



Department of Administration
Budget and Management Division

John O. Norquist
Mayor

Michael J. Solka
Director

Joseph J. Czarnecki
Budget and Management Director

October 16, 2003

Ref: 04BF, 3-D

Alderman Fredrick G. Gordon, Chairperson
Committee on Finance and Personnel

Subject: Information Requested at Finance Committee Review of the DPW-Operations
Forestry Section 2004 Proposed Budget

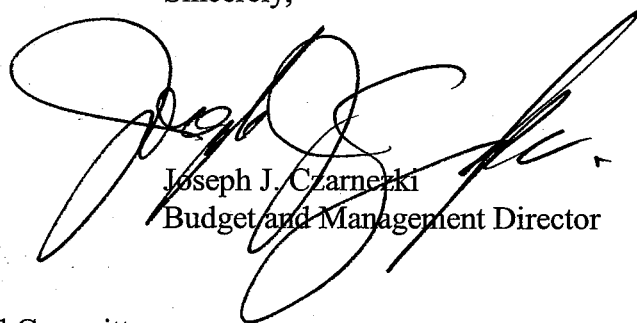
Dear Alderman Gordon:

During the Finance Committee review of the 2004 proposed budget, the following request was directed to this office:

Please provide a copy of the Kenosha Tree Pruning Study.

The attached memo contains our response.

Sincerely,



Joseph J. Czarnecki
Budget and Management Director

cc: Members, Finance and Personnel Committee
Jennifer Meyer, Mayor's Office
Marianne Walsh, Fiscal Review Manager

EDS:dmr
Kenosha Study.doc



**City of Milwaukee
Budget & Management
Intra-Office Memo**

For additional information, a copy of "Urban Forestry Standards" is attached.

EDS

Tree Pruning-Kenosha.doc

To: Joseph Czarnecki
From: Erick Shambarger
Date: October 14, 2003
Subject: Kenosha Tree Pruning Study

The Kenosha survey of municipal tree pruning practices was published in the April 2001 issue of *American City & County* magazine. The article is attached. The "tree mortality rates" and pruning cycles cited at the hearing were derived from the information presented in Table 1. Tree mortality rates were calculated by dividing the "Number of Trees Removed Annually by the City" with the "Number of Street Trees", similarly, pruning cycles were determined by dividing the "Trees Pruned Annually by the City" with the "Number of Street Trees".

Also, please note that the Kenosha survey states that Forestry spent \$4 million on care of street trees. However, FMIS financial reports indicate that Forestry spent approximately \$4,997,500 in 2000, excluding overhead. Using the latter figure and census population data, Per capita spending on City of Milwaukee trees is \$8.37 per person.

Table 1

City	Number of Street Trees	% Trees Pruned Annually	Mortality Rate	Forestry Staff
Milwaukee	200,000	30.0%	1.9%	155
Waukesha	24,000	12.5%	1.3%	9
Skokie, IL	23,400	1.3%	1.8%	6
Wauwatosa	26,000	13.5%	1.5%	9
Appleton	25,000	16.0%	1.2%	8
Racine	20,000	7.5%	1.4%	5
Madison	100,000	10.8%	1.8%	21
Kenosha	27,000	70.4%	1.3%	7
Bismark, ND	17,700	12.3%	0.7%	10

GROUNDS MAINTENANCE

City surveys region's forestry practices

Kenosha, Wis., has surveyed area communities to examine urban forestry practices in the Kenosha region. Administered by the city's Park Division, the survey assisted Park Superintendent Terrence Flatley in proposing his 2001 budget proposals for labor and equipment.

"We did the survey specifically for budget purposes," Flatley says. "We were

looking at adding staff for our forestry crews, and we compiled this information as a comparison. The people in the budget hearings are always asking what other cities are doing."

Twenty-five communities were surveyed last summer, and responses were compiled in October. Nine cities participated, offering information about community population, the number of street trees in the community, staff numbers, equipment usage, wage rates, maintenance processes and production rates.

Results of the survey show that, like most municipal budgets, forestry bud-

gets are connected to community size. Together, the nine respondents spend \$9.2 million annually to maintain more than 463,000 street trees. That averages out to approximately \$19 per tree, or \$7.60 per resident, for activities that include annual tree planting, maintenance, fertilization and root cutting.

