To: Mayor Allen Joines and members of the City Council  
From: A. Paul Norby, Director of Planning  
Date: December 31, 2008  
Subject: UDO 122 (Tree ordinance)

The City-County Planning Board has completed its consideration of the Tree Ordinance that was originally proposed by members of the Community Appearance Commission and others in 2004. As you recall, that 2004 proposal was remanded back for further work in 2005 by the City Council and County Commissioners after the Planning Board recommended denial. The Planning Board’s most recent consideration followed about 18 months of consideration and discussion by a stakeholder committee that was facilitated through the assistance of a grant from the Winston-Salem Foundation.

The version of the ordinance recommended by the Planning Board at their December 11, 2008 meeting is not the draft which the Council reviewed in Committee during May and June of 2008. When that draft was presented for hearing on October 9, the Board heard concerns about the practical impact of the ordinance on development, and also had its own concerns about the level of staffing and consulting assistance that the ordinance would require. Therefore, the Planning Board requested staff to present some alternatives that achieved the goals of improving our urban tree canopy, encourage tree preservation, and not require the level of staffing and consulting assistance that the first draft involved. The Board selected one of those alternatives and directed staff to prepare the version of the ordinance that was heard on December 11, 2008. After further discussion and amendment, the Planning Board recommends this second version to you.

To assist the Council in its review, we have assembled the following materials that are relevant to the proposed ordinance:

**Section 1** is the staff report, proposed ordinance and public hearing comments for the December 11, 2008 meeting at which the Planning Board took action.

**Section 2** is a copy of the slide show which summarizes the proposed ordinance which was recommended and the difference between that and the first version reviewed earlier by City Council and heard by the Planning Board in October.

**Section 3** is the staff report, proposed ordinance and meeting minutes for the first version of the ordinance that was heard by the Planning Board in October. *The Planning Board does not recommend this version.*

**Section 4** is a summary of key agreements of the Tree Committee that was provided by the facilitator of the Committee in January, 2008 as a followup to their full report that was submitted in December, 2007.
Section 5 is a copy of an email sent to planning staff on January 28, 2008 by the facilitator to provide clarification.

The staff will be happy to answer any questions regarding the proposed ordinance. We plan to make a presentation at the January 13 Community Development/Housing/General Government Committee meeting.

_____________________
A. Paul Norby, FAICP
Director of Planning

cc: Lee Garrity, City Manager
## ACTION REQUEST FORM

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<td>TO:</td>
<td>The Honorable Mayor and City Council</td>
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<tr>
<td>FROM:</td>
<td>A. Paul Norby, FAICP, Director of Planning</td>
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### COUNCIL ACTION REQUEST:

Request for Public Hearing on Zoning Text Amendment originally proposed by the Community Appearance Commission and others

### SUMMARY OF INFORMATION:

Zoning Text Amendment originally proposed by the Community Appearance Commission and others to modify chapters A and B of the *Unified Development Ordinances* by amending existing landscaping standards and creating tree preservation requirements -- remanded to Planning Board by City Council and Board of County Commissioners. (UDO-122)

### PLANNING BOARD ACTION:

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REQUEST

The original UDO text amendment was proposed in 2004 by the Community Appearance Commission (CAC) along with the Garden Club Council, Keep Winston-Salem Beautiful, the West Salem Neighborhood Association, the West End Neighborhood Association and the Washington Park Neighborhood Association, to modify chapters A and B of the _Unified Development Ordinances_ by amending existing landscaping standards and creating tree preservation requirements. It was remanded back to the Planning Board for re-working by the Board of County Commissioners and the City Council.

BACKGROUND

The loss of existing, mature trees and the need for establishment of new high quality trees have been long-standing concerns of many in our community. Trees enhance quality of life and also provide economic and environmental benefits to the property owner, neighborhood, and community at large. These benefits include cooler temperatures, cleaner air, increased rainfall, reduced storm water runoff and runoff temperatures, enhanced flood and erosion control, wildlife habitat, and increased property values.

In 1999, the Land Sensitive Development Memorandum of Understanding (MOU) was signed between the Forsyth County Commissioners, the Home Builders Association of Winston-Salem, and the Winston-Salem Regional Association of Realtors. This document included emphasis on voluntary tree preservation and environmentally sound land use practices, but was vaguely worded and proved difficult to use in defining what kinds of specific expectations there were of developers submitting plans. Subsequent discussions focused on the need for regulatory action to be taken if tangible results were to be achieved.

In 2004, increasing concerns over the loss of existing tree canopy prompted the submittal of a Tree Ordinance proposal by the petitioners. During 2004, the petitioners refined their initial ordinance draft based on comments made by the Planning Board at their first public hearing on the ordinance. The petitioners worked with the Homebuilders/Realtors Association, Planning staff, and various other City/County departments on ordinance revisions until a Planning Board hearing was held in January 2005. The Board recommended against the Tree Ordinance at this hearing, citing a myriad of concerns. Some Board members believed the ordinance too strong, some believed an ordinance was not needed, and others believed it was too weak. Subsequently, the Forsyth County Commissioners and the Winston-Salem City Council remanded the ordinance to the Planning Board for further development. The Elected Bodies requested that staff involve a broad array of stakeholders in the ordinance revision process.
This led to the creation of the Tree Ordinance Committee, which met with the assistance of an outside facilitator from 2006-2007 and included members representing various community organizations and different perspectives. These organizations included the Winston-Salem Chamber of Commerce, the Homebuilders/Realtors Association, the local chapter of the Sierra Club, and the Winston-Salem Neighborhood Alliance. The facilitator was hired from North Carolina State University, funded by a grant from the Winston-Salem Foundation. The Tree Committee was tasked with determining the content of a future Tree Ordinance, and their recommendations were summarized in a report released in December 2007. Planning staff, in conjunction with other City departments, was directed to develop a revised Tree Ordinance which respects the recommendations of the Tree Committee while also considering the costs to the development community and the costs and needs of local government administration.

Most large jurisdictions in North Carolina currently have tree ordinances, including Charlotte/Mecklenburg County, Durham City/County, Greensboro, and Raleigh. Although standards vary widely, all require tree preservation for commercial development, and all except Greensboro require tree preservation for single family development. The proposed ordinance borrows various features from these existing ordinances, but is tailored to the unique character of Winston-Salem and Forsyth County.

**ORDINANCE DEVELOPMENT UPDATE: OCTOBER – NOVEMBER 2008**

A Planning Board public hearing was held on the proposed Tree Ordinance that staff was directed to develop on October 9, 2008. Support for the proposal was given by a number of people. However, various concerns were expressed by others about the proposed ordinance, particularly complexity and uncertainty in the site plan review process and costs for the development community and local government administration. Following this public hearing, the Planning Board directed staff to develop possible tree ordinance alternatives which the Board considered at its October 23, 2008 work session.

Staff presented three alternative scenarios at this work session based on the guiding principles of:

- Eliminating subjectivity in ordinance administration and development review;
- Minimizing or eliminating the need for additional public administration staff or private arborists;
- Encouraging the use of naturally undevelopable land as tree save areas, and;
- Providing incentives for saving trees.

After substantive discussion, the Planning Board agreed on a single alternative ordinance concept and asked staff to develop ordinance language based on this alternative. The analysis below is based on this ordinance alternative.

**ANALYSIS**

The proposed Tree Ordinance is integrated with the existing landscaping standards in the *Unified Development Ordinances* (UDO) which were originally adopted in 1988. These existing standards include either tree preservation or tree planting requirements for areas such as bufferyards, streetyards, and parking lots. Additionally, UDO and City Code requirements ensure the preservation of floodplains, stream buffers, and open space in Planned Residential Developments (PRDs).
The proposed ordinance attempts to strike a practical balance between preserving existing trees and planting new, high quality trees in locations where they can grow to maturity. Requirements for minimum Tree Save Areas (TSAs) for residential and nonresidential development as well as planting and maintenance standards exist in the ordinance. The Tree Save requirements of the ordinance apply only to Growth Management Areas (GMAs) 2, 3, and 4. These requirements are not suited to the dense urban environment of GMA 1, and are unnecessary in GMA 5 where sewer is unavailable, very large lot zoning requirements prevail, and mass grading is not necessary to gain maximum development yield of a site.

The proposed Tree Ordinance requires saving trees which exist in areas off-limits to development (floodplains, stream buffers, and wetlands) for non-residential, single family, and multifamily development sites. These trees shall be saved until 10% of the development site has been set aside as Tree Save Area. Tree Save Area is satisfied by calculating the number and size of existing trees on site. Each existing tree between 3 and 12 inches in caliper will equal 1000 square feet of tree save area, trees with a caliper of 12-24 inches will equal 2000 square feet, trees with a caliper of 24-36 inches will equal 3000 square feet, and trees larger than 36 inches in caliper will be given 4000 square feet of Tree Save Area credit.

Where floodplains, stream buffers, and wetlands do not exist on a development site, existing trees are not required to be saved, but may be saved to satisfy minimum Tree Save Area requirements. Tree Save Area credit may be achieved by existing trees anywhere on site, including areas such as bufferyards, common open space areas in PRDs, and streetyards. This helps to minimize the site area a developer must set aside from development activities. The species of trees is an important consideration under the proposed ordinance. Invasive exotic trees and pine trees do not meet the intent of the Tree Save component of the ordinance and may not be counted towards minimum Tree Save Area requirements. Qualifying Tree Save Areas will be determined through field observations made by the petitioner and confirmed by City-County Inspections staff. The Suggested Plant Materials section of the ordinance has been revised to remove various trees which are considered invasive species.

Where the minimum amount of required trees do not exist on non-residential and multifamily development sites, new large variety trees must be planted to meet the minimum 10% Tree Save Area requirements in accordance with the recommendations of the Tree Committee report. New large variety trees must be able to take the place of large older trees as they naturally die out. Each large variety tree planted will equal 1000 square feet of Tree Save Area credit, recognizing the growth potential large variety trees have over time. Large variety trees will promote the establishment of an urban tree canopy where it is needed most. Where the minimum amount of required trees do not exist in areas off-limits for development on single family residential development sites, two large variety trees must be planted or two existing trees must be saved on each single family lot larger than 9000 square feet.

The proposed ordinance requires the installation of large variety trees to satisfy the requirements of the landscaping ordinance, except where overhead utilities are present small or medium variety trees will be required. Currently, the UDO requires 150 square feet of planting area for newly planted trees regardless of their species. While this may be adequate for small variety trees such as crepe myrtles, large variety trees such as oaks require significantly more room to become adequately established and grow to their mature potential. The proposed ordinance will
retain the 150 square foot planting area requirement for small and medium variety trees, but will require a minimum of 600 square feet for large variety trees. Adequate space is necessary for trees to be healthy and contribute to the creation of an urban tree canopy in Winston-Salem and Forsyth County. To compensate for this additional area, the spacing between larger variety trees in parking lots has been increased from 50 feet to 75 feet. Additionally, for each large variety tree planted to satisfy the Tree Save requirements and located completely within a parking lot, the minimum amount of required parking is reduced by four (4) spaces.

Maintenance and planting standards are included in this ordinance in accordance with the recommendations of the Tree Ordinance Committee report. The ordinance requires trees to be planted and maintained in accordance with American National Standards Institute (ANSI) A300 standards, which represent the best management practices for arboriculture. The ordinance specifically prohibits topping of trees, which was of particular importance to the Tree Ordinance Committee. The maintenance requirements of the ordinance will also apply to all trees planted after the adoption of the 1988 landscaping ordinance which satisfy the requirements of that ordinance.

Basing the proposed Tree Ordinance upon existing UDO standards will minimize the number of additional staff needed to enforce the ordinance, and no additional Inspections Division staff should be needed to administer the proposed ordinance. The proposed Tree Ordinance should achieve most of the substantive recommendations of the Tree Committee guidelines while being sensitive to the costs to the local development community and local government for administration.

**RECOMMENDATION**

**APPROVAL**

Glenn Simmons and Kirk Ericson presented the staff report.

**PUBLIC HEARING**

FOR:

Jake Cashion, 601 W. 4th Street, Winston-Salem, NC 27101

- Showed and referred to photographs. They were not submitted for the record.
- As a representative from the Winston-Salem Chamber of Commerce, thank you for your willingness to work with the business community to make the best decisions for the community.
- We applaud the Planning Board and staff's efforts to listen to all sides of this issue and understanding that economic growth and environmental stewardship can and should work together.
- If the Board deems that an ordinance is necessary, it needs to be one that has incentive based controls, one that is flexible, one that does not make growth so costly that development is impossible, and one that will not drive up the cost to taxpayers.
- While we still don't believe a tree ordinance is necessary, we understand that everyone is looking at one and we think this is a good compromise.
- We appreciate your efforts and your thoughtful and thorough analysis of this ordinance.
Bill Powell, 1605 Miller Street, Winston-Salem, NC  27102
• WS/FC schools signed up both for and against this, but that doesn't mean we support or are opposed to this amendment. We are neutral on this.
• Schools need excellent trees, canopies, and natural wildlife and we do appreciate the staff, the tree preservation advocates, and the public and the time they spent visiting our schools.
• This ordinance still costs money, but it is more manageable than the last one.
• That being said, we need to talk about a couple of items.
• The off-limits to tree save areas (such as floodplains), those areas can be excellent areas for schools, parts, recreational associations, YMCA, homeowners associations. Excellent floodplain uses include parks, school playgrounds, athletic fields, tennis courts, golf courses, campgrounds, picnic areas, public recreation.
• I'd like to encourage the Planning Board to consider these and for the good of the public order that the Planning Board be allowed to make exceptions so these areas could be used in this manner.
• One of the ways could be to make incentives so that if we were allowed to use these areas for these uses, the incentive to save the trees in that area could be that the tree planting requirements for replacing trees would be more stringent.
• Showed and referred to photographs. They were not submitted for the record.
• The type of incentives would provide excellent places for wildlife.
• Regulations sometimes require creek crossings or storm water ponds. Please consider allowing the participant to coordinate those items with the appropriate body, such as DENR.
• Thank you for hearing us.

Nancy Gould, 195 Executive Park Blvd., Winston-Salem, NC  27103
• I'm sure there will be people here today who are in opposition to this ordinance.
• I've heard this referred to as a strip-down version, a sham of an ordinance, that it does away with the requirement to preserve existing trees, it requires trees only to be preserved in areas off-limits for development where preservation would occur whether the ordinance was in place or not.
• Stream buffers: Stream buffers are definitely off-limits to development and grading. I'll remind you that the stream buffer ordinance was only adopted a few months ago when the storm water management ordinance was adopted. That right there was a brand new regulation that impacts how you can develop a site.
• Floodplains: If you look at the ordinance, there are quite a few uses that don't allow buildings, but allows golf courses and recreation areas within the area of the floodplain that you are not allowed to grade in.
• I'm sure you know that right now the regulations are such that you can only build or grade within 50% of the floodplain.
• Those are stricter standards than what the Federal government requires. In lots of communities, you can grade and build right up to the floodway line.
• Your work program indicates you will be having a discussion about whether we should not have grading at all in the floodplains.
• At first blush it sounds like it's no big problem and no big sacrifice on the developer's part.
• I disagree with that. We're already making changes which I don't disagree with.
• With this new ordinance as opposed to the previous one, we're preserving woodlands, both small and large trees, in the areas which are most environmentally sensitive and can provide such things as those wildlife corridors we talk about.
• I applaud you for moving this to where we're not just preserving large trees and definitely feel this ordinance is workable and I appreciate your hard work.

AGAINST:

Melynda Dunigan, 1875 Mallard Lakes Drive, Winston-Salem, NC  27106
• I was asked by Drane McCall of the Garden Club Council, one of the sponsoring groups of this text amendment, to speak to you on behalf of that organization.
• Mrs. McCall asked me to convey to you the Garden Council's support for the ordinance that was considered at the October Planning Board meeting. It's that version and not the one that's being considered today that they would like to see you pass along to City Council.
• Personally I also object to the present stripped down version of the ordinance because it removes any meaningful preservation of existing trees. I have to disagree with the statement of Ms. Gould. I do believe this is preservation in name only and that there will be very little preservation beyond what we see with current development.
• Incentives which Kirk talked about: When you don't have a requirement to preserve, it's very unlikely that these incentives will be used. Incentives are fine in combination with requirements, but as an either or situation, they seldom work. We have that now and they don't work. We don't see people preserving trees.
• Regarding the requirement that you have tree save areas only in areas which are off-limits to development: Again, we're not going to see very much new preservation.
• I disagree that this version in any way satisfies what the tree committee recommended.
• It's been very disappointing to me to see the tree committee's work precipitously set aside by this body in favor of what I consider to be an ill-considered and poor replacement.
• I was really genuinely shocked to see at the October work session those three slides that were put up and used as an argument that we are not having trouble with our tree canopy.
• I don't have any problem with the Chamber in this context presenting that as an argument, but I think it's inappropriately done in the context of a Planning Board meeting. These are cherry picked slides. They are not representative of development. Two of them are areas that aren't intended to be developed - a golf course and Bethabara wetlands area which is a protected natural area.
• The fact really is that we have a problem with loss of canopy. We don't have the data here for Winston-Salem, but a study that was done based on aerial photography for the Charlotte area found that Charlotte lost 47% of its canopy in the 19 year period between 1984 and 2003. We aren't Charlotte, but our area was recently rated #2 for sprawl among 83 metro areas across this country. We were higher than Raleigh. We were higher than Atlanta.
• Given our rating for sprawl, given what we know about Charlotte, it's very reasonable to conclude that we have lost and will continue to lose canopy at a rapid rate if we don't require some meaningful preservation of existing trees in new development.
• Loss of canopy comes with a huge public cost. Over $500 million in storm water infrastructure and $5.8 million per year in air quality costs were associated with that loss of canopy in Charlotte.
• These costs dwarf the cost of hiring two new Inspections staff

Gus Preschle, 7711 Lasater Road, Clemmons, NC 27012
• I'm here representing the Foothills Sierra Club and 1,000 citizens who have signed petition cards in support of the tree ordinance committee recommendations.
• I was also asked to represent Elizabeth O'Meara who served as a member of the Tree Ordinance Stakeholders Committee. She is very disappointed in the turn of events and would not agree with staff's statement that the revised ordinance before you today does meet her understanding from direct participation of the committee's outcome.
• The Sierra Club Board finds the revisions to be unacceptable, unhealthy, and economically not viable in the long run.
• We believe there must be a serious misunderstanding of the value of mature trees to deal with climate change. This is an area of vital importance not addressed in staff's presentation or in any proposed discussions.
• In July of this year, the EPA reported that a warmer climate could affect US residents (that's us) directly through droughts, heat waves, increasing more intense hurricanes, and indirectly through greater instances of disease, decreased air quality, and rising pollen counts. In fact, North Carolina will be among the worst affected states by climate change due to our vulnerable coastline. We as tax payers will pay for that damage.
• Preservation of more existing trees is critical because of the environmental benefits that large mature trees provide.
• We can't wait 10, 20, 30, or 40 years for 3" trees to do the job that trees are currently doing.
• The US Agricultural Department estimates that an acre of mature trees absorbs six tons of carbon dioxide, six tons of carbon dioxide annually, and puts out four tons of oxygen. A typical household produces 20 tons of CO2 annually. Therefore, three acres of trees is needed somewhere somewhere to absorb the CO2.
• Even the preservation of a modest 10% of our existing tree stock would make a meaningful contribution to the deficit created by each new residence and business.
• We wondered does staff and this Board have a position on climate change. If so it has not been evident during these proceedings.
• As you must know from all the media coverage, our existing and next president, our next governor and Winston-Salem City Council all have acknowledged the severity of the problem. The program with climate change is taking a position if improvements need to be made.
• Every individual citizen, every appointed official, every elected official, every business and industry must work together to face the challenge. Yet you have an opportunity today to play a meaningful role in the solution as you decide what to do about our life-giving tree stock.
• Let's take a look at two photos. These are close-ups of what is actually happening in our neighborhoods as we speak. This is Hillcrest, formerly Hillcrest Golf Club. This large rectangular area has recently been clear cut. It has been regraded and as you can see there's construction on the left and center of multi-dwelling units and on the right, harder
to see, are single family dwelling units. What you can't see but I know because I went there yesterday there are three inch trees on this site. They won't show up in an aerial photo for many years to come and they won't do the job of existing trees there are currently doing.

- We believe that the current revisions to the ordinance could result in something just like this happening again.
- I have other photos of areas around Hanes Mall Boulevard and we also know about the area up at Robinhood Road and Olivet Church.
- So, in summary, we respectfully request that you reject the revisions and forward the committee recommendations to the board.

Robert Vorsteg, 3620 Marlow Avenue, Winston-Salem, NC  27106

- Public deliberation is one name we have for the way we go about deciding how to act. Public deliberation is what we engaged in for about 17 months in the Tree Ordinance Committee in which I participated.
- Now we're looking at a process which required at that time a method of consensus which has now been abandoned.
- Outcome would be a compromise. We are still hearing the word compromise, but we had already reached a compromise that we signed onto in the committee and with the further compromise by the staff that presented you a recent draft. But it still had the essential ingredients that we valued about tree preservation. Now this drastic revision in our minds ignores the public interest as represented by those of us who were on the tree committee which you are now, it seems to us, ignoring and it calls into question whether this Planning Board is going to allow public deliberation as represented by that committee to play its proper role in your deliberations and in our local democratic process.
- Thank you.

