as Environmental Engineering Technicians).
- In 2015 the number of Tree Trimmer & Pruners jobs nationwide was estimated to be 61,429 and projected to be 66,174 in 2020 (an increase of 8%, or 4,745 jobs)
- O-Net Online estimates that the job growth from 2018-2028 will be above average for Tree Trimmers and Pruners, ranging from 7-10%.

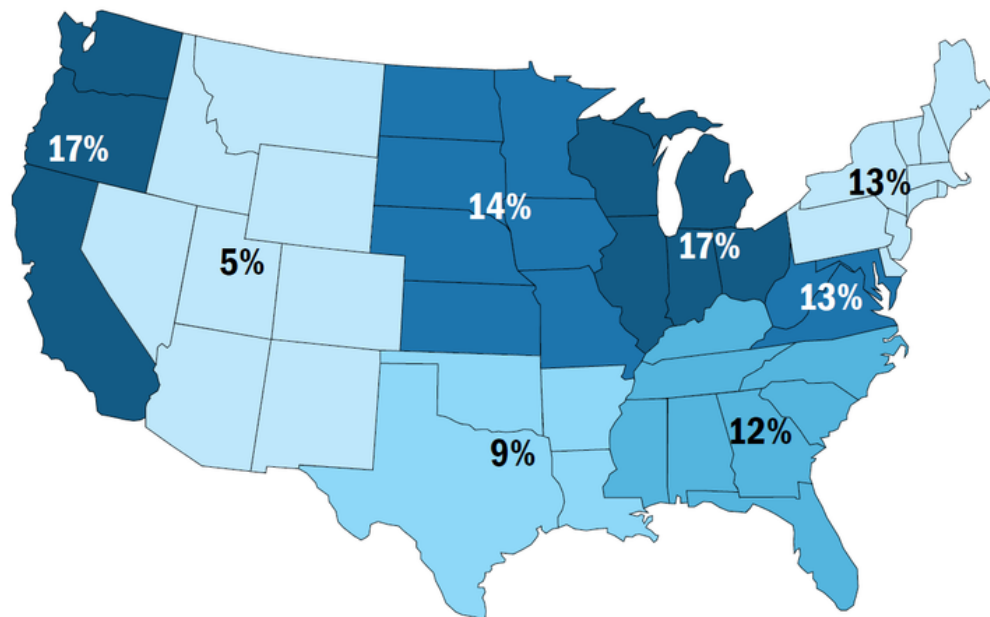


Further, the NatureWORKS Study indicated that:

- 69% of employers reported difficulty hiring tree trimmers and Pruners
- 53% reported needing better skilled Tree Trimmers and Pruners
- More than 50% of employers surveyed are willing to pay a premium for better skilled Tree Trimmers and Pruners
- Career preparation that focuses on upgrading skills in these occupations will likely provide the trainees with a competitive edge in the marketplace
- The top employers for Tree Trimmers and Pruners are the tree care industry, government municipalities, special districts and utility companies
- Most occupations directly involved in GI-IMI work have low educational requirements (low barrier to entry)
- GI-IMI work can be an important workforce development target, increasing opportunities for low-income, low-skilled workers who are currently under-represented in the workforce.

Job data (demand, salaries, requirements, job satisfaction) was also obtained from a U.S. Forest Service-sponsored project entitled “Urban Forestry 2020”, a collaborative project between Virginia Tech, University of Maryland, West Virginia University, Virginia State, and the University of Maryland-Eastern Shore. See: [Urban Forestry 2020 – Advancing the Urban Forestry profession through research](#). Their findings relate specifically to Urban Forestry and confirms the current and future potential for work opportunities in the Midwest Region, the general need for entry-level upgraded skills, and indicates the relative high employee job satisfaction with the role. Additionally, the observed lack of diversity in this occupation is confirmed by the data, which in turn indicates an opportunity to increase the job recruitment pool, given the country's demographic trends (see [Exhibit 9](#), [Exhibit 10](#) and [Exhibit 11](#)).

## Job Opportunities for Urban Foresters in the United States



## Compensation

As a result of difficulty in recruitment and retention, entry-level compensation for Tree Trimmer and Pruners is relatively attractive, especially given the low barriers to entry and the amount of on-the-job training that is offered. Compensation varies by geographic region, with Chicago area compensation at the higher end of the entry-level range.

The following data was obtained by TCIA member respondents to their annual 2017/2018 Wage and Benefit Survey Results (the latest currently available) and reports the following for the Midwest:

- The highest hourly wage rate for the position of climber was \$21/the lowest \$18
- Climbers saw an increase of 5.6% in wage rates from 2016 to 2017
- Tree Care Foreman's highest reported hourly rate was \$24; the lowest \$21
- Aerial lift operators hourly wage rates ranged from a high of \$24 to a low of \$19.

The following wage data for Tree Trimmers/Pruners was obtained from O-Net Online (for 2018):

- The median hourly wage rate in IL was \$21.20 (compared to the US median of \$18.36)
- Chicago area (Chicago-Naperville-Elgin, IL/IN/WI Metro) median wage rate was reported at \$23.44 per hour (and \$34.46 at the 75th percentile and as high as \$38.27 at the 90th percentile).
- The Indeed Internet Job Board estimates the average national hourly wage rate of Tree Trimmers is \$20.44 (based on job advertisements for the past 3 years, as of Sept. 2019).
- Also see from the Bureau of Labor Statistics: Occupational Employment and Wages: [37-3013.00 - Tree Trimmers and Pruners](#).
- Additionally, the Tree Care Industry, as well as arboriculture-work related employers (such as government and special districts) frequently offer a variety of benefits to employees, such as health insurance and paid vacation. See the TCIA 2018 Wage and Benefit Survey, Executive Summary (see [Exhibit 12](#)).

## Urban Forestry/Arborist Training Programs

**Chicago Area Programs:** There are currently no comparable Urban Forestry/Arborist Sector Partnerships, nor are there any corresponding DOL Registered Apprenticeships in operation in the Chicago region, and to the best of our knowledge, in the State of Illinois.

The following are the Chicago area programs that, while not Registered Apprenticeships, offer some urban forestry/arborist instruction and on-the-job training:

- Greencorps (fee-for-service, project based)
- A Safe Haven (ASH landscaping company; fee-for-service, project and contract based)
- Student Conservation Association
- Nature Conservancy (Imani Village Green Health Advocates).

