

City of Excelsior
Notice of Regular Meeting
of the Excelsior City Council

NOTICE IS HEREBY GIVEN that the City Council of the City of Excelsior will hold its regular meeting on Monday, February 10, 2025, at 6:30 P.M. in-person at 106 Center Street, Excelsior, MN 55331– Entrance located on Center Street. The agenda for the meeting is attached hereto.

Members of the public may attend the meeting in person or by joining via Zoom either online or by telephone at:

Join Zoom Meeting

<https://us02web.zoom.us/j/88526566715>

Meeting ID: 885 2656 6715

One tap mobile

+13052241968,,88526566715# US

+13092053325,,88526566715# US

Dial by your location

- +1 305 224 1968 US
- +1 309 205 3325 US
- +1 312 626 6799 US (Chicago)

City of Excelsior
Regular Council Meeting

Agenda

Monday, February 10, 2025

106 Center Street, Excelsior, MN 55331 – Entrance located on Center Street

6:30 P.M.

(Please Note: Times Listed Are Approximate)

1. CALL TO ORDER
2. ROLL CALL
3. MEETING AGENDA APPROVAL
4. APPROVAL OF MINUTES
 - (a) January 21, 2025, City Council Work Session Minutes
 - (b) January 21, 2025, City Council Meeting Minutes
5. OPEN FORUM

This is the time for the public to speak. Open Forum will be limited to one-half hour. No person may speak more than five (5) minutes or more than once. Each subject will have a limit of ten (10) minutes. Council members may ask questions of the speaker. With the agreement of the Council, such matters taken up during the “Open Forum” may be scheduled on the current or a future Agenda. Members of the public interested in speaking on an agenda item may direct a request to be recognized to the Mayor.
6. CITY COUNCIL COMMUNICATIONS, QUESTIONS, and REPORTS
 - (a) Excelsior Fire District Board Update
 - (b) Certificate of Appreciation Parks and Recreation Commission, Roy Pike
7. MEET EXCELSIOR
 - (a) Josh Radziej, Excelsior Lions Club
8. CONSENT AGENDA
 - (a) Review Verified Claims under \$20,000 and Approve Verified Claims over \$20,000
 - (b) December Financials
 - (c) Amend Chapter 5 to Expand Local Sales Tax, 2nd Reading Ordinance 676
 - (d) THC License Approval, Resolution 2025-12
 - (e) Approval of 2025 Council Work Groups
 - (f) Appointment of Quarterly Commission Liaison Schedule
 - (g) 1st Reading Ordinance 688, Marked Contractor Parking
 - (h) Parks and Recreation Commission Bylaw Amendments, Resolution 2025-11
 - (i) 1st Reading Ordinance 677, Chapter 24 Parks and Recreation Code Updates
 - (j) Approval of 2025 Council goals and work session calendar

(k) 4th Quarter Gambling Donations

9. PUBLIC HEARINGS

(a) None

10. PETITIONS, REQUESTS and COMMUNICATIONS

7:15 PM

(a) Jimmie's Old Southern BBQ Smokehouse, On Sale Wine/Beer License

11. ORDINANCES and RESOLUTIONS

(a) None

12. REPORTS of OFFICERS, BOARDS, and COMMITTEES

(a) None

13. UNFINISHED BUSINESS

(a) None

14. NEW BUSINESS

(a) Urban Forestry Management Plan

7:30 PM

(b) Appointments to City Commissions

8:00 PM

(c) Parking Operator RFP

8:10 PM

15. ADJOURNMENT

Notice: Some items on this agenda are important enough to Commission members that a quorum of Commission members may be present to receive information leading to their future deliberations and eventual decision.

City of Excelsior
City Council Work Session

MINUTES

Tuesday, January 21, 2025

106 Center Street, Excelsior, MN 55331 – Entrance is located on Center Street

4:30 P.M.

1. CALL TO ORDER/ROLL CALL

Mayor Ringate called the January 21, 2025, council work session to order at 4:31 PM.

Present: Mayor Ringate and Councilmembers Bildsoe, Caron, O’Hanlon, and Tyler.

Absent: None.

Also Present: City Manager Luger, Planning Director Mullin, Finance Director Palmer, Public Works Director Amundsen, and City Clerk Bajda.

Caron moved, O’Hanlon seconded to approve the January 21, 2025, City Council work session agenda. Motion carried 5/0.

2. 2025 GOALS AND PRIORITIES

City Manager Luger provided an overview of previous goal setting meeting where Councilmembers reviewed unfinished objectives and determined whether it should be addressed at a regular Council meeting, a work session, or by assigning to a work group. Indicated that the purpose of second work session is to review new goals submitted by the City Council and begin prioritizing them.

Council discussion of the following goals: prioritization of remaining projects in The Commons, enhancement of the Capital Improvement Plan, improved communications with City Commissions, improved communications with residents, businesses and visitors, code enforcement, downtown beautification, tree ordinance, use policies for The Commons, parking, and City Hall.

3. NEXT STEPS

4. ADJOURNMENT

O’Hanlon moved, Caron seconded to adjourn the January 21, 2025, council work session meeting at 6:37 P.M. Motion carried 5/0.

Respectfully submitted,
Theresa Bajda, City Clerk

City of Excelsior
Regular Council Meeting

MINUTES

Tuesday, January 21, 2025

106 Center Street, Excelsior, MN 55331 – Entrance located on Center Street
6:30 P.M.

1. CALL TO ORDER

Mayor Ringate called the regular January 21, 2025, council meeting to order at 6:42 PM.

2. ROLL CALL

Present: Mayor Ringate and Councilmembers Bildsoe, Caron, O'Hanlon, and Tyler.

Absent: None.

Also Present: City Manager Luger, Planning Director Mullin, Finance Director Palmer, Public Works Director Amundsen, City Clerk Bajda, and Legal Counsel Siobhan Tolar (Kennedy & Graven Chartered).

3. APPROVAL OF MINUTES

(a) January 6, 2025, City Council Work Session Minutes

(b) January 6, 2025, City Council Meeting Minutes

Caron moved, Tyler seconded to approve the January 6, 2025 City Council Work Session minutes and January 6, 2025 City Council meeting minutes with the following corrections: item 9(l) to list Bildsoe and O'Hanlon as charter leases and port working group appointments, item 7(b)9 corrected to reflect Caron pulling item for discussion, documentation of where consent agenda starts and was approved, corrections to paragraph related to 7(b)9 to accurately reflect that and corresponding resolution number. Motion carried 5/0.

4. OPEN FORUM

This is the time for the public to speak on non-agenda items. Open Forum will be limited to one-half hour. No person may speak more than five (5) minutes or more than once. Each subject will have a limit of ten (10) minutes. Council members may ask questions of the speaker. With the agreement of the Council, such matters taken up during the "Open Forum" may be scheduled on the current or a future Agenda. Members of the public interested in speaking on an agenda item may direct a request to be recognized to the Mayor.

Bruce Kelly, 165 Maple Street, addressed the Council and discussed Walker Parking Study. Indicated the study did not provide local data on parking tickets issued or utilization rates.

5. CITY COUNCIL COMMUNICATIONS, QUESTIONS, and REPORTS

(a) Heritage Preservation Commission Update

Planning Director Mullin provided an update of the recent Heritage Preservation Commission special meeting related to the appeal for 217 First Street. Confirmed the HPC did not approve design

(b) South Lake Minnetonka Police Department Coordinating Committee Meeting
Mayor Ringate stated a meeting was held on January 8, 2025, where the Committee discussed staffing and scheduling.

6. MEET EXCELSIOR

(a) Brian Tholen, South Lake Minnetonka Police Department
Chief Brian Tholen addressed Council and provided an overview of 2024 statistics, progress on E-bike safety, 2025 staffing, and 2025 community events.

7. AGENDA APPROVAL

(a) Meeting Agenda

Caron moved, Tyler seconded to approve the January 21, 2025 regular meeting agenda with addition under 11(a) to discuss Coffee with the Mayor. Motion carried 5/0.

(b) Consent Agenda

1. Review Verified Claims under \$20,000 and Approve Verified Claims over \$20,000
2. Close City Hall on January 29 for Clean-up Day
3. Amend Chapter 5 to Expand Local Sales Tax, 1st Read Ordinance 676
4. Contractor Parking Amend Fee Schedule, Resolution 2025-09

Tyler requested number 7(b)4 be pulled for discussion.

Tyler moved, Caron seconded to deny resolution 2025-09 and direct staff to bring back an ordinance to allow marked contractor service vehicles to park free on restricted streets. Motion carried 5/0.

Tyler moved, O'Hanlon seconded to approve the consent agenda 7(b)1, 7(b)2, and 7(b)3 3. Motion carried 5/0.

8. PUBLIC HEARINGS

(a) None

9. PETITIONS, REQUESTS and COMMUNICATIONS

(a) None

10. ORDINANCES and RESOLUTIONS

(a) None

11. REPORTS of OFFICERS, BOARDS, and COMMITTEES

(a) Coffee with the Mayor

Mayor Ringate questioned if report from Coffee with the Mayor event should be put in Council communications, requests, reports section five.

Councilmembers discussed and supported request to include de-brief on Coffee with Mayor events.

12. UNFINISHED BUSINESS

(a) City Council By-laws Amendment, Resolution 2025-10

City Clerk Bajda addressed Council and stated the recommended amendments to the current by-laws would change the order of the agenda to match current practice and remove reference to non-agenda items under open forum. Stated this would allow the Mayor and Councilmembers to determine when to take public comment depending on the topic speakers note on proposed comment cards.

Council discussion.

Bildsoe moved, Tyler seconded to approve resolution 2025-10 amending City Council by-laws with correction to order of agenda, so approval of agenda is after roll call and separate from consent agenda. Motion carried 5/0.

13. NEW BUSINESS

(a) Walker Parking Study Overview

Planning Director Mullin provided an overview of Walker Parking Study and its focus on the downtown parking system.

Bildsoe moved, Caron seconded to move forward with issuance of an RFP after the parking financial work group has an opportunity to meet with staff and make recommendations. Motion carried 5/0.

Luger confirmed she will circulate the RFP draft for individual Councilmembers to provide comment.

Bob Bolles addressed the Council and discussed opportunity to charge property owners for creating an increased parking demand in downtown business district through the parking impact fee.

14. ADJOURNMENT

O'Hanlon moved, Bildsoe seconded to adjourn the January 21, 2025, meeting at 8:15 PM. Motion carried 5/0.

Respectfully submitted,
Theresa Bajda, City Clerk

Notice: Some items on this agenda are important enough to Commission members that a quorum of Commission members may be present to receive information leading to their future deliberations and eventual decision.

02/06/2025

CHECK REGISTER FOR CITY OF EXCELSIOR
CHECK DATE 01/17/2025 - 02/06/2025

Check Date	Check	Amount
Bank GEN WELLS FARGO		
01/22/2025	3227(E)	13,926.44
01/22/2025	3228(E)	900.00
01/22/2025	3229(E)	7,392.14
01/22/2025	3230(E)	2,462.30
01/22/2025	3231(E)	427.46
01/23/2025	91922	23.40
01/23/2025	91923	2,287.50
01/23/2025	91924	2,767.57
01/23/2025	91925	704.71
01/23/2025	91926	85.75
01/23/2025	91927	240.00
01/23/2025	91928	6,033.70
01/23/2025	91929	6,379.43
01/23/2025	91930	436.47
01/23/2025	91931	55.84
01/23/2025	91932	1,825.53
01/23/2025	91933	204.69
01/23/2025	91934	278.66
01/23/2025	91935	1,497.76
01/23/2025	91936	644.00
01/23/2025	91937	3,206.21
01/23/2025	91938	3,788.00
01/23/2025	91939	5,750.00
01/23/2025	91940	600.00
01/23/2025	91941	7,654.00
01/23/2025	91942	3,333.33
01/23/2025	91943	782.11
01/23/2025	91944	247.47

01/23/2025	91945	1,145.00
01/23/2025	91946	18,117.24
01/23/2025	91947	13,140.56
01/23/2025	91948	16.00
01/23/2025	91949	321.52
01/23/2025	91950	363.04
01/23/2025	91951	218.05
01/23/2025	91952	97.74
01/23/2025	91953	546.66
01/23/2025	91954	1,321.51
01/23/2025	91955	348.99
01/23/2025	91956	245.44
01/23/2025	91957	297.60
01/23/2025	91958	290.25
01/23/2025	91959	5.00
01/23/2025	91960	13.64
01/23/2025	91961	693.37
01/23/2025	91962	16,725.00
01/23/2025	91963	60.00
01/23/2025	91964	22.02
01/23/2025	91965	500.00
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01/23/2025	91967	1,991.35
01/23/2025	91968	4,324.37
01/23/2025	91969	9,000.00
01/24/2025	3232(A)	783.75
01/29/2025	3233(E)	5,820.12
01/29/2025	3235(E)	149.05
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02/03/2025	91973	4,324.73
02/03/2025	91974	3,900.00
02/03/2025	91975	220.50

02/03/2025	91976	2,177.50
02/03/2025	91977	276.90
02/03/2025	91978	7,802.39
02/03/2025	91980	182.00
02/03/2025	91981	2,205.00
02/03/2025	91982	75.00
02/03/2025	91983	88.74
02/03/2025	91984	125.48
02/03/2025	91985	255.33
02/03/2025	91986	8,247.64
02/03/2025	91987	839.92
02/03/2025	91988	1,896.44
02/03/2025	91989	39.65
02/03/2025	91990	1,700.44
02/03/2025	91991	1,189.70
02/03/2025	91993	124.96
02/05/2025	3236(E)	13,053.88
02/05/2025	3237(E)	900.00
02/05/2025	3238(E)	5,752.91
02/05/2025	3239(E)	2,361.92
GEN TOTALS:		
Total of 82 Checks:		209,366.64
Less 0 Void Checks:		0.00
Total of 82 Disbursements:		209,366.64

02/06/2025		CHECK REGISTER FOR CITY OF EXCELSIOR			
CHECK DATE 01/17/2025 - 02/06/2025					
Check Date	Check			Amount	
Bank GEN WELLS FARGO					
02/03/2025	91979			62,081.42	
02/03/2025	91992			30,164.00	
GEN TOTALS:					
Total of 2 Checks:				92,245.42	
Less 0 Void Checks:				0.00	
Total of 2 Disbursements:				92,245.42	

MEMORANDUM

Re: Item 8(b)- December Financials

Date: February 10, 2025

To: City Council

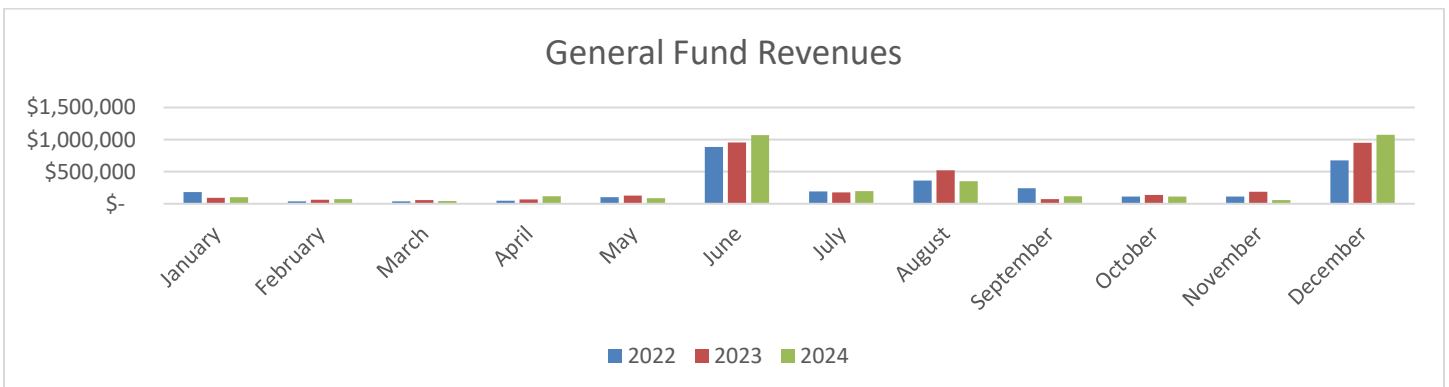
From: Jenny Palmer-Finance Director

General Fund Revenues

The December target budget is 100%. The General Fund revenues are at 109.91%, slightly above the target budget. Which is mainly due to delinquent taxes coming in higher than budgeted.

GENERAL FUND	BUDGET	DECEMBER REVENUE	YTD REVENUE	VARIANCE	PERCENT RECEIVED
Taxes and Franchise Fees	1,885,807	887,068	1,946,729	(60,922)	103.23%
Business Licenses	107,685	110,825	117,075	(9,390)	108.72%
Non-Business Licenses/Permits	268,750	34,655	266,427	2,323	99.14%
Intergovernmental Revenue	50,500	6,329	103,387	(52,887)	204.73%
Charges for Services	78,000	11,175	84,913	(6,913)	108.86%
Parking Kiosks	350,000	6,037	497,553	(147,553)	142.16%
Fines	75,000	5,533	80,745	(5,745)	107.66%
Water Tower and Kayak Rental	43,000	1,196	51,546	(8,546)	119.87%
Park Vendor and Garden Plots	27,700	-	25,282	2,418	91.27%
Transfers from Other Funds	200,000	-	200,000	-	100.00%
Other Revenue	11,000	9,906	30,628	(19,628)	278.44%
GENERAL FUND TOTAL	3,097,442	1,072,724	3,404,285	(306,843)	109.91%

	December	Annual	% of Annual
	YTD Revenues	Revenues	Revenues
2022	\$ 2,809,936	\$ 2,723,536	103.17%
2023	\$ 3,414,598	\$ 2,871,589	118.91%
2024	\$ 3,404,285	\$ 3,097,442	109.91%

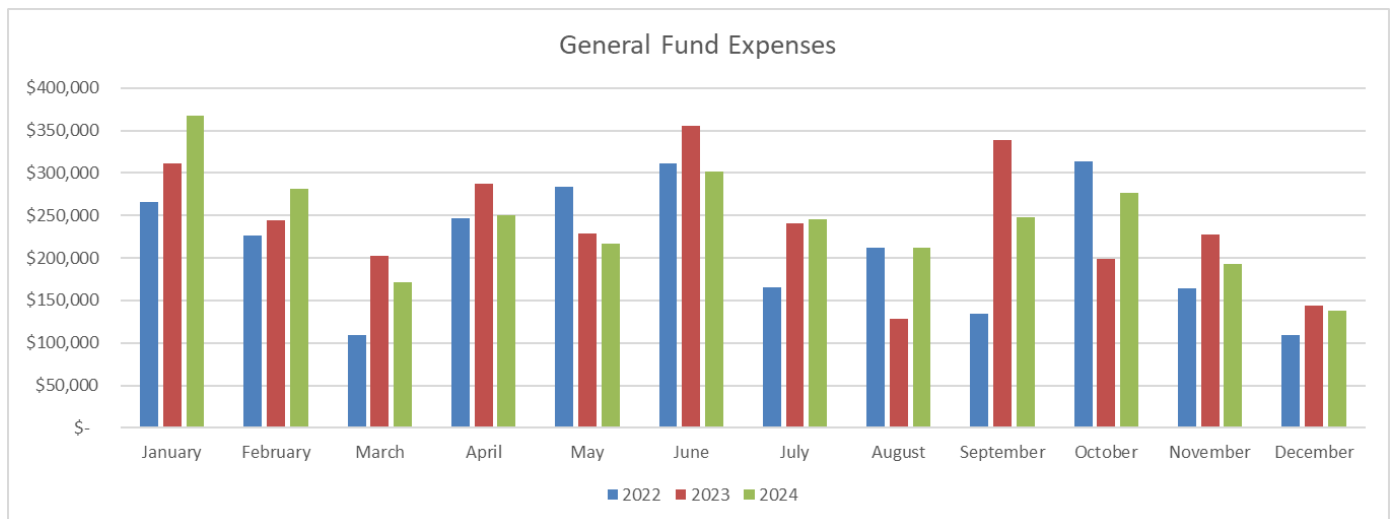


General Fund Expenses

General Fund expenses are slightly under the target budget at 93.67%. Most accounts are right around 100%. The accounts that are significantly over are: Council, due to moving expenses, Elections, we received a grant for \$1,763 to offset some of those expenses, and Engineering for projects such as the new city hall and public works building study and some grant administration.

GENERAL FUND	BUDGET	DECEMBER EXPENSE	YTD EXPENSE	VARIANCE	PERCENT EXPENDED
Council	24,061	6,588	28,659	(4,598)	119.11%
City Manager/Clerk	282,512	27,286	276,671	5,841	97.93%
Elections	9,530	3,880	15,316	(5,786)	160.72%
Finance	75,840	5,712	79,316	(3,476)	104.58%
Planning & Zoning	197,405	18,341	159,528	37,877	80.81%
City Administration	348,538	24,208	367,466	(18,928)	105.43%
Heritage Preservation	2,800	-	616	2,184	22.01%
Police	903,973	-	874,859	29,114	96.78%
Fire	257,874	-	257,874	0	100.00%
Building Inspections	65,000	965	40,585	24,415	62.44%
Engineering	45,000	4,705	68,447	(23,447)	152.10%
Streets	332,130	15,131	246,762	85,368	74.30%
Park Maintenance	474,165	28,472	448,534	25,631	94.59%
Recreation Program	26,000	-	434	25,566	1.67%
Cemetery	52,614	2,456	35,308	17,306	67.11%
GENERAL FUND TOTAL	3,097,442	137,743	2,900,374	197,068	93.64%

	December YTD Expenses	Annual Expenses	% of Annual Expenses
2022	\$ 2,541,290	\$ 2,632,920	96.52%
2023	\$ 2,908,174	\$ 2,871,589	101.27%
2024	\$ 2,900,374	\$ 3,097,442	93.64%

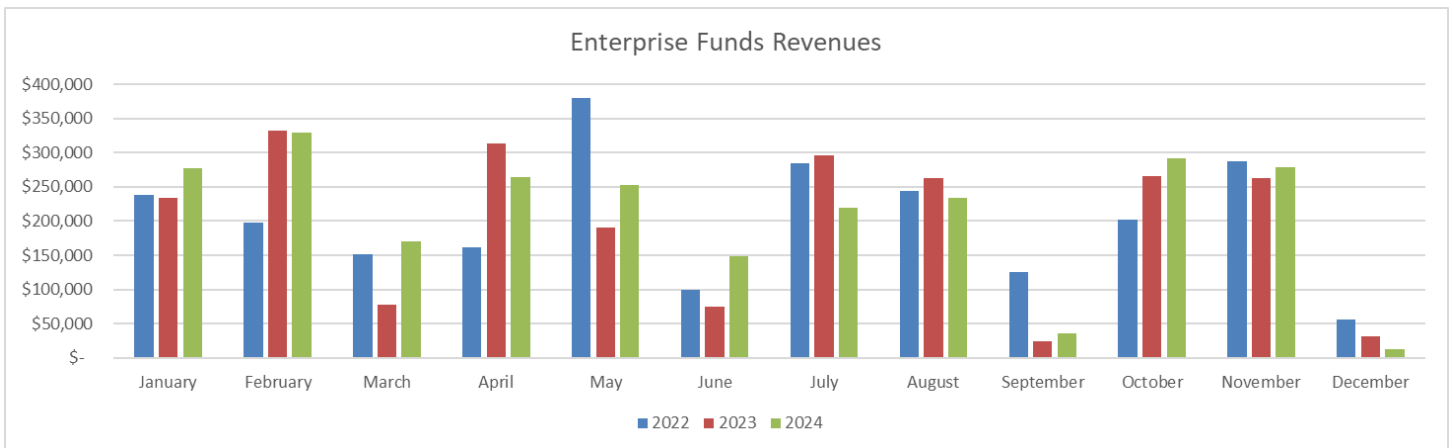


Enterprise Funds Revenue

The Enterprise Funds revenues are 2.71% under the target of 100.00%. Water volume was down, mainly due to the wet spring and early summer months being wet. Revenues are within range of previous years.

	<u>BUDGET</u>	<u>DECEMBER REVENUE</u>	<u>YTD REVENUE</u>	<u>VARIANCE</u>	<u>PERCENT RECEIVED</u>
Water Fund	1,084,500	3,917	1,004,964	79,536	92.67%
Sewer Fund	631,300	1,918	634,140	(2,840)	100.45%
Street Lighting Fund	74,000	374	72,980	1,020	98.62%
Docks Fund	491,750	5,487	518,220	(26,470)	105.38%
Surface Water Mgmt Fund	303,000	1,512	284,272	18,728	93.82%
ENTERPRISE FUND TOTAL	2,584,550	13,209	2,514,576	69,974	97.29%

	December	Annual	% of Annual
	YTD Revenues	Revenues	Revenues
2022	\$ 2,428,797	\$ 2,154,515	112.73%
2023	\$ 2,363,522	\$ 2,585,025	91.43%
2024	\$ 2,514,576	\$ 2,584,550	97.29%

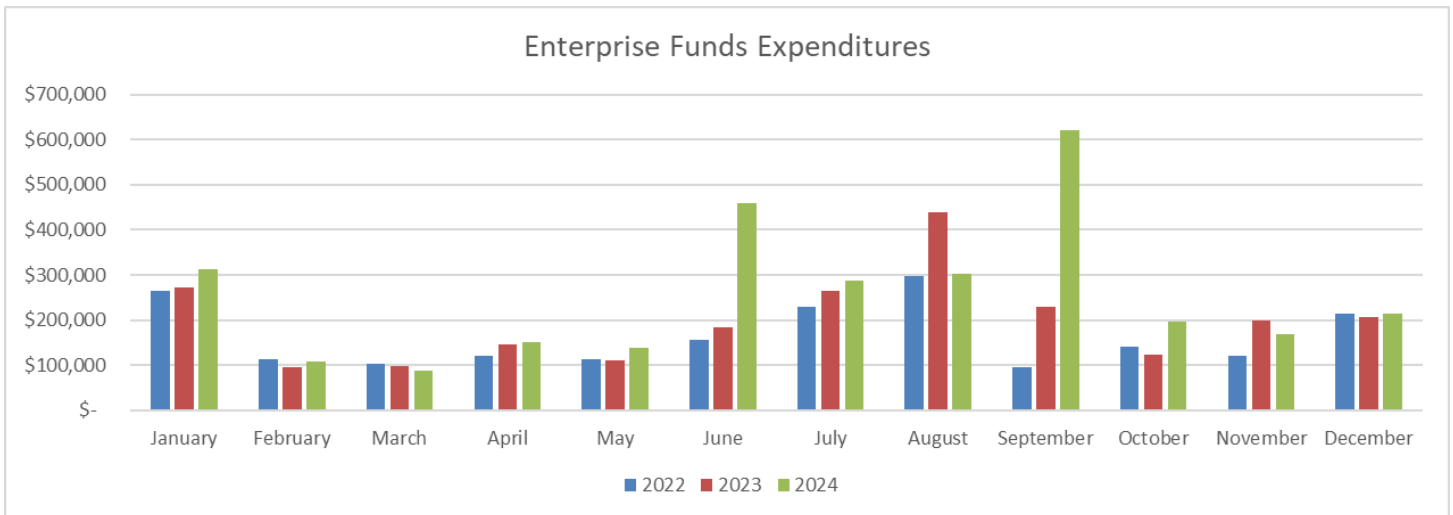


Enterprise Funds Expenditures

Enterprise Funds expenditures are 14.57% over the target budget of 100.00% for December. The Dock Fund transfer to the General Fund was done in August. The Sewer Fund is over target budget because it transferred \$294,524 to the Capital Fund for parking structure cost overruns and there were \$454,083 in expenses for the lift station in September.

	BUDGET	DECEMBER EXPENSE	YTD EXPENSE	VARIANCE	PERCENT EXPENDED
Water Fund	915,026	35,465	671,993	243,033	73.44%
Sewer Fund	925,311	120,302	1,618,034	(692,723)	174.86%
Street Lighting Fund	60,871	4,484	32,196	28,675	52.89%
Docks Fund	477,826	20,884	472,007	5,819	98.78%
Surface Water Mgmt Fund	278,344	32,948	250,351	27,993	89.94%
ENTERPRISE FUND TOTAL	2,657,378	214,082	3,044,581	(387,203)	114.57%

	December	Annual	% of Annual
	YTD Expenses	Expenditures	Expenditures
2022	\$ 1,962,154	\$ 2,459,321	79.78%
2023	\$ 2,367,377	\$ 2,519,792	93.95%
2024	\$ 3,044,581	\$ 2,657,378	114.57%



Capital and Special Revenue Funds

Revenues	BUDGET	DECEMBER ACTIVITY	YTD	VARIANCE	PERCENT EXPENDED
Parking Lot Maint. Fund	75,083	2,855	85,918	(10,835)	114.43%
Local Sales Tax - The Commons	752,000	66,575	758,623	(6,623)	100.88%
Debt Service Funds	1,254,697	374,811	1,379,978	(125,281)	109.98%
Capital Project Funds	429,482	88,023	900,988	(471,506)	209.78%
Expenditures					
Parking Lot Maint Fund	61,036	35,775	86,197	(25,161)	141.22%
Local Sales Tax - The Commons	2,235,000	32,068	820,854	1,414,146	36.73%
Debt Service Funds	1,605,252	-	1,660,638	(55,386)	103.45%
Capital Project Funds	1,042,300	175,166	1,089,879	(47,579)	104.56%

Revenues:

- Sales Tax revenues are stabilizing and are slightly over budget.
- Capital Projects Funds revenue mostly consists of revenues received into the Park Capital Fund from Community for the Commons for the 2023 concert series and yoga donations. Also, there were transfers to the Capital Fund from the Sewer Fund for the loan to cover the overages of the parking structure and the General Fund for excess fund balance.

Expenditures:

- Parking Lot Maintenance expenditures consist mostly of billings from Walker Consultants for the parking study.
- Local Sales Tax expenditures are a transfer to the debt service fund for the bond payment in January.
- Debt Service Funds expenditures consist of principal and interest payments made in January and interest payments in July.
- Capital Project Fund expenditures consist of costs for tree trimming, owners' rep and engineering for the 339 Third Street project and a bi-annual TIF payment to The Waters.

Parking Meter Profit and Loss

2023 is included below for comparison.

2024--West Lot Closed-Parking Structure Opened in November													
Revenue	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YTD
Meter Revenue	\$1,565	\$2,268	\$4,441	\$12,579	\$54,001	88,360	94,876	90,252	59,746	18,847	2,624	1,166	\$ 430,724
Trial Area P1502-1506	\$2,367	\$3,990	\$3,355	\$5,563	\$12,806	20,625	20,490	18,691	10,951	1,550	6,324	2,606	\$ 109,318
Dock Meter Revenue P1511 & P1512			\$ 13	\$ 107	\$ 1,844	\$ 3,646	\$ 4,504	\$ 4,039	\$ 2,838	\$ 510	\$ 13	\$ -	\$ 17,512
Gross Profit	\$3,932	\$6,257	\$7,809	\$18,248	\$68,651	\$112,630	\$119,871	\$112,982	\$73,535	\$20,907	\$8,961	\$3,772	\$ 557,554
Operation Expenses	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YTD
Back Office Software (biannual)		6,498						7,866					14,364
Electronic Permitting (annual)													0
Whoosh Transaction Fees Quarterly								9			12		21
Parking Meter Maintenance													0
Meter Fees	1,488	1,582	1,848	2,706	6,666	9,774	10,266	11,601	7,804	3,195	2,243	1,499	60,673
Total Operation Expenses	1,488	8,080	1,848	2,706	6,666	9,774	10,266	19,476	7,804	3,195	2,254	1,499	\$75,057
Net Income	\$2,444	(\$1,823)	\$5,961	\$15,542	\$61,984	\$102,856	\$109,605	\$93,506	\$65,731	\$17,712	\$6,707	\$2,273	\$ 482,497

2023--West Lot Closed													
Revenue	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YTD
Meter Revenue	\$1,706	\$5,851	\$1,892	\$7,441	\$55,195	98,377	107,429	90,999	55,181	14,891	4,482	3,710	\$ 447,153
Trial Area P1502-1506	\$1,824	\$2,954	\$3,751	\$4,200	\$11,590	20,074	25,723	17,704	12,418	7,221	7,821	5,778	\$ 121,058
Dock Meter Revenue P1511 & P1512	\$ 4	\$ 15	\$ 4	\$ 16	\$ 2,041	\$ 4,039	\$ 5,486	\$ 4,082	\$ 2,578	\$ 402			\$ 18,667
Gross Profit	\$3,534	\$8,820	\$5,647	\$11,657	\$68,826	\$122,490	\$138,639	\$112,785	\$70,176	\$22,514	\$12,302	\$9,488	\$ 586,877
Operation Expenses	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YTD
Back Office Software (biannual)		6,498						6,519					13,017
Electronic Permitting (annual)				1,100.00									1,100
Whoosh Transaction Fees Quarterly			3	1	1						18		23
Parking Meter Maintenance					1,100		10,999						12,099
Meter Fees	1,355	2,143	1,699	1,996	6,510	10,624	11,868	10,860	5,819	3,784	2,459	1,965	61,082
Total Operation Expenses	1,355	8,641	1,702	3,097	7,611	10,624	22,867	17,380	5,819	3,784	2,477	1,965	\$87,321
Net Income	\$2,179	\$179	\$3,945	\$8,560	\$61,215	\$111,866	\$115,772	\$95,405	\$64,357	\$18,730	\$9,825	\$7,523	\$ 499,556

Council Action: Accept report for filing.



MEMORANDUM

8(c) – Amend Chapter 5 to expand local

Re: sales tax, 2nd Reading Ordinance 676

Date: February 10, 2025

Mary Tietjen, City Attorney & Jenny Palmer,

Finance Director

To: City Council

From:

Background:

On June 17, 2019 the City Council adopted Ordinance 599, establishing the local sales tax that has been approved by the voters. In 2023, the Minnesota Legislature authorized the City of Excelsior to collect an additional \$23,000,000 in revenue from the local sales and use tax, plus associated bonding costs, for the improvements to the Commons as indicated in the Commons Master Plan as adopted by the city council on January 9, 2023. This included securing and paying debt service on bonds issued to finance the project. The City Council approved the expansion of the half-cent local sales tax via Resolution 2023-51. The expansion of the local sales tax authorized by the Legislature was approved by the voters at the November 5, 2024 referendum.

The Council now needs to amend Ordinance 599 (Codified at Chapter 5 in the City Code) to authorize the expansion of the local sales tax. Ordinance No. 676 is presented for Council consideration. At the January 21, 2025 Council meeting the first reading was approved on the consent agenda.

Council Action: Waive the second reading and adopt Ordinance 676.

Attachments:

Ordinance 676

Resolution 2023-51

ORDINANCE NO. 676

AN ORDINANCE AMENDING ORDINANCE NO. 599 OF THE CITY OF EXCELSIOR, MINNESOTA, RELATING TO A LOCAL SALES AND USE TAX

The City Council of the City of Excelsior hereby ordains as follows:

Section 1. Ordinance No. 599 of the City of Excelsior is amended to read as follows:

CHAPTER 5 -- TAXATION

Article I. – SALES AND USE TAX

Sec. 5-1. – Authority.

