

Urban Wood Utilization & Opportunities

Allegheny Society of American Foresters

Winter Training, Wyomissing, PA

February 16, 2017

Ed Cesa, Deputy Director



WOOD EDUCATION
AND RESOURCE CENTER



Purpose

- Provide a snapshot of urban wood utilization activities & potential opportunities
- Provide sources of information

Wood Education and Resource Center



Princeton, WV

Illinois Emerald Ash Borer Wood Utilization Team: Illinois urban wood - Windows Internet Explorer provided by USDA Forest Servi

Address bar: http://www.illinoisurbanwood.org/

Navigation: Back, Forward, Stop, Refresh, Home, RSS, Print, Page

Menu: File, Edit, View, Favorites, Tools, Help

Favorites: Best of the Web, Channel Guide, Internet Explorer News, Internet Start, R1 Regional Office FSWeb, R2 Regional Office FSWeb



Illinois Emerald Ash Borer Wood Utilization Team

WOOD USE CHAIN

- COMMUNITY TREES
- DYING TREES
- ARBORISTS
- SAWYERS
- WOODWORKERS
- INTERMEDIARIES
- END USERS

- WOOD TEAM
- ABOUT US
- CONTACT US
- NEWS & RESOURCES

Turning Urban And Community Trees Into Products Involves The Entire Wood Use Chain:

- **Arborists** – fell trees, harvesting logs
- **Sawyers** – mill logs into lumber
- **Woodworkers** – build wood products from lumber
- **Intermediaries** – specify and sell wood products
- **End users** – buy finished wood products

Illinois Emerald Ash Borer Wood Utilization Team

- **Goal:** to encourage the harvesting and use of wood from urban and community trees felled in Illinois.
- **Funding:** grant from [U.S. Forest Service Northeastern Area Wood Education and Resource Center \(WERC\)](#) supplemented by in-kind matching support from influential partners including the [Illinois Institute of Technology](#) and the [Chicago Furniture Designers Association](#).
- **Team:** 14 Illinois state and federal government officials and industry leaders. The Team supports a Wood Utilization Network of over 100 urban foresters, municipalities,





Today's Presentation

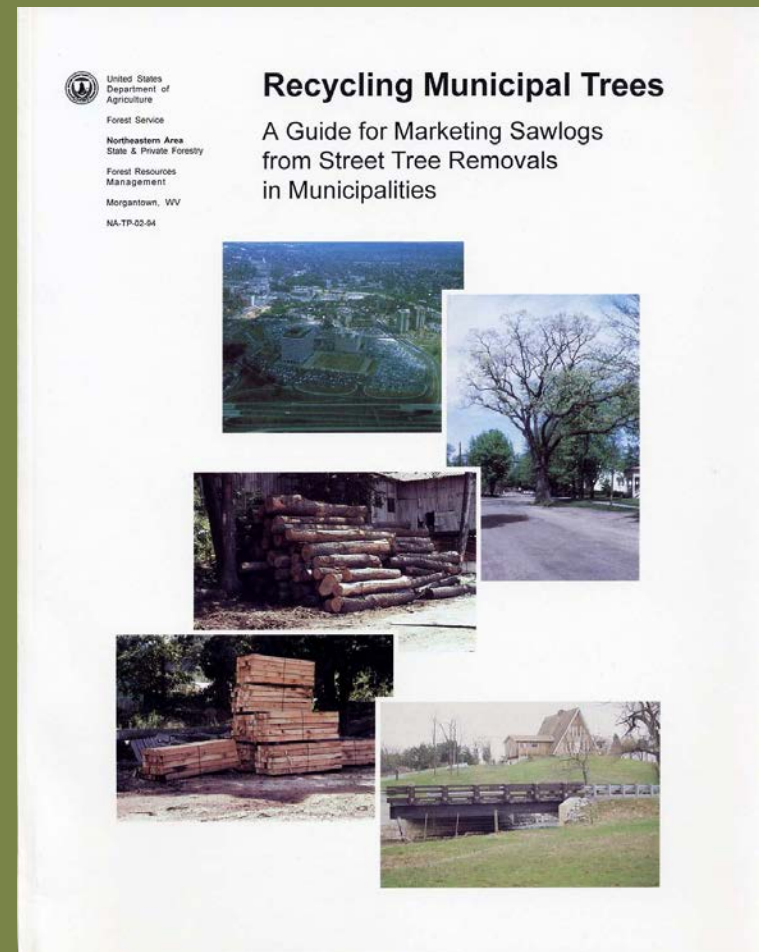
1. Historical Perspective
2. Current Drivers
3. Sources of Additional Information