See [Exhibit 13](#) for a matrix with information on these programs including their mission, geographic and demographic focus, and duration.





There are many entry points and pathways into a career in arboriculture. Below is a copy of the International Society of Arboriculture (ISA) potential career pathways chart. [The careers pathways flowchart on their website](#) is interactive and includes details for each type of position including a job description, education and training that is needed and available certifications and licenses.





## Key Findings

As a result of Openlands research (data, interviews, reports/studies and program reviews) into market demand, the nature of the work and the void currently existing in the job market, the following are the key findings that led Openlands to the decision to convene an Arborist Registered Apprenticeship Program:

- “Tree Trimmers and Pruners” is an occupation that is growing in market demand
- Chicago area companies tend to pay on the higher end of the national average salary range
- These positions have relatively low educational entry requirements (and therefore lower barriers to entry for applicants)
- Employers are willing to pay more for higher skilled, experienced, trained workers
- Employers have increasing issues recruiting and retaining for these positions
- There is a general lack of awareness of urban forestry career opportunities and/or how to access them
- While there is experimentation, there is currently not “one” urban forestry training model that leads the field
- “Green Infrastructure” jobs span many traditional industries. It is in the early stages of organizing as a definable industry, especially in the area of stormwater management, with a focus on green solutions in design and water runoff management.

Also see the article [Tree Care Apprenticeship Idea Excites the Industry](#), May 2019. This article details how supporters hope that initiatives like the Arborist Apprenticeship Program will grow the workforce, create a pathway for career growth and develop tree care’s professionalism and reputation.

## Market Positioning

In 2020 in response to market demand both by employers and job seekers, Openlands will convene an Arborist Sector Partnership

composed of industry representatives, employers, educators, conservation organizations, and WIOA (workforce development) partners to develop and launch the Program.

The registered TCIA Arborist Apprenticeship was developed by and for TCIA members, and therefore reflects the Industry’s main employment and training requirements, giving the Sector Partnership a jump-start in the development and implementation of the Program. Utilizing the TCIA Arborist Registered Apprenticeship model and the current Openlands Arboriculture 8-month Training Program, Openlands will create a new apprenticeship model comprised of the following elements in response to job seekers and employers market demand:

- Provide an on-the-job training, full-time Apprenticeship with Openlands as well as other employers making a 2-3 year commitment to educate and train Apprentices in a variety of aspects of arboriculture
- Partner with WIOA community organizations who will recruit, screen, and provide support services and subsidies to applicants from historically underserved populations and communities (see [Career Pathways Action Guide](#), a tutorial by American Forests regarding promoting the concept of “Tree Equity” in arboriculture careers and underserved communities)
- Convene the Arborist Sector Partnership in order to more effectively partner with other public and private employers and environmental and conservation non-profit organizations
- Ensure that both the needs and goals of the employer as well as each Apprentice is well served by the on-the-job training and educational classes offered through the Program
- Provide Apprentices with a living wage, training and experience that will ensure self-sufficiency over time and improve their long-term earning potential

- Maintain flexibility so that each Apprenticeship may vary to the extent that it better meets the employer's as well as the individuals needs, talents and career goals.

With Openlands' involvement in the introductory training and education of Apprentices, employers participating in the consecutive years will receive Apprentices (employees) who are more knowledgeable in the art and science of arboriculture, understand the nature of the work, have further enhanced teamwork and required employment skills, and the momentum to complete the Program, therefore easing their recruitment challenges and reducing historically high turnover. Through the Arborist Sector Partnership and Apprenticeship Program, Openlands will raise the bar, both in number and quality of people involved, in the field of Arboriculture.

## **Apprenticeship Program Marketing Strategy**

Utilizing the information acquired regarding market demand, job compensation and career growth, Openlands will create a campaign that pairs on-the-ground community engagement with targeted digital and social media marketing efforts to connect to potential apprentices. The primary target audience will be young adults living in Northeastern Illinois, specifically in areas with a low-tree canopy. Messaging and imagery will focus on reaching young people of color and women to continue to diversify the industry.

Research has previously shown that young adults most commonly learn about new job opportunities online and through word of mouth. Openlands will therefore focus on these two avenues to reach out and target potential applicants. The digital and social media campaign will focus on targeted paid media to the geographic and demographic audiences Openlands seek to reach as well as outreach to specific groups and hashtags that may improve the analytics of reaching new young people.

Openlands will compliment the digital campaign with Business community engagement and partnerships to help spread the word of the Program in targeted geographic and industry communities. Fliers in both English and Spanish will be handed out to numerous industry and community partners including but not limited to the WIOA (workforce development) organizations that focus on job training, and community groups that work with teens and young adults.

Finally, we will utilize our current community of Forestry Program Trainees to serve as ambassadors in their communities, talking about how the 8-month Program led to their own career success, and how a more intentional and longer 3-year Apprenticeship could offer young people an even stronger foundation in which to build a career and financial independence.

Marketing messaging will focus on the benefits of Program participation with imagery showing the target audience working in the tree care industry. As research has shown, clearly communicating the fact that the Apprenticeship is paid will be top priority. Other messages that will be highlighted in communications is that there is no requirement for a college degree, and this Apprenticeship can lead to working in the tree care and related industries and future career advancement. Openlands will create A/B testing of digital and social media promotions, where Openlands can measure how successfully each message reached the target audience and engaged them in learning more about the Program through the website.

Additional feedback in regards to marketing the Program is expected from the Openlands' Arborist Sector Partnership members. This Partnership will be convened in the Spring of 2020 and include Workforce Development organizations, employers from both the public and private sectors and other conservation non-profits. As a result, Openlands marketing efforts will evolve as the Program develops over time.



# Section 3.

## Management & Operations

### Context

A central requirement in developing the Program for Openlands' Forestry work is that the Program meet Forestry's operational needs. The Apprentices employed as part of the Program must provide tree planting and tree care that supports our annual commitment to plant trees, care for the thousands of trees we have planted in the last seven years, and engage with TreeKeepers as part of our commitment to support the indispensable work provided by these volunteers. Over the course of exploring and developing this program we've learned that the right structure can both meet our needs and provide a career path for participants.