Phyllis Smith, 240 Harmon Court, Winston-Salem, NC  27106

- I would like to speak on behalf of the Climate Change Task Force of Green Street United Methodist Church which is located at 639 S. Green Street, 27101.
- I brought along this photograph. What you have here is a row of large, mature pine trees which were preserved at a development site but unfortunately you have a big mound of dirt next to each tree that goes all the way up to the root system.
- It really doesn't do any good to preserve large trees when you get a situation like this. What happens, and it's very unjust to the land owners in this situation, is that trees in a situation like this won't start to show symptoms for probably two more years. They won't die for about 5 more years. By that time the developers are long gone and it's then up to the residents to undergo the considerable expense of removing these dead trees which have become a hazard to people and property.
- It is my feeling and the feeling of our committee that you really need an ordinance that will allow you to hire someone to enforce these regulations. I just don't see how you can have a viable proposal without enforcement so that things like this don't happen.
- Another picture here, this is on the northwest corner of town, this is a large tract of land that at one time was covered with a mature hardwood forest. It has been totally clear-cut and all the diversity has been stripped away.
• What it appeared to me happened is that each building site received one Bradford Pear. This is what you get with Bradford Pears. They are very frequently planted in developments like the one you previously saw because of their fast growth rate. The problem with that is that the fast growth produces very weak wood. They are very prone to breakage like you see here from wind and rain and even if they don't break from those conditions the very structure of the tree makes them prone to collapse under their own weight in about 15-20 years which is their life-span as compared to over 100 years for an oak or a hickory.

• As a previous speaker pointed out, our native trees have a much greater potential to mitigate problems like global warming and something like we see in some of these developments today.

WORK SESSION

During discussion by the Planning Board, the following points were made:

1. Paul Norby stated that the school presentation mentioned some concerns about the inability to make use of floodplain areas for recreation areas. Staff also checked with Tim Grant, Recreation and Park Director, to see if he shared that concern, and he did. So if the Board wants to see what the staff came up with as a way to address that, we can explain it. Arnold King noted that he asked staff to look at this situation. Kirk Ericson read the proposed alternative language which follows:

"(c) Alternative compliance or removing existing trees for recreational purposes in floodplains. Development proposals for recreational purposes which remove existing trees in floodplains that would otherwise be required to be saved in accordance with Section B.3-4.2.1(A)(3)(b) may be approved where existing trees meeting the requirements of Section B.3-4.2.1(A) are preserved elsewhere on site.

Alternatively, development proposals may be approved through Special Use District zoning, where the intent of the ordinance is met or exceeded through alternative mitigation measures such as the replacement of existing trees removed with new large variety trees in accordance with Section B.3-4.2.1(A)(4), or revegetating cut and fill slopes at a rate of four hundred-fifty (45) trees per acre of surface area, or other alternative proposals. Where the revegetation option is chosen, the trunk of any required tree shall be no closer than eight (8) feet from any other required tree. Said trees may be a mixture of evergreen and deciduous, a minimum of twelve (12) inches high at planting with a minimum height at maturity of twenty-five (25) feet."

2. During discussion, the Planning Board noted that having an illustration of an option in the language of the ordinance gives the impression that is the only option. They also noted that a chart could be used to show options that could be considered during mitigation procedures. Concern was expressed over the small height requirement (12" trees), and the option of requiring fewer trees and requiring them to be significantly larger was discussed.
3. While there is no language in this proposed wording that would prohibit impervious surface cover on the proposed site, it was noted that the petitioner would have to make their case before the Planning Board and Elected Body before their alternative compliance plan would be granted.

4. Carol Eickmeyer: If we take mature trees out of the floodplain and replace them with planted trees, it does take time before we get the equivalent.

5. Arnold King: It's important to have some guidelines for developers.

6. Carol Eickmeyer: It's important to have a Special Use Exception.

7. Carol Eickmeyer: This whole thing gives me a lot of heartburn. I find it very peculiar that suddenly the people who want a tree ordinance don't want one and the people who didn't want a tree ordinance do want one. The part of the whole process that causes me to despair, and I really do have despair over our process, is the bizillion hours of time that passionate people have spent trying to get to this and the opportunity for other people who I sometimes feel are bullies to come in at the last minute and say, "Well, too bad you spent all those hours. We're not going to approve it and we're going to work our system and get what we want." I acknowledge that there are some very strong feelings about, I don't want to say "bait and switch" but when you say to people if we can come to a compromise we'll go forward with it and then it's not what you thought, that leaves bad feelings in a lot of areas. Speaking as a person who has been doing this long enough now to see more sides than I used to, I really understand trying to have an ordinance that we can enforce now with people that we have on deck now and there are some things in this ordinance which I think we should all actually applaud such as large variety trees, maintenance of trees that have been planted since 1988 or replacement. I hate that it's been nibbled away at in terms of percentages and things like that, but I also begin to understand some of the economic realities. I guess that's my way of saying I'm actually going to move approval of this with great heartburn and ulcer kind of stuff because I think in a way we have negated part of the public process. We basically have said some people are more equal than others, so we've had people who had expectations playing by the rules who suddenly don't. Playing by the rules doesn't get you what you need. However, "nothing" is not going to help us and I don't think we have enough protections within our existing ordinances to do nothing at this point.

8. Wesley Curtis: The reason I seconded this is that I can remember back on the CAC (Community Appearance Commission) when we looked at this. We did a survey among the community and looked at all the issues they wanted in some sort of effort to move forward and provide the citizens the kinds of things they were looking to have. This has been a long time ago. I know there were issues even back then with the proposal and what we were trying to do. Year after year we went back and forth about what we could and couldn't do. After all these years, we don't have anything. There are some positive things that can at least
move us a little further than we were before. The maintenance issue is a good step. I like the idea of large variety trees. Certainly I'm not happy with every piece of it because I know what the original proposal was, but for some of those positive impacts, I'll willing to take this first step of moving it forward.

9. Arnold King: Planting two trees on every lot is a big deal. If we'd done this four or five years ago, there would be a whole lot more trees growing out there right now.

10. Lynne Mitchell: We got a lot of reading material and one of the first items was the Mayor's Climate Protection Agreement which does include maintaining healthy urban forests, promote tree planting to increase shading and absorb carbon dioxide. I want to thank everyone for the time they've put into this. I feel like I've let the community down. Where's our courage and where's our vision? We say we want to be a leader and I think we do, but often our actions don't match our words. I think we have short-term vision but I'm not always sure we look ahead. I think that the power is unequal in our community. I'm going to support it because it's better than nothing.


Clearly, residential construction is not the problem when it comes to tree preservation. It costs money to remove, transport, and dispose of land-clearing debris, and the less of it the better. Additionally, our customers place a premium on mature trees. Of course, depending on the type of land cover on the site, it may be desirable to clear the property in order to plant more desirable species. The underlying purpose of such ordinances is to quell public phone calls to city hall complaining about the denuding of property. Suburbanites just don't want to see clear-cut sites on their way home from the mall and want city hall to stop a landowner from clearing the trees from his/her own property.

I would support legislation which requires vegetated buffers along roadways and between adjacent properties but specifically prohibits such local ordinances from requiring vegetation surveys (which can cost tens of thousands of dollars) as being proposed by our Tree Save Committee.

The elevation of the land determines how much grading is to be done. Forsyth County is not known to have many flat areas where you can go in, take out trees for streets only and develop property. What you see drawn on a plat plan is not necessarily how it will be on the ground. You have to take in consideration elevations. As Columbus discovered, the world is not flat. What is this ordinance for? Is this about planting more trees? DOT has lots of property were we can plant trees. Drive from Winston Salem, North, East, South or West, and there is numerous acreage where trees can be planted in median or side of interstate. This would also be beneficial, not having to mow after trees have developed. Another example: Interstate 85 from Virginia to Washington, DC. Beautiful wooded area in median and along highway.
For the last 3 years I have participated in our tree planting day, where 500 trees can be planted in one day. This involves the whole community and we have a lot of fun. Let's not let this be a one sided effort. We must all get behind this effort and not make this a burden for any one group. It is easy to point the finger and say let the developer bear all the burden but this is not right. After all: As defined by Webster: Developer: One that improves and subdivides land, the working out of rhythmic and harmonic changes in the theme, to work out the possibilities, to make active, to promote the growth of, to make available or usable, to move from the original position to one providing more opportunity for effective use, to expand by a process of growth.

Nothing would get done if it were not for builders and developers. Everywhere we live, work or shop, was built by a developer who had the foresight, knowledge and grit to make it happen. No other entrepreneur takes more risk than a developer. They are building our tax base and working for the good of our society. We should be thanking them instead of trying to put them out of business.

12. Jerry Clark: I can identify with the pictures of Bradford Pears. I have a little concern from the business community: Don't be smug and think you've gotten some of the points you want. I find a lot of times when you're building things engineers and architects will take a piece of paper or computer and generate something that's on a flat plain. Then they go out and try to match that to the land or make the land match what they did on the computer. It's time that we start looking at it a different way and start trying to match what we plan to what is already there. The Hillcrest example is my favorite. I walked that whole land one time. There were a lot of large trees out there and they're gone. I do understand the public's concern when they see this. I don't know if all those trees needed to be cut down. If you're putting in drainage and utilities and all that stuff, sometimes you have to. Maybe we have to step back and look at the land as being important as it is and try to match what we're trying to build to what's there. I'm going to vote for it. I understand the people who want more enforcement. I understand the people who want less. We have to come up with a happy medium here because we all live on this planet. If we don't get a handle on what we're doing here, the next generation is going to look back and say, "What were they thinking?"

13. Arnold King: It's just like everything else. The devil's in the details. It's a starting point. I'm sure we'll be seeing some amendments to it, this year probably.

MOTION: Carol Eickmeyer moved approval of the zoning text amendment with the amendment discussed earlier.
SECOND: Wesley Curtis
VOTE:
FOR: Jerry Clark, Wesley Curtis, Carol Eickmeyer, Arnold King, Arthur King, Clarence Lambe, Lynne Mitchell, Paul Mullican
AGAINST: None
EXCUSED: None
A. Paul Norby, FAICP
Director of Planning
AN ORDINANCE AMENDING
CHAPTERS A AND B OF THE UNIFIED DEVELOPMENT ORDINANCES
TO AMEND REGULATIONS CONCERNING LANDSCAPING STANDARDS AND TREE PRESERVATION

Be it ordained by the City Council of the City of Winston-Salem, North Carolina, that the Unified Development Ordinances is hereby amended as follows:

Section 1. Chapter A, Article II of the UDO is amended as follows:

Chapter A - Definitions Ordinance
Article II – Definitions

CRITICAL ROOT ZONE. The area under a tree which includes all land within the drip-line of the tree. The drip-line is measured by a vertical line extending from the outermost portion of a tree's canopy to the ground. A circular region measured outward from a tree, representing the essential area of the roots that must be maintained in order for the tree to survive. The Critical Root Zone is one foot (1') of radial distance from the tree’s trunk for every one inch (1") of tree diameter, measured at breast height (DBH).

Section 2. Chapter B, Article III of the UDO is amended as follows:

Chapter B - Zoning Ordinance
Article III - Other Development Standards

3-3 PARKING, STACKING, AND LOADING AREAS
3-3.5 ALTERNATIVES AND INCENTIVES

(H) Parking Reduction for Required Landscaping in Motor Vehicle Use Areas
For all uses, the property owner may reduce the number of required parking spaces for the installation of required interior planting areas up to a maximum of ten percent (10%). Up to an additional five percent (5%) reduction of the total number of required parking spaces is permitted where an area which would otherwise be devoted to parking cannot be used in order to preserve an existing tree with a diameter of six (6) inches or greater. Additionally, for each large variety tree planted in accordance with the provisions of section B.3-4.3 and located completely within a motor vehicle use area the amount of required parking is reduced by four (4) spaces.

3-4 LANDSCAPING AND TREE PRESERVATION STANDARDS
3-4.1 GENERAL REQUIREMENTS

(A) Purpose
It is the intent of this section to enhance the appearance and environmental quality of development sites in Winston-Salem and Forsyth County by requiring the planting of new trees and the preservation and maintenance of high-quality existing trees. This requirement is intended to modify and enhance the character of motor vehicle use areas, outdoor storage areas, utility service areas, and other public or institutional areas, through the introduction of natural vegetation and landscaping, without unduly burdening property owners, in order to:

1. **Appearance of Areas Near Rights-of-Way.** Improve the appearance of motor vehicle use areas within close proximity of vehicular rights-of-way;

2. **Appearance of Large Areas.** Break the visual blight created by large expanses of motor vehicle use un vegetated areas;

3. **Property Value and Investments.** Enhance property values and protect public and private investments by emphasizing the importance of trees and vegetation as visual and physical bufferyards to protect property values on adjacent properties;

4. **Water and Erosion Control.** Increase site stormwater infiltration capacity, improve groundwater recharge, and reduce erosion and urban runoff pollution hazards by preserving vegetated areas to slow and absorb stormwater runoff;

5. **Comfort.** Improve human comfort and moderate the climate during the use of motor vehicle use areas by providing shade, reducing solar heat absorption, and reducing noise levels;

6. **Environmental Sensitivity.** Encourage environmental sensitivity to natural features during the design and construction of motor vehicle use areas;

7. **Glare.** Filter and reduce reflected sunlight and headlight glare from parked vehicles onto street rights-of-way; and,

8. **Air.** Filter and reduce motor vehicle fumes and dust.

9. **Public Properties.** Improve the appearance of public properties from vehicular rights-of-way and adjacent properties, as well as for users on the properties.

**Applicability of Landscaping Standards**

This section shall apply to all land located in the zoning jurisdiction. Unless otherwise provided in this section, an occupancy permit shall not be issued until all required planting and landscaping materials are installed. The following motor vehicle use areas are required to be landscaped:

1. Motor Vehicle Surface Areas;
2. Motor Vehicle Display Areas;
3. Outdoor Storage Areas;
4. Utility Service Areas;
5. Parking Buildings or Structures; and,
6. Public or Private Schools

**Exclusions**

The following uses shall be exempt from the landscaping requirements of this section B.3-4.1(B):

1. A single family detached dwelling on its own lot;
(2) An attached dwelling unit which possesses an individually separated driveway and/or garage; and,

(3) Fire hydrants and other utility devices whose visibility is vital to public safety.

(D) Applicability of Tree Preservation and Planting Standards of Section B.3-4

(1) The applicability of the tree preservation and planting standards is referenced in Section B.3-4.2.1

3-4.2 APPLICATION PROCEDURES AND GENERAL REQUIREMENTS.

(A) Application
When an application is made for a building permit or a land disturbing permit, whichever is necessary, on any land where the landscaping requirements of this section are applicable, such building or land disturbing permit application shall be accompanied by the information listed cited in Sections B.3-4.2(A)(1)-(4) and B.3-4.2.1. Submittal of said information may occur up to ninety (90) days after the issuance of a building permit, provided, however, the developer or landowner submits with the building permit application a letter certified by a registered landscape architect, architect, surveyor, or engineer, stating sufficient land has been reserved for required plantings, and also files an improvement security as specified in Section B.3-4.2(B)(2). Additional information to be submitted with the application for a building or land disturbing permit includes:

(1) Storage, Surface, and Service Areas. A site plan indicating the location, dimensions, and square footages of motor vehicle surface areas, motor vehicle display areas, outdoor storage areas, private utility service areas, proposed parking space striping, and overhead utility lines;

(2) Landscaping. A site plan indicating existing and proposed landscaping used to satisfy the requirements of this section, including the number, species, location, and heights of trees, shrubs, and groundcover; the location and dimensions of planting areas and streetyards; the location and size of earthen berms; and, the location, size, and construction material of fences, walls, and wall planters;

(3) Existing Trees to be Preserved. The number, location, species, height, and diameter at six (6) inches above ground level at breast height (DBH) of existing trees to be preserved for credit as per Section B.3-4.2(H); and,

(4) Barriers. The location and description of any barriers to be erected to protect any existing vegetation from damage during construction. Refer to Section B.3-4.2.1(A)(6).

(B) Delay of Landscaping
If the required landscaping has not been installed at the time of a request for an occupancy permit, and the Director of Inspections determines that the unavailability of plant materials or adverse weather conditions prohibit the timely completion of planting, an occupancy permit may be issued prior to installation of required landscaping, subject to the following:

(1) Completion Schedule. The applicant shall sign a contract specifying that the work shall be completed within the six (6) months immediately following the date of application for an occupancy permit; and,
(2) **Security.** If the Director of Inspections determines that the applicant has not shown good faith in the past in completing required improvements, an improvement security in the form of an escrow account or other instrument shall be required prior to issuance of an occupancy permit. The improvement security shall be in an amount deemed sufficient by the Director of Inspections to cover all costs of required landscaping or screening which has not been installed. Such security shall be valid until the work is completed in accordance with the permit. The security shall be forfeited upon violation of this section and shall be used toward completion of all planned improvements. Any moneys in excess of the cost of installing required landscaping shall be refunded to the applicant. The security shall be released when the Director of Inspections certifies that all requirements of this section **Ordinance** have been met.

(C) **Compliance with Sight Easement Requirements**
Landscaping required by this section shall comply with the minimum State or local sight easement requirements for street intersections and driveways.

(D) **Obstruction of Pedestrian Routes**
Required landscaping shall not obstruct or impede public pedestrian routes including sidewalks and greenway trails.

(E) **Protection of Planting Areas**
Whenever any planting areas required by this section are adjacent to motor vehicle surface areas, motor vehicle display areas, or outdoor storage areas, the planting areas shall be protected from motor vehicle intrusion or damage from excessive motor vehicle lubricants or fuels.

(F) **Stabilization of Soil Surface**
The soil surface of all planting areas required by this section shall be stabilized to prevent erosion. In addition to required interior trees and shrubs, the soil surfaces of planting areas shall contain live groundcover, mulch, live shrubs, permeable pedestrian paver blocks, or a combination thereof.

(G) **Maintenance of Plantings**
The planting and maintenance provisions of this ordinance shall apply to new trees and existing trees planted after June 5, 1988 which satisfy the requirements of this ordinance.

(1) **Planting and Maintenance Standards.** The use of American National Standards Institute (ANSI) A300 standards shall be required for the planting and maintenance of all required landscaping.

(2) **Tree Topping.** Topping of any tree required by this Ordinance as defined by the ANSI A300 standards shall be prohibited.

(3) **Maintenance of Plantings Required by Section B.3-4.1(B).** The landowner is responsible for maintaining all required plant materials in good health. Any dead or missing plants must be replaced with new planting which meets the minimum installation dimension standards of this section. Plant replacement shall take place within one month of written notification by the Director of Inspections. In the event that plant material is severely damaged due to an unusual weather occurrence or other act of nature, or if replacement plantings are unavailable within one month of written notification, the land owner will have six (6) months from the date of written notification to replace plantings. **Requirements for the**
maintenance of existing or newly planted trees required by the Tree Preservation and Planting standards of this Ordinance, and located on individual lots within residential subdivisions, are in Section B.3-4.2.1(B).

(H) Enforcement and Penalties.

(1) Enforcement. The Director of Inspections shall conduct site inspections to ensure compliance with the provisions of this Ordinance prior to the issuance of a Certificate of Occupancy (CO), except where trees in areas off-limits to development are preserved in accordance with Section B.3-4.2.1(A)(3) compliance shall be ensured prior to plat approval for residential subdivisions and prior to permit approval for other uses.

(2) Penalties. Penalties in accordance with Section B.9-1 of this Ordinance may be undertaken by the Director of Inspections in order to enforce provisions of this Ordinance.

(H) Use of Existing Trees for Credit

Existing trees may be preserved and used for credit in satisfying the requirements of this section, according to the conditions that follow:

(1) Maximum Credits for Tree Preservation. Maximum credits for tree preservation shall be determined by Table B.3.12.

<table>
<thead>
<tr>
<th>Diameter at Breast Height (DBH) of Existing Tree Six (6) Inches Above Ground Level</th>
<th>Number of Trees Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 - 6 inches</td>
<td>4</td>
</tr>
<tr>
<td>7 - 12 inches</td>
<td>2</td>
</tr>
<tr>
<td>13 - 18 inches</td>
<td>3</td>
</tr>
<tr>
<td>19 - 24 inches</td>
<td>4</td>
</tr>
<tr>
<td>25 inches or greater</td>
<td>5</td>
</tr>
</tbody>
</table>

(2) Minimum Planting Area. Each tree to be preserved for credit shall be provided with a minimum planting area which coincides with the tree's dripline Critical Root Zone as defined in Section A of the ordinance. The tree's dripline is defined as the area underneath a tree which would be encompassed by perpendicular lines dropped from the outermost edges of the crown of the tree.

(3) Protection from Encroachment. Tree preservation planting areas shall be cordoned off during construction and protected from encroachment. The minimum area to be cordoned off shall consist of the critical root zone of the tree or an area ten (10) feet from the tree's trunk in all directions, whichever is the greater area. The protection measures shall be properly maintained during site development and shall not be removed prior to final landscaping. For the purposes of this section, encroachment is defined as the ground surface disturbance caused by grading; impervious surface cover; equipment, material, or earth storage; or by temporary or permanent construction vehicle access or circulation.
(4) **Minimum Streetyard Requirement.** Tree preservation credits may be used to reduce the number of trees required in this section; however, in no instance shall a required streetyard contain less than one tree, nor shall any required streetyard contain no trees for seventy-five (75) continuous feet; nor shall any parking space be more than fifty (50) feet from the trunk of a tree, unless otherwise authorized in Section B.3-4.3(C)(8).

(5) **Planting Area Used for Streetyard or Interior Plantings.** Planting areas required for tree preservation credit may be used to install streetyard or interior shrubs as required in this section.

