

# Charlottesville DOWNTOWN MALL TREE MANAGEMENT PLAN

CITY COUNCIL KICK-OFF MEETING

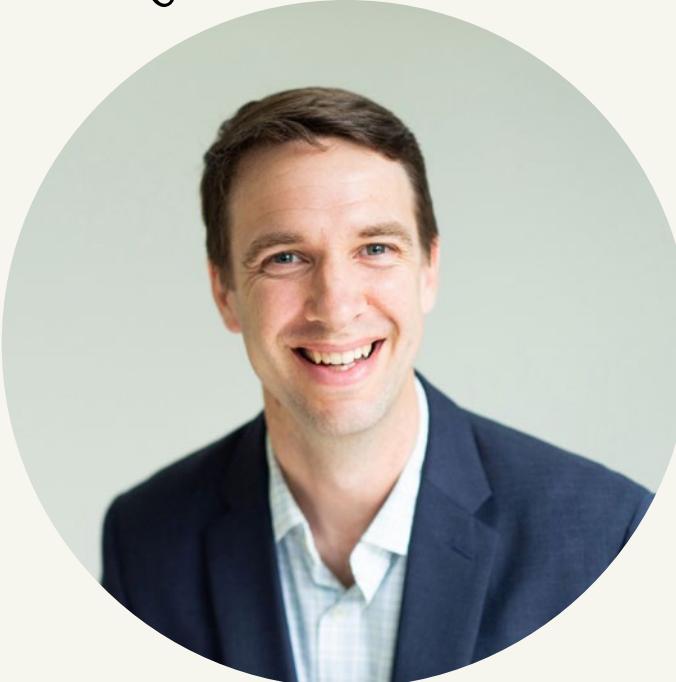
JANUARY 16, 2024



# WOLF JOSEY

landscape  
architects

CORE PROJECT STAFF



**PAUL JOSEY, PLA, ISA**  
Principal-in-Charge



**MARY WOLF, PLA**  
Principal



**DUSTIN SMITH, PLA, LEED AP**  
Senior Associate



**PETER RUSSELL, PLA, ISA**  
Project Manager



**HANNAH BROWN**  
Project Designer



**SAM ASHKANI**  
Designer

# Experience

## Urban and Institutional Design & Planning



**UVA Lawn & Rotunda  
Tree Framework Plans**  
*University of Virginia  
Charlottesville, VA*



**Duke Abele Quad  
Tree + Soil Framework Plan**  
*Duke University  
Durham, NC*

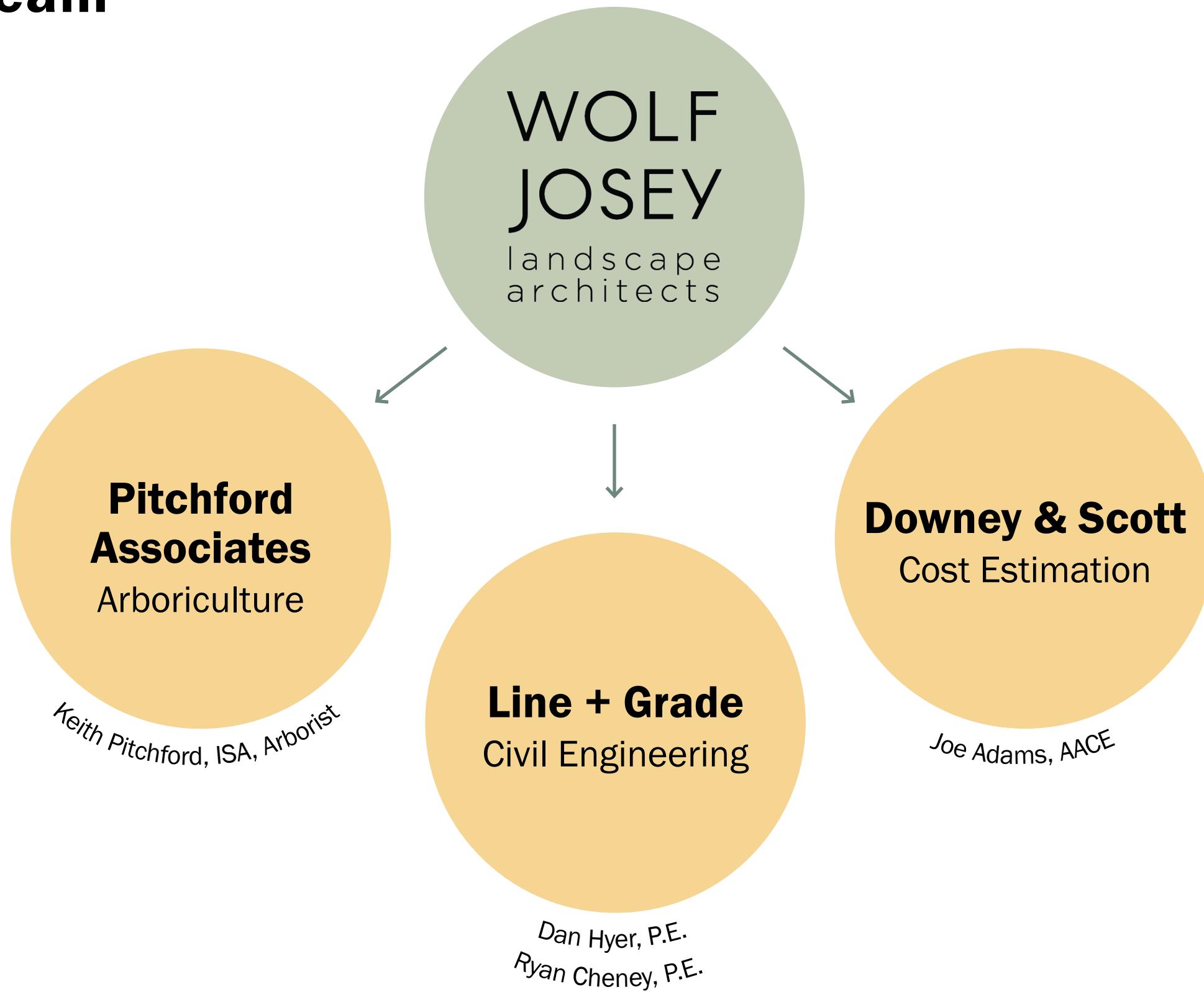


**Smithsonian Gardens  
Soils Management Plan**  
*Washington, D.C.*



**The District Wharf**  
*Washington, D.C.*