- (a) At the general election held in November of 2014, the voters of the City of Excelsior approved the imposition of up to a one percent sales tax to pay for the cost of collecting and administering the taxes and to fund improvements to The Commons park.
- (b) The 2019 first special session of the Minnesota Legislature passed -- and the Governor signed -- Minnesota Laws, 2019, First Special Session, Chapter 6, Art. 6, section 18 authorizing the City of Excelsior, Minnesota “to impose, by ordinance, a sales and use tax of up to one-half of one percent to pay . . . the costs of collecting and administering the tax and to finance the capital and administrative costs of improvements to the commons as indicated in the Commons Master Plan as adopted by the city council on November 20, 2017.”
- (c) The city council approved the adoption of this one-half of one percent sales tax via Resolution 2019-26.
- (d) Further, in Minnesota Laws 2023, Chapter 64, Article 10, Section 18, the Minnesota Legislature amended Minnesota Laws, 2019, First Special Session, Chapter 6, Article 6, Section 18, to authorize the City of Excelsior to collect additional revenue from the local sales and use tax to pay the costs of collecting and administering the tax and paying an additional \$23,000,000, plus associated bonding costs, for the costs of improvements to the commons as indicated in the Commons Master Plan as adopted by the city council on January 9, 2023, including securing and paying debt service on bonds issued to finance the project. The expansion of the local sales tax authorized by Minnesota Laws 2023, Chapter 64, Article 10, Section 18 was approved by the voters at the November 5, 2024, referendum.

- (e) The city council approved the expansion of the half-cent local sales tax via Resolution 2023-51.

Sec. 5-2. – Definitions.

The words, terms and phrases used in this Article shall have the meaning ascribed to them in Minnesota Statutes, Section 297A.01, except where the context clearly indicates otherwise. In addition, the following definitions shall apply:

- (a) “Act” shall mean Laws of Minnesota for 2019, First Special Session, Chapter 6, Article 6, Section 18, as amended by Laws of Minnesota 2023, Chapter 64, Article 10, Section 18, and as may be further amended from time to time.
- (b) “City” shall mean the City of Excelsior.
- (c) “Commissioner” shall mean the Commissioner of the Department of Revenue for the State of Minnesota, acting under the authority of an agreement entered into between the City and the State of Minnesota pursuant to the Act, or such other person designated to administer and collect the Excelsior Sales and Use Tax.
- (d) “Retailer” or any like term shall mean any retailer having or maintaining with the City, directly or by a subsidiary or an affiliate, an office, place of distribution, sales or sample room or place, warehouse or other place of business, or having any representative, including an affiliate, agent, sales person, canvasser or solicitor operating in the City under the authority of the retailer or its subsidiary, for any purpose, including the repairing, selling delivering, installing, or soliciting of order of the retailer’s goods or services, or the leasing of tangible personal property located in the City, whether the place of business or agent, representative, affiliate, sales person, canvasser, or solicitor, is located in the City permanently or temporarily, or whether or not the retailer or subsidiary is authorized to do business within the City.
- (e) “Excelsior Sales and Use Tax” shall mean the sales and use tax imposed and collected pursuant to this Article.
- (f) “Designated projects” shall mean improvements to the commons as indicated in the Commons Master Plan as adopted by the city council on November 20, 2017, which include, but are not limited to, improvements for walkability and accessibility, enhancement of beach area and facilities, prevention and management of shoreline erosion, redesign of the port and band shell, improvement of playground equipment, and securing and paying debt service on bonds or other obligations issued for the improvements listed in this paragraph.

Sec. 5-3. –Sales and Use Tax.

There is hereby imposed a sales and use tax in the amount of one-half of one percent on the gross receipts from sales at retail and the storage, use, distribution or consumption of goods or services which are taxable, pursuant to Minnesota Statutes, Chapter 297A and occur within the City of Excelsior. The imposition, administration, collection and enforcement of this tax shall be governed by the provisions of Minnesota Statutes, Section 297A.99, and Minnesota Rules, Chapter 8130, as amended from time to time.

Sec. 5-4. –Separate Statement; Collection from Purchaser; Advertising No Tax; Minimum Uniform Tax Collection Methods.

The Excelsior Sales and Use Tax shall be stated and charged separately from the sales price or charge for service insofar as practical and should be a debt from the purchaser to the seller recoverable at law in the same manner as other debts. In computing the tax to be collected as a result of any transaction, any amount of tax less than one-half of one cent may be disregarded and amounts of tax less than one-half of one cent may be disregarded and amounts of tax one-half cent or more may be considered an additional cent. If the sales price of any sale at retail is ninety-nine cents or less, no tax shall be collected.

Sec. 5-5. –Exemption Certificates.

A fully completed exemption certificate taken from a purchaser to the effect that the property purchased is for resale or that the sale is otherwise exempt from the application of the tax imposed by this chapter will conclusively relieve the retailer from collecting and remitting the tax to the extent the seller is also relieved of liability for the sales and use tax under Minnesota Statutes, Section 297A.665. A person who has obtained from the Commissioner an exemption certificate pursuant to the Minnesota Statutes, Section 297A.72 may use such exemption certificate for the purposes of the sales tax imposed by the City.

Sec. 5-6. –Presumption of Purpose of Sale.

For the purpose of the proper administration and enforcement of Section 5-3 of this Article, it shall be presumed that all retail sales for delivery in the City are for storage, use, or other consumption in the City until the contrary is established.

Sec. 5-7. –Collection of Sales and Use Tax at Time of Sale.

- (a) Any retailer making deliveries within the City, any retailer maintaining a place of business in the City, or any other retailer otherwise doing business within the City, upon making sales of any items described in Section 5-3 which are not exempted from the sales tax imposed under that section and which are to be delivered or caused to be delivered within the City to the purchaser, shall at the

time of making such sales collect the sales and use tax from the purchaser. The tax collected by such retailer shall be remitted to the Commissioner on behalf of the City.

- (b) Any retailer required to collect the Excelsior Sales and Use Tax and remit such tax to the Commissioner pursuant to this section shall register with the Commissioner and provide such other information as the Commissioner may require.

Sec. 5-8. –Agent of Retailer.

When in the opinion of the Commissioner it is necessary for the efficient administration of the tax, the Commissioner may regard any salesman, representative, trucker, peddler or canvasser as the agent of the dealer, distributor, supervisor, employer or other person under whom such salesman, representative, trucker, peddler or canvasser operated or from whom the tangible property is being sold is obtained, and may regard the dealer, distributor, supervisor, employer or other person as a retailer for the purposes of this Article.

Sec. 5-9. –Collection and Enforcement.

The Excelsior Sales and Use Tax imposed by the City pursuant to this Article shall be subject to the same interests, penalties, and other rules as are applicable to the State general sales tax imposed by Minnesota Statutes Chapters 270C, 289A and 297A. The Excelsior Sales and Use Tax imposed by the City pursuant to this Article may be collected by the State on behalf of the City as provided by an appropriate agreement with the Minnesota Commissioner or Revenue. The Excelsior Sales and Use Tax imposed by the City pursuant to this Article shall expire ~~at the earlier of The tax imposed under subdivision 1 expires~~ at the earlier of: (1) 25 years after the tax is first imposed; or (2) when the city council determines that ~~\$7,000,000~~ \$30,000,000 has been received from the tax to pay for the cost of the designated projects authorized under the Act, plus an amount sufficient to pay the costs related to issuance of the bonds authorized by the Act, including interest on the bonds. Any funds remaining after payment of all such costs and retirement or redemption of the bonds shall be placed in the general fund of the city. The sales and use tax imposed by the Article may expire at an earlier time if the city so determines by ordinance.

Sec.5-9A. – Bonding Authority; Additional Use of Tax.

(a) As provided in the Act, the city of Excelsior may issue additional bonds under Minnesota Statutes, chapter 475, to finance all or a portion of the costs of the designated projects authorized by the Act. The aggregate principal amount of additional bonds issued may not exceed \$23,000,000, plus an amount to be applied to the payment of interest and the costs of issuing the bonds.

(b) The bonds authorized by this Section 5-9A may be paid from or secured by any funds available to the city of Excelsior, including the tax authorized under subdivision 1a of the Act. The issuance of bonds is not subject to Minnesota Statutes, sections 275.60 and 275.61.

(c) The bonds are not included in computing any debt limitation applicable to the city of Excelsior, and any levy of taxes under Minnesota Statutes, section 475.61, to pay principal and interest on the bonds is not subject to any levy limitation. A separate election to approve the bonds under Minnesota Statutes, section 475.58, is not required.

Sec. 5-10. –Tax Clearance; Issuance of Licenses.

The City may not issue or renew a license for the conduct of trade or business in the City if the Commissioner notifies the City that the applicant for such license owes delinquent Excelsior Sales and Use Taxes as provided in this Article, or penalties or interest due on such taxes. For the purposes of this section, the following terms have the following meanings:

- (a) Excelsior Sales and Use Taxes includes sales and use taxes as provided in this Article including all penalties and interest due on said sales and use taxes.
- (b) Delinquent taxes do not include a tax liability if:
 - (1) an administrative or court action which contests the amount or validity of the liability has been filed or served;
 - (2) the appeal period to contest the tax liability has not expired; or
 - (3) the applicant has entered into a payment agreement and is current with the payments.
- (c) Applicant means an individual if the license is issued to or in the name of an individual or the corporation, partnership or other entity if the license is issued to or in the name of a corporation, partnership or other entity.
- (d) A copy of the notice of delinquent taxes given to the City shall also be sent to the applicant taxpayer. In the case of renewal of a license, if the applicant requests a hearing in writing, within thirty (30) days of the receipt of the notice of delinquent taxes, then a contested case hearing shall be held by the Commissioner under the same procedures as provided in Minnesota Statutes, Section 270C.72 for the State sales and use tax imposed under Minnesota Statutes, Chapter 297A, provided that if a hearing must be held on the State sales and use tax, the hearings may be combined.

Sec. 5-11. –Effective Date.

This ordinance shall become effective 30 days after publication, provided that, except as otherwise provided herein, the Excelsior Sales and Use Tax authorized by this Article shall apply to sales made on or after October 1, 2019 and shall be in addition to all other taxes now in effect.

Secs. 5-12-5-99. –Reserved.

Adopted by the City Council of the City of Excelsior, Minnesota, this 10th day of February, 2025.

ATTEST:

Gary Ringate, Mayor

Theresa Bajda, City Clerk

Kristi Luger, City Manager

First Reading of Ordinance:
Second Reading and Adoption:
Publication of Ordinance:
Effective Date:

January 21, 2025
February 10, 2025
February 20, 2025
March 24, 2025

City of Excelsior
Resolution No. 2023-51

A Resolution Approving 2023 Minn. Laws Ch. 64, Art. 10, Section 15
(Amending 2019, First Special Session, Chapter 6, Article 6, Section 18)

WHEREAS, the 2019 special session of the Minnesota Legislature passed and the Governor signed 2019 Minn. Laws, First Special Session, Chapter 6, Section 18 which authorized the City of Excelsior, Minnesota (the "City") to impose by ordinance a sales and use tax of up to one-half of one percent for up to 25 years or until \$7,000,000 is received from the tax to pay the costs of collecting and administering the tax and to finance the capital and administrative costs of improvements to the Commons; and

WHEREAS, the City desires to continue collecting the one-half of one percent local sales tax for the entirety of the previously authorized 25-year statutory collection window or until it collects a total of \$30,000,000, whichever comes first and the legislature has approved and the governor has signed 2023 Minn. Laws, Chapter 64, Article 10, Section 15 authorizing the City to do so after holding a referendum approving the imposition of the tax at its next general election in November of 2024; and

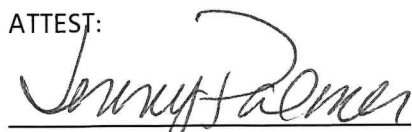
WHEREAS, notwithstanding Minnesota Statutes, section 477A.016, or any other law, ordinance, or city charter, and if approved by the voters at an election as required under Minnesota Statutes, section 297A.99, subdivision 3, the City may collect additional revenue from the sales and use tax;

WHEREAS, the revenues derived from the additional authorization granted by the voters, expires at the earlier of: (1) 25 years after the tax is first imposed; or (2) when the City Council determines that \$30,000,000 has been received from the tax to pay for the costs of improvements to the Commons as indicated in the Commons Master Plan, including securing and paying debt service on bonds issued to finance the project.

NOW, THEREFORE BE IT RESOLVED BY THE CITY COUNCIL FOR THE CITY OF EXCELSIOR, that the City does hereby approve 2023 Minn. Laws, Chapter 64, Article 10, Section 15 (amending Minnesota Laws 2019, First Special Session, Chapter 6, Section 18) and instructs the City Manager to submit the appropriate documents and a copy of this Resolution to the Secretary of the State of Minnesota.

Adopted by the City Council of the City of Excelsior, Minnesota, this 17th day of July 2023.

ATTEST:


Jenny Palmer, Acting City Clerk


Todd R. Carlson, Mayor


Kristi Luger, City Manager

**CERTIFICATE OF APPROVAL OF SPECIAL LAW
BY GOVERNING BODY**

(Pursuant to Minnesota Statutes, 645.02 and 645.021)

STATE OF MINNESOTA

County of Hennepin

TO THE SECRETARY OF STATE OF MINNESOTA:

PLEASE TAKE NOTICE, That the undersigned chief clerical officer of the City of Excelsior DOES HEREBY CERTIFY, that in compliance with the provisions of Laws, 2023, Chapter 64, Article 10, Section 15 requiring approval by a majority of the governing body of said local governmental unit before it becomes effective, the Excelsior City Council at a meeting duly held on the 17th day of July 2023, by Resolution 2023-51 did approve said Laws, 2023, Chapter 64, Article 10, Section 15 by a majority vote of all of the members thereof (Ayes _____; Noes _____; Absent or not voting _____).

A copy of the resolution is hereto annexed and made a part of this certificate by reference.

Signed: 
Jenny Palmer, Acting City Clerk



MEMORANDUM

8(d) –THC License Renewal

Re: _____

Date: February 10, 2025

To: City Council

From: Theresa Bajda, City Clerk

The following businesses have submitted their THC license renewal applications and paid all required fees to sell THC products or THC Beverages only in the City of Excelsior.

THC Product License (2 Available per City Code)

- Excelsior Brewing Company: 421 Third Street
- JES Naturals LLC: 370 Water Street

THC Beverage Only License (Available to businesses with off-sale license)

- Kowalski's Market: 440 Water Street
- Haskell's Inc.: 1 Water Street
- Excelsior Vintage, Inc: 400 Highway 8

Licenses are valid for one year.

Council Action: Approve resolution 2025-12 authorizing the issuance of the off-sale THC Beverage and THC product licenses to the above-mentioned establishments.

CITY OF EXCELSIOR
CITY COUNCIL
RESOLUTION NO. 2025-12

RESOLUTION APPROVING 2025 THC LICENSES

WHEREAS, the City of Excelsior has received renewal applications and forms for 2025 THC product and THC off-sale beverage only licenses.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Excelsior, Minnesota, that the following Licenses be approved:

THC PRODUCT LICENSE (2 AVAILABLE PER CITY CODE)	
Excelsior Brewing Company	421 Third Street
JES Naturals LLC	370 Water Street
THC BEVERAGE ONLY LICENSE (AVAILABLE TO BUSINESSES WITH OFF-SALE LICENSE)	
Kowalski's Market	440 Water Street
Haskell's Inc.	1 Water Street
Excelsior Vintage, Inc.	400 Highway 7

Adopted by the City Council of the City of Excelsior, Minnesota, this 10th day of February 2025.

Gary Ringate, Mayor

ATTEST:

Theresa Bajda, City Clerk

Kristi Luger, City Manager



MEMORANDUM

8(e) – City Council Work Groups

Re: _____

Date: February 10, 2025

To: City Council

From: Theresa Bajda, City Clerk

At the January 6th and 21st City Council and Work Session meetings, Councilmembers discussed and/or approved appointments to work groups.

Staff have created a chart capturing these proposed work groups and appointments.

Council Action: Motion to approve 2025 work group appointments as reflected in attachment.

Attachments: Proposed Council Work Groups 2025

2025 City Council Appointments

Group	Councilmember(s)	Lead Staff	Supporting Staff
Lake Minnetonka Communications Commission	Tim Bildsoe	N/A	
SLMPD Coordinating Committee	Gary Ringate and Jennifer Caron (alternate)	Kristi Luger	
Excelsior Fire District Board	Rob Tyler and Jennifer Caron (alternate)	Kristi Luger	
St. Alban's Bay Bridge Committee	Gary Ringate and Chrystal O'Hanlon (alternate)	Morgan Dawley	Tim Amundsen
Community for The Commons Liaison	Rob Tyler and Chrystal O'Hanlon (alternate)	Tim Amundsen and Kristi Luger	
106 Center Street Working Group	Jennifer Caron and Chrystal O'Hanlon	Julia Mullin	Kristi Luger, Ali Cameron
Lobbying Efforts	Jennifer Caron and Rob Tyler	Kristi Luger	Tim Amundsen
Parking Garage Operations Working Group	Tim Bildsoe and Gary Ringate	Tim Amundsen	Julia Mullin
Parking Financials Working Group	Tim Bildsoe and Jennifer Caron	Jenny Palmer	Kristi Luger, Julia Mullin
Port Leases Working Group	Tim Bildsoe and Chrystal O'Hanlon	Kristi Luger	
Downtown Beautification	Gary Ringate and Jennifer Caron	Tim Amundsen	Parks and Natural Resources Manager
Tree Ordinance	Jennifer Caron	Tim Amundsen	Parks and Natural Resources Manager



MEMORANDUM

8(f) – City Council Commission Liaisons

Re: _____

Date: February 10, 2025

To: City Council

From: Theresa Bajda, City Clerk

At the January 21st Council Work Session, Councilmembers discussed opportunities to improve communications with the Commissions through appointment of Council liaisons that would rotate quarterly.

Council liaisons would meet with Commission Chairs as needed, get regular agenda packets, be the interview lead for new commissioners, and attend one Commission meeting quarterly.

Council Action: Approve attached quarterly liaison assignments or provide direction to staff on any proposed changes.

Attachments: Quarterly Commission Liaison Assignments

2025 Commission Liaison Schedule

Commission Assignment	Q1 (Jan-Mar)	Q2 (Apr-Jun)	Q3 (Jul - Sep)	Q4 (Oct-Dec)
Parks and Recreation	Bildsoe	Ringate	Caron	Tyler
Heritage Preservation	Caron	Tyler	O'Hanlon	Bildsoe
Planning	O'Hanlon	Bildsoe	Ringate	Caron

*Rotated in alphabetical order by last name



MEMORANDUM

8(g) – First Reading Ordinance 678 Contractor

Re: Parking Permits for Restricted Streets

Date: February 10, 2025

To: City Council

From: Julia Mullin, Community Development Director

At the Council's request, attached for a First Reading is Ordinance 678 which amends *Chapter 32. Traffic and Vehicles*, in the city code to make a temporary parking permit available to contractors or other service providers while they are working at a property on a restricted street in Excelsior, a permit-only street or a metered street.

The code already provides for the use of on-street parking at a construction site where a building permit has been issued. See *Sec. 32-65 Construction area permit*:

https://library.municode.com/mn/excelsior/codes/code_of_ordinances?nodeId=PTIICOOR_CH32TRVE_ARTIIP_ASTST_DIV1GE_S32-65COARPE.

The proposed amendment would allow service providers including but not limited to landscaping, home repair, and home cleaning, to park on restricted streets (streets that are permit-only or metered) when they are working at a property there.

Recommended Council Action

Waive the First Reading and schedule the Second Reading and adoption of Ordinance 678 for February 18, 2025.

Attachments

Ordinance 678

ORDINANCE NO. 678

AN ORDINANCE AMENDING CHAPTER 32 OF THE CITY OF EXCELSIOR CODE OF
ORDINANCES RELATED TO PARKING FOR CONTRACTORS ON RESTRICTED
STREETS

The City Council of the City of Excelsior hereby ordains as follows:

Section 1. Chapter 32, Article II, Division 1 of the Excelsior City Code is amended by adding the following:

Sec. 32-67. – Temporary Contractor Parking on Restricted Streets

A temporary parking permit may be issued to a contractor or other provider of home services to a property, including but not limited to landscaping services, cleaning services, and home repair services, for use during their work at that property only on streets with restricted parking including permit-only and metered. The permit is valid only while the permit-holder is working at the subject property. The permit is valid only for parking on the street where the property is located.

Sec. 2. This Ordinance is effective in accordance with Section 3.06 of the Excelsior City Charter.

Adopted by the Council of the City of Excelsior, Minnesota, this 18th day of February 2025.

Gary Ringate, Mayor

ATTEST:

Theresa Bajda, City Clerk

Kristi Luger, City Manager

First Reading of Ordinance:

February 10, 2025

Second Reading and Adoption:

February 18, 2025

Publication of Ordinance:

February 27, 2025

Effective Date:

March 31, 2025



MEMORANDUM

8(h)- Parks and Recreation Commission Bylaw

Re: Amendments, Resolution 2025-11

Date: February 10, 2025

To: City Council

From: Tim Amundsen, Public Works Director

The Parks and Recreation Commission reviewed Appendix C of their Commission bylaws. Following review of their bylaws, the Commission proposed the following changes and updates for final review and approval by the City Council:

Park and Recreation Advisory Commission Bylaws:

- In regular meeting change meeting time to "as posted" to not signify a specific time.
- Under special meetings, add electronic communications for contact purposes which already includes telephone.

The proposed changes are included in Appendix C attached to this memo. Resolution 2025-11 is attached to this memo for approval.

Action:

Approve the proposed changes to Appendix C, Parks and Recreation Advisory Commission bylaws as proposed by the Parks and Recreation Commission.

CITY OF EXCELSIOR
CITY COUNCIL
RESOLUTION NO. 2025-11

**RESOLUTION AUTHORIZING AMENDMENT OF CITY CODE APPENDIX C PARK AND RECREATION
ADVISORY COMMISSION BYLAWS**

WHEREAS, appendix C of Excelsior City Code are the bylaws of the Park and Recreation Advisory Commission (“PNR”) as adopted on February 9, 1999; and

WHEREAS, the PNR has reviewed said bylaws and made recommendations for amendments.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Excelsior, Minnesota hereby amends the Park and Recreation Advisory Commission bylaws codified as Appendix C to the Excelsior City Code as reflected in the attached Exhibit A.

Adopted by the City Council of the City of Excelsior, Minnesota, this 10th day of February 2025.

Gary Ringate, Mayor

ATTEST:

Theresa Bajda, City Clerk

Kristi Luger, City Manager

APPENDIX C PARK AND RECREATION ADVISORY COMMISSION BYLAWS¹

I. ANNUAL MEETINGS.

The annual meeting of the Park & Recreation Advisory Commission shall be the first regular meeting in the month of March each year. Such meeting shall be devoted to the election of officers for the ensuing year and such other business as shall be scheduled by the Commission as per Section VI. A list of major topics to be discussed through the year will also be formulated.

II. REGULAR MEETINGS.

Regular meetings of the Park & Recreation Advisory Commission shall be held in the City Hall at ~~7:00~~ **the posted agenda time** on the Tuesday immediately following the second Monday of each month. If at any time such day is a legal holiday then the meeting shall be rescheduled for the following day at the same time and the same location. At such meetings, the Commission shall consider all matters properly brought before it. A regular meeting may be canceled or rescheduled by the Commission at a prior meeting.

III. SPECIAL MEETINGS.

Special meetings of the Park & Recreation Advisory Commission shall be called by the Chairperson or Vice-Chairperson who shall designate the time and place of the meeting as well as the agenda. Written notice thereof shall be given to all members not less than 24 hours in advance of the special meeting.

Sometime the Council may require a quick recommendation from the Commission. At such time "Action by Consent" may be initiated by the Chairperson. The Chairperson may contact all Commissioners by telephone **or electronic communication**. Only if there is unanimous consent to the recommendation it may be given to Council. Said issue must be placed on the next regular agenda of the Commission for the formal action to be recorded.

IV. QUORUM.

In order for any meeting to be called to order, a quorum of four members must be present. During the course of a meeting at least four members must be present to take action on any matter brought before the Commission.

¹Editor's note(s)—Printed in this appendix C are the bylaws of the city council, as adopted by the park and recreation advisory commission on February 9, 1999. Amendments are indicated by parenthetical history notes following amended provisions. The absence of a history note indicates that the provision remains unchanged from the original. Obvious misspellings have been corrected without notation. For stylistic purposes, a uniform system of headings, catchlines, citations to state statutes, and expression of numbers in text have been used to conform to the Code of Ordinances. Additions made for clarity are indicated by brackets.

Cross reference(s)—Boards, commissions and committees, § 2-111 et seq.; parks and recreation advisory commission, § 24-51 et seq.

V. VOTING.

At all meetings of the Park & Recreation Advisory Commission, each member attending will have one vote for each issue brought to a motion. Voting shall be by voice. In the event that any member shall have a personal interest of any kind in a matter then before the Commission, s/he shall disclose those interests and the secretary shall record those interests before the vote. The affirmative vote of a majority of members in attendance shall be necessary for the adoption of any motion. The results of any vote shall be recorded listing those voting aye, those voting nay, and those abstaining.

VI. PROCEEDINGS.

- A. At any regular meeting of the Park & Recreation Advisory Commission, the following shall be the normal order of business:
1. Call to Order/Roll Call
 2. Minutes of the preceding meeting(s).
 3. Citizen Reports or Comments
 4. Unfinished Business
 5. New Business
 6. Communications and Reports
 7. Miscellaneous/Commissioner's Comments
 8. Adjournment

VII. COMMITTEES.

Committees of the Commission may be established from time to time by the Commission to study subjects or issues of importance which have been suggested by the Council, Commission, or general public. All Committee recommendations must be discussed by the full Commission before an Park & Recreation Advisory Commission position is reached and a recommendation is given the Council.

VIII. DEADLINE FOR AGENDA.

The deadline for placing items on the agenda shall be 12:00 Noon, Tuesday, one week prior to the meeting.

IX. RULES OF PROCEDURE.

All meetings of the Park & Recreation Advisory Commission shall be conducted in accordance with the latest edition of "Roberts Rules of Order".

X. MEMBERS RESPONSIBILITIES.

Members are expected to be interested in Park & Recreation matters as they relate to the general welfare and development of the community. It is realized that at times absence from meetings is unavoidable. Any member unable to attend a meeting shall notify the Chairperson or City Manager of his/her intended absence. Failure of any member to attend two successive meetings without prior discussion and agreement by a majority of

the Commission, may be subject to review by the Commission and could be grounds for a recommendation to the Council to remove that member from the Commission.

XI. OFFICERS.

The Officers of the Park & Recreation Advisory Commission shall consist of a Chairperson, Vice-Chairperson, and Secretary elected by the Commission at the annual meeting for a term of one year.

XII. DUTIES OF OFFICERS.

The duties and powers of the Officers of the Park & Recreation Advisory Commission shall be as follows:

- A. Chairperson:
 - 1. To preside at all meetings.
 - 2. To call special meetings of the Commission in accordance with these Bylaws.
 - 3. To sign documents of the Commission.
 - 4. To see that all actions of the Commission are properly taken.
- B. Vice-Chairperson:
 - 1. During the absence, disability or disqualification of the Chairperson, the Vice-Chairperson shall exercise or perform all the duties and be subject to all the responsibilities of the Chairperson.
 - 2. To call special meetings of the Park & Recreation Advisory Commission in accordance with these Bylaws.
- C. Secretary:
 - 1. To sign official documents of the Commission.
 - 2. To record and prepare the minutes of all meetings of the Commission.
- D. Secretarial Duties Delegated to City Staff:
 - 1. To keep minutes of all meetings of the Commission in an appropriate Minute Book.
 - 2. To prepare the agenda for all meetings of the Commission.
 - 3. To be custodian of Commission records.
 - 4. To inform the Commission of correspondence relating to business of the Commission and to attend to such correspondence.
 - 5. To handle funds allocated to the Commission in accordance with its directives, the law, and City regulations.

XIII. VACANCIES.

Should any vacancy occur among the members of this Park & Recreation Advisory Commission by reason of death, resignation, disability, or otherwise, immediate notice thereof shall be given to the Mayor. Resignations should be made in writing to the Mayor stating the effective date of the resignation. The Mayor shall then see that a new appointment is made.

XIV. AMENDMENTS.

These Bylaws may be amended at any meeting of the Park & Recreation Advisory Commission provided that notice of said proposed amendment is given to each member in writing at least four days prior to said meeting.



MEMORANDUM

8(i)- 1st Reading Ordinance 677, Chapter 24

Re: Parks and Recreation Code Updates

Date: February 10, 2025

To: City Council

From: Tim Amundsen, Public Works Director

The Parks and Recreation Commission reviewed the City Code related to Parks and Recreation. Following review of the City Code, the Commission proposed the following changes and updates to Chapter 24 for final review and approval by the City Council:

Chapter 24:

-Section 24-1: Change Excelsior Parkland to Studer Park, amend language for the location of the Captain Johnson Memorial, and include The Port, dock piers, and Water Street Trailhead.

Section 24-9: Remove the section regarding toilets.

-Section 24-22: Add language to exempt the City from the hunting and removal of animals ordinance. City will obtain all required permits from the permitting agency for any activities deemed necessary due to a nuisance animal.

-Section 24-23: Add language to exempt the City from the trapping animals ordinance. City will obtain all required permits from the permitting agency for any activities deemed necessary due to a nuisance animal.

-Section 24-24: Add this section to the City Code to address Marijuana smoking to be in line with recent City Council direction.

24-53: Add the phrase "as needed" for the Commission liaison attending City Council or Planning Commission meetings.

The proposed ordinance amendment is attached to this memo.

Action:

Approve the first reading of the proposed ordinance amendment of Chapter 24 of the City Code related to Parks and Recreation with changes recommended by the Parks and Recreation Commission.

ORDINANCE NO. 677

AN ORDINANCE AMENDING SECTIONS OF CHAPTER 24 OF THE CITY OF
EXCELSIOR CITY CODE RELATED TO PARKS AND RECREATION

The City Council of the City of Excelsior hereby ordains as follows:

Section 1. Chapter 24, Article I, Section 24-1 of the Excelsior City Code is amended as follows:

This chapter shall apply to all public grounds owned by or under the control of this city, including the fire lanes designated in this section, but shall not apply to all other streets and the municipal parking lots. Such lands are listed, but not exclusively, as follows:

- (1) The Commons as shown on the original plat of the city and Cooley's Resurvey.
- (2) ~~Excelsior Parkland.~~ Studer Park and Studer Pond.
- (3) The Captain Johnson Memorial at the intersection of Lake Street, Mill Street, ~~and Water Street~~ Second Street, Excelsior Boulevard and Morse Avenue.
- (4) The Dr. Hugh C. Arey Memorial at the intersection of Water Street and County Road 19 (Oak Street).
- (5) College Lake.
- (6) City Hall.
- (7) Sewer, water, and street department property.
- (8) Cemetery.
- (9) South Lake Minnetonka Police Department Building.
- (10) St. Albans Bay bordering on Minnetonka Boulevard.
- (11) End of Water Street at Lake Minnetonka and public dock.
- (12) Historic fire lanes as follows:
 - a. End of Lafayette Avenue at Lake Minnetonka;
 - b. End of George Street at Lake Minnetonka;
 - c. End of Third Street at Lake Minnetonka;
 - d. End of Bell Street at Lake Minnetonka;
 - e. End of Linwood at Lake Minnetonka;
 - f. End of First Street at Lake Minnetonka;
 - g. End of Hidden Lane at Lake Minnetonka;
- (13) Piers 1, 2, 3, 4 and 5 and the Public Docks.
- (14) The Port- Lot 204.

(15) Water Street Trailhead

Sec. 2. Chapter 24, Article I, Section 24-9. - Toilets is repealed:

~~No person shall enter a toilet room set apart for the opposite sex.~~

Sec. 3. Chapter 24, Article I, Section 24-22. - Hunting animals, etc. is amended as follows:

No person shall rob, injure, or destroy any bird's nest within the limits of any park or parkway, nor aim or discharge any air gun, sling-shot, or other weapon, or throw any stone or other missile, at any bird or bird's nest or wild creature within any park, nor in any manner, tease, capture, or kill any bird or wild creature therein. The city is exempt from this section as necessary or as authorized by law. The city will obtain all necessary permits and abide by all pertinent laws relating to the hunting or removal of nuisance animals.

Sec. 4. Chapter 24, Article I, Section 24-23. - Trapping animals, etc. is amended as follows:

No person shall at any time set, lay, prepare, or have in possession any trap, snare, artificial light, net, bird line, ferret, or any contrivance whatever, for the purpose of catching, taking, or killing any bird or wild creature in any park. The city is exempt from this section as necessary or as authorized by law. The city will obtain all necessary permits and abide by all pertinent laws relating to the trapping or removal of nuisance animals.

Sec. 5. A new Chapter 24, Article I, Section 24-24 is added as follows:

Sec. 24-24. – Cannabis.

Use of cannabis in public spaces shall be governed by Chapter 22, Article V, Section 22-154 of this Code.

Sec. 6. Chapter 24, Article II, Section 24-51. - Purpose of article is amended as follows:

The city operates and maintains public parks for the benefit and pleasure of its citizens, and the city has in the past expended monies for capital improvements and maintenance of these parks. ~~It is the desire of the city to establish~~ The city has established a park and recreation commission for the city as an advisory body to the city council to aid that council in the expenditures of monies so that the greatest benefit may be obtained from the use and maintenance of parks and recreational facilities.

Sec. 7. Chapter 24, Article II, Section 24-53. - Membership is amended as follows:

Membership in the park and recreation advisory commission shall consist of seven residents of the city appointed by the city council. All members shall serve without compensation. Each member, other than members appointed to fill a vacancy, shall be appointed no earlier than 45 days before their term commences and shall serve a term of three years, commencing on March 1 of the year in which the member is appointed. Members shall

continue to hold office until the term of the member's successor commences. All unexpired terms shall be filled for the balance of the unexpired term only. The city council shall designate one of its members as its liaison to meet with the park and recreation advisory commission. The park and recreation advisory commission shall designate one of its members as a liaison to attend city council meetings and one of its members as a liaison to meet with the planning commission as needed. The chair and vice-chair shall be elected by the park and recreation advisory commission. The park and recreation advisory commission shall also appoint a secretary who may or may not be a member of the commission.

Sec. 8. This Ordinance is effective in accordance with Section 3.06 of the Excelsior City Charter.

Adopted by the Council of the City of Excelsior, Minnesota, this 18th day of February 2025.

Gary Ringate, Mayor

ATTEST:

Theresa Bajda, City Clerk

Kristi Luger, City Manager

First Reading of Ordinance: February 10, 2025

Second Reading and Adoption: February 18, 2025

Publication of Ordinance: February 27, 2025

Effective Date: March 31, 2025



MEMORANDUM

Item 8(j)- Approval of 2025 Council Goals

Re: and Work Session Calendar

Date: February 10, 2025

To: City Council

From: Kristi Luger, City Manager

The Council held goal setting sessions on January 6 and 21 to establish the 2025 City of Excelsior Objectives. Included in the packet are the list of 2025 Objectives and the tentative work session schedule. If the Council's discussions are accurately represented, the Council should adopt the 2025 City of Excelsior Objectives.

Council Action: Adopt the 2025 City of Excelsior Objectives.