(6) **Loss of Tree Credits.** Removal or death of any preserved tree shall result in the loss of all associated tree credits for that particular tree. Replacement of trees shall be subject to the planting requirements of Section B.3-4. Developers and landowners are urged to seek professional expertise to preserve properly existing trees for credit.

(I) **Combining Planting Area and Bufferyard Requirements**

Where motor vehicle use area Motor Vehicle Surface Area plant materials and bufferyard plant materials are required on the same property, trees may be located in such a manner as to simultaneously satisfy both requirements. Required planting areas shall not be cumulative; however, the greater of the planting areas specified in Section B.3-5 or this section shall be the required planting area.

(J) **Overhead Utility Lines**

The location of overhead utility lines shall be considered during the placement of required trees. The maximum mature height of required trees shall be determined as follows: (Suggested plant materials are listed in Section B.3-4.10.

(i) **Small varieties.** Small variety trees shall be used when located within twenty-five (25) feet, measured horizontally, from the nearest overhead utility line(s).

(ii) **Small or medium varieties.** Small or medium variety trees shall be used when located within twenty-five (25) to thirty-five (35) feet, measured horizontally, from the nearest overhead utility line(s).

(iii) **Small, medium, or large varieties.** Small, medium, or large variety trees may be used when located more than thirty-five (35) feet, measured horizontally, from the nearest overhead utility line(s).

(K) **Safety and Security**

Safety and security concerns should receive prominent consideration during the selection and placement of landscape materials.

(L) **Fire Protection Equipment**

A minimum five (5) foot radius containing no plant materials or structural elements other than groundcover plants shall be maintained around all fire protection equipment, including fire hydrants, post indicator valves, and siamese connectors. Obvious sight lines to the fire protection equipment shall be maintained at all times.

(M) **Off-Street Parking Reduction**

A reduction in the amount of required off-street parking is permitted in accordance with the alternatives and incentives provisions of the parking requirements Section B.3-3.5(H).
3-4.2.1 TREE PRESERVATION AND PLANTING

(A) Tree Preservation and Planting Requirements.

(1) **Tree Save Area Defined.** Tree Save Area(s) (TSA) shall be one or more areas where existing trees, along with their critical root zones (CRZ), shall be preserved and maintained. The purpose of the TSA is to encourage the preservation of trees that are three inches (3”) or greater in diameter at breast height (DBH). Tree Save Area(s) may also include new trees which satisfy the requirements of Section B.3-4.2.1(4).

(2) **Calculation of Required Tree Save Area.** Calculations for Tree Save Areas (TSA) shall exclude the square footage areas for existing and proposed public street rights-of-way, existing utility easements, and existing water bodies and new water bodies required to satisfy the stormwater management requirements otherwise required by law or ordinance. The combined square footage of these areas shall be deleted from the total parcel area before the required percentage of TSA is calculated. Tree Save Area shall be calculated as follows:

(a) The Tree Save Area for an existing tree shall be defined as the Critical Root Zone for that individual tree or the sum of the Critical Root Zones of multiple individual trees. Each large variety tree 3”-12” in caliper shall equal 1000 square feet of TSA credit; each large variety tree 12.01”-24” in caliper shall equal 2000 square feet of TSA credit; each large variety tree 24.01”-36” in caliper shall equal 3000 square feet of TSA credit, and; each large variety tree greater than 36.01” in caliper shall equal 4000 square feet of TSA credit.

(3) **Required Tree Save Area in Areas Off-Limits to Development.**

(a) New Residential Subdivisions, Multifamily Development, and Non-Residential Development which requires a grading permit. The minimum Tree Save Area for new residential subdivisions, multifamily development, and non-residential development which requires a grading permit shall be ten (10) percent of the development site, except where less than ten (10) percent of the development site exists in trees all existing trees must be saved. Ten (10) percent of any existing developed area being redeveloped shall be saved for TSA credit. This Tree Save Area shall be in the form of areas off-limits to development.

(b) Development projects are only required to save existing trees for TSA credit in the following areas, which are considered off-limits to development by the governmental authority:

(i) Floodplains
(ii) Undisturbed Stream Buffers
(iii) Wetlands

(c) @
(4) **Tree Planting Requirements for Multifamily and Non-Residential Development.** On multifamily and non-residential development sites where less than ten (10) percent of a development site contains trees preserved in accordance with Section B.3-4.2.1(A)(3), supplementary new large variety tree plantings in accordance with Section B.3-4.10(A) and Section B.3-4.3(B)(3) shall be required until the minimum Tree Save Area requirements of the development site have been met.

Each new large variety tree planted shall be equal to one thousand (1000) square feet of required Tree Save Area. Alternatively, trees existing outside of areas defined as off-limits to development in Section B.3-4.2.1(A)(3)(b) may be saved for credit in accordance with Section B.3-4.2.1(A)(2)(a).

(5) **Exemptions from Tree Preservation and Planting Requirements.** The following are exempt from the Tree Preservation and Planting requirements of this Ordinance.

(a) Development sites located in Growth Management Areas (GMA) 1 and 5

(b) Individual residential lots platted prior to the adoption of this Ordinance

(c) Farm use activities and structures on Bona-Fide Farms

(d) Minor subdivisions

(e) Development or redevelopment of sites zoned PB, GB, MU-S, and C which demonstrate a pedestrian-oriented urban form. Where at least fifty (50) percent of required parking in development or redevelopment zoned PB, GB, MU-S, and C is provided in the form of structured parking, the requirements of Section B.3-4.2.1(A) shall not apply. Instead, such development shall include one large variety street tree per fifty (50) feet of street frontage. These trees shall be spaced forty (40) to sixty (60) feet apart and shall be located within the street right-of-way.

(6) **Tree Protection During Construction.** To receive credit for existing trees proposed for preservation, the TSA must be protected from direct and indirect root damage, and trunk and crown disturbance. The following standards shall apply:

(a) The Tree Save Area (TSA) shall include all area located within the Critical Root Zone.

(b) Construction site activities, such as parking, material storage, dirt stockpiling, concrete washout, and other similar activities, shall not be permitted within a Tree Save Area (TSA).

(c) Protective barriers shall be installed around the Tree Save Area (TSA) as necessary prior to the issuance of a grading permit.

(B) **Tree Maintenance Requirements.**

(1) **Maintenance of Trees Satisfying the Tree Preservation Requirements.** The landowner is responsible for maintaining all new trees on individual lots within residential subdivisions which satisfy the requirements of Section B.3-
4.2.1(A)(4) until a Certificate of Occupancy (CO) has been issued, and existing trees prior to plat approval for trees preserved in accordance with Section B.3-4.2.1(A)(3).

New and existing trees which meet the tree preservation requirements in multifamily developments, commonly owned areas in residential subdivisions, and nonresidential developments shall be maintained in accordance with the requirements of Section B.3-4.2(G). Additionally, standards for maintenance of existing or newly planted trees also used to satisfy the requirements of Section B.3-4.1(B) of this Ordinance are referenced in Section B.3-4.2(G).

3-4.3 MOTOR VEHICLE SURFACE AREA LANDSCAPING STANDARDS

(A) General Requirements

(1) Exemption. This section shall not apply to single family residential buildings.

(2) Applicability. This section shall apply to any motor vehicle surface area or portions thereof built after March 7, 1988.

(3) Expansion of Preexisting Motor Vehicle Surface Areas. When preexisting motor vehicle surface areas are expanded:

(a) Required Interior Plantings. Required interior plantings may be dispersed throughout the entire motor vehicle surface area in accordance with Section B.3-4.3(C)(9).

(b) Streetyard Width. Streetyard width may be reduced to a minimum of fifty percent (50%) of the required width, provided the minimum required streetyard area and plant quantities for the expansion are installed; and provided such streetyard trees shall be provided a planting area with a minimum radius of seven (7) feet.

(B) Streetyards

A landscaped streetyard shall be required for all motor vehicle surface areas located within one hundred (100) feet of a street right-of-way or vehicular right-of-way, including controlled access highways, whether or not it may provide access to the site, unless separated by an intervening building.

(1) Width. Minimum streetyard width is ten (10) feet, and shall be measured perpendicular to the street right-of-way. The streetyard shall be positioned between the motor vehicle surface area and street right-of-way.

(2) Impervious Surface Cover. A maximum of fifteen percent (15%) of the required streetyard may be covered with impervious surface cover which may be used for walkways, fountains, walls, or-wall planters, or utility meters and vaults, but may not be used for motor vehicle surface or display, outdoor storage, private utility service, or service areas.

(3) Number and Spacing of Trees. Each streetyard shall contain a minimum of two (2) deciduous or evergreen large variety trees per one hundred (100) linear feet, excluding points of motor vehicle ingress or egress. In no case shall any streetyard contain less than one tree. Required trees must be a minimum of eight (8) feet in height at installation and shall be at least two (2) inches in diameter.
measured six (6) inches above ground level. Where two (2) or more streetyard trees are required, all trees shall be planted with the center of the main trunks twenty (20) to seventy-five (75) feet apart. Existing deciduous trees located in the abutting street right-of-way may be used to satisfy the distribution requirements in this section. Small or medium variety trees may be used where overhead utility lines exist in accordance with Section B.3.4.2(J).

(4) **Other Streetyard Components.** In addition to required trees, the landowner or developer shall use one of the following to satisfy streetyard requirements: natural shrubs, closed fences, walls, wall planters, earthen berms, or a combination thereof, as follows:

(a) **Natural Shrubs.** Streetyard shrubs must be a minimum of eighteen (18) inches in height at installation, with a minimum height of thirty-six (36) inches within three (3) years after installation. Shrubs must be a locally adapted species which retain foliage to within six (6) inches above ground level. Said shrubs shall be spaced no more than eighteen (18) inches, edge to edge. No more than thirty percent (30%) of streetyard shrubs shall be deciduous.

(b) **Fences and Walls.** A streetyard fence or wall shall be a minimum of thirty-six (36) inches in height, opaque, and shall be constructed of masonry, stone, or wooden material, or of the same material as that of the principal building.

(c) **Wall planters.** A streetyard wall planter shall be constructed of masonry, stone, or other permanent material. At installation, the minimum combined height of wall planters and shrubs shall be twenty-four (24) inches. Within three (3) years after installation, the combined height of wall planters and shrubs shall be no less than thirty-six (36) inches. The effective planting width of a streetyard wall planter shall be no less than thirty-six (36) inches; however, where required streetyard trees are installed in wall planters, the effective planting width of the wall planters shall be no less than seven (7) feet. A minimum of one shrub shall be required for every five (5) square feet of wall planter area.

(d) **Earthen berms.** At installation, streetyard berms shall have a minimum height of eighteen (18) inches, a minimum crown width of two (2) feet, and a side slope with a width to height ratio of no greater than two (2) to one (2:1). The entire berm shall be planted and covered with live vegetation. Berm shrubs shall be a minimum of one foot in height at installation and shall be spaced no greater than eighteen (18) inches, edge to edge. Within three (3) years after installation, the combined height of berm and shrubs must be at least thirty-six (36) inches. Streetyard berms which are thirty-six (36) inches or greater in height at installation shall not be required to contain shrubs; however, streetyard trees shall still be required as specified in this section.

(5) **CB and CI Districts.** In the CB District, a minimum two (2) foot wide strip planted with trees and shrubs in accordance with this section or a three (3) foot high masonry wall shall be provided. Unfinished concrete masonry unit (CMU) walls shall be prohibited. Split face CMU is permitted.
(6) **PB District.** In the PB District within GMA 1, a minimum two (2) foot wide strip planted with trees and shrubs in accordance with this section shall be provided. Any required or provided trees within the streetyard shall be located within a minimum seven (7) foot wide, fifty (50) square foot planting area.

(C) **Interior Motor Vehicle Surface Area Plantings**

In addition to the required streetyard, all motor vehicle surface areas shall contain landscaped planting areas, as follows:

1. **Location of Plantings.** Interior planting areas shall be located adjacent to motor vehicle surface area edges or within the interior as islands or medians, and may contain berms of the minimum dimensions specified in Section B.3-4.3(B)(4)(d).

2. **Size.** Each planting area shall contain a minimum of one hundred fifty (150) square feet per tree, with a minimum radius of seven (7) feet for small or medium variety trees. A minimum planting area of six hundred (600) square feet shall be required for each large variety tree. Each large variety tree planted shall provide a one thousand (1,000) square foot credit towards the Requirements of Section B.3-4.2.1(A).

3. **Required Trees in Planting Area.** Each planting area shall contain at least one deciduous or evergreen large variety tree with a minimum height of eight (8) feet at the time of installation, and a minimum diameter of two (2) inches measured six (6) inches above ground level. Small or medium variety trees may be used where overhead utility lines exist in accordance with Section B.3-4.2(J).

4. **Ratio.** One large variety tree shall be used for every five thousand (5,000) square feet of motor vehicle surface area. One small or medium variety deciduous or evergreen tree shall be required for every two thousand five hundred (2,500) square feet of motor vehicle surface area where overhead utility lines exist in accordance with Section B.3-4.2(J).

5. **Distance of Parking Spaces to Trees.** No parking space shall be located more than seventy-five (75) fifty (50) feet from the trunk of a required large variety tree, except where overhead utility lines exist in accordance with Section B.3-4.2(J) no parking space shall be located more than fifty (50) feet from the trunk of a required small or medium variety tree, unless otherwise authorized in this section Ordinance.

6. **Loading/Maneuvering Areas.** For loading docks or other maneuvering areas where placement of trees in the interior of the site is impractical, the required number of trees may be clustered around the edge of such areas, with the approval of the Director of Inspections.

7. **Credit for Streetyard or Bufferyard Trees.** Deciduous or broadleaf evergreen trees used as streetyard or bufferyard plantings may be used as credit toward interior planting area requirements, provided that streetyard or bufferyard plantings meet the size requirements of Section B.3-5.3(B) and the distance requirements of Section B.3-4.3(C)(5) no parking space shall be located more than fifty (50) feet from the trunk of a required tree.

8. **Credit for Bufferyard Area.** The landscaped bufferyard area provided to meet the requirements of Section B.3-5 and located adjacent to a motor vehicle use area may be counted toward the interior planting requirement.
(9) **Expansion of Preexisting Areas.** When preexisting motor vehicle surface areas are expanded, required interior plantings may be dispersed throughout the entire motor vehicle surface area if the landowner so desires, subject to the following conditions:

(a) The required plant material will be calculated with reference to the expansion area only;

(b) Such planting may be dispersed throughout the entire, combined, existing, and new motor vehicle surface area; and,

(c) The provisions of this section shall preempt the fifty (50) foot spacing requirement contained in Section B.3-4.2(H)(4) and Section B.3-4.3(C)(5).

(10) **Alternative Compliance.** An applicant whose contiguous parking area exceeds five hundred (500) spaces may propose a landscaping plan which varies from the strict application of the provisions of this section in order to accommodate unique characteristics of the site or to utilize innovative design. Application for alternative compliance shall include a site plan following the requirements specified in Section B.7 and shall be approved by the Planning Board only upon a finding that the proposed landscaping plan fulfills the intent and purposes of this section as well as or better than would strict conformance with the requirements of this section.

3-4.8 **PUBLIC OR PRIVATE SCHOOLS RESERVED**

(A) **Applicability**

A landscape plan for the school campus shall be prepared and installed prior to occupancy for any new school or any improvement to an existing school which results in an increase in building area or footprint.

(B) **Standards**

Landscaping plans shall meet the following standards:

(1) **Number of Trees.** A minimum of one tree of either large or medium variety as described in Section B.3-4.10 shall be provided per thirty-five (35) linear feet of public road frontage. In any event, a minimum of fifteen (15) trees shall be planned for and provided on each campus.

(2) **Existing Trees.** Existing trees to meeting the requirements of Section B.3.4.2.1 be incorporated into the design of the school or currently on the campus may be preserved and used for credit in meeting the site plan requirements, per Section B.3.4.2(H)(1). Existing trees may be used in lieu of not more than eighty percent (80%) of the required new plantings; except that where property or site constraints prohibit the placement of additional trees, additional credit for existing trees up to 100% may be given.

(3) **Height at Installation.** New plantings shall meet the requirements of Section B.3.5.3(B).

(4) **Variety of Trees.** Notwithstanding Section B.3.4.8(B)(2), at least one-half (½) of the trees on the campus shall be large variety as described in Section B.3-4.10.
(5) **Other Plant Material.** Other plant material described in Section B.3-4.10 may be installed and may be used for credit in meeting the requirements of Section B.3-4.8(B)(1) with approval of Planning Board staff.

(6) **Location.** Trees and other plant material may be located in any required yards or in the interior of the campus, and may function as a buffer to screen or soften uses, structures, or activities which may be incompatible. Landscaping should be placed to enhance entryways into campuses and upgrade previously disturbed areas. On existing campuses built prior to the landscaping requirements for motor vehicle surface areas, trees and other plant materials may also be located in parking areas or other motor vehicle surface areas.

### 3-4.10 SUGGESTED PLANT MATERIALS LIST

The suggested plant materials list includes common trees and shrubs suitable for use in the Forsyth County area. Due to individual site, soil, moisture, and microclimate conditions, professional expertise should be sought to determine the appropriate plant materials for any particular development project. Other appropriate plants not included in this list may also be used with the approval of the Director of Inspections or designee.

(A) **Large Variety Trees** (mature height: thirty-five (35) feet or greater):

<table>
<thead>
<tr>
<th>Tree Type</th>
<th>Scientific Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>European Black Alder</td>
<td>Alnus glutinosa (Pyramidalis)</td>
</tr>
<tr>
<td>Bald Cypress</td>
<td>Taxodium distichum (Monarch of Illinois, Shawnee Brave)</td>
</tr>
<tr>
<td>Sugar Hackberry</td>
<td>Celtis laevigata</td>
</tr>
<tr>
<td>Chalkbark Maple</td>
<td>Acer Leucoderme</td>
</tr>
<tr>
<td>Freeman Maple</td>
<td>Acer x freemanii (Armstrong, Autumn Blaze, Celebration, Scarlet Sentinel)</td>
</tr>
<tr>
<td>Green Mountain Sugar Maple</td>
<td>Acer saccharum “Green Mountain”</td>
</tr>
<tr>
<td>Hedge Maple</td>
<td>Acer campestre</td>
</tr>
<tr>
<td>Southern Sugar Maple</td>
<td>Acer Barbatum</td>
</tr>
<tr>
<td>Trident Maple</td>
<td>Acer buergeranum</td>
</tr>
<tr>
<td>Bur Oak</td>
<td>Quercus macrocarpa</td>
</tr>
<tr>
<td>Sawtooth Oak</td>
<td>Quercus acutissima</td>
</tr>
<tr>
<td>Shingle Oak</td>
<td>Quercus imbricaria</td>
</tr>
<tr>
<td>Swamp White Oak</td>
<td>Quercus bicolor</td>
</tr>
<tr>
<td>Northern Red Oak</td>
<td>Quercus rubra</td>
</tr>
<tr>
<td>Nutall Oak</td>
<td>Quercus nutalli</td>
</tr>
<tr>
<td>Overcup Oak</td>
<td>Quercus lyrata</td>
</tr>
<tr>
<td>Green Ash</td>
<td>Fraxinus pennsylvanica (Marshall Seedless, Newport, Patmore, Summit, Lakeview)</td>
</tr>
<tr>
<td>Kentucky Coffeetree</td>
<td>Gymnocladus dioicus</td>
</tr>
<tr>
<td>Japanese Pagodatree</td>
<td>Sophora japonica (Princeton Upright, Regent)</td>
</tr>
<tr>
<td>Silver Linden</td>
<td>Tilia tomentosa (Green Mountain, Sterling)</td>
</tr>
<tr>
<td>Hybrid Elm</td>
<td>Ulmus spp. (Homestead, Pioneer, Urban)</td>
</tr>
<tr>
<td>Loblolly Pine</td>
<td>Pinus taeda</td>
</tr>
<tr>
<td>Willow Oak</td>
<td>Quercus phellos</td>
</tr>
<tr>
<td>Sugar Maple</td>
<td>Acer saccharum</td>
</tr>
</tbody>
</table>

Loblolly Pine: *Pinus taeda*
**Red Maple**  \(\textit{Acer Rubrum}\) (Autumn Flame, Bowhall, Karpick, Northwood, October Glory, Red Skin, Red Sunset)

**Scarlet Oak**  \(\textit{Quercus coccinea}\)

**Southern Magnolia**  \(\textit{Magnolia grandiflora}\)

**London Plane-tree**  \(\textit{Platanus acerifolia}\) (Bloodgood, Colombia, Liberty)

**River Birch**  \(\textit{Betula nigra}\) (Heritage, DuraHeat)

**Japanese Zelkova**  \(\textit{Zelkova serrata}\) (Green Vase, Village Green)

**Tulip Poplar**  \(\textit{Liriodendron tulipifera}\)

**Pin Oak**  \(\textit{Quercus palustris}\)

**Black Gum**  \(\textit{Nyssa sylvatica}\)

**Littleleaf Linden**  \(\textit{Tilia cordata}\) (Glenleven, Greenspire)

**White Oak**  \(\textit{Quercus alba}\)

**Japanese Scholartree**  \(\textit{Sophora japonicum}\)

**Gingko**  \(\textit{Gingko biloba}\) (Lakeview, Princeton Sentry)

**English Oak**  \(\textit{Quercus robur}\) (Fastigiata)

**Japanese Katsuratree**  \(\textit{Cercidiphyllum japonicum}\)

**Schumard Oak**  \(\textit{Quercus schumardi}\)

**Chinese Elm**  \(\textit{Ulmus parviflora}\) (Lacebark, Athena, Allee)

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**B** **Medium Variety Trees** (mature height: twenty-five (25) to thirty-five (35) feet):