# Project Team

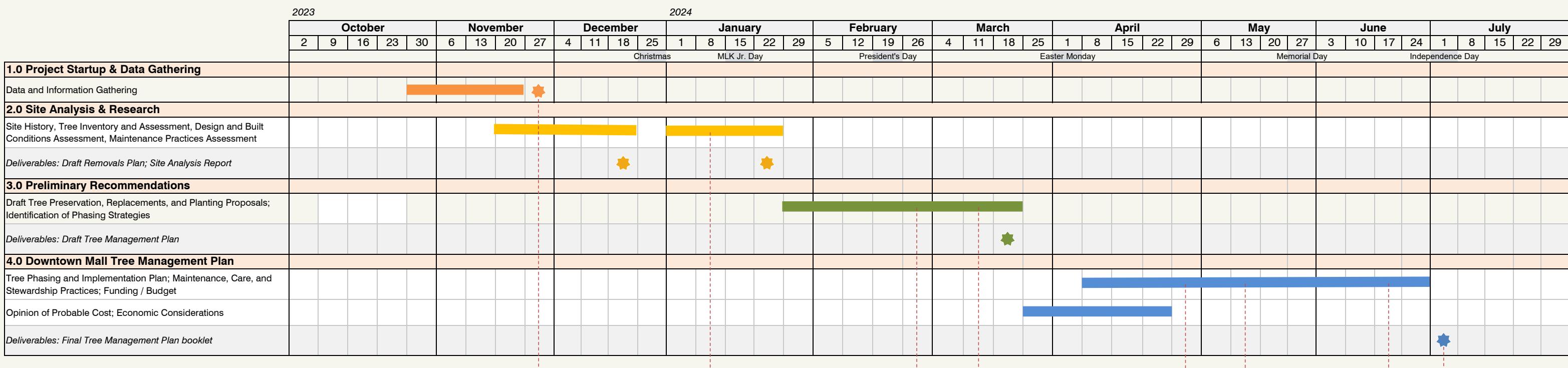


# Project Scope | Limits of Work

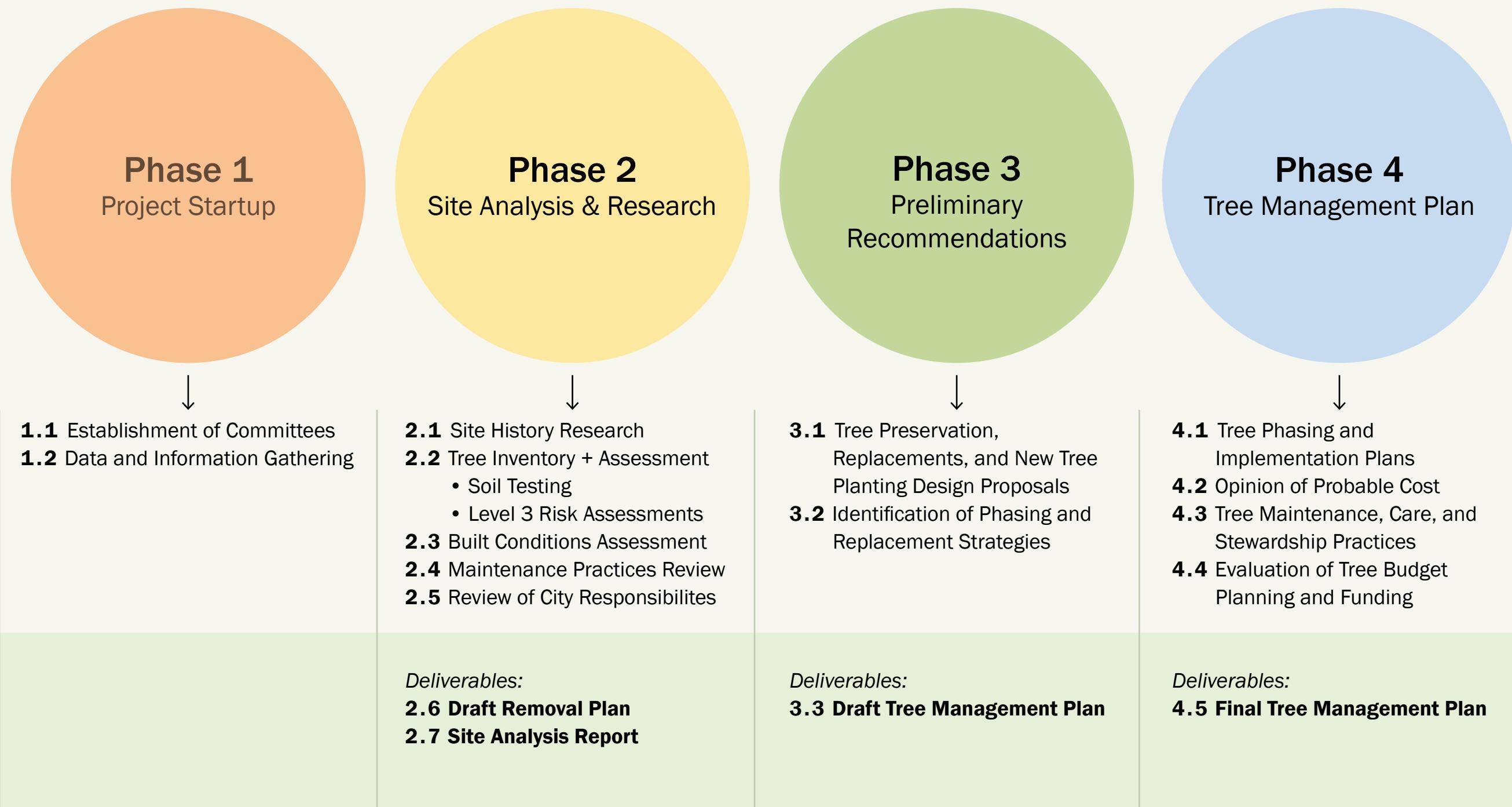


# Schedule

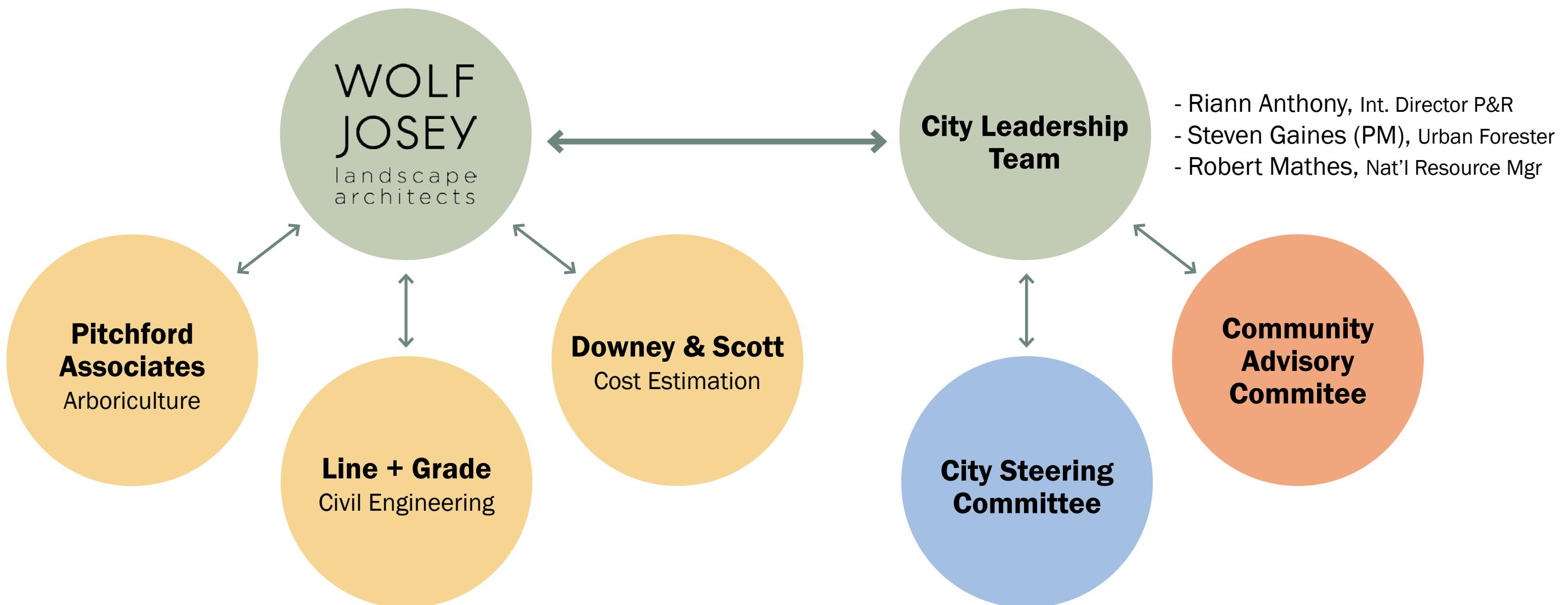
# WE ARE HERE!



# Process + Approach | Summary



# Consensus Building



# Consensus Building | Establishment of Committees



Parks and Recreation

Public Works

Neighborhood Development  
Services (NDS)

Economic Development

Public Utilities

City Council

Tree Commission

Board of Architectural Review (BAR)

Historic Resources Committee

Friends of Charlottesville Downtown

UVA Architecture School

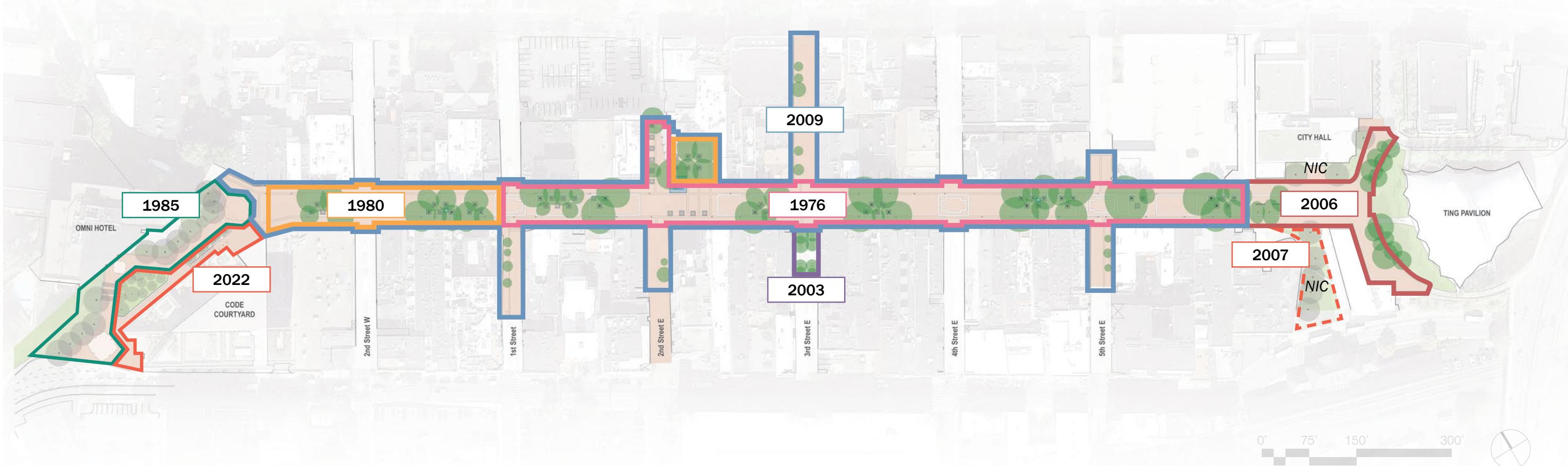
# Meetings Schedule (Draft)

## WE ARE HERE!

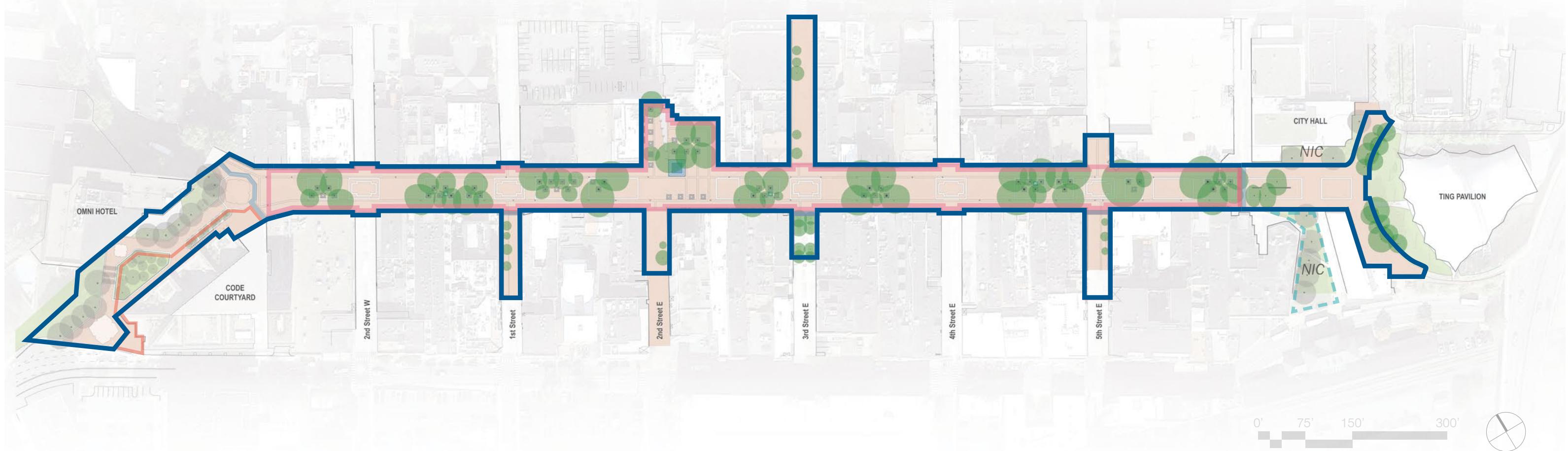
# TREE INVENTORY + ASSESSMENT



# Site Plan | *Historic Tree Planting Context*

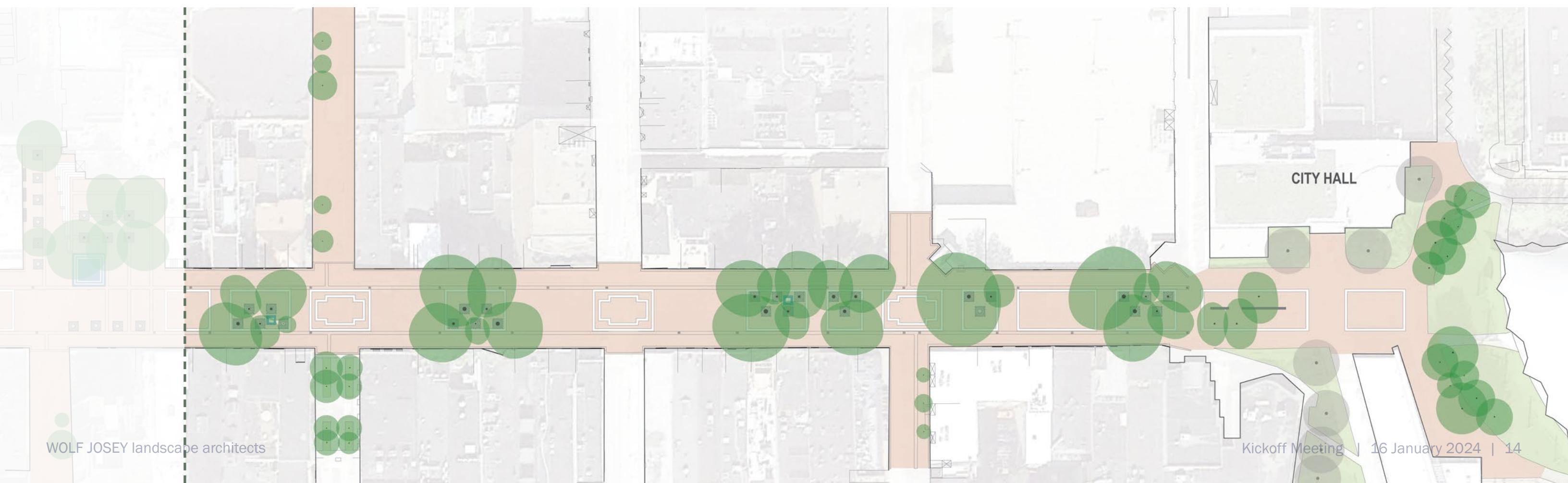
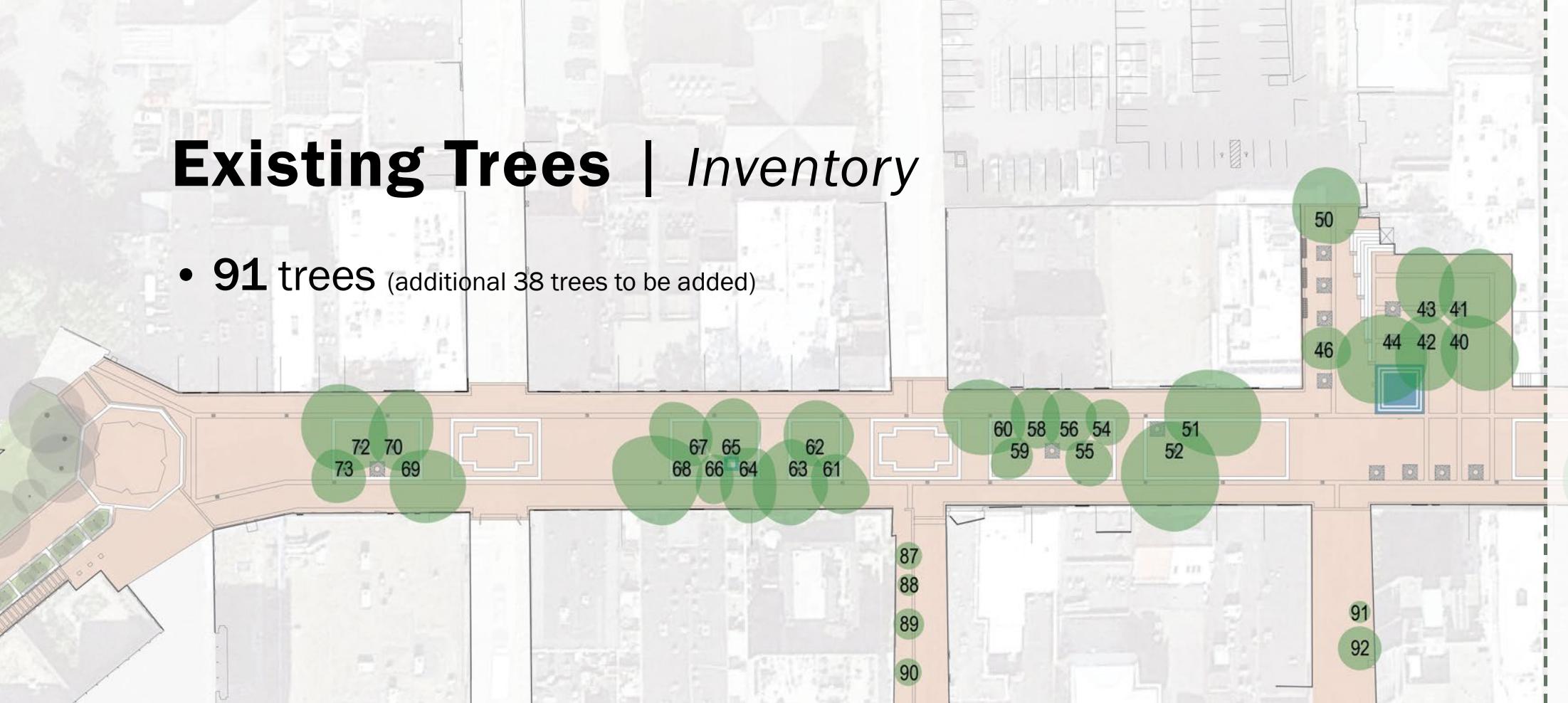