Attachments:

2025 Objectives

Tentative 2025 Work Session Schedule



City of Excelsior 2025 Objectives

2025 Progress

Color-Coded Rating (R <25%, O 25-49%, Y 50-75%, G 76-99%)

Top Priorities		Responsible Party	Apr Mar	Q2 June	Q3 Sept	Q4 Dec	Status
City Hall - Determine a long-term location for city hall and the council chambers		Kristi, Julia, and Tim					
Parking System Improvements - Examine options to make the new parking garage more user-friendly and look at implementing aspects of the Walker Parking Study		Kristi, Julia, and Tim					
Organizational Study - Analyze findings of the study and consider implementing some of the findings		Kristi					
Ongoing Initiatives (Listed in Alphabetical Order)		Responsible Party	Apr Mar	Q2 June	Q3 Sept	Q4 Dec	Status
Address Code Enforcement		Julia and Ali					
Complete Updates to the City Sign Ordinance		Julia and Ali					
Develop a Plan for Downtown Beautification		Tim and Kevin					
Enhance the Capital Improvement Plan		Jenny, Tim, and Morgan					
Examine Existing Leases and Improvements at the Port		Kristi and Tim					
Finalize the Small Area Plan for South Water Street		Julia					
Prioritize Remaining Projects in The Commons		Tim and Kristi					
Update the Tree Ordinance		Tim, Kevin, and Julia					
Work with Minnetonka Center for the Arts on 106 Center Street		Julia and Kristi					

2025 Council Work Session Plan

The purpose of a work session is to give the city council and city staff the opportunity to study and discuss policy and project matters in detail in a less formal environment than a regular meeting. The council may provide direction to staff but does not take formal action on business matters at work sessions.

QUARTER 1

JAN. 6

- 2025 Council Goal Setting Part 1

JAN. 21

- 2025 Council Goal Setting Part 2

FEB. 10

- City Hall

FEB. 18

- Council Training with Attorney

MARCH 3

- Park and Recreation
Commission Goals

MARCH 17

- Planning Commission Goals

QUARTER 2

APRIL 7

- Heritage Preservation
Commission Goals

APRIL 21

- Capital Improvement Plan

MAY 5

- Prioritize Remaining Projects
in The Commons

MAY 19

JUNE 2

- Organizational Study

JUNE 16

QUARTER 3

JULY 21

- Code Enforcement

AUG. 4

- Budget

AUG. 18

- General Fund Budget

SEPT. 2

- Preliminary Budget Review

SEPT. 15

QUARTER 4

OCT. 6

OCT. 20

NOV. 3

- Budget

NOV. 17

- Budget

DEC. 1

DEC. 15



MEMORANDUM

8(k) – Acknowledge 10% Gambling

Re: Donations for 4th Quarter 2024

Date: February 10, 2025

Jenny Palmer, Finance Director

To: City Council

From: _____

Staff has received the following charitable gambling donations during the fourth quarter of 2024 totaling \$1,275.00. These contributions are reflected in the Park Improvement Fund Financial Statement that follows this report.

Haskell's – Minnetonka Youth Hockey Association

October	\$0.00
November	\$0.00
December	\$1,275.00

Maynard's – Rotary Club of Lake Minnetonka-Excelsior

October	\$0.00
November	\$0.00
December	\$0.00

All Charitable Gambling proceeds are committed to The Commons Master Plan Park Improvements and must be spent on lawful purpose expenditures as defined in MN Statute 349.12, Subdivision 7a.

Council Action: Acknowledge charitable gambling donations.

**City of Excelsior
Park Capital Improvement Fund
As of 12/31/2024**

	<u>2024 Budget</u>	<u>DECEMBER Actual</u>	<u>2024 YTD Actual</u>	
PARK IMPROVEMENT FUND				
Park Improvements				
Revenue				
Interest Earnings	-		-	
County Grants			25,981	Tree Canopy Grant
Contributions and Donations	34,000		49,027	Concert & Yoga
Charitable Gambling - Designated Donations	15,000	-	12,920	Donations
Park Dedication Fees	73,500		40,733	
Miscellaneous (Winter Storage)	20,436	-	19,777	
Transfers From Other Funds	-	-	-	
	<u>142,936</u>	<u>-</u>	<u>148,438</u>	
Expenditures				
Professional Services	-	-	8,906	Great River Greening
Engineering Fees	-	-	1,104	
Shade Trees	20,000	24,850	46,773	
Charitable Gambling Expenditures - C4C	-	-		
Improvements Other Than Bldgs	295,000	5,517	27,673	
Improvements - Playground Equip	-	-	9,941	
Improvements - Charitable Gambling	-	-	-	
Transfers To Other Funds	34,000	-	-	
	<u>349,000</u>	<u>30,367</u>	<u>94,397</u>	
Net Change in Fund Balances	<u>(206,064)</u>	<u>(30,367)</u>	<u>54,042</u>	
Cash Balances				
Cash Balance -12/31/2024			784,685	
Designated for Playground Equipment			3,926	
Committed for Commons Master Plan - Charitable Gambling Projects*			138,752	
Committed for Commons Master Plan			-	
Balance Available for Park Projects			<u>642,007</u>	
Fund Balance			<u>784,685</u>	



MEMORANDUM

10a –Jimmie’s Old Southern BBQ

Re: Smokehouse, On Sale Wine/Beer License

Date: February 10, 2025

To: City Council

From: Theresa Bajda, City Clerk

Colleen and James Anderson are the owners of Jimmie’s Old Southern BBQ Smokehouse. They have signed a lease for property at 287 Water Street (formerly Nautical Bowls) and anticipate a late spring/early summer opening. The Anderson’s submitted an application to the City Clerk for an on-sale wine/strong beer license in preparation for this opening. A strong beer license is issued in combination with the on-sale wine license and consistent with state licensing procedures.

The City Code currently limits the number of on-sale wine licenses to four (4), which are already in use by the following establishments.

ON SALE WINE/BEER (4 available per City Code)	
318 Café Excelsior, DBA 318 Café	318 Water Street
Aguazula Holdings LLC, DBA Olive’s Fresh Excelsior	287 Water Street
The Waters of Excelsior, LLC	723 Water Street
The Lobby Coffee & Leisure	234 Water Street

Staff notified the applicant that the City Code would need to be amended to increase the number of wine/beer licenses before the application could be approved and forwarded to the State’s Alcohol and Gambling Enforcement Division.

In addition to this location in downtown Excelsior, the Anderson’s own and operate four other locations: Hudson, WI, Minneapolis, Arden Hills, and Shakopee.

If supportive of increasing the number of available on sale wine/beer licenses, staff propose the following timeline of events:

- February 18 – 1st Reading Ordinance to Amend Chapter 4 City Code (increase available licenses to 5)
- March 3 – 2nd Reading Ordinance and Public Hearing to Approve License
- March 13 – Publication of Ordinance
- April 14 – Effective Date and Issuance of License
 - Conditional upon approval from State’s Alcohol and Gambling Enforcement Division

Council Action: Provide an opportunity for the Anderson’s to address the Council during the Petitions, Requests, and Communications section 10 of the agenda and direct staff to draft an ordinance to increase the wine/beer license from four to five.



MEMORANDUM

Item 14(a) - Urban Forestry Management

Re: Plan

Date: February 10, 2025

To: City Council

From: Tim Amundsen, Public Works Director

The City has received several healthy canopy grants from Hennepin County Forestry since 2022. One grant application included the development and creation of an Urban Forestry Management Plan (UFMP). The intent of the plan is to summarize the existing conditions of the urban forest and canopy cover in Excelsior and further define current forestry management and best practices.

The City has actively worked with our consulting engineering firm, WSB, to help develop a plan that quantifies the benefits trees provide to Excelsior and define future goals in maintaining and planning for future reforestation and shaping priorities. The plan also discusses the current maintenance practices and planting strategies to preserve Excelsior's urban forest.

Staff has identified specific issues to be discussed by the City Council. A memo from Emily Ball, Forestry Program Manager for WSB, is attached. The items identified for further consideration are as follows:

Crown Raising and Pruning for Clearance: Staff is recommending that clearance heights, which are necessary to ensure pedestrian, vehicle, and tree safety are implemented. Staff recommendation for tree clearance heights are 7-8 feet for sidewalks and 15-16 feet for streets. The clearance heights contemplate pedestrian safety and street clearances are recommended based on snow and leaf loads so lower limbs are not struck by vehicles such as pavement reclamation equipment, street sweepers, delivery trucks, and equipment on trailers such as backhoes.

Tree Planting in the Boulevard: Staff has developed a set of standards for tree plantings within boulevards. The UFMP favors tree preservation whenever possible but also contemplates the boulevard size and soil volume availability to plant a tree that will be successful well into the future. Staff recommendation is to avoid planting in boulevards less than 3 feet wide due to a lack of space and available soil volume and to work with adjacent property owners to plant replacement trees in the front yard where the tree has a better chance for survival and success. Staff also recommends not planting large shade trees in boulevards less than 4 feet wide due to limited soil and rooting space and the potential to heave sidewalks within 10 years due to root growth patterns. It is also recommended that new trees in boulevards are planted 8-10 feet away from all existing underground utilities and out of competition from other adjacent trees.

Tree Committee: Staff is also recommending that the Parks and Recreation Commission be designated as the City's "Tree Committee." Establishing the Parks and Recreation Commission as the Tree Committee would allow for City staff to discuss ongoing urban forestry topics and issues along with planning the

yearly “Arbor Day” activities to further enhance community outreach on the importance of our urban forest in Excelsior.

Staff and Emily Ball from WSB will be present at the Council meeting to provide a short presentation regarding the UFMP. Staff will be available for questions and comments during City Council review of the UFMP.

Council Action: Review the proposed plan, make comments and recommendations, and formally accept the implementation of the Urban Forestry Management Plan for the City of Excelsior.

Attachments:

Memo from Emily Ball from WSB

Urban Forestry Management Plan

Memorandum

To: Tim Amundsen, Public Works Director

From: Emily Ball, Forestry Program Manager ISA Certified Arborist #4284A, WSB

Copy: Morgan Dawley, City Engineer, WSB

Date: August 28, 2024

Re: City of Excelsior Urban Forest Management Plan – Highlights
WSB Project No. 021948-000

Introduction

The City of Excelsior has received several Healthy Canopy Grants from Hennepin County Forestry since 2022. One grant recently helped fund the creation of an Urban Forest Management Plan (UFMP).

The plan summarizes Excelsior's:

- Urban forest existing conditions
- Canopy cover
- Current forestry management and practices

The UFMP also:

- Highlights and quantifies the benefits that trees provide to Excelsior
- Reviews City planning documents, ordinances, and regulations as they relate to trees.
- Defines future goals for the urban forest over five distinct categories
- Outlines stakeholder groups that play an active role in shaping the City's urban forest priorities.

Results

The City of Excelsior has a total of 828 public inventoried trees, spanning 47 tree species within 29 genera. The public urban forest provides numerous benefits to the community and its residents, with a cumulative asset value of all inventoried trees \$6,915,373.38 (Bartlett ArborScope software). More than 61 percent of all public trees are rated in "Good" condition (on a dead-poor-fair-good rating scale).

There are several areas of practice that were evaluated and updated in the UFMP, including pruning for clearance and boulevard planting practices.

Crown Raising (Pruning for Clearance)

Excelsior is a densely developed community that is walkable and has narrow streets and sidewalks. Removing lower branches with the intent to maintain a minimum clearance height underneath tree canopies/crowns is very important for pedestrian and vehicle safety. Raising tree crowns from a young age is also important, so that smaller sized branches (ideally 4 inches in diameter or less) are removed as the tree grows, reducing the likelihood of decay getting into the main stem. If crown raising gets deferred, larger branches will need to be removed making it harder for the tree to seal over the wound, which can lead to decay in the main stem.

Several different standards have been used over the years, but there was no written specification. New resident notification letters and the UFMP define the specification as:

- The ideal clearance from the lowest branch to the sidewalk surface is 7-8 feet
- The ideal clearance from the lowest tree branch to a street is 15-16 feet.

Crown raising of boulevard trees along streets must consider all seasonal conditions in Minnesota - snow and ice loading, and leaf-on conditions. These can add weight and drag to branches, causing them to hang lower into the street. Beyond cars, buses, and delivery trucks, there are several types of large equipment and activities that need to be considered when establishing clearance heights including pavement reclaiming, street sweeping, vehicles on trailers, and back hoes.

Tree Planting in the Boulevard

Excelsior was established almost 200 years ago. As a result, reconstruction projects to update sewer and water lines as well as streets and sidewalks to current standards is an ongoing process. Full street and utility reconstruction can entail moving water or sewer lines to opposite sides of streets, can involve open trench excavation work in boulevard areas where trees are growing, and installing curb and gutter which also requires root cutting and grade work adjacent to where street trees are growing.

- Most tree roots (90-95%) are within the top three feet of soil, with more than half being in the top foot of soil ("Protecting trees during construction – A Homeowner's Guide").
- Open trench work, excavation or grade changes can sever or remove critical woody roots anchoring the tree in place, especially if there is both street/curb work and sidewalk work.
- According to 2019 research by the University of Minnesota on boulevard tree failures during wind loading, 74% of tipped trees in the disastrous 2013 south Minneapolis storm were in boulevards four feet wide or less (Arb & UF Issue 6, pg. 259-269 Nov). Of those trees, 42% had trunk diameter ranges of 20" or greater.

In a historic city like Excelsior, often street and sidewalk sizes are smaller than modern street designs and the boulevard area is already quite narrow. A typical boulevard in Excelsior can be as narrow as two to three feet wide which does not contain the minimum amount of soil to support a mature shade tree over its lifetime (ideally 1,000 cubic feet) and can make tree failure more common after root cutting.

Some of the considerations that are made by Excelsior to preserve trees and promote tree planting in limited space boulevards include:

- When a sidewalk heaves up due to roots outgrowing the boulevard into the base layer of the sidewalk, the City ramps the gap with asphalt when possible. In some instances, the entire sidewalk panel needs to be replaced. Sidewalk replacement is driven by city policy and the overall street reconstruction. The tree is favored for preservation whenever possible.
- When a tree is removed during a street project, a new tree is either replaced in the boulevard space, or if there is not room in the adjacent boulevard, it is planted outside the right-of-way in the adjacent resident's front yard. There are specific areas where space for trees is quite limited, such as 3rd Street where boulevards are quite narrow, and parking is utilized on both sides of the street.

Excelsior will follow several best practices related to identifying ideal planting locations including:

- Plant trees in areas with the most available soil volume. Avoid planting anything in boulevards that are only two to three feet wide due to lack of soil volume and future impacts to root systems. If a boulevard has limited space, plant in the front yard opposite the boulevard area.
- Do not plant large shade trees (such as elm, oak, maple, or lindens) in boulevards less than four feet in width. With limited soil and rooting space, these will almost certainly heave a sidewalk within 10 years.
- Plant short-stature trees when there are overhead utility lines.
- Be mindful of sign locations and avoid planting trees in areas that would block intersections or disrupt sightlines.
- Plant trees at least 8-10 feet away from all underground utilities.
- Do not plant a boulevard tree where it will outcompete an adjacent tree on public or private property.
- When possible, plant trees on the east and west sides of buildings to contribute the greatest possible energy savings.
- Strategically plant trees to provide shade to park benches, picnic tables or other areas where park users congregate.
- Be aware of heat islands within the City and attempt to increase planting in those areas.

Excelsior has been working to implement and follow best practices related to tree establishment including:

- Water trees at least once per week during the growing season (roughly May-October) for the first two years of establishment.
- Monitor trees in the third and fourth years especially during drought conditions during the heat of summer.
- Keep trees mulched and only stake when needed during the very first year.

Recommendation

Approve the City of Excelsior Urban Forest Management Plan.



THE CITY OF
EXCELSIOR
MINNESOTA

URBAN FOREST MANAGEMENT PLAN

April 29, 2024

Prepared for:

City of Excelsior

350 Highway 7, Suite #230

Excelsior, MN 55331

WSB PROJECT NO. 021948-000

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APPENDIX

A - Tree and Shrub Planting Standards, Tree Removal Permit, Tree Pruning Letter

B - How to Plant Trees (MN Department of Natural Resources), Protecting Trees During Construction



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1.0 Executive Summary

This document summarizes Excelsior's urban forest existing conditions, canopy cover, and current forestry practices utilized by the City of Excelsior. It also highlights the benefits that trees provide to Excelsior, and reviews planning documents, ordinances, and regulations as they relate to trees. Finally, the document outlines future goals for the urban forest and outlines stakeholder groups that play an active role in shaping the City's urban forest priorities.



Photograph 1: Excelsior Commons, near public beach



Photograph 2: Excelsior Commons, Pavilion with mature oaks, looking forward Lake Minnetonka

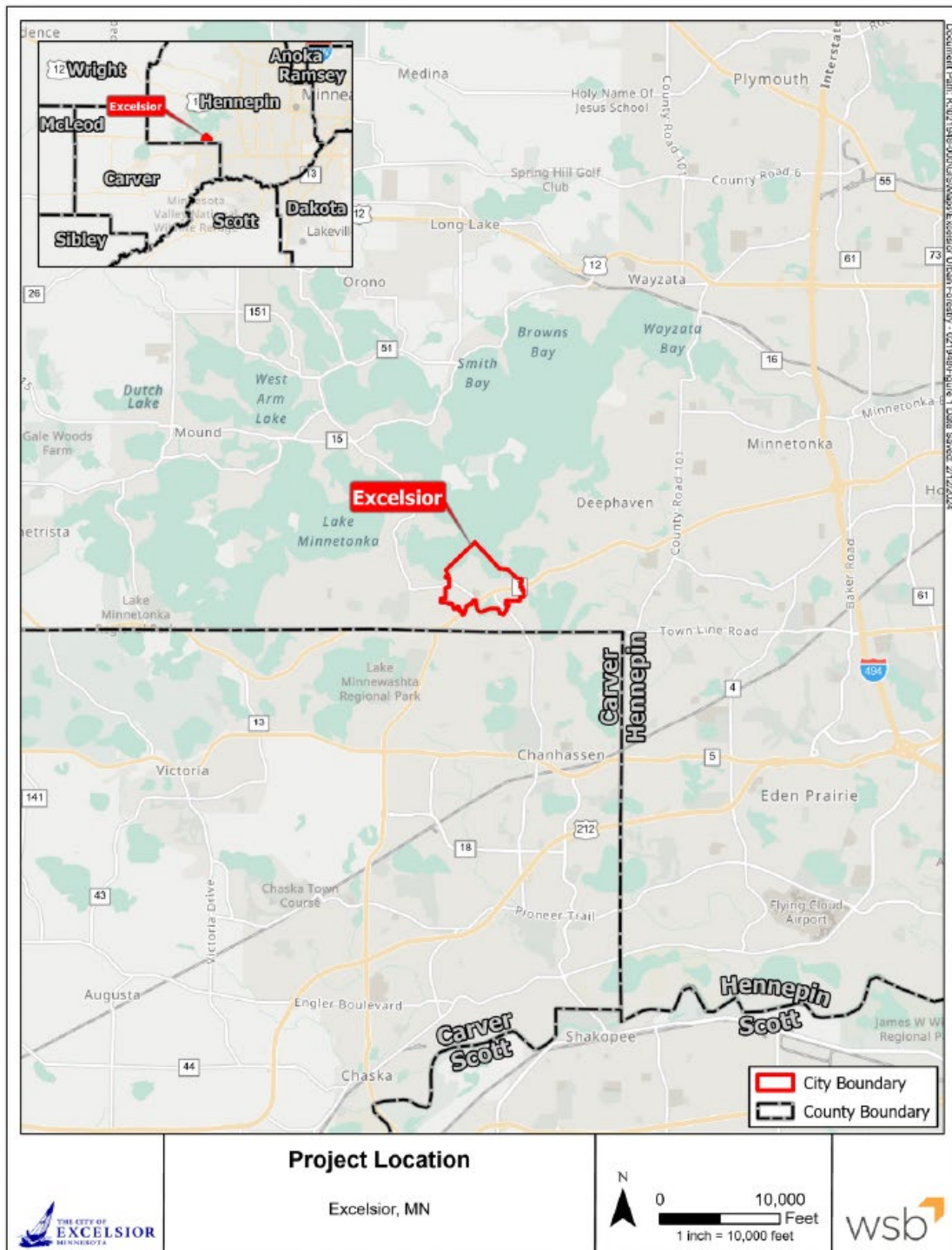


Figure 1: City of Excelsior, Hennepin County, Minnesota



2.0 Introduction

2.1 Excelsior

The City of Excelsior is a community located along Lake Minnetonka, about 20 miles west of downtown Minneapolis within Hennepin County. It is one-square-mile with a population of 2,397 residents. It has a small, charming historic downtown with street trees that attracts residents from nearby communities in the South Lake Minnetonka area and was founded in 1853 by settlers from New York. The Village of Excelsior was incorporated in 1877 and unlike many new communities, it did not follow the typical north/south street grid but was oriented to the lake itself. The origin of the name is thought to have been derived from either the Longfellow poem similarly titled and popular at the time, or from the New York State motto “Excelsior,” which means “ever upward (City of Excelsior Comp Plan 2018).”

The history of the community has been preserved in their restored streetcar which offers 7,000 rides per year and the restored steamboat called “The Minnehaha” which takes passengers to Wayzata and back. Excelsior residents bicycle and walk the Southwest Regional Light Rail Transit (LRT) Trail that goes through downtown. The main public park is called The Commons, or Excelsior Commons. It is directly adjacent to the Port of Excelsior. The 13-acre park features many mature oak trees, a newly re-designed pavilion, bandshell, recreation area, swimming beach, playground, tennis courts, baseball diamonds and areas for having picnics. The Commons and The Port is adjacent to Lake Minnetonka and popular due to its unique offerings, lake access and views. The City of Excelsior hosts many community events there each year from Art in the Park to Fourth of July, to Apple Day, which draws thousands of visitors from nearby communities. Other organizations utilize The Commons to host concerts and events that also draw thousands of residents from around the Lake Minnetonka area. Studer Park includes a wetland, open space, and rental garden plots. Arey Memorial Triangle is near County Road 19 and Water Street and is maintained in large part by the Men’s Garden Club. Veteran’s Memorial Park is near Lake Street and Second Street and receives care from the Men’s Garden Club. Excelsior maintains the Southwest Regional LRT trail head and owns and maintains the historic Oak Hill cemetery founded in the 1850’s.

2.2 Vision

In the last Comprehensive Plan adopted in 2019, the City’s Vision Statement was “To be the best small lakeside-town in Minnesota.” One of the ten core values upon which the City will make decisions and achieve the Community’s vision relates to the urban forest:

A Sustainable Environment. We embrace public and private actions to preserve and enhance our lakes, wetlands, and trees as a significant



aesthetic, recreational and economic value to be preserved for all generations.

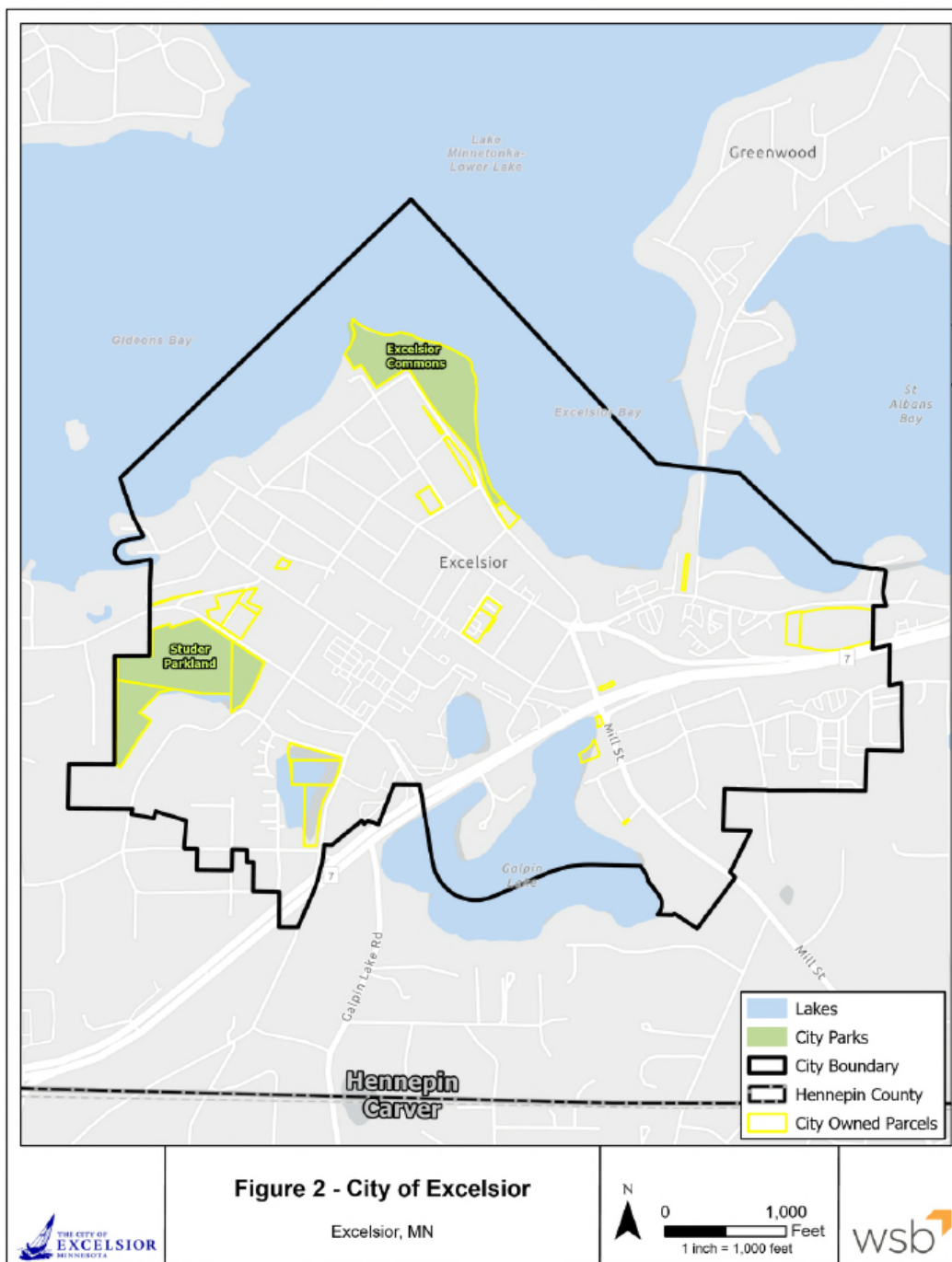


Figure 2: City of Excelsior – Lakes, Parks, Public Parcels



2.3 What is an Urban Forest?

An urban forest is more than a group of trees – it is a city’s “green infrastructure” providing measurable benefits to the community such as energy savings, cleaner air, cooler temperatures, reduction of storm water runoff and higher property values. The urban forest, sometimes also referred to as the “community forest” is composed of the system of trees, forests and all associated soil, organisms, and plants growing in a developed city, town, or suburb – on public and private property.

Urban and community forests make up a large percentage of America’s tree canopy. According to the nonprofit organization American Forests, over 140 million acres of America’s forests are in cities and towns.

2.4 Benefits of Trees and a Healthy Urban Forest

Trees benefit the City of Excelsior in a myriad of ways. Recent research by the USDA Forest Service and numerous universities have been able to quantify the ecosystem services that trees provide to a community. Several references on tree benefits are included in the bibliography section.

Benefits Include:

- Energy savings - when deciduous trees are planted on the east and west sides of buildings, and when coniferous (evergreen) trees are planted on the northwest side of homes
- Stormwater infiltration – tree canopies slow down rain drops
- Better air quality and improved human health
- Erosion control – roots hold and contain soil
- Cooling the air - trees transpire (give off water vapor), reducing the heat island effect
- Shading pavement – extending the life of streets
- Increased real estate home values – mature trees provide beauty and a sense of place and community
- Good for business – shoppers are willing to spend more and spend more time in areas with trees
- Stress-relief benefits- a connection to nature where people live and work
- Sequestering and storing carbon – reducing carbon dioxide in air and storing it in the wood
- Trees provide habitat for wildlife – supporting food webs and biodiversity

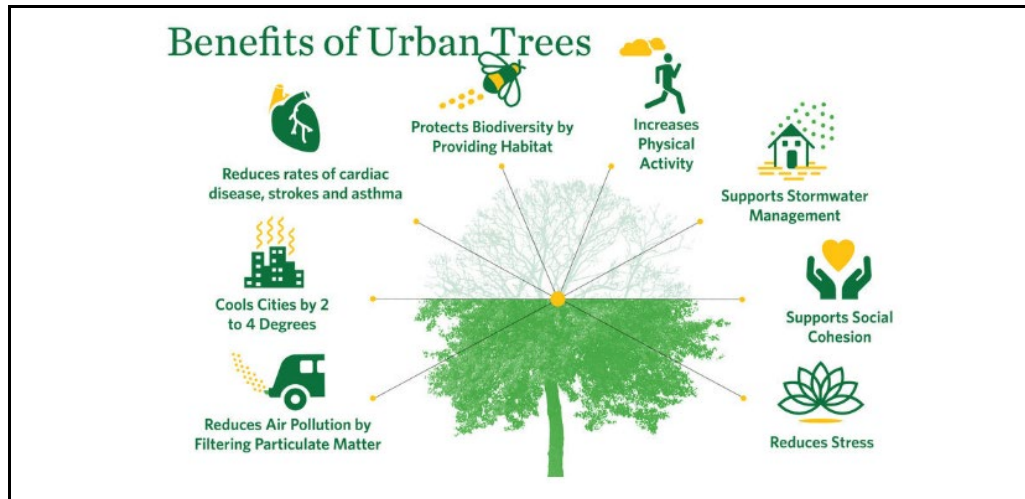


Image 1: Benefits of Urban Trees by Washington Nature Conservancy <https://www.washingtonnature.org/>

2.5 Trees as a Community Asset

Unlike traditional gray infrastructure, trees continue to appreciate over time. The tree inventory contractor (Bartlett Tree Experts) has proprietary software that calculates the estimated asset value of a community's tree canopy. The value based on the 2021 inventory is \$6,915,373.38. The estimated tree asset value is calculated for each tree and as a cumulative total for all trees inventoried. Bartlett uses an average per square inch nursery price, size (DBH/diameter), species factor, condition factor, and location factor to estimate the tree asset value.

The table below describes the data values used by Bartlett to calculate the estimated asset value of Excelsior's tree canopy.

Data Field	Description
Average Per Square Inch Nursery Price	Based on the average nursery prices for two common tree species and one exotic tree species within a region, then taking the average of those three as the average per square inch price for the region
Size	Based on tree DBH (4.5 feet above grade)
Species Factor	Relative species desirability based on 100% for the tree in that geographical location. In most cases, species desirability ratings, published by the International Society of Arboriculture, are used for adjustment.
Condition Factor	Rating of the tree's structure and health based on 100%
Location Factor	Average rating for the site and the tree's contribution and placement, based on 100%

$$\text{Estimated Tree Asset Value} = (\text{Average Per Square Inch Nursery Price} * \text{Size}) * \text{Species Factor} * \text{Condition Factor} * \text{Location Factor}$$

Image 2: Data fields for Estimated Asset Value Source: Bartlett Tree Experts, ArborScope Software



Photograph 3: Excelsior boulevard planted with magnolia trees blooming in spring.



Photograph 4: Excelsior Commons, tree-lined sidewalk leading to the beach on Lake Minnetonka

2.6 The Need for a Plan

A comprehensive urban forest management plan (UFMP) is important because it evaluates not only the trees and canopy cover, but it also evaluates the practices and policies related to trees, forms a framework for consistent management and helps set the stage for setting goals and planning for adequate funding and support to ensure the community forest is proactively maintained for current and future generations. Providing education and outreach to residents on the work taking place on public trees can build understanding and trust and can propel them to implement research-based practices on their own land. Advanced planning can help alleviate a community's need to manage trees on a strictly reactionary basis which makes better use of staff time, and the community's budget.

Trees are one of the most vital and effective green infrastructure components. Green infrastructure refers to the framework and benefits



humans can harness by building, preserving, or maintaining a resilient natural system. Unlike their “gray” infrastructure counterparts, trees appreciate and gain value over time.

Green infrastructure solves some of our most pressing drainage, heat, air, and water quality problems, particularly in areas with the most population. From stormwater interception and soil conservation to carbon storage and sequestration to improving air quality and reducing heat island effects; tree canopy cover provides many benefits.

2.7 City of Excelsior Trees and Benefits At-a-Glance:

- A total of 828 public inventoried trees.
- A total of 47 tree species within 29 genera.
- Cumulative Asset Value of all Inventoried Trees \$6,915,373.38.
- 61 percent of public trees rated as “Good” condition.

2.8 Scope and Purpose of an Urban Forest Management Plan

This Urban Forest Management Plan (UFMP) was developed for the City of Excelsior, Minnesota by WSB with a focus on maintenance for public inventoried trees and a review of planning needs for their forestry program. It was funded by a 2022-2023 Hennepin County Healthy Canopy grant. At the time, Excelsior had an existing inventory of 828 street (boulevard/right-of-way) and open space (park) trees that was last updated in 2021 by Bartlett Tree Experts. The inventory data is stored in Bartlett’s proprietary software called “ArborScope.”

The plan was developed by:

- Analyzing tree inventory data and canopy cover data.
- Visiting the City throughout the year to collect photos and narrative data related to operating practices and projects.
- Reviewing Excelsior’s forestry challenges and goals with the two staff within Public Works who manage City trees – the Public Works Superintendent and Parks Manager.

In addition to forestry and trees, the Public Works Department is responsible for the day-to-day operation and maintenance of the City’s water, sewer, streets, parks, and cemetery.

In addition to maintenance and planning needs, this plan reviews existing tree-related municipal codes and policies and addresses the economic and environmental benefits trees currently provide to the City of Excelsior.

The practices and goals for this plan are anticipated to cover a 10-year timeline. Maintenance efforts, practices and goals are focused on city boulevards and maintained properties.

According to land use records from the City of Excelsior 2018 comprehensive plan, 5.3% of land is open space, 8% is park space, and 8% is considered public/semi-public space (schools, utilities, and government facilities).

Conversely, approximately 57% of land within Excelsior is residential. Since the urban forest extends beyond property lines and comprises so much of the community's land, it is important to maximize tree health, condition, diversity, and canopy cover in private property spaces in order to create a resilient community forest system. As a result, there are also goals related to public education, outreach and encouraging proper planting and care of trees growing on private property.



Photograph 5: Pride of ownership in Excelsior, a redbud tree blooms in spring 2023 near the boulevard



The primary public properties addressed in the plan include:

- Excelsior Commons, a 13-acre community park.
- The Port of Excelsior.
- Studer Pond/Excelsior Parkland, a 15.5-acre neighborhood park.
- Arey Memorial Triangle
- Veteran's Memorial Park
- The Lake Minnetonka LRT Regional Trailhead
- Oak Hill Cemetery, a historic and currently used cemetery.
- Boulevards, 13.26 miles of city streets.

2.9 Plan Limitations

The City of Excelsior has a total of 21.8 acres in the parks and open space system. This plan focuses on the maintained public spaces in mowed and maintained areas and street trees under the responsibility of the City of Excelsior. There are several other public properties that are comprised of natural spaces such as wooded lots, College Lake, Mitten Pond, Mud Lake, and Galpin Lake. These areas are not specifically addressed in this plan; however, tree maintenance occurs at a lower level due to vehicle access restrictions because of natural resource features. These areas are also less visited by the public and primarily exist for passive uses in a natural setting.