1. Historical Perspective

- Utilization of urban/street trees have been happening for years on a relatively small scale.
- Ed Lempicki, NJ Forestry Services
- Example: Willard Brothers, NJ

Recycling Municipal Trees: A Guide for Marketing Sawlogs from Street Tree Removals

- Identify sawmills
- Learn sawlog requirements
- Remove metal & foreign materials
- Storing and transporting a salable quantity



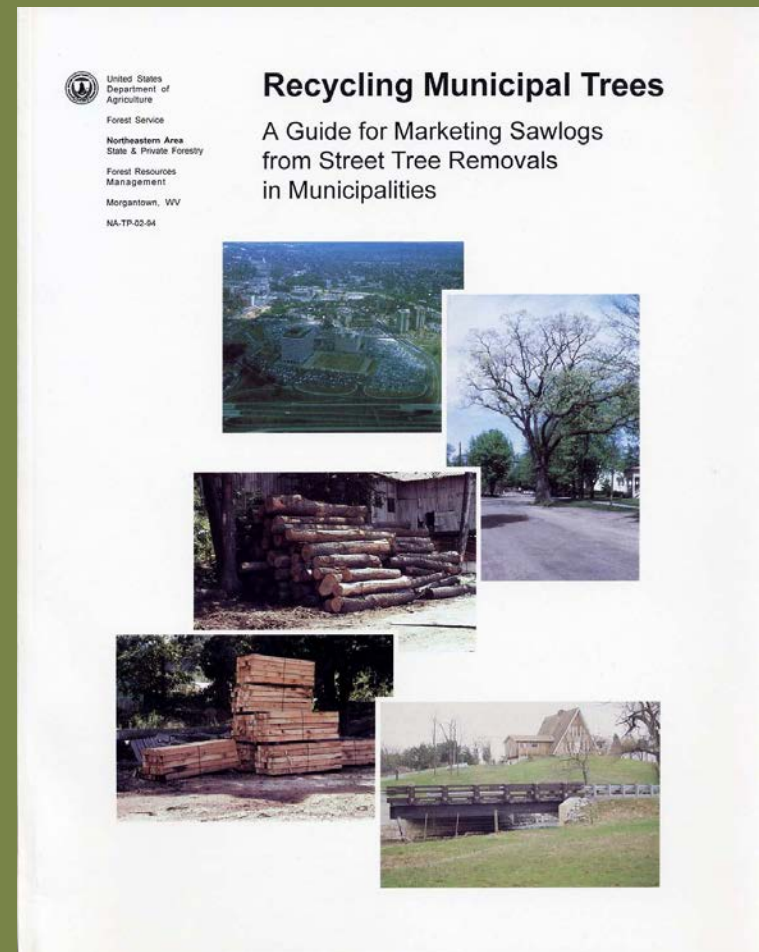
Recycling Municipal Trees: A Guide for Marketing Sawlogs from Street Tree Removals