Among the respondents, forestry personnel range from three full-time arborists in Bismarck, N.D., to 130 in Milwaukee. Primarily, the arborists are paid by the hour (\$14.04 to \$18.24), although one city pays annual salaries ranging from \$29,570

Urban forestry at a glance (Results of the survey conducted by Kenosha, Wis.)

City	Population	No. of street trees	Forestry staff	Trees pruned annually by city	Trees removed annually by city	Trees contracted annually	Per capita spending
Milwaukee	628,088	200,000	22 Crew leaders 130 Arborists	60,001	3,802		\$6.37
Madison, Wis.	191,262	100,000	6 Arborist II 15 Arborist I	10,764	1,775		\$9.41
Kenosha, Wis.	87,664	27,000	1 Arborist II 6 Arborist I	1,900	363	425 (removal)	\$5.29
Racine, Wis.	84,298	20,000	5 Arborists	1,500	287		\$4.75
Appleton, Wis.	65,695	25,000	7 Arborists 1 Horticulturist	4,000	300		\$7.88
Skokie, Ill.	65,000	23,400	6 Arborists	310	410	4,500 (pruning)	\$8.46
Waukesha, Wis.	63,000	24,000	9 Arborists	3,000	300		\$9.52
Bismarck, N.D.	55,000	17,700	1 Arborist II 2 Arborist I 7 Seasonal	2,170	116	60 (removal) 1,000 (pruning)	\$4.61
Wauwatosa, Wis.	49,366	26,000	2 Arborist II 7 Arborist I	3,500	380		\$11.89

Equipment owned by survey respondents

	Milwaukee	Madison	Kenosha	Racine	Appleton	Skokie	Waukesha	Bismarck	Wauwatosa
Backhoe							1		
Bucket truck	12	6	2	1	3	2	3	1	3
Chip truck	5		1	2	2			1	
Chipper	13	2	3	3	4	2	3	2	2
Dump truck		4				1	3	2	5
End loader									1
Feller/buncher								1	
Loader	1						1		
Log loader		2	2	1	1	1		1	2
Root cutter	2				1				
Skid-steer							1		
Stump grinder	7		1	1	1			1	1
Utility truck		8							

for an Arborist I (non-supervisory arborist) to \$30,650 for an Arborist II (foreman). Bismarck is the only respondent that supplements its full-time staff with seasonal workers.

Most of the respondents have implemented tree maintenance schedules that allow employees to perform their duties cyclically. For example, the communities typically prune small trees once every two to five years, and they prune larger trees once every five to eight years. One of the respondents provides tree maintenance solely by request.

Three of the respondents use contractors to assist with tree pruning or removal; two are billed by the contractor on a per-tree basis, while the other is billed at an hourly rate.

For more information about the urban forestry survey, contact the Kenosha Park Division at (262) 653-4080.

ACCESS CONTROL

Fingerprint ID program ends password problems

For Michael Sherwood, fingerprint scanning has been a real time saver. As IT director for Oceanside, Calif., he attends to the computer needs of more than 1,000 city employees, each of whom has a different password and security level.

"People forget their passwords," he says. "A large percentage of calls to the help desk involve a lost password.

So [fingerprint scanning] has improved our overall security and has added an extra layer of security. Forgetting passwords is one thing, but losing data is expensive, especially if you cannot recover it."

The city has been using a fingerprint scanning system -- consisting of software and a scanner -- from Sunnyvale, Calif.-based Identix. Originally, it deployed the product in a 1999 pilot program, and it expanded use two or three departments at a time.

Before installing the software at existing employee workstations, IT staff members did what Sherwood refers to as "pre-marketing": they sent employees information about the product to educate them and ease concerns.

The software features an enrollment tutorial to assist employees in establishing their fingerprint "passwords." The employee types in a password at the Windows logon prompt and then accesses the fingerprint software. The tutorial prompts the employee to scan his finger once and then again for verification. He then types in his password to authenticate the finger impression.

In addition to eliminating the problem of lost passwords, the biometric logon combats shared passwords. "In the past, some employees who did not have access to the Internet or did not have access to a certain part of the server borrowed passwords and computers from their coworkers. That's a problem," Sherwood says.

Because of the IT staff's premarketing efforts, employees accepted the new security measures with ease. "There was very little resistance [to the fingerprint scanning system] from the staff. In the beginning, some employees were worried that we could recreate their fingerprints, but we assured them that was not the case," Sherwood notes. "Reaction has been positive. And the staff reaction coupled with the easy installation has resulted in a smooth transition."