### Governance & Management

[Jerry Adelman](#), President and CEO has stated that putting together an Apprenticeship is an exciting and worthy endeavor. Workforce development in conservation is needed to bring in more trained and skilled people to replace the aging workforce and bring new workers into a growing field. Identification of the leadership team to drive this effort is central to the Program's success and the ability to attract sustained funding.

Forestry has the largest staff of all Openlands programs and has benefited over the past several years from innovation, diversified funding, and expertise which has both enhanced existing programs like TreeKeepers, and significantly scaled-up work such as tree planting and maintenance. Currently, the Forestry Staff provides expertise, volunteers, infrastructure, tools, and trees for other Openlands programs. With the Program, the priorities must change to guarantee Apprentices are meeting their needed hours for specific training and certifications.

This will limit and change some areas of how the Forestry division interacts with other Openlands programs.

Broadly, the Program will be supported by the Board and the President and CEO. At a Business level, leadership will be provided by [Daniella Pereira](#), Vice President of Community Conservation. Her leadership will (1) ensure and demonstrate sustained organizational commitment, (2) provide direction, supervision, and review of senior management, (3) review and adjust to metrics and impact, and (4) create confidence amongst funders.

Combined, the size of the Forestry Staff, the investment in tools and rolling stock, and the requirement for field office and staging space all contribute to the Program's size in relation to the other Openlands programs. Adding the Apprenticeship Program and investing in workforce development will further contribute to the Program's scope.

With nimble management and as the Program matures, Apprentices will be exposed to the range of opportunities that Openlands pursues such as ecological restoration at the Openlands Lakeshore Preserve or Hackmatack National Wildlife Refuge, working with green infrastructure in schoolyards, supporting the work of community groups in the Calumet, and much more. Further, many Openlands programs focus on community outreach, education, advocacy, and volunteer support. Opportunities are abundant for Apprentices to spend time not just on operations, but also interacting with the communities Openlands serves. Apprentices can receive a breadth of training not commonly available in the industry.

## Organizational Structure & Staffing Community Conservation

Organizationally, the Program will be a part of, and contribute to, the Forestry Department which in turn, operates within Openlands' Community Conservation programs. All Community Conservation program areas focus on community outreach, education, and action. In addition to Forestry, these departments include Education and Green Schoolyards. Their associated programming includes TreeKeepers, TreePlanters Grant, Space to Grow, Building School Gardens, and Birds in My Neighborhood and are prioritized geographically in Chicago for the most part. Like TreeKeepers, volunteers are integral for the success of these programs. When and where aligned, the Apprenticeship can assist with expertise, volunteers, infrastructure, tools, and trees for other Openlands programs (See [Exhibit 15, Openlands Organizational Chart](#)).

- [Michael Dugan](#), Director of Forestry, will direct operations and supervise the Forestry Department staff and the tree establishment program.
- [Katie Fleming](#), Forestry Program Manager, will switch from managing the Forestry Training Program to managing the Openlands Registered Arborist Apprenticeship Program.
  - Oversees Program logistics and training opportunities
  - Builds relationships with partner employers
  - Manages crew, activities, and primary person to sign off on Apprenticeship hours
  - Ensures safety and professional standards are met in the field
  - Oversees field operations and develops monthly schedule
- A Full-time, Program Coordinator will be hired once the Apprenticeship Program has run for at least a year and understands the current staff capacity. Until that time, this work will be overseen by the Forestry Program Manager and the Director of Forestry.

- Social work/administrative/job training Program experience
- Coordinates with Department of Labor & Workforce Innovation and Opportunity Act (WIOA) partners
- Performs administrative duties related to Apprenticeship Program
- Assists in scheduling professional development & trainings with partners
- Point of contact between second/third year employers and Openlands
- Gathers and reports Apprentice hours and certifications
- A Full-time, Field Supervisor (per 4 apprentices)
  - Previous experience driving trucks
  - Fieldwork experience, Forestry/conservation related experience preferred
  - Working towards obtaining ISA Arborist Certification
  - Duties
    - Supervises apprentices in the field
    - Executes day-to-day tree establishment maintenance via work orders
    - Logs hours and activities for reporting purposes
    - Oversees equipment needs and maintenance

## Operations & Infrastructure

Running the Program will require staffing, facilities, equipment, and partnerships with other entities and organizations. The forestry work that Openlands already conducts makes the team already well equipped to run a formal apprentice program.

**Expertise-** The Openlands Forestry team consists of five International Society of Arboriculture (ISA) certified arborists, with a varying and diverse knowledge base to bring to the Program. The [Staff](#) has extensive experience in arboriculture job training programs, ecological restoration, education and traditional forestry.



**Facilities-** The Openlands Forestry team is housed off-site from the Chicago Loop office, allowing for efficient field based work to be done. At the time of this Plan, the Forestry team utilizes a field office, garage and yard in the Pilsen neighborhood. The current facilities allow for tools, trucks and equipment to be stored and readily accessible inside. Trees and other landscaping materials are delivered and stored in the facility's yard. The facility is fully equipped with computers, desks and presentation/education space.

**Tools-** Openland maintains an inventory of digging tools relevant to tree planting, such as shovels, picks, pry bars and tarps. For supporting volunteer and staff stewardship workdays, Openlands has rakes, cultivators, trowels, weeders and wheelbarrows. For summer watering requirements, Openlands currently has two watering tanks, 550gal and 325gal, which can be utilized using a gas powered semi trash pump or via gravity to draw water to water the trees. In partnership with the Chicago Department of Streets and Sanitation and Chicago Department of Forestry, Openlands acquires 'Temporary Use Hydrant Permits' with all fees waived to access City hydrants to fill these tanks or utilize on site. Pruning equipment includes hand pruners, loppers, long reach loppers, folding saws, hand saws, pole pruners, pole saws and a chainsaw.

**PPE-** In accordance with ANSI standards, Openlands maintains an inventory of personal protective equipment (PPE), such as gloves, ear protection, eye protection, hard hats and chainsaw chaps. Forestry Trainees currently receive a stipend to purchase ANSI appropriate work boots.

**Fleet-** Openlands currently has three trucks, with the expansion to a 4th vehicle approaching. The fleet consists of a 1 ton pickup, ½ ton pickup and a light duty truck.