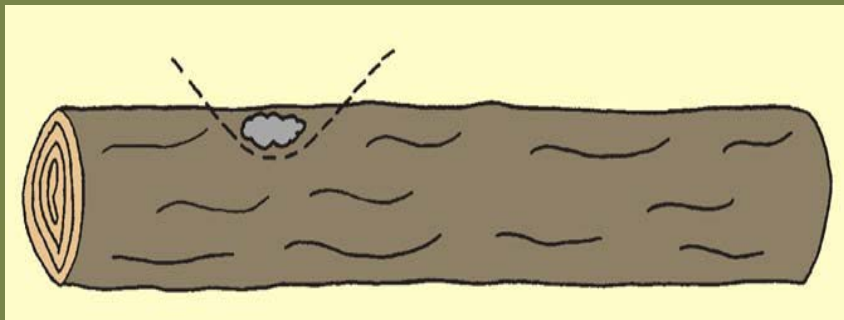
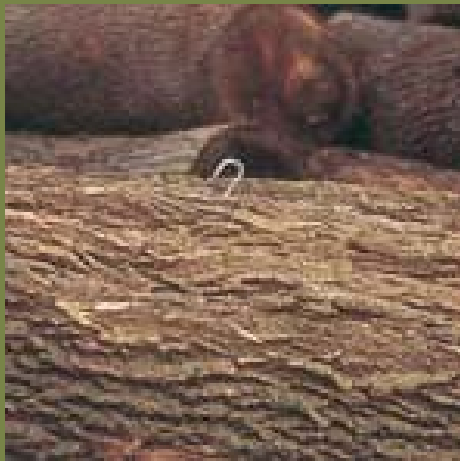
■ Products

- sawlog specifications
- log manufacturing
- metal removal
- storage/transporting

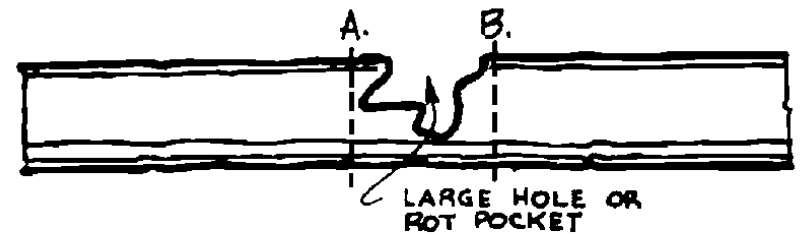
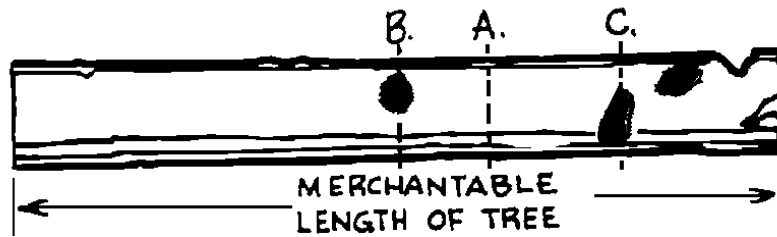
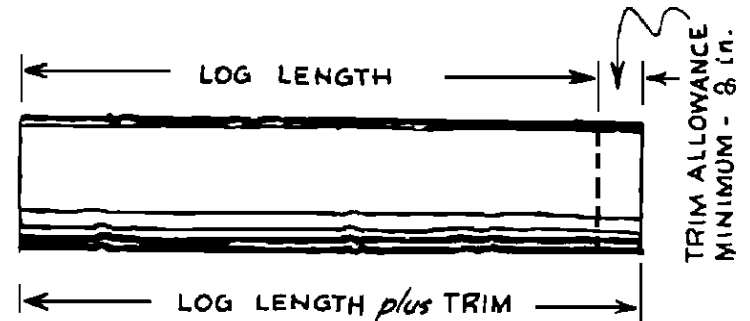
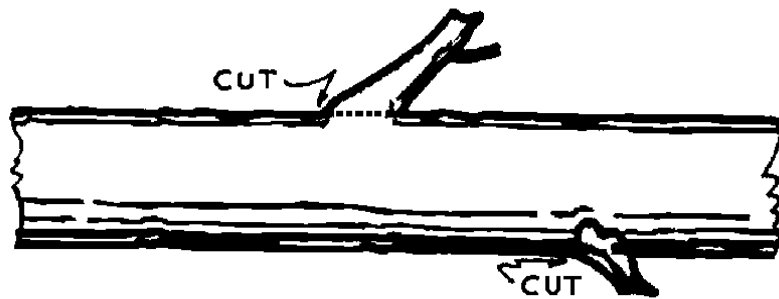
■ Marketing Merchantable Logs