# Site Plan | Study Area



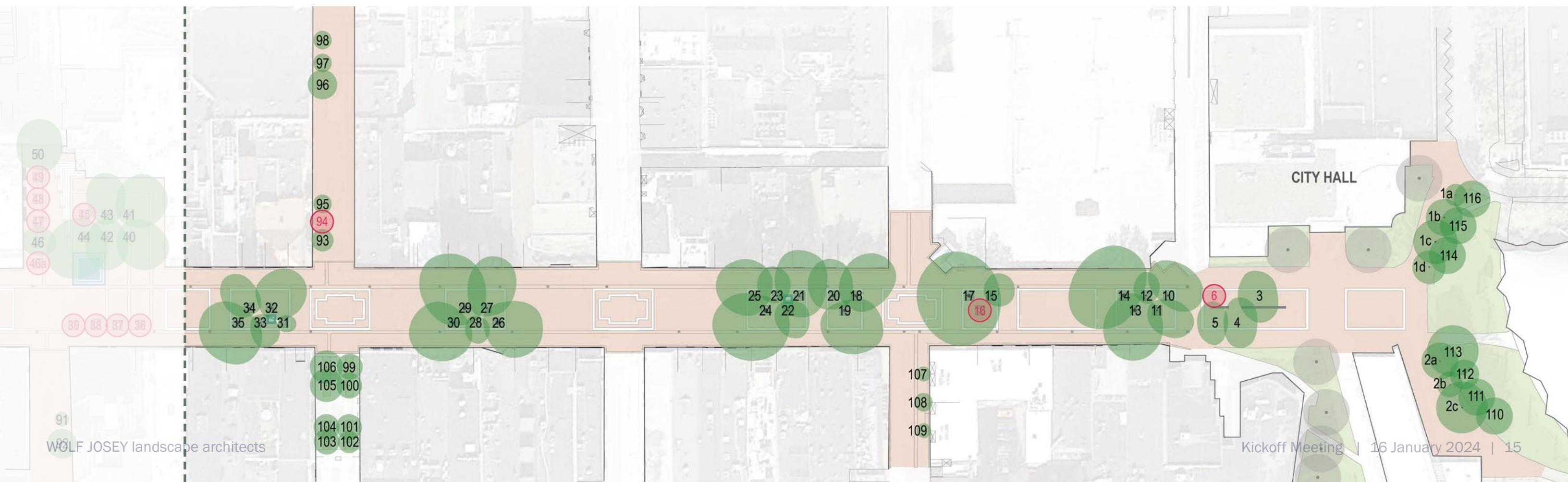
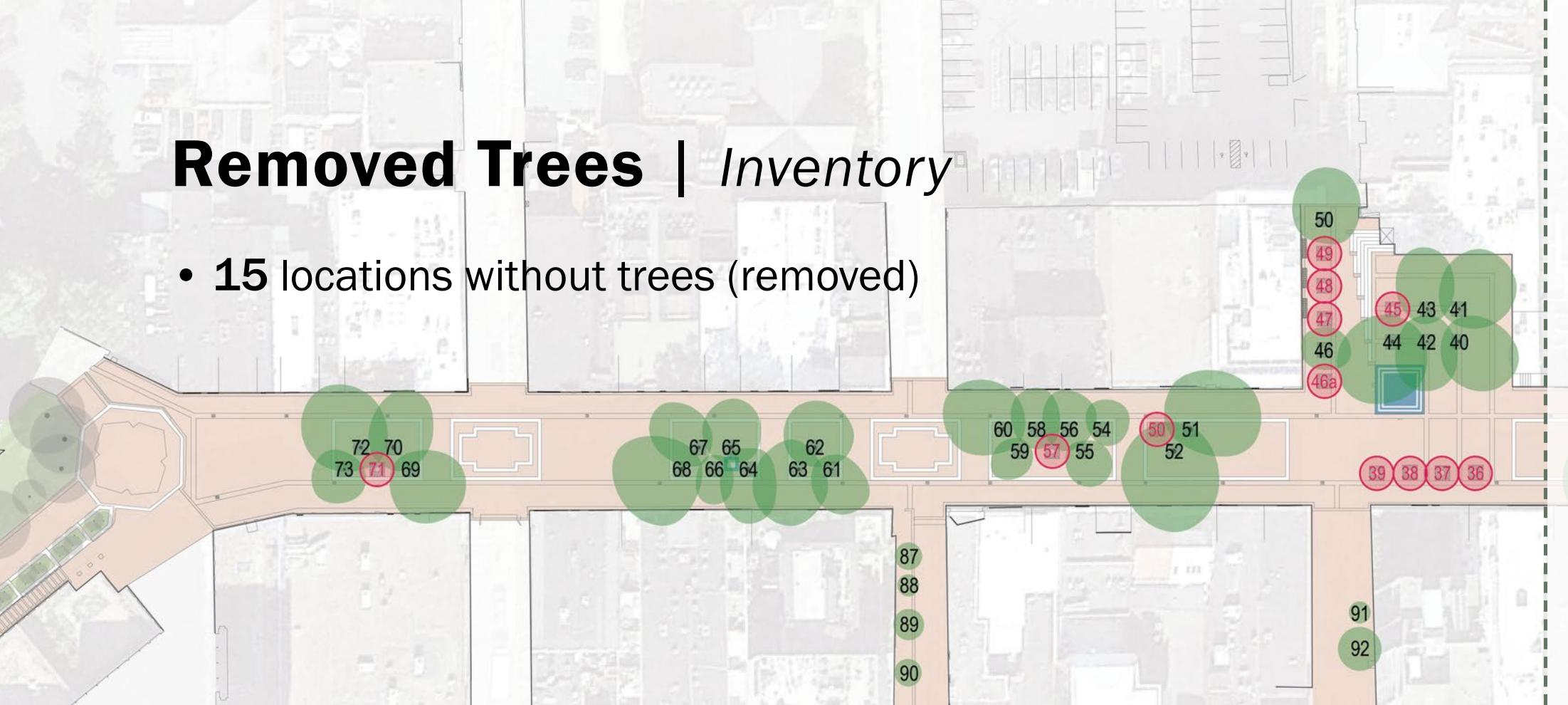
# Existing Trees | Inventory

- 91 trees (additional 38 trees to be added)

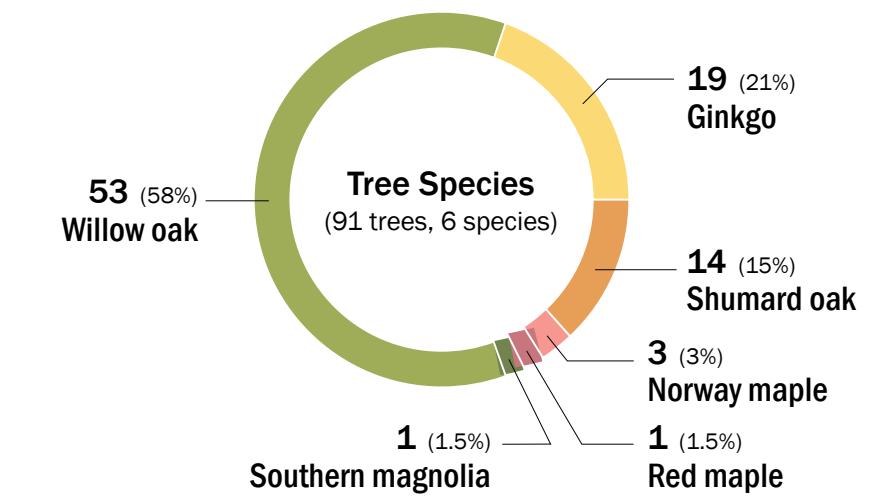
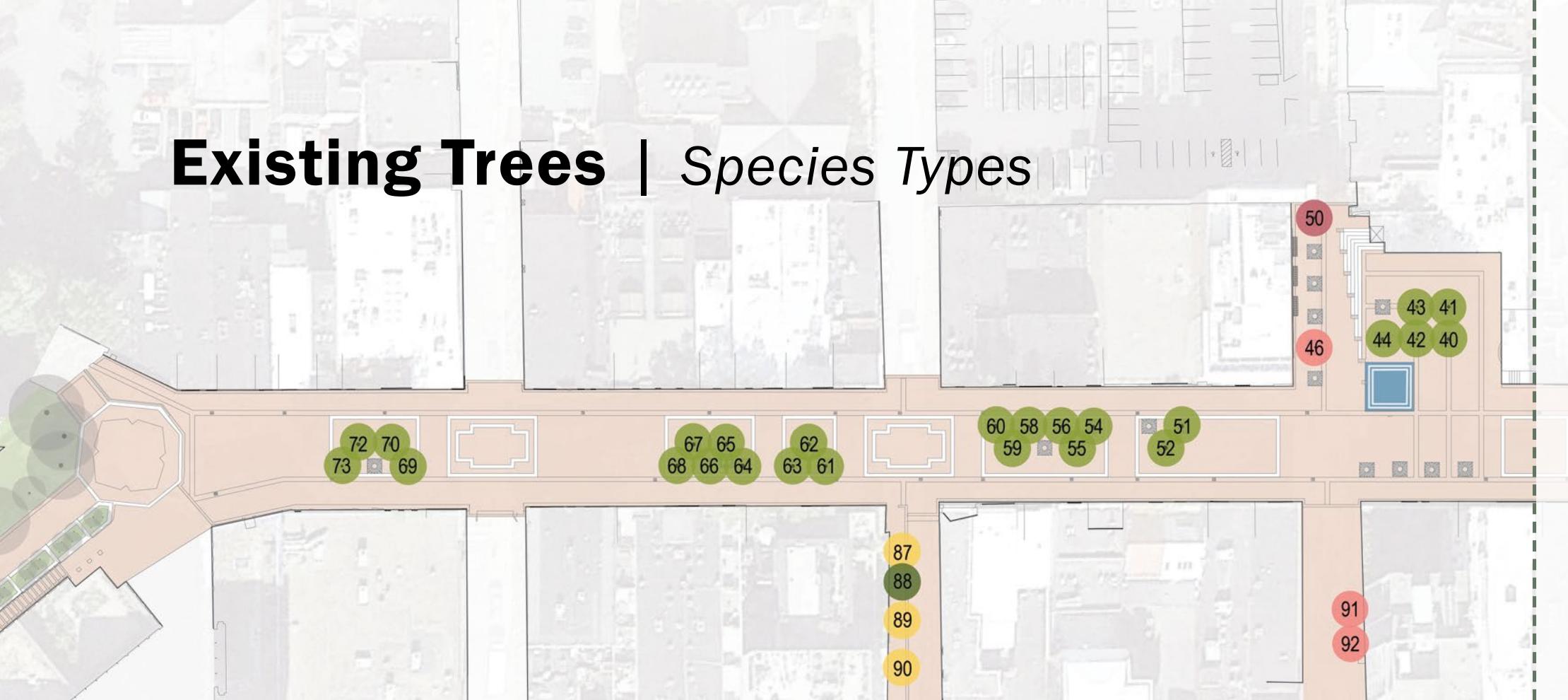


# Removed Trees | Inventory

- 15 locations without trees (removed)



# Existing Trees | Species Types



# Tree Assessment | In-Field Data Collection



## Physical Traits

- Trunk diameter at 4.5 feet (DBH)
- Trunk flare diameter at grate opening
- Crown size
- % of Live Canopy
- Tree Height
- Structure
- Canopy Quadrants
- Distance from Tree Grate to Soil
- Impacts to trunk flare
- Deadwood
- Building Interference
- Required Pruning
- Tree Damage
- Decay
- Risk Assessment

