

## **AGENDA**

### **LEWISVILLE PLANNING BOARD**

**SEPTEMBER 10, 2025 AT 6:00 PM**

Lewisville Town Hall

2<sup>nd</sup> Floor Large Conference Room



1. **Call to Order**
  - a. Roll Call and Determination of Quorum
2. **Regular Business**
  - a. Approval of the Agenda
  - b. Approval of Minutes: July 9, 2025
3. **Public Comment**
4. **Technical Review**
  - a. L-PBR 202501: Brook Forest Phase II, consideration of a proposed 26-lot Major Subdivision to be located along Concord Church Rd, south of US Hwy 421
5. **Legislative Hearings**
  - a. None
5. **Continued Business**
6. **New Business**
  - a. Discussion of proposed, follow-up UDO text amendments regarding open space, tree preservation, regional scale religious institutions and clarification of regulations for structural height, mass and scale in the DTO.
7. **Updates and Review**
  - a. The Town Council adopted the revised UDO August 14, 2025.
  - b. Next Planning Board Meetings
    - i. October 8, 2025
    - ii. November 12, 2025
8. **Adjourn**

#### Members of the Planning Board

Mike Mulligan (Chair), Philip May (Vice Chair)

Lynn Fulton, Rob Herald, Marc Maready, Don McClain, Sarah Van Huis

**MINUTES OF THE REGULARLY SCHEDULED MEETING**  
**LEWISVILLE PLANNING BOARD**

**JULY 9, 2025 at 6:00 PM**

Lewisville Town Hall

2nd Floor Conference Room



Members Present: Mike Mulligan (Chair)  
Philip May (Vice-Chair)  
Lynn Fulton  
Marc Maready  
Don McClain

Members Excused: Rob Herald  
Sara Van Huis

Members Absent: None

Staff Present: Stacy Tolbert, Town Manager  
Elliot Fus, Town Attorney

**1. Call to Order**

Mr. Mulligan called the meeting to order at 6:00 pm. Roll call was performed and a quorum was confirmed with five board members present.

**2. Regular Business**

- a. Mr. Fulton moved to approve the agenda as written and Mr. Maready seconded. The board voted unanimously to approve the agenda as written (5-0).
- b. Mr. Maready moved to approve the minutes of the April 9, 2025 board meeting and Mr. McClain seconded. The board voted unanimously to approve the minutes as written (5-0).

**3. Public Comment**

None

**4. Legislative Hearings**

- a. L-113: A request for annexation and rezoning of Tax Parcel ID 5855-44-9745, located at 5394 Williams Rd from Agricultural & Yadkin River (Forsyth County) to Agricultural and Yadkin River Conservation (Lewisville).

Mr. Mulligan opened the public hearing to consider the foregoing matter for recommendation to the Town Council.

Mrs. Tolbert took the stand to address the board. She reviewed the information provided in the board agenda packet, including the rezoning application submitted by the applicants, maps and the staff report. She explained that this is a simultaneous request for annexation and the necessary rezoning.

Members of the Planning Board

Mike Mulligan (Chair), Philip May (Vice Chair)

Lynn Fulton, Rob Herald, Marc Maready, Don McClain, Sarah Van Huis

Mr. Klepper took the stand to address the Board. He presented a series of slides reviewing sections of the Ordinance that have undergone proposed revision; zoning districts that have been consolidated; sections and items that have been added; sections and Items that have been removed or streamlined; and the recent collaborative history of efforts involving Lewisville staff and a team of consultants with Kimley-Horn. He stressed the overarching goal of developing an Ordinance responsive to the contemporary needs and goals of Lewisville, as guided by the *Lewisville Tomorrow Comprehensive Plan*. He engaged in discussion with members of the Board and answered several questions.

Mr. Cochran then took the stand to address the Board. He highlighted key components of the ordinance that have been significantly revised, including standards for accessory structures, accessory dwelling units, home occupations, and the recent addition of standards for residential development involving sidewalks, tree preservation and street tree credits. He asked for input from the Board on the latter two items. He, the Town Attorney and members of the Board engaged in discussion and Mr. Cochran answered several questions. He, Mr. Klepper and the Board agreed on proposed language for sidewalk provisions and for street tree credits in residential developments.

Mr. Stan Forester of 1098 Reynolds Rd, Lewisville took the stand to address the board regarding tree preservation and credits for street trees in certain residential developments. Members of the Board asked several questions and engaged in discussion with Mr. Forester.

Mrs. Susan Frey of 165 Will Austin Ct, Lewisville took the stand to address the board. She stated dislike of the current UDO format as posted to the town's planning website and requested that the revised UDO be made as easily accessible to members of the public as possible.

No additional speakers signed up to address the Board.

The Board then engaged in discussion amongst themselves.

*Mr. Herald moved to recommend approval of the revised UDO including amendments discussed during the meeting. Mr. McClain seconded. The Board voted unanimously to recommend approval of the revised UDO finding it consistent with the Lewisville Tomorrow Comprehensive Plan (5-0).*

## **5. Continued Business**

None

## **6. New Business**

Mr. Cochran reviewed with the Board information regarding a satellite annexation application received from the owners of the Westbend property, located on the western portion of Williams Road in a currently unincorporated area of Forsyth County. The annexation process will include rezoning of the property. This will be detailed in a public hearing conducted by the Planning Board during the next regularly scheduled meeting, to be held July 9, 2025

## **7. Updates & Review**

Upcoming regularly scheduled meetings of the Planning Board include:

- a. July 9, 2025

### Members of the Planning Board

Mike Mulligan (Chair), Philip May (Vice Chair)

Lynn Fulton, Rob Herald, Marc Maready, Don McClain, Sarah Van Huis

b. August 13, 2025

**8. Adjourn**

With no further business, Mr. Herald moved to adjourn the meeting and Mr. McClain seconded. The Board voted unanimously to adjourn at 8:07 pm (6-0).

(Minutes prepared by Lynn Cochran)

\_\_\_\_\_  
Mike Mulligan, Chair

\_\_\_\_\_  
Date

\_\_\_\_\_  
Lynn Cochran, Planning Director

\_\_\_\_\_  
Date

Members of the Planning Board

Mike Mulligan (Chair), Philip May (Vice Chair)

Lynn Fulton, Rob Herald, Marc Maready, Don McClain, Sarah Van Huis





# LEWISVILLE PLANNING DEPARTMENT

6510 Shallowford Road | P.O. Box 547  
Lewisville, NC 27023-0547  
Voice 336-945-5558 | FAX 336-945-5531

## SITE PLAN PLANNING BOARD REVIEW APPLICATION

Application Date September 4, 2025  
Tax PIN(s) 5875-61-7353.000 and 5875-71-2659.000  
Site Plan Title Brook Forest Subdivision - Phase 2  
Development Type Single-Family Residential  
UDO Reference \_\_\_\_\_  
Zoning District RS-20  
Acreage 31.24  
No. of Units/Lots 26  
Residential Density 0.83 Units/Acre  
Streets      Public ☒      Private ☐  
Utilities      Public ☒      Private ☒

**Owner(s)** Dallas G. Warden and Carol Page Armstrong Revocable Trust  
Mailing Address 12612 Celtic Court, Rockville MD 20850  
Telephone \_\_\_\_\_ email \_\_\_\_\_

**Applicant(s) (if different)** JWR Building Company, Inc.  
Mailing Address Post Office Box 11226  
Telephone (336) 745-8757 email jrobertson@halcyonhomesnc.com

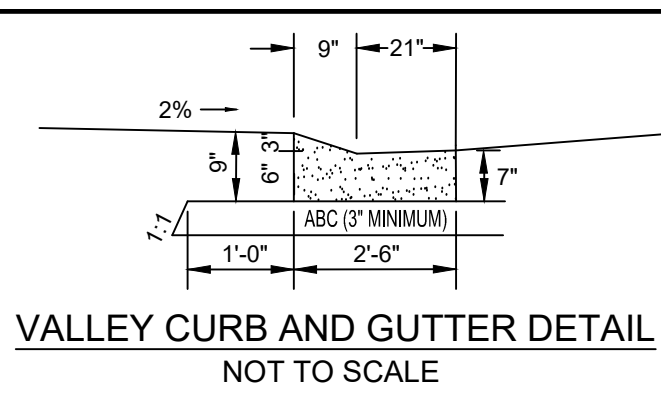
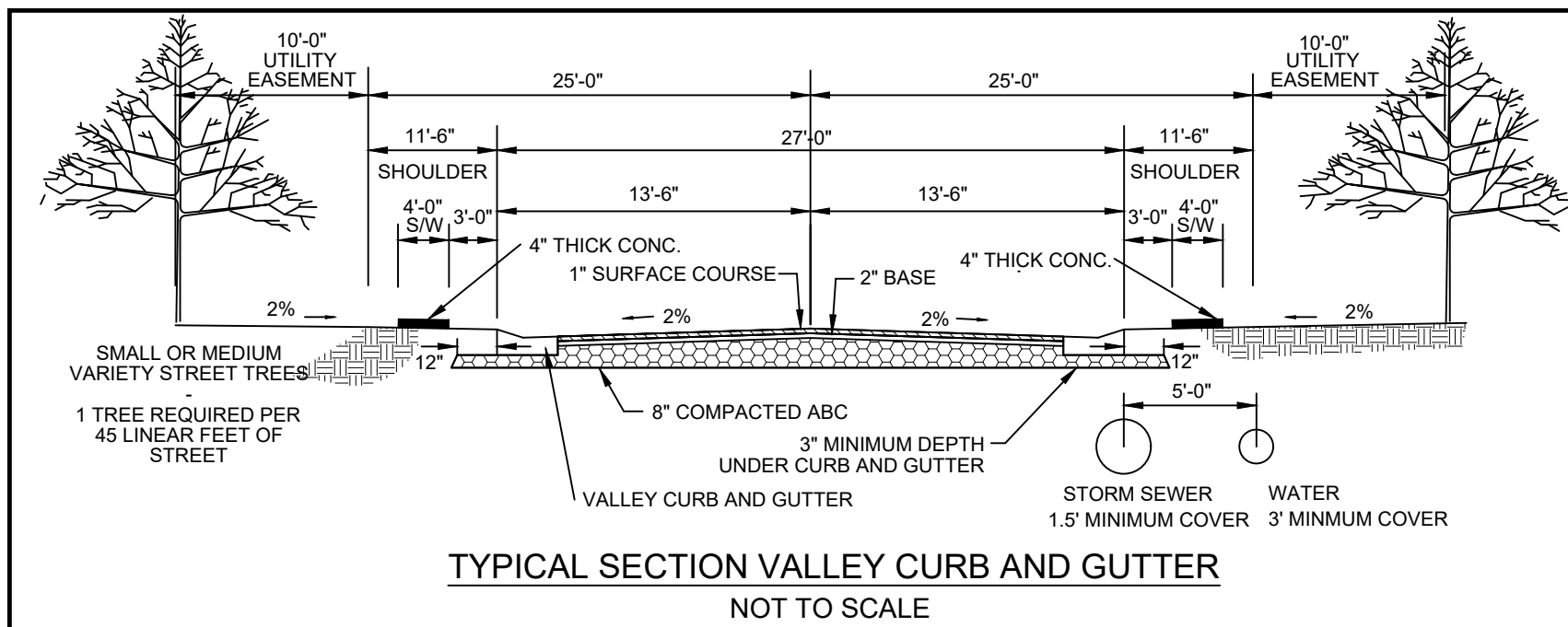
**Map Preparer** Allied Design, Inc. (Steve Causey)  
Mailing Address 4720 Kester Mill Road  
Telephone (336) 765-2377 email scausey@allied-engsurv.com

*\*Required: one (1) digital copy and ten (10) folded, full size paper copies at a scale no smaller than 1" = 100'*

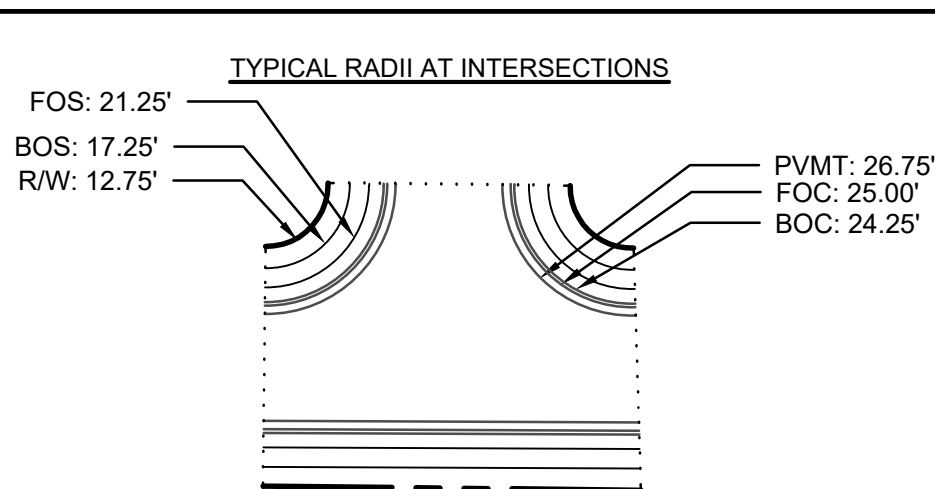
File# L-PBR202501

Fee Paid 7/23/2025





- GENERAL NOTES
- EXISTING SITE BOUNDARY, LOCATION AND TOPOGRAPHIC INFORMATION WAS TAKEN FROM AVAILABLE CITY/COUNTY MAPS. EXISTING CONTOURS ARE SHOWN AT 2' INTERVALS. PROPOSED CONTOURS ARE SHOWN AT 2' INTERVALS.
  - ALL DEVELOPMENT SHALL CONFORM WITH THE TOWN OF LEWISVILLE "UNIFIED DEVELOPMENT ORDINANCE".
  - ALL DIMENSIONS ARE TO EDGE OF PAVEMENT, FACE OF CURB AND FACE OF BUILDING, UNLESS OTHERWISE NOTED. VERIFY ALL BUILDING DIMENSIONS WITH ARCHITECT PRIOR TO START OF CONSTRUCTION.
  - PUBLIC WATER AND SEWER SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE CITY-COUNTY UTILITIES COMMISSION AND IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE CITY OF WINST-SALEM, MOST CURRENT EDITION.
  - JURISDICTION: TOWN OF LEWISVILLE

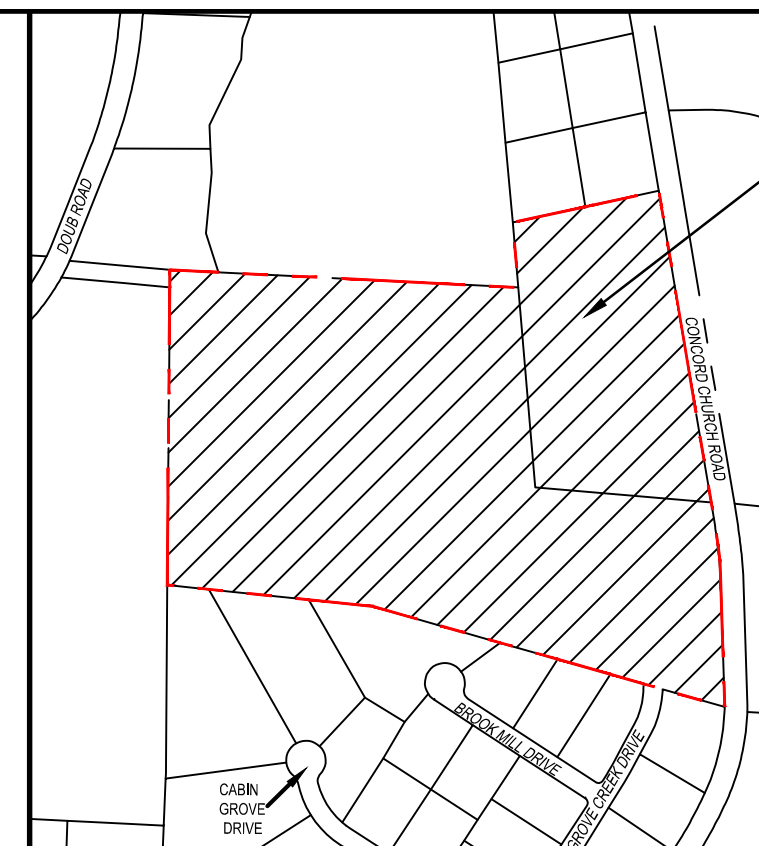


PROPERTY INFORMATION:  
PARCEL ID NUMBER: 5075477853000, 5875-71-2659.000  
ACREAGE: 31.24 AC COMBINED

PROPERTY OWNER:  
DALLAS G WARDEN  
CAROL PACE ARMSTRONG REVOCABLE TRUST  
12612 CLEGG CT  
ROCKVILLE, MD 20850

PROPERTY DEVELOPER:  
JRM BUILDING COMPANY, INC.  
PO BOX 11226  
WINSTON SALEM, NC 27116  
PHONE: (336) 765-8757  
EMAIL: ROBERTSON@JALCYONHOMESNC.COM

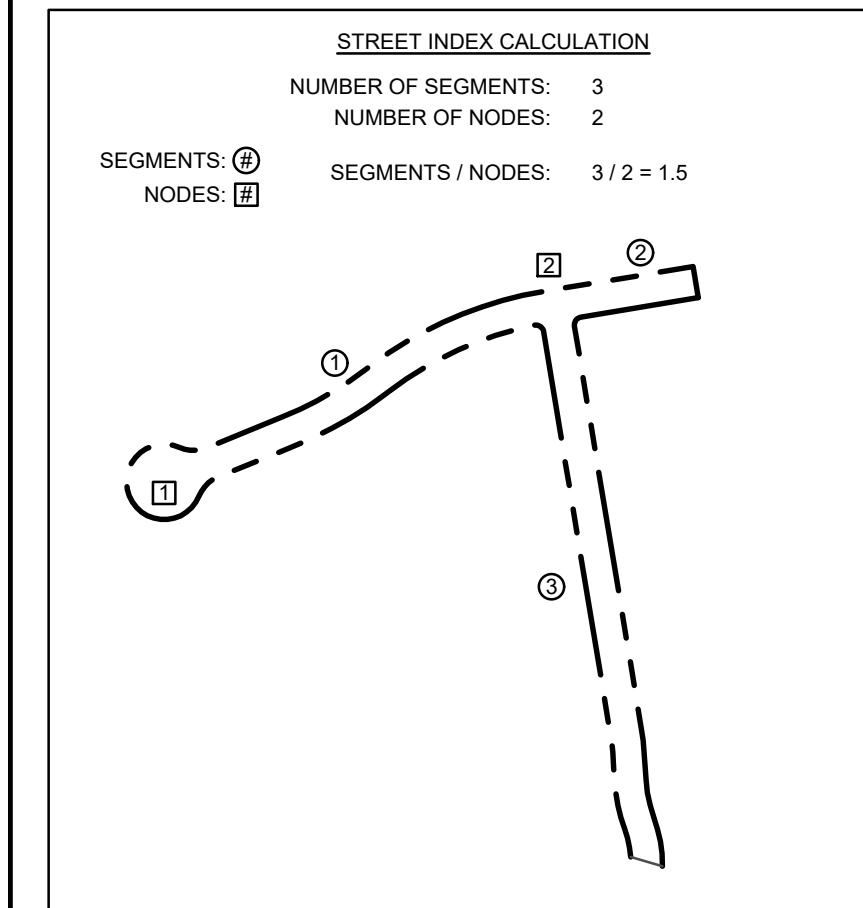
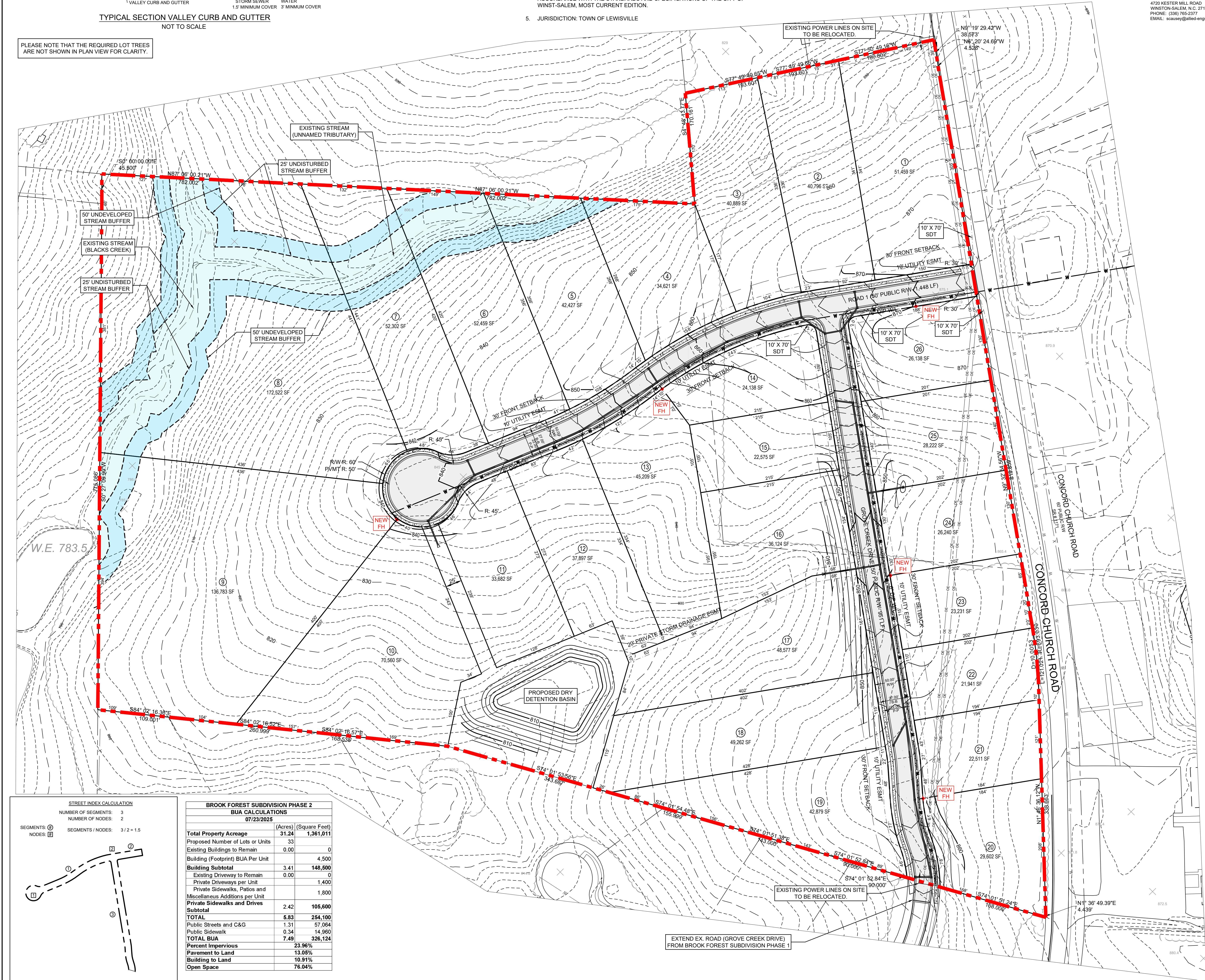
ENGINEER:  
ALLIED DESIGN, INC.  
4720 KESTER MILL ROAD  
WINSTON SALEM, N.C. 27103  
PHONE: (336) 765-2377  
EMAIL: scausey@allied-engr.com