**Bradford Pear**  \(\textit{Pyrus calleryana}\) "Bradford"

**Mountain Silverbell**  \(\textit{Halesia monticola}\)

**Sourwood**  \(\textit{Oxydendrum arboreum}\)

**Thornless Honeylocust**  \(\textit{Gleditsia triacanthos}\) "Inermis"

**Eastern Redbud**  \(\textit{Cercis canadensis}\)

**Mountain Ash**  \(\textit{Sorbus americana}\)

**Yoshino Cherry**  \(\textit{Prunus yedoensis}\)

**Golden-Rain-Tree**  \(\textit{Koelreuteria paniculata}\)

**Saucer Magnolia**  \(\textit{Magnolia soulangeana}\)

**Weeping Cherry**  \(\textit{Prunus subhirtilla pendula}\)

**Kwansan Cherry**  \(\textit{Prunus serrucata}\) "Kwansan"

**Yellowwood**  \(\textit{Cladastris lutea}\)

**Ironwood**  \(\textit{Carpinus carolineana}\)

**Pistachio**  \(\textit{Pistachia chinensis}\)

**Redmond Linden**  \(\textit{Tilia americana}\) "Redmond"

**American Holly**  \(\textit{Ilex opaca}\) (East Palatka, Foster’s #2, Nellie R. Stevens)

**Eastern Red Cedar**  \(\textit{Juniperus virginiana}\) (Emerald Sentinel, Princeton Sentry, Pendula)

**Little Gem Magnolia**  \(\textit{Magnolia}\) "Little gem"

**Fall Blooming Cherry**  \(\textit{Prunus autumnalis}\)

**Fruitless Sweetgum**  \(\textit{Liquidambar styraciflua}\) "Rotundaloba"

**European Hornbeam**  \(\textit{Carpinus betulus}\) (Fastigiata).

**Hop hornbeam**  \(\textit{Ostrya virginiana}\)

---

**C** **Small Variety Trees** (mature height: less than twenty-five (25) feet):
| Japanese Maple                  | Acer palmatum                         |
| Japanese Dogwood              | Cornus kousa                           |
| Flowering Dogwood             | Cornus florida                         |
| Smoketree                     | Cotinus coggyria (*Daydream, Royal Purple*) |
| Crape Myrtle                  | Lagerstroemia indica (*Dallas Red, Lipan, Natchez, Sioux, Tonto, Yuma*) |
| Crabapple (var.)              | Malus hybridia (var.)                  |
| Amur Maple                    | Acer ginnala                           |
| Russian Olive                 | Eleagnus angustifolia                  |
| Wax Myrtle                    | Myrica Cerifer                         |
| Star Magnolia                 | Magnolia stellata                      |
| Japanese Tree Lilac           | Syringa reticulata                     |
| Green Hawthorn                | Crataegus viridis                      |
| Carolina Cherrylaurel         | Prunus caroliniana                     |
| Choke Cherry                   | Prunus virginiana                      |
| Sargent Cherry                | Prunus sargentii (*Columnaris, Hillier Spire*) |

(D) **Streetyard and Interior Shrubs** (mature height: approximately thirty-six (36) inches):

(1) **Supplemental Evergreen Shrubs.**

- Warty Barberry                  *Berberis verruculosa*
- Dwarf Burford Holly             *Ilex cornuta "Burfordii" nana*
- Japanese Holly (var.)           *Ilex crenata (var.)*
- Azalea (var.)                   *Azalea sp.*
- Mugo Pine                      *Pinus mugo*
- Juniper (var.)                 *Juniperus sp.*
- Euonymous (var.)               *Euonymous sp.*
- Leatherleaf Viburnum            *Viburnum rhytidophyllum*

(2) **Deciduous.**

- Forsythia                      *Forsythia sp.*
- Dwarf Burning Bush             *Euonymous alatus "Compacta"*
- Thunberg Spirea                *Spirea thunbergi*
- Viburnum (var.)                *Viburnum sp.*
- Oakleaf Hydrangea              *Hydrangea quercifolia*
- Japanese Flowering Quince      *Chaenomeles japonica*
- Potentilla                     *Potentilla fruticosa*
- Ornamental Grass Varieties     *Mahonia bealei*
- Oregonholly Grape              *Nandina domestica*
- Dwarf Nandina                  *Nandina domestica nana*

(E) **Primary Evergreen Shrubs and Outdoor Storage Area Screening Plants** (installation height: six (6) feet):

- American Holly                 *Ilex opaca*
- Burfora Holly                  *Ilex cornuta "Burfordii"*
- Nellie Stevens Holly           *Ilex cornata "Nellie Stevens"*
- Red Tip Photinia               *Photinia glabra*
- Wax Myrtle                     *Myrica cerifera*
**Hetz Juniper**  
*Juniperus hetzi*

**Arborvitae**  
*T.f occidentalis*

**Eastern Red Cedar**  
*Juniperus virginiana*

**Japanese Black Pine**  
*Pinus thunbergiana*

(F) **Groundcovers** (planting areas, berms, wall planters):

- **Lily-Turf**  
  *Liriope muscarii*

- **Creeping Lilyturf**  
  *Liriope spicata*

- **Hybrid Daylily**  
  *Hemerocallis hybrida*

- **Periwinkle**  
  *Vinca minor*

- **English Ivy**  
  *Hedera helix*

- **Purpleleaf Winter creeper**  
  *Evonymus fortunei coloratus*

- **Aaronsbeard**  
  *Hypericum calycinum*

- **Rockspray Cotoneaster**  
  *Cotoneaster horizontalis*

(G) **The following trees shall not be credited toward the requirements of Section B.3-4.2.1:**

- **Bradford Pear**  
  *Pyrus calleryana “Bradford”*

- **Silver Maple**  
  *Acer saccharinum*

- **Hybrid Poplars**  
  *Populus spp.*

- **Tree of Heaven**  
  *Ailanthus altissima*

- **Mimosa**  
  *Albizia julibrissin*

- **Royal Paulownia**  
  *Paulownia Tomentosa*

- **Pine (var.)**  
  *Pinus sp.*

### 3-5 **BUFFERYARD STANDARDS**

#### 3-5.3 **BUFFERYARD LOCATION AND DESIGN REQUIREMENTS**

(A) **Location of Bufferyards**

(1) **Location.** Bufferyards shall be located on the outer perimeter of a lot or parcel, extending to the lot or parcel boundary line, with the following exceptions:

(a) **On Adjacent Property.** All or part of the bufferyard may be located on adjacent property within a permanent easement dedicated for such purpose with approval of the Director of Inspections.

(b) **Portion of Site Proposed for Development.** If only a portion of a site is proposed for development, the required bufferyard may be located at the limit of construction perimeter with approval of the Director of Inspections.

(c) **Topographic Irregularities.** Where topographic irregularities require a different location to meet the intent of this section, the location of the bufferyard may be varied with approval of the Director of Inspections.

(d) **Slope Ratios.** Required bufferyard plantings shall not be installed on cut or fill slopes with slope ratios greater than two (2) to one (2:1).
(2) **Cut Slope.** Where bufferyards include any part of a cut slope greater than ten (10) feet in height, grading for such cut slope shall not encroach closer than ten (10) feet to the property line.

(3) **Rights-of-way and Streets.** Bufferyards shall not be located on any portion of an existing, dedicated, or proposed right-of-way, or a private street.

(4) **Existing Easement Within Bufferyard.** Where an existing easement that prohibits bufferyard-type plantings is partially or wholly within a required bufferyard, the developer shall design the bufferyard to meet the planting limitation of the easement. Such design may necessitate choosing a bufferyard with more land area and fewer required plantings.

(B) **Design Requirements**

(1) **Size of Plant Material.**

(a) Deciduous trees in bufferyards thirty (30) feet in width or less may be either medium or large varieties as described in Section B.3-4.10, provided, however, at least one half of the required trees shall be large variety. Deciduous trees in bufferyards of greater than thirty (30) feet in width shall be large variety trees except where overhead utility lines exist in accordance with Section B.3-4.2(J). Suggested plant materials are listed in Section B.3-4.10.

(b) All deciduous trees used for bufferyard screening must be a minimum of eight (8) feet in height at installation and shall be at least two (2) inches in diameter measured six (6) inches above ground level.

(c) All primary evergreen plants shall be a minimum of six (6) feet in height at time of installation unless combined with an approved earthen berm, and shall be not less than ten (10) feet in height at maturity.

(d) All supplemental evergreen shrubs shall be a minimum of eighteen (18) inches in height at installation, and shall attain a minimum height of thirty-six (36) inches three (3) years after installation.

(2) **Spacing of Plant Material**

(a) All deciduous trees shall be installed with tree trunks spaced a minimum distance of thirty (30) feet apart and a maximum distance of sixty (60) feet apart.

(b) All primary evergreen plants shall be distributed evenly along the length of the bufferyard and shall be staggered where quantities permit. Primary evergreen plants shall be installed with tree trunks spaced a minimum of seven (7) feet apart and a maximum of fifteen (15) feet from other primary evergreen plants and from any required deciduous tree.

(c) All supplemental evergreen shrubs shall be distributed evenly along the length of the bufferyard and shall be staggered where quantities permit.

(3) **Maintenance**
Any fence, earthen berm, or plant material used for screening shall be maintained in sound condition by the bufferyard provider. Maintenance includes replacement of any required bufferyard materials which are damaged and/or dying.

(C) Application to Nonconforming Situations
The bufferyard standards shall apply to the entire zoning lot in nonconforming situations per the requirements of Section B.5-4.3(C)(2).

3-5.4 MULTIPLE USE OF BUFFERYARDS

(A) To Satisfy Other Requirements
Areas set aside as required bufferyards may also be used to satisfy the following:

(1) Minimum setback requirements;
(2) Minimum open space requirements; and,
(3) Minimum landscaping requirements, including the Tree Preservation and Planting requirements of Section B.3-4.2.1(A).

(B) For Other Purposes
Required bufferyards may also be used for the following additional purposes:

(1) Bufferyards may contain stormwater retention or detention areas, provided:
   (a) The required bufferyard plantings shall be provided and the design and landscaping of the bufferyard do not interfere with the proper functioning of the drainage system; and,
   (b) The designed water depth shall not harm the viability of the plantings.
(2) Bufferyards may be used for passive recreation, such as pedestrian, bicycle, or equestrian trails, subject to the following limitations:
   (a) No plant material shall be eliminated;
   (b) The total width of the bufferyard shall be maintained; and,
   (c) All other requirements of this Ordinance shall be met.
(3) Bufferyards may be used for the installation of underground utilities, provided the location and use of the utility lines do not interfere with the required bufferyard plantings.

(C) Reduction for Driveway to Rear Parking Areas
A side or rear bufferyard may be reduced to five (5) feet if the Planning Board or Director of Inspections determines that such reduction is necessary, due to lot size, shape, or topographic features, to allow a driveway which accesses off-street parking to the rear of the property.

(D) Prohibited Uses
The following uses shall be prohibited in a required bufferyard: playfields, stables, swimming pools, tennis courts, or similar active recreation uses, and storage or parking facilities.

3-6 COMMON RECREATION AREAS

3-6.1 APPLICABILITY

All multifamily developments containing forty (40) or more units, and all manufactured home developments, shall provide on site common recreation area as required in this section. Elderly housing, life care communities, and other developments occupied exclusively by persons who are at least fifty-five (55) years old or disabled are exempt from the requirements of this section.

3-6.2 MINIMUM SIZE

A minimum of one hundred (100) square feet per unit shall be devoted to common recreation areas.

3-6.3 COMBINING AREAS

The total common recreation area may be divided into areas not less than four thousand (4,000) square feet each where the average length of the space does not exceed twice the average width.

3-6.4 ACCESS

Common recreation areas shall be easily accessible by pedestrian walkways so they can be conveniently and safely reached and used.

3-6.5 FINISHED GRADE

Common recreation areas shall be constructed on land where the average finished grade of the slope does not exceed five percent (5%), is well drained, and is otherwise capable of serving the purposes intended.

3-6.6 LANDSCAPING

Common recreation areas shall be attractively landscaped and provided with sufficient natural or constructed screening to minimize any negative impacts upon adjacent residences within the development. Additionally, one large variety tree shall be required for every two thousand five hundred (2,500) square feet of common recreation area.

3-6.7 EXCLUSIONS

Common recreation areas shall not include streets, access easements, rights-of-way, parking areas, required perimeter bufferyards or streetyards or required building setbacks; shall be closed to motor vehicle traffic except for maintenance and service vehicles; and, shall not be located over a septic system drainage field.

3-6.8 MAINTENANCE

Common recreation areas shall be improved and maintained for the purposes intended.
3-13 STREET STANDARDS GOVERNING VEHICLE AND PEDESTRIAN CIRCULATION (W)

(C) Streets

(3) Other Standards

(a) **Street Names.** Street names shall not duplicate nor closely approximate existing street names within the City of Winston-Salem or Forsyth County. Extensions of existing, named streets shall bear the existing street name. A complete list of previously used names shall be maintained by Planning staff. Street names shall be approved by the Planning staff and shall be shown on the preliminary subdivision plat. To change the street names after preliminary or construction plan approval, a request must be submitted to the Planning staff. Application requirements include a fee established by the Planning Board.

(b) **Street Sign and Markers.**

(i) Standard street name signs shall be installed at the corner of all streets intersections, including private streets. The size, design, materials, location, and installation of the signs shall be in accordance with City Public Works Department or NCDOT standards, as applicable.

(ii) Signs denoting the beginning and ending of public maintenance shall also be erected and maintained on private streets.

(c) **Street Lights.** Street lighting, as required for traffic safety and property security, may be required to be installed in conformance with City Public Works Department or NCDOT policies, as applicable. The design, materials, location, and installation shall conform to all applicable City Public Works Department or NCDOT standards, and applicable public utility standards, including appropriate separation from street trees.

(d) **Street trees for new Residential Subdivisions approved under Section D.4.** A minimum of one (1) deciduous, Large Variety Tree as specified under Section B.3-4.10 or as otherwise permitted or restricted by the City Director of Vegetation Management, shall be planted per lot prior to the issuance of a Certificate of Occupancy. A minimum of two (2) deciduous, Large Variety Trees shall be planted per lot prior to the issuance of a Certificate of Occupancy where new residential lots are nine thousand (9000) square feet or larger and the minimum ten (10) percent Tree Preservation and Planting requirements of Section B.3-4.2.1(A) have not been met. For cul-de-sac, local residential, and collector streets having sidewalks, trees may be planted between the curb edge and the sidewalk a minimum distance of four (4) feet away from the back of curb. In all instances required street trees shall be planted in a manner not to conflict with safety or functional operations of the street in accordance with Winston-Salem Infrastructure Development Standards. Required Street Trees shall be a minimum of ten (10) feet high at installation and shall have a caliper of at least two (2) inches measured six (6) inches above ground. This subsection shall not apply to
developments approved prior to January 1, 2006, nor to streets approved exclusively by the North Carolina Department of Transportation.

Section 3. This ordinance shall be effective sixty days after adoption.
UDO-122

Background

- Originally proposed by Community Appearance Commission, others in 2004
- The loss of existing mature trees; for high quality new trees – long standing community concerns
- Elected Bodies remanded the tree ordinance to Planning Board in 2005
- Tree ordinance committee met from 2006-2007
UDO-122

Background

- Tree committee submitted summary report; emphasized saving existing trees (Dec 2007)
- Staff charge: accommodate committee recommendations, but build upon existing UDO framework to keep administration simple and minimize costs
- Buffers, streetyards, parking lot landscaping, floodplains, storm water, and other open space provisions already exist in the UDO
UDO-122

Background

- Planning Board hearing held on ordinance draft on October 9
- Various concerns were expressed about the proposed ordinance
- Staff directed to develop ordinance alternatives which the Board considered at October and November work sessions
Guiding principles of ordinance alternative:

- Eliminate (minimize) subjectivity in ordinance administration and development review;
- Eliminate need for additional public administration staff or private arborists;
- Encourage the use of naturally undevelopable land as tree save areas, and;
- Expand incentives for saving trees.
<table>
<thead>
<tr>
<th>October Draft</th>
<th>PB Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>10% TSA for Nonresidential; 12% TSA for Residential</td>
<td>10% TSA for all development types</td>
</tr>
<tr>
<td>Trees must be preserved anywhere on site</td>
<td>Trees only preserved in off limits areas (floodplain, wetlands, stream buffers)</td>
</tr>
<tr>
<td>Alternative Compliance for trees in prime developable area of site</td>
<td>Alternative compliance provision not needed</td>
</tr>
</tbody>
</table>
Tree Preservation

**October Draft**
- TSA calculated as sum of critical root zones or by using perimeter method
- Requires petitioner’s arborist, and City arborist to verify
- 6”+ trees qualify for TSA
- Tree health and species standards judged by arborists

**PB Recommendation**
- TSA calculated by counting and measuring trees (1000-4000sf per tree)
- Does not require arborists
- 3”+ trees qualify for TSA
- No credit given for pine trees and invasive species
- Alternative TSA provisions for urban redevelopment
Tree Planting

October Draft
- Requires new trees to augment existing trees where TSA is not met (up to 10/12%)
- Require new large variety trees only in parking lots of more than 100 spaces

PB Recommendation
- Requires new trees to augment existing trees where TSA is not met for all uses except single family (10%)
- Require 1-2 large variety trees per single family lot (2 trees on lots greater than 9000sf)
- Require large variety trees all places where new trees are required by UDO
October Draft

- Maintenance standards apply only to trees planted after adoption of ordinance

- ANSI A300 Standards

- Tree topping prohibited

PB Recommendation

- Maintenance standards apply to both new trees and existing trees which satisfy the landscaping requirements of the UDO (1988 and later)

- ANSI A300 Standards

- Tree topping prohibited
October Draft
- Requires at least 2 new city arborists to administer the ordinance

PB Recommendation
- Ordinance can be administered by existing Inspections staff
UDO-122

Concept

- Strike a practical balance between saving existing trees with planting new, high quality trees
- New trees must be able to take the place of large older trees as they naturally die out over time
UDO-122

Concept

- Over time, new large variety trees will contribute to the establishment of an urban tree canopy
- Require the right trees in the right place
UDO-122

Concept

- Ordinance intended to work in concert with newly adopted PRD requirements, other UDO provisions, and Phase II stormwater requirements
The proposed ordinance includes four major components:

- Tree preservation
- Tree planting
- Tree maintenance
- Local government administration
Tree Preservation

- Augment existing ordinance incentives for saving trees with tree save requirements
- Achieved through existing areas off-limits to development; floodplains, stream buffers, wetlands
Tree Save Area credit calculated by number and size of existing trees on site

- 3”-12” caliper = 1000 sf;
- 12”-24” caliper = 2000 sf;
- 24”-36” caliper = 3000 sf;
- 36” and larger = 4000 sf
 Certain trees may not satisfy the species requirements of the ordinance

- Invasive species; pine trees
Tree Preservation and Planting

- Where minimum amount of trees does not exist in off-limits areas, the preservation of existing and planting of new trees in required landscaping and other areas may satisfy TSA requirements

- 10% tree save area for non-residential, single family, and multifamily development
Each new large variety tree equals 1000 square feet of tree save area

Trees can be in street R.O.W. or anywhere on the development site
UDO-122

Tree Planting – Single Family Residential

- Where minimum required trees do not exist in off-limits areas for single family residential sites;

- 2 large variety trees per lot larger than 9000 square feet

- Lots smaller than 9000 square feet, 1 large variety tree
Tree Planting

- Ordinance will require the use of large variety canopy trees to supplement the lack of existing trees on site

Photo courtesy of the Forsyth County Public Library Photograph Collection
- Each large variety tree planted in a landscaping island gives a parking credit of 4 spaces.
- The use of large variety trees typically reduces the total amount of required trees by 25-30%.
SAMPLE ILLUSTRATION - HANES MALL SHOWING PROPOSED LARGE VARIETY TREE PLANTING REQUIREMENTS AT 7 YEARS
SAMPLE ILLUSTRATION - HANES MALL SHOWING PROPOSED LARGE VARIETY TREE PLANTING REQUIREMENTS AT 30 YEARS
Tree save requirements will apply to most new developments (except GMAs 1 and 5)
Alternative Compliance for Urban Development

- Alternative compliance provisions exist for sites with a pedestrian-oriented urban form, where at least 50% of parking is in the form of structured parking.

- The tree save requirements of the ordinance do not have to be met – instead, the development must include 1 large variety street tree per 50’ of street frontage.
The proposed ordinance includes:

- maintenance and planting standards in accordance with the tree committee guidelines
  - ANSI A300 standards
  - Tree topping is prohibited by the proposed ordinance
  - Retroactive maintenance (required plantings only)
Expanding upon existing UDO standards will minimize the workload on existing staff.

Inspections Division estimates no additional staff will be needed to administer the proposed ordinance.
UDO-122

Summary

- The proposed ordinance should achieve most substantive recommendations of the tree committee
- The proposed ordinance is sensitive to development costs and local government administration needs
REQUEST

The original UDO text amendment was proposed by the Community Appearance Commission (CAC) along with the Garden Club Council, Keep Winston-Salem Beautiful, the West Salem Neighborhood Association, the West End Neighborhood Association and the Washington Park Neighborhood Association, to modify chapters A and B of the Unified Development Ordinances by amending existing landscaping standards and creating tree preservation requirements. It was remanded back to the Planning Board for re-working.