# Tree Assessment | Sample of Spreadsheet

Assessment conducted 10/18/23, 10/23/23, 11/3/23

Tree #	Common name	Scientific name	Year Planted	DBH (in.)	DBH (in.) 2015	DBH growth 2023-2015	DBH (in.) 1989	DBH growth 2015-1989	DBH (in.) 1976	DBH growth 2023-1976	Growth Rate (in./yr)	DRF (in.) - at grates	Crown (ft.)	Tree Height (ft.)	% Live Canopy	Structure	Canopy Quadrants	Grate to Ground (in.)	Deadwood	Deadwood Quadrant	Building Interference (Y/N)	Pruning Req'd (Y/N)	Roots / Flare Impacts (Y/N)	Tree Damage (Y/N)	Decay (Y/N)	Threat / Risk (Y/N)	Projected Lifespan	Overall Condition 2015	Overall Condition 2015	Overall Condition 2015	Overall Condition 2015	Notes			
1 a	Shumard oak	<i>Quercus shumardii</i>	2006	6.9	5.1	1.8	NA	NA	NA	NA	0.23	10.8	18	1	1	4	10.5	NA	NA	N	<2"	N	N	N	N	N	NA	2	possible bacterial leaf scorch, minor branch tip dieback						
1 b	Shumard oak	<i>Quercus shumardii</i>	2006	13.3	10.9	2.4	NA	NA	NA	NA	0.30	20.5	30	1	1	4	7	NA	NA	N	N	N	N	N	N	NA	1	oak lecanium scale, no grate							
1 c	Shumard oak	<i>Quercus shumardii</i>	2006	15.6	9.3	6.3	NA	NA	NA	NA	0.79	20.8	36	1	1	4	0	NA	NA	N	N	N	N	N	N	NA	1	no grate							
1 d	Shumard oak	<i>Quercus shumardii</i>	2006	12.5	7.6	4.9	NA	NA	NA	NA	0.61	17	27	43.5	1	2	4	0	NA	NA	N	N	N	N	N	N	NA	1	co-dominant leader, canopy heavy towards open side, no grate						
2 a	Shumard oak	<i>Quercus shumardii</i>	2007	9.8	7.2	2.6	NA	NA	NA	NA	0.33	11.7	30	48.0	1	1	4	15	NA	NA	N	<2"	SW	N	N	N	N	N	NA	1	minor deadwood, possible oak lecanium scale				
2 b	Shumard oak	<i>Quercus shumardii</i>	2007	9	7.1	1.9	NA	NA	NA	NA	0.24	11	21	2	2	4	12	NA	NA	N	2"-4"	SE	N	Y	N	N	N	NA	2	co-dominant leader					
2 c	Shumard oak	<i>Quercus shumardii</i>	2007	14.3	9.4	4.9	NA	NA	NA	NA	0.61	18.4	42	1	1	4	9	NA	NA	Y	N	N	N	N	N	NA	1	lean towards south, grate tight to trunk							
3	Willow oak	<i>Quercus phellos</i>	2006	19.6	11.6	8	NA	NA	NA	NA	1.00	30.3	42	45.8	1	1	4	0	NA	NA	Y	N	N	N	N	N	NA	1	minor deadwood, heaving brick pavers, no grate						
4	Willow oak	<i>Quercus phellos</i>	2006	17.5	11.6	5.9	NA	NA	NA	NA	0.74	24.2	42	42	1	1	4	0	NA	NA	Y	N	N	N	N	N	NA	1	grate tight to root flare, 12" tip growth rate						
5	Willow oak	<i>Quercus phellos</i>	2006	16.4	11.9	4.5	NA	NA	NA	NA	0.56	26.5	36	1	1	4	0	NA	NA	Y	N	N	N	N	N	NA	1	grate tight to root flare, heaving brick pavers							
6	No tree																														no tree in 2015				
10	Willow oak	<i>Quercus phellos</i>	1976	23.3	22.2	1.1	13.7	0.3	4.8	18.5	0.39	31.8	57	55.7	1	2	2	8	10	2	Y		N	N	N	N	N	3	2	root flare growing into grate structure, topped central leader					
11	Willow oak	<i>Quercus phellos</i>	1976	19.5	19.1	0.4	13	0.2	4.8	14.7	0.31	24.5	39	2	1	1	13.5	12	-1.5	N		N	N	N	N	N	3	2	minor deadwood						
12	Willow oak	<i>Quercus phellos</i>	1976	18.1	17.8	0.3	12.2	0.2	4.8	13.3	0.28	22.8	27	2	2	1	9	9	0	N		N	N	N	N	N	4	2	open cavity, small elec. conduit in trunk is partially grown over						
13	Willow oak	<i>Quercus phellos</i>	1976	38.8	35.6	3.2	15.7	0.7	4.8	34	0.72	47.6	54	1	1	4	11	11	0	Y		N	N	N	N	N	1	1	root flare growing into grate						
14	Willow oak	<i>Quercus phellos</i>	1976	36.5	33	3.5	16.2	0.6	4.8	31.7	0.67	56.4	81	102.8	1	1	4	3.5	9	5.5	Y		N	N	N	N	N	3	1	root flare growing into grate					
15	Willow oak	<i>Quercus phellos</i>	1976	19.4	18.5	0.9	12.7	0.2	4.8	14.6	0.31	24.8	27	2	2	1	10	16	6	N	>4"	NE	N	Y	N	N	N	4	2	hypoxylon canker, minor branch tip dieback					
16	No tree					11.2																						3		tree removed since 2015					
17	Willow oak	<i>Quercus phellos</i>	1976	34.4	31.7	2.7	16.2	0.6	4.8	29.6	0.63	45.3	84	94.6	2	1	4	10	13	3	Y	>4"	NW	N	Y	N	Y	Y	1	3	root flare growing into grate, flush cuts pruning, quick internal growth bark ridge				
18	Willow oak	<i>Quercus phellos</i>	1976	27.5	25.6	1.9	13.7	0.4	4.8	22.7	0.48	38.7	51	94.0	1	1	2	10	15	5	Y		N	N	N	N	N	3	2	root flare growing into grate					
19	Willow oak	<i>Quercus phellos</i>	1976	32.7	30.5	2.2	16.5	0.5	4.8	27.9	0.59	47	54	2	1	2	5	4	-1	Y	>4"	S	Y	Y	N	Y	Y	3	3	hypoxylon canker, root flare growing into grate					
20	Willow oak	<i>Quercus phellos</i>	1976	30.1	28.5	1.6	15.5	0.5	4.8	25.3	0.54	37.2	42		1	1	3	4.5	12	7.5	Y		Y	Y	N	Y	Y	1	1	canker at base, possible insect damage at 6' high, pruning clearance from bldg needed					
21	Willow oak	<i>Quercus phellos</i>	1976	25.1	24.5	0.6	13.7	0.4	4.8	20.3	0.43	33.3	63		1	1	3	8	12	4	N		N	N	N	N	N	1	1	good adventitious sprouting					
22	Willow oak	<i>Quercus phellos</i>	1976	23.4	21	2.4	13	0.3	4.8	18.6	0.40	30.5	33		1	1	1	12	18	6	N		N	N	N	N	N	3	1	root flare growing into grate					
23	Willow oak	<i>Quercus phellos</i>	1976	22.3	21.7	0.6	12.7	0.3	4.8	17.5	0.37	30.6	30		1	1	1	9.5	13	3.5	N		N	N	N	N	N	2	2	minor branch tip dieback, single-sided					
24	Willow oak	<i>Quercus phellos</i>	1976	40.7	38.2	2.5	17.7	0.8	4.8	35.9	0.76	56.4	64	106.5																					

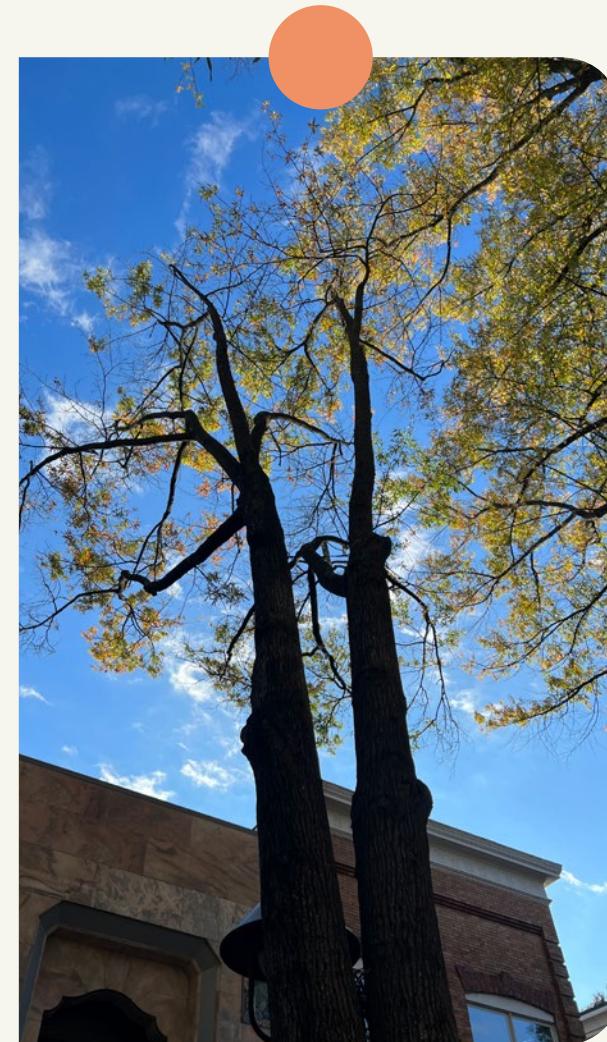
# Health Observations | Overview



Excellent to Good



Fair



Poor

## Typical Conditions

- 100% live canopy
- Strong to average annual growth
- Overall healthy condition

- 75% - 100% live canopy
- Average annual growth
- Some branch dieback and girdled roots

- 50% - 75% live canopy
- Low annual growth
- Structural defects
- Heavy branch dieback or missing central leader

34  
Excellent  
to Good  
(58%)

30  
Excellent  
to Good  
(64%)

Willow oaks  
(59 trees)

Other species  
(47 trees)