ALLIED DESIGN, INC.  
CIVIL ENGINEERING & LAND SURVEYING  
4720 KESTER MILL ROAD  
WINSTON SALEM, NORTH CAROLINA 27103  
Phone: (336) 765-2377  
Fax: (336) 765-8886  
http://www.allied-engr.com

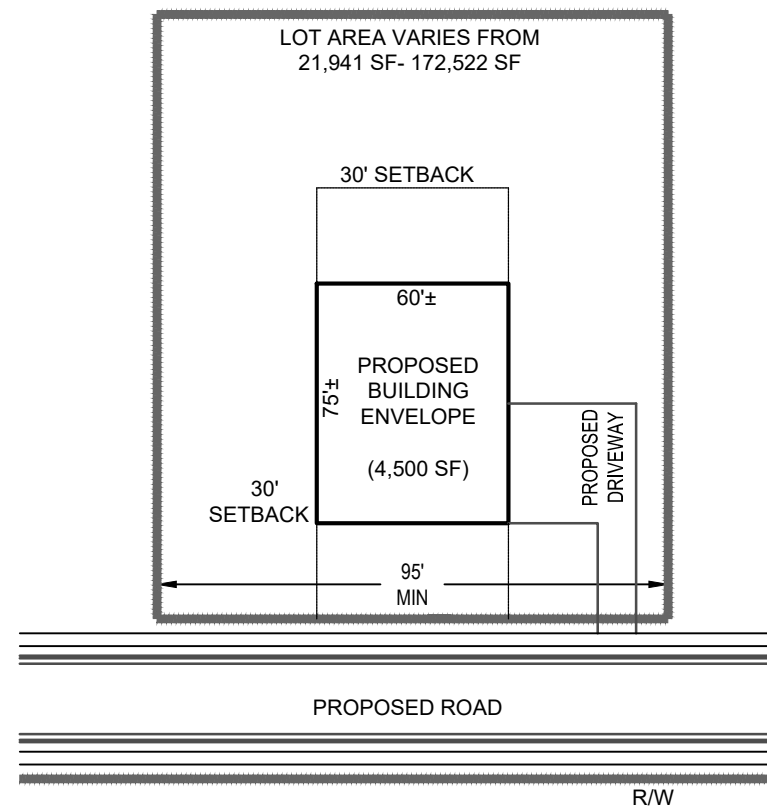
FIRM LICENSE C-1891

PLEASE NOTE THAT THE REQUIRED LOT LINES ARE NOT SHOWN IN PLAN VIEW FOR CLARITY.



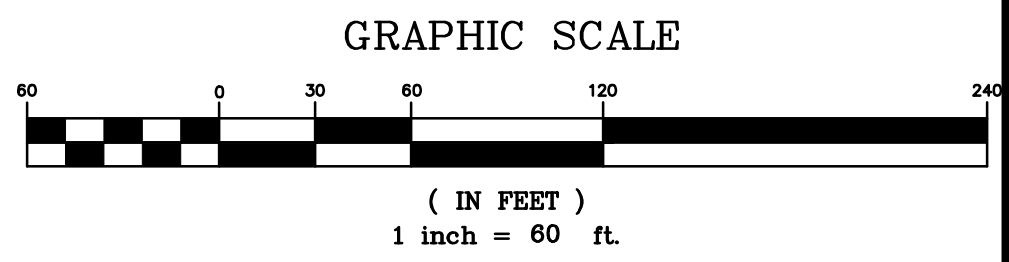
BROOK FOREST SUBDIVISION PHASE 2			
BUA CALCULATIONS			
07/23/2025			
	(Acres)	(Square Feet)	
Total Property Acreage	31.24	1,361,011	
Proposed Number of Lots or Units	33		0
Existing Buildings to Remain	0.00		0
Building (Footprint) BUA Per Unit			4,500
Building Subtotal	3.41	148,500	
Existing Driveway to Remain	0.00		0
Private Driveways per Unit			1,400
Private Sidewalks, Patios and Miscellaneous Additions per Unit			1,800
Private Sidewalks and Drives Subtotal	2.42	105,600	
TOTAL	5.83	254,100	
Public Streets and C&G	1.31	57,064	
Public Sidewalk	0.34	14,960	
TOTAL BUA	7.49	326,124	
Percent Impervious	23.96%		
Pavement to Land	13.05%		
Building to Land	10.91%		
Open Space	76.04%		

REVIEW INFORMATION:	
TYPE OF REVIEW:	
SPECIAL USE REZONING	
SITE PLAN AMENDMENT	
SPECIAL USE PERMIT	
FINAL DEVELOPMENT PLAN	
PRELIMINARY SUBDIVISION	X
PLANNING BOARD REVIEW	
JURISDICTION:	
CITY OF WINSTON-SALEM	
FORSYTH COUNTY	
VILLAGE OF CLEMMONS	
TOWN OF LEWISVILLE	X
TOWN OF MOCKSVILLE	
PURPOSED STATEMENT:	
THE PURPOSE OF THIS REQUEST IS FOR THE PLANNING BOARD APPROVAL OF THE PRELIMINARY SUBDIVISION PLAN WITH 26 SINGLE-FAMILY LOTS UNDER THE EXISTING ZONING (RS-20).	
INFRASTRUCTURE:	
WATER:	PRIVATE X PUBLIC X
SEWER:	X X
STREETS:	X X
STREET LENGTH (LF)	2,398.00
SITE SIZE AND COVERAGES:	
TOTAL ACREAGE (SF)	1,361,011.16
TOTAL ACREAGE (AC)	31.24
SITE COVERAGES:	
BUILDING TO LAND:	10.91%
PAVEMENT TO LAND:	13.05%
OPEN SPACE:	177,624.00 SF
TOTAL:	76.04%
1,034,887.16 SF	100%
1,361,011.16 SF	4,500
BUILDING SIZE:	
ZONING:	
EXISTING ZONING:	RS-20
PROPOSED ZONING:	RS-20
PROPOSED USES:	
USE CATEGORY: RESIDENTIAL DISTRICT	
RESIDENTIAL BUILDING, SINGLE FAMILY PRD	
DENSITY CALCULATIONS	
# OF LOTS	26
ACRES	31.24
DENSITY (LOTS PER ACRE)	0.83
LOT DIMENSION AND SPACING REQUIREMENTS	
FROM PUBLIC R/W	30'
FRONT/REAR FACING FRONT:	30' BETWEEN UNITS
REAR FACING REAR:	30' BETWEEN UNITS
SIDE/REAR FACING SIDE:	20' BETWEEN UNITS
MAX HEIGHT:	40'
BUFFERYARDS:	
REQUIRED:	N/A
PROPOSED:	N/A
PARKING CALCULATIONS	
SPACES REQUIRED	2 PER UNIT
# OF LOTS	26
LOTS X SPACES	52
REQUIRED:	52
PROPOSED:	52
WATERSHED CALCULATIONS	
THIS SITE IS NOT LOCATED IN A WATERSHED	



PROPOSED BUA  
HOME: 4,500 SF  
DRIVES: 1,400 SF  
PATIOS, WALKS, ETC: 1,800 SF  
TOTAL: 7,700 SF

RS20 TYPICAL BUILDING LAYOUT  
NOT TO SCALE



PRELIMINARY  
PLANS  
NOT RELEASED FOR  
CONSTRUCTION

BROOK FOREST SUBDIVISION- PHASE 2  
LEWISVILLE  
NORTH CAROLINA

PROJECT NO.:  
DRAWN BY:  
CHECKED BY:  
DATE:

REVISIONS  
NO. DATE  
1. 07/23/2025 ISSUED FOR PRE-SUBMITTAL REVIEW

PRELIMINARY  
SUBDIVISION  
PLAN

SHEET  
C1





# LEWISVILLE PLANNING DEPARTMENT

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6510 Shallowford Road | P.O. Box 547

Lewisville, NC 27023-0547

Voice: 336-945-1028 | Email: [lcochran@lewisvillenc.net](mailto:lcochran@lewisvillenc.net)

Website: [lewisvillenc.net/planning-zoning](http://lewisvillenc.net/planning-zoning)

## **LEWISVILLE TECHNICAL REVIEW COMMITTEE (TRC)**

### PRELIMINARY SITE PLAN REVIEW

#### BROOK FOREST PHASE II

Title and Number:	Brook Forest Phase II, L-PBR202501
Current Tax PIN(s):	5875-71-2659, 5875-61-7353
Location:	Concord Church Rd, South of US 421 Interchange
Type of Development:	Conventional Major Residential Subdivision
Total Acreage:	31.24 Acres
Current Zoning:	RS-20
Proposed Lots:	26
Project Density:	0.83 DUA
Surveyor/Engineer:	Allied Design 4720 Kester Mill Rd Winston-Salem, NC 27103 (336) 765-2377
Owner/Agent:	Carol Page Armstrong Revocable Trust 12612 Celtic Ct Rockville, MD 28050



## LEWISVILLE PLANNING DEPARTMENT

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Lewisville, NC 27023-0547

Voice: 336-945-1028 | Email: [lcochran@lewisvillenc.net](mailto:lcochran@lewisvillenc.net)

Website: [lewisvillenc.net/planning-zoning](http://lewisvillenc.net/planning-zoning)

### **Lewisville Planning, Lynn Cochran** [lcochran@lewisvillenc.net](mailto:lcochran@lewisvillenc.net)

- Please add to the site notes that this project is located in the Protected Area of the Yadkin River WS IV Drinking Water Watershed. (See below)
- Correct the stream buffer notations and dimensions to reflect the required 30' undisturbed riparian buffer along each side of the depicted stream and tributary. (See below)
- Lots 1 and 26 will need to show dedicated negative access easements to prevent access to and from Concord Church Rd.
- Label the 25' SCM access from the cul-de-sac to the proposed detention pond.
- Show and label the required Type III Bufferyard along Concord Church Rd. The inclusion of an earthen berm is recommended, as described in the UDO, Section B.3-4.2(B)(4)
- Show and label sidewalks along one side of each internal street at a ratio of 1:1 per linear street foot length, per UDO D.6-B-1 (7).
- One tree per each new lot must be shown planted and shown on the final plat. Additionally, small- or medium-variety street trees shall be provided each 45 feet along both sides of all street rights-of-way and shown on the final plat. (Suggested plant materials can be found in section B.3-3.9 of the UDO, pp. 376-381).
- \*New UDO Tree Preservation Requirement (B.3-3.7, pp. 374-375): a tree preservation plan must be submitted with the final plat. Please review the section noted for the specific regulations. The Tree Protection Plan must show the location of existing trees on the property, including those that are to be removed, the limits of disturbance, the Critical Root Zone (CRZ) of trees to be preserved, and the tree protection fence/barrier.

### **Lewisville Public Works/Stormwater, Jon Hanna** [publicworks@lewisvillenc.net](mailto:publicworks@lewisvillenc.net)

### **Lindsey Lengyel, Teresa Andrews - Blue Stream Environmental**

[lindsey@bluestreamenv.com](mailto:lindsey@bluestreamenv.com), [teresa@bluestreamenv.com](mailto:teresa@bluestreamenv.com)

- Please review the Stream Buffer Review included with this document.

### **Addressing, Matthew Hamby** [hambyme@forsyth.cc](mailto:hambyme@forsyth.cc)

- Any proposed names for new streets must be approved by MapForsyth Addressing. Street names may be two words maximum, not counting the street type.

### **NC Department of Transportation, Ashley Long** [amlong1@ncdot.gov](mailto:amlong1@ncdot.gov) and **David Bankhead** [dpbanhead@ncdot.gov](mailto:dpbanhead@ncdot.gov)

The following NCDOT comments are intended to serve as a guide for property owners, developers and designers to ensure that they are aware of what the Department's expectations are. However, it is important to note that these comments are subject to change. More specific comments may be provided as the applicant works through



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Website: [lewisvillenc.net/planning-zoning](http://lewisvillenc.net/planning-zoning)

any details with the District Office while seeking official approval. NCDOT reserves the right to modify comments at any point during our review process based upon any subsequent submittals or discoveries made with designs that are related to safety and mobility.

- An NCDOT driveway permit is required for any connection to Concord Church Rd (state-maintained). Contact the District Office for more details.
- Provide adequate horizontal and vertical sight distance for all proposed driveways.
- NCDOT encourages internal streets and/or shared driveway connections to reduce conflict points.
- Required 100 ft separation between driveways per the NCDOT driveway manual (unless otherwise approved).
- A 16.1 two-party encroachment would be required for utility connections (i.e. power, telephone, and gas) in the right of way.
- A 16.6 3-party encroachment agreement would be required for any utility ties (water and sewer) in the right of way, and sidewalk where applicable.
- For encroachment-related questions, please contact Carolina Carbajal – [ccarbajalcruz1@ncdot.gov](mailto:ccarbajalcruz1@ncdot.gov).

### **Utilities, Tiffany Easter** [TIFFANYAL@cityofws.org](mailto:TIFFANYAL@cityofws.org)

- Submit water/sewer extension plans to Utilities Plan Review, in IDT, for permitting/approval. Please pay attention to COWS specifications when designing. Any existing connections not intended for reuse must be terminated at the main. Water meters purchased through COWS. System development fees due at the time of meter purchase.

### **Stormwater, Laura Wilson, Stantec** [laura.wilson@stantec.com](mailto:laura.wilson@stantec.com)

- Mitigate against negative impacts to downslope properties,
- Mitigate against sedimentation in the stream during construction (silt fence, diversion berms, etc.)
- Show stream buffers on all plots
- General Comments: - Efforts shall be taken to mitigate any adverse effects on downstream structures, culvert, properties, etc. - Submit hydrologic-hydraulic analysis on drainage system for 1- and 10-year, 24-hour storm
- Located in: Yadkin River Lower Classification: WS-IV



**Brook Forest Subdivision Phase 2**

**Town of Lewisville**

**Stream Buffer Review**

**Site Information**

Current Tax PIN(s): 5875-71-2659, 5875-61-7353

Location: Concord Church Rd, South of US 421 Interchange [Across the street from 8254 Concord Church Rd]

Protected Area per NCDEQ Water Supply Watershed Map (Yadkin River- Lower)

Low Density Parameters per UDO: 1DU/.5AC or 1DU/20,000SqFt Lot

Builders are claiming low density

They need a minimum of 30ft vegetated setback on all mapped streams (USGS and Soil Survey)

**Comments**

- Mapped stream missing from plan. If developer is claiming it does not exist on site then SWITC trained professional must perform a stream determination to make the official call.
- Stream buffer widths are also unclear on plans. Buffer must be 30ft as measured from the top of the bank (TOB), if low density is accurate. The total width of the buffer would be 60ft wide plus the width of the channel. Named stream on site "Blacks Creek" is likely larger so we would recommend actually surveying top of bank and adding that to the plans and showing the buffer width off of the actual TOB, at a minimum for that stream. 10ft channel width can be assumed for unnamed tributaries.
- Please see additional notes on the attached plan mark-up.

**Blue Stream Environmental**

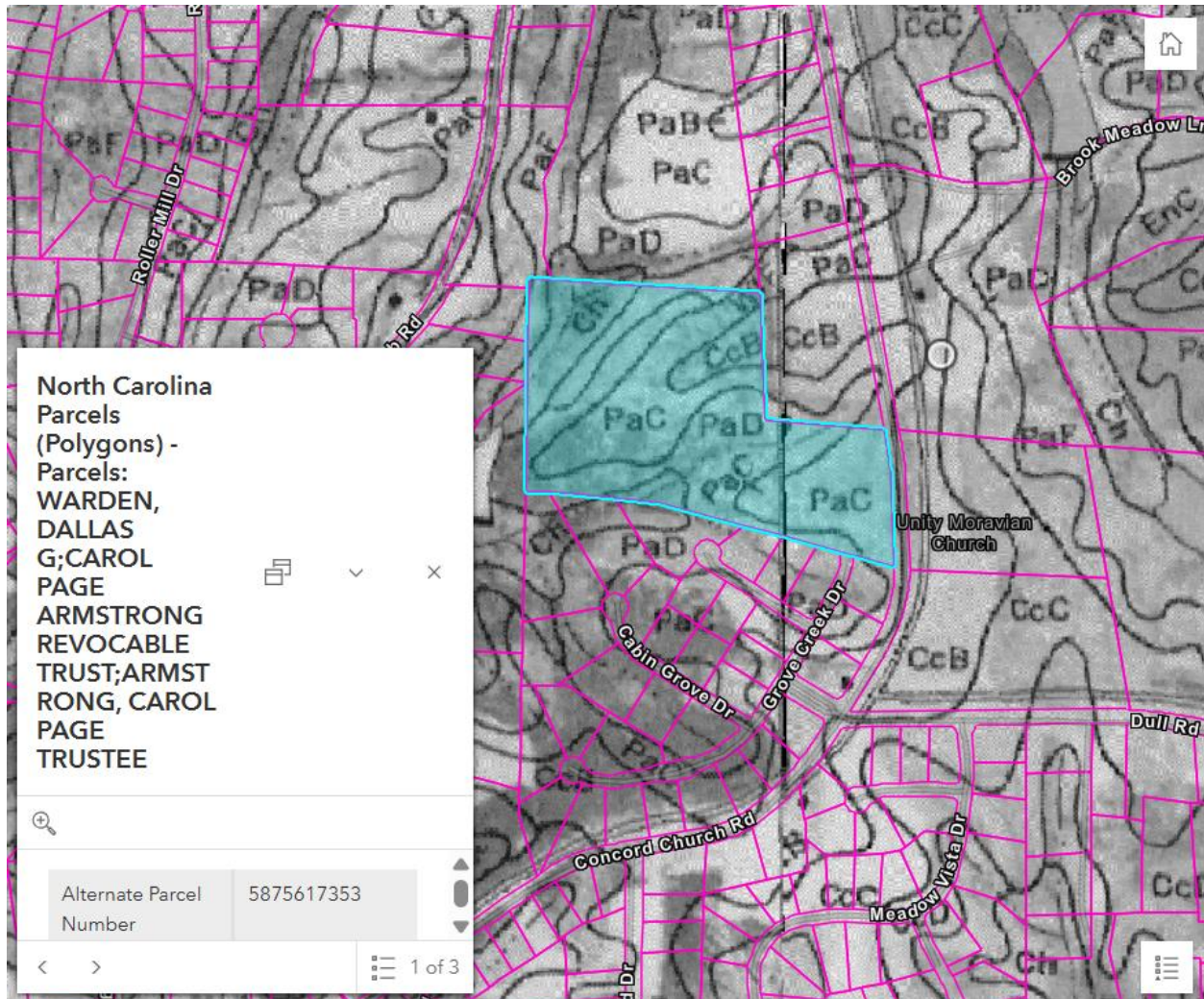
Kernersville, NC • 336-754-1696

[www.bluestreamenv.com](http://www.bluestreamenv.com)