- commercial sawmills
- custom sawmills, crafters, hobbyists





Recycling Municipal Trees: **A Guide for Marketing Sawlogs from Street Tree Removals**





PURDUE
UNIVERSITY

PURDUE EXTENSION

FNR-435-W

EXPERT
REVIEWED

MANUFACTURING AND MARKETING
EASTERN HARDWOOD LUMBER
PRODUCED BY THIN KERF BAND MILLS



DANIEL L. CASSENS

Manufacturing and Marketing Eastern Hardwood Lumber Produced by Thin Kerf Band Mills

Daniel L. Cassens

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Recycling Municipal Trees: A Guide for Marketing Sawlogs from Street Tree Removals in Municipalities

Web link: www.na.fs.fed.us/pubs/tps/recycle/recycling_trees.pdf

Utilizing Municipal Trees: Ideas from Across the Country

Web link: www.na.fs.fed.us/pubs/detail.cfm?id=1059

Manufacturing and Marketing Eastern Hardwood Lumber Produced by Thin Kerf Band Mills

Web link:

<http://www.na.fs.fed.us/pubs/werc/thin%20kerf%20band%20mills/FNR-435-manufacturing-marketing-thin-kerf.pdf>

Wood Utilization Options for Urban Trees Infested by Invasive Species

Web link:

http://www.fpl.fs.fed.us/documnts/pdf2012/fpl_2012_brashaw001.pdf

2. Current Drivers

- Invasive Species
- Recycling-Reuse-Carbon Storage

Emerald Ash Borer Invasion





ASH Utilization Options Project

Welcome to the Ash Utilization Options Project of Southeast Michigan

The [Southeast Michigan RC&D Council](#) is addressing the emerald ash borer infestation (EAB) in Southeast Michigan in a positive way by implementing an Ash Utilization Options Grant from the USDA Forest Service [Wood Education and Resource Center](#).

Through [demonstration projects](#), [training sessions](#), a [research program](#), and education and outreach efforts, the Council is helping communities and businesses to develop value-added products from urban trees removed due to the emerald ash borer and other causes.

Be sure to visit our [resources](#) page for helpful information, including links to urban wood use initiatives in other states, guides for homeowners, and resources for communities.

To stay informed about the Council's current activities, please visit our news



**Council
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([Learn m](#))

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Urban W
([Learn m](#))

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Newslet
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Species: Ash
Product Type: Other
Quantity: 1
Price each: \$1450.00
Character Description: Rustic
(some knots)
Moisture: Kiln-dried
Finishing/surfacing: S2S
Thickness: 7/4
Widths available: 12 in. +
Mill: [John Haling](#)
ID: JHAL080922.1

Harvesting Story

This ash tree was removed from a back yard on Franklin St. in Ann Arbor, MI. It was killed by the emerald ash borer.

Notes

This ash slab has been sanded and several coats of oil-based urethane have been applied. Natural edges and visible staining from metal in the tree add to the beauty of this one-piece slab. This is a one of a kind.



Industrial products

Pallet and packaging



Tree and survey stakes





2. Current Drivers

- **Recycling-Reuse-Carbon Storage**
 - Encourage use of wood to “tie-up” carbon

Mass Timber Panels

Nail Laminated Timber (NLT)



Glue Laminated Timber (GLT)



Laminated Veneer Lumber (LVL)



Cross Laminated Timber (CLT)



BUILDING TALLER WITH WOOD

September 2015

Tall wood buildings are gaining momentum around the world.

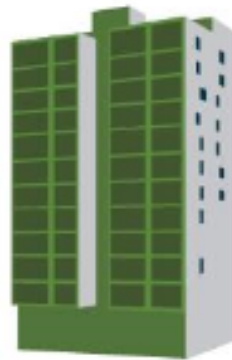
Over the past several years, a number of tall wood projects have been completed around the world, demonstrating successful applications of next-generation lumber and mass timber technologies. Today, the concept is gaining traction in the U.S. – with more architects opting for a sustainable solution for attaining safe, cost-effective, high-performing tall buildings in urban-dense settings.