14 Fair  
(24%)

5 Poor  
(8%)

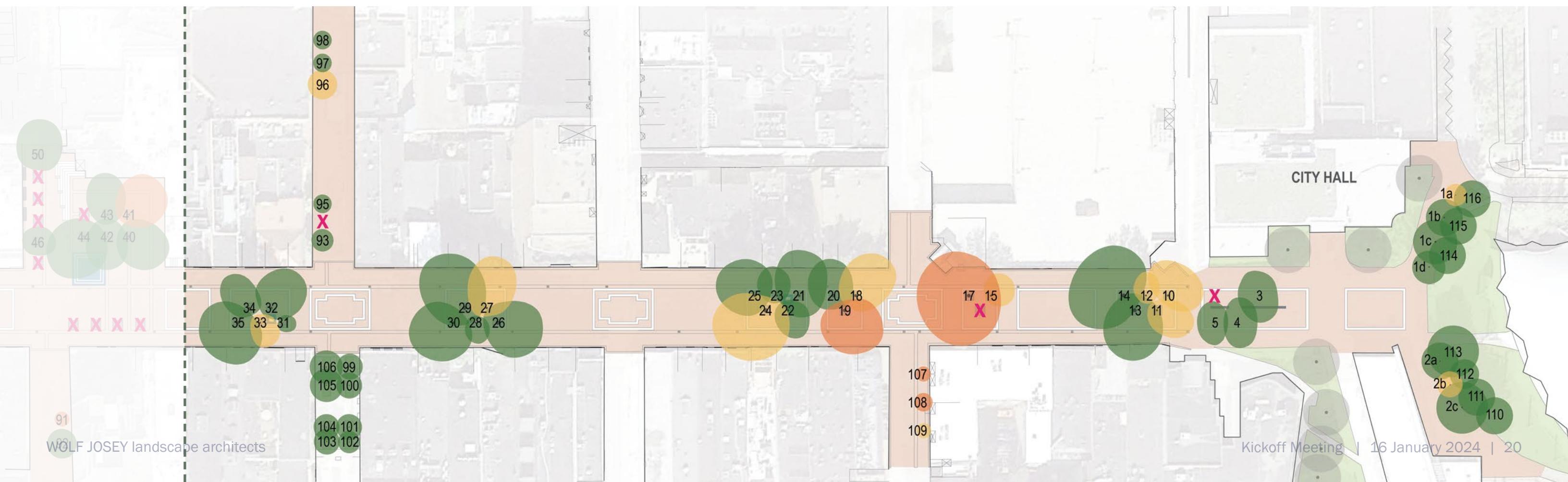
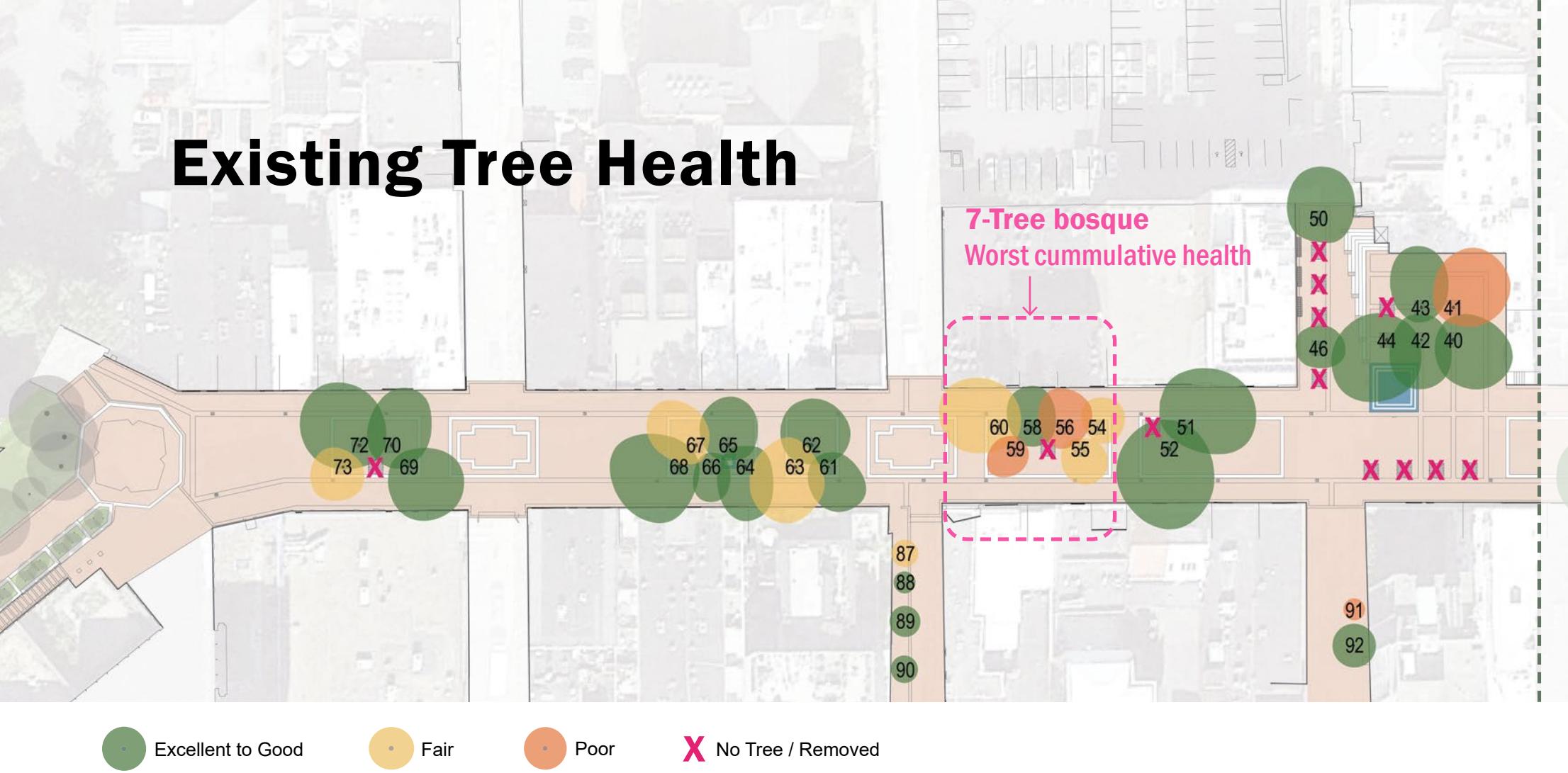
6 Removed  
(10%)

5 Fair  
(11%)

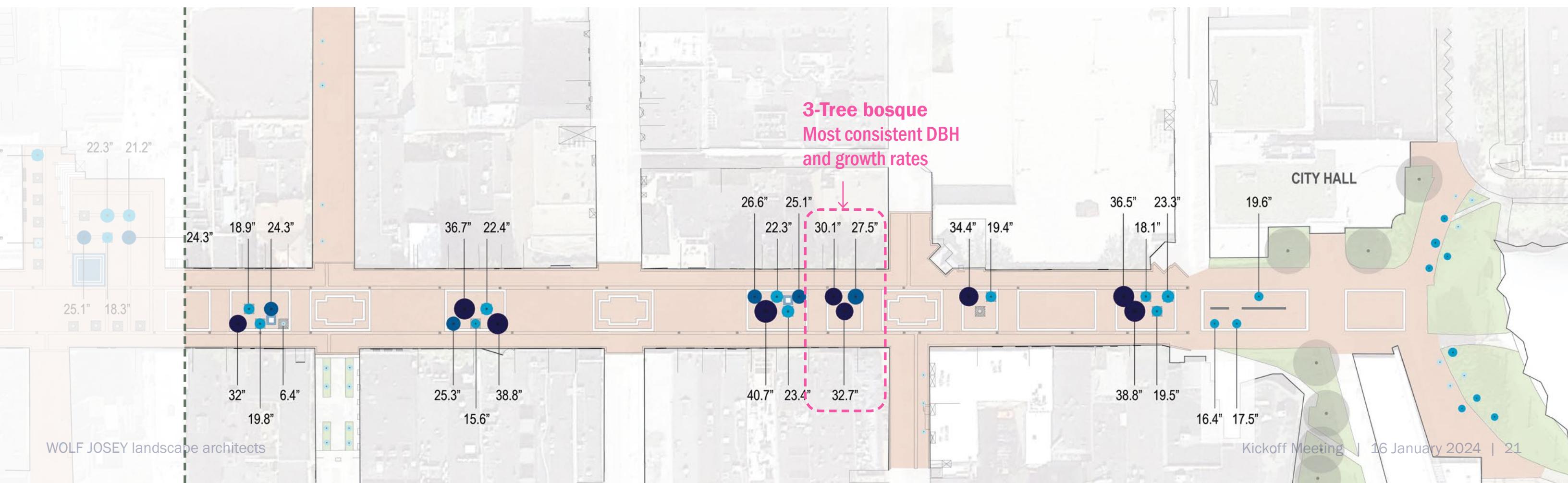
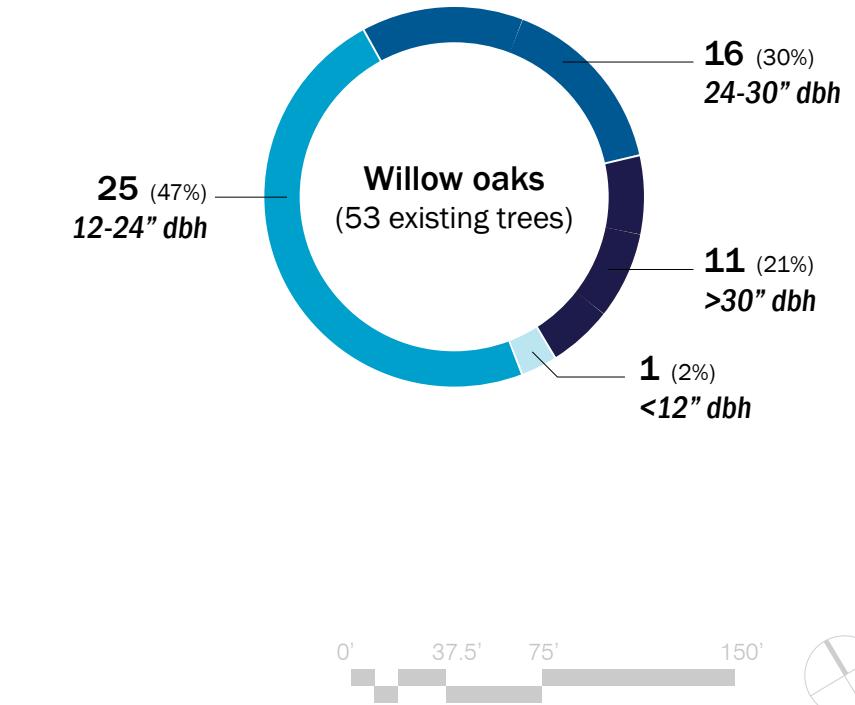
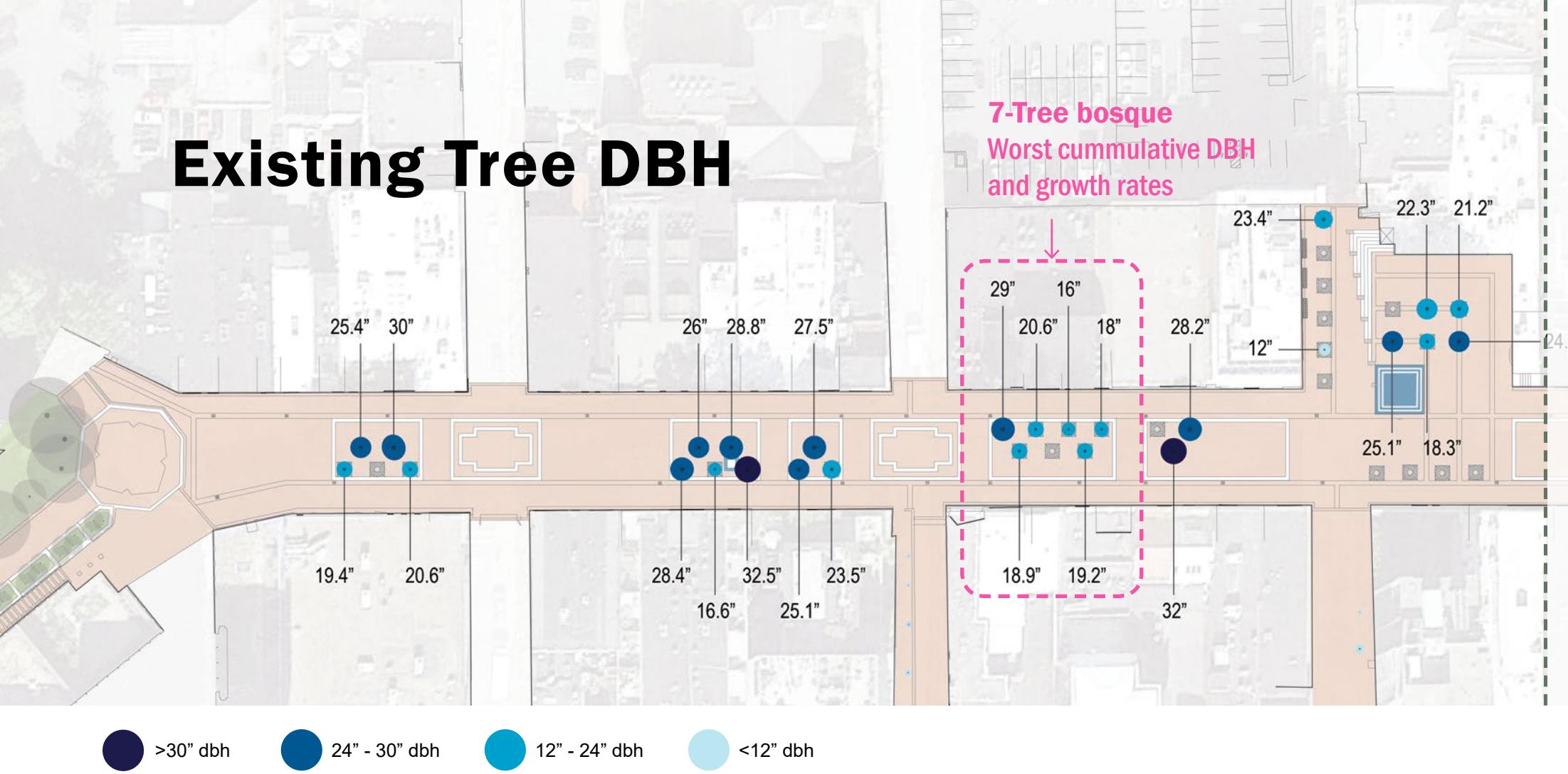
3 Poor  
(6%)