## NRCS Soil Survey Map

Highlighting subject parcel for reference



**Blue Stream Environmental**

Kernersville, NC • 336-754-1696

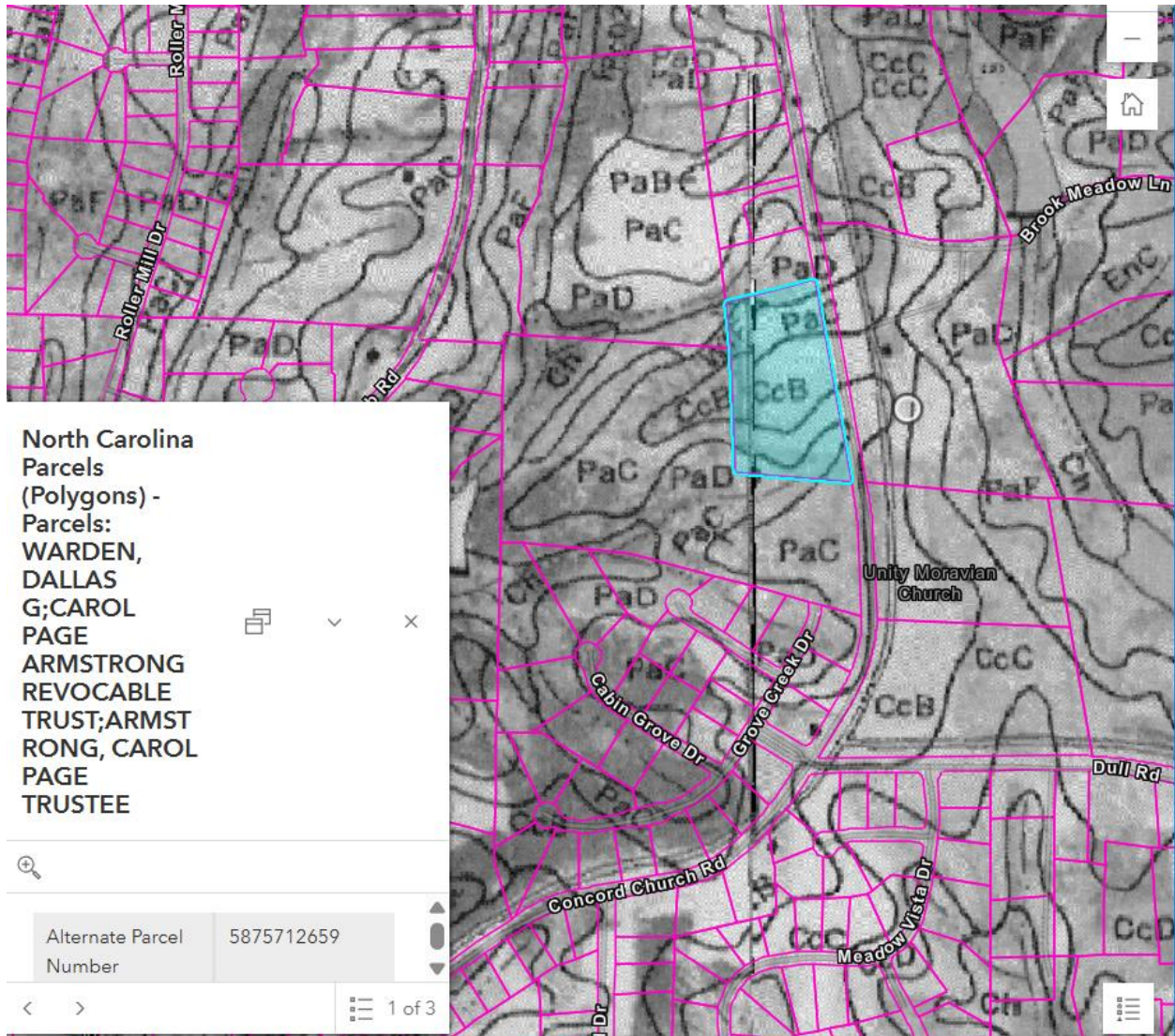
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Highlighting subject parcel for reference



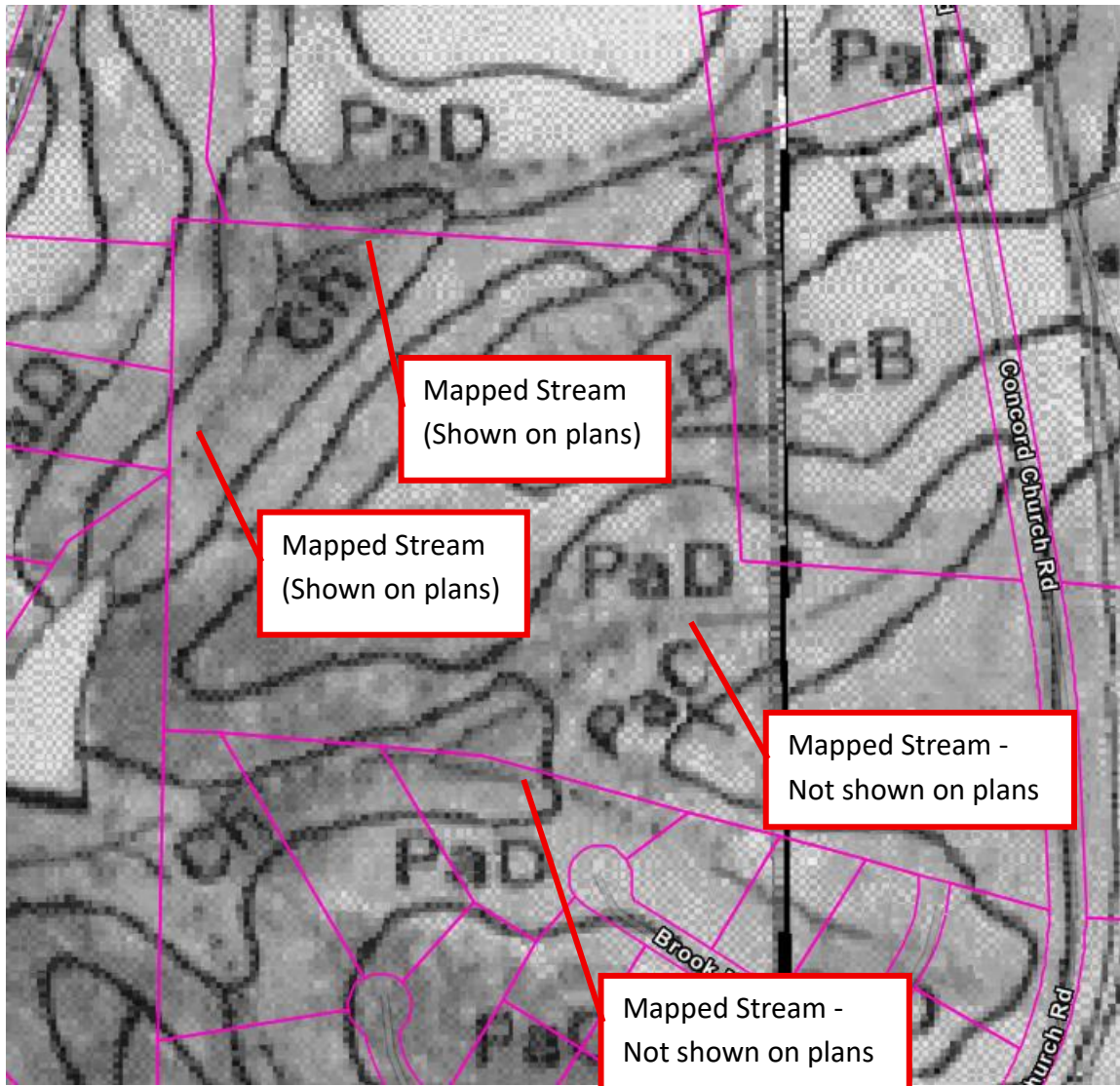
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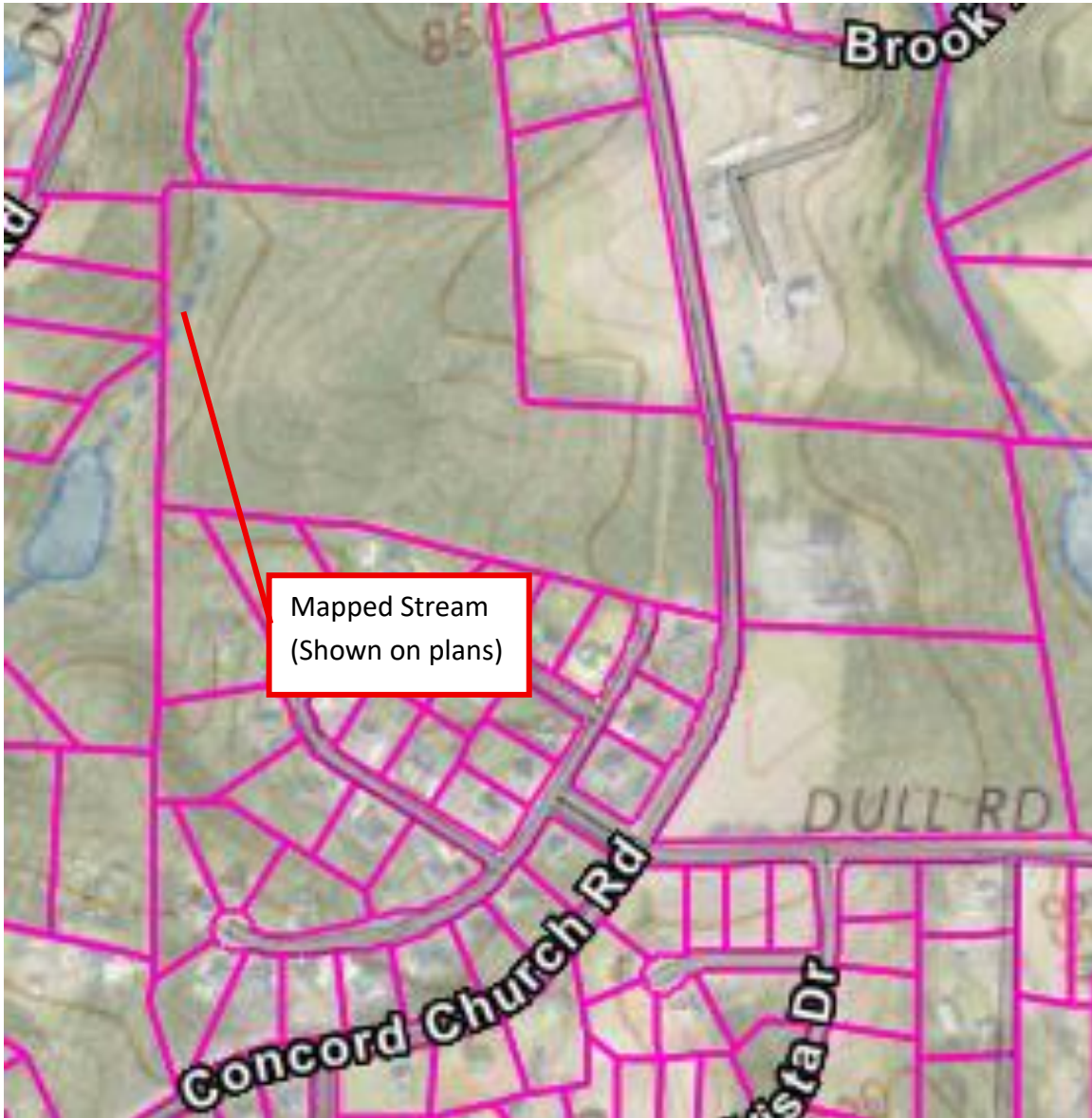


NRCS Soil Survey Map (both parcels shown)





USGS 1:24,000 Scale Map



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Kernersville, NC • 336-754-1696  
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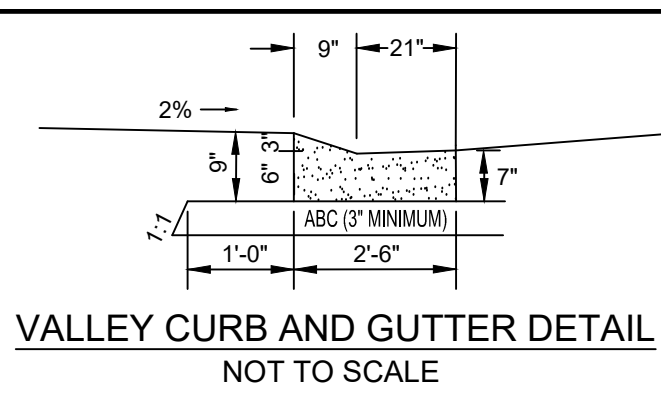
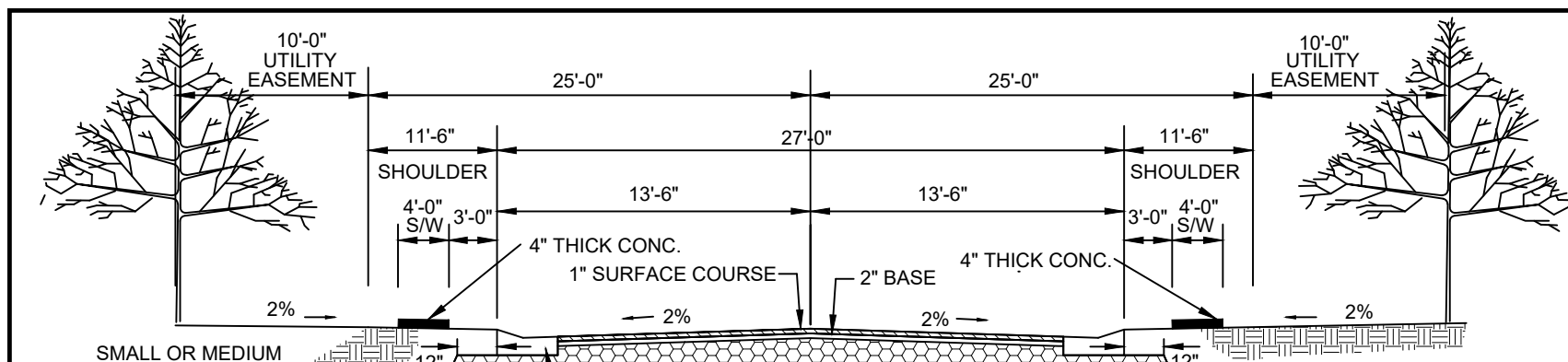


USGS 1:24,000 Scale Map

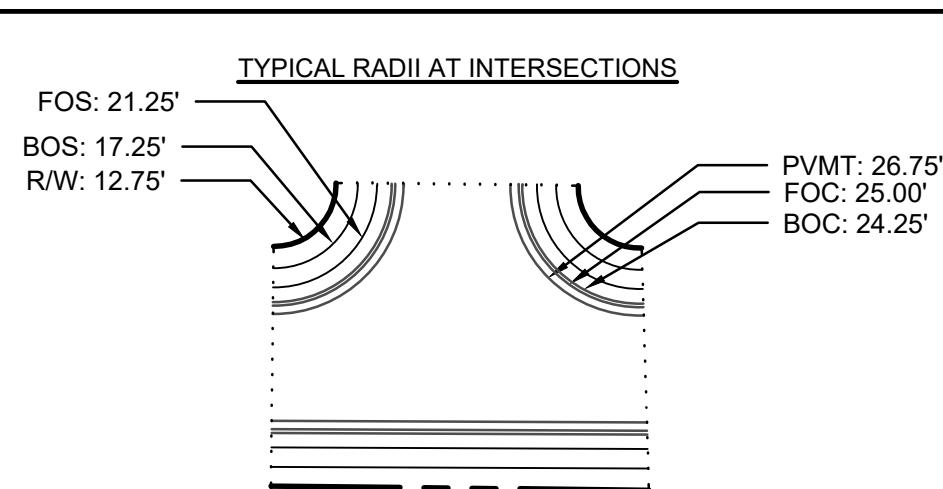


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  - JURISDICTION: TOWN OF LEWISVILLE

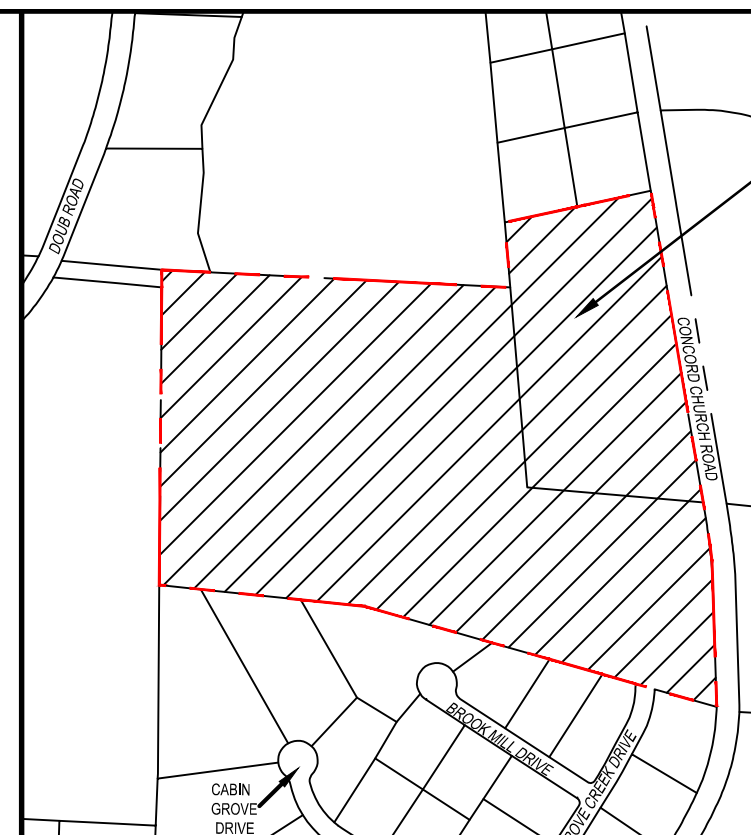


PROPERTY INFORMATION:  
PARCEL ID NUMBER: 5075477853000, 5875-71-2659.000  
ACREAGE: 31.24 AC COMBINED

PROPERTY OWNER:  
DALLAS G WARDEN  
CAROL PACE ARMSTRONG REVOCABLE TRUST  
12612 CELYCT CT  
ROCKVILLE, MD 20850

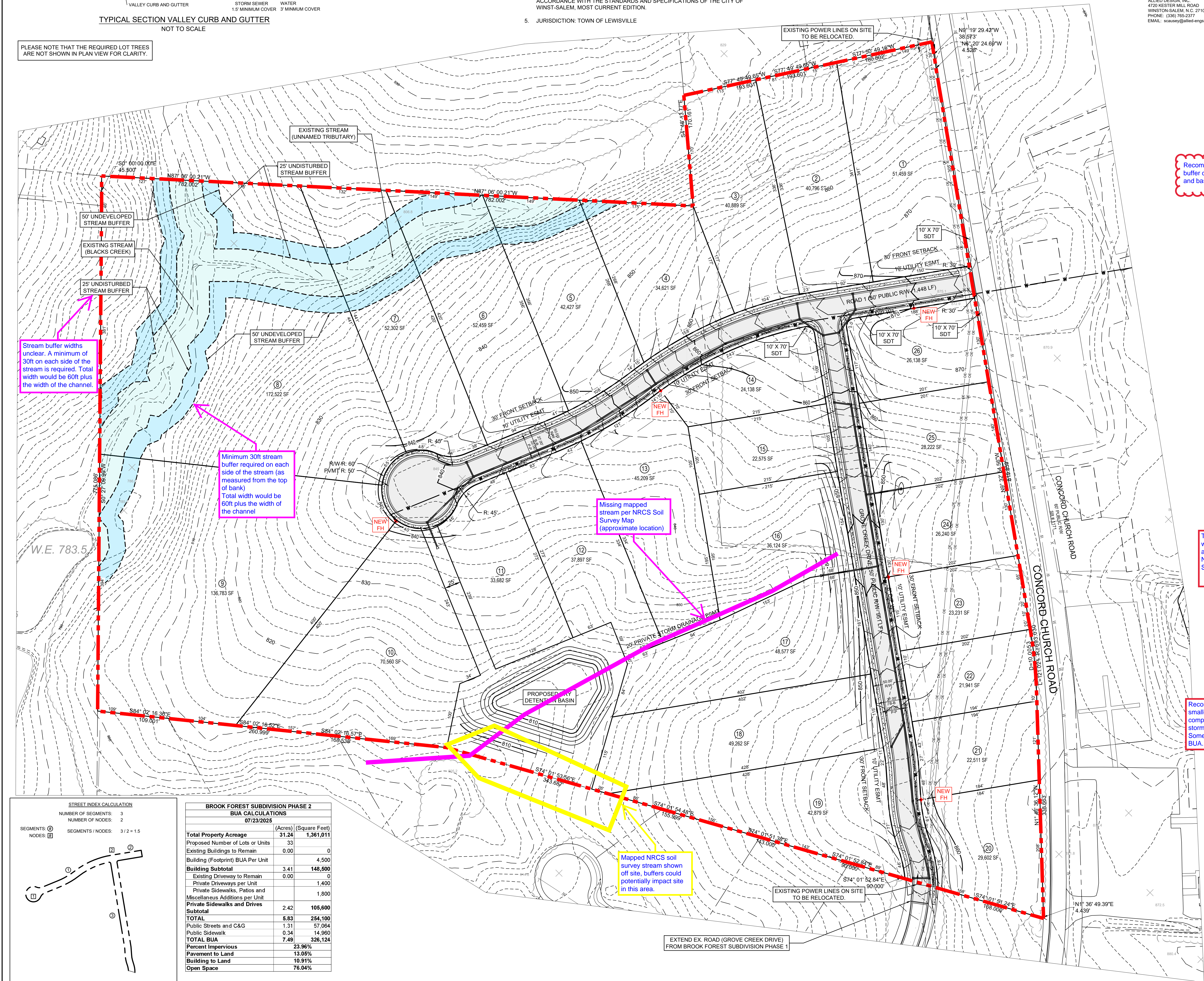
PROPERTY DEVELOPER:  
JRM BUILDING COMPANY, INC.  
PO BOX 11226  
WINSTON SALEM, NC 27116  
PHONE: (336) 765-8752  
EMAIL: ROBERTSON@HALCYONHOMESNC.COM

