

CB 120207 Tree Service Provider Registry and Requirements: Implementation Analysis

EXECUTIVE SUMMARY

SDCI's Customer Experience (CX) Team collaborated with multiple SDCI divisions and Seattle IT to review the proposed legislation and make recommendations regarding staffing, outreach, design and technology needed to support a successful implementation of the new no-charge tree service provider registration as prescribed in CB 120207. Underpinning our analysis is a human-centered design approach that focuses on the people who will be affected by the legislation and will use the proposed solution. It is crucial to ensure that tree service providers, applicants, homeowners, and city staff understand the new regulations and that the supporting technology systems and processes implemented are easy to find, understand, and use. This approach aligns with the City's commitment to RSJ principles and should increase compliance, ultimately protecting more trees and making Seattle a greener, healthier city.

After completing this initial analysis, SDCI recommends temporary staffing, an outreach/education plan, and a registration process that is integrated with SDCI's permitting system (Accela). This solution would require **5- 7 months** of development to provide a product that is valuable to its users and meets the intent of the legislation to the best of our ability. The approximate cost for this recommended solution would total between **\$295,300 - \$470,200**. Of the total amount, general fund would need to support approximately \$146,500 to \$263,700 with the remainder supported by permit fees.

HIGH LEVEL REQUIREMENTS: USER STORIES

To help us understand how we can successfully implement this legislation and ultimately, protect more trees, we began a requirements discovery process involving two primary sources: 1) internal scoping with SDCI staff directly impacted by the new legislation and 2) developing "user stories" to better understand the needs of impacted customers. User stories are short, simple descriptions of a feature told from the perspective of the person who desires the new capability, usually a user or customer of the system. This approach helps SDCI center the user experience and provide value to our customers through a thoughtful design process. In this case, the intent of successful implementation is to protect trees by ensuring tree providers are registered with the City. Details of the created user stories centered on the proposed legislation are outlined in Addendum A.

STAFFING

SDCI will require specialized expertise including additional staff to properly inspect and enforce tree removal violations (see Code Compliance Inspectors & Staff user stories in Addendum A). Hiring an arborist will give SDCI the expertise needed for the technical work required for tree identification, knowledge of pruning/maintenance standards, managing violations, and completing inspections. At this time, SDCI recommends funding a temporary six to twelve (6 to 12) month arborist position to assist with staff education, inspections, enforcement, and compliance. This temporary role will support the launch of the program and provide the expertise to make the program a success. It is likely that SDCI will

request a permanent arborist position in the 2023 budget process to continue providing this needed support.

Current permit review processes can manage the verification of registered tree service providers for tree removal work completed through SDCI. However, outreach and educational efforts will require additional temporary staffing for six (6) months to assist in the 90-day outreach work and launch as well as the initial (90-days) implementation of the registry program. More detail on outreach efforts is outlined below (and in the Tree Service Provider, Permit Applicant, Homeowner, Neighbor and Permit Reviewer user stories in Addendum A).

EDUCATION/OUTREACH

Thoughtful and thorough outreach aimed at educating tree service providers, applicants, community members, and homeowners on the new tree requirements and the tree code itself is critical to successful compliance and ultimately, the success of the tree provider registry program (see related user stories in Addendum A). Outreach is also important to ensure equitable treatment of the tree service provider community. As currently drafted, one issued notice of violation would prevent tree service providers from doing further work in the city under SDCI's permitting authority, so it is the City's obligation to make sure there is broad awareness of the new rules, and that informational materials are available in languages other than English, including the 'Top Tier' languages: traditional Chinese (Mandarin and Cantonese), Spanish, Vietnamese, Somali, Amharic, Korean, and Tagalog.

At a minimum, the education and outreach itself is anticipated to include:

- Additional temporary staffing for six (6) months to assist in the 90-day outreach work and launch as well as the initial (90-days) implementation of the registry program.
- Establishing a staff phone line with language translation capability to answer questions and direct customers to informational resources.
- Design and distribution of a targeted and translated mailer for educating tree service providers on the new registration and activity requirements.
- Development of a translated informational video to be posted online.
- Development of translated social media posts.
- Content creation and web site design and development in multiple places on the Seattle.gov website to display the database of registered tree service providers.
- Host periodic virtual live Q&A sessions.

The outreach must be broad enough to reach all potential tree service providers who conduct business in Seattle, which means that outreach should cast a net wider than the city itself to reach those businesses in the regional vicinity as well. This wider reach will be reflected in the target mailing.

The approximate cost estimates for the education and outreach efforts described above is \$62,500.