**Partnerships-** An MOU with the Chicago Department of Forestry to plant and maintain trees on the City's public right of way. Other formal partnerships with the Chicago Parks District, Cook County Forest Preserve and Chicago Public Schools through our Space To Grow and Building School Gardens programs allow for environments to perform work and a network of professionals to assist in teaching technical skills and other educational opportunities.

Openlands is a founding member of the Chicago Region Tree Initiative, which allows access to a vast network of expertise, tree care employers, on-the-job training, mentorship and possible funding.

Through the process of working on this business plan, Openlands has developed relationships with these necessary groups:

- Workforce development groups to connect WIOA funding to employers and potential employees to employers: The Chicago Cook Workforce Partnership, Chicago Federation of Labor, and KRA Westside American Job Center.
- The U.S. Department of Labor connection is integral to registering the apprenticeship.
- Ongoing Arborist Apprenticeship programs in Wisconsin (City of Milwaukee and a number of tree care companies that are also part of the Wisconsin Arborist Apprenticeship Advisory Committee) and the Colorado Tree Care Consortium (municipal and private companies).

Expanding the Forestry Training Program into a Registered Apprenticeship must include a commitment to increase and diversify funding. It is recommended that Openlands establish a minimum level of dollar commitments before moving forward with a Registered Apprenticeship and build financial projections covering several years into the future. Openlands should find anchor funders to move the Program forward.

## Section 4.

# Arborist Sector Partnerships

### Role of Partnerships

The Department of Labor (DOL) strongly supports the convening of Sector Partnerships in order to understand and better address the recruitment and retention needs of an industry and to leverage other governmental and non-profit organization resources in support of a Registered Apprenticeship.

A Sector Partnership is generally convened in order to develop a registered apprenticeship (which in this case has largely been done) but is also useful in the launch and general management of an Apprenticeship initiative, especially when that effort involves a diversity of employers. Further, the DOL allows for modifications of the Registered Apprenticeship curriculum as well as on-the-job training (OJT) hours and content. This ability is especially helpful when the Apprenticeship is being utilized by more than one type of employer (i.e. a tree care company vs. a municipality).

In 2016 the TCIA convened the Greater Chicago Tree Care Sector Partnership to address recruitment and retention issues and invited a diverse group of potential stakeholders to participate. Openlands was one of the key participants, as well as tree care companies, other conservation organizations (including the U.S. Forest Service and The Morton Arboretum), and educational institutions. The discussions and resulting 2017 Regional Plan was utilized in the development of the Arborist Registered Apprenticeship that was later submitted to and officially recognized by the Department of Labor (DOL), Bureau of Apprenticeship.

Currently there are no active Arborist Registered Apprenticeships in the Chicago region. TCIA developed the curriculum and

other required standards and received DOL approval for the Arborist Apprenticeship in order for their members to be able to sponsor apprenticeships. However, that has not occurred due to perceived program challenges such as the potential difficulty navigating the DOL process (including reporting) and a general lack of understanding in regard to Federal and State workforce development funding resources.

A diversity of employers (i.e. tree care companies and municipalities) as well as other non-profit conservation organizations have expressed interest in participating in the Sector Partnership as employers and/or in an advisory capacity. Openlands will utilize the “Next Generation Sector Partnerships” Training Manual (2019) (see [Exhibit 16](#)) as a guide in the launch and operation of the Openlands Arborist Sector Partnership, which Openlands will organize and convene no later than April 2020.

Openlands intends to modify the curriculum of the previously registered Arborist Registered Apprenticeship (see proposed curriculum included in Section 2 of this document) and will be serving in a dual role of a Sponsor of apprenticeships (taking administrative responsibility for the Program) as well as an employer. Additionally, Openlands is utilizing a hybrid (competency & time based), as well as a segmented apprenticeship model (education and OJT offered at various times over the duration of the apprenticeship). To facilitate Program success for employers, apprentices and other participants, Openlands will convene an Arborist Sector Partnership that will review and provide input on the Program curriculum and OJT, act in an advisory capacity in regard to operational issues and work to ensure continuous Program improvement.



## WIOA Organizations

The Workforce Innovation and Opportunity Act (WIOA/2015) allows for funding of WIOA partner community organizations to provide recruitment, screening and wrap around services (basic employment skills training and social services) to job seekers who meet the criteria set forth by DOL (see [Exhibit 19](#)). This funding can also be used to subsidize on-the-job training (OJT) and education. These Federal Workforce development funds and services can be used to encourage more employers to invest in the Registered Apprenticeship and to support the Apprentice workers.

Workforce development funding can be provided for the following (directly to the employer and/or the Apprentice):

- Assistance with training and tuition costs
- Support for training expenses
- Coverage for supervision and extraordinary training costs
- Additional recruiting, placement and support services
- Higher reimbursement for on the job training (OJT)
- Automatic educational trainer status eligibility for Registered Apprenticeship sponsors.

The support services and transportation subsidies workforce organizations provide to eligible applicants will allow Openlands to better access the Program's targeted demographic population, and therefore further the goal of increasing diversity within the arboriculture/urban forestry field, and

importantly, help ensure the Apprentice's success in the Program and support their career aspirations.

The Chicago Cook Workforce Partnership is the umbrella organization operating the WIOA public workforce system in the City of Chicago and Cook County and combines both Federal and philanthropic resources in support of workforce development initiatives in the Chicago area. They work with and through 53 community-based organizations ("delegate agencies") and 10 Job Centers serving 132 municipalities.

Openlands is in discussions with and considering several WIOA agencies to partner with in recruitment, screening, provision of applicant support services, and as a source of funding for training, Apprentice wage subsidies and related training and equipment expenses. Openlands will select 2-3 WIOA organizations to participate in the Program to facilitate the delivery of WIOA-related services and subsidies to participating employers and Apprentices.

These WIOA organizations will be only one resource for Apprenticeship applicants as Openlands will be recruiting from a variety of sources (see "Program Marketing Strategy" in Section 2 of this document). Potential Program applicants from other sources than the delegate agencies will need to register with one of the WIOA partners in order for Applicants (and employers) to tap WIOA services and funding.



## Employers

### Tree Care Companies

Openlands has reached out and interviewed a few tree care companies in the region to discuss their thoughts about the profession and potential interest in the Program. Interested tree care groups include (but are not limited to) Bartlett Tree Care Experts, Kramer Tree Specialists, and SavATree. Private tree care companies have more job opportunities in comparison to municipal forestry and non-profit groups.