ENGINEER:  
ALLIED DESIGN, INC.  
4720 KESTER MILL ROAD  
WINSTON SALEM, NC 27103  
PHONE: (336) 765-2377  
EMAIL: scausey@allied-engr.com



ALLIED DESIGN, INC.  
CIVIL ENGINEERING & LAND SURVEYING  
4720 KESTER MILL ROAD  
WINSTON SALEM, NC 27103  
Phone: (336) 765-2377  
Fax: (336) 765-8886  
http://www.allied-engr.com

FIRM LICENSE C-1891

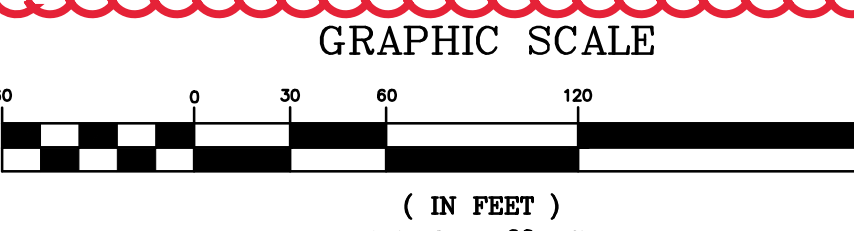
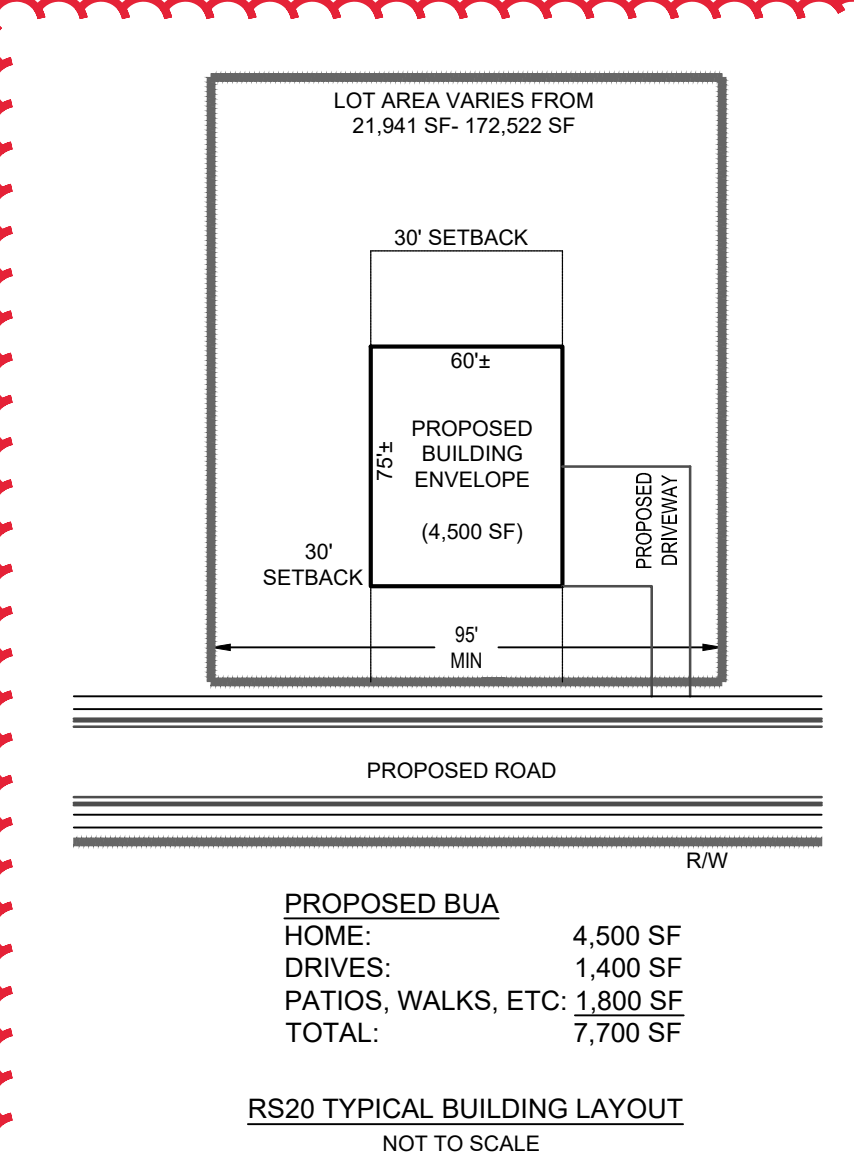


Recommend requiring a stream buffer detail showing dimensions and basic regulations.

This site is located in a water supply watershed according to the NCDEQ Surface Water Supply Watershed Map

Recommend checking smaller lot % BUA for compliance with stormwater regulations. Some appear to be 35% BUA.

REVIEW INFORMATION:	
TYPE OF REVIEW:	
SPECIAL USE REZONING	
SITE PLAN AMENDMENT	
SPECIAL USE PERMIT	
FINAL DEVELOPMENT PLAN	
PRELIMINARY SUBDIVISION	X
PLANNING BOARD REVIEW	
JURISDICTION:	
CITY OF WINSTON-SALEM	
FORSYTH COUNTY	
VILLAGE OF CLEMMONS	
TOWN OF LEWISVILLE	X
TOWN OF MOCKSVILLE	
PURPOSE STATEMENT:	
THE PURPOSE OF THIS REQUEST IS FOR THE PLANNING BOARD APPROVAL OF THE PRELIMINARY SUBDIVISION PLAN WITH 26 SINGLE-FAMILY LOTS UNDER THE EXISTING ZONING (RS-20).	
INFRASTRUCTURE:	
WATER:	PRIVATE X PUBLIC X
SEWER:	X X
STREETS:	X X
STREET LENGTH (LF)	2,398.00
SITE SIZE AND COVERAGES:	
TOTAL ACREAGE (SF)	1,361,011.16
TOTAL ACREAGE (AC)	31.24
SITE COVERAGES:	
BUILDING TO LAND:	10.91%
PAVEMENT TO LAND:	13.05%
OPEN SPACE:	76.04%
TOTAL:	100%
BUILDING SIZE:	4,500
ZONING:	
EXISTING ZONING:	RS-20
PROPOSED ZONING:	RS-20
PROPOSED USES:	
USE CATEGORY: RESIDENTIAL DISTRICT	
RESIDENTIAL BUILDING, SINGLE FAMILY PRD	
DENSITY CALCULATIONS	
# OF LOTS	26
ACRES	31.24
DENSITY (LOTS PER ACRE)	0.83
LOT DIMENSION AND SPACING REQUIREMENTS	
FROM PUBLIC R/W	30'
FRONT/REAR FACING FRONT:	30' BETWEEN UNITS
REAR FACING REAR:	30' BETWEEN UNITS
SIDE/REAR FACING SIDE:	20' BETWEEN UNITS
MAX HEIGHT:	40'
BUFFERYARDS:	
REQUIRED:	N/A
PROPOSED:	N/A
PARKING CALCULATIONS	
SPACES REQUIRED	2 PER UNIT
# OF LOTS	26
LOTS X SPACES	52
REQUIRED:	52
PROPOSED:	52
WATERSHED CALCULATIONS	
THIS SITE IS NOT LOCATED IN A WATERSHED	



STREET INDEX CALCULATION	
NUMBER OF SEGMENTS:	3
NUMBER OF NODES:	2
SEGMENTS / NODES:	3 / 2 = 1.5

BROOK FOREST SUBDIVISION PHASE 2	
BUA CALCULATIONS	
07/23/2025	
Total Property Acreage	31.24
Proposed Number of Lots or Units	33
Existing Buildings to Remain	0.00
Building (Footprint) BUA Per Unit	4,500
Building Subtotal	3.41
Existing Driveway to Remain	0.00
Private Driveways per Unit	1,400
Private Sidewalks, Patios and Miscellaneous Additions per Unit	1,800
Private Sidewalks and Drives Subtotal	2.42
TOTAL	5.83
Public Streets and C&G	1.31
Public Sidewalk	0.34
TOTAL BUA	7.49
Percent Impervious	23.96%
Pavement to Land	13.05%
Building to Land	16.91%
Open Space	76.04%

PRELIMINARY PLANS  
NOT RELEASED FOR CONSTRUCTION

BROOK FOREST SUBDIVISION- PHASE 2  
LEWISVILLE  
NORTH CAROLINA

PROJECT NO.:  
DRAWN BY:  
CHECKED BY:  
DATE:

NO.	DATE	REVISIONS
1	07/23/2025	ISSUED FOR PRE-SUBMITTAL REVIEW

PRELIMINARY SUBDIVISION PLAN

SHEET  
C1



# UDO L-170. Background Information & Framework for Follow-Up Text Amendments to the Newly Adopted Lewisville UDO

## UDO L-170(a) REGIONAL SCALE RELIGIOUS INSTITUTIONS

Currently the UDO describes and provides zoning regulations for religious institutions at two scales, neighborhood and community. Neighborhood scale is the smaller, with a seating capacity of 600 seats or less. Community Scale is the larger, with a seating capacity of more than 600 persons. Each type of religious institution is allowed in RS zoning districts, in addition to others.

Town leaders have expressed concern that the current zoning standards do not adequately address the possibility of religious institutions of a very large scale if they were proposed in one of the RS zoning districts. The proposed name for this type of use is "Regional Scale Religious Institutions." (This is just a suggestion should the Planning Board or Town Council prefer a different title.)

## EXAMPLE & SUGGESTED TEXT CHANGES

This text amendment proposes a new definition for Regional Scale religious institutions, and example use standards as below.

Regional Scale religious institutions will be added to the Permitted Uses Table, permissible only in the Institutional & Public (IP) zoning district. It is suggested that these may only be approved after review by the Planning Board (PB<sup>1</sup>).

**RELIGIOUS INSTITUTION, REGIONAL SCALE.** A religious institution in which the seating capacity in the sanctuary or main activity area is more than nine hundred (900) persons.

## USE STANDARDS

### Religious Institution, Regional Scale.

- (1) **Access.** The site shall have direct access to a major or minor thoroughfare ~~or a collector street.~~
- (2) **Minimum Zoning Lot Area.** Regional scale religious institutions require a minimum zoning lot area of 43,560 square feet, as opposed to the 10,000 square-foot standard lot size minimum in the IP district.
- (3) **Impervious Surface Cover.** ~~In RS districts Impervious surface cover for all church or religious institution property within the block of the principal building shall not exceed sixty percent (60%), however impervious surface cover in the RS and IP Districts may be increased to seventy five percent (75%) with staff approval of a landscaping plan which demonstrates greater tree canopy coverage of parking area by doubling the planting ratio of Section B.3-3.3(B)(4) Interior Parking Area Plantings Ratio and reducing by at least one half the spacing requirements of Section B.3-3.3(B)(5) Interior Parking Area Plantings – Distance of Parking Spaces to Trees In other districts, churches are subject to the impervious surface cover requirements of the underlying zone.~~
- (4) **Bufferyard.** All buildings and parking areas on site shall be buffered by a **type III** bufferyard, as described in *Section B.3-4 Bufferyard Standards.* ~~from adjacent residentially-zoned property.~~
- (5) **Parking.** Off-site parking may be used to meet up to fifty percent (50%) of on-site parking requirements with the approval of a special use permit from the Board of Adjustment.

- (6) ~~**Accessory Use.** Churches or religious institutions, community scale are an allowed accessory use in the CD1 district. Activities are to be conducted in existing CD1 buildings and shall be subordinate to the primary educational purpose of the institution.~~

#### **UDO L-170(b) TREE PRESERVATION STANDARDS**

During the process of adopting the revised UDO, town leaders expressed concerns that the new tree preservation ordinance, as now currently written, may not fully address the needs and goals of the Town. It was suggested that guidelines from the Arbor Day Foundation be consulted for guidance on creating revised standards. Those will be included in the Planning Board packet for the September 10 meeting to be used as a resource.

Researching this topic up to this point has also included basic review of other ordinances. Additional ordinance review will take place while preparing the proposed UDO text changes. Of those reviewed so far, most rely on percentages as a basis for their regulations, as does ours. The Planning Board will be asked to participate in reviewing other ordinances, assisted by the Planning Director.

#### **UDO L-170(c) OPEN SPACE STANDARDS**

Also occurring in the process of adopting the revised UDO, including the called meeting of the Town Council held in late July, town leaders expressed concern about the new open space standards that were proposed for the new UDO. As such, they were removed with the intent of replacing them with more Lewisville-suitable standards.

So far, I have conducted some basic review of other ordinances. Most other towns and cities rely on flat percentages for required open space conservation. For example, a 30-acre subdivision would require a 10% retention of open space, resulting in three (3) acres.

Our initial open space regulations were to be density-based instead. Councilman Lawson expressed a preference for this type of basis. The Town of Brevard has developed a density-based matrix for determining amounts of required open space that may serve as a good model for us to use.

#### **UDO L-170(d) BUILDING HEIGHT STANDARDS**

Shortly after adopting the revised UDO, the topic of building dimensional standards was brought up in a conversation between the Mayor and Planning Director, including the historical context previously proposed development projects. The principal concern is the possibility of tall, bulky structures built in close proximity to smaller single-family residential structures, particularly in the Downtown Overlay area. In certain situations, the height allowances of the DTO might allow something like a 48-foot tall multi-family structure adjacent to several pre-existing homes.

**Chapter B.2-3 Standards of Measurement** and **Chapter B.2-4.8(G) Downtown Overlay District** are the primary sections of the UDO that govern building mass. The Planning Board and Director will revisit these sections and propose options that balance growth and development with preventing the looming effects or large-scale structures.



TREE CITY USA®  
BULLETIN

No. 9

Editor: Dr. James R. Fazio • \$3.00

# How to Write a Municipal Tree Ordinance



*Tree City USA is a powerful force for the promotion of tree care and urban forestry. It is a program that has caught the imagination of citizens, elected officials, and urban tree professionals. More than 3,400 communities now fly the flag of accomplishment, a composite area that is home to some 137 million Americans.*

At the heart of the Tree City USA program are four basic requirements:

The community must have (1) a tree board or department, (2) an annual community forestry program backed by the expenditure of at least \$2 per capita for trees and tree care, (3) an annual Arbor Day proclamation and observance, and (4) a tree care ordinance.

In this issue of Tree City USA Bulletin, sections of a model ordinance are presented, explained, and illustrated with actual examples. Not every section will be appropriate to all communities, and there are others in use that are not included in this general coverage of the topic.

The purpose of this issue is to encourage all citizens to support their town having an appropriate, current tree ordinance and to provide a starting point for thousands of communities to create or enhance an existing ordinance. Although an ordinance is only as good as the administrative program that backs it up — including support for education and, when necessary, enforcement — a municipal tree ordinance and involvement in the Tree City USA program are giant strides in the direction of healthier urban trees and a quality environment.



Arbor Day Foundation®  
100 Arbor Avenue • Nebraska City, NE 68410



# Why a Tree Ordinance?

Ordinances reflect the values of a community — the values its residents believe are worth protecting to maintain their quality of life and an environment that is both safe and pleasant. A community's trees, often called the urban forest, are very much the kind of community asset that deserves to be protected and managed for the common good.

A tree ordinance encourages beautification, air cooling and purification, noise abatement, property value enhancement, and the other attributes of trees within a city. It also enables citizens to prevent and control the spread of diseases, to preserve trees in the path of development, and to avoid unnecessary costs associated with sewer clogging, sidewalk replacement, and tree-related accidents. An ordinance may also give force and direction to professional tree care within the municipality's workforce and helps control unscrupulous or careless operators.

Ordinances vary in length and complexity, but the key to effectiveness is to write the ordinance simply, clearly, and tailored to the needs of your community. In the end, a tree ordinance is just another tool for proper tree care. Like any tool, it needs to be of high quality, matched properly to the job, and used with skill and care.



Friends of Trees organized a tree planting along a multiple-use corridor in Portland, Oregon. These trees will provide a forested buffer between the local neighborhood and the interstate, decreasing road noise and adding significant beautification to the area.

## THE SEARCH FOR AN IDEAL ORDINANCE

For several decades, citizens who have wanted better tree protection in their communities have searched for model ordinances to guide the way. The ordinance sections and their descriptions found in this bulletin are based largely on just such a model ordinance developed by Philip J. Hoefer of the Colorado State Forest Service. They are condensed from *Municipal Tree Ordinance Manual*, a publication of the International Society of Arboriculture and currently out of print.

An important point made by Hoefer is that in addition to an ordinance, there should be an appended standards and specifications document. This presents detailed guidelines for arboricultural practices such as planting and pruning, tree care, removal, landscaping, contracting, and similar activities that are important in any community forestry program.

It is recommended that the standards and specifications section be a separate but companion part of a municipal ordinance. This is because including such a large amount of detail directly in the ordinance itself is cumbersome and difficult to change. For greater flexibility, it is better to keep the ordinance brief, but to authorize the designated forestry body (board, commission, or department) to publicize rules, regulations, standards, and specifications. These can be published separately and revised as necessary, but still be subject to final approval by the city council or other elected officials.

Importantly, each community has different circumstances that need to be addressed in an ordinance and its accompanying standards and specifications. Use the model ordinance sections in this bulletin and the ordinances of other communities as starting points for developing your own ordinance or to revise one that is not working well, but add or delete sections to match the unique needs and circumstances of your community. Be sure to search your own city codes for any references to trees that may already exist. Finally, use the services of an attorney to review or help write all drafts to ensure that your final product is legally sound as well as beneficial to the future of your community's trees.

To locate sample ordinance provisions, search online for "sample tree ordinances," or search for "ordinances" on the following sites:

- [www.isa-arbor.com/home.aspx](http://www.isa-arbor.com/home.aspx)
- [www.actrees.org](http://www.actrees.org)

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IN ADDITION TO AN ORDINANCE,  
THERE SHOULD BE AN APPENDED  
**STANDARDS AND  
SPECIFICATIONS DOCUMENT.**

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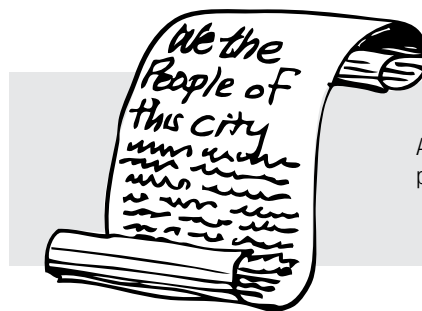
# Suggested Sections for a Tree Ordinance

*Although no two tree ordinances will be exactly alike, there are some basic elements that will help ensure that the document is workable and effective. These elements are called sections, and they are presented here with examples and principles that illustrate why each one is necessary.*

## I. PURPOSE

**PRINCIPLE:** An opening statement that clearly sets forth the purpose of the ordinance will help avoid ambiguity in interpretation. This initial section is usually capitalized and in bold print.