TECHNOLOGY SOLUTION OPTIONS

Option 1: Manual Registration Form

With the proposed 90-day implementation timeline and no additional funding provided for implementation, SDCI will be limited in what can be accomplished to provide a technology solution for a no-charge tree service provider registry. To meet the requirements of the ordinance, SDCI will work with Seattle IT to provide online information regarding the new registry requirements via a link to a PDF registration form, and a list of registered tree service providers (similar to [SDOT's online tree service provider registry](#)). Tree service providers would download a PDF then either fill it out electronically and email it or print it and mail it using the postal service. SDCI staff would need to process each form manually by monitoring an email box and incoming mail then entering the data into a spreadsheet or table that can be published on the web site.

Option 1 is **NOT** considered a preferred option because:

- The registry must be manually updated and maintained regularly by staff.
- The registry would not be integrated with SDCI's permitting system which would create customer confusion and room for error. SDCI may not be able to guarantee the registry will be up to date with a manual process (as opposed to an automated process).
- Staff would have to manually verify tree service provider credentials since it would not be integrated with SDCI's permitting system. This constitutes an involved and lengthy process that would take away staff completing permit reviews.
- Tree service providers would not receive reminders about registration renewals.
- Permit reviewers would have to check a separate registry to verify good standing.
- Code enforcement inspectors would not be able to track violations that are tied directly to a company or person due to the lack of integration with SDCI's permitting system.
- Public posting notices will not be tracked due to the lack of integration with SDCI's permitting system. This will create significant difficulties for monitoring and enforcing posting violations.
- This solution would be similar to SDOT's online tree service provider registry which may cause customer confusion. SDCI would prefer to coordinate with SDOT so that the processes related to working with trees in the right of way and trees on private property are in one place and easy to understand.

Option 2: Public Registry and Accela Integration (Recommended)

In coordination with the Accela Enterprise Platform team at Seattle IT, that focuses on maintaining and updating the Accela permitting system, the SDCI CX Team has performed high level scoping to determine what would be needed to support the implementation of a new no-charge tree service provider registration procedure and associated requirements. In addition to creating an online public registry, leveraging the existing SDCI permitting system, the new registration program can be built to include enhancements that better support business processes for staff and customers. These improvements include:

- Ability to track and update data in real time on tree service provider registrations, renewals, and permit applications;
- Automated and visible documentation of tree service provider requirements (such as insurance and credentialing);
- Automated data reporting functions;

- Clear and programmed communication tools for customers, such as expiration reminders/processing/creation of records in Licensed Professional database; and
- The potential of a new interface with the authority that issues arborist licenses.

It is estimated that this option will take approximately **five to seven (5-7) months** to fully implement. Every effort will be made to take an iterative approach to design and development to begin implementing manual and partially automated solutions as quickly as possible. These timelines will need to be extended if other unforeseen resource constraints emerge.

We expect this new work will be done by an existing SDCI-dedicated development team on Seattle IT's Accela Enterprise Platform team. Accommodating this new work will significantly impact work that is underway and will result in placing current work on hold. SDCI funds an added capacity development team composed primarily of consultants to increase our ability to absorb newly arising needs but that team is already committed to delivering Accela enhancements in support of the [Economic Displacement and Relocation Assistance legislation](#) with a July 1st deadline.

Cost estimates completed by the Accela Enterprise Platform Team are provided below. A detailed item analysis is included in Addendum B.

	Low	High	Timeline
New Estimate w/o interface with the authority that issues arborist certifications	\$87,656	\$104,351	4-6 months
Recommended Approach: New Estimate w/ interface with the authority that issues arborist certifications	\$120,930	\$168,369	5-7 months

User experience research and project management costs are not included in the estimates above. SDCI will need the expertise of a project manager and user experience researchers to meet legislative timelines while providing a program that brings value to the users it's intended to serve. These experts will collaborate with the development team, SDCI CX product managers, and SDCI subject matter experts to work directly with targeted customer groups on the design of the new program with an RSJ lens. Work would include user studies aimed at making the software mobile friendly, reviewing educational materials/forms for comprehension, and providing insight on how to make the application process seamless. Approximate costs for a project manager would range between \$54,000 - \$75,600 and user experience researchers would range between \$31,000 - \$43,400.

Option 2 is the recommended and preferred option because it provides the best user experience and the most efficiencies for city staff including:

- **Integrated, automated and online registration process:** An online application process for tree service providers making the registering and renewing efficient and painless.

- **Potential automated confirmation of arborist credentials:** In coordination with Seattle IT, staff will investigate the feasibility of interfacing with the ISA certification registry to provide applicants with real-time credential validation.
- **High transparency and access:** Community members can easily view and upload information and documentation about the project in visually appealing, easy-to-understand formats.
- **Integrated and accessible public notice:** All public notice for tree work is tracked within the system and easily accessible to community members and staff.
- **Greater public information:** Anyone can sign up to get updates on projects they are interested in.
- **Interdepartmental coordination:** SDOT has expressed an interest in piggybacking on this solution in the future so that the processes related to working with trees in the right of way and trees on private property are in one place and will reduce customer confusion.