— Jeanne Bonner, associate editor of *Access Control & Security Systems Integration*, a sister publication of *American City & County*

facsimile

TRANSMITTAL

to: Eric
fax #: 414-286-5475
re: Municipal Forestry survey
date: October 14, 2003
pages: 3, including cover sheet.

Just a note that this is on legal paper - if you need it reduced, please call me at 653-4062.

From the desk of...

Mary Durkee
Administrative Secretary
City of Kenosha - Park Department
3617 - 65th Street
Kenosha WI 53142

262-653-4052
Fax: 262-653-4093

Municipal Forestry Survey

Municipality (Population)	Number of Street Trees	Arborists on Staff	Equipment	Pruning Cycle	Contractors	Cont. Pay	Response / Lag Time	Arborist Production	Arborist Pay	Yearly Budget (Street Tree)
City of Appleton 85,895	25,000	7 Arborists 1 Horticulturist	(3) Aerial trucks (2) Chip trucks (4) Chippers Stump grinder Root cutter Log loader	7/8 year rotation > 12" 5 years < 12" 2 years 3"	No	N/A	All requests inspected w/in 2 days. Work completed in 3 wks. to 1 month. Delays during planting, root cutting etc.	3,500 - 4,000 pruned	\$15.48/hr.	\$518,000
City of Blomenc (North Dakota)	17,821	1 City Forester 1 Asst. Forester 3 Arborists 5 seasonal in spring, summer, fall	N/A	7 year rotation - street trees 10 year rotation - park trees	Yes 38% street trees pruned by cont.	\$55.00/hr.	Trees evaluated. If no hazard or visual obstruction, tree will remain on rotation.	2170 pruned by city crews	Arborist II \$30.64/hr. Arborist I \$28.57/hr.	\$253,581
City of Madison 191,282	100,000	2 Forestry Specialists 6 Arborist II 15 Arborist I	(2) 50' Aerial trucks (2) 40' Aerial trucks (1) 70' Aerial truck (2) Chippers (2) Dump trucks 4 Utility trucks	32 Districts, 5-6 yrs. (2) 40' Aerial trucks per District. 3 yrs. on small trees	No	N/A	Requests are taken, no wait longer than 1 month	Not available at this time	\$17.08/hr.	1.8 million
City of Milwaukee 628,085	200,000	1 City Forester 9 Managers 6 Supervisors 22 U. F. Crew Ldrs. 130 Arborists	8 Bucket Trucks 13 Chippers 7 Stump Grinders 2 Root Cutters Dumps Chippers Trucks Loaders Flatbeds	3/8 Year Cycle 3 Years < 12" 6 Years 12"+	No	N/A	5-7 Days. If tree meets certain criteria, otherwise tree pruned on cycle	64,791 Pruned 3,860 Trees Removed 3888 Stumps ground	\$14.04 - \$15.52/hr.	4 Million
City of Racine 84,298	20,000	5 Arborists	1 Bucket Truck 1 Log Truck 2 Chip Trucks 3 Chippers	None for large trees 3-5 years for small trees (New program)	No	N/A	2 week response 2 months lag time	1500 Pruned	\$18.16/hr.	\$400,000

Municipal Forestry Survey

Municipality	Number of Street Trees	Arborists on Staff	Equipment	Pruning Cycle	Contractors	Cont. Pay	Response / Lag Time	Arborist Production	Arborist Pay	Yearly Budget (Street Trees)
Village of Skokie (Illinois)	23,400	1 Muni. Forester 5 Arborists	1 Stump Grinder 1 Bucket Truck 1 Log Truck 2 Chippers 1 Tandem Dump 1 H-Jill	5 years, all types	Yes, all routine or cyclical pruning	Priced/trees	1 week, 1 month in summer	310 Trees Pruned 410 trees Removed 4500 Contracted out	\$24.35/hr. Forester	\$550,000
City of Waukegan 58,858	24,000	8 Arborists	3 Bucket trucks 3 Chippers 1 Loader 1 Backhoe 1 Stump grinder 1 Skid-steer 3 Dump trucks	6 Yrs. Mature trees 4-5 Yrs. New trees	No	N/A	Evaluation of all service requests, if work req'd. 1 wk. if hazard, ASAP	3000 Pruned 300 Removed	\$18.24/hour	\$600,000
City of Wauwatosa 49,368	26,000	1 Forestry Supervisor 2 Arborist II 7 Arborist I	3 Bucket Trucks 2 Log Loaders 1 End Loader 2 Chippers 1 Stump Grinder 5 Dump Trucks	Sectional Districts (new) Wyes on str 8 year cycle	No	N/A	If not a hazard, could wait as long as a year.	3500 Pruned 380 Removed 100 Treated DED+ 345 Planted *This is done by others	\$18.13	\$598,758
City of Kenosha 87,664	27,000	1 City Forester 1 Arborist II 6 Arborist I	2 Bucket trucks 2 Log loaders 1 Chip truck 3 Chippers 1 Stump grinder	Request Program Ground Pruning 8 year cycle	Yes, Hazard tree removals	Priced/trees	Longest wait, 1 year, if no immediate attention req'd.	1,900 Pruned 363 Removed 425 Contractor removals 3000 ground pruned	\$18.29 - \$17.39 Arborist I scale	\$454,000