Murray Grove
London, United Kingdom
8 Stories
2009



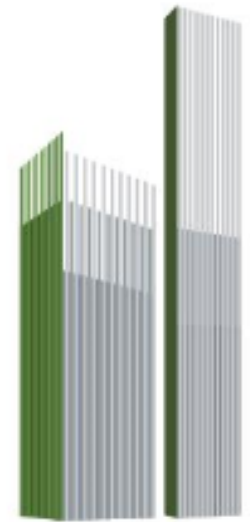
Forté
Melbourne, Australia
10 Stories
2012



TREET
Bergen, Norway
14 Stories
2015



HoHo
Vienna, Austria
24 Stories
2017



Baobab
Paris, France
35 Stories
Proposal

With more than 17 tall wood buildings of seven stories or more having been built around the world serving as demonstration projects over the past five years, the relevant authorities having jurisdiction, building officials, designers, contractors and consumers are more confident than ever in the safety of these buildings.



2. Current Drivers

- **Recycling-Reuse-Carbon Storage**
 - Reduce amount of CO₂ in atmosphere
- emphasis “carbon neutral” energy sources

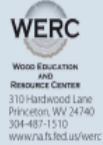
http://na.fs.fed.us/werc/biomass/mn/preliminary-feasibility-report-120706.pdf - Windows Internet Explorer

NA http://na.fs.fed.us/werc/biomass/mn/preliminary-feasibility-report-120706.pdf

USDA Rural development REAP

connecthr Login Suggested Sites US Forest Service Intranet Enterprise Operations - W... Favorites Web Slice Gallery

NA http://na.fs.fed.us/wer... New Hampshire Wood En... New Tab New York Biomass Energy ... USDA Rural Development...



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www.wilsonengineering.com

Preliminary Feasibility Report

Ely Minnesota Biomass District Energy System

Version: Final
Date: July 6, 2012



Image Source: dotgovetway.nrcs.usda.gov

Windows taskbar showing icons for Internet Explorer, File Explorer, Windows Media Center, Word, Outlook, Excel, PowerPoint, and various system tray icons including network, volume, and clock.

5:45 PM
5/5/2014

3. Sources of Information

WERC Web Site

<http://www.na.fs.fed.us/werc/>

US FOREST SERVICE


ABOUT US | CONTACT US Forest Service National Links Go

Northeastern Area

(enter query) Search

- Northeastern Area Home
- Conservation Education
- Fire & Aviation Management
- Forest Health Protection
- Forest Health Monitoring
- Forest Health Management
- Technology Development
- Technical Assistance
- Pesticide Use Management
- Forest Legacy
- Forest Stewardship
- Publications
- Sustainability and Planning

Wood Education and Resource Center



The Wood Education and Resource Center, located in Princeton, WV is a USDA Forest Service facility with offices, training facilities, and a rough mill. The WERC mission is to facilitate interaction and information exchange with the forest products industry to enhance opportunities for sustained forest products production in the eastern hardwood forest region of the United States.

The Wood Education and Resource Center supports managerial and technical innovation to keep businesses competitive. It provides state-of-the-art training, technology transfer, networking opportunities, applied research, and information.

WERC serves the primary and secondary hardwood manufacturing industries located in the 35 [states](#) of the eastern hardwood [forest region](#).

WERC's Primary Goals

- Improve the knowledge, skills, and capacity of the forest industry management and workforce.
- Increase communication, cooperation, and collaborative problem solving within the forest products industry.
- Improve efficiency in forest product manufacturing and wood utilization.

The Wood Education and Resource Center is easily accessed from I-77. Click [here](#) for location information, driving directions and a local map.

Resources

- Contact WERC
- Grant Opportunity & Reporting
- HONE!
- Press Releases
- Project Info. and Final Reports
- Staff
- Workshops and Training Opportunities
- Webcast Archive
- WERC Success Stories
- WERC Technical Resources

Hot Topics

Browser navigation bar showing address: http://www.na.fs.fed.us/werc/projects/werc/p_search. Multiple tabs are open: Southeast Urban..., Wood Educatio..., ansi standards - Bi..., Utilizing Municipa..., Woodworkers | Illi..., New tab.