3.0 Relationship to Other City Plans and Documents

Several other city documents reference trees in public spaces as part of Excelsior planning processes. The plans that have been reviewed to cross-reference goals, research, and engagement efforts to ensure they are concurrent with the UFMP are described below.

3.1 Comprehensive Plan 2018: References to the Urban Forest

The Comprehensive Plan “... will assist the City in setting long term goals, coordinating local decision-making, and providing guidance to property owners and developers. The Comprehensive Plan is based on public input, extensive data collection, and analysis of existing conditions and local and regional trends. The sections of the plan that refer to trees and the urban forest are highlighted below.

New Development & Reinvestment: *New infill development and alterations to existing development should maintain a setback, height, bulk, and orientation similar to that of neighboring development. The existing tree canopy is important and should be complemented with additional tree plantings when development occurs.* (Chapter 4, Residential Areas, page 37)

Sidewalks: The City should have a sidewalk on at least one side of each local street. However, the construction of traditional sidewalks may negatively impact the character of some neighborhoods. *Alternative solutions to traditional sidewalk construction should be considered in sensitive areas where, for example, such improvements may contribute to additional flooding or negatively impact existing parkway trees.* The City’s sidewalk network should continue to be expanded to provide better connections between the community’s residential neighborhoods, parks, schools and downtown. Within residential areas, sidewalks should be installed and maintained as determined by the City. The City should be cognizant of the differences in the character of the individual. (Chapter 4, Residential Areas, page 38).

Boulevard Trees: *Many of the streets within the City’s residential neighborhoods are aligned with a canopy from mature boulevard trees. These mature trees contribute significantly to the overall desirability and character of the neighborhoods and the City. It is recommended that boulevard trees be protected and preserved.* (Chapter 4, Residential Areas, page 39).

Excelsior - Studer Parkland: *Naturalize the park with trees and a prairie restoration area. Leave the open area clear of trees and promote it as a dog park, soccer field, and active recreation area* (Chapter 7, Parks, Trails and Environment, page 62).

Residential Areas Goal 1: Maintain the Community’s image and desirability as a great place to live and raise a family by preserving



and enhancing the quality, character, safety and appeal of residential neighborhoods and developments, and providing diversity in its housing stock and unit types. *Objective 14: Encourage the maintenance and preservation of boulevard trees as an important component of the City's tree canopy.* (Appendix A: Goals & Objectives, page 120).

Infrastructure and Development Goal 3: Maintain high-quality, green and efficient infrastructure systems through regular investment and maintenance to meet the changing needs of the City today and in the future. *Objective 6: Manage the City's floodplains, shorelands and natural areas to preserve the functions and values of these resources for future generations. Objective 10: The City will develop and maintain a public education program for landowners to promote reduction of nutrient and sediment loading to water bodies. The City will encourage residents and landowners to practice environmentally friendly lawn care and to encourage the use of native plantings or natural landscapes, where practical. Objective 11: The City will promote citizen and volunteer efforts to protect, restore and enhance local water and natural resources.* (Appendix A: Goals & Objectives page 129).

Community Facilities Goal 1: Ensure the provision of high-quality public facilities, including municipal and education facilities, for all residents of the City of Excelsior. *Objective 3: Continue to implement and expand a Capital Improvement Program that addresses the repair and improvement of community facilities including streets, utilities, storm water management, community buildings, and parks. Objective 5: Work to enhance the local shopping environment through public improvements, such as landscaping, seating areas, additional street trees, and incorporating native species as a way of contributing to the areas' identity.*

Parks, Open Space and Environmental Features Goal 1: Protect, preserve, and improve Lake Minnetonka and environmentally sensitive areas to actively preserve and enhance these resources for future generations. *Objective 3: Preservation of a site's inherent physical attributes such as tree cover and topography shall be an important priority and consideration of all park and trail development. Objective 5: Landscaping and tree planting in the parks, along trails and boulevards shall enhance the facilities, buffer adjacent and internal uses, provide shade and comfort for participants and create unique spaces within the park or trail.*

Image and Identity Goal 1: Maintain an attractive and distinctive community image and identity that builds upon and enhances Excelsior's traditional and historic qualities and characteristics and distinguishes it from surrounding communities. *Objective 3: Maintain the attractive tree-lined streets, pedestrian scale and other distinguishing qualities of Excelsior's residential neighborhoods.*



3.2 Excelsior Commons Conceptual Guide Plan 2017: References to the Urban Forest

To revitalize the Commons, there were several efforts made including an “existing conditions” assessment, public engagement, and analysis of each area within the park and how it could be improved. The sentiments below are drawn from several aspects of the plan.

Existing Conditions

“Need a plan to maintain and replace trees and other vegetation in the park (page 8).”

Beach and Picnic Area: Significant erosion on knoll under the existing tree canopy (page 20).

Lawn and Ballfields: Tree canopy on knolls require maintenance (page 27).

Improvements

Elimination of invasive species on knoll (page 29).

Preservation of tree canopy (page 29).

Future Study Policies for Successful Stewardship of the Commons

Number 7, A Tree Preservation, Maintenance and Replanting Policy that ensures trees are preserved, maintained, and insured against disease or natural disaster (page 47).



4.0 Review of Existing Regulations and Policies as they relate to Urban Forestry

There are several standards, regulations and policies related to trees that govern work in the City of Excelsior.

4.1 Tree and Shrub Planting Standards

The Tree and Shrub Planting standards provide specifications for plant material, handling of plant material, planting techniques, maintenance of trees and shrubs during establishment and the City's Tree Protection Standards. Its primary intent is to provide a guide for developers to follow but could be used as an internal document as well. The document was created in 2000 and lists ash as a replacement. In order to remain relevant, the document should be reviewed and updated every five years. (Appendix A)

4.2 Landscaping, Screening, and Tree Preservation (City Code: Article 12, Appendix E Zoning)

The Landscaping, Screening and Tree Preservation section of the code discusses the need for a landscape plan prior to development, the general landscape requirements for all zones, requirements for street tree planting, development parcel landscaping, and parking lot areas planting requirements. There is also a section dedicated to installation and maintenance, tree preservation and protection and screening requirements. The tree preservation and protection section introduces the requirement to obtain a city permit to remove a Significant or Landmark tree (Tree Removal Permit Application in Appendix A)

4.3 City Code - Chapter 10, Article XXII, Tree Trimmer License

This section of code lays out the requirement for tree company to be licensed with the City of Excelsior. Exemptions include residents doing their own work or those engaged in larger excavation or grading permit work as required in the building code.

4.4 City Code - Chapter 24 Parks and Recreation

This section of the City code references the prohibition of picking flowers; injuring shrubs, trees, and plants in section 24-4.

No person not an employee of this city shall pick or cut any wild or cultivated flower, or cut, break, or in any way injure or deface any tree, shrub, or plant within the limits of public grounds; nor carry within or out of any public grounds any wild flower, tree, shrub, plant, or any newly plucked branch or its portion, or any soil or material of any kind.

This section also establishes the Parks and Recreation Advisory Commission as an advisory group reporting to the city council with the following responsibilities:



- (1) Consider, review, report, and advise on all park and recreational matters which the council may refer to the commission.*
- (2) Develop immediate and long-range plans for the park and recreational needs of the residents of the city, and recommend to the council a feasible means of financing such requirements.*
- (3) Recommend to the council operating policies and procedures for use in existing parks, future parks, and public lands.*
- (4) The responsibility for enhancing parks through evaluation, planning, and initiating new programs and ideas.*
- (5) Coordinate city programs with areawide programs, including programs of the community education services.*

4.5 City Code - Chapter 36 Vegetation

This section of the City code defines and describes the control of tree diseases and invasive species of tree pests. The policies, definitions and disease program are described as well as abatement procedures. The most pertinent sections are listed below.

Sec. 36-30. Declaration of policy.

The city has determined that the health of the shade trees in the city is threatened by diseases, infestations, invasive species, or pests. It has further been determined that the loss of the shade trees growing upon public and private property would substantially depreciate the value of property and impair the safety, good order, general welfare, and convenience of the public. It is declared to be the intention of the city to control and prevent the spread of these diseases, infestations, invasive species, or pests, and this article is intended for that purpose.

(Ord. No. 447, § 1, 11-16-2009)

Sec. 36-33. Nuisance declared.

The following things are public nuisances whenever they are found within the city:

- (1) Any living or standing tree or part thereof infected to any degree or infested with any invasive species or pest.*
- (2) Any dead or dying tree or part thereof, including logs, branches, stumps, firewood, or other elm material from which the infested and/or infected part has not been removed and burned or sprayed with an effective insecticide or pesticide.*

(Ord. No. 447, § 1, 11-16-2009)



Sec. 36-42. Certified tree inspector.

The city manager may designate one or more persons who are certified by the state commissioner of agriculture as the certified tree inspector for the city.

(Ord. No. 447, § 1, 11-16-2009)

5.0 Tree Management

5.1 Administration and Importance of Maintenance

Urban forestry in Excelsior is managed by the Public Works Department. The lead staff person assigned to administering the forestry program is the Public Works Superintendent, although the day-to-day operations have been transferred to the newer position of Parks Manager. The Parks Manager position was added in 2023 and reports to the Public Works Superintendent. Together, they receive regular input from the City Council and the Parks and Recreation Commission, as well as members of the public and local nonprofit groups Community for the Commons (C4C), Uncommon Gardeners, and the Men's Garden Club.

Routine inspections, pruning, and plant health care are important to optimize the health and condition of public trees. The City and their contractors follow research-based maintenance practices, International Society of Arboriculture best management practices (BMPs) and ANSI A300 standards. Staff complete continuing education to stay up to date on current arboricultural practices.



Photograph 6: A grate is girdling a honeylocust street tree stem (trunk).

Trees are living organisms that change over time. Roots grow, the stem (trunk) gets bigger, and their branches elongate and grow in diameter. Trees are also impacted by many external factors such as drought, lack of soil volume, storm damage, soil compaction, wood decay, mechanical damage and insects or diseases. Urban trees are growing in close proximity to gray infrastructure and the “built” environment and intensive human activity which makes them susceptible to premature death. The changes that occur can make trees unattractive, present a safety risk, or



require treatment to preserve or retain the tree in the landscape. Unfortunately, tree removal is also part of urban forest management.

5.2 Street Tree (Boulevard) Districts/Zones and Priorities

Most of the public trees within the City of Excelsior are planted in boulevards along 13.25 miles of streets.

Table 1: Street (Boulevard) Versus Park/Open Space Trees

Location	Number of Trees
Street/Boulevard Trees	652
Open Space Trees	176

Routine tree pruning of boulevard trees is completed in a three-year rotation by district/zone (**See Figure 4 below**).

- Creating zones assists the City in organizing work and budgets. Staff responds to complaints year-round and will include more urgent/high risk tree pruning and removal issues on a list to be resolved prior to routine work.
- Inspections that result in low-risk tree issues are added to the routine maintenance work to be resolved when that zone of the City is scheduled for pruning.
- Due to the small number of City staff, regular pruning of established trees is completed by a contractor.
- Small, establishing trees receive structural pruning by a contractor or the Parks Manager, as long as they can be pruned from the ground, as time permits.
- These practices are followed for park and open space trees as well because grouping similar work together makes the most efficient use of the pruning budget.

City staff have experimented with different methods of resident notification prior to street tree pruning. Methods include door knocking, door hangers, and posting information on the City's website. Excelsior recently implemented a mailed letter for street tree pruning as shown in **Appendix A**.



Figure 3: Tree Maintenance Zones

5.3 Park and Open Space Tree Maintenance Priorities

The Commons (**Figure 6a, page 43**) is divided into three sections, with a goal to have the entire park pruned within a three-year timeline depending on the available budget and other priorities such as tree removals. Typical pruning is completed by a contractor who may use a spider lift, bucket truck and/or climbs trees to accomplish pruning objectives aloft in the tree.

The Oak Hill Cemetery (**Figure 6b, page 44**) trees were recently pruned as part of a two-year project that started winter 2022/2023 and was completed in winter 2023/2024. In the future, a five-year pruning cycle will be followed for the cemetery.

Studer Parkland (**Figure 6c, page 45**) currently does not have any inventoried trees or a defined pruning cycle.

5.4 Tree Pruning

There are several types of pruning that occur during routine maintenance. Crown cleaning, crown raising and structural pruning are the most common methods used.

- Crown cleaning removes dead, poorly attached, dying or poorly condition branches with the intent to improve a tree's health and condition. It is especially important in higher-use areas where people congregate such as picnic tables.
- Crown raising removes lower branches with the intent to establish a minimum clearance under which either vehicles or pedestrians can pass by. In Excelsior, the ideal clearance from the lowest branch to the sidewalk surface is 7-8 feet and the ideal clearance from the lowest tree branch to a City street is 15-16 feet. Raising tree canopies from a young age is important, so that smaller sized branches (ideally 4 inches in diameter or less) are removed as the tree grows, reducing the likelihood of decay getting into the main stem. If crown raising gets deferred, larger branches will need to be removed making it harder for the tree to seal over the wound, which can lead to decay in the main stem.
- Crown raising along streets must consider all seasonal conditions in Minnesota - snow and ice loading, and leaf-on conditions. These can add weight and drag to branches, causing them to hang lower into the street. Beyond cars, buses, and delivery trucks, there are several types of large equipment and activities that need to be considered when establishing clearance heights including pavement reclaiming, street sweeping, vehicles on trailers, and back hoes.



- Structural pruning aims to create strong branch structure by using strategic cuts. It often selectively favors a single, main leader. Side branches and competing leaders are suppressed to promoting lateral branches with reduction cuts. Structural pruning makes trees more resistant to branch failure from co-dominant branches, something arborists call a “predictable failure.” One exception to this rule are decurrent form trees such as hawthorn or crabapple.
- Some tree species require more aggressive structural pruning when young to obtain strong branch structure. They include disease-resistant (hybrid) elms, maples, lindens, aspen/cottonwood (populus species), and willows.

5.5 Risk Assessment and Tree Removal

Routine tree inspections are completed by City staff; the Parks Manager is the lead tree inspector. Trees are assessed using the most current ANSI A300 guidelines, a Level 1 Limited Visual Assessment. The current and ideal status is to have an International Society of Arboriculture (ISA) certified arborist in this role.

- Tree removal is necessary when a tree dies along the street or in a maintained area of a park or open space. It may also be needed if a tree has been affected by an insect or disease that cannot be effectively treated and/or leaving the tree in place could spread the insect/disease to other nearby trees.
- Trees may need to be removed due to infrastructure, park, or utility projects. All options are considered before removing a healthy tree for this purpose.
- Some trees sustain storm damage or have multiple structural defects. When a tree is suspected of posing a risk to the public, the city hires an external contractor to provide a second opinion. It includes a Level 2 Basic Assessment Form which is kept on record.
- The contractor who completes the risk assessment is typically an ISA certified arborist and has the ISA Tree Risk Assessment Qualification (TRAQ). According to the ISA, TRAQ is “...a credential that demonstrates professional knowledge in tree risk assessment through participation in a training course and passing its accompanying exam. The TRAQ program offers tree care professionals the opportunity to expand their knowledge of the fundamentals of tree risk assessment by learning a standardized, systematic process for assessing tree risk and providing information to tree owners and risk managers for making informed decisions that will promote the safety of people and property and enhance tree benefits, health, and longevity. (isa-arbor.com).”
- Factors that are assessed are the targets (what the tree could hit, with people being the most important), the defects in the tree, the

occupancy rate of the area around the tree, the likelihood of the tree failing, the likelihood of the tree impacting a target, and the consequences of failure.

- Tree defects are assessed in the three main parts of the tree:
 - Crown and Branches (unbalanced crown, broken/dead branches, cracks, co-dominant, conks, response growth, live crown ratio, poor pruning practices, previous branch failures, load on defect, etc.)
 - Trunk (cavity/hole, lightning damage, missing bark, conks, sap ooze, decay, taper, load on defect etc.)
 - Roots (collar buried/not visible, decay, cracks, root plate lifting, cavity, conks, stem girdling, load on defect, etc.).
- The final risk rating options include Low, Moderate, High and Extreme. Once the risk rating is determined, mitigation options are considered and suggested to lower the risk rating of the tree. Examples of mitigation options include cabling, pruning, or moving the target (for example, a picnic table). The contractor can provide the risk rating and mitigation options and the tree owner (the City) decides the level of risk they are willing to assume.



Photograph 7: Ash tree planned for removal at The Commons due to several cavities revealing columns of decay

- Trees in unmaintained, wooded or low-use areas that are not used for recreation are not assessed regularly for tree risk in Excelsior. According to ISA, “...it is impossible to maintain trees completely free of risk—some level of risk must be accepted to experience the benefits that trees provide” (isa-arbor.com).



5.6 Cabling and Lightning Protection

Tree cabling is a strategy used to support a tree at risk of branch failure. Two methods of cabling include static and dynamic cables. Used proactively, cabling can extend the life of a mature tree significantly. Decisions on cabling are made with a contractor, following the ISA “Tree Support Systems: Cabling, Bracing, Guying and Propping” BMP in addition to the A300 on Supplemental Support Systems. These documents review the proper installation and maintenance of cables, braces, guys, and props that can effectively limit the movement of branches, leaders, or entire trees. This work is highly technical and relies on the practitioner determining loads on branches and the physics of the tree.

- Excelsior has had three trees cabled recently, completed by an ISA Certified Arborist contractor.
- Cables are inspected on a regular basis to ensure they are intact and still attached/in place adjacent to sound wood.
- Staff will evaluate trees during each pruning cycle and may add additional trees to the cabling list in order to extend the life of mature trees.

Another tool used by arborists to extend the life of a mature tree is lightning protection. It is a strategy meant to reduce lightning damage on mature shade trees. Like cabling, work is guided by the ISA BMP “Tree Lightning Protection Systems,” in addition to the A300. The system doesn’t prevent a lightning strike, but it acts as a conduit to send the lightning into the ground, protecting the tree from the damaging effects of lightning by essentially “grounding” it.

- Excelsior has implemented a routine inspection process of lightning protection systems already in place, as well as evaluating existing and emerging specimen trees for potential installation of new protection systems.

5.7 Soil Decompaction and Root Flare Restoration

The intense vehicle and foot traffic at The Commons has created very compacted soils which are negatively affecting root and tree health. Healthy soils that are conducive to plant and tree growth have spaces, or pores in the soil that water and oxygen can move within. Compacted soils have been compressed, removing pore spaces making it hard for roots, oxygen, and water to move typically through the soil.

Grade changes over time have also resulted in root flares that are buried with excessive soil, which can contribute to decay and poor tree health over time.

The City has hired contractors to perform air spade work in specific areas being restored within The Commons. Recently, the City has

purchased and started utilizing an air spade to remove excessive soil around root flares as time permits for City staff. The compressed air can also act to de-compact/loosen soil and identify any trees with stem girdling roots (SGRs). Once the work is complete, a layer of shredded wood mulch is applied around the root zone. Wood mulch acts to hold soil in place, keep the root zone cool and hold moisture, and improves soil physical and chemical properties over time as it decomposes.



Photograph 8: Air spade work around the oaks on the knoll at The Commons

The Commons hosts numerous events each year. Staff are mindful that excessive traffic in root zones can be very detrimental to tree health. While foot traffic is an inevitable result at a popular destination, efforts have been made to re-think vehicle use around root zones in order to protect mature trees and the shade benefits they provide to park users.

- One area that staff plan to reassess to protect tree roots is the food truck set up. Typically, food trucks would set up under the green ash trees that line the edge of The Commons. These trees have received an investment over time of protection from emerald ash borer (EAB) and are providing an excellent stretch of shade along the sidewalk that follows the southern edge of the large greenspace adjacent to the bandshell.
- A potential configuration to experiment with would align the food trucks on the street, allowing pedestrians to access the takeout windows from the curb.

- One additional measure that could mitigate soil compaction and protect root zones is using an air spade to loosen soil, followed by mulch around the drip lines of trees.



Photograph 9: Food trucks and portable restrooms set up under the ash trees for an event

5.8 Erosion Control and Ground Cover Restoration

The Commons “existing conditions” assessment prepared during the 2017 conceptual guide plan identified several areas of erosion occurring on steep slopes and knolls. In the last year, staff have taken significant steps to resolve key areas of concern. The slope between the beach and restrooms had “social” paths throughout it that were contributing to soil erosion and poor root zone conditions for mature oaks. Work that has occurred includes invasive species removal, air spade work to remove excessive soil around the root flares of mature trees, dormant seeding of native plants to restore the ground plane vegetation, and erosion control blankets to hold soil in place while the vegetation establishes. There have also been some decorative fencing panels installed to prevent cut-through social paths from forming again.



Photograph 10 & 11: Air spade, mulch, seeding and fencing being installed on the slope above the beach at The Commons, 2023

5.9 Street and Sidewalk Project Impacts

Excelsior was established almost 200 years ago. As a result, reconstruction projects to update sewer and water lines as well as streets and sidewalks to current standards is an ongoing process. Full street and utility reconstruction can entail moving water or sewer lines to opposite sides of streets, can involve open trench excavation work in boulevard areas where trees are growing, and installing curb and gutter which also requires root cutting and grade work adjacent to where street trees are growing.

- Most tree roots (90-95%) are within the top three feet of soil, with more than half being in the top foot of soil (“Protecting trees during construction – A Homeowner’s Guide”).
- Open trench work, excavation or grade changes can sever or remove critical woody roots anchoring the tree in place, especially if there is both street/curb work and sidewalk work.
- According to 2019 research by the University of Minnesota on boulevard tree failures during wind loading, 74% of tipped trees in the disastrous 2013 south Minneapolis storm were in boulevards four feet wide or less (Arb & UF Issue 6, pg. 259-269 Nov). Of those trees, 42% had trunk diameter ranges of 20” or greater.

In a historic city like Excelsior, often street and sidewalk sizes are smaller than modern street designs and the boulevard area is already quite narrow. A typical boulevard in Excelsior can be as narrow as two to three feet wide which does not contain the minimum amount of soil to support a mature shade tree over its lifetime and can make tree failure more common after root cutting.

- Excelsior evaluates tree impacts during projects, and “at risk” trees are provided a closer inspection. It is important that an ISA Certified Arborist (either City staff or a consultant) anticipate any

tree-infrastructure conflicts during the design phase of the project to make a plan to minimize impacts and determine if the trees can be preserved or if removal is warranted. Excelsior uses a matrix to guide tree removal decisions with four criteria in mind:

- Utility and infrastructure impacts to the tree
- Overall health and condition of the tree
- Sidewalk impacts to the tree species (example, ash trees significantly impacted would be removed due to EAB)

Minneapolis homeowners blame root cuts for downed trees

Severing of roots for sidewalk and street repairs preceded the toppling of many Minneapolis trees in last week's storm.

By Steve Brandt Star Tribune

JUNE 25, 2013 — 11:32PM

[Listen with Speechify](#)



MARK VANCLEAVE • MARK.VANCLEAVE@STARTRIBUNE.COM

A downed tree rested on a car on the 1000 block of 21st Avenue SE, after a wave of severe storms moved through Minneapolis on Friday. Now some homeowners and city officials are disagreeing over whether recent sidewalk construction was

Photograph 11: The storm of 2013 that hit South Minneapolis after street and sidewalk repairs spurred new data and research about boulevard sizes and the impact of root cutting on tree stability.

<https://www.startribune.com/minneapolis-homeowners-blame-root-cuts-for->

Beyond a full street reconstruction, trees can be negatively impacted during other types of city projects including:

- Mill and overlay street (paving)
- Pavement rehabilitation
- Stand-alone trail or sidewalk projects
- Park, utility, and other site improvement projects



The impacts can be defined by their type of work occurring near the tree:

- Grading, trenching or digging in the root zone causing soil compaction and severance (cutting) of roots.
- Large equipment that can compact soil, break low-hanging branches and scorch evergreen branches with their exhaust.
- Storage of heavy construction materials within the drip line of the tree that can compact the soil.

The challenges of renewing infrastructure and preserving trees is most visible in The Village section of the City located west of the Downtown and north of County Road 19 which features a modified grid system with sidewalks on both sides of the street and mature trees which create a lot of neighborhood character. Excelsior seeks to update infrastructure and retain as many mature trees to preserve their benefits and the neighborhood character they provide, while ensuring public safety.

Some of the considerations that are made by Excelsior to preserve trees and promote tree planting in limited space boulevards include:

- When a sidewalk heaves up due to roots outgrowing the boulevard into the base layer of the sidewalk, the City ramps the gap with asphalt when possible. In some instances, the entire sidewalk panel needs to be replaced. Sidewalk replacement is driven by city policy and the overall street reconstruction. The tree is favored for preservation whenever possible.
- When a tree is removed during a street project, a new tree is either replaced in the boulevard space, or if there is not room in the adjacent boulevard, it is planted outside the right-of-way in the adjacent resident's front yard. There are specific areas where space for trees is quite limited, such as 3rd Street where boulevards are quite narrow, and parking is utilized on both sides of the street.



Photograph 12: Norway maple growing in Excelsior in a narrow boulevard, heaving the sidewalk adjacent near a fire hydrant



Photograph 13: A Norway maple tree growing in an Excelsior boulevard has exposed roots and has outgrown the narrow space, note the recently replaced sidewalk panel adjacent to the tree

5.10 Plant Health Care – Managing Invasive Species, Shade Tree Diseases and Pests

The City of Excelsior regularly manages trees for invasive species such as emerald ash borer (EAB), shade tree diseases like oak wilt, and native pests such as two-lined chestnut borer. An integrated pest management (IPM) approach is used to evaluate the damaging agent and apply the most science-based and effective treatment to prolong the life of the tree. Unlike the early years of pest and disease control, most pests can be managed with a tree injection, which helps ensure the fungicide and/or pesticide stays within the tree and isn't broadcast into



the air affecting non-target plants, soil or people. Described below are the most common insects and diseases that Excelsior manages on trees in public spaces.

Emerald ash borer (EAB) is an invasive forest insect from Asia responsible for the deaths of millions of ash trees throughout the eastern half of the U. S. and southeastern Canada. EAB infests and kills weak and healthy ash trees alike, and all species of ash native to North America are vulnerable to EAB attack. With nearly 1 billion ash trees in the state, the spread of EAB has already had a serious impact in Minnesota, and although frigid winter temperatures in northern Minnesota may help to slow the spread and survival of EAB, cold won't stop it completely. EAB is a beetle whose larvae feed on ash trees and at least one other species related to ash. Most of the EAB life cycle takes place below the bark. Woodpeckers readily feed on EAB larvae and often reveal infested trees during the winter months. These trees become covered in light-colored "flecking" as woodpeckers remove the outer bark. As tunnels from feeding larvae accumulate, trees begin to show signs and symptoms of EAB infestation. Once trees have started to show symptoms, trees generally die within one to three years. Only trees protected by an insecticide will survive the EAB death curve.

- The City has injected 87 public ash trees to preserve their benefits for the community (**Figure 7, page 46**). The average diameter of all public ash trees is 20 inches in diameter.
- Using a "tree growth factor" of 4 for green ash, you can determine that the average 20 inch diameter ash tree is approximately 80 years old (<https://www.purduelandscapereport.org/article/how-old-is-my-tree/>).
- Viewed another way, Excelsior is preserving trees that were planted in 1944, near the end of World War II.

Oak wilt disease is caused by a fungal invasion of an oak tree's water conducting vessels. When a tree detects the fungus, it responds by plugging its vessels to keep the fungus contained, but the fungus remains ahead of the tree and essentially the tree causes its own death by cutting off the water supply. Oak wilt can be spread through direct contact from a beetle carrying the fungus to an open wound or through roots that have grown together (root grafts) between two or more trees. Oak wilt infects the majority of trees through grafted roots. Oak wilt is exclusive to oak trees and does not pose any risk to other tree species.

Red oak trees (red and pin oak) are highly susceptible to oak wilt and often die within a few weeks of the first visible symptoms. Oak wilt is first observed as wilting leaves in the upper crown followed by premature leaf fall. Leaf wilting and falling escalates throughout the crown as the disease progresses downward into the root system. Fallen leaves typically appear brown along the edges and inward while major lateral veins and the mid-vein remain green. Once



symptoms appear, there is no effective treatment to prevent death. Oak wilt typically spreads into nearby red oaks through grafted roots. Root graft barriers and fungicide injections are recommended preventive practices against oak wilt. Diseased red oak wood must be processed through a woodchipper, properly covered in heavy plastic, or treated in another effective manner to control oak wilt spore pads which attract sap beetles and contribute to overland spread of the disease. In order to prevent oak wilt, city staff and their contractors do not prune, wound or remove oaks in the high-risk transmission time period of April - June. Oak tree work is timed to occur in November through early March.

Dutch elm disease is caused by a fungal invasion of an elm tree's water conducting vessels. Dutch elm disease is exclusive to elm trees and does not pose any risk to other tree species. Once disease symptoms are observed, tree death can occur in as little as a few weeks. When a tree detects the fungus, it responds by plugging its vessels to keep the fungus contained, but the fungus remains ahead of the tree and essentially the tree causes its own death by cutting off the water supply.

Elm bark beetles carry spores from tree to tree as they feed in small branch crotches. Typically, Dutch elm disease first appears as yellowing and wilting leaves on a single branch in the upper canopy of the tree. Eventually, the wilting progresses down the tree and into the root system. As infected wood dies and dries out it becomes a new breeding habitat for bark beetles. Eggs are laid under the bark where they hatch into larvae, feed, pupate, mature, and bore out to feed in other elm trees. Since these beetles have emerged from a diseased elm, they carry disease spores and spread Dutch elm disease, infecting trees they feed on. Dutch elm disease also can spread into nearby healthy elms through roots that have grown together between two or more trees. There are preventative injections that can be done every two to three years for high value landscape trees.

Two lined chestnut borer is a native insect that is considered a "secondary pest," affecting an oak tree once it is stressed and weakened. It is in the Buprestidae family, flat-headed borers that feed on the inner bark and cambium of the tree. Their feeding activity usually contributes to the oak tree's spiral of decline and can kill the tree. Factors that can predispose an oak tree to two lined chestnut borer attack include drought, grade changes, soil compaction or nearby tree clearing. Widespread drought conditions have made two lined chestnut borer quite common throughout Minnesota and the Midwest generally. Trees can be injected with an insecticide to preserve the tree if the condition is caught early enough, but usually follow up actions such as watering during summer drought are required to retain the tree. Many of these action items are not practical for an entire woodland. This insect can occur concurrently with oak wilt and bur oak blight. It can be confused with oak wilt, but

distinguishing features include widespread dead leaves on the tree that stay on branches, green healthy leaves on the leaves that remain after more than two weeks, and a lack of other oak trees dying within 100 feet. If there is a question, it is best to revisit the tree two to three times during the growing season, and/or take a sample of an actively wilting branch to have it tested by the University of Minnesota Plant Disease Clinic.

- Excelsior treated all mature oaks at The Commons in 2023 due to symptoms of two lined chestnut borer. The trees will continue to be monitored during each growing season and watered during drought conditions.



Photograph 14 & 16: Two-lined chestnut borer damage at The Commons, summer 2023

Bur oak blight (BOB) has not yet been identified on any public bur oaks yet. The City would respond with appropriate treatment when or if it is found. BOB is caused by a native fungal pathogen called *Tubakia iowensis*. It causes leaf browning and leaf loss in late summer and early fall. It affects only the small-acorn variety of bur oak (*Quercus macrocarpa* var. *oliviformis*), the only variety in Minnesota. Symptoms include leaf curling and browning on the inner and lower branches, expanding up and out as the disease progresses each year. Bur oaks can lose up to 50% of their canopies but remain relatively healthy because it is a late-season defoliator. After consecutive years of defoliation, however, BOB can stress and weaken a bur oak. Drought and other stressors can occur concurrently with bur oak blight to make the oak tree susceptible to other problems, such as two lined chestnut borer and Armillaria root disease. High-value bur oak trees in a landscape can be injected with plant growth regulators, and propiconazole to improve health. In some instances, it is also advisable to treat for two-lined chestnut borer, depending on the condition of the tree and presence of drought.



Photograph 15: Bur oak blight symptoms on a leaf



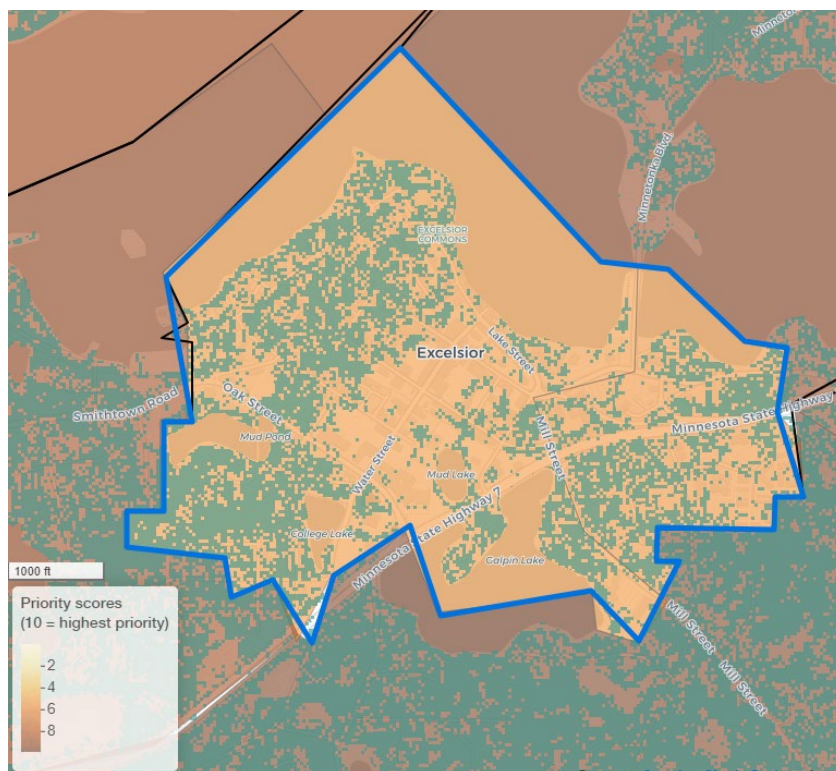
6.0 State of the Urban Forest and Key Findings

6.1 Tree Canopy Cover and Urban Heat Islands

Based on 2021 aerial photography, the City of Excelsior has an average canopy cover of 39.9%. The cities and townships in the region have an average of 42.3% and in most areas a goal of 45% tree canopy coverage is suitable (Growing Shade Tool by Metropolitan Council, The Nature Conservancy, Tree Trust 2021). Using canopy cover and average daytime temperature data can help inform future planting projects.

- Trees help alleviate the urban heat island effect, which occurs when pavement and rooftops concentrate heat and re-radiate it over the evening hours after the sun sets, keeping an area much warmer than its rural or forested neighbors. This can make developed areas with a lot of hardscapes stay artificially warm, causing stress to community members, especially those without reliable access to air conditioning. Vulnerable groups include infants, the elderly and the unhoused.
- As summer heat waves become more frequent and intense, heat has become a dangerous weather condition. According to the National Weather Service, heat is the third most dangerous weather condition, only flooding and tornadoes have killed more people over the last 30 years.

