


BOT Presentation

Preserving Scarsdale's Tree Canopy

Scarsdale Conservation Advisory Council

14 May 2015



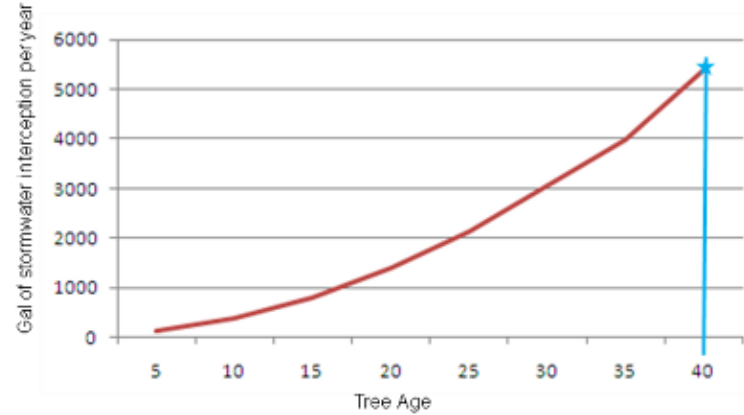
A photograph of a two-lane asphalt road with double yellow lines, stretching into the distance. The road is flanked by lush green grass and a variety of trees, including tall evergreens and bare deciduous trees. Utility poles with power lines run along the left side of the road. The sky is a clear, bright blue. The overall scene is peaceful and well-maintained.

**Trees Are
Integral To
Scarsdale's
Identity**

The Benefit of Trees Is Unquestioned



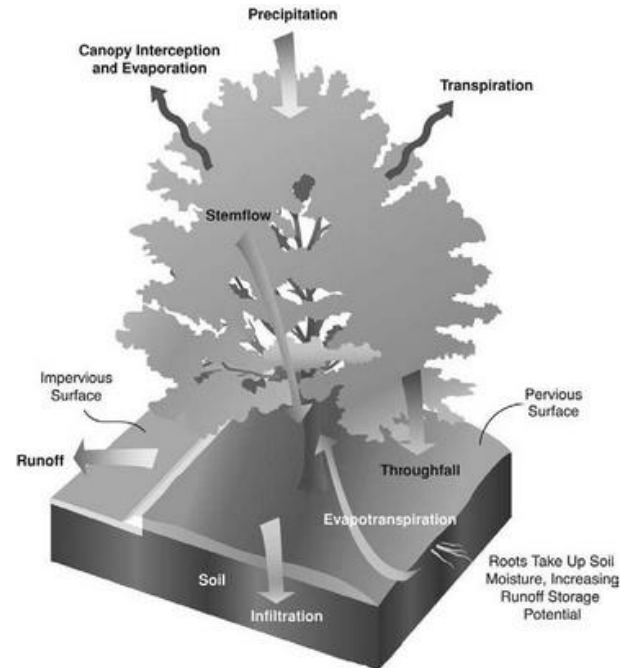
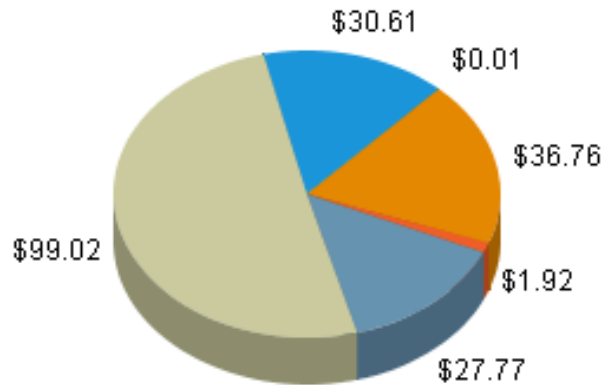
Stormwater Interception by Hackberries versus Age of Tree