Page 2

Urban Forestry Standards

Task	Labor Hours per Tree	Task	Labor Hours per Tree
Planting Trees ¹		Shrub Maintenance ¹	
Plant tree 5' - 6' high	.45	Prune mature deciduous shrub	.5
Plant tree 2" - 2.5" dia	1.0	Prune mature evergreen shrub	1.0
Planting 2" tree by bare root planting	.5	Prune mature yew shrub	4.0
Planting tree by tree spade	4.0	Weed, till, and edge shrub bed (per 1,000 sq. ft.)	1.0
Watering a newly planted tree	.3	Rake shrub bed (per 1,000 sq. ft.)	.85
		Mulch shrub bed (per 1,000 sq. ft.)	.5
Trimming Trees ¹		Item	Standard
6" diameter - by hand	.5	Total Forestry Budget ³	\$ 5 per capita \$10 per tree
6" diameter - by lift truck	.4	Forestry Budget Breakdown ³	
9" diameter - by hand	.8	Tree planting	more than 5%
9" diameter - by lift truck	.6	Removals	less than 30%
12" diameter - by hand	1.1	Scheduled pruning	more than 50%
12" diameter - by lift truck	.8	Emergency pruning	less than 25%
18" diameter - by hand	1.6	Demand pruning	less than 25%
18" diameter - by lift truck	1.1	Supervision	less than 30%
24" diameter - by hand	2.2	Policies	
24" diameter - by lift truck	1.6	Tree removals = tree planting number ³	Yes
30" diameter - by hand	2.7	Pruning cycle ³	less than 8 years
30" diameter - by lift truck	2.1	Tree planting plan & regulations ³	Yes
36" diameter - by hand	3.2	Management plan ⁴	Yes
36" diameter - by lift truck	2.4	Street tree inventory ⁴	Yes
48" diameter - by hand	4.0	Pruning guidelines ⁴	Yes
48" diameter - by lift truck	3.4	Removal regulations ³	Yes
		Advisory Board ⁴	Yes
Tree Removal ²		Conducting/contributing to research ³	Yes
Up to 6"	1.0	Training & education program for staff ³	30 hours/year
6 - 12"	2.0	Training & education program for workers ³	20 hours/year
12 - 18"	4.0	Certified Arborists ³	1 employee/crew
18 - 24"	6.0	CPR training ³	1 employee in 10
24"+	10.0	Trained in aerial rescue ³	1 employee/crew
		Certified pesticide operator ³	1 employee/crew
Stump Removal ²		Local options	
Up to 6"	1.0	Inventory of park trees	
6 - 12"	2.0	Contract administration	
12 - 18"	4.0	Contract pruning/removals	
18 - 24"	6.0	Contract planting	
24"+	10.0	In house staff for some or all operations	
Tree Fertilization ¹			
Punch in soil (10 yr. old tree)	.5		
Pest Control in Trees ¹			
Power spray	.3		
Systemic in soil	.15		
Planting Shrubs ¹			
Plant shrubs individually	.6		
Plant shrubs in a group	.3		

Footnotes

1. Tree Maintenance Standards, American Parks & Rec. Society, reprinted in City Trees, May/June 2001, vol.37, No.3, pg. 36
2. Leonard Phillips, Urban Trees, McGraw-Hill, 1993, pg. 90
3. Municipal Forestry Department Accreditation Program, Society of Municipal Arborists, 1993, pg. 5
4. Jim McGannon, "Urban Forestry Programs Across America", City Trees, July/Aug 2001, pg. 17