RECOMMENDATION

The following numbers are our best estimates with the information available and the bill as written on 2/4/2022. Updates or amendments to CB120207 could impact these estimates. There is uncertainty around how arborist certification data is managed by the [International Society of Arborists \(ISA\)](#). We do not know if they are able to make their data available for integration with Accela and if they are able or willing to cooperate with our requests for access to data. Total implementation costs for SDCI's recommended solution would total between \$295,300 - \$470,200. Of the total amount, general fund would need to support approximately \$146,500 to \$263,700 with the remainder supported by permit fees. Funding is broken down as follows:

- *Staffing:* Temporary arborist position – 100% general fund
- *Outreach:* Materials including temporary 6 month staff support – 100% permit funded
- *Technology:* Recommended technology solution of online public registry and Accela integration – 50% general funded and 50% permit funded

	Costs	Benefits
Staffing (see page 1 for details)		
6mo. – 12mo. temporary arborist position	\$60,146 (6mo.) - \$120, 291 (12mo.)	<ul style="list-style-type: none"> • Quick solution to staffing • Provides needed expertise for SDCI • Would provide expertise on tree-related enforcement, inspection, and compliance • Gives SDCI time to prepare 2023 budget request for permanent position
Outreach/Education (see page 2 for details)		
Temp 6mo. staff support (Permit Specialist 1)	\$51,000	

Translated written materials for mailer, webpage content, language line and video translation	\$10,000	<ul style="list-style-type: none"> • Staff support for the planning, launch and initial implementation of legislation • Translated informational materials required to meet RSJ equity goals • Broad and target, multi-pronged outreach effort • Provision of education and accessible information required for the successful implementation of registry program
Printing and postage	\$1,500	
Total Outreach/ Education package	\$62,500	
Technology (see page 3 for details, detailed cost estimate in included in Addendum B)		
Recommended Technology Option: Public registry & Accela integration*	\$87,656 - \$168,389	<ul style="list-style-type: none"> • Provides the best user experience and most efficiencies for City staff
Project manager	\$54,000 - \$75,600	<ul style="list-style-type: none"> • Seattle IT did not include estimates for an in-house Project Manager, so SDCI is including a vendor estimate here to assist in meeting legislative deadlines
User experience research consulting	\$31,000 - \$43,400	<ul style="list-style-type: none"> • SDCI is including a vendor estimate for UX design and research to ensure ease of use to increase compliance and enforcement

*technology estimates shown here assume in-house development at loaded IT rate of \$115/hour. Estimates do not include staffing costs for outside IT vendors which may significantly increase the total based on current consulting rates.

ADDENDUM A

HIGH LEVEL REQUIREMENTS – USER STORIES

User		User Needs
External Users		
Tree Service Provider	As a tree service provider, I need to understand the new registration rules so that I can continue to do business in Seattle.	<ul style="list-style-type: none"> • Understand the new rules and regulations • Register myself or company including identifying Certified Arborist on staff, signed affidavit of knowledge of tree regulations • Renew my registration • Receive notices of upcoming registration expiration • Receive notice(s) of violations and impending ineligibility to perform work on private property • Contact a person for language services, questions about software or regulations
Permit Applicant	As an applicant, I need to get my permit that includes tree removal work so I can complete my construction project or removal of a hazardous tree.	<ul style="list-style-type: none"> • Hire a professional tree service provider to remove tree associated with my construction project or my hazardous tree removal permit • Make sure my tree service provider is in good standing with the City • Understand whether I can still do routine tree maintenance without violating the law
Homeowner	As a homeowner, I need to understand the rules and regulations that apply to trees on my property or property I want to buy so that I can comply with city laws.	<ul style="list-style-type: none"> • Complete a self-reporting noticing process if my tree removal is not associated with a permit¹ • Understand what activities on a regulated tree requires a public notice • Understand when I can remove trees myself vs. when I am required to hire a qualified tree service provider • Understand whether I can still do routine tree maintenance without violating the law • Be able to go online quickly to a Seattle web site to find and understand the noticing instructions and requirements
Neighbor	As a neighbor, I want to do my part to protect regulated trees.	<ul style="list-style-type: none"> • Look up tree service providers so that I may confirm their eligibility to conduct work on protected trees

¹ Under SMC 25.11.040.B, homeowners are allowed to remove up to three trees annually that are not exceptional and not in ECA. No permit would be required under this exemption but posting notice may still be necessary until the proposed ordinance.