Source: Adapted from McPherson et al 2006

http://www.fs.fed.us/psw/publications/documents/psw_gtr219/psw_gtr219.pdf

- Stormwater
- Electricity
- Air Quality
- Property Value
- Natural Gas
- CO2



However, The Place of Trees In Scarsdale Is Being Challenged

Increasing threat of storm damage



Development and homeowner rights

Wholesale Removal to Fit Larger Homes Is A Common Sight



**BEFORE
DEMOLITION**

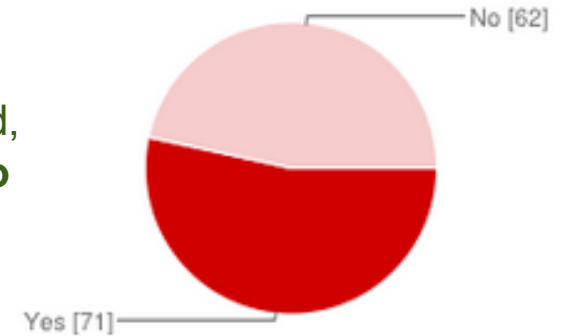


AFTER

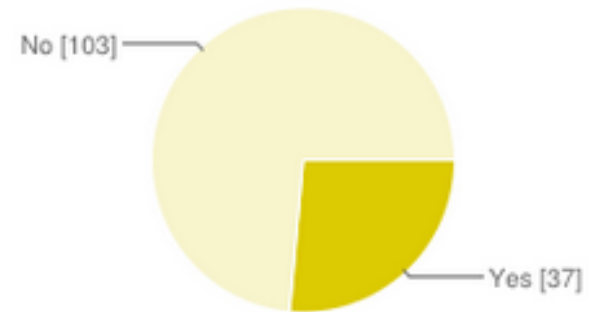


The Community Shares Our Concern

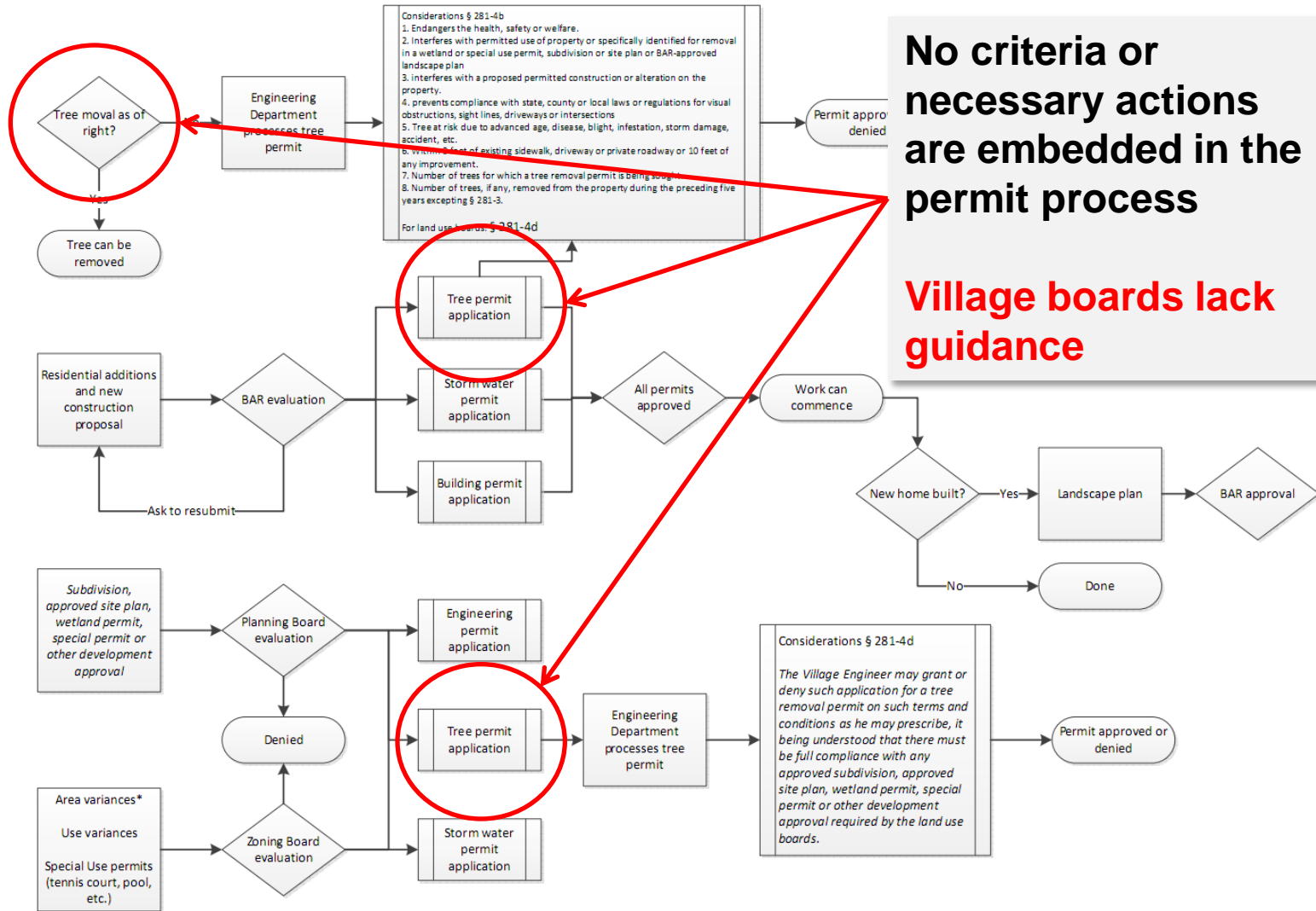
“When a healthy mature tree is removed, **should the homeowner be required to replace it?**”