**EXAMPLE:** It is the purpose of this ordinance to promote and protect the public health, safety, and general welfare by providing for the regulation of the planting, maintenance, and removal of trees, shrubs, and other plants within the city of \_\_\_\_\_.



A clearly stated purpose prevents misinterpretation.

## II. AUTHORITY AND POWER

**PRINCIPLE:** Someone within city government must have the clearly designated authority to administer the provisions of the ordinance. This section defines, designates, or creates a department, board, commission, or person responsible for the planting, care, and protection of the city's trees.

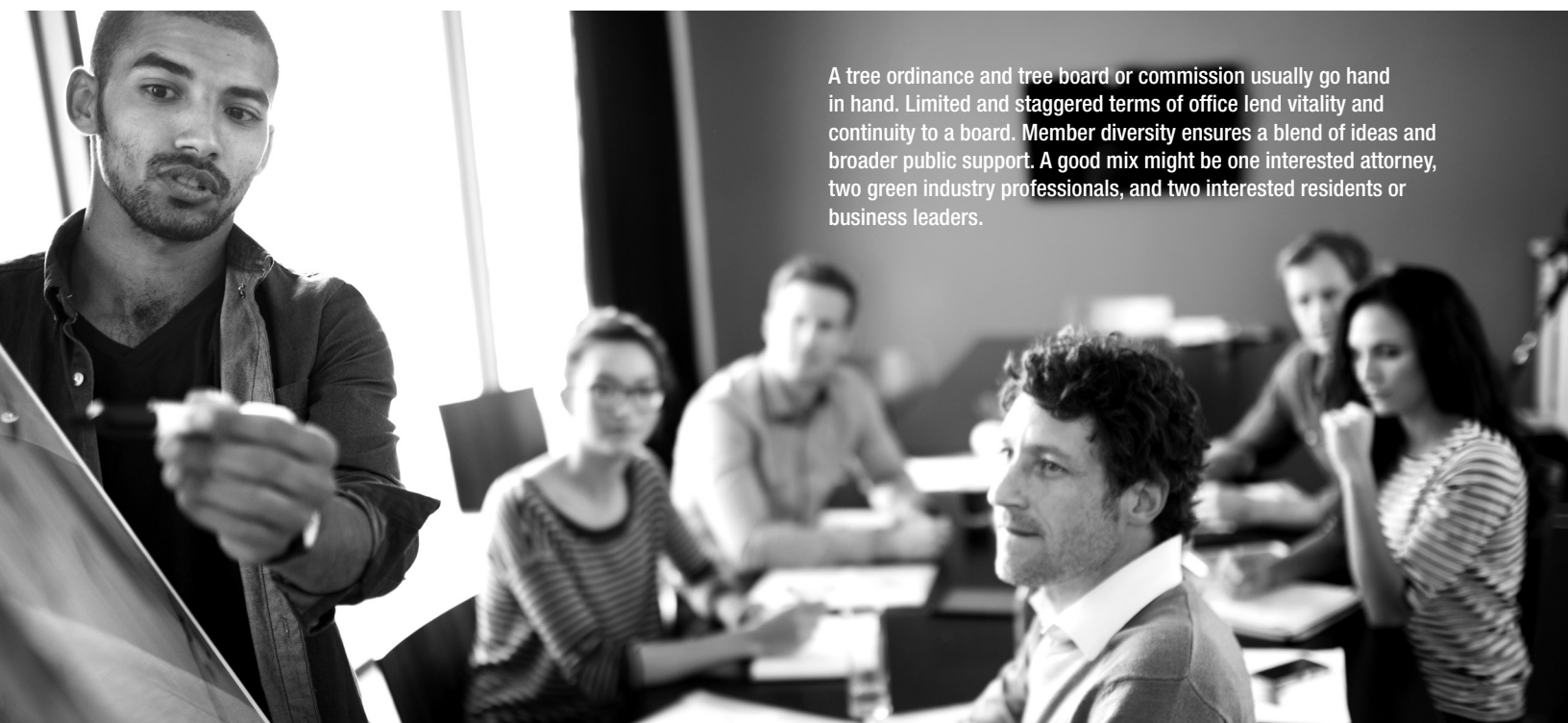
**EXAMPLE:** There is hereby created and established a City Tree Board for the City of \_\_\_\_\_, which shall consist of five members, citizens, and residents of this city, who shall be appointed by the mayor with the approval of the city council. Members of the board shall serve without compensation.

**HOME RULE AUTHORITY:** In order to avoid conflicts with state laws governing trees, a statement transferring regulations to the city may be necessary. State, county, and city laws will explain this process. If needed, the statement should be added as a section.

## III. TERM OF OFFICE

**PRINCIPLE:** Reasonable and clearly stated terms of office for volunteer boards or commissions will help infuse the program with new ideas on a periodic basis and will help avoid the problems created by obstructionists with life or long-term tenure. This section defines length of service, a method for filling vacancies, and the number of consecutive terms (if any) that can be served. Staggering terms can help ensure continuity and stability.

**EXAMPLE:** The term of the five persons to be appointed by the mayor shall be three years, except that the term of two of the members appointed to the first board shall be for only one year and the term of two members of the first board shall be for two years. In the event that a vacancy shall occur during the term of any member, his or her successor shall be appointed for the unexpired portion of the term.



A tree ordinance and tree board or commission usually go hand in hand. Limited and staggered terms of office lend vitality and continuity to a board. Member diversity ensures a blend of ideas and broader public support. A good mix might be one interested attorney, two green industry professionals, and two interested residents or business leaders.

## IV. APPLICABILITY

**PRINCIPLE:** This section is needed to clarify which property is covered by the ordinance. This usually includes trees on rights-of-way, public parks, cemeteries, and other public grounds. Private property is also sometimes included.

**EXAMPLE:** This ordinance provides full power and authority over all trees, plants, and shrubs located within street rights-of-way, parks, and public places of the city and over trees, plants, and shrubs located on private property that constitute a hazard or threat as described herein.



An ordinance must specify which property it covers, such as rights-of-way, public parks, and cemeteries.

## V. DEFINITIONS

**PRINCIPLE:** To prevent misunderstanding, words that may be unfamiliar to lay citizens should be defined. If a standards and specifications appendix accompanies the ordinance, many arboricultural terms can be placed there instead of in this section.

**EXAMPLES OF WORDS OR TERMS TO DEFINE:** arborist, contractor, city forester or city arborist, tree, public tree, private tree, tree lawn, parkway, right-of-way, easement, etc.

## VI. LICENSING

**PRINCIPLE:** One way to protect trees and citizens from irresponsible companies or individuals who pose as arborists is to require practitioners to have a license. Conditions for obtaining the license may even require that the person be a certified arborist. (See Bulletin No. 6.) This section provides licensing authority and includes details such as fees, frequency of renewal, testing procedures, types of licenses, suspensions and appeals, surety bonds, showing identification on equipment, etc.

**EXAMPLE:** It shall be unlawful for any person to engage in the business of planting, cutting, trimming, pruning, removing, spraying, or otherwise treating trees, shrubs, or vines within the City without first producing evidence of certification/license before the City. (An explanation of requirements and fees is then presented.)

## VII. INSURANCE

**PRINCIPLE:** Arborists work under dangerous circumstances and around high-value property. Since it is often difficult for homeowners to ascertain whether property and tree workers are adequately covered, or to insist on such coverage, a provision in the tree ordinance can easily correct the situation.

**EXAMPLE:** Before any license shall be issued, each applicant shall first file evidence of possession of worker compensation and liability insurance in the minimum amounts of \$1,000,000 for bodily injury or death and \$100,000 property damage indemnifying the City or any person injured or damaged resulting from the pursuit of such endeavor as herein described.

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A license requirement protects both trees and property owners.





Important details of planting and tree care can be best placed in a separate standards document, but can also be listed in the ordinance or in an appendix. Specification examples include suitable species, spacing, distance from curb and sidewalk, and acceptable pruning practices.



## VIII. LANDSCAPING

**PRINCIPLE:** This section can ensure that trees will be a part of new developments. But planted vegetation can be an asset or a liability — depending on what is planted and how it is done. This part of the ordinance can define a process for having new landscape plans reviewed and approved by the city forester or tree board, with the issuance of building permits only after such a review.

**EXAMPLE:** In new subdivisions or when the development of commercial property occurs, the city forester shall review landscaping plans and may require street trees to be planted in any of the streets, parking lots, parks, and other public places abutting lands henceforth developed and/or subdivided.

## IX. TREE PLANTING, MAINTENANCE, AND REMOVAL

**PRINCIPLE:** Good tree care and management is possible only if people have specific information about practices that result in safe, healthy trees that contribute to a quality environment rather than to creating problems. The purpose of this section is to provide that information in the form of requirements. In many ways, it is the heart of a good ordinance. Actually, the material in this section is best included in a separate standards and specifications chapter, but placing it directly in the ordinance is an option. Either way, all specifications should be reviewed at least every five years and should include such specifics as desirable and undesirable tree species, spacing, pruning techniques, high-risk trees, sight obstruction, and vandalism.

A good way to clearly specify pruning and other tree work standards is to use the terms and definitions as contained in ANSI A300 standards. For nursery stock, use ANSI Z60.1, available online at the site of AmericanHort.

### EXAMPLES:

**TREE SPECIES** — The Town Tree Board develops and maintains a list of desirable trees for planting along streets in three size classes: small, medium, and large.

**SPACING** — The spacing of street trees will be in accordance with the three species size classes listed in this ordinance. No trees may be planted closer together than the following, except in special plantings designed or approved by a landscape architect: small trees, 30 feet; medium trees, 40 feet; and large trees, 50 feet.

**UTILITIES** — No street trees other than those species listed herein as small trees may be planted under or within 10 lateral feet of any overhead utility wire, or over or within 5 lateral feet of any underground water line, sewer line, transmission line, or other utility.

**DISTANCE FROM CURB AND SIDEWALK** — The distance trees may be planted from curbs or curblines and sidewalks will be in accordance with the three species size classes listed in Section \_\_\_\_ of this ordinance, and no trees may be planted closer to any curb or sidewalk than the following: small trees, 2 feet; medium trees, 3 feet; and large trees, 4 feet.

**TOPPING** — It shall be unlawful as a normal practice for any person, firm, or city department to top any street tree, park tree, or other tree on public property. Topping is defined by the International Society of Arboriculture as an inappropriate technique to reduce tree size that cuts through a stem more than two years old at an indiscriminate location. (Such a point is usually between branches, leaving a stub.)

## X. ADJACENT LANDOWNER RESPONSIBILITY

**PRINCIPLE:** Quite naturally, homeowners often want to plant trees or do work on trees that abut their property but are on a public right-of-way. This section describes a process by which the homeowner can do the work, but only in accordance with the sound principles of urban forestry management and arboriculture.

**EXAMPLE:** No person shall plant, remove, cut above the ground, or disturb any tree on any street, park, or other public place without first filing an application and procuring a permit from the city forester. The person receiving the permit shall abide by the standards set forth in this ordinance.



An ordinance may provide authority to investigate privately owned trees that may pose a threat to the public and require removal or mitigation, such as pruning.

## XI. TREE PROTECTION

**PRINCIPLE:** Protecting existing trees is a major challenge. Therefore, more and more progressive communities are using this section not only to prevent insect and disease epidemics, but also to protect trees on both public and private property from damage during construction. Increasingly, another use of this section is to identify and protect trees of historic value or unusual qualities (called heritage trees). Requiring permits for all tree removal is one way to achieve these goals. Penalties may be established requiring violators to pay a fine in the amount of the tree's appraised value. Ideally, such funds will be designated solely for planting more trees.

**EXAMPLE 1:** Upon the discovery of any destructive or communicable disease or other pestilence that endangers the growth or health of trees or threatens to spread disease or insect infestations, the city forester may at once cause written notice to be served upon the owner of the property upon which such diseased or infested tree is situated, and the notice shall require such property owner to eradicate, remove, or otherwise control such condition within reasonable time to be specified in such notice.

**EXAMPLE 2:** The following guidelines and standards shall apply to trees proposed in a developer's tree protection plan to be retained. (Rules are then specified such as not grading or locating utilities within the tree's drip line, placing protective barriers around trees, preventing siltation, etc. Or, developers may be required to preserve a percent of forested tracts, plant trees in open space, or pay into a county tree-planting fund so that there is no net loss of tree cover.)

**EXAMPLE 3:** The city forester shall have as one of his/her duties the location, selection, and identification of any trees that qualify as heritage trees. A tree may qualify as a heritage tree if it meets one or more of the following criteria: (Criteria may include species rarity, old age, association with a historical event or person, abnormality, scenic enhancement, etc.)

## XII. PRIVATE TREES

**PRINCIPLE:** Since trees on private property often affect the safety and welfare of other trees and people other than the owner, a provision is needed to allow community action in such cases. This section provides authority to inspect private trees, designate them as public nuisances, and demand their removal or mitigation, such as pruning, when necessary.

**EXAMPLE:** The city forester or his/her official designee has the authority to enter onto private property whereon there is located a tree, shrub, plant, or plant part that is suspected to be a public nuisance and to order its removal if necessary. (Note: An appropriate legal definition of a public nuisance is needed here, such as any tree with an infectious disease or insect problem that poses a significant threat to the community's tree population; dead or dying trees; a tree or limb(s) that obstruct street lights, traffic signs, the free passage of pedestrians or vehicles; a tree that poses a threat to safety, etc. Also needed is a description of the legal process for notifying property owners and causing abatement of the nuisance, including removal and billing for costs by the city if action is not taken by the owner.)



### XIII. PERMITS

**PRINCIPLE:** Permits provide a way to make certain that anyone who plants, works on, or removes public trees (and sometimes private trees) is knowledgeable and capable of doing the job right. Permits are also a means to ensure compliance with standards and specifications, allow for follow-up inspections, and generally serve as a tool for enabling a community to control the future of its urban forest.

**EXAMPLE:** No person except the city arborist, his/her agent, or a contractor hired by the city arborist may perform any of the following acts without first obtaining from the city arborist a permit for which no fee shall be charged: (treatments and actions are listed, each one specifying whether it applies to trees on public land or to any tree, public or private).

### XIV. ENFORCEMENT

**PRINCIPLE:** For an ordinance to be more than a piece of paper, authority must be given to the city forester or other official to enforce the provisions. This includes the right to issue notices of violation, notices to perform work, and the ability to stop work.

**EXAMPLE:** The city forester shall have the authority to publicize and enforce rules, regulations, and specifications concerning the trimming, spraying, removal, planting, pruning, and protection of trees, shrubs, vines, hedges, and other plants upon the right-of-way of any street, alley, sidewalk, or other public place in the city. (Details about the process of rule-making, review, and approval by the governing body and enforcement need to be included.)

### XV. PENALTIES, CLAIMS, AND APPEALS

**PRINCIPLE:** Enforceable, meaningful ordinances must contain provisions for penalties and violations. Most cities have standard statements that will work in a tree ordinance, or one may be written specifically related to trees. There needs to be a process for the city to do needed work if a landowner fails to comply with an order, and there should also be an appeal process.

#### EXAMPLES:

**VIOLATIONS** — Any person who violates any provision of this ordinance or who fails to comply with any notice issued pursuant to provision of the ordinance, upon being found guilty of violation, shall be subject to a fine not to exceed \$500 for each separate offense. Each day during which any violation of the provisions of this ordinance shall occur or continue shall be a separate offense. If, as the result of the violation of any provision of this ordinance, the injury, mutilation, or death of a tree, shrub, or other plant located on city-owned property is caused, the cost of repair or replacement, or the appraised dollar value of such tree, shrub, or other plant, shall be borne by the party in violation. The value of trees and shrubs shall be determined in accordance with the latest revision of *A Guide to the Professional Evaluation of Landscape Trees, Specimen Shrubs, and Evergreens*, as published by the International Society of Arboriculture.



Each community's ordinance must be written to serve that community's unique needs and circumstances.

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**ASSESSMENT OF CLAIM** — In the event that a nuisance is not abated by the date specified in the notice, the city arborist is authorized to cause the abatement of said nuisance. The reasonable cost of such abatement shall be filed as a lien against the property on which the nuisance was located. In addition, the owner of the property upon which the nuisance was located shall be subject to prosecution.

**APPEALS** — (Include your municipality's standard appeals process.)

### XVI. OTHER

Because circumstances vary so widely between municipalities, there may be other sections necessary to fashion an ordinance to the needs of your community. These range from sections that local government may require in all its ordinances (such as a severability clause that states that if any section of the ordinance is found to be invalid or unconstitutional, it does not affect the validity of remaining sections) to how the urban forestry program is to be financed. The ordinance must fit your town's needs.

# Don't Overlook Evaluating and Revising

The basic steps toward protecting and managing the trees in any community are (1) determining what you have (an inventory), (2) deciding what you want, i.e., what is right for your community (safety, a certain percent crown cover, diversity, etc.), and (3) establishing goals and an implementation strategy (a plan). Tree ordinances are part of the latter. They are one of the ways of attaining the desires of residents to have the kind of community forest they deserve for a quality lifestyle.

No tree ordinance is static. As communities grow and change, it is essential to review your ordinance and make certain it keeps pace with the changing needs and challenges. Review what works and what doesn't work. For example, if homeowners in new suburbs are encouraged to plant street trees but this is being ignored by non-resident owners of duplexes or apartments, what might be changed in the ordinance to solve the problem?

Monitoring is often the overlooked step in urban forestry. It is made easier when a tree board or department sets management goals annually and reviews the city's vision statement regularly. It also helps to stay current on what is being done in other cities with similar growth patterns and challenges. The bottom line is that ordinances are not one-time documents. They are a tool, and they need to be updated or replaced like any other tool in order to serve best.



Tree ordinances are important for large cities, small towns, and developing suburban areas.

## FOR MORE INFORMATION ...

For more information and references, please visit [arborday.org/bulletins](http://arborday.org/bulletins). Explore the Foundation's website for other helpful pages on trees, sale items, the Tree City USA program, public education, the management of community forests, and much more.

## Tree City USA Bulletin ORDER FORM

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## THE TREE CITY USA PROGRAM IS SPONSORED BY THE

Arbor Day Foundation in cooperation with the U.S. Forest Service and National Association of State Foresters. To achieve the national recognition of being named as a Tree City USA, a town or city must meet four standards:

- Standard 1: A tree board or department
- Standard 2: A tree care ordinance
- Standard 3: A community forestry program with an annual budget of at least \$2 per capita
- Standard 4: An Arbor Day observance and proclamation

Each recognized community receives a Tree City USA flag, plaque, and community entrance signs. Towns and cities of every size can qualify. Tree City USA application forms are available from your state forester, the Arbor Day Foundation at [arborday.org/treecity](http://arborday.org/treecity), or your state forestry agency.

PHOTO COURTESY OF: Friends of Trees (page 2).

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## UNIFIED DEVELOPMENT ORDINANCE

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## CHAPTER 7. OPEN SPACE

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### Contents:

- 7.1. Purpose and intent.
- 7.2. General provisions.
- 7.3. Open space dedication.
- 7.4. Payment in lieu of open space dedication.
- 7.5. Open space criteria.
- 7.6. Open space types.
- 7.7. Timing of completion of open space requirements.

### 7.1. Purpose and intent.

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The intent of these requirements is to allow for the usage of centrally located unencumbered land as neighborhood open spaces and not to permit the use of leftover or otherwise unusable land to fulfill the requirements of this chapter. Open space as defined by this chapter is also distinct from those areas that are environmentally significant and must be protected in their pristine state as dedicated open space, as required in [CHAPTER 6](#) of this ordinance.

### 7.2. General provisions.

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- A. Open space is defined as all public or common areas not covered by building or parking lots, detention structures, streets, required setbacks, or golf courses unless permitted by administrative review.
- B. Open space shall be planned and improved, accessible and usable by persons living nearby. Improved shall mean cleared of underbrush and debris and may contain one or more of the following enhancements: landscaping, picnic tables, gazebos, walls, fences, walks, statues, underground utilities, irrigation, fountains, ball fields, and/or playground equipment.
- C. Environmentally sensitive stands of trees, stream bed areas, natural habitat, and other valuable topographic features shall be preserved within the required open space areas and left unimproved in accordance with [CHAPTER 6](#) and [CHAPTER 8](#) of this ordinance.
- D. Playground equipment, statues, and fountains should be located toward the interior of squares and parks away from the public right-of-way to provide for adequate safety of the user.
- E. Walls and fences shall be made of brick, stone, wrought iron, or wood and shall not exceed four feet in height. (Exception: Fences used in conjunction with ball fields.)
- F. Open space should protect sensitive natural areas and provide focal points for the neighborhood and city. A central square or green, for example, may comprise a majority of the area required for dedication.
- G. Dedicated open space shall be separately deeded to a homeowner's association, a non-profit land trust or conservancy, a local or state government, or may be held in private ownership with conservation easements recorded in the Transylvania County Register of Deeds in a form approved by the administrator.