9 Removed  
(19%)

# Existing Tree Health



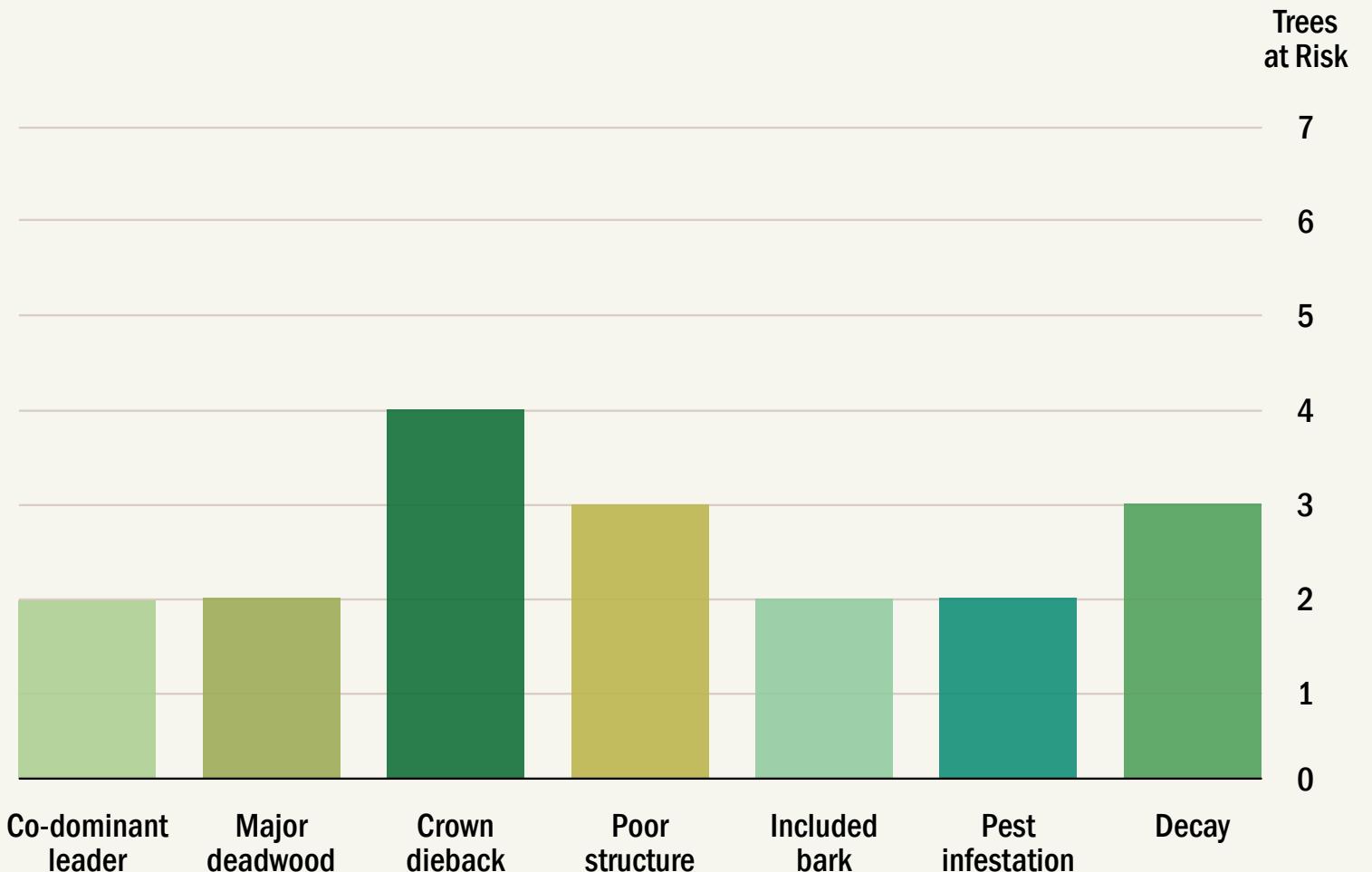
# Existing Tree DBH



# Trees Presenting Risk | Overview

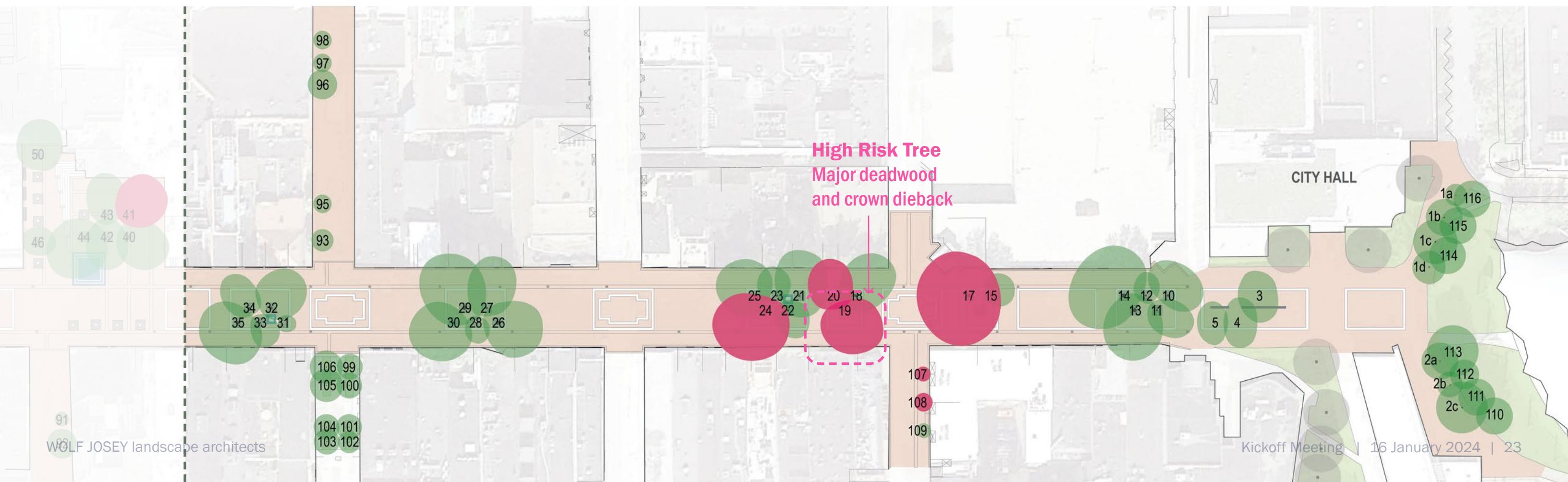
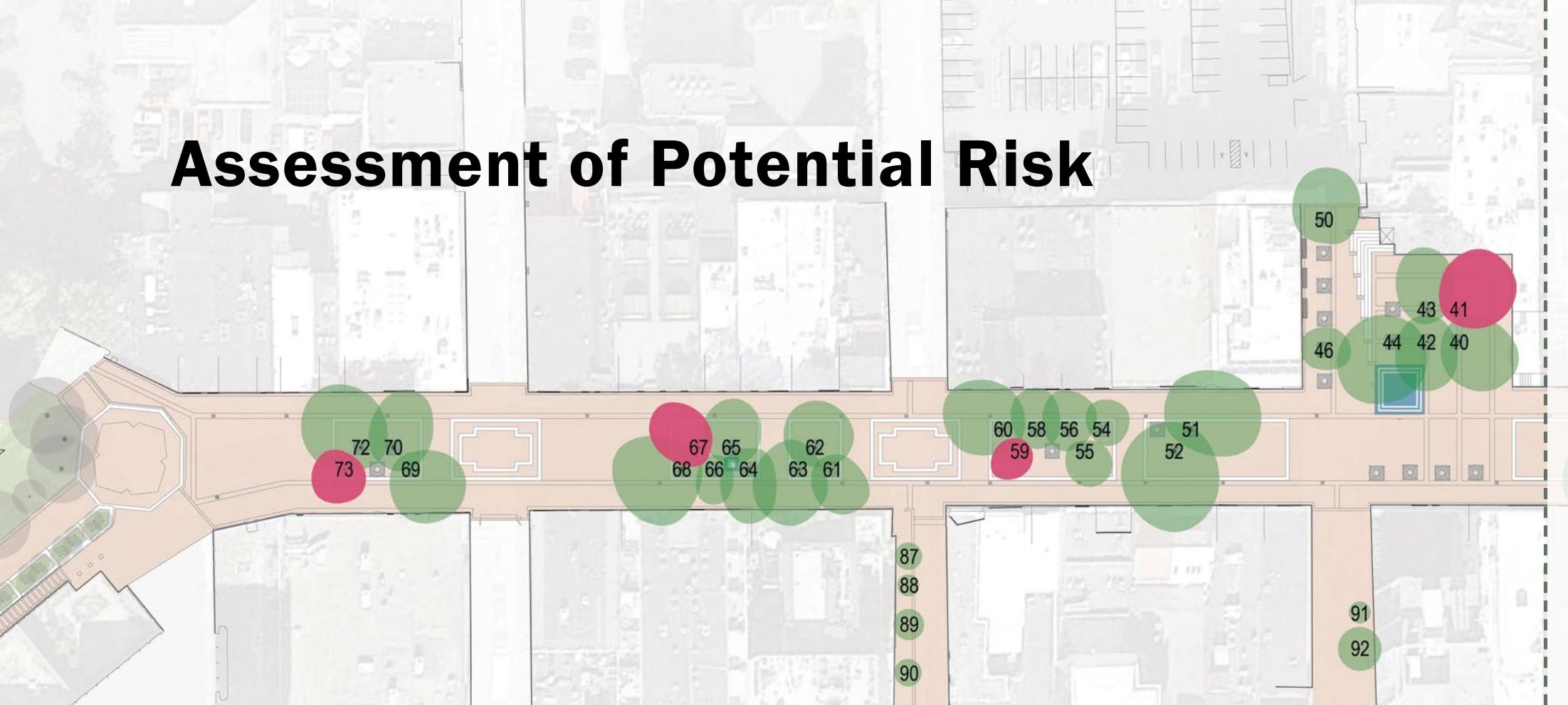
Risk is defined as the likelihood or potential for structural failure of the tree, or its branches, that impacts the safety of persons or structures.

7 of 50 willow oaks have a higher likelihood of failure due to the presence of the following conditions: ***co-dominant leader, decay, major deadwood and crown dieback, poor structure, pest infestation, and included bark.***



ISA Risk Matrix					
Likelihood of Failure		Consequences of Tree Failure			
		Negligible	Minor	Significant	Severe
Very Likely		Low	Moderate	High	Extreme
Likely		Low	Moderate	High	High
Somewhat Likely		Low	Low	Moderate	Moderate
Unlikely		Low	Low	Low	Low