“During new home construction and major renovation, **should the property owner be permitted to “clear cut”** (remove all or nearly all) trees from the property?”



And Yet The Tree Ordinance Is A Rubber Stamp...



* Requests to modify the zoning code's requirements for minimum setbacks from lot lines, maximum lot coverage, minimum lot area or lot frontages, maximum fence and wall height, maximum sign size, etc.



...While the Village Plants Fewer Trees

In calendar year 2012:

- 348 trees were removed
- 120 tree removals were hurricane-related
 - About 60% of these trees were private trees that were removed from the roadway
- 323 trees were pruned
- **162** new trees were planted

In calendar year 2011:

- 314 trees were removed
- 288 trees were pruned
- **166** new trees were planted

Previously, about 300 trees were planted per year



Recommendation Goals

*Preserve and improve
Scarsdale's canopy.*

*Provide the BAR
and Planning Board
with actionable guidance.*



Summary of Recommendations

For projects requiring approval by any Board:

1. the Village actively seek to maintain its 50% tree canopy coverage.
2. all projects requiring land use board approval must either attain the 50% canopy goal (at maturity) or pay an assessment for any shortfall.
3. preconstruction tree surveys be conducted by a certified ISA arborist.
4. “street” trees be required for all site redevelopment.
5. violations of the tree protection code result in subtraction of any unprotected trees from the canopy calculation.

For permits apart from any project:

6. a permit be required for any tree (> 6” DBH²) removed by a homeowner.
7. neighbors be notified of substantial (> 12” DBH) tree removals.

For Village street tree planting:

8. Adopt FOSP tree ordinance guidance of 29 September 2014



Canopy Replacement Assessment (CRA)

- The Village's tree canopy coverage has been measured at 50%.
- For properties unable to maintain the 50% canopy target, the canopy replacement assessment (CRA) provides a mechanism for the landowner to make up the shortfall.
- For any site plan before a land use board, the landowner either
 - achieves the canopy target
 - pays an assessment to cover any canopy shortfall
 - some combination of both
- The CRA will be calibrated to cover the cost of the Village planting trees to recover lost canopy coverage, in addition to the costs of administration and enforcement.

Basis for Canopy Replacement Fee

Tree Category
Sample Tree
Placement of Tree

Costs/Tree/Year:

Tree & planting
Pruning
Remove & dispose
Pest and disease
Infrastructure repair
Cleanup
Liability & legal
Admin/inspect/other
TOTAL ANNUAL COSTS/TREE
TOTAL LIFETIME COSTS (40-YEARS)/TREE

Small	
Kwanzan Cherry	
Yard	Public

15.00	10.00
3.76	3.26
2.58	1.28
-	0.09
0.14	1.13
0.03	0.26
-	-
1.51	3.96
\$ 23.02	\$ 19.98
\$ 920.80	\$ 799.20