File Edit View Favorites Tools Help

Welcome to Natural Reso... connecthtr Login Suggested Sites US Forest Service Intranet Enterprise Operations - W... Favorites Web Slice Gallery

Search by Map (Full Page)

Search by State, Project Type, and Fiscal Year

State

Project Type

Fiscal Year

Search by State, Project Type and Fiscal Year

Search by Keywords

Separate each keyword with a comma or a space.

Search by Keyword

Select by the Federal ID Number

Federal ID Number

View Selected Project

Select by the CFDA Number

CFDA Number

View Project(s) for Selected CFDA

- for Woodworking Industry
- Urban Wood Utilization
 - Value-added Wood Products Marketing Guide for Manufacturers and Entrepreneurs
 - Wood Packaging Phytosanitation
 - WERC Partner Project Web Sites

- Woody Biomass Resources**
- Statewide Wood Energy Teams
 - Woody Biomass Home
 - General Information and Related Links
 - Technical Assistance
 - Competitive Grant Projects
 - Webinars
 - Results

Here ->

[TOP](#)

Windows taskbar showing icons for Internet Explorer, File Explorer, Windows Media Center, Windows Defender, Word, Outlook, Excel, OneDrive, PowerPoint, and system tray icons including volume, network, and clock (4:13 PM 9/29/2016).

Browser navigation bar showing address: http://www.na.fs.fed.us/werc/projects/werc/p_results

File Edit View Favorites Tools Help

Navigation menu: NRM Welcome to Natural Reso... connecthr Login Suggested Sites US Forest Service Intranet Enterprise Operations - W... Favorites Web Slice Gallery

- ▶ Sustainability and Planning
- ▶ Urban & Community Forestry
- ▶ Watershed Programs
- ▶ Wood Education & Resource Center

- ▶ Financial Assistance to Partners
- ▶ Reports and Achievements
- ▶ Civil Rights



State	Congressional District	WERC Number	Federal ID Number	Project Description	Project Status	Federal Funding	Cooperator Funding
Community Woodlands Alliance: National Capitol Demonstration Program. Urban Waste Wood Recovery & Utilization Project.							
District of Columbia	DC	WERC-065-2007-GRANT	2007-DG-112	View Details	Complete	\$ 100,000	\$ 100,000
Firewood Business and Woody Biomass in the Midwest Region							
Illinois	12	WERC-027-2008-GRANT	2008-DG-096	View Details	Complete	\$ 15,000	\$ 26,267
Feasibility Study for a Community Wood Reclamation System							
Illinois	18	WERC-027-2010-GRANT	2010-DG-107	View Details	Complete	\$ 65,000	\$ 65,000
Ash Reclamation Project for Illinois							
Illinois	18	WERC-033-2007-GRANT	2007-DG-226	View Details	Complete	\$ 100,000	\$ 100,000
Internet Based Value-Added Wood Products Cooperative							
Iowa	03	WERC-020-2000-GRANT	2000-DG-318	View Details	Complete	\$ 50,000	\$ 50,000
After The Disaster: Design of A Rapid Deployment Wood Recovery System							
Maine	02	WERC-011-2006-GRANT	2006-DG-208	View Details	Complete	\$ 28,474	\$ 28,474
Prototyping and Demonstration of a "High Yield" Wood Recovery Technology							
Maine	02	WERC-027-2007-GRANT	2007-DG-109	View Details	Complete	\$ 12,936	\$ 14,351

- Archived Press Releases
- WERC Success Stories
- WERC Updates
- Staff
- Contact WERC

Wood Innovations

- 2016 Grant Opportunity & Reporting
- Statewide Wood Energy Teams
- Wood To Energy Grants
- Wood Products Markets
- Reporting Requirements

Hot Topics

- Hispanic Worker Integration
- Marketing Guide for Small and Medium Sized Primary Forest Products Processors
- National Skill Standards, for Woodworking Industry
- Urban Wood Utilization
- Value-added Wood Products Marketing Guide for Manufacturers and Entrepreneurs
- Wood Packaging Phytosanitation
- WERC Partner Project Web Sites