The challenges that most tree care companies face stem from two primary areas:

- **Marketing and messaging-** Arboriculture is still a relatively growing profession and not a large industry like construction or landscaping. There is a lack of cohesive messaging about the profession and the general public does not understand the career pathway. Arboriculture employers compete for employees who want to work outside with other industries, such as construction and landscaping, since their entry-level opportunities and career pathways are more easily defined and understood by job seekers.
- **Employee retention-** Arboriculture is a white, male-dominated industry (see [Exhibit 17](#) and [Exhibit 18](#)). Many people find arboriculture and urban forestry late in life. Those who do find it early often do so through personal networks and select education (forestry, natural resources, horticulture, landscape architecture). The consequence is that the industry continues a self-perpetuating pattern and has not changed drastically in regard to gender or race, or paid attention to diversity until recently.

Chicago currently has an unemployment rate of 3.5% (comparable to the U.S. rate) and tree care companies continue to struggle with recruitment and retention of employees. Hiring people of color and women into the industry is not good enough; the culture of the industry must change. Some companies address this change better than others.

Employers need to create welcoming and culturally competent workplaces to retain employees. Employer training in cultural diversity and unconscious bias can reduce barriers for hiring and retaining good employees. Employers must also invest in employee training. This helps employees to feel valued. Explaining training timelines and career pathways are necessary for employees to understand that there is longevity with the company and in this field.

Tree care companies often do not have the structure for development and mentorship of employees. However, if they take into account the cost of marketing, interviewing, and a low retention rate after 90 days, it will economically benefit most companies to shift their resources and invest in finding the right employees for long term retention. The Program, especially having Openlands take the majority of the risk as the first year employer, will benefit private tree care companies and encourage partnering on this Apprenticeship.

### Chicago-area Municipalities and Special Districts

Not all municipalities in the Chicago Region have forestry departments but if they do, they are generally housed in public works departments and have a head urban forester and a staff of arborists trained to take care of the trees. Many of these full-time staff are unionized and are paid a negotiated wage. These municipal departments differ greatly from for-profit tree care companies. Municipal forestry departments are tied to an annual budget and full-time staff positions tend to be more secure due to the ties with labor unions. This also potentially prevents many municipalities from being able to hire an Apprentice since their budgets do not plan for new, full-time staff. And, if they can hire someone, it usually would be an intern or a seasonal employee that works under 1,000 hours.



Since there has not been an Arborist Registered Apprenticeship in Illinois, municipal foresters and labor unions have not had the opportunity to think through how this opportunity can benefit their departments and the profession. Also, the Registered Apprenticeship that does exist with the Department of Labor was completed by the for-profit tree care industry which does have many differences in approach and retention. Nevertheless, examples of municipalities that have initiated Registered Apprenticeship programs are possible and currently exist in the cities of Milwaukee, WI and Aurora, CO.

Openlands partners with many municipal arborists through the Chicago Region Trees Initiative and some of these foresters are currently trainers for the Forestry Training Program and the TreeKeepers Program. Municipal foresters that are interested in helping us think through how best to engage the public sector in an apprenticeship initiative include Algonquin, Riverside, Highland Park, Lombard, Chicago Bureau of Forestry, and Chicago Park District. It is anticipated that some of these municipalities will participate in Openlands Arborist Sector Partnership and be potential employers.

The Chicago Federation of Labor (CFL) is a workforce development agency in Chicago that has a track record of creating apprenticeships with Labor Unions. Including CFL in the Sector Partnership will help to assess what can be possible with the unions and who might be interested in beginning an Arborist Apprenticeship.

## Other Interested Groups

The International Society of Arboriculture (ISA), Illinois Arborist Association (IAA), TREE Fund, and Society of Municipal Arborists are groups that focus on urban forestry and arboriculture research, technology, education, and dissemination to promote the professional practice of arboriculture. These groups, along with the U.S Forest Service's Urban and Community Forestry program, American Forests, Arbor Day Foundation, The Morton Arboretum, and other urban forestry-focused non-profits have been advancing the benefits of trees and more recently, promoting forestry career pathways in various ways. Bringing together best practices from many of these organizations will also contribute to an Apprenticeship Program that addresses the promotion and professionalism of the trade and advances Apprentices who are advocates for nature.



## Section 5.

# Financial Projections & Funding

In developing a Program recommendation, Openlands had modeled various levels of Apprentice enrollments, ranging from 4 to 8 new Apprentices cycling into the Program each fiscal year (FY). Following a review of the models, Openlands is proposing to enroll 4 Apprentices in FY 2021 to test and evaluate the new program for the appropriate level and timing of expansion. During that first year, we will have built experience in the various areas of Registered Apprenticeship Program management, including the sourcing of workforce funds, growing the awareness and participation of various potential stakeholders in the Chicagoland area, and building up the pool of participating employers for Years 2 and 3. For the purposes of three year financial modeling, we are assuming that we will enroll 6 Apprentices each of the second and third years to increase the impact of other costs invested in the program such as a Field Supervisor and Program Coordinator.

### Expense and Revenue Program Assumptions

Following are some of the key assumptions used in the Program financial modeling:

#### Expenses:

- Apprentices will be working 35 hours per week at \$15 per hour plus benefits for the first year of the Program as employees of Openlands. Benefits will include paid time off, health, life, and disability insurance, employer taxes, and employer contributions to the retirement plan should the apprentice choose to make elective deferrals. Expenses, including salary, are assumed to increase using a COLA rate of 2%.
- The cost of compensation per Apprentice is estimated at \$41k for compensation including benefits, equipment/training supplies and professional certifications.
- In FY 2021, a full-time Field Supervisor (working directly with the Apprentices) will be required to provide field support and continuity in the Program. The average compensation for this position including benefits is \$52,000 per year. In FY 2022 a Program Coordinator will be added to manage and grow the Sector Partnership, including relationships with WIOA and other workforce development partners and apprenticeship employers. Compensation is projected to be \$57,000 per year.
- It is assumed that the Forestry Manager will contribute 100% of her time, and the Director of Forestry will contribute 30% of his time to the program. Further, it is assumed that the Vice President of Community Conservation will contribute 5% of her time to the Program.
- It should be noted that Apprentices will be a resource that will support the staff requirements for the overall Forestry work plan as well as contribute to existing and future conservation initiatives of the Organization. Without the engagement of the Apprentices in supporting this work, Openlands would be required to hire temporary seasonal staff.
- The model provides for the purchase of three laptops in FY 2022 and a new truck in FY 2023.