Medium	
Red Maple	
Yard	Public

15.00	10.00
12.52	7.69
3.45	1.62
-	0.13
0.19	1.55
0.04	0.35
-	-
1.90	5.42
\$ 33.10	\$ 26.76
\$ 1,324.00	\$ 1,070.40

Large	
Japanese Zelkova	
Yard	Public

15.00	10.00
18.01	11.60
4.61	2.06
-	0.17
0.26	2.06
0.06	0.46
-	-
2.54	7.21
\$ 40.48	\$ 33.56
\$ 1,619.20	\$ 1,342.40

**MATURE CANOPY SIZE (SF)
LIFETIME COST/SF CANOPY

400	400
\$ 2.30	\$ 2.00

900	900
\$ 1.47	\$ 1.19

1600	1600
\$ 1.01	\$ 0.84

Weighted Avere Lifetime Cost/SF Canopy
***Increase for 2007-2014 Inflation
***Adjustment for local costs

Yard	Public
\$ 1.33	\$ 1.11
\$ 1.59	\$ 1.32
\$ 2.60	\$ 2.16

*SOURCE: US Dept. of Agriculture, Forest Service
Northeast Community Tree Guide - Benefits, Costs & Strategic Planting (2007)
Homeadvisor average cost comparisons by location*



Canopy Replacement Assessment - Example

Sample Project Requiring CRA

A pool is added to a wooded 1/3 acre property requiring the removal of several large trees.

The homeowner prefers a sunny backyard and opts not to replant the large trees.

The landscape plan indicates that the canopy coverage will be only 30% after construction.

Calculation of CRA

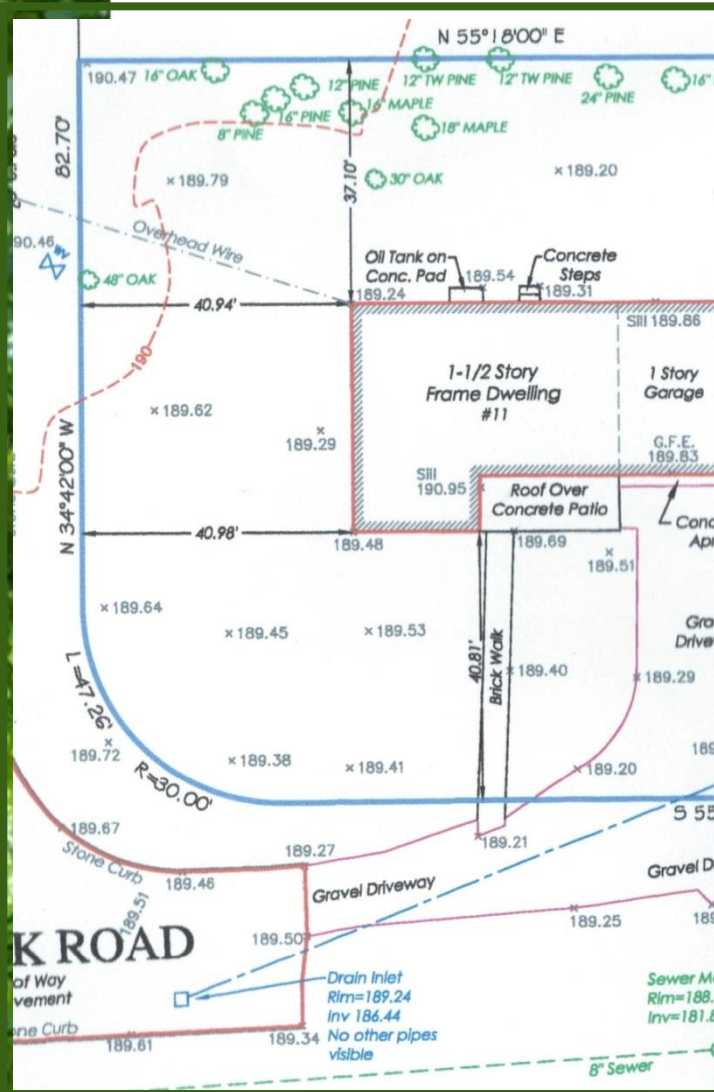
1. Property area = 14,520 square feet ($\frac{1}{3}$ acre)
2. Shortfall % = 50% goal – 30% achieved = 20% shortfall
3. Shortfall area = 20% x 14,375 = 2,904 square feet
4. Canopy replacement fee = \$2.16 / square feet
5. Canopy replacement assessment = \$2.16 x 2,904 sq. ft. = **\$6,277**