- H. The approving authority may require that recreational open space be dedicated for ownership and maintenance to the City of Brevard. Such a condition shall be based upon a determination that such recreational space would clearly serve a public benefit.

### 7.3. Open space dedication.

All residential and mixed-use residential developments with more than eight total units shall be required to dedicate open space. The amount of useable open space required for dedication shall be determined using the open space dedication matrix.

- A. First, the matrix was designed to base open space requirements on the number of bedrooms in a given development rather than the usual dedication based upon the dwelling unit. This more accurately reflects the needs of the residents, as the number of bedrooms within a given development is a better representation of the actual number of residents who would use open space.
- B. Second, the matrix is established to encourage the preservation of land. By allowing for an increase in densities, the matrix provides for an increasing requirement in open space dedication. For example, a 50-acre subdivision of 100 lots developed at a density of two units per acre would generally require 3.44 acres or seven percent of dedicated open space. In contrast, this same tract of land subdivided into 400 lots (or condos) at a density of eight units per acre would require 15.15 acres or 30 percent of dedicated open space. These figures are based upon an average of three bedrooms per unit.

Because the open space dedication requirements are based upon preliminary estimations of bedroom units in a given development, changing market conditions and final build-out of a project may yield a different bedroom count. In order to accommodate for variations, this code will permit variations to the estimated number of bedrooms up to ten percent. Variations in excess of ten percent may allow a payment in lieu of additional dedication or the dedication of additional open space.

For the purposes of good faith estimation, all single family developments will dedicate open space at a rate of 3.5 bedrooms per unit unless otherwise stipulated. Attached homes and apartments will dedicate open space at a rate of two—four bedrooms per unit in accordance with actual building specifications.

**TABLE 7.3A: OPEN SPACE DEDICATION REQUIREMENT**

		Gross Dwelling Units per Acre			
		0—2	2—6	6—10	+10
Estimated Number of Bedrooms	×	500	520	550	580

How to use this matrix:

1. Determine average density for proposed development (Gross Dwelling Units per Acre).
2. Determine average number of bedrooms per dwelling unit (good faith estimate).
3. Multiply the average number of bedrooms by the total number of units to get to the estimated number of bedrooms.
4. Multiply the estimated number of bedrooms by figures shown in the matrix which relate to the density of the site and its proximity to existing open space.

EXAMPLE:



A developer wants to subdivide a 50 acre tract of land into 120 lots. The average number of bedrooms per lot is 3.5 (some three bedroom, some four bedroom). The tract is not within  $\frac{1}{4}$  mile walking distance to any publicly dedicated open space. How much open space is required for dedication?

The density (in dwelling units per acre) is 2.4. There are an estimated 420 bedrooms. Using the multiplier of 520 as shown in the matrix, the required amount of useable open space to be required is 218,400 square feet or 5.01 acres or ten percent of the total area.

- C. *Exemptions.* To encourage development of residential units in the Downtown Mixed-Use District and Neighborhood Mixed-Use District, all such residential development shall be exempt from these provisions.

Any residential development within 1,320 feet ( $\frac{1}{4}$ -mile) of public open space. Examples include Franklin Park, Hap Simpson Park, the bike path, and other similar publicly owned locations.

(Ord. No. 2018-04, § 1(Att. B), 2-19-18)

## 7.4. Payment in lieu of open space dedication.

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- A. If open space within a development is physically impractical due to unusual topographic conditions, then the administrator may, at their discretion, accept either an equitable amount of land in another location or a fee paid to the city in lieu of dedication. A combination of open space dedication and payments-in-lieu of dedication is permitted.
- B. Payments in lieu of dedication may be approved as part of the development plan. Any disagreement in the amount of required payment shall be resolved by conducting a professional appraisal, at the expense of the developer, of the fair market value of the property. The professional appraiser shall be mutually agreed upon by the developer and city. An appraiser may be appointed by the city should an agreement not be reached.
- C. All payments made in lieu of dedication shall be made at the time of construction document approval. Failure to submit the required fee along with such applications will delay approval of such submissions until payment is rendered.
- D. All funds received for payment in lieu of dedication shall be used for the acquisition, improvement, development, or redevelopment of public open space within the city.

## 7.5. Open space criteria.

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Criteria for evaluation of land proposed for recreation areas shall include the following

- A. *Location.* Land for recreation purposes shall be centrally located so as to serve the needs of the residents of the subdivision or the residents of the immediate area within which the subdivision is located, and shall have at least 50 feet of frontage on at least one public street within the subdivision.
- B. *Topography.* The average slope of land for active recreation areas (i.e. ballfields and playgrounds) shall not exceed seven and one-half percent. The average slope of land for passive recreation areas (i.e. walking trails and open meadows) shall not exceed the average slope of the developed portion of the subdivision or development.
- C. *Shape.* The shape of land for active recreation shall be sufficiently square or rectangular to be suitable for, but not limited to, playground, courts, or playfields. The shape of land for passive recreation shall be sufficient to encompass the walking or jogging path, natural or cultural resource or other proposed area.



- D. *Accessibility.* All recreation areas shall be conveniently accessible to all residents of the subdivision. At least  $\frac{1}{2}$  of the acreage of all recreational space provided shall be compliant with the requirements of the Americans with Disabilities Act. All recreational space that is to be dedicated to the city shall have at least 50 feet of frontage on at least one public street within the subdivision.
- E. *Usability.* Land for recreation areas shall be sited such that they can be safely and easily reached by their anticipated users. Areas including non-recreational ponds and lakes, wetlands, stormwater management basins/ponds, or easements for public utility transmission lines shall not receive credit in the computation for the amount of active recreation area required.
- F. *Comprehensive plan compatibility.* For subdivisions which abut or include areas designated for park and/or recreational lands on an adopted city plan, the city may require that the required recreation area be located in accordance with the proposed site or portion of an existing site as shown thereon. For subdivisions that abut or include areas designated as future greenways on an adopted city plan, the administrator may require that a dedicated 30 foot minimum width public pedestrian and non-motorized vehicle easement along all such areas be all or part of the recreation area required under this chapter.

## 7.6. Open space types.

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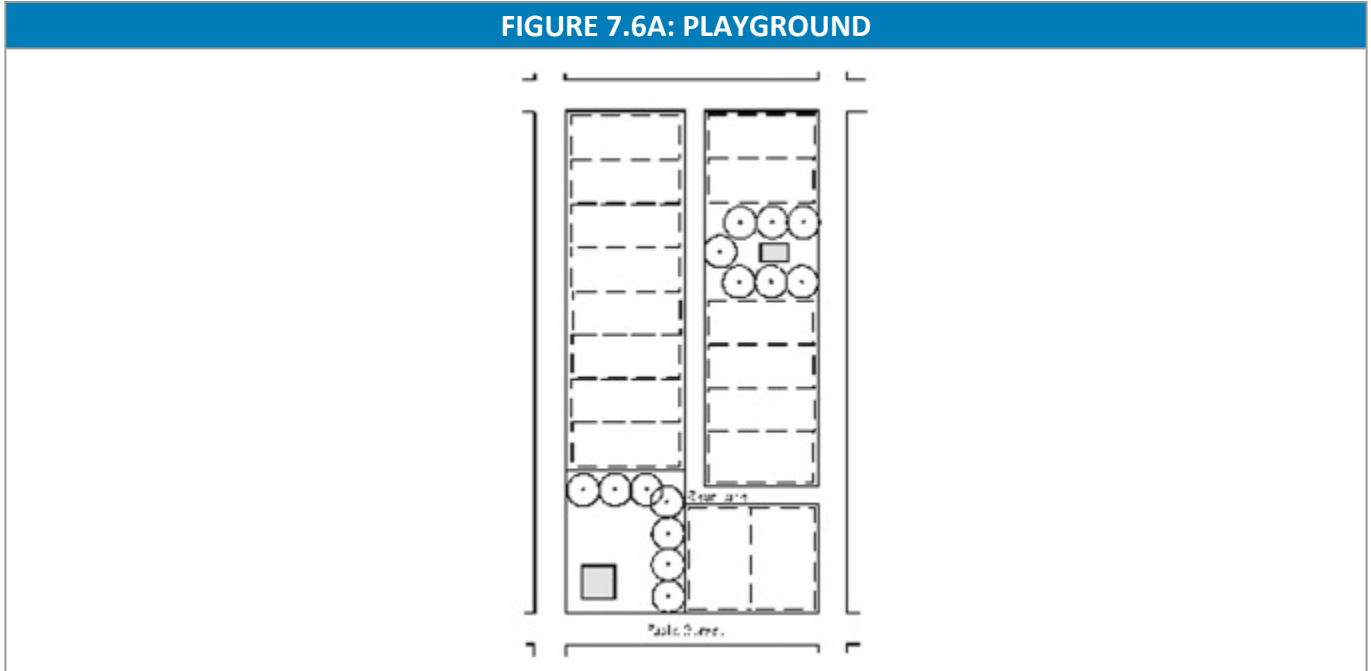
A broad range of recreational open space forms exist and may be utilized to satisfy the requirements of this chapter, subject to approval of the approving entity. The following types of open spaces are listed and shown as guides. The approving authority shall have the right to modify or deviate from these designs.

- A. *Type I—Common Area Open Space.* Common area open spaces are designed to serve the residents of the immediate block or neighborhood. Ownership and maintenance of such common areas shall be in fee simple title to a homeowners association or similar organization. Examples of common area open spaces may include: Playgrounds, courtyards, close, attached squares, plazas, forecourts, detached squares, greens, parks, parkways/greenways.
- B. *Type II—Public Open Space.* Public open spaces shall be dedicated to a local government or non-profit conservancy organization for ownership and maintenance. Public open spaces shall maintain free and public access. Hours of access may be restricted in accordance with health and safety guidelines. Examples of public open spaces may include: Attached squares (civic only), plazas (civic only), detached squares (downtown district or NC-C only), greens, parks, parkways/greenways, greenbelts, athletic fields.
  - 1. *Playgrounds.* Playgrounds provide sunny and shaded play areas for children as well as open shelter with benches for parents. Playgrounds may be built within squares and parks or may stand alone within a residential block. Playgrounds should be fenced and lit if not part of a Square or Park. Playing surfaces may be covered in sand, wood chips, or other equivalent material. Paths and walkways may be paved in concrete, crushed gravel, brick pavers, or similar material, or partially paved.

Typical size: 10,000—20,000 square feet.



FIGURE 7.6A: PLAYGROUND

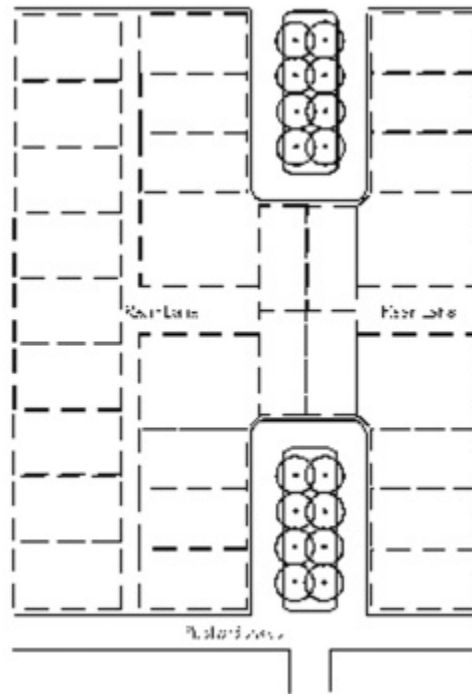


2. *Close.* A close is a front space for buildings interior to the block. It may be pedestrian or it may have a roadway loop around a green area. Its minimum width must coincide with emergency vehicle turning radii. The close is a superior alternative to the cul-de-sac, as the focus is a green rather than vehicular paving. The close provides additional frontage for deep squares and organic blocks.

The paved area used for cars should not exceed 50 percent of the total area of the close.



FIGURE 7.6B: CLOSE

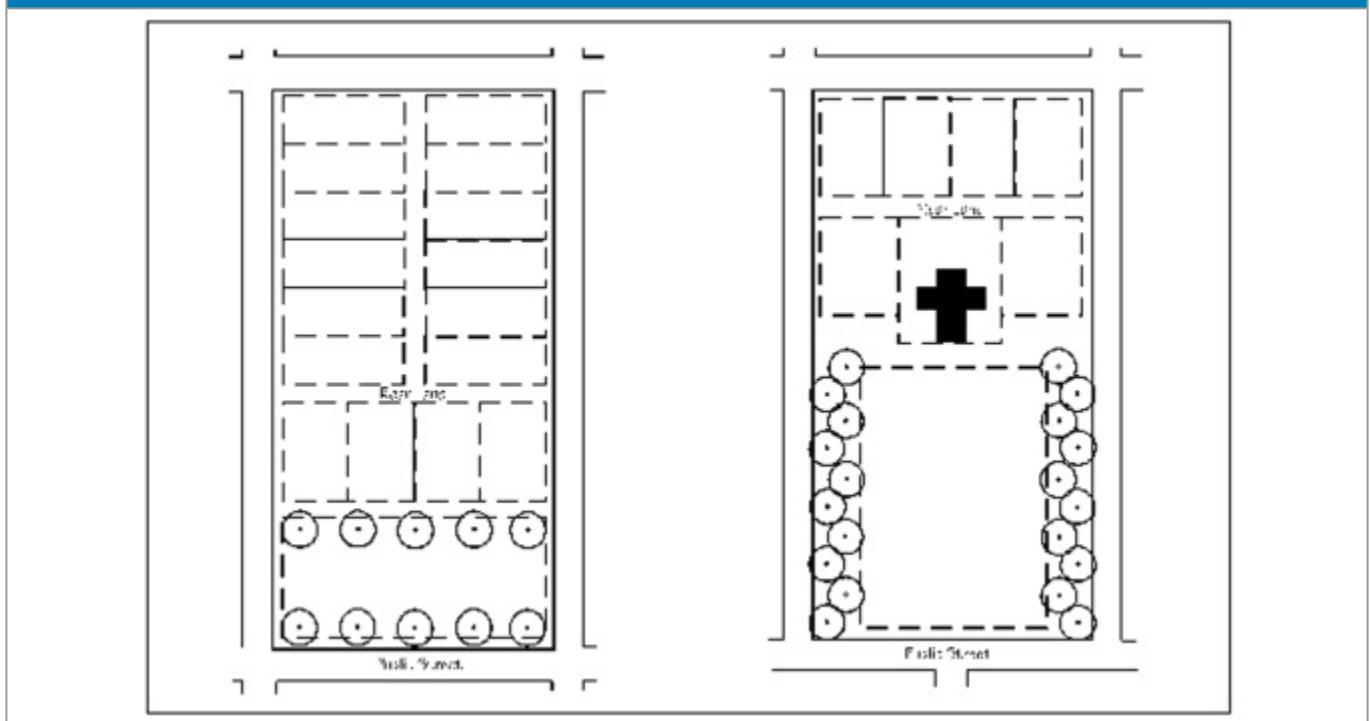


3. *Attached squares.* Squares are areas for passive recreational use. Squares should be bounded by streets on a minimum of three sides or 75 percent of their perimeter. Squares are encouraged to be entirely bounded by streets and/or lanes. Squares may be bounded by buildings on a maximum of 60 percent of their perimeter (maximum of two sides), if through design, central gathering area for the area is formed. Squares should be planted parallel to R-O-Ws with one tree species based on the tree type. All internal tree plantings (if provided) should be in geometrical layouts.

Typical size: 2,000 square feet—One acre.



FIGURE 7.6C: ATTACHED SQUARES



4. *Plaza.* A plaza is an open area adjacent to, or part of, a civic building or facility. Plazas function as gathering places and may incorporate a variety of non-permanent activities such as vendors and display stands. Limited parking is also permitted. Plazas are always paved in brick or other type of pavers, or crushed stone. Plazas should be level, stepped, or gently sloping (less than five percent grade).

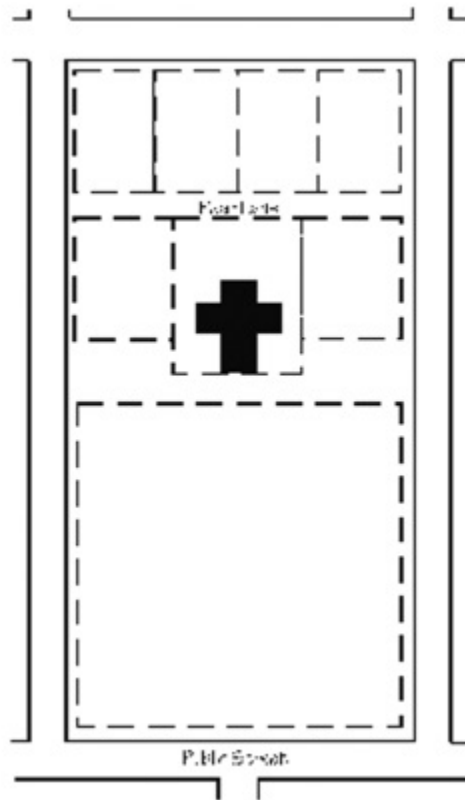
The following sizes are recommended but may be larger or smaller depending on the building or facility design. At no time should a plaza's horizontal length or width be greater than three times the height of the surrounding building(s).

Typical size: 2,000 square feet—30,000 square feet.

Plazas may be left unplanted. If planted, the trees should form a frame to the plaza space or for the structure which the plaza services.

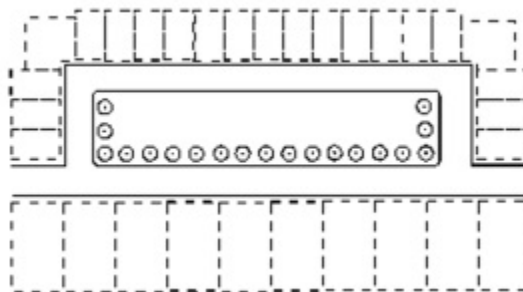


FIGURE 7.6D: PLAZA



5. *Forecourts*. Forecourts are open space areas which act as buffers between residential and non-residential buildings or streets. Forecourts are entirely bounded by streets. It is recommended that forecourts be planted parallel to all street rights-of-way with one tree species.

FIGURE 7.6E: FORECOURTS



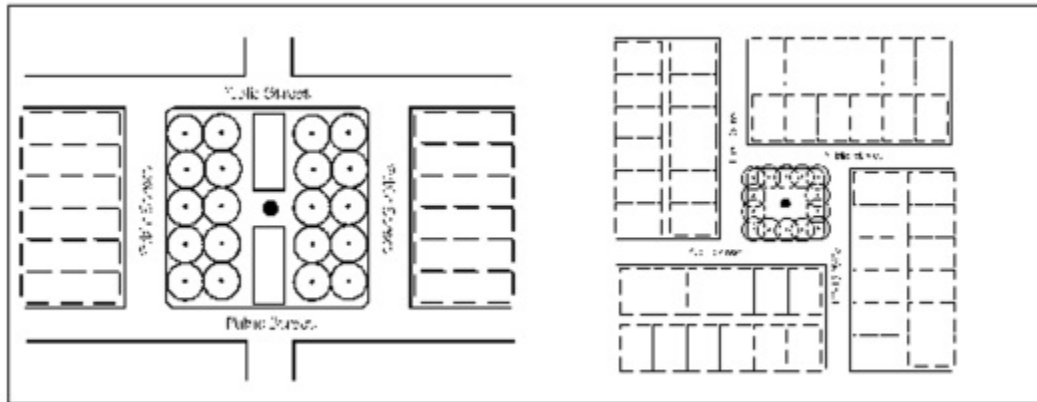
6. *Detached square*. Detached squares bordered on all sides by roads are particularly formal. Since adjacent buildings provide much of the population using any public space, detached squares are less likely to be used than other types though it remains appropriate as a means to symbolically enhance



important places, intersections, or centers. Detached squares should be planted along the perimeter of the square or may be used to preserve a specimen tree or small stand of trees.

Typical size: 200 square feet to one acre.

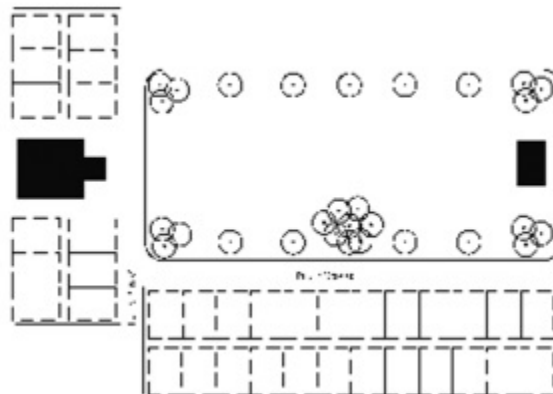
**FIGURE 7.6F: DETACHED SQUARE**



7. *Green*. The green is an urban open space which is naturalistic in its details. Like the square, it is small, civic, and surrounded by buildings. Unlike the square, it is informally planted and may have irregular topography. Greens are usually landscaped with trees at the edges and open lawns at the center. Greens should contain no structures other than benches, pavilions, and memorials; paths are optional.