BACKGROUND

The loss of existing, mature trees and the need for establishment of new high quality trees have been long-standing concerns of many in our community. Trees enhance quality of life and also provide economic and environmental benefits to the property owner, neighborhood, and community at large. These benefits include cooler temperatures, cleaner air, increased rainfall, reduced storm water runoff and runoff temperatures, enhanced flood and erosion control, wildlife habitat, and increased property values.

In 1999, the Land Sensitive Development Memorandum of Understanding (MOU) was signed between the Forsyth County Commissioners, the Home Builders Association of Winston-Salem, and the Winston-Salem Regional Association of Realtors. This document included emphasis on voluntary tree preservation and environmentally sound land use practices, but was vaguely worded and proved difficult to use in defining what kinds of specific expectations there were of developers submitting plans. Subsequent discussions focused on the need for regulatory action to be taken if tangible results were to be achieved.

In 2004, increasing concerns over the loss of existing tree canopy prompted the submittal of a Tree Ordinance proposal by the petitioners. During 2004, the petitioners refined their initial ordinance draft based on comments made by the Planning Board at their first public hearing on the ordinance. The petitioners worked with the Homebuilders/Realtors Association, Planning staff, and various other City/County departments on ordinance revisions until a Planning Board hearing was held in January 2005. The Board recommended against the Tree Ordinance at this hearing, citing a myriad of concerns. Some Board members believed the ordinance too strong, some believed an ordinance was not needed, and others believed it was too weak. Subsequently, the Forsyth County Commissioners and the Winston-Salem City Council remanded the ordinance to the Planning Board for further development. The Elected Bodies requested that staff involve a broad array of stakeholders in the ordinance revision process.

This led to the creation of the Tree Ordinance Committee, which met with the assistance of an outside facilitator from 2006-2007 and included members representing various community organizations and different perspectives. These organizations included the Winston-Salem
Chamber of Commerce, the Homebuilders/Realtors Association, the local chapter of the Sierra Club, and the Winston-Salem Neighborhood Alliance. The facilitator was hired from North Carolina State University, funded by a grant from the Winston-Salem Foundation. The Tree Committee was tasked with determining the content of a future Tree Ordinance, and their recommendations were summarized in a report released in December 2007. Planning staff, in conjunction with other City departments, was directed to develop a revised Tree Ordinance which respects the recommendations of the Tree Committee while also considering the costs to the development community and the costs and needs of local government administration.

Most large jurisdictions in North Carolina currently have tree ordinances, including Charlotte/Mecklenburg County, Durham City/County, Greensboro, and Raleigh. Although standards vary widely, all require tree preservation for commercial development, and all except Greensboro require tree preservation for single family development. The proposed ordinance borrows various features from these existing ordinances, but is tailored to the unique character of Winston-Salem and Forsyth County.

**ANALYSIS**

The proposed Tree Ordinance is integrated with the existing landscaping standards in the *Unified Development Ordinances* (UDO) which were adopted in 1988. These existing standards include either tree preservation or tree planting requirements for areas such as bufferyards, streetyards, and parking lots. Additionally, UDO and City Code requirements ensure the preservation of floodplains, stream buffers, and open space in Planned Residential Developments (PRDs). The proposed ordinance attempts to strike a practical balance between preserving existing trees and planting new, high quality trees in locations where they can grow to maturity. Requirements for minimum Tree Save Areas (TSAs) for residential and nonresidential development as well as planting and maintenance standards exist in the ordinance. Where the minimum amount of required trees does not exist on site, new large variety trees must be planted to augment the minimum Tree Save Area requirements in accordance with the recommendations of the Tree Committee report. The Tree Save requirements of the ordinance apply only to Growth Management Areas (GMAs) 2, 3, and 4. These requirements are not suited to the dense urban environment of GMA 1, and are unnecessary in GMA 5 where sewer is unavailable, very large lot zoning requirements prevail, and mass grading is not necessary to gain maximum development yield of a site.

The proposed Tree Ordinance requires 10% of non-residential development sites and 12% of residential development sites to be set aside as Tree Save Area in accordance with the recommendations of the Tree Committee. Two methods of TSA calculation are included in the proposed ordinance: The first method, TSA for stands of trees, is equal to the land area within the perimeter surrounding all preserved trees. A survey of individual trees is not required when using this method of calculation. The second method, TSA for individual trees, is equal to the critical root zone(s) for each individual tree being saved. Critical root zones may overlap, and a survey of each individual tree is required of the petitioner when using this method. While the second method is more labor-intensive, it saves land for the developer, incentivizes the protection of large specimen trees, and may be more cost effective for some tree save applications. Tree health and species are important considerations under the proposed ordinance. Invasive exotic trees and trees which are not healthy do not meet the intent of the Tree Save component of the ordinance and may not be counted towards minimum Tree Save Area
requirements. Qualifying Tree Save Areas will be determined through field observations made by the petitioner’s arborist and confirmed by the City-County Inspections staff. The Suggested Plant Materials section of the ordinance has been revised to remove various trees which are considered invasive species. Tree Save Area credit may be achieved by trees anywhere on site, including existing trees in areas which are currently off limits for development such as bufferyards, stream buffers, floodplains, common open space areas in PRDs and streetyards. This also helps to minimize the area the developer must set aside from development activities.

Where the minimum amount of required trees does not exist on site, new large variety trees must be planted to meet minimum Tree Save Area requirements in accordance with the recommendations of the Tree Committee report. New large variety trees must be able to take the place of large older trees as they naturally die out. Each large variety tree planted will equal 1000 square feet of Tree Save Area credit, recognizing the growth potential large variety trees have over time. Large variety trees will also be required in any parking lot which has over 100 spaces. This requirement will promote the establishment of an urban tree canopy where it is needed most.

Currently, the UDO requires 150 square feet of planting area for newly planted trees regardless of their species. While this may be adequate for small variety trees such as crepe myrtles, large variety trees such as oaks require significantly more room to become adequately established. The proposed ordinance will retain the 150 square foot planting area requirement for small variety trees, but will require a minimum of 400 square feet of planting area for medium variety trees and 600 square feet for large variety trees. Adequate space is necessary for trees to be healthy and contribute to the creation of an urban tree canopy in Winston-Salem and Forsyth County. To compensate for this additional area, the spacing between larger variety trees in parking lots has been increased.

The Tree Ordinance also includes an alternative compliance provision which balances site-specific development needs with Tree Save requirements and other UDO requirements, such as establishing an urban form and carrying out the recommendations of area plans and other adopted policy documents. Other factors, such as site topography, adjacent development patterns, and the size, health, and species of existing trees on site may be considered in the application of alternative compliance. The case-by-case application of this ordinance provision will be determined by the Director of Inspections in consultation with other City/County staff.

Maintenance and planting standards are included in this ordinance in accordance with the recommendations of the Tree Ordinance Committee report. The ordinance requires trees to be planted and maintained in accordance with ANSI A300 standards, which represent the best management practices for arboriculture. The ordinance specifically prohibits topping of trees, which was of particular importance to the Tree Ordinance Committee.

Additional Inspections Division staff will be needed to administer the proposed ordinance. However, basing the proposed Tree Ordinance upon existing UDO standards will minimize the number of additional staff needed to enforce the ordinance. An estimated two new registered foresters or certified arborists will be needed to properly enforce the proposed ordinance. Staff does not recommend passage of the ordinance as presented unless these two additional Inspections staff are provided to adequately administer the ordinance.
The proposed Tree Ordinance should achieve the vast majority of the substantive recommendations of the Tree Committee guidelines while being sensitive to the costs to the local development community and local government for administration.

RECOMMENDATION

APPROVAL, ONLY IF ADDITIONAL STAFF ARE PROVIDED FOR THE INSPECTIONS DIVISION TO ADMINISTER THE ORDINANCE.

PUBLIC HEARING - October 9, 2008

Prior to hearing this request, Chairman King reminded the audience that the Board's intent is to hold the public hearing today and then discuss it at the October 23, 2008 work session. If there are not substantive changes, action may be taken at the November 13, 2008 public hearing. If there are substantive changes, it will be advertised for another public hearing again prior to the decision. Due to the number of people interested in this item, each side will be allowed 30 minutes to present it's points.

Glenn Simmons and Kirk Ericson presented the staff report.

FOR:

Melynda Dunnigan, 1875 Mallard Lakes Drive, Winston-Salem, NC 27106

• One of the biggest concerns cited by the Planning Board members who voted four years ago to recommend denial of the tree ordinance which was being considered at that point was the lack of broad-based citizen input in developing the ordinance.
• When the elected officials remanded the ordinance to the Planning staff, a tree ordinance stakeholders committee was established. We used a mediator to facilitate the discussions and held 19 meetings over the course of about a year and a half. The process was set up to achieve consensus on a set of recommendations for an ordinance.
• We tried to start with interests rather than firm positions so that we understood each other.
• In the end, we all shook hands on a compromise agreement, a set of recommendations that formed the basis of the Planning staff's draft of the ordinance.
• We spent a lot of time as a committee looking at model ordinances from other jurisdictions. I think in the end our recommendations represent the best of all ordinances out there. It is streamlined and flexible as opposed to Raleigh's. It requires preservation of some existing trees as opposed to Durham's. It places the emphasis on quality trees and applies to both residential and non-residential development as opposed to Charlotte's. All three of these cities are looking at making changes to their ordinances to move them in the direction that we have gone.
• Please keep in mind that this is truly a compromise agreement. It's the product of negotiation between numerous stakeholders.
• On the committee were representatives from business and development interests, neighborhood and environmental interests.
• Since those meetings and since that agreement, since we shook hands on that agreement, the Chamber of Commerce and the HomeBuilders and Realtors have I think really retreated from the spirit of our committee's process and are now focused on a rigid position. They're going back to a position which is that nothing should be passed at all. I don't think that's helpful and I'm really disappointed that that is the case. That notwithstanding, I think you need to keep in mind that the basis of the proposed ordinance, the recommendations that form the basis of the ordinance, were the product of compromise. They don't represent any side's agenda. They're not what the Neighborhood Alliance would necessarily have proposed if we could propose exactly what we wanted. They are the product of us all getting together for compromise.
• After we turned our proposal over to the Planning staff, they made some additional changes because they had other considerations in mind. They were looking to make the ordinance easier for developers to use and less costly to implement. But the changes that they made further reduced the amount of tree coverage that the committee had called for. For example, they allowed double-dipping. In other words, one tree could qualify for more than one requirement in the ordinance and you heard about the alternative way of calculating the tree save area where you can get credit for overlapping critical root zones.
• Another change they made was exempting out GMA 5 which the committee had not recommended and also exempting out minor subdivisions.
• So the point I want to make is that there has been a lot of compromise to get us to this place. We started with a compromise and then there was further compromise and reduction in scope from what the committee had recommended.
• I for one would not like to see further changes in the ordinance simply in the name of compromise because I hope you all understand that a lot of compromise has already taken place to this point.
• Distributed copies of the committee's recommendations.
• Thanked the Planning staff, particularly Glenn Simmons and Kirk Ericson, for all the work they have put into this.
• I truly believe they have created an ordinance that is workable and balances the interests of the public with the needs of developers.

Gus Preschle, 7711 Lassater Drive, Clemmons, NC  27012
• I represent the concerns of the Sierra Club. I strongly urge on their behalf that this ordinance be passed.
• Winston-Salem is a signator to the Mayor's Climate Protection Agreement which specifically calls for tree preservation.
• We've been talking to the general public as well as our members. At Rock-The-Block, we found a strong negative reaction to the four year delay in passage of the ordinance and the on-going clear-cutting still happening in Winston-Salem.
• We have 1,000 cards signed in support of this ordinance. We will give those to the City Council.
• Asked those in support of the tree ordinance to stand.
• The Sierra Club is disappointed that the ordinance requires only 10-12% tree saving. We hoped for at least 15%, but we realize the value of compromise.
• We are concerned about areas not covered by the agreement such as expansion and additions to the road system. For example, how many trees will be lost as a result of the Northern Beltway.
• We think exempting schools would send a message to our children that their health and welfare are not worthy of adequate funding.
• We've also heard that commercial properties may be exempt.
• Again, we are dealing with a compromise solution which permits the taking of 70% of the trees on commercial property.
• We are not in favor of the alternative compliance provisions.
• We believe there is strong public support for a tree save ordinance, the ordinance in front of you represents a good compromise solution and balances the needs of the public with those of the developers, builders, and other businesses.
• We respectfully ask those of the business community who participated in the two-year study to honor the hand-shake agreement and stop further delay.

George Bryan, 1001 Reynolda Road, Winston-Salem, NC 27104
• I'm president of Winston-Salem Neighborhood Alliance and represent over 20 neighborhoods that have worked on this issue.
• We have brought this to the City's attention.
• This is something that has come from citizens.
• Winston-Salem is number 3 in sprawl in the nation. We are affecting the number of trees when you talk about that kind of sprawl.
• Over the last 18 years, Charlotte lost 47% of its tree canopy at a cost of over $5 million to the economy there.

Henry Fansler, 919 Williams Road, Lewisville, NC 27023
• We've talked about the biological reasons for having trees, but there are others.
• They define the appearance of a community and enhance property values.
• Keeping an eye on the tree canopy extends back to the first settlers in this area.
• The maples along Conrad Road and Reynolda Road define corridors for us.
• What we need to do is move ahead and pass the ordinance.
• We would no longer consider the slash and burn culture as being acceptable. We should no longer accept the slash, grade, and build concept for development.

Jim Nottke, 4470 Bashavia Wayside, Pfafftown, NC 27040
• I'd like to speak specifically to the keeping of existing trees on a site. If you cut existing trees and plant new trees, they will eventually provide benefit to the site.
• Existing trees provide immediate benefit. They hold soil preventing soil erosion. Storm water control is a serious issue in our county.
• Existing trees reduce the surface wind speed during storms and prevent more extensive damage.
• They reduce building heating and cooling costs immediately.
• More mature trees fix more carbon dioxide than younger trees.
• The appearance of medium to large trees on a new construction site give immediately increased value to a site and the owner.
• Maintaining existing trees to the greatest extent practical and possible benefits both the community and the property owner.
Becky Gibson, 1315 Brookstown Avenue, Winston-Salem, NC  27101
- Tree by tree, our tree cover is disappearing. We are lacking the tree cover that was here when I first arrived in Winston-Salem.
- This is a good ordinance. It probably doesn't go as far as the tree advocates would like, but it has good features. There is a provision for saving existing trees, but planting trees that will attain the size of the trees we're destroying. We need oaks and maples that will reach greater size.
- It also prohibits pruning and topping.
- I would hope that everyone would think about going beyond the basic restrictions.
- Greenville, SC is an example of how important trees are to a city.
- Contrary to what Gayle Anderson from the Chamber of Commerce led us to believe in a news article this summer, there is not a division between economic prosperity and trees. Trees and economic prosperity can co-exist very happily. We simply have to have some vision and try it.

Judy Scurry, 3222 Turnberry Court, Winston-Salem, NC  27104
- I volunteer at Reynolda Gardens where we are currently teaching students from all over Forsyth County about plants and animals that live in our County.
- I volunteer with other agencies as well.
- From the community, I know that trees are important to all of us.

David Lusk, 5316 Bent Tree Court, Pfafftown, NC  27040
- The tree ordinance as it reads now is a fairly reasonable compromise between development and the environment.
- Interestingly enough, it heavily favors the development community, so much so that the development community should whole-heartedly embrace it's adoption. The failure to do so could conceivably be the catalyst needed to launch an even larger grass-roots attempt to pass a tree ordinance. The next attempt could be far more stringent and restrictive than that which is in the current ordinance.
- Not adopting the tree ordinance does not mean the issues will go away.

Drane McCall, 928 Goodwood Road, Winston-Salem, NC  27106
- I am a former member of the Community Appearance Commission, Local Parks and Recreation Commission and the NC Parks and Recreation Authority.
- I'm here as a member of the Winston-Salem/Forsyth County Garden Club Council Executive Board. We are made up of approximately 1,000 members. We urge you to approve this ordinance and send it on to the Council and Commissioners for approval.
- The proposed ordinance is really not very demanding, but it will go a long way to enhance our reputation as a City which values the lifestyle available to our citizens, a city of beauty, a City of Arts, education, history, and sports.
- Those opposed to this ordinance please hardship in this particular time, but not to pass it would probably bring more hardship.
- It has been established that given a choice between a bare-bones building and an attractive structure with landscaping, the shopper will go for the attractive site.
- To reject this ordinance will give the message that we are poor and pitiful
- Economic news is bad, but we need to promote our best attribute, our quality of life.
• We need to continue being a city that is livable, one to raise children in, one that attracts visitors, tourists, and retirees.
• Meanwhile, what are our trees doing? They are shading us, cooling us, removing carbon dioxide, raising property values and just being beautiful.
• Let's look after them.

Charles Wilson, 1177 Edgebrook Drive, Winston-Salem, NC  27106
• Developers can save a few dollars by clear-cutting land. Those costs become costs to property owners and tax payers in general. These costs include storm water management, landscaping, additional energy used for air conditioning. This is unfair to all of us.
• Please protect our trees.

AGAINST:
Jerry Herman, 7208 Styers Crossing Lane, Clemmons, NC  27012
• I'm Executive Vice-President of HomeBuilders Association of Winston-Salem.
• The main area of concern that we have is the preservation aspect of the tree ordinance.
• We're very lucky to live in a very green city.
• The preservation aspect depends on if that tree is in the correct place.
• What I passed around to you is "What is Green?"
• Green means different things to different people, but the building industry green is a term known widely as describing buildings designed and constructed with minimal negative impact to the environment with an emphasis on conservation of resources, energy efficiencies, and helpful interior spaces.
• Green building is a proactive way to demonstrate that HomeBuilders and the industry care and are doing something positive.
• We have formed a Triad Green Builders Council and we have several builders now that are certified green builders. We're building energy star homes. All of these homes really have a positive impact on our environment because we're using less electricity which is better for our environment.
• A lot of the land that's available for development in the City is getting scarce. We love the trees and we'd love to work around the trees, but being that they have to be in the right place is our only concern.
• One of the aspects of green building on the back side of the sheet I gave you was in regards to the resources and efficient features. Everything in regards to the orientation of the lot, how the design is made so your home is developed and the orientation and design should be taken advantage of for the natural daylight and resources that again cut down on the utilities, but if there's a tree in the wrong spot then there may be some issues so we're looking for some compromise in that regard.
• As we look for development opportunities in the City, as we have more development restrictions it's going to push us out and we'd much rather, rather than building the suburbs and add to the sprawl, build smart within the City and follow the Legacy plan.
• Asked those supporting the HomeBuilders Association, the Realtors Association, and/or the Chamber of Commerce to stand.

Jake Cashion, 601 W. 4th Street, Winston-Salem, NC  27101
• I'm with the Winston-Salem Chamber of Commerce.
• The mission of the chamber is to promote a strong local economy, to advocate a public policy that is pro growth and business friendly and to serve our members.
We believe that economic growth and environmental stewardship can and should work together.

We no longer can afford single focus regulations that do not balance with our community's needs and objectives.

The Chamber is not opposed to the tree ordinance, however, the tree ordinance needs to be one that has incentive based controls such as credits and reforestation and not punitive-based controls such as requirements and mandates.

We need flexible standards and ones that do not make building or redevelopment so costly that it is impossible to build.

We feel the tree save areas need to be reworked or deleted allowing for more owner or applicant control of their land, not government control.

Also, requiring that having a certified arborist certify what a certified arborist already certified is redundant and will be an unnecessary cost and burden to everyone.

Furthermore, the cost alone for this proposal is exorbitant. Just look for example at what this will cost the school system if this is adopted. Residential and commercial developments will be hit just as hard.

Our Country, State and City are in an economic struggle.

We thank Mayor Joines and all our City's leadership including the Planning Board for recognizing that the City faces economic challenges.

The City and the Chamber are working hard to create jobs, businesses, and to bring people to Winston-Salem.

We respectfully request further consideration for study and compromise in regard to the tree ordinance proposal.

We appreciate the opportunity to work out a compromise and show that Winston-Salem can provide economic growth and environmental protection at the same time.

I had some aerial photography done and I have a CD here which shows it and that refutes the idea that clear-cutting is going on in Winston-Salem. (There were technical problems that prevented the CD from being shown.)

Julie Poplin, 401 E. Fourth Street, #308, Winston-Salem, NC 27101

- I'm with the Winston-Salem Regional Association of Realtors.
- Thank you for letting us come and speak.
- One of the speakers at the Preservation North Carolina conference which is happening now at Old Salem was discussing the seven myths of historic preservation. That seems to be a lot of what we're dealing with now.
- One myth is that people somehow gotten the opinion that builders, developers and realtors don't care about the trees. The truth is that we're looking for balance.
- Tree save incentives versus requirements are something that we would like to see.
- We did sign a letter requesting a moratorium on any ordinance that negatively affects the affordability of housing. That's my business. That's who I represent. I would much rather sell a house that is covered by trees than a house that has none. It is a much easier sale.
- In Kirk's presentation, he mentioned that there might be a need for two additional staff members. That is something that affects me as a tax payer. Anytime I'm looking at something that's going to require more government control or more government spending, it affects me. For that reason I would say "no".
Darrell Walker, Winston-Salem/Forsyth County Schools, 1605 Miller Street, Winston-Salem, NC 27103
• I'm here today to not necessarily oppose the ordinance but maybe look for a compromise we can all agree on.
• Gave some facts on what it costs as schools are built. Copies of that data are on file in the Planning Board office.
• We all hate to see mobiles and pods outside new schools, but costs like this are what cause situations like that.