Image 3: Growing Shade Tool showing areas of canopy cover & planting area priorities – Metropolitan Council, Tree Trust, The Nature Conservancy





Comparing canopy cover maps with those reflecting the average daily temperature such as the one below underscores the relationship between canopy cover and excessive heat. It can be difficult to remedy urban heat island conditions if the low-canopy areas are parking lots or private properties without adequate planting space but it is something Excelsior will be mindful about when selecting planting locations. **Figure 3** below utilizes data from the Trust for Public f

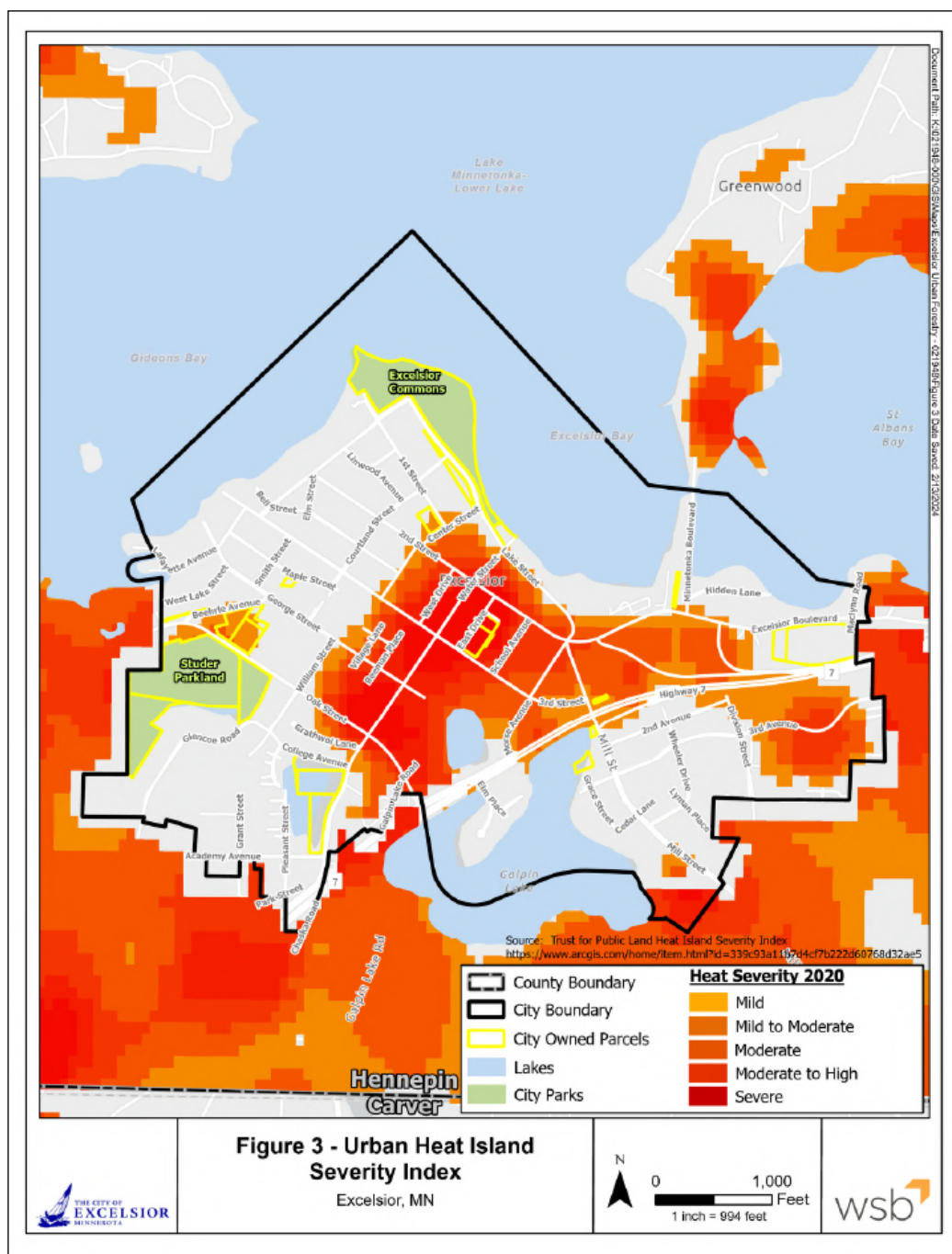


Figure 4: Urban Heat Island Severity Index

6.2 Inventory Data Analysis – Existing Conditions Resource Assessment

The tree inventory was completed in 2021 by Bartlett Tree Experts. Streamlining the inventory system to make it more accessible in the field was a goal staff identified during the resource analysis. It is important to have updated data upon which to plan maintenance, budgets, and to help select areas to plant and help drive genera and species selections.

6.3 Tree Diversity

Tree genus, or genera (plural) refers to a classification of tree types, such as Quercus, or oaks. Tree species refers to specific tree types, such as bur oak. Diversity within family, genus and species is important to make the urban forest more resilient. Tree insects and diseases are often genera-specific, for example the deadly emerald ash borer kills all types of North American ash trees but would not impact a maple.

- The traditional diversity guideline proposed by Dr. Frank Santamour of the U.S. National Arboretum is the 10-20-30 rule. The guideline is planting no more than 10% of any one species, 20% of any one genus, or 30% of any one family.
- The benefit to maintaining this level of diversification is to buffer a community against severe losses from a new disease or pest outbreak.
- In recent years, arboriculture professor and researcher Dr. John Ball has asserted “.... we learned how Dutch elm disease and emerald ash borer really impacted communities at the genus level (ashes and elms) and that the Santamour rule doesn’t go far enough.” He suggests communities should plant no more than 5% of any one genus to really insulate against extreme canopy losses.

Within Excelsior, maples, oaks and ash are the most common tree genera planted on public property. In fact, these three genera make up almost 60% of all the trees growing on public property.

- Ash trees are not planted anymore in Excelsior, but those that are in fair and good condition are being protected with injections. Retaining the benefits of the established ash trees is important to maintain canopy cover. Over time as ash trees are removed due to storm damage or condition issues, the proportion of the Fraxinus (ash) genus will diminish from the 14% that they comprise currently.
- While oaks also comprise approximately 14% of all genera, it would be good to consider other genus options. It is just under the 20% rule proposed by Dr. Santamuor, but much more than the 5% proposed by Dr. Ball.

- The top ten genera comprise 91% of the entire public tree population. Looking over the table of genera, there are others to choose from to make Excelsior's urban forest more resilient.

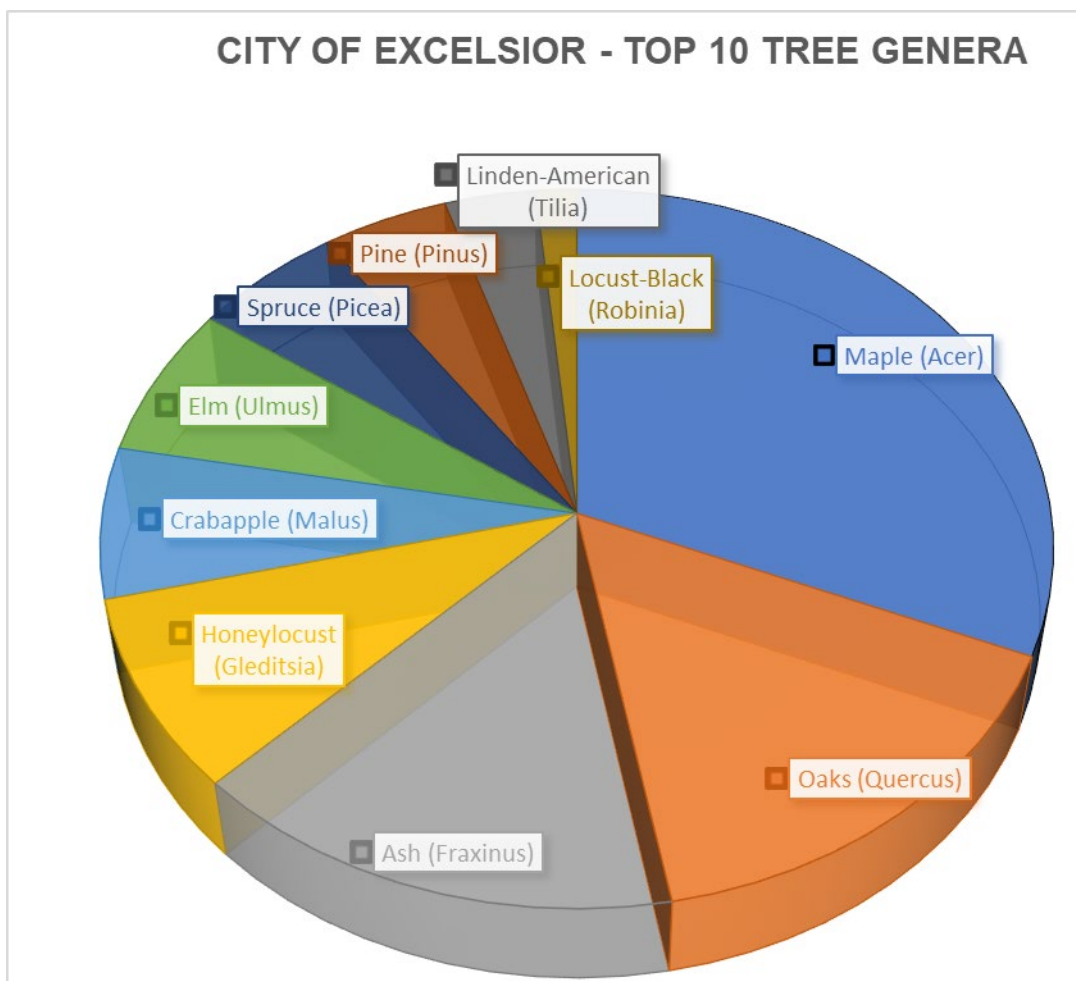


Image 4: Top Ten Most Common Tree Genera in Excelsior



Tree Genera	Number	Percentage %
Maple (Acer)	237	28.6
Oaks (Quercus)	119	14.4
Ash (Fraxinus)	117	14.1
Honeylocust (Gleditsia)	65	7.9
Crabapple (Malus)	51	6.2
Elm (Ulmus)	51	6.2
Spruce (Picea)	42	5.1
Pine (Pinus)	36	4.3
Linden-American (Tilia)	26	3.1
Locust-Black (Robinia)	12	1.4
Arborvitae-Eastern (Thuja)	11	1.3
Walnut (Juglans)	11	1.3
Poplar (Populus)	10	1.2
Eastern red cedar (Juniperus)	5	0.6
Eastern red cedar (Juniperus)	5	0.6
Birch (Betula)	5	0.6
Mulberry-White (Morus)	4	0.5
Catalpa (Catalpa)	4	0.5
Fir (Abies)	4	0.5
Hackberry (Celtis)	4	0.5
Lilac-Japanese Tree (Syringa)	3	0.4
Ginkgo (Ginkgo)	2	0.2
Hophornbeam/Ironwood (Ostrya)	2	0.2
Mountain Ash-European (Sorbus)	2	0.2
Douglas Fir (Pseudotsuga)	1	0.1
Buckeye (Aesculus)	1	0.1
Willow (Salix)	1	0.1
Kentucky Coffeetree (Gymnocladus)	1	0.1

Table 2: City of Excelsior Tree Genera Diversity

There are 47 different tree species growing in the City of Excelsior. If you apply the goal of an urban forest with no more than 10% of any one species, the city is doing well, except green ash trees, which comprise about 14% of the population. The species that are 5% or greater, inching toward the 10% figure include:

- Maple - Boxelder – 5%
- Maple – Norway Maple 6%
- Maple – Silver 6%
- Maple – Sugar 7.5%
- Honeylocust – 8%
- Crabapple – 6%
- Oak – Bur 5%
- Oak – Northern Red 7%

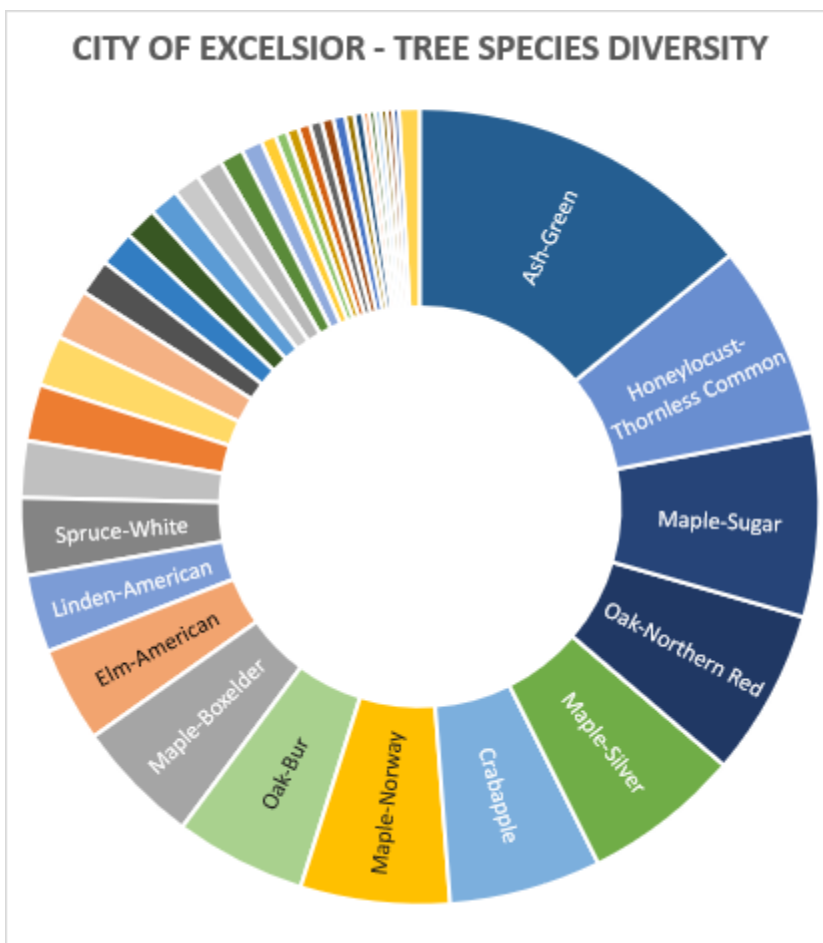


Image 5: City of Excelsior – Tree Species Diversity



In planning new tree planting projects in boulevards and public spaces, an evaluation of tree genera and species diversity is considered and evaluated by city staff.

6.4 Tree Health and Condition

Based on the 2021 inventory data, the majority of Excelsior's trees are in good condition (**Figure 5**). Tree condition ratings can vary quite a bit from arborist to arborist and have been questioned as a method to determine a tree's relative health or condition, however it is one metric that the city can use to determine inspection, removal or pruning priorities. City staff and/or contractors updating the tree inventory should use this guidance when inspecting a tree and determining a condition rating:

- **Good:** Minor problems, if any, exist. The tree has a fully branched and leafed canopy, little to no mechanical damage on stem, little to no branch dieback over one inch diameter, few to any water sprouts, the form of the tree is characteristic for the species. Some trees in this condition rating will be exceptional legacy trees, others are simply good.
- **Fair:** Significant problems exist. The canopy is thinning and growth rate slower than typical for the species, noticeable dead wood over one inch in diameter or crown dieback throughout most of the crown; or there is significant damage to the trunk and/or insect/disease damage is affecting a majority of the tree; or the form is not characteristic of the species.
- **Poor:** Extreme problems exist. The tree is in decline and very unlikely to recover. There is crown dieback, multiple or significant dead/dying limbs seven inches in diameter or larger, severe mechanical damage to the stem, advanced decay or significant architecture issues or minimal new growth.
- **Dead:** Dead tree with no signs of life, the tree may be standing or partially fallen.

Table 3: City of Excelsior Tree Conditions

Condition Rating	Number of Trees
Dead	10
Poor	42
Fair	260
Good	494



Photograph 16: Mature silver maple in Excelsior boulevard that would be rated only “fair” due to the weak branch structure (co-dominant stems)

Beyond genera and species diversity, size and tree age class is an important factor to consider when managing the urban forest. Trees will need different levels of water, pruning and inspection needs based on their age class. Typically, new planting and semi-mature trees will need the most structural pruning, while the mature and semi-mature will need



more crown cleaning and risk inspections due to their size. Young trees are susceptible to drought stress and mature trees are more susceptible to storm damage. Continual planting each year to replace removed trees will help Excelsior maintain age diversity. Conversely, planting large numbers of trees every few years will not be as effective in creating age class diversity.

According to the 2021 inventory, most of Excelsior's public trees are considered semi-mature. The age class system was applied to each inventoried tree and based on Bartlett Tree's ArborScope software.

Table 4: City of Excelsior Public Tree Size (Age) Classes

Age Class	Number of Trees
Over-mature	10
Mature	42
Semi-Mature	532

- Over-mature refers to a tree that is declining or beginning to decline due to its age.
- Mature refers to a tree within its full growth potential.
- Semi-mature refers to an established tree that has not been in the landscape for many years.
- A new planting is a tree that is not yet established.

Although there were no trees identified as “new planting” at the time of the inventory, there were many added in 2023 that had not yet been added to the inventory.



Figure 5: Excelsior Commons Trees



Figure 6: Studer Parkland

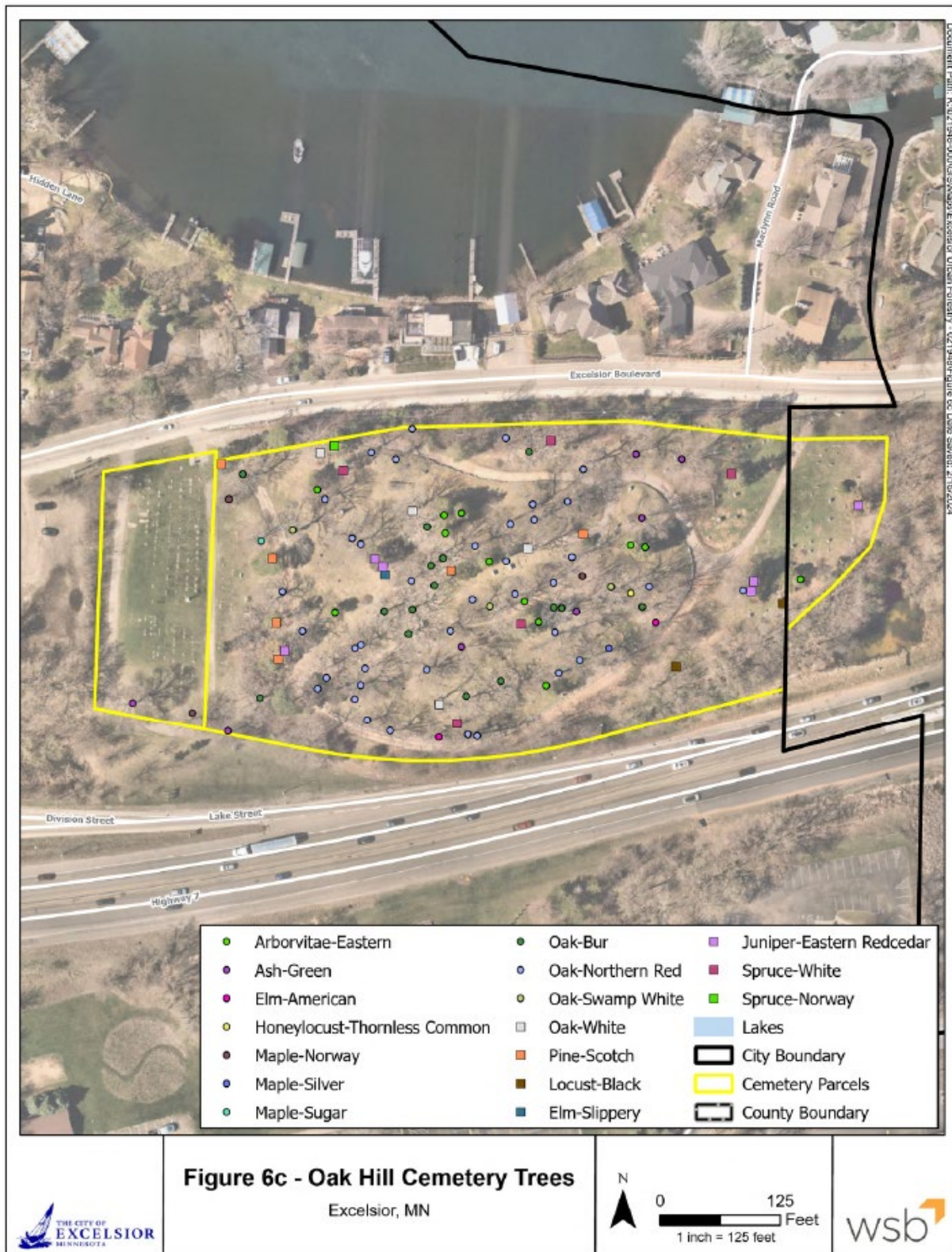


Figure 7: Oak Hill Cemetery Trees

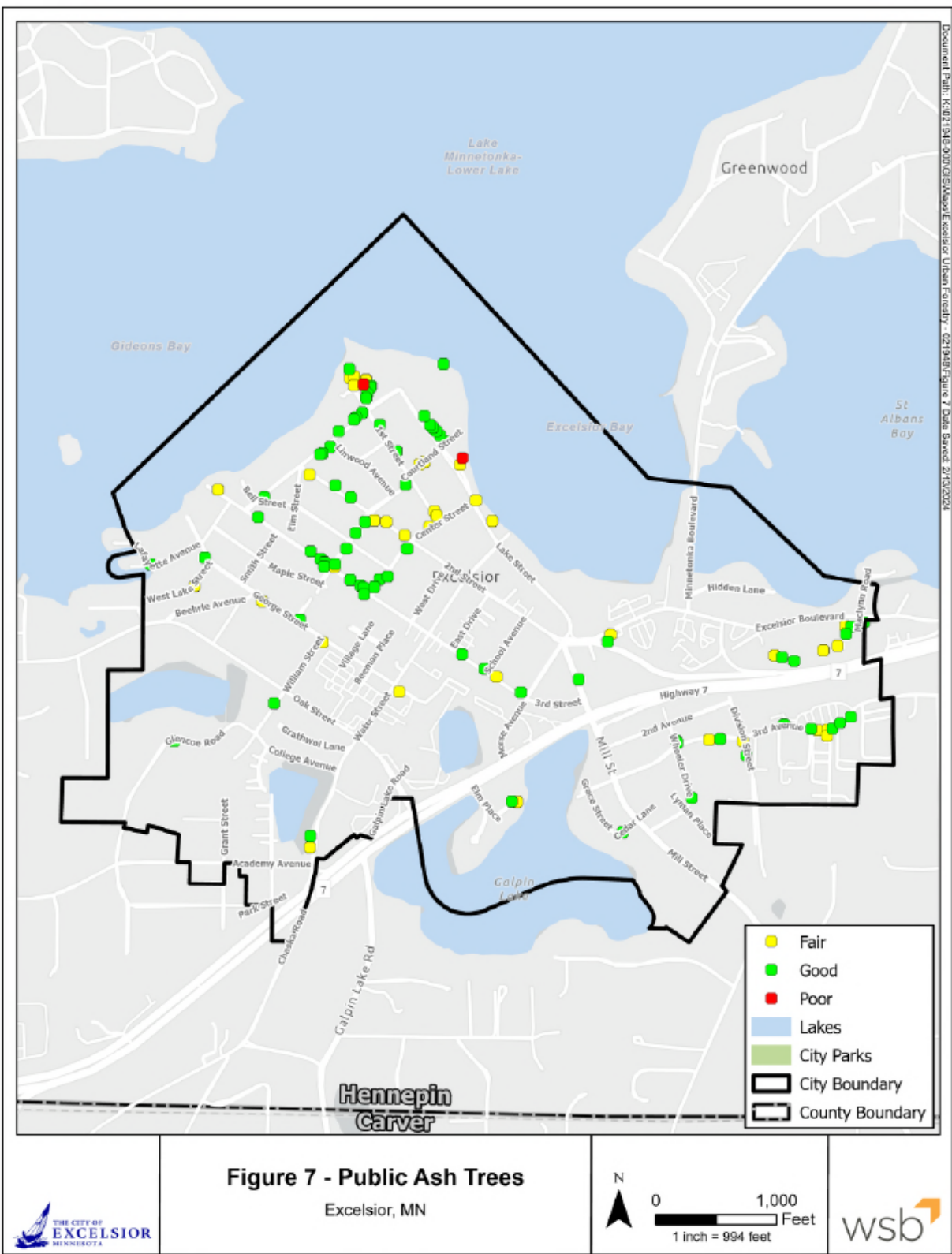


Figure 8: Public Ash Trees

6.5 Tree Planting, Community Member Stakeholders and Engagement

Proper planting is critical to tree establishment. The Parks Manager or their representative oversees all tree planting projects to ensure trees are planted at the correct depth (Appendix B), with all encircling roots cut to prepare the tree. There are three main types of tree stock that Excelsior uses for public trees, each requiring their own specific preparation and planting practices. They include balled and burlap, container-grown and bare-root trees.



Photograph 17: Per ANSI standards, balled and burlap trees should have twine, burlap and the top 1/3 of the wire basket removed



6.6 Planting Location and Tree Establishment Best Practices

There are several best practices related to identifying ideal planting locations. Some of them include:

- Plant trees in areas with the most available soil volume. If a boulevard has limited space, plant in the front yard opposite the boulevard area.
- Plant short-stature trees when there are overhead utility lines.
- Be mindful of sign locations and avoid planting trees in areas that would block intersections or disrupt sightlines.
- Plant trees at least 8-10 feet away from all underground utilities.
- Do not plant a boulevard tree where it will outcompete an adjacent tree on public or private property.
- When possible, plant trees on the east and west sides of buildings in order to contribute the greatest possible energy savings.
- Strategically plant trees to provide shade to park benches, picnic tables or other areas where park users congregate.
- Be aware of heat islands within the city and attempt to increase planting in those areas.

Best practices related to tree establishment include:

- Water trees at least once per week during the growing season (roughly May-October) for the first two years of establishment.
- Monitor trees in the third and fourth years especially during drought conditions during the heat of summer.
- Keep trees mulched and only stake when needed during the very first year.

6.7 Community Engagement and Tree Planting

There are several Excelsior-based community groups that show active support and participation in Excelsior's urban forest. Those groups include the Parks and Recreation Commission, as well as members of the public and local nonprofit groups Community for the Commons (C4C), Uncommon Gardeners, and the Men's Garden Club. Additionally, the community groups who rent The Commons amphitheater often provide proceeds of the event to C4C who makes the money available to support mature tree care in the park.

Several members of these groups came together for a volunteer planting event in 2023 funded by a Hennepin County Healthy Canopy Grant at The Commons. City staff continue to look for funding and methods to involve the community in planting and supporting the urban forest. In the future, it may be beneficial to formalize the best way to structure outside



community-led funding into categories that better tie into city needs and budgets.

6.8 Climate Resiliency and Tree Diversity

Climate resiliency is another important consideration when selecting species for planting. Minnesota is projected to experience changes in the frequency and severity of climate extremes and natural disturbances. According to the Northern Institute of Applied Climate Science, temperatures in the Midwest are projected to increase by 5.6 to 9.5 degrees Fahrenheit by the end of the century (2071-2100). Additionally, drought risk is expected to increase across the Midwest by the end of the century (NIACS). With warming climate trends, species tolerance is related to water availability for trees and understory plants. Data drawn from a consortium called The Climate Change Response Framework suggests a more nuanced model illustrated in the Tree Atlas (USDA). The consortium is a collaborative, cross-boundary approach among scientists, managers, and landowners to incorporate climate change considerations into natural resource management (NIACS).

- Species listed in the USDA Tree Atlas as having good capability to withstand climate change in the Minnesota include bitternut hickory (*C. cordiformis*), black oak (*Q. velutina*), black walnut (*J. nigra*), hackberry (*C. occidentalis*), honeylocust (*G. tricanthos*), red maple (*A. rubrum*), silver maple (*A. saccharinum*), and white oak (*Q. alba*).
- Species with mixed results include bur oak (*Q. macrocarpa*), ironwood (*O. virginiana*), northern pin oak (*Q. ellipsoidalis*), paper birch (*B. papyrifera*) and shagbark hickory (*C.ovata*).
- Minnesota's changing climate may create new habitat for the following species to migrate into Minnesota: black hickory (*C. texana*), chinkapin oak (*Q. muehlenbergii*), mockernut hickory (*C. tomentosa*), pin oak (*Q.palustris*), post oak (*Q.stellata*), sassafras (*S. albidum*), shingle oak (*Q. imbricaria*), swamp white oak (*Q. bicolor*), and sycamore (*P. occidentalis*).

These are all tree species native to regions south of Minnesota. The Minnesota Department of Natural Resources (DNR) and the Climate Change Response Framework both agree to boosting tree species diversity as a means to prepare for future climate uncertainty. According to the Framework, “studies have consistently shown that diverse systems have exhibited greater resilience to extreme environmental conditions and greater potential to recover from disturbance than less diverse communities.” There is a plethora of Minnesota-based research on planting trees and assisted species migration in preparation for the changing climate. It is crucial to revisit planting lists as the climate changes based on emerging tree health and tree species diversity. Site conditions will vary and creating a resilient urban forest will be based on numerous factors, so staff must have the ability to adapt to changing conditions.

While it is good to maximize the use of native trees, there are also several species of trees that are not native to North America that are predicted to do well with the changing climate which should be considered if they do not have invasive properties.



Photograph 18: The Men's Garden Club preparing to plant a new tree



Photograph 19: The Excelsior Commons packed during a summer community event



Photograph 20: Community volunteer tree planting event with Tree Trust, funded by a Hennepin County Healthy Canopy Grant at The Commons, Fall 2023

7.0 Excelsior Urban Forestry Opportunities, Goals, and Funding Recommendations

The primary overarching goal for the City of Excelsior is to maintain public trees in a healthy and safe condition. The goals are subdivided into broad categories to define and track performance.

7.1 Tree Assessment and Inventory

Goal 1: Update the existing public tree inventory using a new software system that can be easily utilized in the field.

- Establish a budget to update the entire tree inventory and utilize grant funding from multiple sources when possible. (Hennepin County, MN DNR)
- Seek to continuously update the tree inventory when trees are planted, removed, pruned or treated with a plant health care practice. Trees could be updated the same year trees are planned for pruning, to be completed after tree pruning, plant health care, and/or removal work is complete. Inventory updating task should be completed by an ISA Certified Arborist.
- If time constraints exist for City staff to continuously update the inventory when tree work occurs, establish a tracking system and yearly maintenance budget for tree inventory updates.

Goal 2: Inventory trees with a Level 1 basic assessment once every 5-7 years and update attributes/domains in Excelsior's Tree Inventory System.

- For trees that have not received pruning or other care, they should have an assessment and updated condition rating completed every 5-7 years.
- Trees that have already been updated with pruning or plant health care work within 5-7 years do not need an additional Level 1 basic assessment.
- Inventory work shall be completed by an ISA Certified Arborist, ideally with the ISA Tree Risk Assessment Qualification (TRAQ).
- The yearly maintenance budget established in Goal 1 will cover these additional Level 1 assessments.

Goal 3: Inspect select trees with Level 2 Assessment when suspected of posing a risk to the public. Have two separate ISA-Certified Arborists with the Tree Risk Assessment Qualification (TRAQ) evaluate the tree before removal using ISA TRAQ criteria.

- Establish records retention schedule for tree reports.
- Establish re-examination schedule for trees that are low risk and retained on site.



- Create a yearly maintenance budget to cover regular Level 2 Assessments for trees in high-use areas.

7.2 Tree Planting

Goal 1: Replace public trees with a diversity of genera and diversity of species to ensure resiliency to insect, disease and climate pressures and follow planting BMPs with every project.

- Limit tree genera planting so no more than 5-20% of any one genera is represented in Excelsior. Constraints such as available planting stock and budgets may restrict the ability to get down to the 5% threshold so this is a range.
- Explore trees native to regions just south of Minnesota to prepare for a changing climate
- Update all city tree planting lists provided to the public to help ensure a diversity of trees is being planted (for example, the Tree and Shrub Planting Standards and Tree List)

Goal 2: Design streetscapes that create the largest possible soil volume for trees, ideally as close to 1,000 cubic feet per tree. Utilize structural soils or other emerging technologies such as tree trenches to maximize rooting space.

- Consider utilizing the Capital Improvement Budget (CIP) for structural soil and/or stormwater tools that maximize soil volume such as tree trenches/boxes/silva cells, particularly in downtown areas where boulevard space is extremely limited.
- Seek out and utilize any watershed grants to support stormwater tools that also maximize soil volume (tree trenches/boxes/silva cells)
- When there isn't adequate soil volume in boulevard or tree pit, tree roots are more likely to push into nearby spaces and heavy pavers, sidewalk or other infrastructure.
- If roots are severed during sidewalk or street replacement/repairs – tree health and stability will suffer.

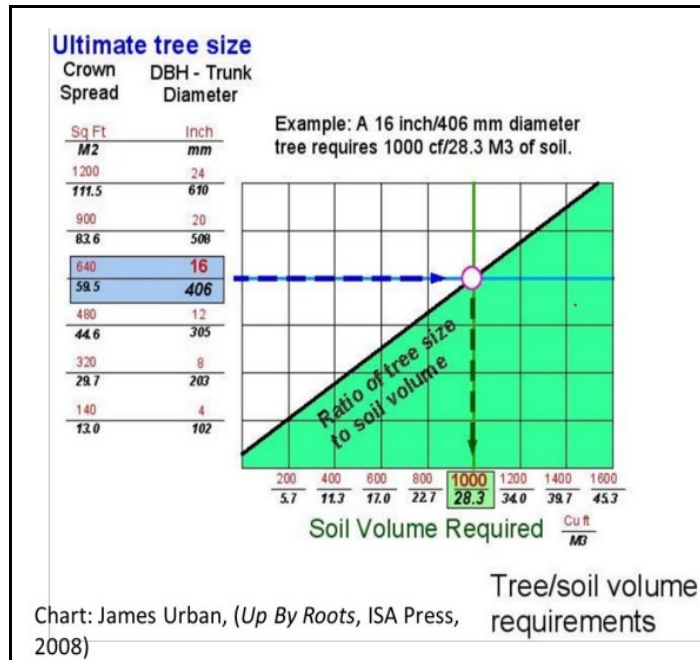


Image 6: Ultimate Tree Size

Goal 3: Provide resources for residents on proper planting and appropriate tree species options via the website and/or through volunteer planting events in public parks.

Goal 4: Maximize tree planting on public property in urban heat island areas within Excelsior. Work to educate private property owners about the benefits of planting to reduce the heat island effect.

Goal 5: Organize staff or budget to ensure newly planted trees are watered weekly from June through October for the first two years to aid in establishment.

7.3 Pruning, Proactive Maintenance and Plant Health Care

Goal 1: Prune The Commons and Studer Park trees in mowed/maintained areas once every 3 years.

- Divide each park into 3 sections and get quotes to prune each park in a 3-year contract.

Goal 2: Prune Oak Hills Cemetery trees once every 5 years

Goal 3: Prune Street Trees once every 3-5 years

- Using the established Tree District Map, obtain quotes for a 3 year and 5-year pruning cycle depending on budget constraints.