#### Green

**FIGURE 7.6G: GREEN**



8. *Parks*. Parks may be designed for passive and/or active recreational use. Parks should be bounded by streets on a minimum of 50 percent of their perimeter (subject to lot line configurations). Parks are encouraged to be entirely bounded by streets.

Minimum size: One acre.





Large parks should create a central open space which services an entire neighborhood or group of neighborhoods; or incorporates physical features which are an asset to the community (i.e. lake or river frontage, high ground, significant stands of trees).

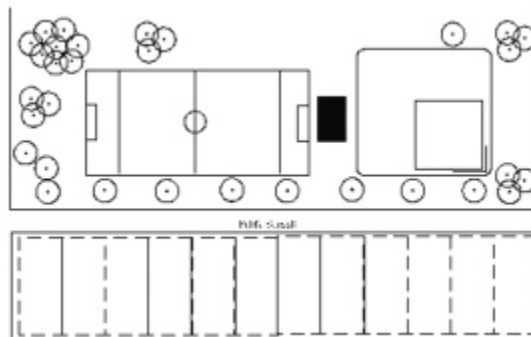
Trees should be planted parallel to all perimeter R-O-Ws with one species type, a minimum of 15 feet to a maximum of 30 feet on center. Trees should limb up a minimum of 15 feet at maturity.

Promenades and Esplanades within a park may be formally planted with trees parallel to the walkway. Pedestrian paths under dense tree plantings should be paved with crushed gravel. Interior portions of parks are encouraged to be kept free of tree plantings. Areas for active recreational use and any facilities which accompany such use should have a tree planting design which integrates the structures into the park and defines the areas set aside for active use from areas of passive use. Plantings in interior portions of parks are encouraged to follow topographical lines.

There should be no areas within a park of undergrowth or limbs lower than 12 feet from the ground.

Parks may be combined with parkways and greenbelts.

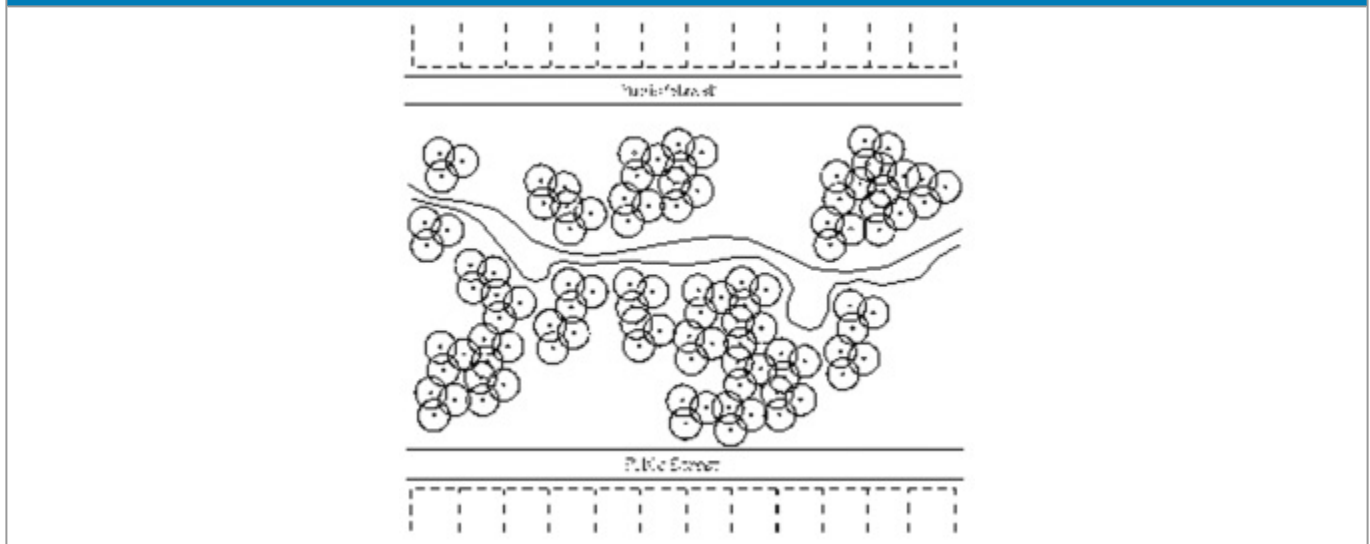
**FIGURE 7.6H: PARKS**



9. *Parkways/greenways.* Parkways and greenways are large, irregular open spaces designed to incorporate natural settings such as creeks and significant stands of trees within neighborhoods. Parkways are to be partially bounded by streets or pedestrian R-O-Ws within developed areas. Greenways are exempt from this requirement.

Parkways and greenways differ from parks and squares in that their detailing is natural (i.e. informally planted) except along rights-of-way, and may contain irregular topography. Parkways and greenways may be used for certain active recreational uses and should provide at a minimum, recreation trails for walking, jogging, or bicycling.

Interior areas should remain natural and any additional plantings should be informal in design.

**FIGURE 7.6I: PARKWAYS / GREENWAYS**

## 7.7. Timing of completion of open space requirements.

In any development, or phase thereof, all open space and recreational amenities shall be completed and conveyed before certificates of occupancy may be issued for more than 50 percent of the proposed dwelling units or 50 percent of the gross floor area of any nonresidential uses. Provided, however, this section shall not be construed to delay the completion of sidewalks, bike/hike paths, and on-road bike lanes which must be completed in accordance with the city's procedures for public improvements.

When any development has been approved for development in phases, it shall be designed and developed in such a manner that the phases completed at any point in time shall comply with open space and recreational amenities standards.

(Ord. No. 15-08, § 20, 12-5-08)

2. Designate open space sizes, open space types, open space percentage requirements, and open space design standards; and
3. Define the minimum maintenance and ownership requirements for open spaces.

#### 8.8.2. APPLICABILITY

- A. **Applicability.** Unless explicitly exempted, the standards in this Section shall apply to all new development and redevelopment in the City of Monroe. Individual single family dwellings not part of a new subdivision as defined in Section 8.1: Subdivision Regulations, are exempted from providing open space.

#### 8.8.3. OPEN SPACE STANDARDS

- A. **Generally.** Open space shall be provided in compliance with this Section. Open space shall be categorized by *Open Space Sizes* (Section 8.8.3.B) and by *Open Space Types* (Section 8.8.3.C) and is subject to *Open Space Percentage Requirements* (Section 8.8.3.D) and *Open Space Design Standards* (Section 8.8.3.E).
- B. **Open Space Sizes.** Open space may consist of a variety of different sizes. For the purpose of this Section, open space sizes shall be defined as small, medium, and large. The acreage of open space sizes for each open space size is defined in Table 8.8.1.

Table 8.8.1. Open Space Sizes

Open Space Size	Acreage (Range)
<b>Small</b>	500 SF – 1.0 Acres
<b>Medium</b>	1.0 – 2.5 Acres
<b>Large</b>	2.5 Acres Or More

- C. **Open Space Types.** In addition to different sizes, open space may take different forms, dependent upon both the nature of the development and the land in which it is established. Because of their nature, open space types may be considered more than a single open space size (i.e., an open space type may be considered both a small and medium open space size). Open space includes the following open space types, as defined below:

1. **Pocket Park.** Pocket parks are defined as a small open space. Pocket parks are primarily intended to provide small active or passive recreation opportunities and act as a gathering space for residents or customers. Features may include small shade structures, gazebos, seating areas, multi-purpose lawn space, playgrounds, community gardens, dog parks, trails, or natural elements such as a stream or pond.



2. **Amenity Center.** Amenity centers are defined as small or medium open spaces and include a combination of enclosed and open areas. Amenity centers provide recreational opportunities and are typically included in residential developments. Amenity centers may include features such as pools, splash pads, clubhouse, small scale recreational facilities such as pickleball, soccer, or shuffleboard, lawn games, and pavilions. Pavilions associated with an amenity center are open air structures that typically allow for shade, outdoor concerts, exhibits, and other activities commonly associated with neighborhood events. Designs of amenity centers and pavilions should be similar in architecture and material as the residential development.



3. **Green.** Greens are defined as small or medium open spaces. Greens provides more informal, natural spaces supporting active or passive recreation opportunities. Greens are typically bounded by rights-of-ways and the fronts of buildings. Greens may provide features such as multi-purpose lawn space, lawn games, playgrounds or play spaces, and limited small scale recreational facilities such as pickleball or soccer.



4. **Plaza.** Plazas are defined as small or medium open spaces. Plazas serves as a gathering place for civic, social, and commercial purposes. A plaza may contain a greater amount of impervious coverage than any other open space type. Plazas are typically located in the front or sides of a building or group of buildings and may not be located in the rear of the building or property. Pedestrian features such as shade structures, benches, tables, fountains, and public art are required.



5. **Square.** Squares are defined as small or medium open spaces. Squares serve as a more formal open space type for gathering for civic, social, and commercial purposes. Squares are typically rectilinear in shape and are bordered on all sides by a vehicular right-of-way (public and private), which, together with building frontages, creates a definition and boundary. Features may include seating areas, pedestrian facilities, play areas, shade structures, gazebos, seating areas, playgrounds, public art, statues, and monuments.





6. **Linear Park.** Linear parks are defined as medium or large open spaces. Linear parks may be formalized based on function (i.e., provide multimodal or connectivity opportunities). Linear parks typically take advantage of scenic environmental attributes and follow a natural feature including but not limited to a stream, wetland system, or man-made feature natural feature. Features may include natural environmental features such as streams, benches, picnic tables, lawn games, and shade structures.



7. **Neighborhood Park.** Neighborhood parks are defined as medium or large open spaces. Neighborhood parks are protected natural spaces that provide opportunities for active and passive recreation. Neighborhood parks shall include at least one of the following: ball fields, tennis courts, basketball courts, fitness areas, paths, trails, meadows, waterbodies, open shelters, performance areas and other recreational amenities. Neighborhood parks typically serve as a medium or large open space area for residential subdivisions, planned developments, and mixed-use centers.



D. **Open Space Percentage Requirements.** The minimum amount of open space required in a development shall be in accordance with this Section. Nothing in this Section shall restrict the development from providing more than the minimum required open space than what is required in this Section. The gross square footage of open space area shall be used in the calculation of open space percentage requirements. Vehicle use areas, streets, driveways, and sidewalks required per this UDO may not be used toward open space calculations unless explicitly stated in this Section. Required open space must be directly accessible to residents/customers of the development.

1. **Residential Zoning Districts.** All new development subject to this Section within the traditional residential zoning districts as defined in Section 4.2: Residential

Zoning Districts, shall require a minimum twenty percent (20%) open space of the total development size. The required twenty percent (20%) open space shall also comply with the following additional standards:

- a. **Less Than 50 Acres.** For residential developments less than fifty (50) acres in size, required open space shall include at least one (1) small open space type and one (1) medium open space type, as defined in Section 8.3.3.C: Open Space Types. If the residential development is less than ten (10) acres, the development shall provide either one (1) medium open space type or a minimum of ten percent (10%) open space. A design alternative may be permitted by the Director of Planning and Development for one (1) large open space type.
- b. **Greater Than 50 Acres.** For residential developments greater than fifty (50) acres in size, required open space shall include at least one (1) small or medium open space type and one (1) large open space type, or shall include one (1) small open space type and two (2) medium open space types, as defined Section 8.8.3.C: Open Space Types.
  - i. For residential developments greater than fifty (50) acres in size, in addition to the required open space types, at least fifty (50) percent of homes must be within one-quarter (1/4) mile of a medium or large open space type.

**2. Mixed-Use Zoning Districts.** All new development subject to this Section within mixed-use districts as defined in Section 5: Mixed-Use Zoning Districts, shall require a minimum of fifteen percent (15%) open space of the total development size. The required fifteen percent (15%) open space shall also comply with the following additional standards:

- a. **Less Than 25 Acres.** For mixed-use developments less than twenty-five (25) acres, required open space shall include at least two (2) small open space types, as defined in Section 8.8.3.C above.
- b. **25-50 Acres.** For mixed-use developments greater than twenty-five (25) acres, but less than fifty (50) acres in size, required open space shall include at least two (2) small open space types and one (1) medium open space type, as defined in Section 8.8.3.C above.
- c. **Greater Than 50 Acres.** For mixed-use developments greater than fifty (50) acres in size, required open space shall include at least three (3) small open space types and two (2) medium open space types, as defined in Section 8.8.3.C above. Alternatively, three (3) small open space types

may be substituted for one (1) medium open space type, however all percentage requirements shall be met.

**3. Commercial Zoning Districts.** All new development subject to this Section within non-residential districts as defined in Section 4.3: Commercial Zoning Districts, shall require a minimum of five percent (5%) open space of the total development size. The required five percent (5%) open space shall also comply with the following additional standards:

- a. Less Than 25 Acres.** For commercial developments less than twenty-five (25) acres, required open space shall include at least one (1) small open space type, as defined in Section 8.8.3.C above.
- b. 25-50 Acres.** For commercial developments greater than twenty-five (25) acres, but less than fifty (50) acres in size, required open space shall include at least one (1) small open space type and one (1) medium open space type, as defined in Section 8.8.3.C above.
- c. Greater Than 50 Acres.** For commercial developments greater than fifty (50) acres in size, required open space shall include at least two (2) small open space types and one (1) medium open space type, as defined in Section 8.8.3.C above.

**4. Planned Developments.** Planned developments shall comply with this Section and Section 4.5: Planned Districts.

- a. Planned Commerce Development (PCD).** PCD'S shall require a minimum twenty-five percent (25%) open space. PCD's shall incorporate at least two (2) small open space types and one (1) medium open space type, as defined in Section 8.8.3.3.C above.
- b. Planned Unit Development (PUD).** PUD'S shall require a minimum thirty-five percent (35%) open space. PUD's shall comply with the following additional standards:
  - i. 10-25 Acres.** For PUD's greater than ten (10) acres, but less than twenty-five (25) acres in size, required open space shall include at least two (2) small open space types and one (1) medium open space types, as defined in Section 8.3.3.C above.
  - ii. 25-50 Acres.** For PUD's greater than twenty-five (25) acres in size, but less than fifty (50) acres in size, required open space shall include at least two (2) small open space types, two (2) medium open space types, and one (1) large open space type, as defined Section 8.3.3.C above.

- iii. **Greater Than 50 Acres.** For PUD's greater than fifty (50) acres in size, required open space shall include at least four (4) small open space types, three (3) medium open space types, and one (1) large open space type, as defined in Section 8.3.3.C above. At least fifty percent (50%) of homes must be within one-quarter (1/4) mile of a medium or large park.

E. **Open Space Design Standards.** The design and incorporation of open space in a development shall comply with the following standards:

1. **Distribution.** Open space shall be, to the maximum amount practicable with respect to environmental considerations and subdivision design, evenly distributed throughout the development.
2. **Distance.** No two open space types shall be adjacent or within 1/4 mile radius of another open space.
3. **Frontage.** All open space shall have at least fifty (50) feet of frontage on at least one (1) public street within the development in which the open space resides.
4. **Consolidation.** Required open space requirements shall not be consolidated to meet the standards of this Section. It is the intent of this Section to require multiple open space types of varying sizes in each development per Section 8.8.3.D: Open Space Percentage Requirements.
5. **Active and Passive Features.** A minimum of fifty percent (50%) of all required open space shall be dedicated and designed to allow for active recreation features. Active recreation and passive features are identified in Table 8.8.2 below. Table 8.8.2 includes, but is not be limited to, those features identified. The Planning Director may administratively approve similar features which keep with the intent of the listed active or passive recreation features.
  - a. Active recreation is defined as recreational features equipment and taking place at prescribed places, sites or fields, which allow for the active recreational needs of residents or users of the development which they serve.
  - b. Passive recreation is defined as recreational features that do not require prepared facilities like sports fields or pavilions and require minimal disruption to a site. These include such activities as walking paths and other features defined in Table 8.8.2.

Table 8.8.2 Active and Passive Features

Active Features	Passive Features
Lawn Games and Hard Courts (Pickle ball, Tennis, etc.)	Walking Trails, Bicycle, and Equestrian Trails and Boardwalks
Playgrounds and Play Structures for children, Dog Parks, or Play Area	Gardens, Greenway Trails, Courtyards, Indoor Atriums, or Land dedicated to public parks
Swimming Pools, Splash Pads, and Areas devoted to water play for kids	Lawn Area and Community Greens
Athletic Fields (Soccer, Baseball, Etc.) or Golf Courses	Tables, Shelters, Gazebo, Public Art, Benches, Seating Area, Fire Pits, Grills, and related Picnicking Facilities
Clubhouse, Pavilions, Amenity Centers	Lakes, Ponds, Wetlands, and Streams
Obstacle Courses, Exercise Facilities, or Exercise Trails	Piers and Docks for Fishing and Viewing Wildlife

6. **Topography.** The average slope of land for active recreation shall not exceed seven-and-one-half percent (7.5%), while the average slope for passive recreation shall not exceed fifteen percent (15%).
7. **Accessibility.** Open space shall be located and designed to be easily accessible for residents and users of the development. Open spaces shall make accommodations to provide universal designs that may be enjoyed by different target users and provide for ADA accessibility.
8. **Stormwater.** A maximum twenty percent (20%) of total required open space may be stormwater facilities. Only wet stormwater facilities may be counted toward this requirement. Dry pond facilities shall not be counted toward this requirement. Any stormwater facility used toward such requirement shall be treated as a site amenity. In order to be considered a site amenity that is credited towards open space requirements, the stormwater facility shall be publicly accessible and must be a public edge, through improved or primitive trails; provide gentle slopes of three-to-one (3:1) or less; include pedestrian elements such as paths, benches, and similar aspects to and around the facility;



and vegetation, whether planted or retained. For the purposes of this Section, improved and primitive trails are defined below:

- a. **Improved Trail.** An improved trail shall be defined as a clearly marked, paved, impervious trail.
  - b. **Primitive Trail.** A primitive trail shall be defined as an unpaved, pervious trail that consists of mulch, crushed stone or similar material.
9. **Environmentally Sensitive Lands and Floodplains.** A maximum twenty percent (20%) of total required open space may be environmentally sensitive lands such as wetlands, protected stream buffers, and floodplains.
10. **Ponds and Lakes.** A maximum of five percent (5%) of total required open space may be ponds and lakes not associated with stormwater retention if at least twenty-five percent (25%) of the shoreline is a public edge. Public access shall be provided that is equivalent to the access provided to private landowners around the lake.
11. **Multi-Phased Developments.** In multi-phased developments, open space shall be provided for each phase in an amount sufficient to satisfy the open space requirements for the subject phase of development and all preceding phases of development.
12. **Landscape Section.** Any landscaping of open spaces shall be in accordance with Section 8.3: Landscaping, Buffering, Fences and Walls.
- F. **Greenways.** Greenways preserve and create open space, encourage physical fitness, provide alternative means of transportation, create opportunities for outdoor recreation, and provide connectivity between open spaces, schools, cultural sites, neighborhoods, and other commuter destinations. Where land is designated as part of The City's adopted greenway/bikeway system, development shall comply with the City's adopted *Greenway/Bikeway Master Plan*. Optionally, new development may also provide additional greenways and connections to greenways in accordance with the standards of this Section.
  1. **Greenway Design.** All greenways shall be a minimum of ten (10) feet wide within a dedicated right-of-way or public easement of at least twenty (20) feet. Greenway connectors shall be a minimum of six (6) feet wide.
  2. **Topography.** Greenways and connectors should be designed to fit the contours of the land and should minimize removal of significant trees.
  3. **Accessibility.** All greenways shall be designed to accommodate a variety of users including walkers, joggers, cyclists, and similar modes of pedestrian movement.
  4. **Paving.** Greenways shall be improved trails of impervious materials. The Planning Director may approve a design alternative for portions of a greenway to

be primitive trails, provided a written narrative and illustration of the proposed design alternative is submitted for review.