Bill Powell, Winston-Salem/Forsyth County Schools, 1605 Miller Street, Winston-Salem, NC 27103
• We're not against the ordinance and tree preservation.
• He referred to a couple of specific sites, indicating that one site could not have been developed if this tree ordinance were in effect.
• There should be a reality check of how much is reserved without regulation.
• Tree protection based on the root zone is a concern.
• We need more open areas within the center of campus for school security.
• How do we get an ordinance that's reasonable for the tax payers? We propose eliminating the part about the grove of trees in the center of the site.
• We can propose returning portions of the sites to natural forestation and vegetation. We have large banks. If we reforest those with up to 100 seedlings per acre, for roughly $3,000 dollars we can bring this site into compliance instead of spending $52,000 for this site.
• The mandatory regulations: If we do what we said there's no cost to the school system, but we still have approximately $30,000 in regulatory costs - surveyors, trees, root zones, and other things.
• In the end, the school system would like to see the Planning Board return it to the staff and committee to include already preserved regulations, modular classrooms, small constructions, additions, completely reworking or eliminating most of the tree root zone protection and that doesn't mean don't protect it. It means find a different way to accomplish the goal.
• Protecting roots is important.
• Minimize staff inspections.
• Consider security - night lighting, parking lots, large trees, small lights
• Consider the overall property owner's land. The school system has almost 2,000 acres of which easily 10% is in woods.
• In the end we need to look at the cost associated with everything. Somebody must pay to make it happen so we can save trees and buy land.
• Please balance new natural areas, natural spaces, don't throw away administrative and regulatory costs. Put those in the classrooms and the trees. Don't regulate us to death.
• We're looking at an improved natural environment with minimal cost to the taxpayers and all of us.

Doug Stimmel, 601 N. Trade St., Suite 200, Winston-Salem, NC 27101
• Writing an ordinance is very difficult. Every time you write an ordinance to prevent the bad from happening, you can prevent the good from happening too.
• Glenn and Kirk have done a great job with the tree ordinance. I'm not opposed to a tree ordinance. I think we need one. I'm a landscape architect. I deal with this everyday.
• I deal with other cities' tree ordinances and I think it's important to have one here.
• When you have to deal with the details is when it gets to be a challenge and I want to focus on one or two key areas.
• What if we wanted to do the ballpark and mixed use village outside GMA 1? Could we do it?
• Would you be able to build the ballpark? No, not with the current proposed rules and regulations.
• Redevelopment sites such as existing old shopping centers. The trend across the country is to redevelop old shopping centers. With the tree ordinance as its written, we're discouraging redevelopment of old paved sites and encouraging sprawl.
• I think a section of the ordinance should be called the "Redevelopment Section" that allows for redevelopment of existing heavily paved areas. As it's currently written, this ordinance would probably prohibit them from being redeveloped.
• The second recommendation is to exempt areas zoned areas PB, GB and MU-S. They're just like downtown areas. We're trying to concentrate development in Metro Activity Centers and should exempt them also. There's no setbacks in those zoning districts. The buildings are going right against the edge.
• If you want heavy and dense development, you've got to allow it and discourage it in other areas.
• Consider exempting existing strip shopping centers. Everyone hates them and they won't be redeveloped with this ordinance.

Robert Egleston, 4129 Gladstonbury Road, Winston-Salem, NC 27104
• I'm the president of DataMax Corporation. For most of our 119 year history, we were known as the Winston-Salem Retail Merchants Association.
• Our goal is to invest half a million dollars a year into areas that will increase jobs and education in Forsyth County.
• It would take three years of our half-million dollars just to cover the incremental cost faced by the school system to cover the tree ordinance alone for the projects which are under way right now because of our 2006 bond referendum.
• Given the serious economic situation we have, I think it's important that we spend our limited education dollars on teachers and buildings and our limited economic development dollars to create new jobs and add to the tax base.
• At last month's State of the Community luncheon, City Manager Lee Garrity pledged to make us a pro-growth and easy-to-do-business-with City. Continuing to add ordinances that restrict development won't help that.
• I urge you to consider the economic impact of any decision you make.
• We're driving businesses to look at counties other than Forsyth. We're actually driving the school system to look at sites outside the City limits. It's getting harder and harder for them to find sites for schools within the City.

Walt Kinsey, 4931Q Thales Road, Winston-Salem, NC 27104
• I bought my first house because of the big beautiful tree in the front yard.
• When I moved here, I picked a site with a lot of big, beautiful trees.
• I'm all for trees.
• I'm also concerned about the impact of this ordinance if passed as written.
• Yesterday I had the privilege of listening to Paul Norby's presentation to the Kiwanis club about the Legacy Plan. One of the concerns in Legacy is sprawl.
• If Reagan High School was built under this ordinance, they would either have to find a different site with 10% more land or not build the school there.
• That spells sprawl to me.
• A lot of developers will have to buy larger sites which spells sprawl to me.
• We need to look at ways of compressing our sites with high-rise parking lots.
• Any ordinance we pass doesn't ultimately affect the business or developer involved. They have to pay the preliminary costs, but ultimately those costs get passed on to me and you and everybody in this room in the products and services we buy.
• We are all paying for this whether in taxes or in the products we purchase.
• Please go back and look at this ordinance again and minimize the preservation aspect of it. Look at permeable parking.
• In the arguments for the ordinance as it was, they said the 10-12% would not require a measurement of all the trees on the site, but how do we know that there's 10-12% if we don't survey and measure them?
• Trees are not our only source of conversion from carbon dioxide to oxygen. There's no question that they are a significant source, but everything that grows contributes to that.

Greg Garrett, Shugart Enterprises, 221 Jonestown Road, Winston-Salem, NC 27104
• We are not against trees or a tree ordinance. However, we have quite a bit of heartburn over this ordinance.
• It's very hard to articulate the implications this ordinance will have on the development community.
• As we thought through all the significant implications, particularly as you try to grade-out a site, we thought the best way to communicate some of these complexities was to take one of our existing communities and say what if we tried to develop this property under this proposed ordinance? (Copies of his materials are on file.)
• Explained the cost implications on that development and used a site plan and cost spreadsheet to illustrate.

Nancy Gould, 195 Executive Park Blvd, Winston-Salem, NC 27103
• Distributed photographs and other information, copies of which are on file.
• I hope each of you has actually gone through the agreement of the committee and read it thoroughly. Page 11 of that agreement states, "General Provisions Agreed to by the Committee were to provide incentives for protecting high quality tree and tree stands in order to preserve benefits such as water quality.
• On that page also: "The committee agreed that protecting trees and riparian buffers should be a priority and to use incentives for protecting trees in this area."
• Page 12: "Incentives for protecting high quality trees and contiguous tree stands will be provided such that allowances may be granted for going below the minimum tree save area.
• Here is where there was not agreement: The Committee debated without reaching agreement whether the definition of a tree save area should include the phrase, "TSA requirement must be met by preserving existing trees on the site." In others words, we never agreed to saying that we feel that tree save areas should just be preserving existing trees. Our interpretation is that a tree save area should include also where you can plant trees.
• As everybody has stated, we're not against the tree ordinance. It's just the preservation part is extremely difficult to implement, especially if you have a smaller site and you have limited amount of trees on the site. The way it is written, you must save those trees no matter where they are, no matter how disruptive and costly they would make your development.
• We're going to send people to other counties and other cities if this is adopted.

NOTE: There was a malfunction with the overhead projector system during this case. Staff could not fix it immediately, but discovered later that a button had been accidentally pushed during a presentation from a previous speaker. Speakers were notified that copies of materials which were to be presented during that time could be submitted to Planning staff by the end of the day on Monday, October 13, 2008. Those would then be sent electronically and via US Postal Service to Planning Board members on October 14, 2008. Anything received after that date would be mailed with the Board's work session packets at the end of that week.

WORK SESSION

The Public Hearing was closed. Chairman King stated that this item will be discussed and considered further by the Planning Board at the October 23, 2008 Work Session.
UDO-122
AN ORDINANCE AMENDING
CHAPTERS A AND B OF THE UNIFIED DEVELOPMENT ORDINANCES
TO AMEND REGULATIONS CONCERNING LANDSCAPING STANDARDS AND TREE PRESERVATION

Be it ordained by the City Council of the City of Winston-Salem, North Carolina, that the Unified Development Ordinances is hereby amended as follows:

Section 1. Chapter A, Article II of the UDO is amended as follows:

Chapter A - Definitions Ordinance
Article II – Definitions

CRITICAL ROOT ZONE. The area under a tree which includes all land within the drip-line of the tree. The drip-line is measured by a vertical line extending from the outermost portion of a tree’s canopy to the ground. A circular region measured outward from a tree, representing the essential area of the roots that must be maintained in order for the tree to survive. The Critical Root Zone is one foot (1’) of radial distance from the tree’s trunk for every one inch (1”) of tree diameter, measured at breast height (DBH).

Section 2. Chapter B, Article III of the UDO is amended as follows:

Chapter B - Zoning Ordinance
Article III - Other Development Standards

3-3 PARKING, STACKING, AND LOADING AREAS

3-3.5 ALTERNATIVES AND INCENTIVES

(H) Parking Reduction for Required Landscaping in Motor Vehicle Use Areas

For all uses, the property owner may reduce the number of required parking spaces for the installation of required interior planting areas up to a maximum of ten percent (10%).

Up to an additional five percent (5%) reduction of the number of required parking spaces is permitted where an area which would otherwise be devoted to parking cannot be used in order to preserve an existing tree with a diameter of six (6) inches or greater. Additionally, for each large variety tree planted in accordance with the provisions of section B.3-4.3(C)(2) and located in a landscaping island within a motor vehicle use area the amount of required parking is reduced by four (4) spaces.
3-4 LANDSCAPING AND TREE PRESERVATION STANDARDS

3-4.1 GENERAL REQUIREMENTS

(A) Purpose

It is the intent of this section to enhance the appearance and environmental quality of development sites in Forsyth County by requiring the planting of new trees and the preservation of high-quality existing trees, modify and enhance the character of motor vehicle use areas, outdoor storage areas, utility service areas, and other public or institutional areas, through the introduction of natural vegetation and landscaping, without unduly burdening property owners, in order to:

1. **Appearance of Areas Near Rights-of-Way.** Improve the appearance of motor vehicle use areas within close proximity of vehicular rights-of-way;

2. **Appearance of Large Areas.** Break the visual blight created by large expanses of motor vehicle use unvegetated areas;

3. **Property Value and Investments.** Enhance property values and protect public and private investments by emphasizing the importance of trees and vegetation as visual and physical bufferyards to protect property values on adjacent properties;

4. **Water and Erosion Control.** Increase site stormwater infiltration capacity, improve groundwater recharge, and reduce erosion and urban runoff pollution hazards by preserving vegetated areas to slow and absorb stormwater runoff;

5. **Comfort.** Improve human comfort and moderate the climate during the use of motor vehicle use areas by providing shade, reducing solar heat absorption, and reducing noise levels;

6. **Environmental Sensitivity.** Encourage environmental sensitivity to natural features during the design and construction of motor vehicle use areas development projects;

7. **Glare.** Filter and reduce reflected sunlight and headlight glare from parked vehicles onto street rights-of-way; and,

8. **Air.** Filter and reduce motor vehicle fumes and dust.

9. **Public Properties.** Improve the appearance of public properties from vehicular rights-of-way and adjacent properties, as well as for users on the properties.

(B) Applicability of Landscaping Standards

This section shall apply to all land located in the zoning jurisdiction. Unless otherwise provided in this section, an occupancy permit shall not be issued until all required planting and landscaping materials are installed. The following motor vehicle use areas are required to be landscaped:

1. Motor Vehicle Surface Areas;

2. Motor Vehicle Display Areas;
(3) Outdoor Storage Areas;
(4) Utility Service Areas;
(5) Parking Buildings or Structures; and,
(6) Public or Private Schools

(C) Exclusions
The following uses shall be exempt from the landscaping requirements of this section:

(1) A single family detached dwelling on its own lot;

(2) An attached dwelling unit which possesses an individually separated driveway and/or garage; and,

(3) Fire hydrants and other utility devices whose visibility is vital to public safety.

(D) Applicability of Tree Preservation Standards of Section B.3-4

(1) The applicability of the tree preservation standards is referenced in Section B.3-4.2.1

3-4.2 APPLICATION PROCEDURES AND GENERAL REQUIREMENTS.

(A) Application
When an application is made for a building permit or a land disturbing permit, whichever is necessary, on any land where the landscaping requirements of this section are applicable, such building or land disturbing permit application shall be accompanied by the information listed in Sections B.3-4.2(A)(1)-(4) and B.3-4.2.1. Submittal of said information may occur up to ninety (90) days after the issuance of a building permit, provided, however, the developer or landowner submits with the building permit application a letter certified by a registered landscape architect, architect, surveyor, or engineer, stating sufficient land has been reserved for required plantings, and also files an improvement security as specified in Section B.3-4.2(B)(2). Additional information to be submitted with the application for a building or land disturbing permit includes:

(1) **Storage, Surface, and Service Areas.** A site plan indicating the location, dimensions, and square footages of motor vehicle surface areas, motor vehicle display areas, outdoor storage areas, private utility service areas, proposed parking space striping, and overhead utility lines;

(2) **Landscaping.** A site plan indicating existing and proposed landscaping used to satisfy the requirements of this section, including the number, species, location, and heights of trees, shrubs, and groundcover; the location and dimensions of planting areas and streetyards; the location and size of earthen berms; and, the location, size, and construction material of fences, walls, and wall planters;

(3) **Existing Trees to be Preserved.** The number, location, species, height, and diameter at six (6) inches above ground level at breast height (DBH) of existing trees to be preserved for credit as per Section B.3-4.2(H) where individual trees are being preserved, and a general description of the character, species mixture, health, and age of trees present in tree stands where tree stands are being preserved for credit; and,
(4) **Barriers.** The location and description of any barriers to be erected to protect any existing vegetation from damage during construction.

(B) **Delay of Landscaping**
If the required landscaping has not been installed at the time of a request for an occupancy permit, and the Director of Inspections determines that the unavailability of plant materials or adverse weather conditions prohibit the timely completion of planting, an occupancy permit may be issued prior to installation of required landscaping, subject to the following:

(1) **Completion Schedule.** The applicant shall sign a contract specifying that the work shall be completed within the six (6) months immediately following the date of application for an occupancy permit; and,

(2) **Security.** If the Director of Inspections determines that the applicant has not shown good faith in the past in completing required improvements, an improvement security in the form of an escrow account or other instrument shall be required prior to issuance of an occupancy permit. The improvement security shall be in an amount deemed sufficient by the Director of Inspections to cover all costs of required landscaping or screening which has not been installed. Such security shall be valid until the work is completed in accordance with the permit. The security shall be forfeited upon violation of this section and shall be used toward completion of all planned improvements. Any moneys in excess of the cost of installing required landscaping shall be refunded to the applicant. The security shall be released when the Director of Inspections certifies that all requirements of this section have been met.

(C) **Compliance with Sight Easement Requirements**
Landscaping required by this section shall comply with the minimum State or local sight easement requirements for street intersections and driveways.

(D) **Obstruction of Pedestrian Routes**
Required landscaping shall not obstruct or impede public pedestrian routes including sidewalks and greenway trails.

(E) **Protection of Planting Areas**
Whenever any planting areas required by this section are adjacent to motor vehicle surface areas, motor vehicle display areas, or outdoor storage areas, the planting areas shall be protected from motor vehicle intrusion and damage from excessive motor vehicle lubricants or fuels.

(F) **Stabilization of Soil Surface**
The soil surface of all planting areas required by this section shall be stabilized to prevent erosion. In addition to required interior trees and shrubs, the soil surfaces of planting areas shall contain live groundcover, mulch, live shrubs, permeable pedestrian paver blocks, or a combination thereof.
(H) **Maintenance of Plantings**

(1) **Planting and Maintenance Standards.** The use of ANSI A300 standards shall be required for the planting and maintenance of all required landscaping.

(2) **Tree Topping.** Topping of any tree required by this Ordinance as defined by the ANSI A300 standards shall be prohibited.

(3) **Maintenance of Plantings Required by Section B.3-4.1(B).** The landowner is responsible for maintaining all required plant materials in good health. Any dead or missing plants must be replaced with new planting which meets the minimum installation dimension standards of this section. Plant replacement shall take place within one month of written notification by the Director of Inspections. In the event that plant material is severely damaged due to an unusual weather occurrence or other act of nature, or if replacement plantings are unavailable within one month of written notification, the land owner will have six (6) months from the date of written notification to replace plantings. Requirements for the maintenance of existing or newly planted trees required by the Tree Preservation standards of this Ordinance are in Section B.3-4.2.1(B).

(H) **Enforcement and Penalties.**

(1) **Enforcement.** The Director of Inspections shall conduct site inspections to ensure compliance with the provisions of this Ordinance prior to the issuance of a Certificate of Occupancy (CO).

(2) **Penalties.** Penalties in accordance with Section B.9-1 of this Ordinance may be undertaken by the Director of Inspections in order to enforce provisions of this Ordinance.

(H) **Use of Existing Trees for Credit**

Existing trees may be preserved and used for credit in satisfying the requirements of this section, according to the conditions that follow:

(1) **Maximum Credits for Tree Preservation.** Maximum credits for tree preservation shall be determined by Table B.3.12.

<table>
<thead>
<tr>
<th>Diameter at Breast Height (DBH) of Existing Tree Six (6) Inches Above Ground Level</th>
<th>Number of Trees Credited</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 - 6 inches</td>
<td>4</td>
</tr>
<tr>
<td>7 - 12 inches</td>
<td>2</td>
</tr>
<tr>
<td>13 - 18 inches</td>
<td>3</td>
</tr>
<tr>
<td>19 - 24 inches</td>
<td>4</td>
</tr>
<tr>
<td>25 inches or greater</td>
<td>5</td>
</tr>
</tbody>
</table>

(2) **Minimum Planting Area.** Each tree to be preserved for credit shall be provided with a minimum planting area which coincides with the tree's dripline Critical Root Zone as defined in Section A of the ordinance. The tree's dripline is defined...
as the area underneath a tree which would be encompassed by perpendicular lines dropped from the outermost edges of the crown of the tree.

(3) Protection from Encroachment. Tree preservation planting areas shall be cordoned off during construction and protected from encroachment. The minimum area to be cordoned off shall consist of the critical root zone of the tree or an area ten (10) feet from the tree's trunk in all directions, whichever is the greater area. The protection measures shall be properly maintained during site development and shall not be removed prior to final landscaping. For the purposes of this section, encroachment is defined as the ground surface disturbance caused by grading; impervious surface cover; equipment, material, or earth storage; or by temporary or permanent construction vehicle access or circulation.

(4) Minimum Streetyard Requirement. Tree preservation credits may be used to reduce the number of trees required in this section; however, in no instance shall a required streetyard contain less than one tree, nor shall any required streetyard contain no trees for seventy-five (75) continuous feet, nor shall any parking space be more than fifty (50) feet from the trunk of a tree, unless otherwise authorized in Section B.3-4.3(C)(8).

(5) Planting Area Used for Streetyard or Interior Plantings. Planting areas required for tree preservation credit may be used to install streetyard or interior shrubs as required in this section.

(6) Loss of Tree Credits. Removal or death of any preserved tree shall result in the loss of all associated tree credits for that particular tree. Replacement of trees shall be subject to the planting requirements of Section B.3-4. Developers and landowners are urged to seek professional expertise to preserve properly existing trees for credit.

(I) Combining Planting Area and Bufferyard Requirements
Where motor vehicle use area Motor Vehicle Surface Area plant materials and bufferyard plant materials are required on the same property, trees may be located in such a manner as to simultaneously satisfy both requirements. Required planting areas shall not be cumulative; however, the greater of the planting areas specified in Section B.3-5 or this section shall be the required planting area.

(J) Overhead Utility Lines
The location of overhead utility lines shall be considered during the placement of required trees. The maximum mature height of required trees shall be determined as follows: (Suggested plant materials are listed in Section B.3-4.10.

(1) Small varieties. Small variety trees shall be used when located within twenty-five (25) feet, measured horizontally, from the nearest overhead utility lines(s).
(2) **Small or medium varieties.** Small or medium variety trees shall be used when located within twenty-five (25) to thirty-five (35) feet, measured horizontally, from the nearest overhead utility line(s).

(3) **Small, medium, or large varieties.** Small, medium, or large variety trees may be used when located more than thirty-five (35) feet, measured horizontally, from the nearest overhead utility line(s).

(K) **Safety and Security**
Safety and security concerns should receive prominent consideration during the selection and placement of landscape materials.

(L) **Fire Protection Equipment**
A minimum five (5) foot radius containing no plant materials or structural elements other than groundcover plants shall be maintained around all fire protection equipment, including fire hydrants, post indicator valves, and siamese connectors. Obvious sight lines to the fire protection equipment shall be maintained at all times.

(M) **Off-Street Parking Reduction**
A reduction in the amount of required off-street parking is permitted in accordance with the alternatives and incentives provisions of the parking requirements Section B.3-3.5(H) for the installation of landscaping required by the motor vehicle surface area landscaping standards of this Ordinance.