#### Revenue:

- Openlands will secure WIOA (Workforce Innovation and Opportunity Act) partners and receive between 50% and 75% reimbursement for six months of the salary portion of Apprentice compensation.
- WIOA subsidies are available to Registered Apprenticeship Program employers as well as most Apprentices (see [Exhibit 19 for eligibility criteria](#)). Access to these subsidies was one of the considerations that led Openlands to utilize the Department of Labor registered apprenticeship model.
- The financial model assumes that employer partners will pay a Program fee when the Apprentice transitions to their employ (Apprenticeship Year 2). The financial projections assume the fee will be \$5,000 per apprentice or approximately 5% of Program expenses although the actual amount could be as much as \$10,000 per apprentice. Support of this nature is likely because Openlands is assuming the cost and/or management of recruiting, screening, and on-the-job training for the first year of the Program. Openlands, as the Apprenticeship Program Sponsor, will continue to provide Program management for the second and third year of the Apprenticeship, including reporting to the Department of Labor and general oversight of employee partners. Further, it is reasonable to assume that the quality of the training and the Apprentice's year-long work experience will lead to greater employment retention for the employer partners, a key industry issue.
- Philanthropic, including general operating, will support the balance of the annual Program cost. The Openland's Forestry program has received \$2.8M in from a diverse set of funders from 2014 through 2019. Openlands management continues to be called upon as a thought leader in regional coalitions convened to address not only forestry specifically but climate change. We will draw upon our track record and leadership in urban forestry to make a case for this innovative program that seeks to bring new participants into the field and to serve a need for trained arborists in the region.
- Summary of revenue sources = WIOA wraparound services + WIOA subsidies + private philanthropy + employer partners + general operating = 100%



## Financial Model Inputs

A pro forma revenue and expense statement summarizing the assumptions discussed above are shown below in Table A. Direct expenses include the salary and fringe for Apprentices and staff, equipment, supplies, and travel required for the Program. Apprentice salary and fringe is based on the first year of the Program when they are employed at Openlands and receiving training. Direct expenses will fluctuate based on the

number of Apprentices in the program. Shared program expenses include the Program's share of occupancy costs, telephone, IT support and administrative staff and are based on a rate (20%) applied to direct salary and fringe. Supporting services include general administrative, accounting, insurance, and fundraising expenses and are allocated based on the organization rate (20%) applied to total Program costs. The rates noted above are based on Openland's infrastructure expenses.

## Openlands Arborist Registered Apprenticeship Revenue and Expense Proforma Fiscal Year 2021 - 2023

	FY 21	% of Total	FY 22	% of Total	FY 23	% of Total
<b>Revenue</b>						
WIOA Funding	52,400	11%	81,000	12%	81,000	12%
Philanthropic Support	300,000	64%	408,000	63%	447,000	64%
Corporate Partners	20,000	4%	30,000	5%	30,000	4%
General Operating Revenue	93,000	20%	130,000	20%	136,000	20%
<b>Total Revenue</b>	<b>\$ 465,400</b>	<b>100%</b>	<b>\$ 649,000</b>	<b>100%</b>	<b>\$ 694,000</b>	<b>100%</b>
<b>Expenses</b>						
Salary and Benefits (Apprentices, Field Supervisor, Program Coordinator)	\$ 197,132		\$ 331,622		\$ 338,255	
Forestry Management (Director and Manager)	87,785		89,541		91,332	
Non-Personnel Costs	44,783		31,554		31,554	
One - Time Costs - Computers, Truck			3,600		30,000	
<b>Total Direct Program Expenses</b>	<b>\$ 329,700</b>	<b>71%</b>	<b>\$ 456,317</b>	<b>70%</b>	<b>\$ 491,140</b>	<b>71%</b>
Shared Program Expenses a)	\$ 56,983	12%	\$ 84,233	13%	\$ 85,917	12%
<b>Total Program Expenses</b>	<b>\$ 386,683</b>	<b>83%</b>	<b>\$ 540,550</b>	<b>83%</b>	<b>\$ 577,058</b>	<b>83%</b>
Supporting Services b)	\$ 77,337	17%	\$ 108,110	17%	\$ 115,412	17%
<b>TOTAL PROGRAM BUDGET</b>	<b>\$ 464,020</b>	<b>100%</b>	<b>\$ 648,660</b>	<b>100%</b>	<b>\$ 692,469</b>	<b>100%</b>
<b>Surplus/Deficit</b>	<b>\$ 1,380</b>		<b>\$ 340</b>		<b>\$ 1,531</b>	
<b>Notes</b>						
a) These are program services that include occupancy, supplies, telephone, and administrative support.						
b) Supporting services include general management, accounting, insurance, and fundraising expenses.						
<b>Number of Apprentices</b>						
<b># of Apprentices starting the Program</b>	<b>4</b>		<b>6</b>		<b>6</b>	

# Section 6.

## Program Evaluation

### Overview of Program Impact Framework (PIF)

Openlands has embarked on a novel journey of impact measurement as a means of solidifying ourselves as a powerful environmental force in the Chicago region. With the use of a tool called the “Program Impact Framework” (PIF) (see [Exhibit 20](#)), Openlands seeks to understand the ways in which Openlands has affected not only the environment, but also policy, community and techniques of innovation.

- Why the PIF?
  - The framework allows Openlands to understand the ways in which Openlands’ work has impacted not only the environment, but also policy, community and techniques of innovation in the conservation sector.
- How the PIF works in practice:
  - Each Program lead chooses several indicators from the framework that are in line with overall programmatic goals.
  - The data based on these indicators are analyzed, and that analysis is a basis for discussion on the total impact of the Program based on the indicators and Program goals.

The PIF analysis also helps us to hone Openlands best programs while subsequently aiming to narrow the focus for maximum impact. These strategies showed the need for the creation of better, more holistic instruments on how Openlands can improve as a whole. These instruments are as simple as creating and conducting follow-up interviews and surveys from program participants.

Openlands is using participant stories, both positive and critical, to give context to think about the programming impact in addition to the quantitative metrics gleaned from traditional reporting. It is hoped that these stories will give Openlands a better sense of the personal impact Openlands work is having on program participants.