Goal 4: Continue to inject valuable shade trees for tree health, disease, and insect issues.

- Establish a routine yearly budget for ongoing injections that are planned at regular intervals, such as ash tree preservation.



Formulate an injection maintenance budget that will allow for preservation of at-risk trees due to drought, construction projects, oak wilt, bur oak blight or other emerging insects or diseases.

- Utilize (grant-funded) injection equipment to perform injections by City staff when schedule and workload permits.
- Hire contractors when larger projects occur, such as two-lined chestnut borer during drought.

Goal 5: Continue to evaluate mature trees for lightning protection and/or cabling needs and inspect any installed systems regularly during pruning work.

Goal 6: Continue to improve soil conditions by limiting vehicles and equipment in tree root zones. Perform air spade and mulching work as needed to improve tree health and longevity.

Goal 7: Continue to restore slopes with vegetation to reduce erosion which is detrimental to water quality and tree roots.

Goal 8: Promote conservation of existing Park and Open Space Trees.

Goal 9: Evaluate boulevard trees prior to major street and/or sidewalk work to determine if they will remain healthy and well-anchored if they are in direct conflict with new infrastructure.

7.4 Tree Removal

Goal 1: During street projects, consider removal and replacement of trees that require root cutting within their Zone of Rapid Taper.

- The zone of rapid taper is the "...area of structural roots immediately beneath the basal stem which will be three to five times the diameter of the tree at breast height (Urban, Up By The Roots: 265)." That means that if you have 12" diameter tree, the structural roots will occur in the five to seven feet around the stem.
- 90-95% roots in top 3 feet of soil, more than half within the top 1 foot of soil ("Protecting trees during construction – A Homeowner's Guide")

Goal 2: After street tree removals, evaluate site conditions before planting back to the boulevard.

- If the boulevard is less than four (4) feet, engage with adjacent resident and explore planting replacement(s) in private property front yards where they are more likely to reach maturity and attain full canopy size.
- This strategy is growing in popularity because cities desire an increase in canopy cover to reduce the urban heat island effect.
- Shifting trees to private property front yards appreciates the inherent public-private partnership of the urban forest. It also



recognizes the finite soil space in existing boulevard spaces and intense utility infrastructure existing between the sidewalk and curb.

Goal 3: Accordant with the City's Emerald Ash Borer (EAB) Management Plan, continue to remove poor condition and/or small diameter (less than 10") public ash trees that are not eligible for preservation by injection.

Goal 4: Review city ordinances and policies related to tree removal for public infrastructure projects, emergent infrastructure repairs and private property risk trees impacting public spaces.

- Address any gaps by drafting ordinance language and/or policy documents.

7.5 Public Outreach and Education

Goal 1: Share the City's UFMP and the efforts made to care for public trees.

- Create a landing page for forestry on the Public Works Section of the Excelsior website.
 - Expand tree care and plant health care information
 - Include tree care consumer awareness/best practices for hiring an ISA certified arborist/ tree contractor.
 - Incorporate city code information on required tree removal permit and requirement to hire a licensed contractor.

Goal 2: Ensure the public understands management actions before they take place.

- Use the city website, social media, door hangers and letters that can be used to notify residents about street tree pruning, removals, and ash injections.

Goal 3: Engage the public prior to planting boulevard trees and provide written watering/aftercare instructions.

- Provide an appropriate list of replacements based on the size of boulevard and city tree diversity goals
- Engage with the adjacent resident to plant trees on private property when the boulevard space does not contain enough soil volume and space to accommodate a mature shade tree.

Goal 4: Maintain Tree City USA designation to formalize and promote the City's commitment to its urban forest.

- The Parks Manager will continue to track and report yearly to the Minnesota Department of Natural Resources/National Arbor Day Foundation on the Tree City USA parameters.



- Designate and name the Park and Recreation Commission as the City's "Tree Committee" - the primary group reviewing urban forestry initiatives in Excelsior.
 - The Parks Manager will provide regular quarterly updates to the Tree Committee regarding tree and urban forestry topics or issues.
 - Consider designating "Tree Committee" time to discuss and plan a yearly Arbor Day activity.
- Determine the type of Arbor Day celebration that would be appropriate for Excelsior each year (planting event, cooperative tree sale, tree give-a-way, etc.)
 - There shall be a line item on the Park and Recreation meeting agenda to discuss Arbor Day and/or other urban forestry topics or issues in their role as the City's Tree Committee.

Goal 5: Provide regular quarterly educational content in the City's newsletter to the public on trees and the urban forest.

- Newsletter topics include managing EAB on private property, how to hire an ISA Certified Arborist/tree contractor, topical reminders on planting, tree ordinances, tree pruning and care to maximize the benefits of private property trees growing in the urban forest.
- Budget for or utilize grant funding to send a mailed flyer for specific emergent issues/topics such as EAB.



7.6 Budget Implications and Prioritization

Goal Type	Priority	Budget Impact?	Funding Notes
7.1 Tree Assessment and Inventory			
<i>Goal 1: Update the existing public tree inventory using a new software system that can be easily utilized in the field.</i>	High	Yes	Grant funding may be able to offset cost
<i>Goal 2: Inventory trees with a Level 1 basic assessment once every 5-7 years and update attributes/domains in Excelsior's Tree Inventory System.</i>	High	Yes	Grant funding may be able to offset cost
<i>Goal 3: Inspect select trees with Level 2 Assessment when suspected of posing a risk to the public. Have two separate ISA-Certified Arborists with the Tree Risk Assessment Qualification (TRAQ) evaluate the tree before removal using ISA TRAQ criteria.</i>	Medium	Yes	Grant funding has been used to offset cost and may be able to offset future cost
7.2 Tree Planting			
<i>Goal 1: Replace public trees with a diversity of genera and diversity of species to ensure resiliency to insect, disease and climate pressures and follow planting BMPs with every project.</i>	High	No	Grant funding has been used to offset cost and may be able to offset future cost
<i>Goal 2: Design streetscapes that create the largest possible soil volume for trees, ideally as close to 1,000 cubic feet per tree. Utilize structural soils or other emerging technologies such as tree trenches to maximize rooting space.</i>	Medium	Yes	Explore CIP and watershed district grants
<i>Goal 3: Provide resources for residents on proper planting and appropriate tree species options via the website and/or through volunteer planting events in public parks.</i>	Medium	Yes	Grant funding has been used to offset cost and may be able to offset future cost
<i>Goal 4: Maximize tree planting on public property in urban heat island areas within Excelsior. Work to educate private property owners about the benefits of planting to reduce the heat island effect.</i>	High	Yes	Grant funding may be able to offset cost
<i>Goal 5: Organize staff or budget to ensure newly planted trees are watered weekly from June through October for the first two years to aid in establishment.</i>	High	No	
7.3 Pruning, Proactive Maintenance and Plant Health Care			
<i>Goal 1: Prune The Commons and Studer Park trees in</i>	Medium	Yes	



<i>mowed/maintained areas once every 3 years.</i>			
<i>Goal 2: Prune Oak Hills Cemetery trees once every 5 years</i>	Medium	Yes	
<i>Goal 3: Prune street trees once every 3-5 years</i>	High	No	
<i>Goal 4: Continue to inject valuable shade trees for tree health, disease, and insect issues.</i>	High	Yes	Grant funding has been used to offset future cost by purchasing injection tools/supplies
<i>Goal 5: Continue to evaluate mature trees for lightning protection and/or cabling needs and inspect any installed systems regularly during pruning work.</i>	Medium	Yes	Grant funding may be able to offset cost
<i>Goal 6: Continue to improve soil conditions by limiting vehicles and equipment in tree root zones. Perform air spade and mulching work as needed to improve tree health and longevity.</i>	Medium	No/Yes	Grant funding may be able to offset cost for air spade/mulching work
<i>Goal 7: Continue to restore slopes with vegetation to reduce erosion which is detrimental to water quality and tree roots.</i>	High	Yes	Explore CIP and watershed district grants
<i>Goal 8: Promote conservation of existing Park and Open Space Trees.</i>	High	No	
<i>Goal 9: Evaluate boulevard trees prior to major street and/or sidewalk work to determine if they will remain healthy and well-anchored if they are in direct conflict with new infrastructure.</i>	High	No	
7.4 Tree Removal			
<i>Goal 1: During street projects, consider removal and replacement of trees that require root cutting within their Zone of Rapid Taper.</i>	High	No	
<i>Goal 2: After street tree removals, evaluate site conditions before planting back to the boulevard.</i>	High	No	
<i>Goal 3: Accordant with the City's Emerald Ash Borer (EAB) Management Plan, continue to remove poor condition and/or small diameter (less than 10") public ash trees that are not eligible for preservation by injection.</i>	High	No	
<i>Goal 4: Review city ordinances and policies related to tree removal for public infrastructure projects, emergent infrastructure repairs and private property risk trees impacting public spaces.</i>	Low	No	
7.5 Public Outreach and Education			
<i>Goal 1: Share the City's UFMP and the efforts made to care for public trees.</i>	Medium	No	
<i>Goal 2: Ensure the public understands management</i>	Medium	No	



<i>actions before they take place.</i>			
<i>Goal 3: Engage the public prior to planting boulevard trees and provide written watering/aftercare instructions.</i>	High	No	
<i>Goal 4: Maintain Tree City USA to formalize and promote the city's commitment to its urban forest.</i>	High	No	
<i>Goal 5: Provide regular quarterly educational content in the City's newsletter to the public on trees and the urban forest.</i>	Medium	No	



8.0 Conclusion

The City of Excelsior has a thriving urban forest and many opportunities to improve it over the next ten years. Staff have been able to implement several innovative practices which are unique for such a small municipality. Examining existing conditions, canopy cover, and current forestry practices utilized by the City of Excelsior have provided insights on how to strengthen the urban forest and set goals for the future. Reviewing city policies, planning efforts and regulations provides a framework to guide future investments in the urban forest. The benefits that trees provide to Excelsior outweigh the costs, with numerous members of the public and stakeholder groups ready to support the City's urban forest.



9.0 Glossary

Air Spade – Uses a high-pressure air jet spray to reduce compacted soil beneath a tree.

ANSI A300 standards – United States industry-developed, national consensus standards of practice for tree care.

Arboriculture – Cultivation, management, study of individual trees, shrubs, vines, and other perennial woody plants.

Balled and Burlap Tree - Tree or other plant dug and removed from the ground for re-planting, with the roots and soil wrapped in burlap or a burlap-like fabric. Contrast with bare root, container grown, containerized, and in-ground fabric-bag grown.

Bare Root Tree - tree or other plant removed from the ground for re-planting without soil around the roots. Contrast with balled and burlapped, container grown, containerized, and in-ground fabric-bag grown.

Biodiversity – Variety or variability of life on earth.

Boulevard Tree – Tree located within the Right of Way usually along a street or road.

Certified Arborist (ISA certified arborist) – Arborists that are certified by the International Society of Arboriculture.

Climate – Long term pattern of weather in a particular area.

Co-dominant branch – Two or more branches are growing vertically at about the same rate, as they grow bark rolls inward creating included bark and decay forming a weak point in the tree.

Container Tree - A tree grown in a container or pot, which can restrict root growth in a circling pattern. Especially important to box cut this type of tree prior to planting to reduce the chance of stem girdling roots (SGRs) and a dysfunctional root system.

DBH - Diameter at Breast Height – stem measurement of diameter of tree at 4.5 feet from the ground surface.

Decurrent Tree Form – Tree or shrub form that develops when there is a weak apical dominance resulting in a rounded or spreading tree crown.

Defoliation – Widespread loss of leaves.



Disease (tree) – It is a tree that is dying and creates a deviation in normal functioning due to a persistent agent, like a fungal disease or insect.

Dormant Seeding – When you apply seed during cold winter months where they will remain dormant until spring.

Erosion - the process of eroding or being eroded by wind, water or other natural agents.

Food Web – A system of interlocking and interdependent food chains.

Fungal Pathogen – A fungal agent that causes disease.

Fungicide – A chemical that destroys a fungus.

Habitat (for wildlife) – An area where plants, animals and other organisms live. Providing food, water, shelter, and space.

Heat Island Effect - Occurs when pavement and rooftops concentrate heat and re-radiate it over the evening hours after the sun sets, keeping an urban developed area much warmer than its rural or forested neighbors.

Open Trench Excavation – Removal of soil to form a trench, often with mechanized equipment or a blade.

Infestation – The presence of an unusually large number of insects or animals in one place.

Infill Development – Construction of buildings or facilities on previously unused or underutilized land. Usually referring to housing development in previously open space.

Infrastructure – The basic physical and organizational structures needed for the operation of a city, county, or other area. Usually comprised of public and private physical structures such as roads, railways, bridges, electrical grids, and water supply.

Integrated Pest Management – Effective and environmentally sensitive approach to pest management.

International Society of Arboriculture Best Management Practices (BMPS) – Series of standards for interpreting tree care standards and providing guidelines of practice for arborists, tree workers, and the people who employ their services.

Invasive Species - An organism that is not indigenous or native to an area.



Level 1 Limited Visual (tree) Assessment - Arborists evaluate designated areas either from vehicles or from walking down paths, streets, or sidewalks to identify high and extreme risk trees.

Level 2 Basic (tree) Assessment - This is a ground-based assessment commonly conducted by an arborist due to a client's request. It involves a visual inspection that must be conducted both up close and at a distance. The Level 2 Basic Form is filled out during the assessment.

Occupancy Rate – An estimated amount of time the target is within the target zone including rare, occasional, frequent, and constant.

Pest (tree) – An organism that is harmful and/or a nuisance to trees like insects, mites, or nematodes.

Pesticide – A chemical that is intended to prevent, destroy, repel, or mitigate any pest.

Plant Growth Regulator (Cambistat) – Cambistat or its equivalent works by inhibiting the production of gibberellin, a tree's growth hormone, resulting in reduced canopy growth and increasing fine root growth.

Plant Health Care - A holistic approach to tree care, used to prevent a tree's "spiral of decline".

Propiconazole – a triazole fungicide, used to prevent oak wilt on all types of oaks, and used to therapeutically treat oaks in the white oak family.

Resilient – Able to absorb and adapt to disturbances such as climate change and attacks by pests.

Response Growth – New wood produced in response to loads to compensate for higher strain in outmost fibers.

Root Graft Barrier by Vibratory Plow – This stops the underground movement of the disease by making a barrier line with a plow blade or trench.

Root Zone (Critical Root Zone) – Area of soil and oxygen surrounding the most important roots of a tree, usually extending out farther than the tree's drip line (canopy edges).

Sequestering Carbon (how do trees sequester carbon) – the process of capturing and storing atmospheric carbon dioxide.

Shade Tree – a large tree whose primary role is to provide shade in the surrounding environment due to spreading canopy.



Stem Girdling Roots (SGRs) – A dysfunctional rooting structure that results in encircling woody roots that eventually act to girdle the base of a tree at or just below the soil surface.

Tree Canopy Cover– is the layer of branches and leaves that cover ground when viewed from above. From a city perspective, it is usually referred to as a percentage of land with a tree canopy, as viewed from an aerial photo.

Tree Defect – Part of a tree's structure that is weak, like decayed wood, cracks, weak branch unions, and root problems.

Tree Genus, or genera (plural) – A group of tree species that have fundamental traits in common but that differ in other small characteristics. (Example: Quercus is the genus for oaks)

Tree Pit – A large hole usually between a sidewalk and a street that plant a tree into. Ideally, a tree pit will allow a tree access to a minimum of 1,000 cubic feet of soil.



10.0 Bibliography

American Forests. (2019). What is Urban Forestry? A Quick 101. Accessed 2023. <https://www.americanforests.org/article/what-is-urban-forestry-a-quick-101/>

The Arbor Day Foundation. (n.d.). Tree Diversity. Accessed 2023. <https://www.arborday.org/trees/bulletins/coordinators/resources/pdfs/094.pdf>

Ball, J. (2017). How Tree Choices Can Cause the Next Invasive Species Disaster. Planting Montana. Retrieved from <https://www.youtube.com/watch?v=91Z55zmrzjM>

The City of Excelsior, MN. 2009 Master Parks, Trails, and Walkways Plan. Accessed 2023. <https://www.ci.excelsior.mn.us/DocumentCenter/View/166/Master-Park-Plan?bidId=>

The City of Excelsior, MN. 2017 The Commons. Accessed 2023. <https://www.ci.excelsior.mn.us/124/The-Commons>

Gilman, E., & Bisson, A. (n.d.). Developing a Preventative Pruning Program: Young Trees. In The Urban Forest Hurricane Recovery Program. University of Florida IFAS Extension.

International Society of Arboriculture. (2022). Tree Risk Assessment Qualification Application Guide. Retrieved from <https://www.isa-arbor.com/Portals/0/Assets/PDF/Certification-Applications/TRAQ-App-Guide.pdf>

Johnson, Gary R. (1999). Protecting trees from construction damage: a homeowner's guide. Retrieved from <https://conservancy.umn.edu/handle/11299/199785>

Learn About the Benefits of Trees. (n.d.). Accessed 2023. <https://www.itreetools.org/cta-tree-benefits>

McPherson, E., & Muchnick, J. (2005). Effects of street tree shade on asphalt concrete pavement performance. *Journal of Arboriculture*, 303-310.

McPherson, E.G. & Simpson, J.R. (2003). Potential energy savings in buildings by an urban tree planting program in California. *Urban Forestry & Urban Greening*. 2: 73-86.

McPherson, E., Simpson, J., Peper, P., Maco, S., Gardner, S., Vargas, K., . . . Xiao, Q. (2005). City of Minneapolis, Minnesota Municipal Tree Resource Analysis. Davis: U.S. Department of Agriculture Forest Service, Pacific Southwest Research Station, Center for Urban Forest Research.



Minnesota Department of Natural Resources (DNR). (n.d.). Energy conservation planting strategies -Tree Care. Accessed 2023.
<https://www.dnr.state.mn.us/treecare/energy/strategies.html>

Minnesota Department of Natural Resources (DNR). (n.d.). How to Plant Trees. Accessed 2023.
https://www.dnr.state.mn.us/treecare/residential_plant.html

Nowak, D.J. and Greenfield, E.J. (2018). US Urban Forest Statistics, Values and Projections. Journal of Forestry.

Swanston, C., Janowiak, M., Brandt, L., Butler, P., Handler, S., Shannon, D., . . . St. Pierre, M. (2018, November 15). Forest Adaptation Resources: climate change tools and approaches for land managers. Newtown Square, PA, USA.

USDA Forest Service, Davey Tree Expert Company, The Arbor Day Foundation, Society of Municipal Arborists, International Society of Arboriculture, Casey Trees, and SUNY College of Environmental Science and Forestry. (n.d.). i-Tree. Retrieved from
<https://www.itreetools.org/tools>

Vibrant Cities Lab. (n.d.). Accessed 2023.
<https://www.vibrantcitieslab.com/>

Wolf, K. (1998). Urban Forest Values: Economic Benefits of Trees in Cities. Seattle: Center for Urban Horticulture, University of Washington.



Appendix A

Tree and Shrub Planting Standards

Tree Removal Permit

Tree Pruning Letter

Tree And Shrub Planting And Protection Standards

City of Excelsior, Minnesota

- ☐ Plant Material
- ☐ Handling of Plant Material
- ☐ Planting Techniques
- ☐ Maintenance of Trees & Shrubs
- ☐ Tree Protection Standards



August 2000

TREE AND SHRUB PLANTING AND PROTECTION STANDARDS EXCELSIOR, MINNESOTA

I. Plant Material

- A. Specifications - All trees and shrubs shall conform to the American Association of Nurserymen publication, "American Standard for Nursery Stock", shall be pest and disease-free and acceptable for this climate. All trees and shrubs shall be guaranteed for one full year from the time planting has been completed. All trees and shrubs used for new plantings or as replacement trees shall conform to the following minimum sizes:

Deciduous Trees - Three (3) inch caliper (trunk diameter at twelve (12) inches above soil level) balled and burlapped

Ornamental Trees (small statured flowering trees) = One and one-half (1.5) inch caliper balled and burlapped

Coniferous Trees = Six (6) feet height

Shrubs = Twenty-Four (24) inch height or spread

- B. Desirable Species - A mixture of plant material types is encouraged and shall include species from the following general categories:

1. Deciduous Trees
2. Ornamental Trees
3. Fruit Trees
4. Deciduous Shrubs
5. Coniferous Trees
6. Coniferous Shrubs

Examples of desirable species include, but are not limited to, the following: The City shall encourage the use of native tree vegetation as signified by an asterisk(*).

Deciduous and Ornamental Trees:

<u>Common Name</u>	<u>Scientific Name</u>
Ash, Blue	<i>Faxinus quadrangulata</i> *
Ash, Marshall Seedless	<i>Faxinus pennsylvanica</i> * "Marshall Seedless"
Ash, Summit	<i>Faxinus pennsylvanica</i> "Summit"*
Ash, White	<i>Faxinus americana</i> *
Beech, Blue	<i>Carpinus caroliniana</i>
Birch, River	<i>Betula nigra</i> *
Chokecherry, Amur	<i>Prunus maacki</i>
Chokecherry, Shubert's	<i>Prunus virginiana</i> "Shubert"
Coffee-tree, Kentucky	<i>Gymnocladus dioica</i> *
Corktree, Amur	<i>Phellodendron amurense</i>
Crabapples (ornamental)	<i>Malus</i> spp.
Dogwood, alternate-leafed	<i>Cornus alternifolia</i> *
Ginko (male trees)	<i>Ginkgo biloba</i>
Hackberry	<i>Celtis occidentalis</i> *
Hawthorns	<i>Crataegus</i> spp.
Hickory, Bitternut	<i>Carya cordiformis</i>
Honeylocust, Imperial	<i>Gleditsia triacanthos</i> "Imperial"*
Honeylocust, Skyline	<i>Gleditsia triacanthos</i> "skyline"*
Ironwood	<i>Ostrya virginiana</i>
Lilac, Japanese tree	<i>Syringa amurensis japonica</i>
Linden, Greenspire	<i>Tilia cordata</i> "Greenspire"*
Linden, Littleleaf	<i>Tilia cordata</i> *
Linden, Redmond	<i>Tilia x euchlora</i> "Redmond"*
Maple, Amur	<i>Acer ginnala</i> *
Maple, Black	<i>Acer nigra</i> *
Maple, Mountain	<i>Acer spicatum</i> *
Maple, Norway & Cultivars	<i>Acer platanoides</i> *

Deciduous and Ornamental Trees: (Continued)

<u>Common Name</u>	<u>Scientific Name</u>
Maple, Red & Cultivars	<i>Acer rubrum</i> *
Maple, Sugar	<i>Acer saccharum</i> *
Maple, Tatarian	<i>Acer tatarica</i> *
Mountain Ash, European	<i>Sorbus aucuparia</i>
Mountain Ash, Showy	<i>Sorbus decora</i>
Nannyberry	<i>Viburnum lentago</i>
Oak, Bur	<i>Quercus macrocarpa</i> *
Oak, Chestnut	<i>Quercus muhlenbergii</i> *
Oak, Northern Pin	<i>Quercus ellipsoidalis</i> *
Oak, Northern Red	<i>Quercus rubra</i> var. <i>borealis</i> *
Oak, Pin	<i>Quercus palustris</i> *
Oak, Red	<i>Quercus rubra</i> *
Oak, Scarlet	<i>Quercus coccinea</i> *
Oak, Swamp White	<i>Quercus bicolor</i> *
Oak, White	<i>Quercus alba</i> *
Plum, American	<i>Prunus americana</i>
Plum, Canada	<i>Prunus nigra</i>
Redbud, Eastern	<i>Cercis canadensis</i>
Serviceberry	<i>Amelanchier</i> spp.
Tulip-tree	<i>Liriodendron tulipifera</i>

Fruit Trees:

Apples, Apricot, Cherry, Pear and Plum

Deciduous Shrubs:

Chokeberry, Coralberry, Cotoneaster, Alpine Currant, Dogwood, Euonymus, Forsythia, Honeysuckle, Lilac, Magnolia, Ninebark, Potentilla, Rose, Snowberry, Spirea, Sumac, Viburnum, Willow, Dwarf Bush Honeysuckle

Coniferous Trees:

<u>Common Name</u>	<u>Scientific Name</u>
Arborvitae (White Cedar)	Thuja spp.
Fir, Douglas	Pseudotsuga menziesii glauca
Fir, White	Abies concolor
Hemlock, Canada (Eastern)	Tsuga canadensis
Junipers	Juniperus spp.
Larch, Eastern (Tamarack)	Larix laricina
Larch, European	Larix decidua
Pine, Austrian	Pinus nigra
Pine, Eastern White	Pinus strobus
Pine, Mugo	Pinus montana
Pine, Ponderosa	Pinus ponderosa
Pine, Red (Norway)	Pinus resinosa
Pine, scotch	Pinus sylvestris
Redcedar, Eastern	Juniperus virginiana
Redwood, Dawn	Metasequoia glyptostroboides
Spruce, Black Hills	Picea glauca densata
Spruce, Colorado Blue	Picea pungens
Spruce, Norway	Picea abies
Spruce, White	Picea glauca
Spruce, Japanese	Taxus cuspidata

Coniferous Shrubs:

Juniper, Arborvitae, Yew, Mugo Pine

- C. Prohibited Trees and Shrubs - The following trees and shrubs shall not be used in and adjacent to parking lots, sidewalks, and trails or as credit for replacement trees for residential developments of three units or more, commercial, industrial, or institutional uses:

Cottonwood (except for cottonless cultivars)
Female ginkgo
Boxelder
American elm (except for disease resistant varieties)
Silver Maple
Mulberry
Black Locust
Black Walnut (unless given adequate space)
Seeded varieties of Green Ash
Buckthorn
Seeded Ornamental Trees with fruit that is not persistent

D. Tree Quality

1. All trees and shrubs should be of landscape quality, in good form and be in a healthy condition (free of serious insect or disease problems, no serious wounds to the trunk or branches, and buds should be most and viable) at the time of planting.
2. Deciduous trees should have a dominant central leader, straight trunk and well-spaced side branches.
3. Evergreens should be “unsheared” and have a natural, open form with a central leader.
4. Shrubs should be sufficiently branched for the species. Potted shrubs should have been grown in the container long enough for the soil and root ball to retain its shape when removed from the container, i.e., not recently potted bare root material.
5. Plants should be centered in pots or in soil balls, and soil balls should be unbroken.
6. Roots in pots or soil balls should be moist, not dry, at time of delivery.

- E. Inspection - Plant material will be inspected. Any plant material which is in poor condition due to form (which cannot be corrected by minor pruning), undersized or broken root ball, serious trunk wounds, or insect or disease problems, will not be accepted. Any trees or shrubs not alive and in satisfactory growth at the end of the guarantee period shall be replaced.

II. Handling of Plant Material

- A. Delivery - All plant material shall be delivered on day of planting, if possible. If deciduous trees are in leaf, they should be covered with a tarp during transport. Plants should be handed, wheeled or hydraulically lowered off truck, not dropped. Trees should not be lifted or hauled by the trunk, which can separate the trunk from the root system.
- B. Storage - All plant material shall be stored as briefly as possible before planting. Plants shall be stored out of direct sunlight and root systems are to be kept cool and moist until time of planting. Roots shall only be exposed just prior to planting for potted material and not until tree or shrub is in the planting hole for balled and burlapped stock. If plants must be stored overnight, roots should be watered in late afternoon or early evening. If plants will be stored more than one day, the pots or root balls should be covered with moistened wood chips to keep roots cool and moist.
- C. Planting Times - Preferred planting times are May 1 - June 15 and August 15 - September 15 to minimize additional stress to plant material.

III. Planting Techniques

- A. Planting by Hand
 - 1. Planting Hole - The diameter of the planting hole should be at least six (6) inches wider than the pot or root mass diameter for shrubs and at least one (1) foot wider than the diameter of the root ball for trees (e.g., a tree with a twenty-four (24) inch root ball should have a planting hole which is at least thirty-six (36) inches across). The depth of the planting hole should be equal to the height of the root mass from bottom to top of the soil in the pot or root ball. The soil at the sides of the hole should be roughened with a shovel and the soil at the bottom of the hole should be firmed before planting.
- Amendments - In most soils no organic soil amendments (e.g. black dirt, peat moss, compost, etc.) are needed. In some instances, particularly sites with highly disturbed soil and no topsoil, the arborist may recommend the addition of organic amendments equal to no more than one-third (1/3) of the backfill soil.

2. **Potted Stock** - Trees and shrubs should be slid out of pot or the pot should be cut off. Roots should be loosened slightly from the sides and bottom of the root mass and any encircling roots should be cut with a sharp knife. Root masses should be placed in the hole so that the top of the root masses should be placed in the hole so that the top of the root mass is even with the top of the surrounding soil. In heavy clay soils, the root mass may be placed so that it is no more than an inch higher than the surrounding soil; however, in no situation should the root mass be planted lower than the surrounding soil. The hole should be back-filled with original soil halfway, the soil should be watered, and then the hole can be filled and watered again. The soil at the top should be lightly tamped and leveled and a slight ridge of soil should be constructed at the edge of the planting hole to keep water in the root zone of the tree.

3. **Balled and Burlapped Stock** - Trees should be set into the hole with the top of the root ball even with the top of the surrounding soil. In heavy clay soils, the root mass may be placed so that it is no more than an inch higher than the surrounding soil; however, in no situation should the root mass be planted lower than the surrounding soil. If the root ball is in a wire basket, at least the top two rounds of wire should be cut off and removed after the tree is in the prepared hole. Any rope or twine at the base of the trunk should be cut and removed, and burlap on the top of the ball should be pulled back. After centering and straightening the plants, the hole should be back-filled with original soil halfway, the soil watered, and then the hole can be filled and watered again. The soil at the top should be lightly tamped and leveled and a slight ridge of soil should be constructed at the edge of the planting hole to keep water in the root zone of the tree.

B. Machine-Moved Trees

(Information taken from MnDOT Landscape Project Guidelines)

Minimum Tree Spade Size Requirements			
Spade Size (Diameter)	Oak Trees (Caliper Inches)*	Deciduous Trees (Caliper Inches)	Evergreen Trees (Height)
42"	1.0" - 1.5"	2" - 3"	5' - 7'
60"	1.5" - 2.5"	3" - 4"	7' - 9'
78"	2.5" - 3.5"	4" - 6"	9' - 14'
85"	3.5" - 5.0"	6" - 8"	14' x 18'

(Caliper inches refers to trunk diameter measured at twelve (12) inches above the soil level)

1. Planning Specifications (use of a hydraulic spade)
 - a. Remove a soil plug from the planting site with a spade the same size as the one used to move the trees.
 - b. Scrape the sides of the planting hole to roughen it.
 - c. All holes dug by the tree spade should be filled the same day or covered to prevent personal injury or property damage.
 - d. Designate the north side of the tree with paint or ribbon before digging.
 - e. Dig the transplant tree and apply ten (10) gallons of water to the tree's root ball during digging.
 - f. The tree should be supported in the spade during transport to prevent shifting and damage to the tree or root ball.
 - g. If the tree is moved more than five (5) miles, during the growing season, cover the tree to prevent drying and wind damage to foliage.
 - h. Place the transport tree in the planting hole, maintaining the original orientation of the tree (e.g. north side of tree facing north).
 - i. As soon as the tree is in the planting hole, loosen a band, eighteen (18) inches wide by twelve (12) inches deep, of the undisturbed soil next to the root ball of the tree, with a shovel or rototiller; **do not** dig within the soil of the root ball of the tree.
 - j. Fill any voids in the planting hole by watering and construct a three (3) inch dike around the edge of the planting hole to hold water.
 - k. Water the tree within two hours of installation, saturating the root ball and planting hole.
 - l. The contractor must inspect the trees within seven (7) days of checking for settling, air voids at sides of the planting hole, and soil moisture levels.
 - m. If trees have settled with root balls below the surrounding soil, or if they have tipped, they must be reset with a tree spade the same size or larger and watered within two (2) hours of resetting.

- n. All transplanted trees must be watered immediately after planting.
- o. Mulch all transplanted trees with four to five (4-5) inches of wood chips, from the trunk out to the branch spread, within two weeks after the first watering (do not mulch immediately after first watering, since resetting of tree may be necessary). Do not place woodchips in direct contact with trunk.

IV. Maintenance of Trees and Shrubs After Planting

- A. Watering - All trees and shrubs must be watered within two (2) hours of planting with sufficient water to saturate root ball and planting hole. New plants should be watered again within one week of planting. Watering thoroughly every week or two for the first season is desirable, particularly if trees and shrubs are planted between June 15th and August 15th.
- B. Mulching - Trees should be mulched with four (4) inches of wood chips from the trunk out three (3) feet on all sides. Do not place mulch in direct contact with trunk. A ring of high quality landscape edging may be used to keep mulch around tree in turf areas. If landscaping calls for other mulch material around trees and shrubs in landscape beds, this must be approved by the City.
- C. Pruning - Trees and shrubs should be pruned of dead, crossing, injured or broken branches at the time of planting. No other pruning is needed when planting occurs. It is not necessary to apply a tree wound dressing to the pruning sites. Oaks should not be pruned at all between April 15th and July 1st.
- D. Staking - Trees should not be staked if they can stand alone. Trees much taller or wider than their root ball, or trees in open areas exposed to high winds, may need support for the first growing season. If trees are staked, the material which goes around the trees should be a wide band of webbing or other acceptable material which does not put too much pressure on the bark and sapwood. Bare wire and rope are not allowed as tree ties. The tree should be staked on two or three sides and staking removed after one year.
- E. Wrapping - Usually no longer recommended. Shading trunks from west/southwest exposure is more effective. If wrapped, smooth-barked trees should only be wrapped November 1st to April 1st. Wrapping must remain off tree trunks April through October.

V. Tree Protection Standards

- A. Purpose - The City of Excelsior seeks to protect their tree resources by formulating these standards for guiding development projects in tree protection and conservation of woodland areas. All contractors and sub-contractors are to be advised of tree protection standards by the developer or project manager.
- B. Design Considerations - During the planning process, it is expected that all measures will be taken to protect significant trees and woodland areas on, or adjacent to, the parcel and that roads, utilities and structures will be sited to minimize the impact on trees and natural areas. Fragmentation of natural areas, and intrusion into environmentally sensitive areas, is to be avoided, if possible. Clustering of structures and development activities along the margin, but not within natural areas, is to be encouraged. When developing wooded parcels, it is desirable to save trees of varying ages, sizes and species, groups of trees rather than individuals, woodland areas that are connected to other natural areas, and vegetation adjacent to riparian and wetland areas.
- C. Tree Protection Methods
 - 1. Fencing - Prior to grading, all significant trees and woodland areas to be preserved, which are inside or within thirty (30) feet of the grading limits, are to be fenced with metal fence posts (six (6) feet on center) and orange snow fencing. The fencing is to be placed at edge of the protected root zone of the largest tree within the group to be protected. In some situations, the drip line (limits of the branch spread) can be used, however, fencing should be placed no closer than ten (10) feet to a tree or woodland area to be saved. If the fence is temporarily removed or knocked down, it is to be replaced immediately. This fencing is to remain until all phases of construction have been completed.
 - 2. Silt Fencing - To protect significant trees and woodland areas which are located at an elevation below the area being graded, silt fencing should be erected at the grading limits to prevent soil from washing into the root area of trees to be saved. This fence should be a minimum of ten (10) feet from the trunk of any significant tree. This fence should be regularly inspected for efficacy and, if it is found to be allowing soil to wash through, it should be repaired or replaced.
 - 3. Grade Change - If the grade around a significant tree is to be raised or lowered more than six (6) inches, a retaining wall and/or a drain tile system should be considered to avoid damaging roots. Any retaining wall should be placed outside the protected root zone of a significant tree, if possible, but no closer than ten (10) feet to the trunk of a significant tree.