Windows taskbar showing icons for Internet Explorer, File Explorer, Windows Media Center, and various applications. System tray shows date and time: 4:16 PM 9/29/2016



Types of Urban Wood Projects Funded

- Utilization of EAB infested wood
- Sanitation procedures for firewood
- Energy uses for urban wood
- Value-added products for urban wood
- Decay assessment of standing trees
- Using Industrial Clusters to Build an Urban Wood Utilization Program: A Twin City Case Study



Here Today – Gone Today

- Mechanized Removal & Processing of Urban Trees

Logistics

City of Oak Creek
Rebecca Lane

**Sustainable Resources
Institute, Inc.**
Don Peterson
sri_dpeterson@sbcglobal.net

City of Oak Creek Entities



26" ash - 1st limb



Cutting bole – note cutting head position



Forest Hill Avenue – 17 trees removed in a ½-mile stretch





Woods behind Deal Rite continued...



Woods behind Deal Rite continued...

Mechanized Removal & Processing of Urban Trees

- Not for all situations, but it can definitely work
- Dedicated harvester/forwarder for urban situations (tree service, joint ownership, etc.)
- Contract with loggers
 - Skill level
- Clearly defined work
- Mix of street trees and mini-forest situations (break for operators)
- Product utilization can be challenging, but it can be cost effective

Mechanized Removal & Processing of Urban Trees

- **Webcast link:**
<https://umconnect.umn.edu/p78694155/>
- **Final report:**
http://spfnic.fs.fed.us/werc/finalrpts/10-DG-108_2.pdf
- **Project video:**
<http://dnrmedia.wi.gov/main/Viewer/?peid=504a7d15adae42a28a17f7f961440054>

Illinois Wood Utilization Team

- Share information
- Monthly IL Urban Wood Update
- Urban Wood Users Resource Guide

(<http://www.urbanwoodexchange.org/pdf/urbanUserGuide.pdf>)

- Rich Christianson
- Communications Director
- info@illinoisurbanwood.org

North Carolina Urban Wood Group

- Share information
- Monthly newsletter
- Southeast Urban Wood Exchange
 - Eric Muecke
 - NC Forest Service
 - 828-432-7920
 - Eric.Muecke@ncagr.gov



Southeast Urban Wood Exchange



home | about | other groups | links | contact

FIND A PRODUCT

- Cut Logs
- Milled Lumber
- Firewood/chips
- Used Equipment

BUSINESS LISTINGS

- Hauling
- Milling
- Lumber
- Other

POST A PRODUCT

POST YOUR BUSINESS

TERMS & CONDITIONS



For more Forest Fast Breaks like this, visit Forestinfo.org

Welcome

The increasing age and maturity of our municipal and urban trees, as well as pests, diseases and disasters, has resulted in the removal of large numbers of trees. The removal of large trees from the aging or damaged urban canopy produces an estimated 200 million cubic yards of wood

http://www.urbanwoodexchange.org/postBusiness.php

http://www.urbanwoodexchange.org/index.php

Virginia Urban Wood Group

- Share information
- Web site:
<http://treesvirginia.org/outreach/virginia-urban-wood-group>
- Contact:
 - Joe Lehnen
 - VA Department of Forestry
 - 434-220-9108
 - joe.lehnen@dof.virginia.gov

A300 Part 11 Urban Forest Products

- Tree Care Industry Association on-going effort that started about 5 years ago
- Subcommittee believes project falls outside of scope of tree care management standards.
- Best Management Practice, written by the ISA is a better first step to develop Urban Forest Products guidelines.

Workshops - Webcasts

- **Semi-Annual Urban Wood Utilization Webcast**
 - April 11, 2017; October 10, 2017
 - <https://usfs.adobeconnect.com/werc-500/>
 - For audio: 888-844-9904; access code: 7578516

- **Past Webcasts are archived at:**
 - <http://www.na.fs.fed.us/werc/eab.shtm/>

For more information contact:

Ed Cesa

E-mail: ecesa@fs.fed.us or 304-285-1530

<http://www.na.fs.fed.us/werc/>



**WOOD EDUCATION
AND RESOURCE CENTER**