5. **Public Access.** All greenways and greenway connectors shall be maintained for public access, whether by easement or by public dedication.
  6. **Amenities.** For land designated as part of the City's adopted greenway/bikeway system, greenways shall provide basic amenities for targeted users. Such greenways shall provide at least three (3) of the following: drinking fountains, restrooms, trash receptacles, benches, bicycle racks, and shade structures. Way station facilities may also be considered for greenways. These facilities may also include small buildings/kiosks containing exhibits and minor food provisions. Land not designated as part of the City's adopted greenway/bikeway system is not required to meet this requirement.
  7. **Open Space Considerations.** Land area dedicated as a greenway shall be credited towards applicable open space percentage requirements in this Section. Greenways are considered to be a passive feature.
- G. **Ownership of Open Space.** Open space is intended to remain under private ownership (i.e. not under City ownership) while still being available for public use by residents and users of a development. Ownership of open space shall remain with the owner of the land unless one of the following circumstances exist:
1. **Homeowners Association (HOA)/Property Owners Association (POA).** Open spaces may be owned in common by the owners of a development through a recognized owners association (or similar ownership association).
  2. **Nonprofit.** Open spaces may be conveyed to a nonprofit organization (i.e., a conservation group, land trust, etc.) for management. The nonprofit shall be required to manage and maintain the open space.
- H. **Maintenance of Open Space.** The owner of open space shall be required to maintain the open space. This shall include regular maintenance of vegetation as well as infrastructure components (stormwater facilities, paths, impervious surfaces, amenities, etc.). Failure to maintain the open space in a good and safe condition (i.e. meeting the standards for maintenance of landscaping in Section 8.3: Landscaping, Buffering, Fences and Walls), shall result in potential penalty by the City, pursuant to Section 1.1.10 of this UDO.
- I. **Conservation Subdivisions.** For developments that exceed the minimum requirements of this Section, this UDO allows for the design and implementation of conservation subdivisions, as defined in Section 8.1: Subdivision Regulations. Conservation subdivisions are configured to protect and preserve floodways, wetlands, woodlands, and existing open space. Because of their unique nature, conservation subdivisions may

allow for development flexibility to build on smaller lots when open space is provided that exceeds the minimum standards of this Section. Conservation subdivisions may only be permitted in compliance with the standards of Section 8.1.2.D: Conservation Subdivision.

## **8.9. LIGHTING**

- A. **Purpose and Intent.** The purpose of this Section is to regulate the intensity of exterior lighting and establish standards to minimize the adverse impacts of excessive light intensity. The intent of these standards is to:
1. Prevent light from non-residential and multifamily developments from excessively illuminating other properties and street rights-of-way;
  2. Permit exterior lighting at the minimum levels necessary for public safety;
  3. Provide for safety of motor vehicles and pedestrians; and
  4. Prevent light pollution into the night sky.
- B. **Applicability.** The standards of this Section shall apply for non-residential, multifamily and industrial buildings/developments, including off-street parking facilities and loading/unloading areas.
- C. **Exemptions.** The following are exempted from the standards of this Section:
1. Lighting exempt under state or federal law;
  2. FAA required lighting for telecommunication devices or buildings;
  3. Temporary lighting used by emergency services;
  4. Security lighting, which is controlled by activity centers, so long the duration is fifteen (15) minutes or less;
  5. Lighting used underwater for swimming pools, fountains or spas; and
  6. Temporary residential lighting used in decoration.
- D. **Height.**
1. Light fixtures shall be a maximum thirty (30) feet for the lighting of vehicle use areas (such as parking lots and streets).
  2. Light fixtures shall be twelve (12) to fifteen (15) feet in height for pedestrian oriented areas such as sidewalks, pathways, plazas, and public gathering places. Figure 8.9.1: Light Fixture Height, below, illustrates the maximum allowed height of lighting within a vehicle use area as compared to the maximum allowed height of lighting in pedestrian-oriented areas.

4. Street tree requirements may be waived or decreased at the discretion of the Director if there are already the required number of trees established on the street or if specific locations of curb cuts, utilities, or other features conflict with the placement of trees. If there are overhead utilities, the Director may also approve shrubs or small maturing trees instead of large maturing trees.
5. To promote more walkable environments with buildings pushed up to the sidewalk, the DC-MX and DG-MX mixed-use districts, as defined in Section 5: Mixed-Use Zoning Districts, do not require street yard buffers but shall install a minimum of four (4) street trees on the adjacent public rights-of-way, for each one-hundred (100) feet of right-of-way frontage.

### **8.3.8. TREE PRESERVATION, PROTECTION AND STANDARDS FOR DEVELOPMENT APPLICATIONS, TREE REMOVAL PERMIT**

#### **A. Purpose and Intent.**

1. To recognize the importance of the existing tree canopy and natural features such as native tree groves and stands of hardwood trees;
2. Recognize the importance of existing trees to the visual and natural environments in the City;
3. Protect and retain significant tree masses and specimen trees during and after development;
4. Establish the criteria for removal of a healthy specimen tree;
5. Set out the required mitigation of a healthy specimen tree;
6. Limit excessive pruning or clear-cutting of existing trees and other landscaping on properties including those proposed for development and or redevelopment;
7. Provide a uniform standard for the protection and replacement of trees on all property which require any type of building or zoning permit;
8. Existing trees may be counted toward landscaping and buffer requirements and toward tree preservation standards as stated herein;
9. As communities develop and grow, there is a need for the construction and renovation of buildings, roads, parking lots and other infrastructure; and
10. Tree preservation and tree protection regulations are necessary to protect desirable trees and plants and are a vital part of sustainable community growth.

- B. Applicability.** This section shall apply to all developers and /or owners of real property involved with new development, redevelopment or improvement, expansions or addition shall comply with the following standards:

1. For improvements, expansions and additions of fifty percent (50%) or less, the standards of this Section shall only apply to the improvement/expanded area.
2. For improvements, expansions and additions of greater than fifty percent (50%), the standards of this Section shall apply to the entire lot.

**C. Tree Preservation Standards.**

1. It is the intent of this subsection 8.3.8 to preserve deciduous and evergreen trees to the greatest extent possible.
2. Trees at least twenty-five (25) inches in circumference within required buffer and landscaping areas shall be tagged prior to any site clearance and be preserved. At least ten percent (10%) of all existing trees shall be preserved.
3. In any case where an individual deciduous or evergreen in circumference is removed from the buffer as identified in below, it shall be replaced with the corresponding number of trees and diameter(s). The location which shall be determined by the Director.

Table 8.3.8.B Removal and Replacement Requirements

<b>Tree (inches in circumference)</b>	<b>Number of replacement trees required</b>	<b>Replacement Multiplier</b>
10" to 25"	3 or more	1.25
25" or greater	4 or more	1.5

Example: a 30" tree removed should be the equivalent of 1.5 inch times the diameter of the tree removed, which would require four (4) or more trees totaling a 45" diameter.

4. Trees seventy-five (75) inches in circumference must be preserved and shall not be removed except as identified in subsection G below. Trees seventy-five (75) inches in circumference or greater shall require a replacement equivalent or greater number of tree caliper inches of the tree removed; and the minimum replacement tree size shall be a 3-inch caliper.
5. Consistent with N.C.G.S. § 160D, the City can deny approval of site plans, plans or building permits for up to three years if trees are removed that would have otherwise been protected by these (UDO) standards and up to five years if such removal proves to be willful.
6. Reduction in the Minimum Number of Required Parking Spaces. Up to a five percent reduction in the number of off-street parking spaces required on a

development site shall be allowed if the reduction in the amount of required pavement will preserve the root zones of existing healthy specimen trees. The amount of reduction can be determined only after taking into consideration any unique site conditions and the impact of the reduction on parking needs for the use, and must be agreed upon by both the applicant and the Director. Alternative paving materials may be required in cases where required parking areas encroach upon critical root zones.

**D. Pre-Application Meeting (Optional)**

1. Prior to plan development and submittal, the applicant is recommended to meet with the City and provide the City with a graphic depiction on an aerial map illustrating the existing tree canopy and potential areas for preservation of existing healthy trees with good form. Knowing the location and size of significant trees on the development site facilitates a common understanding of what options and incentives are available to preserve trees and improve the appearance of the proposed development while meeting the development goals of the applicant.
2. The applicant shall also provide information on the location and species of any trees having a DBH of ten (10) to twenty-five (25) inches in circumference.
3. Trees meeting the standards in B above should be identified on a plan and discussed during the Pre-Application meeting along with potential opportunities for tree preservation. Tree preservation is to be determined in conjunction with the City's input.
4. Once determined, the applicant shall indicate the location of the tree protection zones on the development plans. Tree protection areas based on the trees' critical root zones shall be noted and drawn to scale on demolition, grading and erosion control, and landscaping plans. The general type, size and nature of the existing trees to be saved and credited toward landscaping requirements shall be included as a table, as well as being graphically illustrated.
5. Tree save areas must be described by metes and bounds on the recorded plat, individual recorded deeds, and all property association documents for land held in common.

**E. Coordination with Other Plans.**

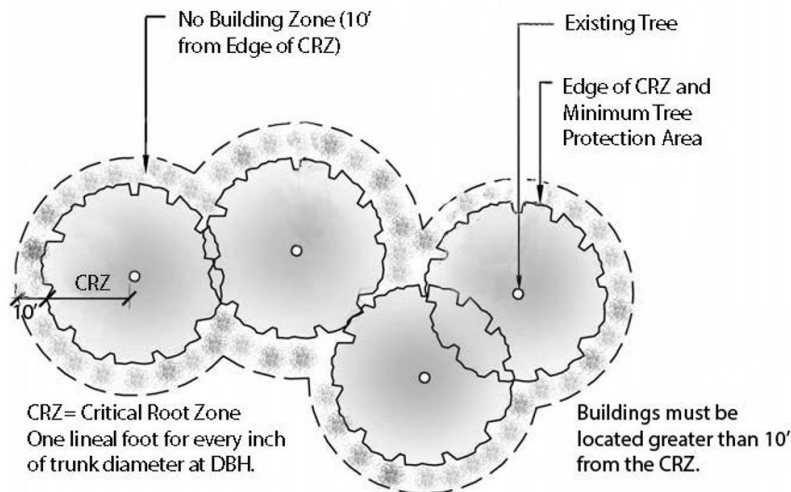
1. Coordination with Stormwater Requirements. When required stormwater management facilities are enhanced as a site amenity they may qualify as a portion of the required open space. Determination of credit shall be at the discretion of the Director in accordance with the provisions of the UDO.



2. **Coordination with Site Lighting.** Coordination is required so that site lighting is located an appropriate distance from trees to minimize future conflict.

F. **Critical Root Zone.** Critical to the tree's survival is protection of the critical root zone. The critical root zone is the minimum area beneath a tree that must be left undisturbed in order to preserve a sufficient root mass to give a tree a reasonable chance of survival. The critical root zone is generally 18 to 24 inches deep and typically represented by a concentric circle centering on the tree trunk with a radius of at least one foot for every inch of trunk diameter taken at four and one-half feet above grade (DBH). Approximately 50 percent of a tree's root system is in the top 12 inches of soil with 90—95 percent of the root system within the top three feet. For example, a ten-inch diameter tree requires a protective barrier with a minimum ten-foot radius. Proposed buildings shall not be located within ten feet of the critical root zone of any existing tree proposed to be preserved (see Figure 8.3.8.)

Figure 8.3.8. Critical Root Zone Protection Standards.



- G. **Tree Removal Permits.** No Tree Removal Permit shall be granted where the Applicant has failed to implement the principles of avoidance and then minimization of adverse impacts to Trees. Applications, applicants, property owners or similar removing trees in violation of this section shall be subject to the standards of Section 8.3.8.B.5
1. No Tree Removal Permit shall be granted unless the development application or proposed activity is consistent with the permitted use of the property under the UDO, as may be amended.
  2. Failure to obtain a Permit prior to tree removal, or to abide by its conditions, including damage to any tree in a tree save area, or damage to any tree in a tree

protection zone established as part of an approved plan and or permit is a violation of this UDO and subject to the remedies and penalties in this UDO and or applicable City ordinances. In addition, trees damaged or unlawfully removed shall be replaced with one or more replacement trees consistent with Subsection B.5 above. The replacement trees shall be replanted within 12 months of the notice.

3. Exemptions. The following activities are exempt from the requirements of obtaining a Tree Removal Permit:
  - i. Trees pose a safety hazard to people, buildings, structures, vehicles or other improvements.
  - ii. The City-initiated or approved removal of any vegetation which is in an unsafe condition, constitutes a nuisance or noxious weed, or which by its nature is injurious to sanitary sewers, electrical power lines, gas lines, water lines, stream or conveyance channels, or other public improvements, or vegetation which is infected with any injurious fungus, insect, or other pest.
  - iii. One and two single-family residential dwellings including existing developed lots.
  - iv. Normal forestry activities taking place on property which is taxed under the present-use value standard or conducted pursuant to a forestry management plan prepared or approved by a forester registered pursuant to Chapter 89B of the North Carolina General Statutes.
  - v. The removal of vegetation on property located within an approved residential subdivision which is zoned for single-family use, and provided such vegetation is not a portion of a required streetscape or other landscaping buffer.
  - vi. If the Applicant can clearly demonstrate to the satisfaction of the Director during permit review, or the Council on appeal, respectively, that setting aside the space necessary to protect a said tree(s) would unreasonably prevent the development of a lot or parcel of land.
  - vii. Except as otherwise preempted by applicable state standards, State or local regulations require fill to the extent that Trees cannot be saved and the required elevations are certified by the project engineer; or
  - viii. Trees are diseased or are weakened by age, storm, fire, or other injury, or as a result of suppression by other Trees or vines, or site conditions, to the extent that they have lost most of their function and value, or pose a danger to Persons, property, utilities, sidewalks, streets, sewers, other

facilities, improvements or other Trees, if so determined by the Director, or by the Council on appeal, respectively. No permit shall be granted for the removal of any Tree if the hazard can be abated by any other reasonable means.

- ix. No permit shall be granted for the removal of any Tree if the hazard can be abated by any other reasonable means.

4. **Dead Trees.** If a Tree dies after a Tree Removal Permit has been issued and prior to the issuance of a certificate of occupancy or certificate of completion, the Applicant shall notify the Director and request an inspection, prior to the removal of the dead Tree(s). An inspection by City staff will be made within a reasonable time frame upon notification by the Applicant. Failure to notify the Director prior to the removal of any dead Tree constitutes a violation of this article. If the Tree death can be attributed to anthropogenic (man-caused) activities, as determined by the Director, Tree mitigation shall be required.

5. **Final Inspections.** All Tree Removal Permits will require, as a general condition, a final inspection to ensure compliance with the provisions of this article. Final inspections shall be scheduled by the Applicant after the final grade is complete. Final inspections will be completed by staff within a reasonable timeframe upon notification by the Applicant.

H. **Preservation Plan.** A tree preservation plan shall be required as part of any landscaping plan submitted to the Department of Planning and Development and meet the following standards:

1. The plan must show there will be no disturbance within a preserved tree's critical root zone.
2. A preserved tree's critical root zone shall be protected from encroachment and damage.
3. The preferred method is to restrict access by installing a barrier to keep materials, people, or equipment out of the critical root zone.
4. Barriers shall be accompanied by temporary signs labeling the critical root zone.
5. The critical root zone area shall remain free of all building materials and debris.

I. **Additional Remedies, Violations and Penalties.** Failure to comply with the provisions of Section 8.3.8 shall constitute a violation of this Ordinance, and shall subject an offending party to a series of actions, including the payment of fines, delay in development plan approval or building permit issuance, and the requirement to double the amount of

required vegetation as would typically be required during the development plan review and approval process.

1. Table 8.3.8 C: Penalties for Non-Compliance below describes the penalties for non-compliance with this section. An “X” in a particular cell indicates the associated penalty which applies:

Table 8.3.8 C: Penalties for Non-Compliance

Type of Violation	Payment of Fines	Tree Replacement Requirements (Table 8.3.8. B and Table 8.3.8.D)	Three to five year delay in approval of building permit or development approval
Property is exempt from Tree Removal Permit requirements, but all or substantially all**vegetation within required buffers and/or vegetation protection is removed		X	X
Property obtains a Tree Removal Permit, but removes some of the vegetation within a required buffer and/or tree protection area.	X	X	
Property is not exempt from Tree Removal Permit requirements; but property owner obtains no permit, and removes some of the vegetation within a required buffer and/or tree protection area.	X	X	

Property is not exempt from Tree Removal Permit requirements; but property owner obtains no permit, and removes all or substantially all* of the vegetation of a required buffer and/or tree protection area.	X	X	X
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\*all or substantially all” shall mean seventy-five (75) percent or more of the existing trees with a caliper or four (4) inches or greater.

2. Table 8.3.8.D: Baseline Replanting Requirements per 2,000 square feet of Disturbed Area

Plant Type		Number	Minimum Caliper	Container Size	Minimum Height
Trees	Canopy	2	2"		8'
	Understory	2	2"		8'
	Evergreen*	6	2"		8'
Shrubs	Evergreen	7	2"		18"
	Deciduous	8			18"
Groundcover Plants		22		1 gal.	
*Where an opaque performance standard is required, evergreen trees shall provide foliage from ground level up, and shall be planted in staggered double rows.					

3. Fines. Shall be imposed concurrently, and in addition to replanting requirements of Table 8.3.8 B and D as provided below:

- i. A fine of two thousand dollars (\$2,000) shall be imposed for any unauthorized disturbance, excluding excessive pruning, within the boundaries of a tree protection zone.
- ii. A fine of four dollars (\$4.00) shall be imposed for every square foot of area disturbed or from which vegetation was removed or damaged within a required landscape area.
- iii. Where it is determined in accordance to with Section 8.3.8 tables 8.3.8 B and 8.3.8 D that the required caliper inches cannot be accommodated on site with



## Landscaping & Tree Preservation Checklist

**General Information:** Standard site plan information, such as property boundaries, zoning, surrounding zoning, proposed use(s), jurisdiction, as well as all standard legend information, such as parking requirements, setbacks, impervious surface calculations, density, parcel information, etc., shall either be included on the Landscaping and Tree Preservation plan or on an accompanying site plan.

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### Part 1 – Tree Preservation

Any development project or building permit requiring a land disturbing permit (erosion control permit), either issued through the Winston-Salem/Forsyth County Inspections Office or the North Carolina Department of Environment and Natural Resources (NCDENR), unless otherwise exempted by the Unified Development Ordinance (UDO), must comply with the Tree Preservation requirements of UDO Section B.3-4.2 and B.3-4.2.1.

**Note:** *If existing trees are preserved to comply with the requirements of UDO Section b.3-4.2.1, the landscape plan and accompanying documentation submitted to our office for review must be prepared and sealed by an architect, engineer, landscape architect, surveyor or other qualified professional licensed to practice in the State of North Carolina.*

The following information must be addressed/shown on the plan(s):

- ☐ Provide calculations for the projects required square footage/acreage of Tree Save Area (TSA), based on the appropriate calculation method and type/size/zoning of the project.

#### **New Development**

Square footage of total site area  
- Square footage in proposed ROWs  
- Square footage in existing utility easements  
- Square footage existing water bodies/SW ponds  
= Square footage for TSA base  
x the % TSA required (10% or 12%, based on project)  
= **Square footage of TSA required**

#### **Additions to Existing Buildings/Dev. Sites**

Square footage of limits of disturbance  
- Square footage in proposed ROWs  
- Square footage in existing utility easements  
- Square footage existing water bodies/SW ponds  
= Square footage for TSA base  
x the % TSA required (10% or 12%, based on project)  
= **Square footage of TSA required**

- ☐ Disclose the method or combination of methods used to satisfy the TSA requirements for the project (*e.g., Individual Trees, Stand of Trees, Planted Trees or some combination of these three methods*).



- ☐ Show the location of existing and proposed landscaping used to satisfy the TSA requirements, as well as the calculations demonstrating that the amount of TSA saved/planted on the project site =’s the amount of TSA required.

Where Existing Trees are used to satisfy the TSA Requirement:

- ☐ For the Individual Tree method, show tree(s) and their associated critical root zone (CRZ) and provide information about species, height, diameter at breast height (DBH) for each tree used for TSA, including calculations of square footage of TSA for each.
- ☐ For the Stand of Trees method, show the location of the trees and their associated CRZ, including calculations of square footage of TSA for each. Additionally, notes for each stand must be provided offering a general description of the character, species mixture, health and age of trees located in the stand.
- ☐ Any existing trees preserved through the methods above must provide tree protection fencing at the edge of the CRZ. Show the locations of the tree protection fencing; such fencing must be located on the edge or outside of the CRZ to receive credit towards the TSA requirement. Provide the following information:
  - Tree protection fencing detail and installation guidelines

***NOTE:*** Tree protection fencing must be located in the field prior to the release of the land disturbing permit and must be maintained throughout construction.

Where Proposed Trees are used to satisfy the TSA Requirement:

- ☐ For Planted Trees, show the location and provide information about the species, height, location, and caliper as measured 6” above ground for each proposed tree used for TSA, including the calculations of TSA for each.

***NOTE:*** Trees saved or planted to satisfy the requirements of the TSA may also be used to satisfy the requirements of the motor vehicle surface area (MVSA) and bufferayrds planting requirements of the UDO, if situated in a manner to comply with all of the associated requirements.

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