3-4.2.1 **TREE PRESERVATION**

(A) **Tree Preservation Requirements.**

(1) **Tree Save Area Defined.** Tree Save Area(s) (TSA) shall be one or more areas where existing trees, along with their critical root zones (CRZ), shall be preserved and maintained. The purpose of the TSA is to encourage the preservation of stands of trees and individual healthy trees that are six inches (6”) or greater in diameter at breast height (DBH), or healthy stands of trees containing a variety of tree species with specimens of various ages in accordance with the recommendations of a certified arborist or urban forester. Tree Save Area(s) may also include new trees which satisfy the requirements of Section B.3-4.2.1(4).

(2) **Calculation of Required Tree Save Area.** Calculations for Tree Save Areas (TSA) shall exclude the square footage areas for existing and proposed public street rights-of-way, existing utility easements, and existing water bodies and new water bodies required to satisfy the stormwater management requirements otherwise required by law or ordinance. The combined square footage of these areas shall be deleted from the total parcel area before the required percentage of TSA is calculated. Two methods of calculating TSA exist:

(a) **Stands of Trees.** The Tree Save Area for a stand of trees shall be calculated as the acreage that stand of trees occupies. Stands of trees shall be exempt from the species requirements of this Ordinance (Section B.3-4.10) as long as a stand of trees is determined to meet the intent of the Tree Save Area requirements of this Ordinance by a certified arborist or urban forester; however, no stand consisting primarily of invasive or
non-native trees shall be counted towards the Tree Save Area requirements of the Ordinance. Any qualifying stand of trees shall be determined to be healthy enough to survive for at least five years by a certified arborist or urban forester.

(b) Individual Trees. The Tree Save Area for an individual tree(s) shall be defined as the Critical Root Zone for that individual tree or the sum of the Critical Root Zones of multiple individual trees. A tree survey shall be submitted where individual trees are used to satisfy the Tree Save Area requirements of this Ordinance, and shall include the following:

(i) Perimeter boundaries and calculations for the required Tree Save Area(s) (TSA);
(ii) Required streets and buffyards, including required plant rates and sizes;
(iii) Protected trees within the Tree Save Area(s) (TSA), including tree size and type;
(iv) Critical Root Zone(s) of each tree or group of individual trees;
(v) Limits of clearing and land disturbance;
(vi) Trenching;
(vii) Required tree protection fencing, including signage;
(viii) Overhead and underground utilities and easements;
(ix) Areas of new tree planting, if any; and
(x) Stream buffer(s), if any.

(c) Either method of calculation listed above, or a combination of both methods, may be used to satisfy the Tree Save Area requirements of this Ordinance.

(3) Required Tree Save Area.

(a) New Residential Subdivisions and Multifamily Development. The minimum Tree Save Area for new residential subdivisions and multifamily development shall be twelve (12) percent of the development site. TSA requirements may be fulfilled by trees on commonly owned land or trees on privately owned individual residential lots.

(b) New Non-Residential Development which requires a grading permit. The minimum Tree Save Area for non-residential development requiring a grading permit shall be ten (10) percent of the development site.

(c) New Development zoned MU-S. The minimum Tree Save Area for development zoned MU-S shall be determined on an individual basis through the Special Use District zoning process.

(d) Alternative Compliance. In situations where the preservation of some or all of the required trees on site would prevent the reasonable development of a site, the Inspections Director or designee may waive
some or all of the tree preservation requirements of this section. In making his decision, the Inspections Director may consider the following factors:

(i) Site layout, including whether there are reasonable site layout options available that would further minimize the need to waive or reduce the tree preservation requirements
(ii) Conformance of the proposed development with the Legacy recommendations of balancing open space preservation with encouraging an urban form of development
(iii) Conformance of the proposed development with the recommendations of Area Plans and other adopted documents relating to or affecting the planned uses of land for the site in question
(iv) Topography
(v) Surrounding development patterns
(vi) The size, health, and species of existing trees proposed to be removed.

Where existing trees are not preserved, the replanting requirements of Section B.3-4.2.1(A)(4) shall be met. This alternative compliance provision shall not apply to existing trees in the following areas:

(vii) Bufferyards required by Section B.3-5.
(viii) Streetyards required by Section B.3-4.3
(ix) Floodplains and Floodways
(x) Stream Buffers

Appeals of the decision of the Inspections Director may be made to the Board of Adjustment in accordance with Section B.6-1.4(C)

(4) **Requirements for Sites Without Existing Trees.** On development sites containing less than the minimum tree coverage required by Section B.3-4.2.1(A)(3), supplementary new large variety tree plantings in accordance with Section B.3-4.10(A) shall be required until the minimum Tree Save Area requirements of the development site have been met. Each new large variety tree planted shall be equal to one thousand (1000) square feet of required Tree Save Area.

(5) **Exemptions from Tree Save Area Requirements.** The following are exempt from the Tree Save Area requirements of this Ordinance.

(a) Development sites located in Growth Management Areas (GMA) 1 and 5
(b) Individual residential lots existing prior to the adoption of this Ordinance
(c) Farm use activities and structures on Bona-Fide Farms
(d) Minor subdivisions
(6) **Tree Protection During Construction.** To receive credit for existing trees proposed for preservation, the TSA must be protected from direct and indirect root damage, and trunk and crown disturbance. The following standards shall apply:

(a) The Tree Save Area (TSA) shall include all area located within the Critical Root Zone;

(c) Construction site activities, such as parking, material storage, dirt stockpiling, concrete washout, and other similar activities, shall not be permitted within a Tree Save Area (TSA);

(c) Protective Fencing shall be installed around the Tree Save Area (TSA) before any tree damaging or Land Disturbing Activities are conducted on site. Such protective fencing shall be at least four feet (4’) high, shall consist of orange polyethylene safety fencing, and shall not be attached to any trees. Protective fencing shall remain in place until construction is complete and a Certificate of Occupancy (CO) has been issued.

(d) The Tree Save Area (TSA) shall be designated as such with signs posted visibly on the outside of the fenced-in area. Signs should be spaced at intervals of no more than 250’ and may not be posted on any trees. Signs shall contain the phrases “Tree Save Area; disturbance of roots prohibited “ and “Prohibido dañar las raíces del árbol”.

(B) **Tree Maintenance Requirements.**

(1) **Maintenance of Trees Satisfying the Tree Preservation Requirements.** The landowner is responsible for maintaining all new and existing trees on individual lots within residential subdivisions which satisfy the Tree Save Area requirements in good health until a Certificate of Occupancy (CO) has been issued for the development. New and existing trees which meet the tree preservation requirements in multifamily developments, commonly owned areas in residential subdivisions, and nonresidential developments shall be maintained in accordance with the requirements of Section B.3-4.2(G). Additionally, standards for maintenance of existing or newly planted trees also used to satisfy the requirements of Section B.3-4.1(B) of this Ordinance are referenced in Section B.3-4.2(G).

3-4.3 **MOTOR VEHICLE SURFACE AREA LANDSCAPING STANDARDS**

(A) **General Requirements**

(1) **Exemption.** This section shall not apply to single family residential buildings.

(2) **Applicability.** This section shall apply to any motor vehicle surface area or portions thereof built after March 7, 1988.
(3) **Expansion of Preexisting Motor Vehicle Surface Areas.** When preexisting motor vehicle surface areas are expanded:

(a) **Required Interior Plantings.** Required interior plantings may be dispersed throughout the entire motor vehicle surface area in accordance with Section B.3-4.3(C)(9).

(b) **Streetyard Width.** Streetyard width may be reduced to a minimum of fifty percent (50%) of the required width, provided the minimum required streetyard area and plant quantities for the expansion are installed; and provided such streetyard trees shall be provided a planting area with a minimum radius of seven (7) feet.

(B) **Streetyards**

A landscaped streetyard shall be required for all motor vehicle surface areas located within one hundred (100) feet of a street right-of-way or vehicular right-of-way, including controlled access highways, whether or not it may provide access to the site, unless separated by an intervening building.

(1) **Width.** Minimum streetyard width is ten (10) feet, and shall be measured perpendicular to the street right-of-way. The streetyard shall be positioned between the motor vehicle surface area and street right-of-way.

(2) **Impervious Surface Cover.** A maximum of fifteen percent (15%) of the required streetyard may be covered with impervious surface cover which may be used for walkways, fountains, walls, or wall planters, but may not be used for motor vehicle surface or display, outdoor storage, private utility service, or service areas.

(3) **Number and Spacing of Trees.** Each streetyard shall contain a minimum of two (2) deciduous or evergreen trees per one hundred (100) linear feet, excluding points of motor vehicle ingress or egress. In no case shall any streetyard contain less than one tree. Required trees must be a minimum of eight (8) inches in height at installation and shall be at least two (2) inches in diameter measured six (6) inches above ground level. Where two (2) or more streetyard trees are required, all trees shall be planted with the center of the main trunks twenty (20) to seventy-five (75) feet apart. Existing deciduous trees located in the abutting street right-of-way may be used to satisfy the distribution requirements in this section.

(4) **Other Streetyard Components.** In addition to required trees, the landowner or developer shall use one of the following to satisfy streetyard requirements: natural shrubs, closed fences, walls, wall planters, earthen berms, or a combination thereof, as follows:

(a) **Natural Shrubs.** Streetyard shrubs must be a minimum of eighteen (18) inches in height at installation, with a minimum height of thirty-six (36) inches within three (3) years after installation. Shrubs must be a locally adapted species which retain foliage to within six (6) inches above ground level. Said shrubs shall be spaced no more than eighteen (18) inches, edge to edge. No more than thirty percent (30%) of streetyard shrubs shall be deciduous.
(b) **Fences and Walls.** A streetyard fence or wall shall be a minimum of thirty-six (36) inches in height, opaque, and shall be constructed of masonry, stone, or wooden material, or of the same material as that of the principal building.

(c) **Wall planters.** A streetyard wall planter shall be constructed of masonry, stone, or other permanent material. At installation, the minimum combined height of wall planters and shrubs shall be twenty-four (24) inches. Within three (3) years after installation, the combined height of wall planters and shrubs shall be no less than thirty-six (36) inches. The effective planting width of a streetyard wall planter shall be no less than thirty-six (36) inches; however, where required streetyard trees are installed in wall planters, the effective planting width of the wall planters shall be no less than seven (7) feet. A minimum of one shrub shall be required for every five (5) square feet of wall planter area.

(d) **Earthen berms.** At installation, streetyard berms shall have a minimum height of eighteen (18) inches, a minimum crown width of two (2) feet, and a side slope with a width to height ratio of no greater than two (2) to one (2:1). The entire berm shall be planted and covered with live vegetation. Berm shrubs shall be a minimum of one foot in height at installation and shall be spaced no greater than eighteen (18) inches, edge to edge. Within three (3) years after installation, the combined height of berm and shrubs must be at least thirty-six (36) inches. Streetyard berms which are thirty-six (36) inches or greater in height at installation shall not be required to contain shrubs; however, streetyard trees shall still be required as specified in this section.

(5) **CB and CI Districts.** In the CB District, a minimum two (2) foot wide strip planted with trees and shrubs in accordance with this section or a three (3) foot high masonry wall shall be provided. Unfinished concrete masonry unit (CMU) walls shall be prohibited. Split face CMU is permitted.

(6) **PB District.** In the PB District within GMA 1, a minimum two (2) foot wide strip planted with trees and shrubs in accordance with this section shall be provided. Any required or provided trees within the streetyard shall be located within a minimum seven (7) foot wide, fifty (50) square foot planting area.

(C) **Interior Motor Vehicle Surface Area Plantings**

In addition to the required streetyard, all motor vehicle surface areas shall contain landscaped planting areas, as follows:

(1) **Location of Plantings.** Interior planting areas shall be located adjacent to motor vehicle surface area edges or within the interior as islands or medians, and may contain berms of the minimum dimensions specified in Section B.3-4.3(B)(4)(d).

(2) **Size.** Each planting area shall contain at least fifteen (15) square feet per tree, with a minimum radius of seven (7) feet for small variety trees. A minimum planting area of four hundred (400) square feet per tree shall be required for each medium variety tree, and a minimum planting area
of six hundred (600) square feet shall be required for each large variety tree. Each large variety tree planted shall provide a one thousand (1,000) square foot credit towards the Tree Preservation Requirements of Section B.3-4.2.1(A)(3).

(3) **Required Trees in Planting Area.** Each planting area shall contain at least one deciduous or evergreen tree with a minimum height of eight (8) feet at the time of installation, and a minimum diameter of two (2) inches measured six (6) inches above ground level.

(4) **Ratio.** Small, medium, or large variety trees may be used to satisfy the requirements of this section. One small variety deciduous or evergreen tree shall be required for every two thousand five hundred (2,500) square feet of motor vehicle surface area. Alternatively, one medium variety deciduous or evergreen tree may be used for every three thousand five hundred (3,500) square feet of motor vehicle surface area, or one large variety tree may be used for every five thousand (5,000) square feet of motor vehicle surface area. Developments with one hundred (100) spaces or more shall require the use of large variety trees, except where the presence of overhead power lines in accordance with the requirements of Section B.3-4.2(J) makes the use of large variety trees impracticable.

(5) **Distance of Parking Spaces to Trees.** No parking space shall be located more than fifty (50) feet from the trunk of a required small variety tree, no more than sixty (60) feet from the trunk of a required medium variety tree, and no more than seventy five (75) feet from the trunk of a required large variety tree, unless otherwise authorized in this section Ordinance.

(6) **Loading/Maneuvering Areas.** For loading docks or other maneuvering areas where placement of trees in the interior of the site is impractical, the required number of trees may be clustered around the edge of such areas, with the approval of the Director of Inspections.

(7) **Credit for Streetyard or Bufferyard Trees.** Deciduous or broadleaf evergreen trees used as streetyard or bufferyard plantings may be used as credit toward interior planting area requirements, provided that streetyard or bufferyard plantings meet the distance requirements of Section B.3-4.3(C)(5) no parking space shall be located more than fifty (50) feet from the trunk of a required tree.

(8) **Credit for Bufferyard Area.** The landscaped bufferyard area provided to meet the requirements of Section B.3-5 and located adjacent to a motor vehicle use area may be counted toward the interior planting requirement.

(9) **Expansion of Preexisting Areas.** When preexisting motor vehicle surface areas are expanded, required interior plantings may be dispersed throughout the entire motor vehicle surface area if the landowner so desires, subject to the following conditions:

(a) The required plant material will be calculated with reference to the expansion area only;
(b) Such planting may be dispersed throughout the entire, combined, existing, and new motor vehicle surface area; and,

(c) The provisions of this section shall preempt the fifty (50) foot spacing requirement contained in Section B.3-4.2(H)(4) and Section B.3-4.3(C)(5).

(10) **Alternative Compliance.** An applicant whose contiguous parking area exceeds five hundred (500) spaces may propose a landscaping plan which varies from the strict application of the provisions of this section in order to accommodate unique characteristics of the site or to utilize innovative design. Application for alternative compliance shall include a site plan following the requirements specified in Section B.7 and shall be approved by the Planning Board only upon a finding that the proposed landscaping plan fulfills the intent and purposes of this section as well as or better than would strict conformance with the requirements of this section.

### 3-4.8 PUBLIC OR PRIVATE SCHOOLS RESERVED

(A) **Applicability**

A landscape plan for the school campus shall be prepared and installed prior to occupancy for any new school or any improvement to an existing school which results in an increase in building area or footprint.

(B) **Standards**

Landscaping plans shall meet the following standards:

1. **Number of Trees.** A minimum of one tree of either large or medium variety as described in Section B.3-4.10 shall be provided per thirty-five (35) linear feet of public road frontage. In any event, a minimum of fifteen (15) trees shall be planned for and provided on each campus.

2. **Existing Trees.** Existing trees to meeting the requirements of Section B.3-4.2.1 be incorporated into the design of the school or currently on the campus may be preserved and used for credit in meeting the site plan requirements, per Section B.3-4.2(H)(1). Existing trees may be used in lieu of not more than eighty percent (80%) of the required new plantings; except that where property or site constraints prohibit the placement of additional trees, additional credit for existing trees up to 100% may be given.

3. **Height at Installation.** New plantings shall meet the requirements of Section B.3-5.3(B).

4. **Variety of Trees.** Notwithstanding Section B.3-4.8(B)(2), at least one-half (½) of the trees on the campus shall be large variety as described in Section B.3-4.10.

5. **Other Plant Material.** Other plant material described in Section B.3-4.10 may be installed and may be used for credit in meeting the requirements of Section B.3-4.8(B)(1) with approval of Planning Board staff.
(6) **Location.** Trees and other plant material may be located in any required yards or
in the interior of the campus, and may function as a buffer yard to screen or soften
uses, structures, or activities which may be incompatible. Landscaping should be
placed to enhance entryways into campuses and upgrade previously disturbed
areas. On existing campuses built prior to the landscaping requirements for
motor vehicle surface areas, trees and other plant materials may also be located in
parking areas or other motor vehicle surface areas.

### 3-4.10 SUGGESTED PLANT MATERIALS LIST

The suggested plant materials list includes common trees and shrubs suitable for use in the
Forsyth County area. Due to individual site, soil, moisture, and microclimate conditions,
professional expertise should be sought to determine the appropriate plant materials for any
particular development project. Other appropriate plants not included in this list may also be used
with the approval of the Inspections Director or designee.

#### (A) Large Variety Trees (mature height: thirty-five (35) feet or greater):

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>European Black Alder</td>
<td><em>Alnus glutinosa</em> <em>(Pyramidalis)</em></td>
</tr>
<tr>
<td>Bald Cypress</td>
<td><em>Taxodium distichum</em> <em>(Monarch of Illinois, Shawnee Brave)</em></td>
</tr>
<tr>
<td>Sugar Hackberry</td>
<td><em>Celtis laevigata</em></td>
</tr>
<tr>
<td>Chalkbark Maple</td>
<td><em>Acer Leucoderme</em></td>
</tr>
<tr>
<td>Freeman Maple</td>
<td><em>Acer x freemanii</em> <em>(Armstrong, Autumn Blaze, Celebration, Scarlet Sentinel)</em></td>
</tr>
<tr>
<td>Green Mountain Sugar Maple</td>
<td><em>Acer saccharum</em> <em>(Green Mountain)</em></td>
</tr>
<tr>
<td>Hedge Maple</td>
<td><em>Acer campestre</em></td>
</tr>
<tr>
<td>Southern Sugar Maple</td>
<td><em>Acer Barbatum</em></td>
</tr>
<tr>
<td>Trident Maple</td>
<td><em>Acer buergeranum</em></td>
</tr>
<tr>
<td>Bur Oak</td>
<td><em>Quercus macrocarpa</em></td>
</tr>
<tr>
<td>Sawtooth Oak</td>
<td><em>Quercus acutissima</em></td>
</tr>
<tr>
<td>Shingle Oak</td>
<td><em>Quercus imbricaria</em></td>
</tr>
<tr>
<td>Swamp White Oak</td>
<td><em>Quercus bicolor</em></td>
</tr>
<tr>
<td>Northern Red Oak</td>
<td><em>Quercus rubra</em></td>
</tr>
<tr>
<td>Nutall Oak</td>
<td><em>Quercus nutalli</em></td>
</tr>
<tr>
<td>Overcup Oak</td>
<td><em>Quercus lyrata</em></td>
</tr>
<tr>
<td>Green Ash</td>
<td><em>Fraxinus pennsylvanica</em> <em>(Marshall Seedless, Newport, Patmore, Summit, Lakeview)</em></td>
</tr>
<tr>
<td>Kentucky Coffeetree</td>
<td><em>Gymnocladus dioicus</em></td>
</tr>
<tr>
<td>Japanese Pagodatree</td>
<td><em>Sophora japonica</em> <em>(Princeton Upright, Regent)</em></td>
</tr>
<tr>
<td>Silver Linden</td>
<td><em>Tilia tomentosa</em> <em>(Green Mountain, Sterling)</em></td>
</tr>
<tr>
<td>Hybrid Elm</td>
<td><em>Ulmus spp.</em> <em>(Homestead, Pioneer, Urban)</em></td>
</tr>
<tr>
<td>Loblolly Pine</td>
<td><em>Pinus taeda</em></td>
</tr>
<tr>
<td>Willow Oak</td>
<td><em>Quercus phellos</em></td>
</tr>
<tr>
<td>Sugar Maple</td>
<td><em>Acer saccharum</em></td>
</tr>
<tr>
<td>Red Maple</td>
<td><em>Acer Rubrum</em> <em>(Autumn Flame, Bowhall, Karpick, Northwood, October Glory, Red Skin, Red Sunset)</em></td>
</tr>
<tr>
<td>Scarlet Oak</td>
<td><em>Quercus coccinea</em></td>
</tr>
</tbody>
</table>
Southern Magnolia
Magnolia grandiflora
London Plane-tree
Platanus acerifolia (Bloodgood, Colombia, Liberty)
River Birch
Betula nigra (Heritage, DuraHeat)
Japanese Zelkova
Zelkova serrata (Green Vase, Village Green)
Tulip Poplar
Liriodendron tulipifera
Pin Oak
Quercus palustris
Black Gum
Nyssa sylvatica
Littleleaf Linden
Tilia cordata (Glenleven, Greenspire)
White Oak
Quercus alba
Japanese Scholartree
Sophora japonicum
Gingko
Gingko biloba (Lakeview, Princeton Sentry)
English Oak
Quercus robur (Fastigiata)
Japanese Katsuratree
Cercidiphyllum japonicum
Schumard Oak
Quercus schumardi
Chinese Elm
Ulmus parviflora (Lacebark, Athena, Allee)

(B) Medium Variety Trees (mature height: twenty-five (25) to thirty-five (35) feet):

Bradford Pear
Pyrus calleryana "Bradford"
Mountain Silverbell
Halesia monticola
Sourwood
Oxydendrum arboreum
Thornless Honeylocust
Gleditsia triacanthos "Inermis"
Eastern Redbud
Cercis canadensis
Mountain Ash
Sorbus americana
Yoshino Cherry
Prunus yedoensis
Golden-Rain-Tree
Koelreuteria paniculata
Saucer Magnolia
Magnolia soulangiana
Weeping Cherry
Prunus subhirtilla pendula
Kwansan Cherry
Prunus serrucata "Kwansan"
Yellowwood
Cladashire lutea
Ironwood
Carpinus carolineana
Pistachio
Pistacia chinensis
Redmond Linden
Tilia americana "Redmond"
American Holly
Ilex opaca (East Palatka, Foster’s #2, Nellie R. Stevens)

(C) Small Variety Trees (mature height: less than twenty-five (25) feet):

Japanese Maple
Acer palmatum
Japanese Dogwood
Cornus kousa
Flowering Dogwood
Cornus florida
Smoketree
Cotinus coggyria (Daydream, Royal
Purple)

Crape Myrtle
Lagerstroemia indica (Dallas Red, Lipan, Natchez, Sioux, Tonto, Yuma)

Crabapple (var.)
Malus hybrida (var.)