# Assessment of Potential Risk





**Willow oak #73**

Major deadwood, thin canopy, phototropic lean with banana crack



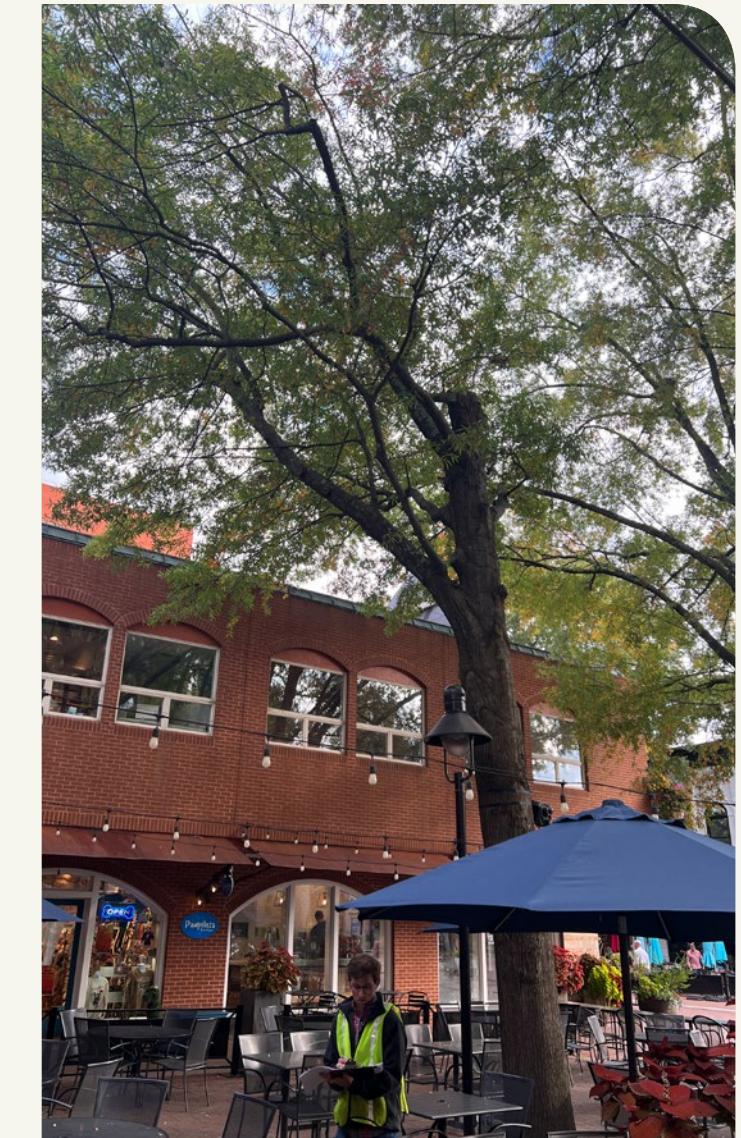
**Willow oak #67**

Poor overall structure, topped central leader, top dieback



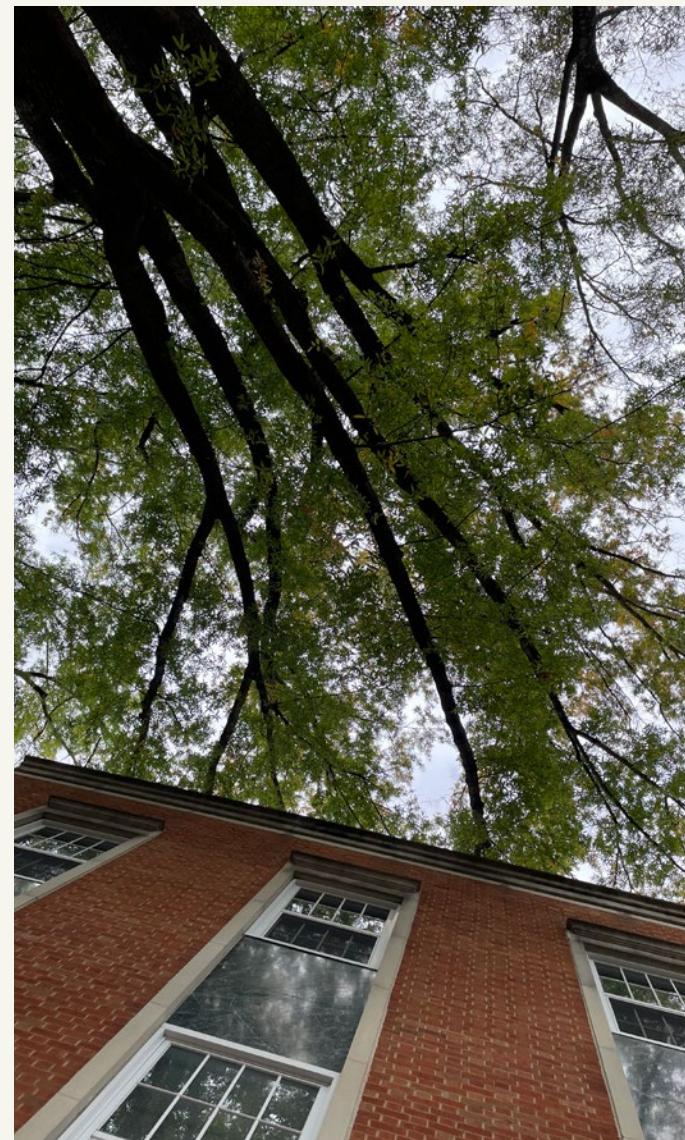
**Willow oak #59**

Co-dominant leader, included bark



**Willow oak #41**

Topped central leader, internal decay



### Willow oak #24

Ambrosia beetle, heater wound, co-dominant leader, included bark, callus wood, internal decay

### Willow oak #20

Canker at trunk flare, possible insect damage, pruning clearance from building needed

### Willow oak #19

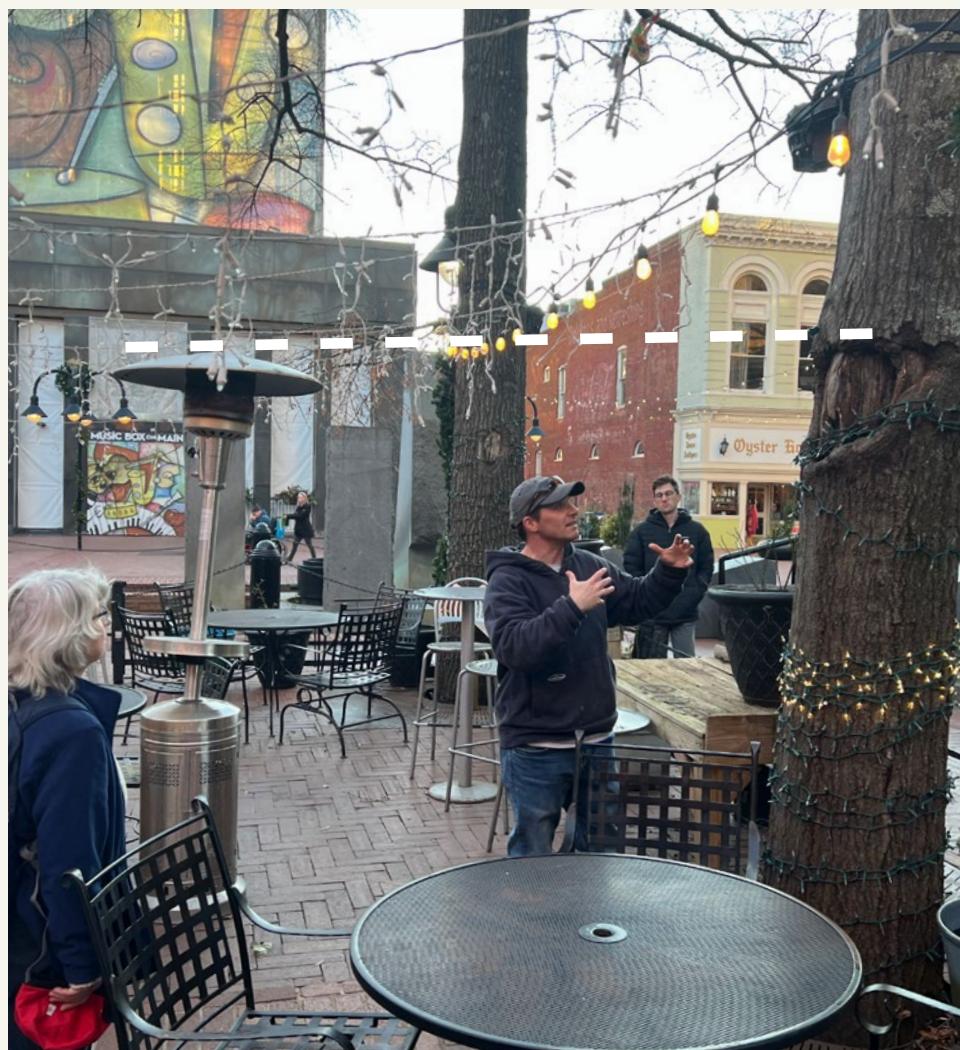
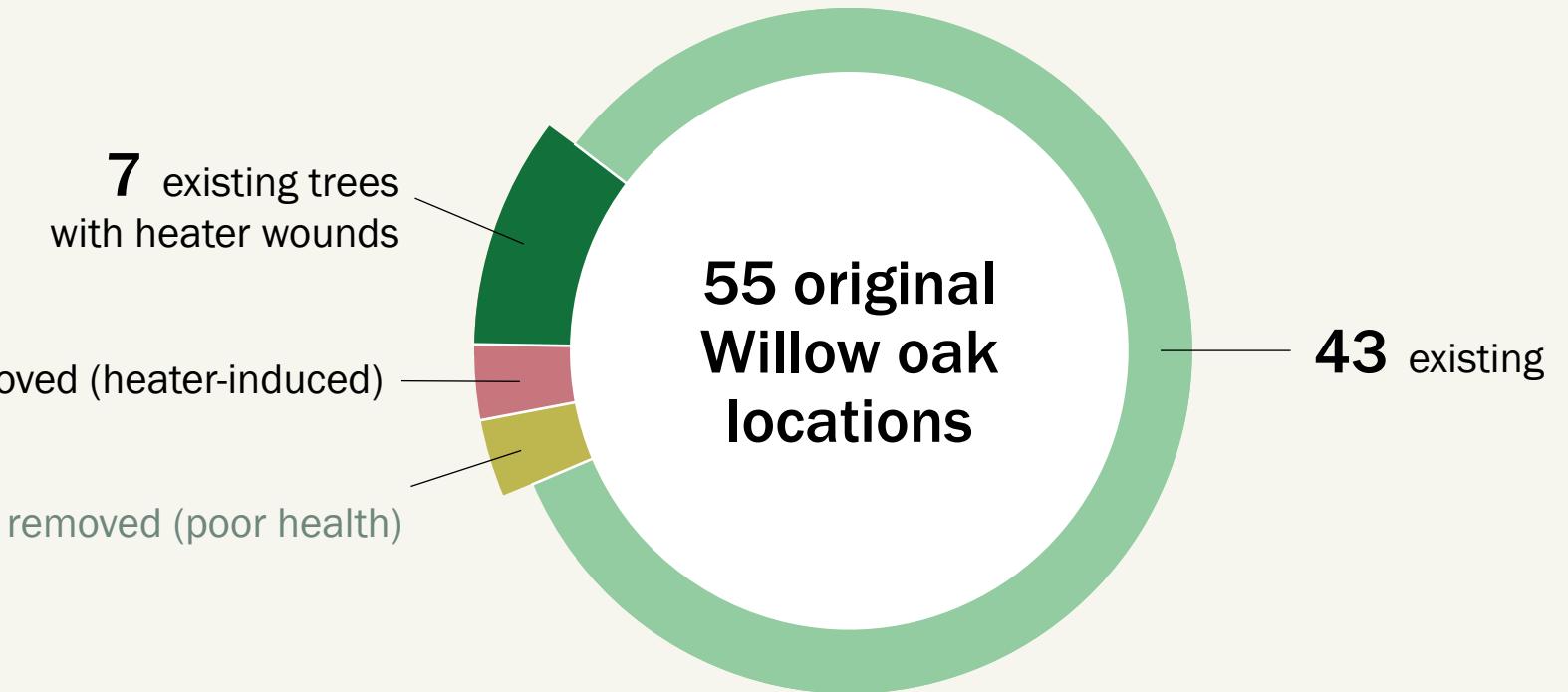
Major deadwood and crown dieback, Hypoxylon canker, trunk flare growing into grate, heavy pruning/ removal needed

### Willow oak #17

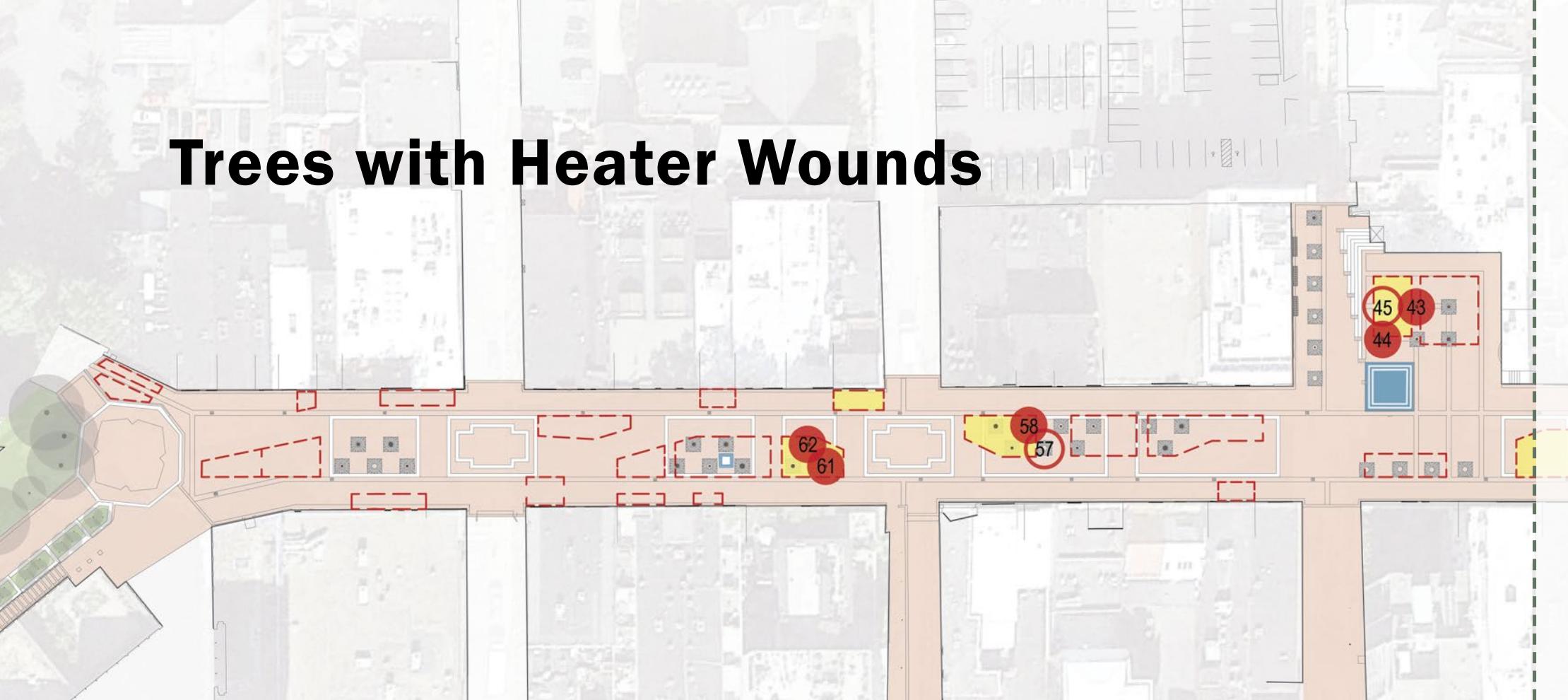
Trunk flare growing into grate, flush pruning cuts, quick internal growth bark ridge, internal decay, crown dieback