4. Utility Installation - Excavations for utilities should be placed outside the protected root zone of trees which are to be saved. If a utility excavation is to be placed closer than ten (10) feet to the trunk of a mature tree, alternative installation techniques, such as tunneling under the root system, should be considered.
5. Vehicle Parking - To minimize soil compaction and fluid leakage over root systems of trees to be preserved, vehicle parking areas should be located at least thirty (30) feet away from significant trees and woodland areas.
6. Location of Storage and Clean Out Areas - To avoid soil compaction, leaching of toxic materials, or change in soil pH associated with leachate from building materials and equipment, storage of building supplies and equipment clean out areas should be located at least thirty (30) feet away from significant trees and woodland areas.

Clean out areas should not be located in an area which will drain to the root systems of trees which are to be saved.

7. Clearing of Undergrowth - Extensive clearing of undergrowth and/or disturbance of the ground litter layer should not occur in areas where trees are to be preserved.



Tree Removal Permit
339 Third St. • Excelsior, MN 55331
(952) 653-3674
Email permit to: permits@excelsiormn.org

Permit Fee: \$100.00

SITE ADDRESS

Property Address:

OWNER INFORMATION

Name:

Telephone:

E-Mail:

TREE(S) PROPOSED FOR REMOVAL

Species	Size	Reason for Removal	Location of Tree

TREE REMOVAL CONTRACTOR

Applicant Signature

- All information on this application is complete and accurate.
- All work will comply with the City's tree preservation regulations.

SIGNATURE_____ **DATE**_____

RULES AND REGULATIONS

- Tree removal contractors must be licensed through the City of Excelsior.
- Significant trees are 8" DBH or more. Removal of a significant tree requires the approval of the City Forester and an independent forester.
- Trees that are not significant may be removed without a permit.
- If the tree is diseased or invasive, or if there 2 significant trees/5,000 square feet of the lot, then no replacement is required.
- Trees over 30" DBH are considered Landmark trees and cannot be removed unless the City Forester and an independent arborist find the tree to be dangerous to life or property.
- The tree preservation regulations are found in Article 12 of the Zoning Ordinance.



Dear Resident/Property Owner:

As part of the City's right-of-way tree maintenance program, City maintenance personnel or their designee will soon begin pruning trees, branches and shrubs located within the right-of-way in your neighborhood. This pruning project will begin in late December and continue through the end of January. The area of focus will be tree maintenance zone #1 on the attached map.

Pruning improves intersection sight lines, eliminates branches that interfere with vehicles on the road or pedestrians on trails/sidewalks, and removes vegetation that impairs the City's ability to perform maintenance and operation of utilities.

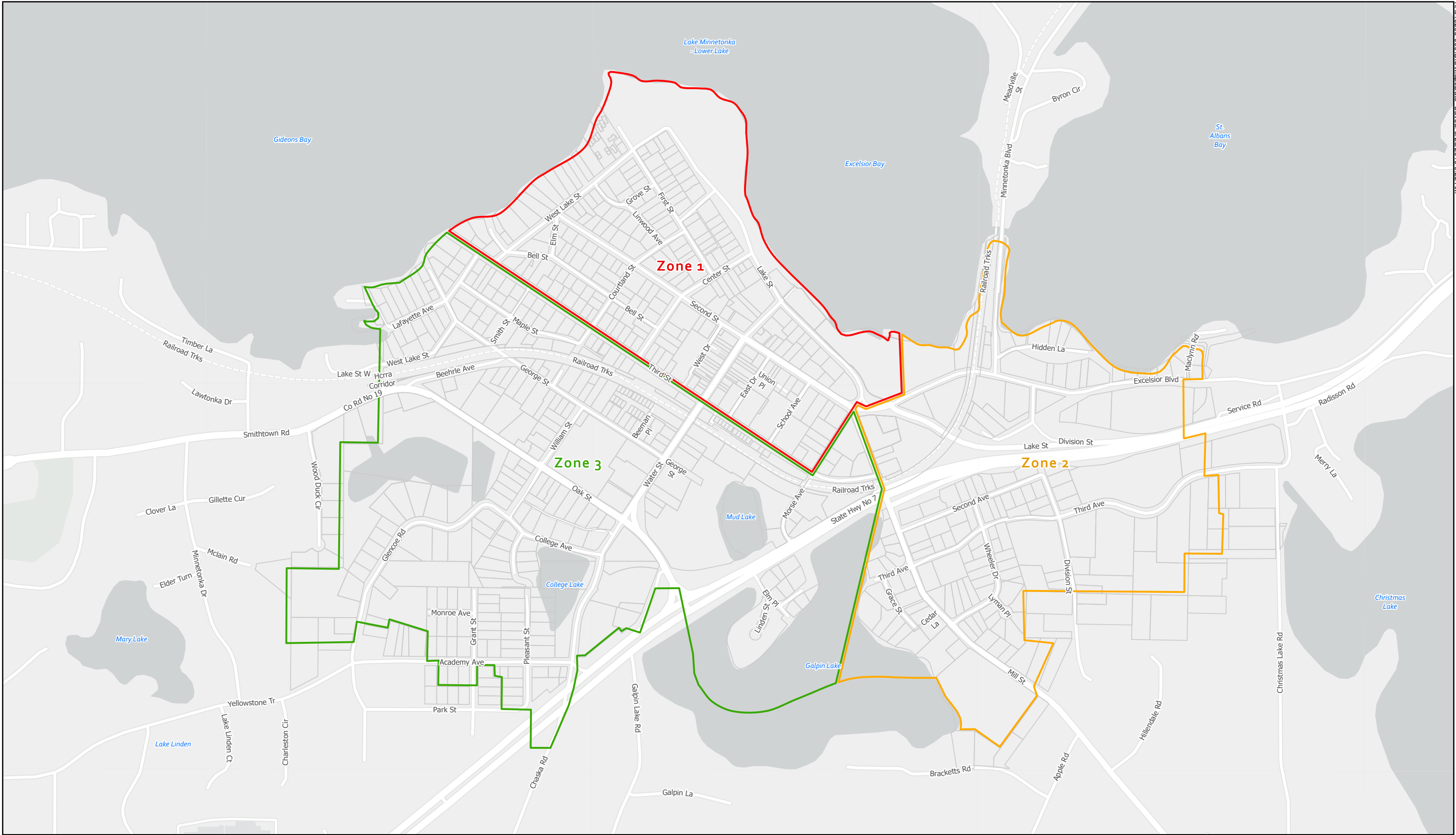
The City performs this necessary pruning at no cost to the homeowner. These activities may include pruning or removing:

- Vegetation that blocks traffic signs, traffic signals, fire hydrants, or roadway lighting fixtures
- Branches that impair intersection sight lines for vehicles and trail/sidewalk users
- Tree limbs located less than 16 feet above the roadway
- Tree limbs less than 8 feet above a trail/sidewalk
- Vegetation that impedes utility maintenance and operation
- Diseased trees, invasive species, or trees infected with injurious pests
- Dead tree limbs

If you have any further questions or concerns about how this project will affect your individual property, please contact the Public Works Superintendent Tim Amundsen at (952) 653-3676 or via email at tamundsen@excelsiormn.org.

Sincerely,

City of Excelsior Public Works



Excelsior



Tree Maintenance Zones City of Excelsior



0 660 Feet
1 inch = 660 feet

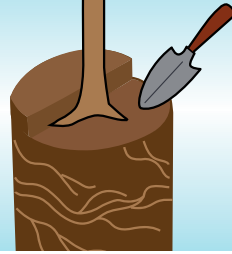




Appendix B

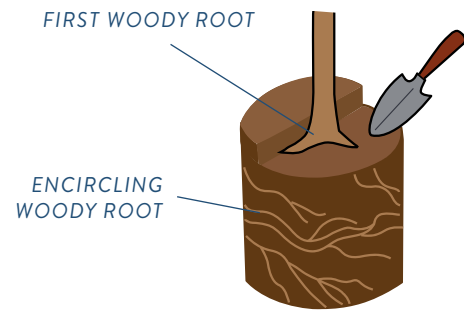
How to Plant Trees (MN Department of Natural Resources)

Preserving Trees During Construction

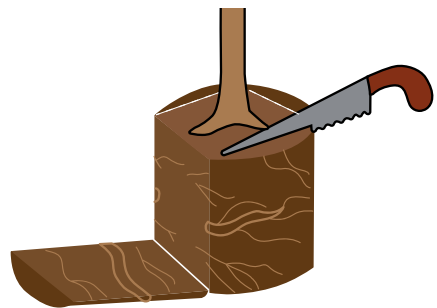


HOW TO PLANT A CONTAINERIZED TREE

- 1 Keep root ball moist at all times. Dry roots die.
- 2 Remove tree from container by holding trunk with one hand and pushing away or down on container with other hand.
- 3 Remove excess soil to top of first woody root.

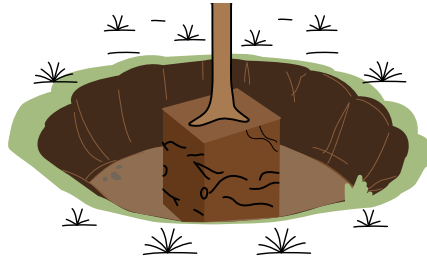


- 4 If encircling woody roots are found, remove by sawing off sides of root ball.

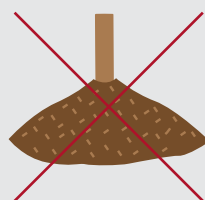
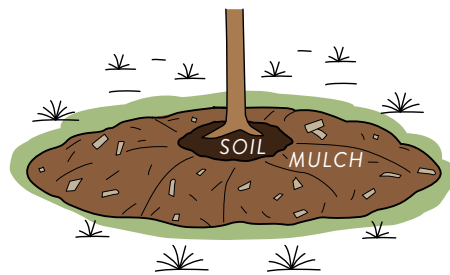


- 5 Dig a hole two times the width of root ball and as deep as distance from bottom of root ball to top of first woody root.

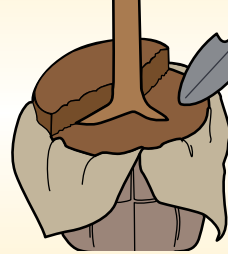
- 6 Carefully place tree in hole, making sure it stands straight and top of first woody root is at ground level.



- 7 Backfill hole to top of first woody root.
- 8 Heel in soil with foot over entire backfill area to remove air pockets in the soil.
- 9 Water root ball and entire backfill area.
- 10 Layer 3 inches of mulch over backfilled area, keeping mulch away from trunk.

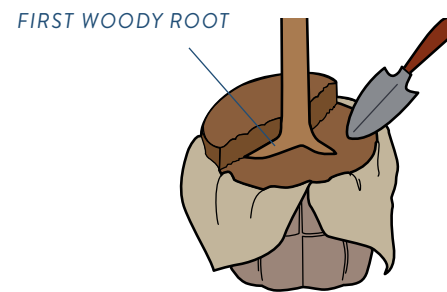


DON'T CREATE
A MULCH VOLCANO.
IT CAN ROT YOUR TREE.

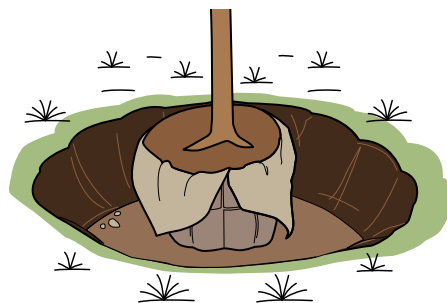


HOW TO PLANT A **BALLED AND BURLAPPED TREE**

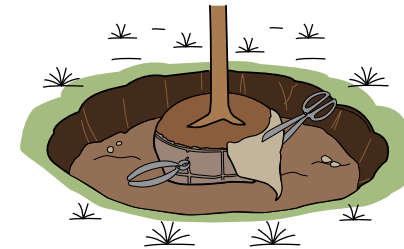
- 1 Keep root ball moist at all times. Dry roots die.
- 2 Loosen top of burlap and remove excess soil to top of first woody root.



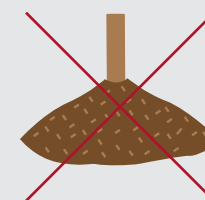
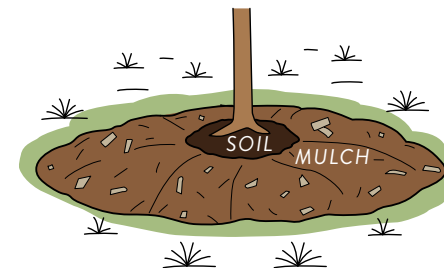
- 3 Dig a hole two times the width of root ball and as deep as distance from bottom of root ball to top of first woody root.
- 4 Carefully place tree in hole, making sure it stands straight and top of first woody root is at ground level.



- 5 Backfill hole halfway up root ball and then cut and remove visible portions of wire basket and burlap without disturbing the root ball.



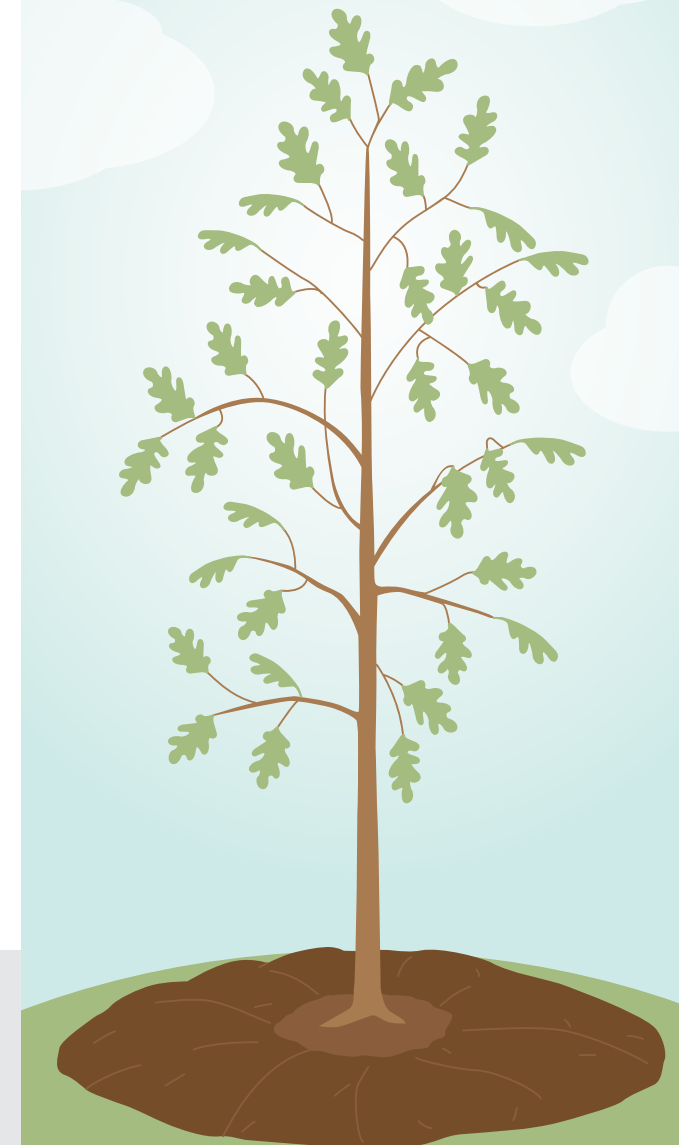
- 6 Finish backfilling hole to top of first woody root, leaving no exposed burlap.
- 7 Heel in soil with foot over entire backfill area to remove air pockets from the soil.
- 8 Water root ball and entire backfill area.
- 9 Layer 3 inches of mulch over backfilled area, keeping mulch away from trunk.



DON'T CREATE
A MULCH VOLCANO.
IT CAN ROT YOUR TREE.

HOW TO PLANT TREES

A POCKET GUIDE



FORESTRY

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www.mndnr.gov

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(1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250- 9410;
(2) fax: (202) 690-7442; or
(3) email: program.intake@usda.gov.

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FSC Logo



BEFORE PLANTING

Select the correct tree for your site.
Find help at mndnr.gov/treecare.

Before digging, contact Gopher State One Call at 800-252-1155 or gopherstateonecall.org to check for underground lines.

AFTER PLANTING

Mulching

Applying mulch, such as wood chips, around a tree has many benefits, including:

- Improving growing conditions
- Retaining moisture
- Controlling weeds and grasses
- Adding nutrients
- Insulating soil
- Protecting trunk and roots

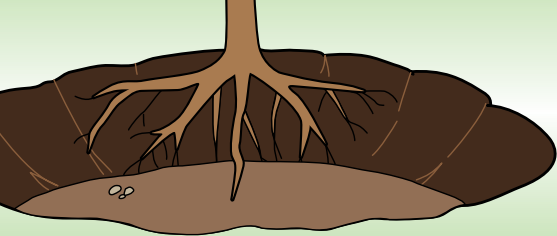
Mulch that is applied too deeply and against the tree is harmful. This "mulch volcano" can rot the tree’s trunk, lead to insect and disease problems, and deprive roots of oxygen. Use the "3-3-3 Rule" for applying mulch: 3 feet in diameter, 3 inches deep, and 3 inches away from the trunk.

Watering

Watering a tree is critical to its survival during the first three years. During any week in which less than 1 inch of rain falls, provide 15–25 gallons of water, until the ground freezes. After the first few years, continue to water trees during dry times. Tree water bags may make watering easier.

Protecting

A plastic or metal mesh tree guard can be installed around the tree’s trunk to protect it from animal, mower, and trimmer injury. The tree guard must be removed or replaced as the tree grows.



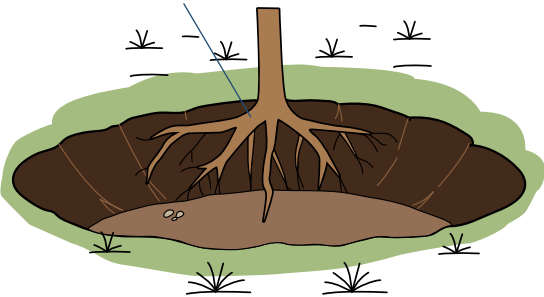
HOW TO PLANT A BAREROOT TREE

1 Keep roots moist at all times.
Dry roots die.

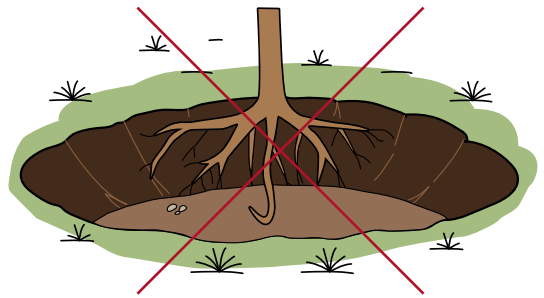
2 Dig a hole twice as wide as and slightly deeper than root length.

3 Place roots in hole so top of first woody root is within 1 inch of soil surface.

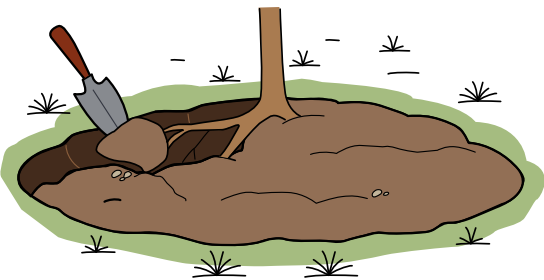
FIRST WOODY ROOT



4 Distribute roots evenly, making sure roots are straight and not doubled over or “J” rooted.



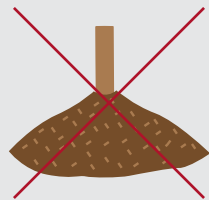
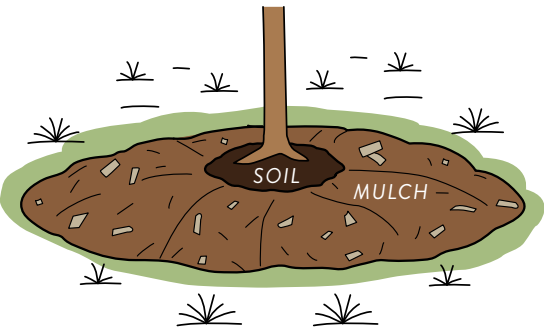
5 Keeping tree straight, backfill hole up to top of first woody root.



6 Heel in soil with foot over entire backfill area to remove air pockets from the soil.

7 Water entire backfill area.

8 Layer 3 inches of mulch over backfilled area, keeping mulch away from trunk.



DON'T CREATE
A MULCH VOLCANO.
IT CAN ROT YOUR TREE.

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Protecting Trees from Construction Damage: *A Homeowner's Guide*

Gary R. Johnson



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This is a revision of the original publication authored by Nancy L. Miller, David M. Rathke, and Gary R. Johnson, and is dedicated to the memory of David M. Rathke.

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Are you planning to build or remodel a home? Are your city's streets, curbs, sidewalks, and buried utilities about to be widened, modernized, or replaced? Before you start, consider the impact of construction on plants.

Trees and shrubs contribute to property values by enhancing appearance, reducing noise, cutting energy costs, screening unsightly views, and attracting songbirds and other wildlife. Unfortunately, plants meant to be part of a home's permanent landscape often are needlessly damaged or killed during construction. Careful planning and coordination with a tree-care specialist and your builder can reduce damage and save you the trouble and expense of treating or removing injured plants.

This publication explains some things that landowners can do to minimize the impact of construction on trees. It describes landscape protection plans, special construction techniques, symptoms of damage, and treatment strategies. Although the information presented focuses on trees, it also can be applied to protecting shrubs.

Hiring a Tree Care Specialist

Each construction site has its own unique set of soil, tree species, and building process conditions. For this reason we recommend that you get advice from a professional urban forester or arborist *with experience in protecting trees from construction damage*. This person will be familiar with the growth characteristics and common problems faced by tree species in your area. He or she can help you evaluate plant health and the likely impacts of construction activities.

For your own protection:

- hire only professionals who are part of an established business listed in the phone book
- ask for references
- make sure the person you hire carries insurance for property damage, personal liability, and workers compensation.

Membership in the National Arborist Association, Minnesota Society of Arboriculture, or International Society of Arboriculture or certification from the International Society of Arboriculture are good indicators of reputable businesses.

Check with your local Extension office, or contact the local chapter of the International Society of Arboriculture (217-355-9411) for a directory of tree-care companies with certified arborists.

The Root of the Matter . . .

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Trees can be damaged or killed by a wide variety of construction activities. Some practices lead to obvious injuries such as broken branches or torn bark. Open wounds of this type deplete a plant's energy resources and provide entry points for insects, or for diseases such as oak wilt.

The worst damage, however, often remains hidden underground. Roots are one of the most vital parts of a tree. They are responsible for nutrient and water uptake, store energy, and anchor the plant. Because they are so important, it is critical that you protect roots that lie in the path of construction.

Trees are never the same shape below ground as they are above, so it is difficult to predict the length or location of their roots. Typically, however, approximately 90-95 percent of a tree's root system is in the top three feet of soil, and more than half is in the top one foot. The part of this root system in which construction damage should be avoided is called the Protected Root Zone (PRZ).

One common method used to identify the PRZ is to define it as the "dripline"--the area directly below the branches of the tree (Figure 1). However, many roots extend beyond the longest branches a distance equal to two or more times the height of the tree. For this reason you should protect as much of the area beyond the dripline as possible.

Unfortunately, on most sites space is limited and this rule must be bent. Just how close an activity can come without seriously threatening the survival of a tree depends on the species, the extent of damage, and the plant's health. Some healthy trees can survive after losing 50 percent of their roots. However, other species are extremely sensitive to root cutting, even outside the dripline.

Table 1 shows the relative sensitivity of various tree species to root disturbance. If possible, disturb no more than 25 percent of the roots within the dripline for any tree, protect intermediate species to the dripline, and allow extra space beyond the dripline for sensitive species. For all trees, avoid needless or excessive damage. A qualified tree-care specialist can help you determine how much root interference a particular tree can tolerate.

When dealing with trees that have been growing in the forest or that naturally have a narrow growth habit, an approach called the "critical root radius" is more accurate than the dripline method for determining the PRZ. This is particularly true for columnar trees and for those where competition has reduced the canopy spread.

To calculate critical root radius, begin by measuring the diameter at breast height (dbh). This is done by measuring the tree's trunk diameter (thickness) at a point 4.5 feet above the ground. The measurement should be done in inches. For each inch of dbh, allow for 1.5 feet of critical root radius for sensitive trees, or 1.0 feet for tolerant trees. For example, if a tree's dbh is 10 inches, then its critical root radius is 15 feet ($10 \times 1.5 = 15$). The PRZ is an area around the tree with a diameter of 30 feet ($2 \times \text{radius}$), and is the area in which a critical amount of the tree's roots may be found. Whenever possible, isolate this area from construction disturbance (see Figure 2).

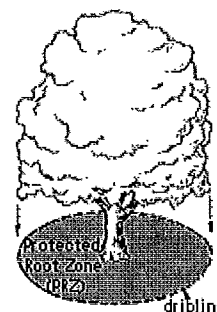


Figure 1. One common method used to define a tree's protected root zone (PRZ) is to consider it to be the part of the roots that lie directly below its branches within an area known as the **dripline**.

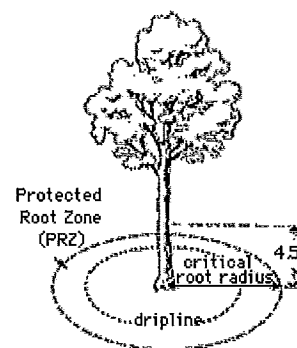


Figure 2. Approximate a tree's Protected Root Zone by calculating the critical root radius (crr). First, measure the tree diameter in inches at breast height (DBH). Then multiply that number by 1.5 or 1.0. Express the result in feet.

Example:
 $\text{dbh} = 8 \text{ inches}$
 $8 \times 1.5 = 12$
 $\text{crr} = 12 \text{ feet}$

Measure diameter (width) = dbh

$\text{dbh} \times 1.5 = \text{critical root radius for older, unhealthy, or sensitive species}$

or $\text{dbh} \times 1.0 = \text{critical root radius for younger, healthy, or tolerant species}$

Table 1. Tree Characteristics

Species	Root Severance ⁶	Soil Compaction & Flooding ⁶	Soil pH Preference ⁸	Mature Tree Height (feet) ⁸	Mature Crown Spread (feet) ⁸	Hazard Tree Rating* ⁷	Damage-Causing Roots	Landscape Value** ¹
Northern white cedar	Tolerant	Tolerant	6.0-8.0	40-50	10-20	Low	.	High

Balsam fir	Tolerant	Tolerant	4.0-6.0	40-60	20-35	Medium	.	Medium
White fir	Tolerant	Sensitive	4.0-6.5	50-75	10-20	Medium	.	High
Tamarack	Tolerant	Tolerant	4.0-7.5	50-75	15-25	Medium	.	High
White pine	Tolerant	Sensitive	4.5-6.5	80-100	50-80	Medium	.	High
Jack pine	Tolerant	Sensitive	4.5-6.5	30-80	20-30	High	.	Low
Red pine	Tolerant	Sensitive	4.5-6.0	50-80	20-40	(Medium)	.	Medium
Scotch pine	(Tolerant)	(Sensitive)	4.0-6.5	60-100	30-50	Medium	.	Medium
Eastern redcedar	Tolerant	Sensitive	4.7-7.8	40-50	10-20	Low	.	Low
Black spruce	Tolerant	Tolerant	3.5-7.0	30-70	15-30	(Medium)	.	Low
Colorado spruce	Intermediate	Tolerant	4.6-6.5	50-100	20-30	Medium	.	High
White spruce	Tolerant	Intermediate	4.5-7.5	40-80	20-30	Medium	.	Medium
Black ash	Tolerant	Tolerant	4.1-6.5	40-70	30-60	(Medium)	.	Medium
Green ash	Tolerant	Tolerant	6.0-7.5	30-60	30-50	Medium	.	Low
White ash	Tolerant	Intermediate	5.0-7.5	70-80	50+	(Medium)	.	Medium
Bigtooth aspen	Tolerant	Sensitive	4.8-6.3	50-75	20-35	Medium	Yes	Low
Quaking aspen	Tolerant	Sensitive	4.8-6.5	40-60	20-35	Medium	Yes	Low
Blue beech	Sensitive	Sensitive	6.5-7.5	20-30	15-20	Low	.	High
Paper birch	Intermediate	Sensitive	5.0-8.0	50-70	30-50	Medium	.	Medium
River birch	Tolerant	Tolerant	4.0-6.5	40-70	30-50	Low	.	High
Yellow birch	Intermediate	Sensitive	4.5-8.0	50-70	25-50	Medium	.	Medium
Boxelder	Tolerant	Tolerant	6.5-7.5	40-60	35-50	High	Yes	Low
Ohio buckeye	Intermediate	Intermediate	6.1-6.5	30-50	30-40	Medium	Yes	Medium
Butternut	Sensitive	Intermediate	6.6-8.0	40-60	50-60	(Medium)	.	Medium
Catalpa	Intermediate	Tolerant	6.1-8.0	50-80	30-50	Medium	.	Medium
Black cherry	Intermediate	Sensitive	6.0-7.5	50-70	40-50	Low	.	Low
Kentucky coffeetree	Intermediate	Intermediate	6.5-7.5	50-80	40-50	Low	.	High
Eastern	Tolerant	Tolerant	5.5-8.0	80-100	80-100	High	Yes	Low

cottonwood								
Red-osier dogwood	Tolerant	Intermediate	6.1-8.5	8-10	10-12	(Low)	.	Medium
American elm	Tolerant	Intermediate	5.5-8.0	70-100	70-150	Medium	Yes	Low
Slippery elm	(Tolerant)	(Intermediate)	6.6-8.0	60-70	40-60	Medium	Yes	Low
Hackberry	Tolerant	Intermediate	6.6-8.0	30-130	50+	Low	.	High
Hawthorn	Intermediate	Intermediate	6.0-7.5	20-40	20-30	Low	.	High
Bitternut hickory	Intermediate	Intermediate	6.0-6.5	40-75	30+	(Medium)	.	Medium
Honeylocust	Tolerant	Intermediate	6.0-8.0	50-75	50-75	Medium	Yes	Medium
Ironwood	Sensitive	Sensitive	6.1-8.0	25-50	20-30	(Low)	.	High
Basswood	(Intermediate)	Sensitive	5.5-7.3	70-100	50-75	(High)	.	Medium
Black locust	Tolerant	Sensitive	4.6-8.2	30-60	20-50	(Medium)	.	Low
Red maple	Tolerant	Tolerant	4.5-7.5	50-70	40-60	Medium	Yes	High
Silver maple	Tolerant	Tolerant	5.5-6.5	60-90	75-100	High	Yes	Low
Sugar maple	(Intermediate)	Sensitive	5.5-7.3	60-80	60-80	Medium	Yes	High
Mountain ash	Tolerant	Intermediate	4.0-7.0	15-25	15-25	Medium	.	High
Black oak	Sensitive	Sensitive	6.0-6.5	50-80	50-70	(Medium)	.	High
Bur oak	(Tolerant)	Intermediate	4.0-8.0	70-80	40-80	Low	.	High
Northern pin oak	Sensitive	Sensitive	5.5-7.5	50-75	30-50	(Medium)	.	Medium
Red oak	Tolerant	Sensitive	4.5-7.0	60-80	40-50	(Medium)	.	High
Bicolor oak	(Intermediate)	Tolerant	6.0-6.5	60-70	40-50	Low	.	High
White oak	Sensitive	Sensitive	6.5-7.5	60-100	50-90	Low	.	High
Wild plum	Tolerant	Sensitive	6.5-6.6	20-25	15-25	Low	.	Medium
Serviceberry	Intermediate	>Sensitive	6.1-8.5	6-35	6-15	>(Low)	.	>High
Black walnut	>Sensitive	Intermediate	6.6-8.0	70-100	60-100+	Medium	.	Medium
Black willow	Tolerant	Tolerant	6.5-8.0	30-60	20-40	High	Yes	>Low

1: Hightshoe, 1988; 2: Minnesota Association of Soil and Water Conservation Districts Forestry Committee, 1986; 3: Matheny and Clark, 1991; 4: Minnesota Society of Arboriculture, 1996.

Values in parentheses reflect the authors' or technical advisors' opinions.

***Hazard Tree Rating** refers to the relative potential for a tree to become hazardous. For a tree to be considered hazardous, a potential

"target" (e.g., a house, a sidewalk, or other trees) must be present. A high hazard tree rating does not imply that the tree will always fail.

****Landscape Value** refers to the relative value of each species in Minnesota based on hardiness, form, color, growth habits, flowering and fruiting characteristics, structural strength, longevity, insect and disease resistance, maintenance requirements, and general desirability.

Plan Ahead!

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You'll save time and money if you develop a landscape protection plan before construction begins. Careful planning will help you avoid the expense and heartache of later repairing or removing trees located too close to construction activities.

These steps will help you create a successful landscape protection plan:

1. **Mark construction zone boundaries.** Obtain a complete set of site development plans, including the proposed location of buildings, drive-ways, sidewalks, and utility lines. Ask the builder or architect to mark areas where heavy equipment will be used, where soil will be permanently added or removed and to what depth, and where fill and building materials will be temporarily stockpiled. Use a measuring tape, stakes, and string to temporarily mark the boundaries of construction activities on the site.
2. **Inventory trees on the site.** Record the location, size, and health of each tree. Wilted leaves, broken or dead limbs, trunk rot, and thin tops are all symptoms of stress. Trees that are overmature, display poor form, lean heavily over future buildings, or have severe insect or disease problems (Figure 3) should be marked for removal prior to construction. Also mark trees that need pruning to make room for future structures and construction equipment.
3. **Select the trees to be saved.** Examine the site carefully and note how each tree fits into the future landscape. Keep in mind that the builder may be able to shift the location of a building, utility line, or driveway. Although local ordinances differ, driveways and utility lines don't always have to be straight, and homes don't always have to be in the center of the lot (Figure 4). If considerable damage to the tree's root system within the PRZ is inevitable, you should seriously consider changing the original design, adding protection measures, or removing the tree before construction begins.
4. **Protect the trees you plan to save.** Develop a map with the builder or architect showing the location of trees to be protected and the safest route for access to the building zone. Then install bright orange polypropylene fencing and post "Off Limits" signs at the PRZ of the trees you plan to save (Figure 5). Your primary objective is to protect delicate root systems, so provide your trees with as much space as possible. Make sure all construction workers know that nothing inside this area is to be raked, cut, stored, or otherwise disturbed. A landscape protection contract signed by the builder and all contractors will help ensure compliance. Take several photographs of the site before construction begins to document the protection methods used and the condition of individual trees.
5. **Prepare the trees for construction disturbance.** You'll boost your trees' chance for survival if you make sure they're as healthy as possible before construction begins. Regularly water the trees if rainfall is not adequate. Fertilize them if soil tests or deficiency symptoms indicate they are nutrient stressed. (For soil test information, contact your county extension agent or call the University of Minnesota's Soil Testing Lab at 612-625-3101.) Prune branches that are dead, diseased, hazardous, or detrimental to the plant's natural form.
6. **Protect and preserve the soil for future tree planting.** Apply a layer of wood chips at least six inches thick over areas that will be used for traffic or materials storage during construction. If these areas become part of the new



Figure 3. Careful planning may avoid the creation of hazardous tree situations such as damaged trees located too close to the house or dangerous overhanging limbs.