Benefits of A Canopy Replacement Assessment

- Simple to calculate, to use and to verify
- Provides landowners the flexibility to plant to 50% canopy or pay the CRA subject to specific Board approval
- Equally captures all land use decisions impacting canopy
- Benefits the Village tree planting program, provided CRA assessment funds are directed toward tree planting and maintenance
- Provides land use boards with concrete and straightforward criteria that would benefit their decision-making

Required Preconstruction Tree Survey



- Conducted by an ISA certified arborist
- Specifies tree species, location, condition, canopy coverage and size of all trees greater than 4" DBH
- Included in the land use site plan for utilization in building and landscape planning



Street Trees (Newly Developed Properties Only)

1. The Village should require that the landowner of a newly developed property* plant or protect existing street trees. The street tree requirement is appropriate for new properties with more flexibility in their landscape plans
2. The number of street trees to be planted or maintained shall be one or more depending on frontage, with the exact number to be determined by the appropriate land use board
3. At landowner discretion, street trees may be planted either in the Village right of way or just beyond, on homeowner property
4. Respects homeowners' rights to develop property for personal use while maintaining Scarsdale's "village in a park" appearance
5. Street trees would count toward meeting the canopy standard

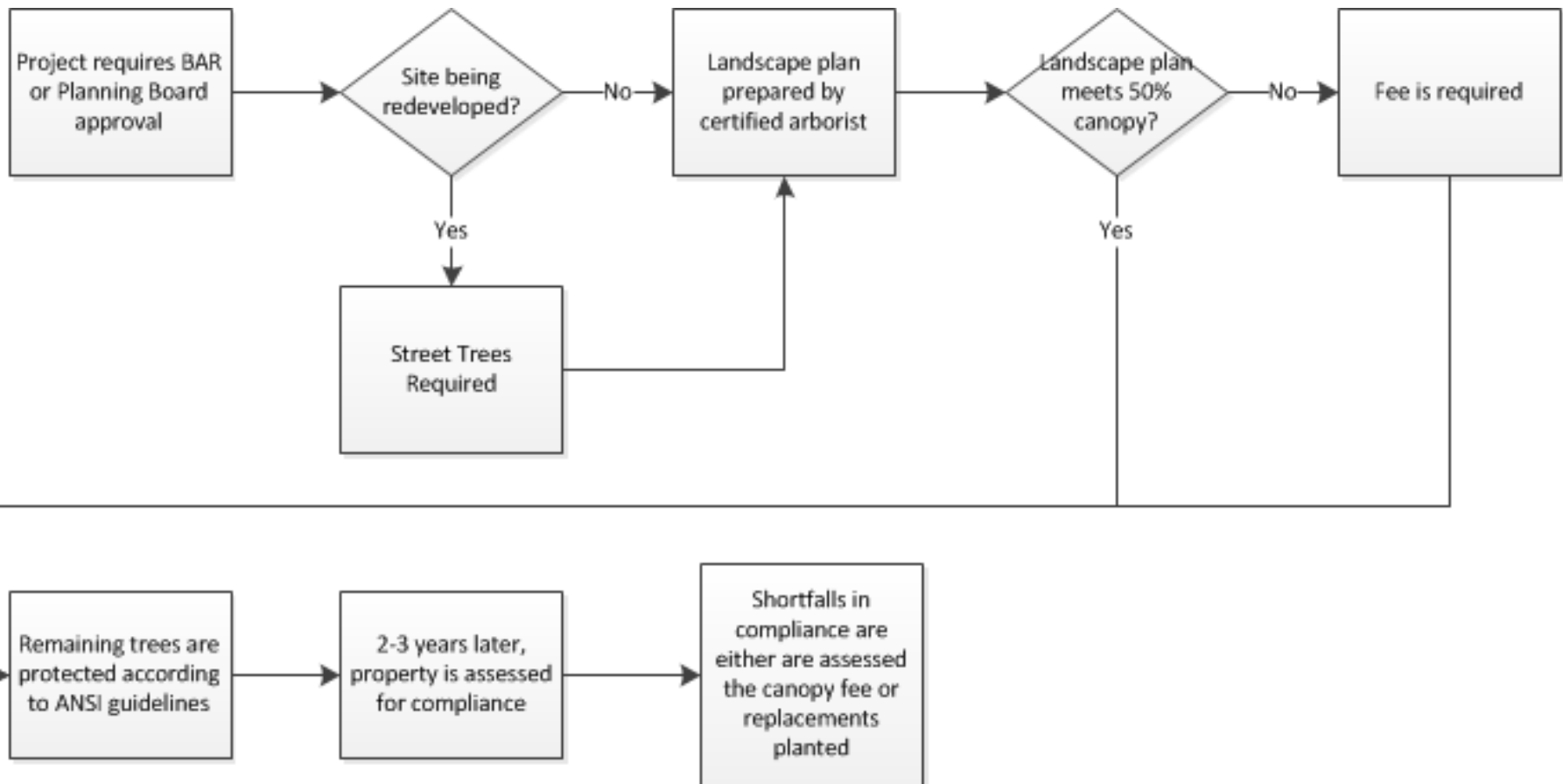
* New construction or construction where more than 50% of the structure is impacted in any way or where the structure is being increased by 25% of the floor area or 25% of lot coverage area