As Openlands thinks about the role of the PIF, it should be noted that the evaluation work is an ongoing process. It is a living document and framework, always under scrutiny and challenged on impact measures and will shift along with Openlands’ organizational focus. Working this way helps Openlands determine whether or not indicators are measuring what Openlands thinks they are and subsequently, how to restructure the way Openlands defines success. Looking ahead, as Openlands continues to be at the forefront of innovation in the nature conservation sector, the Program Impact Framework will look critically at Openlands work and guide organizational next steps toward improvement. Lastly, Openlands uses this framework as a basis for all evaluations, and took a special focus to ensure Openlands is adequately and effectively measuring the outcomes of this Program.

### Impact of Openlands' Urban Forestry Training Program Pilot Years 2018-19

The 2018 and 2019 pilot years of the Program gave us invaluable insight. The 2018 iteration allowed Openlands to create, test and modify Program objectives, components and curriculum. With two Trainees and one Assistant Crew Lead, the group was able to complete the following activities shown in the table at the bottom of the page.



Moverover in 2018 the Trainees were given opportunities to meet all Program objectives and give feedback on how to improve the Program for the following pilot year (2019).

The 2019 pilot enabled us to implement the lessons learned from the previous year. Openlands built in more evaluation criteria in order to get a better sense of how each Trainee was faring throughout the Program. With the help of grant funding from American Forests, the 2019 pilot consisted of 4 Trainees from various educational, racial/ethnic and socioeconomic backgrounds that reflected the demographic population of the Openlands service territory. Over the course of the Program, Trainees planted over 1,000 trees during 41 different planting events and collectively mulched 1,323 trees. As the Program progressed, Trainees were able to communicate with supervisors using correct species names, including scientific nomenclature. Finally, Trainees spent 120.5 hours in professional development training, which is roughly one opportunity per week.

Lastly, Trainees were given an opportunity to speak about their entire experience during an exit interview with the Program Manager. All 4 Trainees indicated that their participation in the Program allowed them to further explore any prior interest they had in arboriculture. Furthermore, and most profoundly, because of their participation in the Program 4 out of 4 the Trainees have secured full time positions in tree care and conservation-related careers.

## Schedule of Program Evaluations

Upon being selected for the Openlands Arborist Registered Apprenticeship, participants will complete a robust pre-assessment in order to identify how much information they already have related to arboriculture. The assessment will be knowledge and skill based, and focus on the 13 learning objectives of the Program. These results will be kept as a record and participants will be administered a post-assessment at the end of the Program in order to benchmark their learning throughout the entirety of the Program. Additionally, periodic mini-assessments and one-on-one check-ins with the Program Manager will garner stories from the participants themselves about their experience in the Program and how it has impacted/ affected their experiences and general dispositions towards nature and tree care.

This type of iterative evaluation allows us to track how participants are moving through the Program and how impactful each learning objective is to the wider goals of the Program. Lastly, when the entire 3-year Program is complete, participants will complete an in-depth exit interview detailing their full experience in the Program, whether or not they feel prepared to join the arboriculture workforce and document if they have secured employment as a direct result of participating in the Program. Follows a preliminary outline of how and when the Program Objectives will be measured and evaluated for the Apprentices in Year 1 of the Program (while in the employ of Openlands)

Activity	# of Trees 2018	# of Trees 2019	# of Hours 2018	# of Hours 2019
Mulch	1952	3071	86	136
Weed	1450	1542	57	27
Water	3672	4931	171	181
Prune	229	425	15	40
Fence	49	54	8	3
Plant	827	991	108	102
Tag	>500	310	18	18
Inventory	>1600	341	34	10

## Program Objectives

- **Objective 1:** Become well-versed in skills and knowledge of street and parkway tree care and the benefits of our urban forest.
- **Objective 2:** Understand the primary goals and objectives of the Forestry Department at Openlands, the importance of having a field crew and understand how these fit with Openlands overall goals as an organization.
  - Expected completion (O1&O2): March/April
  - Assessment/ evaluation of competency: Pass mini quizzes on street and parkway tree care, enroll in Openlands TreeKeeper Course, complete informational interviews with key Openlands' Staff.
- **Objective 3:** Gain principal field skills in mulching maintenance, understand the benefits of mulching and be able to communicate proper mulching techniques to volunteers.
- **Objective 4:** Become adept in planting trees in an urban environment and be confident in communicating planting techniques to volunteers. Expected completion (O3&O4): May Assessment/ evaluation of competency: Pass mini-quizzes and practical assessments on mulching and planting, lead one group of 3 or 4 volunteers during an Openlands Tree Planting event with personal assessment of experience, complete Urban Soils section of TreeKeeper course.
- **Objective 5:** Gain primary knowledge and skills using tools and equipment used on the Forestry Field Crew, including truck and lift-gate usage, water pump and tool maintenance. Expected Completion (O5): June Assessment/ evaluation of competency: Pass mini-quiz on tool usage.
- **Objective 6:** Gain intermediate-level knowledge of street tree maintenance, including weeding, watering and fencing and be able to educate the general public as to why tree maintenance is important.
  - Expected Completion (O6): July
  - Assessment/ evaluation of competency: Complete watering, weeding and pests/ diseases sections of TreeKeeper course, Pass mini quizzes on watering, weeding and plant identification, lead one group of 3 or 4 volunteers during an Openlands Tree Planting event with personal assessment of improvement from previous planting event.
- **Objective 7:** Gain basic knowledge and skills of pruning techniques and gain hands-on experience pruning street and park trees.
- **Objective 8:** Work on data collection and assessing tree health and identifying pathogens and pests by conducting inventory on Openlands trees.
  - Expected Completion (O7&O8): August
  - Assessment/ evaluation of competency: Completion of TreeKeepers Program including passing final exam.
- **Objective 9:** Become familiar with the conservation community and overall tree care/planting process by attending classes and workshops with partner organizations.
  - Expected Completion (O9): October/ November
  - Assessment/ evaluation of competency: Attend 3 or more workshops with partner organizations related to other skills not explored as part of the Program.
- **Objective 10:** Become knowledgeable of other Openlands community programs and regional efforts outside of the Forestry Team by meeting with Openlands Staff, attending Openlands events and visiting sites.