# Heater Wounds | Overview

- 9 of 55 original willow oaks were impacted by heater use too close to the trees  
*(preventable, human-caused damage)*
- 2 of these 9 trees required removal in 2022
- 5 of the 6 cafe enclosures that use heaters near trees have caused the damage



# Trees with Heater Wounds



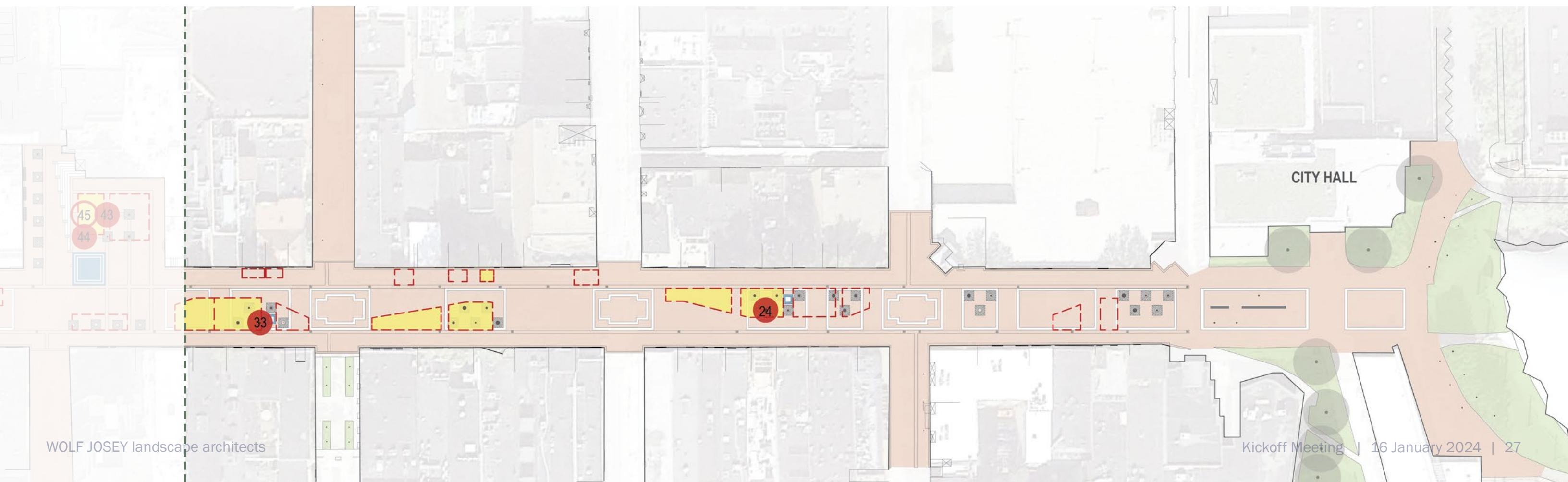
Trees w/ heater damage

Trees removed 2022  
(heater damage)

Cafe enclosures

Cafe enclosures w/ heaters

0' 37.5' 75' 150'





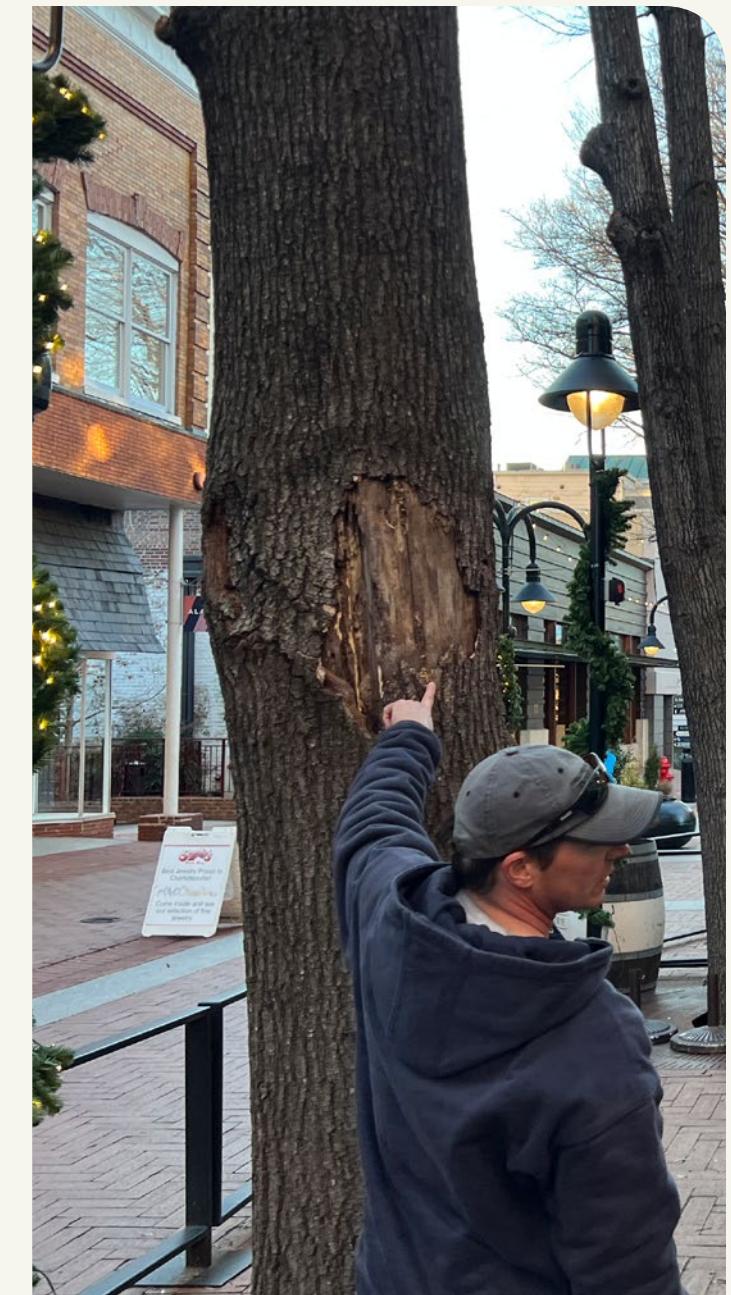
Willow oak #62



Willow oak #61



Willow oak #58



Willow oak #57  
photo taken prior to removal

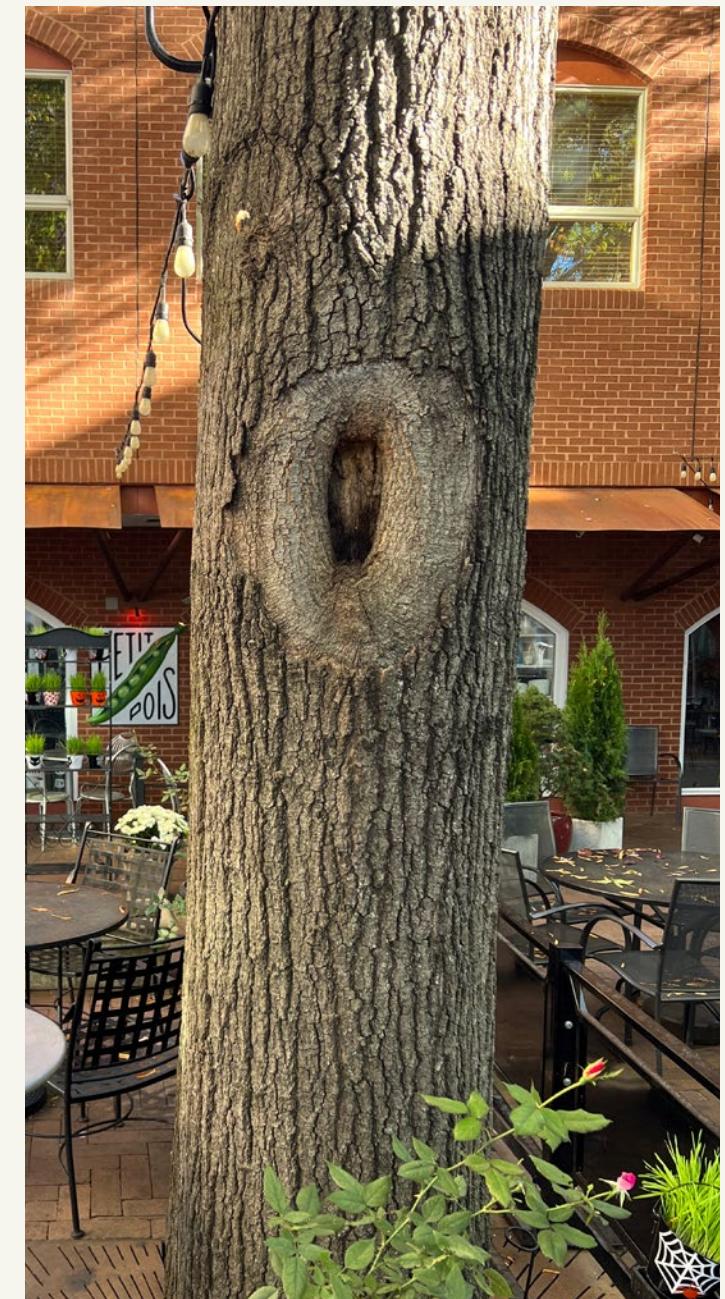


**Willow oak #45**

photo taken prior to removal



**Willow oak #44**



**Willow oak #43**

# City response

## NDS submitted new heater requirements to all downtown businesses

- Minimum 10' clearance from trees
- All heater locations to be approved with NDS
- Penalties include loss of heater usage and possible revocation of cafe space



Willow oak #33



Willow oak #24

**CITY OF CHARLOTTESVILLE**  
"A World Class City"

Neighborhood Development Services

610 East Market Street  
Charlottesville, VA 22902  
Telephone 434-970-3182  
Fax 434-970-3359



November 20, 2023

Attention Mall Café Operator:

As you are aware, the City of Charlottesville Parks Department conducted a comprehensive review of the Downtown Mall trees and canopy as well as pruning and removal of a several trees in December and January of last year. As we move into winter the City will be conducting another round of pruning to preserve the canopy and maintain the safety of the Public space. Additional information will be shared prior to further tree work taking place.

The tree canopy is a critical piece of the Downtown Mall infrastructure. In order to continue to preserve and protect the canopy the City needs the cooperation of all Mall businesses. The attached memo from Parks speaks to tree preservation and the appropriate use of heaters, lighting and seasonal décor.

In a change from previous years ALL exterior heaters associated with Downtown Mall Café Spaces must be individually approved by Neighborhood Development Services. The use of heaters without approval or use in a manner contrary to approval or Public interest will be restricted. Failure to comply with guidelines will result in enforcement action, including the possible revocation of your Café Space.

**High risk willow oak #19 removed (1/8/24)**

# Next Steps

1. Complete Soil Testing
2. Conduct Level 3 Tree Risk Assessments
3. Finalize Tree Inventory and Analysis
4. Assemble Committees and Schedule Meetings



	2023					2024																																						
						October			November			December			January			February			March			April			May			June			July											
	2	9	16	23	30	6	13	20	27	4	11	18	25	1	8	15	22	29	5	12	19	26	4	11	18	25	1	8	15	22	29	6	13	20	27	3	10	17	24	1	8	15	22	29
<b>1.0 Project Startup &amp; Data Gathering</b>																																												
Data and Information Gathering																																												
<b>2.0 Site Analysis &amp; Research</b>																																												
Site History, Tree Inventory and Assessment, Design and Built Conditions Assessment, Maintenance Practices Assessment																																												
<i>Deliverables: Draft Removals Plan; Site Analysis Report</i>																																												
<b>3.0 Preliminary Recommendations</b>																																												
Draft Tree Preservation, Replacements, and Planting Proposals; Identification of Phasing Strategies																																												
<i>Deliverables: Draft Tree Management Plan</i>																																												
<b>4.0 Downtown Mall Tree Management Plan</b>																																												
Tree Phasing and Implementation Plan; Maintenance, Care, and Stewardship Practices; Funding / Budget																																												
Opinion of Probable Cost; Economic Considerations																																												
<i>Deliverables: Final Tree Management Plan booklet</i>																																												