Tree Protection During Construction

1. Any tree within a construction zone requires protection as detailed in the ANSI A300 (Part 5) tree protection standards:
 - a. Throughout construction, surround each protected tree with a fence approximately 1 foot from the trunk for each inch of trunk diameter
 - b. No storing of machinery or materials within this area
 - c. No digging, trenching or other disturbance is allowed in fenced area
 - d. Use a tree well if the original ground level is changed
2. Trees that have not been protected during any period of construction shall be treated as 'nonexistent' in canopy calculations, reflecting the increased probability that the tree will die and not provide canopy coverage.
3. When tree protection is required, public notice describing measures taken shall be posted on-site including contact information to report violations.
4. Potentially impacted trees on adjacent properties shall be protected either to the ANSI 300 standard, or potentially to whatever reasonable standard the neighbor agrees to.

Canopy Assessment Flowchart





Impact on Staff and Budget

1. Maintenance of 50% canopy requirement
 - Surveys would be paid for by landowner
 - Funds would come from canopy replacement assessment (CRA)
 - Adding previous canopy assessments to the property database, although this is assumed to be minor
2. Enhanced tree permitting
 - Additional staff time required to process forms
3. Notification of tree removal
 - Paid for by homeowner
4. Tree construction standards during construction
 - Additional staff time required to the extent that violations are reported. This may be handled by consulting Village forester.
5. Street tree requirement
 - No additional cost when landowners plant the tree
 - Cost of long-term maintenance of trees planted within ROW
 - Village costs of tree planting could be covered by CRA fees



Enhanced Tree Permit Requirements

1. Require a permit for removal of **any** tree larger than 6” DBH i.e. eliminate allowance of 2 per year “as of right” from the current ordinance
2. Notify adjacent neighbors (as per guidelines for other land use notices) of any permit for removals greater than 12” DBH
3. Creates a complete database from which to base future decisions pertaining to canopy coverage, tree planting and related issues



Q&A



When would the canopy assessment be applied?

- When a landscape plan is required. This would include applications for decks, additions, pools, etc. The Village could use Palo Alto, CA's rules: when the development for which an approval or permit is sought changes building footprint, or involves any grading or paving. It is important not to place an undue burden on small projects such as fences or small patios.
- Potentially, upon property transfer. This would encourage new landowners to plant trees or otherwise help fund tree replacement elsewhere in the Village.

What if a property not satisfying the standard is transferred to new ownership, and an assessment is not made upon property transfer?

- A canopy replacement assessment would occur when applying for new land use permits. The landowner would always be given the opportunity to plant trees in lieu of the assessment.

Why should the canopy standard be applied to any property transferred to new ownership?