- **Objective 11:** Provide professional development opportunities and focus on Trainees' future in the conservation community.
  - Expected Completion (O10&O11): January/ February [end of Year 1 with Openlands]
  - Assessment/ evaluation of competency: Complete and pass post program assessment, complete informational interviews with key Openlands' Staff, one on one interviews with Program Manager on professional future in arboriculture.
- **Objective 12:** Shadow tree care industry professionals and learn about possible careers in the industry
  - Expected Completion (O9): October/ November/ December
  - Assessment/ evaluation of competency: Attend 2 or more shadow days with practical skill application with industry professionals and report out during one-on-one check in with Program Manager thoughts on each shadow day.
- **Objective 13:** Become moderately-skilled in tree identification, including diagnostic features of common street trees and their scientific names.
  - Expected completion (O13): September/ October
  - Assessment/ evaluation of competency: Pass-mini quizzes about tree identification.



## Section 7.

# Risk Management and Mitigation

Openlands believes that the research and analysis undertaken in the preparation of this Plan will provide the foundation for a successful model. However, no plan is without risk. By identifying the following risks, Openlands demonstrates a commitment to monitor its Program closely, to compare plans with results, and to make corrections throughout implementation.

Follows a summary of the financial, reputational and integrity risks, and Openlands' plans for mitigation:

### Financial

There is a risk that the needed funding will not come to pass and Openlands will need to fulfill commitments to participants with general operating funds. Once Apprentices enter the Program in year one, Openlands retains the responsibility for administering the Program for the remaining two years of the Apprentice engagement with employers and the Department of Labor.

Openlands has employed temporary seasonal staff to support the general work of the Forestry Training Program for the last two years. Openlands is opening up access to funding streams through the introduction of a Registered Apprenticeship Program. Funding for the staff support needed for the tree planting program and the associated expenses have been funded by forestry grants in the past. In a sense, the risk that funding will not materialize is not due to the addition of this Program. Rather, this Program introduction presents a potential barrier to a reduction or alteration of the general forestry program due to less time focused on planting trees and more time focused on training. There will always be public tree care work to do, however; Openlands does not currently receive

compensation caring for and consulting on Chicago Park District, Forest Preserves, Bureau of Forestry, and other municipalities trees.

**Mitigation:** Openlands will establish a minimum level of pledge commitments before supporting staff will be hired and expanded beyond the initial level. The plan will be to secure multi-year funding so that there is lead time to assess and determine the availability of funding for future periods.

Openlands will negotiate an agreement or memorandum of understanding with Program partners that will transfer responsibility for employment and workforce training to our partners when the Openlands training period (year 1) is completed. Should it be determined that the Program at some point in the future proves unviable, Openlands will be prepared to transfer responsibilities for administration and coordination of the Program to other Openlands Staff, at which point no new apprentices would be enrolled in the Program.

### Reputational

The level of employer participation may prove to be less than needed, or if partners do not adequately follow through with their commitments to the Apprenticeship Program.

**Mitigation:** The Sector Partnership is the working group to detail and launch the program. These core participants will have a vested interest in its launch and success. A Memorandum of Understanding (MOU) with each of the employers will list their commitment and responsibilities to the Program. Openlands will monitor individual employers and Apprentices as well as utilize the Sector Partnership to assist with oversight, problem-solving and on-going Program improvements.



Additionally, Openlands will be assessing the participating employers a Program Fee when the Apprentice transitions from Openlands into the employ of the second year Apprenticeship employer. The purpose of the fee is twofold: to partially compensate Openlands for the recruitment, screening, and on-the-job and classroom training which will have prepared the Apprentice to enter into their second year of employment as a skilled, reliable and knowledgeable employee. The assessed fee will also help ensure that the employer has a vested interest in the Apprentice's professional success, job retention and career advancement.

## Program Integrity

Key current staff may exit mid-Program, leaving the organization with insufficient skill sets or human capacity to complete the Program hours for the Apprentices and/or the performance of new Staff members may not meet a sufficiently high standard.

**Mitigation:** Pace implementation of the new Program with sufficient oversight so key staff feel adequately supported, especially during the first two years.



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# Openlands Arborist Registered Apprenticeship Business Plan 2020-2021: Exhibit List

## Section 1: Current Training Program & Proposed Initiative

- 1) [Openlands Apprenticeship Business Plan Task Force Participants](#)
- 2) [Openlands Registered Apprenticeship SWOT.pdf](#)
- 3) [TCIA Arborist Registered Apprenticeship Appendix A, Work Process Schedule](#)
- 4) [TCIA Arborist Registered Apprenticeship Standards of Apprenticeship](#)
- 5) [3-Year Program Sample Schedule.pdf](#)

## Section 2: Market Research & Analysis

- 6) [SOC codes 2018 Definitions](#)
- 7) [Related Arborist Occupations in Chicago\\_Naperville\\_\\_\\_\\_Elgin\\_\\_IL\\_IN\\_WI606.pdf](#)
- 8) [NatureWORKS-Issue-Brief-032317\\_v3 2.pdf](#)
- 9) [Jobs\\_UF2020.pdf](#)
- 10) [EntrySkills\\_UF2020.pdf](#)
- 11) [WhoManages\\_UF2020.pdf](#)
- 12) [TCIA-Wage-and-Benefits-Survey-Executive-Summary-year18-080719.pdf](#)
- 13) [Chicago Forestry Training Programs Combined](#)
- 14) [Model Forestry Training Programs 10\\_18\\_2019](#)

## Section 3: Management and Operations

- 15) [Openlands Organizational Chart](#)

## Section 4: Arborist Sector Partnership

- 16) [Training + Manual + 2019.pdf](#)
- 17) [Exhibit-17.-Involvement-of-Women-and-Minorities-in-the-Urban-Forestry-Profession-Kuhns-2002.pdf](#)
- 18) [Exhibit-19.-Women-in-urban-forestry-and-arboriculture-Bardekjian-2019.pdf](#)

## Section 5: Financial Projections & Funding

- 19) [WIOA Eligibility Requirements.pdf](#)

## Section 6: Program Evaluation

- 20) [Program Impact Framework \(PIF\).](#)



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*Founded in 1963, Openlands protects the natural and open spaces of northeastern Illinois and the surrounding region to ensure cleaner air and water, protect natural habitats and wildlife, and help balance and enrich our lives.*



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