User		User Needs
		<ul style="list-style-type: none"> • Look up proposed tree activity I read about on a posted sign • Contact SDCI to see if tree activity is legal • Report a suspected code violation/stop suspected illegal tree activity
Internal Users		
Permit Reviewer	As a permit reviewer, I need to understand the rules and regulations that apply to the trees so that I can efficiently complete my permit review.	<ul style="list-style-type: none"> • Confirm that the arborist report submitted with a permit application was prepared by a registered tree service provider in good standing • Confirm that tree activity proposed as part of a permit application is to be performed by a registered tree service provider in good standing • Have educational materials ready to educate permit applicants when they do not know the regulations for tree removal
Code Compliance Inspectors & Staff (Compliant Line, Inspection Support Analysts, Admin Staff)	As a code compliance inspector, I need to be able to complete my compliance work and enforce the code.	<ul style="list-style-type: none"> • Look up tree activities permitted and non-permitted to answer customer questions and research possible violations • Look up tree service providers to confirm eligibility to perform tree activity • Look up posting information and confirm it was completed in compliance with the law • Look up information to aid in the preparation of complaint follow-up, including Notice of Violation issuance and court proceedings • Inspection staff needs to be educated on identifying different types of trees or have someone on staff (arborist) who has that expertise • Be able to track violations that are tied directly to a company or person (not necessarily to a specific address) • Have clear standards for what constitutes a violation and what constitutes an emergency • Understand how penalties are applied in violation situations
Building Code Site Inspectors	As a building code site inspector, I need to confirm tree activities approved as part of a permit application was completed according to the approved plans.	<ul style="list-style-type: none"> • Confirm work was performed according to approved permits/plans so that I may advise builders and complete my compliance work • Look up tree service providers to confirm eligibility to perform tree activity



User		User Needs
		<ul style="list-style-type: none">• Look up information to aid in the preparation of a violation and reference to code compliance to pursue penalties• Look up posting information and confirm it was completed in compliance with the law• Receive training on identifying different types of trees or have someone on staff (arborist) who has that expertise
Internal + External Users		
All Users in above groups	I need to know the tree service provider registry is kept up to date, so that when I consult the list, so I know I am getting the most up-to-date information.	<ul style="list-style-type: none">• Confirm the registry is up-to-date and kept current

ADDENDUM B

ESTIMATE PROJECT IMPLEMENTATION COST & DURATION PROVIDED BY THE SEATTLE IT ACCELA ENTERPRISE TEAM*

Project Name: **TREE LEGISLATION**
 Department: SDCI
 Estimated Cost: \$147,645.80 *average of Low & High*
 Estimated Duration: **5-7 months**

	LOW		HIGH	ASSUMPTIONS
	IT COST	# of WEEKS		
ENTERPRISE CONFIGURATION TO BE ANALYSIS	\$0		\$0	
	\$14,792	2.10	\$18,490	4 new record types, 2 existing record type modifications
TO-BE ANALYSIS DOCUMENTATION SOLUTION FOUNDATION (Configuration)	\$4,025	2.00	\$5,031	
	\$11,673	2.90	\$11,673	
OTHER CONFIGURATION ITEMS				
SCRIPTS ANALYSIS	\$6,440	3.20	\$8,050	18 scripts
SCRIPTS DEVELOPMENT	\$18,113	3.60	\$22,641	
REPORT ANALYSIS	\$704	0.70	\$880	1 new License report and 1 report modification to the existing Hazardous Tree Removal report; 1 new report to list approved arborist
REPORT DEVELOPMENT	\$3,170	1.05	\$3,962	
INTERFACE ANALYSIS	\$15,698	3.60	\$19,622	Interface with arborist licensing authority
INTERFACE DEVELOPMENT	\$20,125		\$25,156	
DATA CONVERSION ANALYSIS	\$0		\$20,125	
DATA CONVERSION DEVELOPMENT	\$0		\$0	
SYSTEM TESTING	\$22,023	4.00	\$27,528	78 test cases based on the requirements and suggested solution
USER ACCEPTANCE TESTING	\$4,169	3.00	\$5,211	
TRAINING	\$0		\$0	
RELEASE MANAGEMENT	\$0	1.00	\$0	O&M time is not charged to the project for deployment tasks
POST PROD SUPPORT	\$0	4.00	\$0	O&M time is not charged to the project for post deployment support
PROJECT MANAGEMENT	\$0		\$0	
ONGOING ANNUAL COST				
Total Cost	\$120,930		\$168,389	

*Seattle IT Assumptions:

- The high cost adds a 25% contingency.
- The interface was calculated as a high complexity because of the myriad unknowns regarding the authority that issues arborist licenses.
- IT rate assumed at \$115 and full-time as 7 hours.
- Resources average 25% BA, 50% BSA, DEV, QA.
- Assumes no IT Project Manager.
- Training will be 'train the trainer' with SDCI project SMEs training SDCI staff.
- The estimate breaks down the activity based on Accela 'waterfall' development but does not assume this methodology will be adopted for the project.