- To prevent manipulation. If NOT retroactive there is potential for undocumented tree removals prior to transfer, for the purpose of satisfying future development while sidestepping the canopy standard. Alternatively, the canopy standard could be the same, while the compensation schedule could be lower.
- Equity. Why should some landowners be able to remove trees below 50% without being assessed at some point? Why should existing properties be held to a lesser standard?
- Ease. A uniformly applied, retroactive standard simplifies enforcement and processing.

If retroactively applied, would a lesser percentage apply?

- The same 50% standard. We believe retroactive consistency would prevent heightened manipulation immediately after adopting the canopy standard.



Should new construction be held to a higher canopy standard?

- The same 50% standard would apply. There should be no differentiation based on type of project; it is the outcome that matters.

What about neighbors' trees that are immediately adjacent a work site?

- All at-risk trees will be protected. Neighbors' trees adjacent a property must be protected to the same (ANSI) standard applied to protected trees on the site itself.

How can a site's immediate prior canopy be determined, in order to protect against tree removal in advance of the canopy assessment process?

- Immediate prior canopy is irrelevant. A landowner cannot "game" the system by removing trees beforehand because the 50% standard will still apply. It becomes the landowner's interest NOT to remove trees.

What signage and inspection should be required at sites to insure that retained trees are being properly protected?

- A sign should be posted around (on fence, etc.) trees being protected on site, along with a contact number for residents. The sign may point to a location on Scarsdale.com where the landscape plan can be examined.

How should subsequent land use permits be handled?

- If canopy does not change then no assessment would be charged.
- If more canopy will be lost then a fee will be assessed for the difference. There may be potential to game this, but we don't think there will be many second applications that add up to much.



How are sites to be inspected afterwards, to insure that plantings conform to submitted plans?

- Trees tend to fail within a few years of planting, and so we recommend a consulting arborist inspect a site after perhaps two years. Any losses at that point will either be charged an assessment or asked to replant.

What should be given in landscape plans?

- The canopy plan should show the location of all trees on the site, those in the adjacent right of way, and trees located on adjacent property with canopies overhanging the project site.

What would be the extra administrative burden, and how would it be handled?

- The primary burden will be placed on the landowner, in filing a landscape plan prepared by a certified arborist. This landscape plan would include a canopy calculation.
- We anticipate no extra burden on the land use boards. This more specific standard actually may make their deliberations easier.
- The enforcement burden would be handled by the Village forester and paid for by canopy replacement assessments.

What is the precise burden on Village staff, consulting and regular?

- We cannot identify any meaningful impact on regular staff.
- We cannot estimate the enforcement burden required of the Village forester. However, once the level of effort is known, the canopy replacement assessment can be adjusted to fully cover costs with no impact on the Village budget.



Should replacement trees be mandated to be larger trees to help maintain canopy?

- Not necessarily. Studies show that planting trees when smaller ultimately leads to them being healthier.

Does imposing the 50% canopy average as a minimum standard work for all properties? Would this minimum put an undue burden on certain lots?

- The canopy plan should show the location of all trees on the site, including those in the right of way and trees located on adjacent property with canopies overhanging the project site. Smaller lots may benefit from the advantage of these adjacent trees.

Does requiring a canopy plan of the landowner place an undue burden on them?

- Canopy plans already can easily be generated using software and so would not constitute an undue burden.

What other constraints would be placed on landscape plans?

- It has been suggested that landscape plans be prohibited from including comparatively undesirable species.
- Credits to canopy assessments could be granted on the basis of positive species and planting choices, for example: native plants, those encouraging wildlife, rain gardens, etc.

What about trees taken down during emergencies?

- While there would be no change to this policy, tree removals would nonetheless affect the canopy assessment if the landowner applies for a permit.



Should payments in lieu of trees require approval?

- This would be a strengthening of our recommendation which we've not addressed. It has been argued that payments instead of planting should require approval since the desired outcome is maintenance or enhancement of canopy.

When a street tree is required during new construction, who would plant it?

- It may make sense for the landowner to plant the tree and even select the species, provided the species is an approved one from the (hopefully FOSP-guided) Village list. Permitting this would grant the landowner aesthetic flexibility and save the Village money.