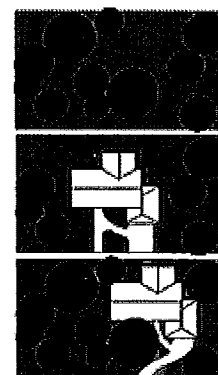


Figure 4. You may be able to save some trees by siting the new construction away from the center of the lot.

landscape, the wood chips will prevent the soil from becoming too compacted.

7. **Monitor the construction process.** Visit the site periodically and inspect the trees. Irrigate the PRZ of the trees regularly-- never let trees become water-stressed. Your presence alerts workers of your concern for the careful treatment of the trees. Should damage occur, begin repairs as soon as possible. Immediately inform the builder of any violations in the landscape protection contract and photograph the damage. Insist that protective fences remain in place until all construction workers have left the site.

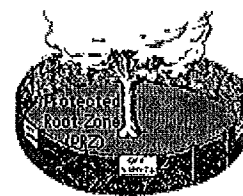


Figure 5. Put up fences and signs around trees you want to save to alert construction workers to damage potential.

8. **Make a final inspection of the site.** After construction has been completed, evaluate the condition of the remaining trees. Look for indications of damage or stress. It may take several years for severe problems to appear. Careful monitoring and preventive treatment (e.g., watering) may help minimize damage.
9. **Commit to long-term maintenance.** Trees will not recover from construction damage in one or two years. Mulch as much of the PRZ as you can tolerate and plant understory shrubs and perennials within the mulched areas. Irrigate the PRZ regularly for several years--never let the trees become water-stressed. Have an arborist inspect the trees every year or two for several years to determine if pruning, fertilization, and/or pest/disease control tactics are necessary.

Tree selection tips . . .

- Save the best and chip the rest. Use those wood chips to provide a blanket of protection over the root systems of trees that can be saved. It is expensive for the builder to work around trees, and it also is expensive to remove damaged trees after construction has been completed.
- Understand the characteristics of your trees or get the advice of someone who does. If you know about your trees you can help insure their survival and improve the future site appearance of the site.
 - Select tree species that fit the spatial constraints of the site (Table 1), remembering that trees grow throughout their lives. Be sure to consider overhead powerlines.
 - Young, small trees tend to survive disturbance better than old, large trees. Large trees almost never survive within five feet of a new building and should not be kept.
 - Healthy young trees that fall in the construction zone may be saved by transplanting.
 - Don't put all your eggs in one basket! Save a mixture of tree species to safeguard your landscape against contagious diseases or insects.
 - Improve tree survival by saving groups of trees rather than individuals.

Minimize the Impact of Construction Activities

In addition to protecting the PRZ, there are other ways in which you can reduce the impact of construction activities on your trees. Some of these are relatively simple; others can be extremely expensive. Carefully consider the importance of each tree to the future appearance of the site and consult a tree-care specialist before deciding whether protective measures are worth the cost.

Site Clearing

When you remove a large number of trees, you expose the remaining plants to new conditions. Sudden increases in amounts of sunlight and wind will shock many of your trees. It is not uncommon to find scorched leaves, broken branches, and uprooted trees after a site is cleared. Although some of these problems are temporary, they may compromise tree health when coupled with additional construction damage.

You can avoid sun and wind stress by saving groups of trees rather than individuals. When possible, remove the unwanted plants in winter after the leaves have fallen. Dormant plants are less susceptible to damage, and frozen ground helps protect roots. Bulldozers should not be used to remove trees near plants to be preserved. Heavily wooded sites should be gradually thinned over two to three years to reduce removal shock on remaining plants. This is especially important in dense pine, spruce, or fir forests.

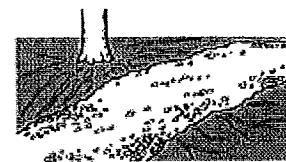


Figure 6. A root system bridge will help protect trees in the path of construction vehicles.

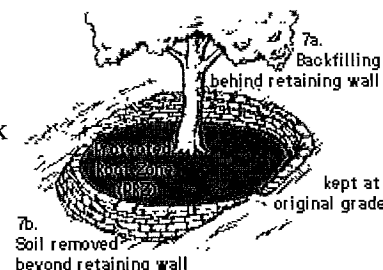


Figure 7. If you change the grade within the root zone, use retaining walls to keep as much of the original grade as possible. a) backfilling; b) cutting.

Soil Damage

Soil compaction is the single largest killer of urban trees. Tree roots need loose soil to grow, obtain oxygen, and absorb water and nutrients. Stockpiled building materials, heavy machinery, and excessive foot traffic all damage soil structure. Lacking good soil aeration, roots suffocate and tree health declines.

Prevent soil compaction by carefully selecting storage areas and traffic routes (the future driveway is a good choice for both) and installing protective fences and signs. If you can, reroute traffic, install root system bridges with steel plates suspended over railroad ties or spread several inches (six inches or more) of wood chips on the soil within the PRZ (Figure 6). Trees that are pruned or removed during the construction process should be chipped on site and the chips used for soil preservation tactics such as this. Heavy mixing trucks can be kept off tree roots by transporting concrete from the truck through conveyor pipes.

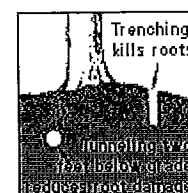
Improper handling or disposal of materials used during construction also can harm roots. For example, wood products treated with pentachlorophenol and creosote can be deadly to tree roots; CCA-treated timber (greenish color) is a better alternative. Ask the builder about the materials to be used on the site and read product labels. Chemical spill damage can be prevented by filling gas tanks, cleaning paintbrushes and tools, and repairing mechanical equipment well outside tree PRZs. Insist that all building debris and chemical wastes be hauled away for proper disposal, and not burned or buried on the site.

Finally, avoid changes in soil pH (acidity). Increases in pH are particularly dangerous to many species (Table 1). Alkaline clays or limestones should not be used for fill or paving, and concrete should be mixed on a thick plastic tarp or outside the site. Mixing trucks should never be rinsed out on the site.

Grade Changes

Moving large amounts of soil within the PRZ usually kills a tree. Except where absolutely necessary, avoid disruptions to the natural contour of the site or shift them well outside the PRZ.

Soil additions compact the soil around a tree and often raise the water table. You may be able to protect compaction-tolerant trees (Table 1) from additions of six inches or less of



soil by using a porous fill within the PRZ. Porous fill can be made by mixing one part loam, one part coarse sand, and one part shredded bark.

Deeper fills require more expensive measures. A retaining wall beyond the PRZ may protect some trees (Figure 7a). These walls preserve much of the original root system and redirect excess water away from sensitive plants. Your tree-care specialist may suggest other, more elaborate measures for protecting trees that must be covered with soil close to the trunk. However, as a general rule, it is best to remove trees that would be buried by 24 inches or more of fill around the base.

Cutting the soil away from a tree removes vital feeder roots, eliminates nutrient-rich topsoil, and often lowers the water table. Damage caused by shallow cuts (less than two inches) at least three feet away from the base of the tree may be minimal, but still can be a shock to a tree's vitality (health). If possible, avoid making the cut during hot, dry weather; water the tree (undisturbed portions) before, during, and after soil removal; and allow only hand digging inside the PRZ. A shallow layer of mulch (pine needles, wood chips, or coarsely chopped twigs and bark) and clean root cuts will help wound closure and regrowth. Deeper cuts within the root zone will require construction of a retaining wall no closer than the limit of the PRZ (Figure 7b).

Excavation

As much as 40 percent of a tree's root system could be cut during the installation of a nearby utility line. This reduces water and nutrient uptake, and may compromise the stability of the tree. If it is not possible to relocate the utility line outside the tree's PRZ, you can reduce root damage by as much as 25 percent by tunneling under the tree's root system (Figure 8). When digging a trench near a tree, begin tunneling when you encounter roots larger than one inch in diameter.

Trenching for building foundations also poses a danger to nearby trees. Although not often used in Minnesota, posts, pillars, or I-beams sometimes can be substituted for foundation walls and footers on homes (Figure 9). Drilling single holes as opposed to cutting deep trenches saves many critical roots.

For all digging operations, insist that exposed roots be cut cleanly to promote quick wound closure and regeneration. Vibratory plows, chain trenchers, and hand tools do a better job at this than bulldozers and backhoes. Minimize damage by avoiding excavation during hot, dry weather; keeping the plants well watered before and after digging; and covering exposed roots with soil, mulch, or damp burlap as soon as possible.

Pavement

Sidewalks and driveways located too close to a tree endanger its health and may threaten pavement stability. Factors such as frost heaving, poor drainage, and pavement flaws give roots an opportunity to expand, gain a foothold, and cause damage. Homeowners are faced with costly repair bills and potential liability for the hazardous situation that develops.

These problems can be avoided if you consider the spatial needs of a tree and its root system when designing the layout of new sidewalks and driveways. Just how much space is required depends on a tree's sensitivity to root cutting and its future size (Table 1). It's best to locate sidewalks and driveways outside the anticipated PRZ. At a minimum, walkways should be at least three feet from the trunk of a tree; driveways may cover up to half the distance from the tree's PRZ to its trunk, as long as no excavation occurs. No tree should be boxed into an area less than eight feet by eight feet by three feet deep, with larger trees receiving at least 300 cubic feet of root/soil volume.

You can minimize disruption by using alternatives to conventional paving materials. In some communities, brick or flagstone walkways on sand foundations can be substituted for concrete (Figure 10). These materials protect soil pH and allow water and oxygen penetration. Preserve natural contouring by spanning uneven areas with wooden walkways elevated on posts. Elevated decks are excellent alternatives to concrete porches. Where

Figure 8. Protect roots from damage when laying utility lines by tunneling rather than trenching.

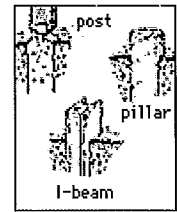


Figure 9. You can minimize damage to trees near foundations by using posts, pillars, or I-beams rather than foundation walls.

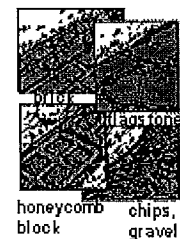


Figure 10. Paving materials such as brick or flagstone over sand will produce less disruption than poured concrete to the roots of a nearby tree.

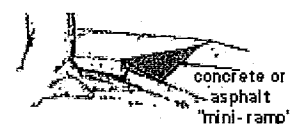
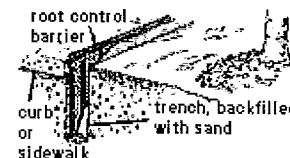


Figure 11. A "mini-ramp" can be used to smooth the uneven surface caused by root damage to pavement.

additional pavement strength is needed (e.g., driveways), concrete requires less excavation than asphalt. "Structural soils" may be used under pavement to allow for both adequate pavement base strength and tree root penetration. Structural soils are composed of 80% stone chips, 20% clay-loam soil, and a polymer binding agent. Ask your builder about raised pavement techniques near valuable trees.



There are several techniques for repairing pavement that has been damaged by protruding roots. For trees that are highly sensitive to root disturbance, consider creating a concrete or asphalt mini-ramp to smooth the uneven surface between two sidewalk sections (Figure 11). Local ordinances governing liability should be consulted prior to using this technique. Relocate walkways with broken concrete slabs a few feet farther from the tree. For trees that can tolerate root disturbance, a vertical underground barrier may redirect root expansion away from pavement (Figure 12).

Figure 12. A vertical underground barrier will help keep tree roots from damaging concrete as they grow.

All tree species are capable of causing root damage to sidewalks, foundations, or pipes. Species notorious for damage-causing roots are noted in Table 1.

Symptoms of Construction Damage

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Conspicuous symptoms of construction damage may take years to appear. Tree decline from soil compaction, for instance, may take three to seven years to appear as obvious symptoms of distress. Because of this delay, landowners often attribute tree losses to other causes. Carefully monitor affected plants and keep written records to help you recognize the less visible signs of tree stress. Remember, the most serious damage remains hidden in the root system.



Figure 13. Suckering is one symptom of construction damage.

Wilted or scorched leaves and drooping branches usually are the first signs of construction damage. In deciduous plants these symptoms may be followed by early fall coloring and premature leaf drop. Damaged conifers will drop excessive amounts of inner needles. In subsequent years you may notice yellowed or dwarfed leaves, sparse leaf cover, or dead branches.

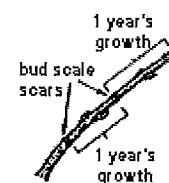


Figure 14. Annual growth is the distance between bud scale scars on twigs. The twigs of healthy trees usually grow two to six inches longer each year.

Other indicators might include flowering out of season, excessive water sprout formation on the trunk (Figure 13), abnormal winter dieback, or abnormally large amounts of seed. Flower and seed production and water sprout formation are defense mechanisms for ensuring species survival and commonly indicate that the plant is experiencing extreme stress.

In addition to observing a tree's appearance, monitor its annual growth. A slightly damaged plant will grow more slowly and be less resistant to insects, diseases, and weather-related stress. Examine the annual shoot and branch growth (Figure 14). Healthy trees generally will grow at least two to six inches at the ends of the branches each year. Photographs and records of the tree prior to construction also can help identify growth problems.

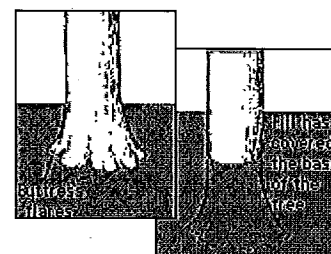


Figure 15. To determine whether the grade has been changed around trees on a newly built site, check for the presence of buttress flares at the base of the trunk.

If you purchased your home following construction, you can identify deep fills around large trees by looking for buttress flares at the base of the trunk (Figure 15). Most common shade trees in Minnesota have buttress flares, and their absence usually indicates that the tree's base has been covered. It may be helpful to examine the condition of trees on other sites where your builder has worked.

In many cases you would be wise to have a tree-care specialist look for early symptoms of

tree stress. Dollars invested in consultations with professionals before damage becomes obvious may be repaid in considerable savings later on.

Treatment of Damaged Plants

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When a tree is injured by construction activities, energy and resources normally used for growth must be redirected toward the process of wound closure and regrowth. During this critical period plants are particularly vulnerable to additional stress, especially insects, diseases, and severe weather. You can minimize these problems by quickly treating the damage.

Water

Construction activities often alter the amounts of water received by trees. Thoroughly water plants before and immediately after they receive any kind of direct damage (e.g., severed roots). Continue periodic watering (at least four to five times per summer) throughout the next several growing seasons. Be careful not to overwater your trees. Soaking the soil to a depth of 8-10 inches throughout the PRZ is a good rule-of-thumb.

Two to four inches of mulch (wood chips or bark) spread over as much of the root system as practical will help the tree retain water and stimulate root regeneration. Living ground covers over the root system will have a similar effect, and may be more aesthetic. Apply these techniques to any deciduous tree exhibiting wilted leaves or any coniferous tree dropping excessive amounts of needles from the inner branches.

Drainage systems and grade changes may cause some trees to receive too much water. Species differ in the amount of water they can tolerate (Table 1). Intolerant plants will exhibit twig and branch death. Don't wait for these symptoms to appear. If you suspect your plant is receiving too much water, contact a tree-care specialist for an evaluation of the problem. Treatment differs by tree species and by the amount of time the water remains on or close to the surface. For some species, a retaining wall or culvert may be needed to redirect the flow of water.

Excavation of Back-Filled Trees

If you or your tree-care specialist has determined that excessive soil additions have been made around valuable trees, efforts should be made to restore the original grade, at least within the PRZ.

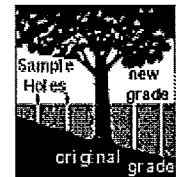


Figure 16. Before you remove fill that has been added around trees, take vertical samples to determine how deep you need to go.

Approach this grade restoration carefully. Determine how much fill has been added by sampling depths at several different points within the PRZ (Figure 16). If the depth is great (more than 12 inches), you may remove most of the backfill with mechanical equipment. Once you are within 10 to 12 inches of the original grade, complete the fill excavation carefully with shovels and rakes. Make certain no soil is piled up against the tree trunk, and aerify the soil within the PRZ to complete the operation. If the tree is already exhibiting advanced symptoms of decline, however, restoration to original grade will probably be fruitless. In this case, remove the tree and plant a new one.



Figure 17. A series of two-inch holes 12 to 18 inches deep will help alleviate root damage caused by compaction.

Aeration and vertical mulching

Soil compaction around a tree's roots may cause leaf wilt, early fall coloring, top dieback, and slow growth. Reduce the effects of compaction by carefully drilling a series of two-inch-diameter holes in the soil to a depth of 12 to 18 inches. Begin three feet from the tree trunk and continue drilling at one- to three-foot intervals in concentric rings around the tree out to the PRZ (Figure 17). Each hole may be refilled with sand, peat moss, or mulch. For severely compacted soils, this procedure--called vertical

mulching--should be repeated every two to three years until the tree has fully recovered. A tree-care specialist may recommend other alternatives, including soil injections of air or pressurized water, to improve soil aeration.

Fertilizer

Injured trees may need additional nutrients to replace damaged root systems. Fertilizers containing phosphorus and nitrogen can help stressed plants recover since these nutrients promote root and plant growth. Avoid excessive nitrogen; increased stem and foliage growth can cause stress, especially during hot, dry weather or if the tree has been stressed due to construction activities. Because of this problem, many experts recommend waiting two years after damage has occurred before fertilizing the trees. Specific guidelines for selecting and applying fertilizer are described in *Tree Fertilization* (Minnesota Extension Service publication FO-2421).

Pruning and Wound Repair

Careful pruning and wound repair are important treatments for damaged trees. Prune broken or dead branches cleanly at the branch collar (Figure 18). To test whether a branch is dead, bend several twigs. Twigs on live branches tend to be pliable, while twigs on dead branches tend to break. Buds also can be used to evaluate branch condition. Live buds appear full and normal in color while dead ones appear shriveled or dry.

Pruning is commonly recommended for large trees that have suffered root damage. However, opinions differ over the merits of this practice. Assuming that the tree has adequate water and is not in severe decline, some experts believe that retaining maximum leaf cover is important for root regeneration and only dead limbs should be removed. Others argue that pruning selected live limbs is necessary to compensate for lost roots. Generally, it is best to follow the recommendation of your tree-care specialist experienced in construction damage to trees.

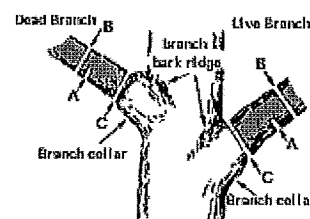


Figure 18. Prune branches at the branch collar.

When properly done in moderation by a skilled professional, pruning may reduce wind resistance and limb failure and improve tree health and appearance. DO NOT let anyone cut off all of the top branches to the same height ("topping").

The treatment of trunk wounds depends on the extent of damage. If 50 percent or more of the bark has been removed around the entire trunk, the tree will not likely survive and should be removed. If only a patch of bark has been removed leaving a few splinters, use a sharp knife to cleanly cut off the loose bark to a place on the stem where it is firmly attached. DO NOT make the wound any larger than necessary.

You do not need to use pruning paint or dressing to cover exposed wounds or pruned limbs. Except for special cases involving disease control, these products do little more than improve appearance.

Oak Wilt

Oak wilt is a lethal fungal disease normally spread through root grafts between adjoining oak trees. The disease also may be spread overland by sap beetles of the Family Nitidulidae. In Minnesota, construction activities that injure roots, break branches, or otherwise open a wound on an oak between April 1 and July 1 provide the beetles easy access to transmit the fungus. (Some studies have found the occurrence of oak wilt to be four times more likely within 160 feet of a construction site.) Immediately (within minutes) cover all open wounds with any water-based paint or shellac during this period. If you suspect oak wilt, contact your city forester or private tree-care specialist. If you have oaks on your site, obtain a copy of *Oak Wilt in Minnesota* (Minnesota Extension Service publication MI-3174) for additional information on identifying the disease and protecting your trees.

Other Insect and Disease Problems

Insects are attracted by distinctive chemicals that are released by plants recovering from injuries. Examples of insect pests that can sense a tree under stress include the pine bark beetle, bronze birch borer, two-lined chestnut borer, sap beetle (transports oak wilt fungus), and some scale insects. These insects can kill a plant by their feeding or boring or by

transmitting disease.

Likewise, some diseases multiply in plants experiencing stress. Verticillium wilt, ash yellows, and *Armillaria mellea* are examples of diseases that attack weakened trees.

Continually monitor the health of your trees, especially those near construction activities, for insect and disease problems. Proper treatment, including corrective pruning, watering, and pesticide or fungicide applications, can restore tree health. Contact your county extension educator or local forester for additional information on specific tree pests.

Tree Removal

Even the best protection plans cannot guarantee plant survival. Death may occur shortly after construction or years later. Look for trees with very few leaves and many dead branches. If the tree does not leaf out the following year it is dead. Large trees that lean or exhibit rot, deep trunk cracks, or extensive top dieback are potentially hazardous (Figure 19). They should be evaluated by a tree-care specialist or be removed. Dead trees are excellent for wildlife, but dangerous to people and buildings. Large trees should be carefully removed by professionals so as not to damage the remaining plants.

Tree loss can have a dramatic impact on site appearance. Prompt replacement will minimize your grief. Remember, the tree you plant is your own.

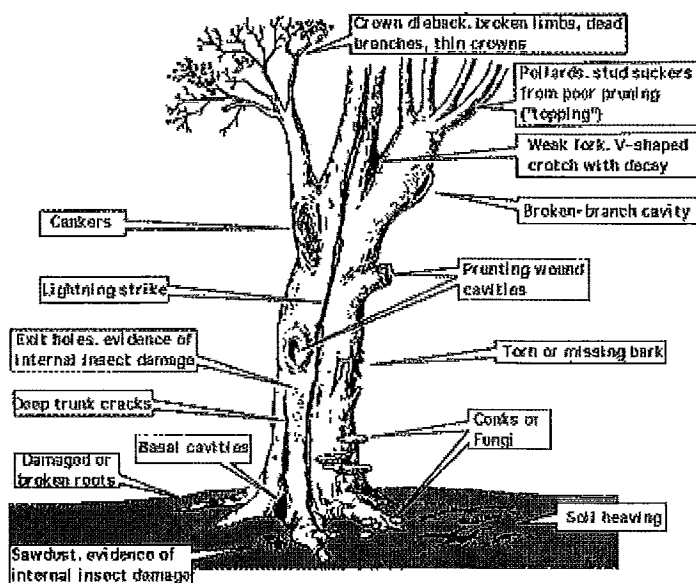


Figure 19. Trees with extensive dieback, disease, or damage may pose a threat to property and people. A tree-care specialist should evaluate and if necessary remove such trees.

Street Trees and Construction Damage

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Established street trees are subjected to damage from construction activities perhaps even more frequently than forest trees. The infrastructure of any community--streets, sidewalks, curbs, and buried utilities--is continually updated, repaired, or expanded and trees growing in boulevards (tree lawns) or close to these public services are vulnerable to construction activities.

The most common type of damage street trees suffer is root loss. This is particularly harmful because these trees already are growing in root-limited spaces, and are often less healthy than other landscape trees due to the environmental stresses of boulevards (small volumes of soil, often a poor quality of soil, accumulations of deicing salts, and characteristically drier conditions than other landscape sites).

Trees growing in boulevards or near streets typically have an unbalanced and very restricted root distribution. Therefore, any root removal or damage during construction is often a more significant loss compared to trees growing in more open areas. Root loss not only affects the health of these trees but a more serious effect may be on their condition or stability. A boulevard tree that experiences significant root loss will have a different center of gravity as a result. This shift in balance often results in less stable trees--especially the large, mature ones - and leaves them more vulnerable to toppling (wind throwing) during severe weather.

Minimizing construction damage to street trees

Minimize root loss.

Most healthy trees can tolerate one-sided root cutting and recover from the loss with long-term after-care. Trees that have roots cut on two sides usually suffer much more damage and are less stable (see Figure 20). It is questionable whether to save trees that suffer root loss on three or more sides.

The number of cuts near street trees may be reduced by a variety of methods and compromises. If possible, avoid widening streets or sidewalks when they are replaced. If curbs are slated to be replaced, hand-form the curbs adjacent to tree roots, rather than excavating with machinery for mechanical forms. Excavation with machinery destroys major branch roots, even if the new curb remains in the same position as the old curb.

Consolidate utilities into common trenches whenever possible, and tunnel under tree root systems (see Figure 8). Often it is possible to run several utilities in a common trench, minimizing the number of trenches and root cuts.

Do not regrade the surface of the boulevard. Although it is not trenching, it still cuts and removes roots, usually the fine roots that absorb most of the water and nutrients for the tree. If the new grade creates a mowing/maintenance problem, consider the installation of retaining walls at the curb line, or remove the turfgrass from the boulevard and replace it with mulch and landscape plantings.

Avoid Damage to the Soil.

Do not allow equipment, vehicles, or materials to be stored on the boulevard. Establish a separate staging and parking area on a paved area away from the tree lawn. If this is not possible, cushion the boulevard with at least six inches of wood chips applied as a mulch.

Do not allow any foreign materials to be buried or deposited into the boulevard soil. Don't bury debris (such as concrete) or wash out equipment or tools in the boulevard soil area.

Maintain the Health of the Trees During Construction.

As long as the soil drains water adequately, water, water, water the trees. root systems. Adequate water before, during, and after construction is the most critical requirement for boulevard trees if they are to tolerate construction damage. Place soaker hoses over their root systems and soak them a minimum of one time per week during construction and immediately after, allowing two to three hours per soaking.

Continue Therapy and Care for Several Years After Construction.

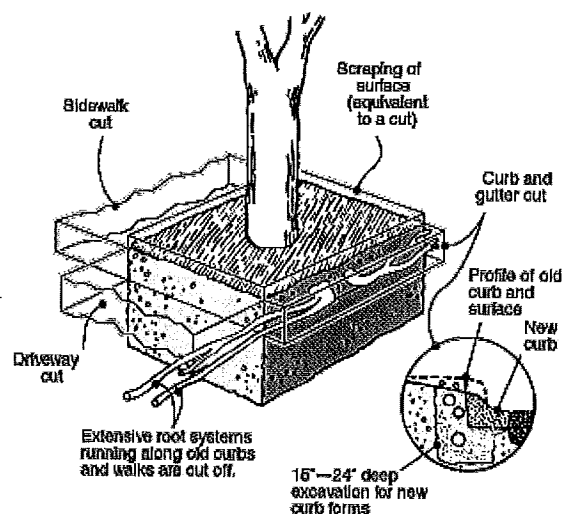


Figure 20. Root cuts on more than one side seriously affect the health and stability of even healthy trees.

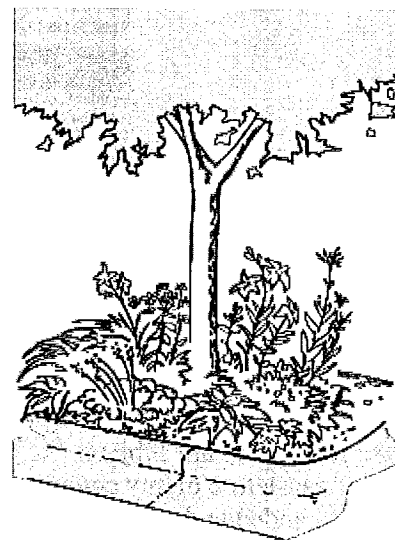


Figure 21. Consider planting a "blooming boulevard" as an alternative to turf cover.

Never let the trees become water stressed. Plan on having an arborist remove dead wood in the canopy within two to three years after the construction. Seriously consider removing the turf from the trees' root systems and replacing it with mulch and low-growing shrubs and herbaceous perennials. "Blooming boulevards" are becoming more common in communities across the nation and are often allowed in city ordinances (Figure 21). If your community's ordinances don't allow "blooming boulevards," try to have them changed.

Reconsider Replanting Narrow Boulevards.

Not all boulevards should have trees growing in them. Trees are most at risk for future construction/reconstruction damage when they are planted in boulevards less than 8-10 feet wide. In places where boulevards are very narrow, consider creating "green easements" that allow public trees to be planted in private lawns adjacent to the public property. They will enjoy a larger rooting area and a longer life.

Conclusion

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It's not always easy to save trees during construction, but your efforts are worth the trouble. Healthy, well-placed trees can increase property values by 9 to 27 percent. Protecting tree health on a construction site is a matter of recognizing the potential impacts. Advance planning and simple steps to minimize damage often can prevent future problems. Many trees have a tremendous capacity to survive disturbance, but in an urban setting we continually test them. Take the time to protect and monitor the health of your investment. Your home and our communities will be healthier, more attractive places to live.

References

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- Cervelli, Janice A. 1984 "Container Tree Plantings in the City" *Journal of Arboriculture* 10(3):83-86.
- Fazio, J. R., ed. 1988. *Resolving Tree-Sidewalk Conflicts (No. 3)*. Tree City USA, National Arbor Day Foundation, 100 Arbor Avenue, Nebraska City, NE 68410. 8 p.
- Fazio, J. R., ed. 1989. *How to Save Trees During Construction (No. 7)*. Tree City USA, National Arbor Day Foundation, 100 Arbor Avenue, Nebraska City, NE 68410. 8 p.
- Forest Health Monitoring, 1998 Field Methods Guide*. USDAFS, 1998. Number 649. National Forest Health Monitoring Program. Research Triangle Park, NC 27709.
- French, D. W., and J. Juzwik. 1999. *Oak Wilt in Minnesota (MI-3174)*. University of Minnesota, Minnesota Extension Service, St. Paul, MN 55108. 6 p.
- Harris, R. W. 1992. *Arboriculture: Integrated Management of Landscape Trees, Shrubs, and Vines*. Prentice-Hall, Inc., Englewood Cliffs, NJ 07632. 674 p.
- Hauer, Richard J., Robert W. Miller, and Daniel M. Ouimet. 1994 "Street Tree Decline and Construction Damage" *Journal of Arboriculture* 20(2): 94-97.
- Hightshoe, G. L. 1988. *Native Trees, Shrubs, and Vines for Urban and Rural America*. Van Nostrand Reinhold, New York, NY 10003. 819 p.

Maryland Department of Natural Resources. October 30, 1990. *Natural Design in Development . . . Development*

Potential Through Forest Conservation. Maryland Department of Natural Resources, Annapolis, MD.

Matheny, N. P., and J. R. Clark. 1991. *Evaluation of Hazard Trees in Urban Areas*. International Society of Arboriculture, Urbana, IL 61801. 72 p.

Matheny, Nelda, and James R. Clark. 1998. *Trees and Development--A Technical Guide to Preservation of Trees During Land Development*. International Society of Arboriculture, Champaign, IL 61826-3129. 184 p.

Miller, F. D., and D. Neely. 1993. "The Effect of Trenching on Growth and Plant Health of Selected Species of Shade Trees" *Journal of Arboriculture* 19(4):226-229.

Minnesota Association of Soil and Water Conservation Districts Forestry Committee. 1986. *Minnesota Tree Handbook*. Adventure Publication, Staples, MN 56479. 408 p.

Minnesota Society of Arboriculture. 1996. . "Minnesota Supplement to the Guide for Plant Appraisal." Minnesota Society of Arboriculture, c/o Tree Trust, 6300 Walker Street, St. Louis Park, MN 55416. 25 p.

Moll, Gary A., ed. 1990. "Community Forests Get a Check Up." *Urban Forest Forum* 9(6):10-12.

Perry, T. O. 1982. . "The Ecology of Tree Roots and the Practical Significance Thereof." *Journal of Arboriculture* 8 (8):197-211.

Swanson, B. T., and C. Rosen. 1990. *Tree Fertilization (FO-2421)*. University of Minnesota, Minnesota Extension Service, St. Paul, MN 55108. 4 p.

Watson, Gary W., and Dan Neely, ed. 1995. *Trees and Building Sites*. International Society of Arboriculture, Champaign, IL 61826-3129. 191 p.

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MEMORANDUM

14(b) –Re-appointments to City

Re: Commissions

Date: February 10, 2025

To: City Council

From: Theresa Bajda, City Clerk

1) Heritage Preservation Commission (HPC)

After review of all Commission appointments and terms, it was identified that three Heritage Preservation Commission (HPC) appointments require Council action.

Two appointments, Dan Brattland's and Anne Mark's expired February 29, 2024, however they are currently serving on the HPC and-desire to continue service.

The third appointment, Tim Caron's, expires in February 2025. Tim has expressed interest in continuing service.

With Council support, staff recommend:

- Tim Caron be re-appointed to fill the two-year term held by Dan Brattland (ending February 29, 2026)
- Dan Brattland be re-appointed to fill a full three-year term (ending February 29, 2027)
- Ann Marke be re-appointed to fill the remaining two-year term (ending February 29, 2026)

In the past, Council has appointed a representative to meet with Commissioners seeking re-appointment and/or has directed staff to place re-appointments on the regular agenda for approval so the City Clerk can administer the oath of office prior to the regular March meeting.

2) Parks and Recreation Commission Terms Ending February 2025

Roy Pike and Anne Vogel currently serve on the Parks and Recreation Commission (PNR) with terms ending February 2025. Anne has expressed interest in serving an additional three-year term (March 25-February 28). In the past, Council has appointed a representative to meet with Commissioners seeking re-appointment and/or has directed staff to place re-appointments on the regular agenda for approval so the City Clerk can administer the oath of office prior to the regular March meeting. Roy is not seeking re-appointment, creating a vacancy effective March 1st. Staff will advertise the opening and refer candidates to Council for interview.

3) Planning Commission Term Ending February 2025

Kara Tyler currently serves on the Planning Commission (PC) with a term ending February 2025. Kara expressed interest in serving an additional three-year term (March 25-February 28). In the past, Council has appointed a representative to meet with Commissioners seeking re-appointment and/or has directed staff to place re-appointments on the regular agenda for approval so the City Clerk can administer the oath of office prior to the regular March meeting.

Council Action: Approve re-appointments as recommended above or have Council representative meet with Commissioners seeking re-appointment so a recommendation can be made prior to regular March Commission meetings.



MEMORANDUM

Item 14(c)-

Re: Parking Operator RFP

Date: February 10, 2025

To: City Council

From: Kristi Luger, City Manager

At the January 21 City Council meeting, the Council agreed to move forward with the issuance of the parking operator request for proposals (RFP) after the parking financials work group reviews the RFP with staff. It was also agreed that staff would circulate the RFP to the full Council to give individual Councilmembers the opportunity to provide comments to staff that would be shared with the work group.

Councilmembers Caron and Tyler are requesting that the Council schedule a special work session to discuss the parking operator request for proposals. The Council has a couple of options to honor this request:

1. Change the February 18 regular work session to a special work session and reschedule the City Council training to the March 3 work session.
2. Schedule a special work session on a non-regular meeting date.

Council Action: Decide whether and when to schedule a special work session to discuss the parking operator RFP.