Amur Maple
Acer ginnala

Russian Olive
Eleagnus angustifolia

Wax Myrtle
Myrica Cerifer

Star Magnolia
Magnolia stellata

Japanese Tree Lilac
Syringa reticulata

Green Hawthorn
Crataegus viridis

Carolina Cherrylaurel
Prunus caroliniana

Choke Cherry
Prunus virginiana

Sargent Cherry
Prunus sargentii (Columnaris, Hillier Spire)

(D) Streetyard and Interior Shrubs (mature height: approximately thirty-six (36) inches):

(1) **Supplemental Evergreen Shrubs.**

| Warty Barberry | Berberis verruculosa |
| Dwarf Burford Holly | Ilex cornuta "Burfordii" nana |
| Japanese Holly (var.) | Ilex crenata (var.) |
| Azalea (var.) | Azalea sp. |
| Mugo Pine | Pinus mugo |
| Juniper (var.) | Juniperus sp. |
| Euonymous (var.) | Euonymous sp. |
| Leatherleaf Viburnum | Viburnum rhytidophyllum |

(2) **Deciduous.**

| Forsythia | Forsythia sp. |
| Dwarf Burning Bush | Euonymous alatus "Compacta" |
| Thunberg Spirea | Spirea thunbergi |
| Viburnum (var.) | Viburnum sp. |
| Oakleaf Hydrangea | Hydrangea quercifolia |
| Japanese Flowering Quince | Chaenomeles japonica |
| Potentilla | Potentilla fruticosa |
| Ornamental Grass Varieties | |
| Oregonholly Grape | Mahonia bealei |
| Nandina | Nandina domestica |
| Dwarf Nandina | Nandina domestica nana |
(E) **Primary Evergreen Shrubs and Outdoor Storage Area Screening Plants** (installation height: six (6) feet):

- American Holly  
- Burfora Holly  
- Nellie Stevens Holly  
- Red Tip Photinia  
- Wax Myrtle  
- Hetz Juniper  
- Arborvitae  
- Eastern Red Cedar  
- Japanese Black Pine

- **Ilex opaca**  
- **Ilex cornuta "Burfordii"**  
- **Ilex cornata "Nellie Stevens"**  
- **Photinia glabra**  
- **Myrica cerifera**  
- **Juniperus hetzi**  
- **Thuja occidentalis**  
- **Juniperus virginiana**  
- **Pinus thunbergiana**

(F) **Groundcovers** (planting areas, berms, wall planters):

- Lily-Turf  
- Creeping Lilyturf  
- Hybrid Daylily  
- Periwinkle  
- English Ivy  
- Purpleleaf Winter creeper  
- Aaronsbeard  
- Rockspray Cotoneaster

- **Liriope muscarii**  
- **Liriope spicata**  
- **Hemerocallis hybrida**  
- **Vinca minor**  
- **Hedera helix**  
- **Evonymus fortunei coloratus**  
- **Hypericum calysinum**  
- **Cotoneaster horizontalis**

(G) **The following trees shall not be credited toward the requirements of this Ordinance:**

- Bradford Pear  
- Silver Maple  
- Hybrid Poplars  
- Tree of Heaven  
- Mimosa  
- Royal Paulownia

- **Pyrus calleryana “Bradford”**  
- **Acer saccharinum**  
- **Populus spp.**  
- **Ailanthus altissima**  
- **Albizia julibrissin**  
- **Paulownia Tomentosa**

3-5 **BUFFERYARD STANDARDS**

3-5.4 **MULTIPLE USE OF BUFFERYARDS**

(A) **To Satisfy Other Requirements**

Areas set aside as required bufferyards may also be used to satisfy the following:

(1) Minimum setback requirements;
(2) Minimum open space requirements; and,
(3) Minimum landscaping requirements, including the Tree Save Area requirements of Section B.3-4.2.1(A).
(B) For Other Purposes
Required bufferyards may also be used for the following additional purposes:

(1) Bufferyards may contain stormwater retention or detention areas, provided:
   (a) The required bufferyard plantings shall be provided and the design and landscaping of the bufferyard do not interfere with the proper functioning of the drainage system; and,
   (b) The designed water depth shall not harm the viability of the plantings.

(2) Bufferyards may be used for passive recreation, such as pedestrian, bicycle, or equestrian trails, subject to the following limitations:
   (a) No plant material shall be eliminated;
   (b) The total width of the bufferyard shall be maintained; and,
   (c) All other requirements of this Ordinance shall be met.

(3) Bufferyards may be used for the installation of underground utilities, provided the location and use of the utility lines do not interfere with the required bufferyard plantings.

(C) Reduction for Driveway to Rear Parking Areas
A side or rear bufferyard may be reduced to five (5) feet if the Planning Board or Director of Inspections determines that such reduction is necessary, due to lot size, shape, or topographic features, to allow a driveway which accesses off-street parking to the rear of the property.

(D) Prohibited Uses
The following uses shall be prohibited in a required bufferyard: playfields, stables, swimming pools, tennis courts, or similar active recreation uses, and storage or parking facilities.

3-5.5 BUFFERYARD VARIANCE
Application for variances from the requirements of the bufferyard standards may be approved by the Board of Adjustment in accordance with the procedures in Section B.6-1.4(B). Approval of a variance shall include the determination that there are practical difficulties or unnecessary hardships in the way of carrying out the strict letter of the ordinance because of one or more of the following conditions:

(A) Narrow
Unusually narrow (less than ten [10] feet) sections of land available for planting within the back and/or side yards because of existing permanent structures, existing paving, or natural features such as rock outcroppings.
(B) **Steep Slopes/Elevation Change**  
Existing slopes in excess of two (2) to one (2:1) in locations where a bufferyard is required.

(C) **Public Safety**  
Specialized land uses such as public utilities, airports, etc. where strict adherence to the screening standard would significantly interfere with the function of that use and would create a public safety problem.

(D) **Public Agency**  
Actions of a public agency.

(E) **Platting or Deeding**  
Difficulties arising from the recorded platting or deeding of land prior to the adoption of this Ordinance.

3-6 **COMMON RECREATION AREAS**

3-6.1 **APPLICABILITY**

All multifamily developments containing forty (40) or more units, and all manufactured home developments, shall provide on site common recreation area as required in this section. Elderly housing, life care communities, and other developments occupied exclusively by persons who are at least fifty-five (55) years old or disabled are exempt from the requirements of this section.

3-6.2 **MINIMUM SIZE**

A minimum of one hundred (100) square feet per unit shall be devoted to common recreation areas.

3-6.3 **COMBINING AREAS**

The total common recreation area may be divided into areas not less than four thousand (4,000) square feet each where the average length of the space does not exceed twice the average width.

3-6.4 **ACCESS**

Common recreation areas shall be easily accessible by pedestrian walkways so they can be conveniently and safely reached and used.

3-6.5 **FINISHED GRADE**

Common recreation areas shall be constructed on land where the average finished grade of the slope does not exceed five percent (5%), is well drained, and is otherwise capable of serving the purposes intended.
3-6.6 LANDSCAPING

Common recreation areas shall be attractively landscaped and provided with sufficient natural or constructed screening to minimize any negative impacts upon adjacent residences within the development. Additionally, one large variety tree shall be required for every two thousand five hundred (2,500) square feet of common recreation area.

3-6.7 EXCLUSIONS

Common recreation areas shall not include streets, access easements, rights-of-way, parking areas, required perimeter bufferyards or streetyards or required building setbacks; shall be closed to motor vehicle traffic except for maintenance and service vehicles; and, shall not be located over a septic system drainage field.

3-6.8 MAINTENANCE

Common recreation areas shall be improved and maintained for the purposes intended.

Section 3. This ordinance shall be effective upon adoption.
Key Agreements of the Winston-Salem/Forsyth County
Tree Ordinance Committee
January 20, 2008

A. Overall Recommendations

1. Gather Baseline Data on Tree Cover
   The elected body should allocate reasonable resources in order to gather accurate information about the current tree cover in Forsyth County so that a tree cover base line can be established.

2. Establish a Tree Advisory Council
   The City-County Planning Board should establish a Tree Advisory Council to monitor the success and impacts of its tree conservation standards and make changes where necessary as conditions warrant.

3. Applicability
   a. Tree conservation recommendations contained here shall apply to new development on land uses as described in Section C.3.c.
   b. Tree Save Area standards shall not be required in Growth Management Area 1 – City/Town Centers.

B. Recommendations for Maintaining Trees in a Healthy Condition

1. Establish goals and standards for maintaining and planting trees
   a. Use ANSI A300 standards for planting and maintaining trees
   b. Applicability – all trees required by ordinance

2. Protect trees during construction
   a. Protect root system during development and landscaping
   b. Protect drip zone areas during grading in Tree Save Areas
   c. Ensure adequate and effective tree protection fencing
   d. Provide sufficient staffing and funding to enforce existing standards

3. Provide education to homeowners and tree maintenance providers to encourage proper maintenance
   a. Conduct annual planting and maintenance workshops
   b. Produce a maintenance guidebook

4. Plant and replant trees properly
   a. Select the right tree for the location
   b. Provide education programs about what to plant and how

1 Derived from the Tree Ordinance Committee Final Report, December 21, 2007
C. **Recommendations for Conserving Trees to Reduce Loss or Depletion**

1. **Target Critical Areas**
   a. Conserve trees along streams, in floodplains and in headwaters, and encourage tree planting along streams and in riparian buffers. Incentives will be granted for protecting existing trees along the outward boundary of forested riparian buffers protected under the City/County Stormwater Management Requirements.
   b. Increase contiguous tree stands.

2. **Target Municipal and County Properties for Woodland and Forest Conservation.**
   a. Require government units to be leaders in tree conservation as a good example
   b. Increase tree plantings in city parks and public/corporate lands. Schools were specifically targeted for tree conservation: increase tree planting at public schools; require public schools to incorporate tree conservation in designs; and encourage the school system to plant, maintain and protect trees on school sites
   c. Require tree protection plans for public projects (e.g., sewer line installation)

3. **Establish Tree Save Area (TSA) standards in new development as a means of protecting the existing tree canopy**
   a. A Tree Save Area (TSA) shall be defined as one or more areas on a development tract where existing trees will be preserved and maintained. The TSA is defined by the square footage encompassed by the exterior boundary of the drip line plus five feet of a tree or contiguous stand of trees.
   b. TSA coverage is expressed as a percentage of the total area of the development tract. For the purpose of calculating tree coverage requirements, the water surface area of ponds, lakes and other water bodies, roads, dedicated rights of way, and utility easements shall be excluded from the total land area of the development tract.
   c. Minimum TSA coverage applies to each of the following major land uses:
      i. Planned residential developments (PRD) – 12%
      ii. Single family residential major subdivision – 12%
      iii. Multi-family residential major subdivision – 12%
      iv. Commercial – 10%
      v. Industrial – 10%
      vi. Transit-Oriented Development areas and Metro Activity Centers – to be reviewed individually
   d. To be credited toward a TSA, a tree:
      i. Cannot be an exotic, invasive species. An invasive exotic species is defined as any non-native plant species that adversely affect the habitats they invade economically, environmentally or ecologically. (staff will define);
ii. Must be sufficiently healthy such that it will continue to grow for at least five years.

iii. May not be located within a utility right of way, a construction easement, within 50 ft of the centerline of any overhead electrical transmission line, or within 20 ft of the centerline of any overhead electrical distribution line.

e. Stream buffer credits:

   i. Properties falling under the City/County Stormwater Management Requirements may use some or all of the buffer to satisfy the required TSA if that stream buffer contains trees as defined above.

4. **Plant Trees To Increase Tree Coverage**

   a. On parcels containing less than the minimum tree coverage as described by the TSA for each of the major land uses, planting will be required at the following rates:

      i. Where minimum TSA is 12%: If less than 6% coverage, plant to 6%; If more than 6%, but less than 12%, plant to 12%

      ii. Where minimum TSA is 10%: If less than 5% coverage, plant to 5%; If more than 5%, but less than 10%, plant to 10%

   b. Species planted to meet TSA requirements must be on the “Approved Species List”.

   c. Trees planted to meet TSA requirements must contain a mix of species determined in the following way:

      i. 85% of trees must be canopy trees of species contained in List A and List B

      ii. 15% of trees must be understory trees of species contained in List C

      iii. No single species shall constitute more than 50% of total planting.

   d. Size of replanted trees will be determined generally by species as listed on the “Approved Species List.”

5. **Require Tree Protection Plans**

   a. All applications for new development where Tree Save Areas are required shall include a tree protection plan (a ‘generic’ tree protection plan similar to the format used by the City of Charlotte).

6. **Demarcation and Certification of Tree Save Areas**

   a. Tree Save Areas may be demarcated on drawings and aerial photos submitted with site plans or through a tree survey

   b. Tree surveys shall be undertaken in the following instances:

      i. To qualify for tree and stand quality incentives

   c. A tree survey conducted for purposes of obtaining quality incentives shall be conducted and certified by a registered forester or certified arborist.
7. **Definition of Maintenance Period for Trees Saved and Planted in a TSA**

The committee discussed options for ensuring that trees comprising a TSA remain on the site for some period of time after development (maintenance period). They agreed that a maintenance period is needed but did not reach agreement on duration and replacement requirements.

D. **Recommendations for Establishing and Maintaining Age and Species Diversity**

1. **Ensure tree and stand quality in tree save areas (TSA) by providing incentives to improve tree and stand quality**
   
   a. Incentives for protecting high quality trees and contiguous tree stands will be provided such that allowances may be granted for going below the minimum TSA standard. The quality coefficients described below may be applied in cases where extra measures are taken to ensure tree and stand quality on the development tract. In no cases shall the minimum TSA be less than 10% for single family and multifamily major subdivisions, and planned residential developments. (Incentive allowances were not discussed for nonresidential uses).

   b. Quality coefficients will be applied to the measure of tree cover in the following ways:

      i. **Species:** If stand composition is mixed hardwood and coniferous, TSA may be reduced by 0.25%. If stand composition is completely hardwood, TSA may be reduced by 0.5%

      ii. **Cluster characteristics:** If the entire TSA is contained in one tract the TSA may be reduced by 2%

      iii. **Stand diversity:** TSA may be reduced by 0.1% for each different species found in TSA if 10 or more separate species are documented within the TSA

      iv. **Specimen trees:** If specimen trees, as defined below, are within TSA, the TSA may be reduced by 0.1% for each specimen tree.

   c. Incentives will be granted for protecting existing trees along the outward boundary of forested riparian buffers protected under the City/County Stormwater Management Requirements.

      i. A density bonus of 1 housing unit per developed acre will be granted for every 4,000 square feet of existing tree cover added to the outward boundary of a riparian buffer. Bonuses will be limited to no more than 2 housing units per developed acre.

   d. To qualify for incentives, the development tract and associated tree protection plan must be reviewed and certified by a registered forester or certified arborist.

2. **Preserve and Protect High Value Trees (Heritage and Specimen Trees)**
a. **Heritage Trees**

i. **Defined:** A Heritage Tree is any tree that is listed on the North Carolina Big Trees List, the American Forest Association Champion Tree list, or any tree that would measure 80% of the points of a tree on the North Carolina Big Trees List.

ii. **Mitigation:** Heritage trees certified by a registered arborist or certified forester to be expected to live for at least five years beyond the time of inspection, and not deemed to be a hazardous tree, must be retained on the development tract. In cases where keeping the tree on the development tract is not feasible then the TSA on the tract must be increased by three times the coverage area of the removed heritage tree.

b. **Specimen Trees**

i. **Defined:** A Specimen Tree is a tree or group of trees considered to be an important community asset due to its unique or noteworthy characteristics or values. A tree may be considered a specimen tree based on its size, age, rarity or special historical or ecological significance as determined by the city arborist or urban forestry specialist.

ii. **Protection:** Protection of specimen trees on the development tract is encouraged through incentives.
The last several email exchanges underscore the fact that the tree committee needed more time to iron out some important details. In anticipation that there will be no opportunities (or the desire for that matter) for the committee to get back together to work out remaining differences, I would like to use this opportunity to remind the committee of what you did agree to.

First, the committee identified five objectives that their recommendations should address:
1. Maintain Trees in a Healthy Condition
2. Conserve Trees to Reduce Loss or Depletion
3. Establish and Maintain Age and Species Diversity
4. Secure Sufficient Staffing and Funding
5. Gain Community Support

Although the committee was unable to develop actions to accomplish Objectives 4 and 5, the first three objectives were pretty well fleshed out, albeit with some notable exceptions. The committee's recommended actions are contained in the "Key Agreements" document that I sent out at the beginning of the month. This document is the bare bones version of the final report I submitted in December. While it lays out the basic agreements, It lacks the nuance contained in the final report and is therefore at the center of the dispute about what was agreed to and what was not. Much of what is in dispute has a lot to do with how the committee reached agreement as much as the substantive content of those agreements. With the exception of the statement about the establishment of a standing committee (my misinterpretation of part of an agreement), the Key Agreements document reflects just that, key agreements of the committee. However, it does not reflect some important qualifications of those agreements. The final report should be your guide to those qualifications, and I summarize them here.

First, I suggest striking item A.2. -- the formation of a standing committee -- from the Key Agreements document. Although there was considerable discussion about the formation of standing committee -- particularly with respect to tree protection activities in GMA1 -- the committee did not reach formal agreement on the formation of such a committee.

Secondly, the agreements listed under Objective 1, Maintain Trees in a Healthy Condition, were reached in February and March 2007. Some additional language that affects actions under Objective 1 were added in October 2007, but by and large, this objective was wrapped up in March. Although the Chamber had a representative present in February and March, Gayle Anderson was not present and therefore did not have the opportunity to comment on them at that time. Had she been present, it is likely that these would read differently than they do now.

The agreements reached in Objective 3, Establish and Maintain Age and Species Diversity, were focused on creating an incentive program that ensures that the trees saved under such an ordinance those that provide the greatest social and ecological benefit. Generally, the incentive program had the backing of the entire committee, however minimum threshold for percentage TSA under the incentive program was an issue. Several committee members were unwilling to consider thresholds lower than 10%.
The bulk of the committee's recommendations pertain to Objective 2. This objective describes the activities that developers and landowners should undertake to conserve trees during the land development process. The key element in conserving trees, and the approach that the committee agreed to, is the establishment of Tree Save Areas (TSAs) in areas of new development. General provisions also agreed to by the committee were to provide incentives for protecting high quality trees and tree stands in order to preserve benefits such as water quality protection, wildlife habitat, and other values that healthy trees and tree stands provide. This entails conserving trees along existing streams and floodplains and increasing contiguous stands of trees.

The committee reached agreement on most of the key provisions regarding establishment and maintenance of Tree Save Areas in residential developments. The key item that remains in dispute is the percentage figure used in the TSA definition. Did the committee really agree to 12 percent in residential areas? The August 22, 2007 meeting minutes is very clear on this point. It was important for the committee to have a number they could use as a foundation around which the rest of the TSA approach could be fashioned. To create this number, the committee agreed to use a provisional figure that was derived from the median value of all of the values that committee members offered as their preferred percentage figure. The 12% figure was the median value. This was the favored value of only two committee members. Without a provisional figure the remainder of the Objective 2 actions could not have been developed. It was a compromise that enabled the committee to move forward. It is also the case that this 12% figure became the de facto percentage figure adopted by the committee.

That brings us to the other percentage TSA figures cited in the document. The 10% TSA for land use classes other than single family residential and PRDs was a last minute compromise where everyone but one member voted a '3' (agreement with minor revisions) and one member voted a '4' (stand aside with major reservations). No one voted at the meeting to block it. However, there was very little time for meaningful discussion on this topic. Had we more time, the outcome may have been very different.

Should the percentage figures remain? That is ultimately a political decision, but the provisional figure of 12% may have some resilience. The committee, which itself is a reflection of the interests of Winston-Salem and Forsyth County residents, was split on this. A balance of committee members wanted either a higher or lower percentage figure. It was a figure that everyone could live with at the time, but has no scientific meaning. While my goal was to help the committee find solutions that all could endorse, a compromise may be the best that could be done under the circumstances.

I do believe that the committee fashioned a set of recommendations that, if adopted, can achieve its stated objectives. You all worked hard and long on this, and I hope that the core of what created together can be put into place. Namely, a tree conservation program that is aimed at providing social, economic and ecological benefits.

Respectfully yours,

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